

 *Unpublished Works of
Dr. John R. Christopher*

<input type="checkbox"/>	ALFALFA
<input type="checkbox"/>	ALOE VERA
<input type="checkbox"/>	ANGELICA
<input type="checkbox"/>	ARNICA
<input type="checkbox"/>	BALM OF GILEAD
<input type="checkbox"/>	BLACKBERRY LEAVES
<input type="checkbox"/>	BLOOD ROOT
<input type="checkbox"/>	BLUE VIOLET
<input type="checkbox"/>	BLUEBERRY LEAF
<input type="checkbox"/>	BONESET
<input type="checkbox"/>	BRIGHAM TEA
<input type="checkbox"/>	BUGLEWEED
<input type="checkbox"/>	BUTCHER'S BROOM
<input type="checkbox"/>	CALAMUS
<input type="checkbox"/>	CHIA SEED
<input type="checkbox"/>	CHICORY
<input type="checkbox"/>	CINNAMON
<input type="checkbox"/>	CLEAVERS
<input type="checkbox"/>	COLTSFOOT
<input type="checkbox"/>	CORNFLOWERS
<input type="checkbox"/>	CORNSILK
<input type="checkbox"/>	CRANESBILL
<input type="checkbox"/>	CUBE BERRIES
<input type="checkbox"/>	DAMIANA
<input type="checkbox"/>	DEVIL'S CLAW
<input type="checkbox"/>	DONG QUAI
<input type="checkbox"/>	DULSE
<input type="checkbox"/>	ELDER

EUCALYPTUS LEAVES

FO-TI ROOT

FRANKINCENSE

GENTIAN

GOLDEN SEAL

GOTU KOLA

GRAVEL ROOT

GUARANA

HAWTHORN

HIBISCUS FLOWERS

HOPS

HOREHOUND

HORSETAIL GRASS

HYDRANGEA

HYSSOP

ICELAND MOSS

IRISH MOSS

JUNIPER

KAVA KAVA

KELP

LADY'S SLIPPER

LEMON BALM

LEMON GRASS

LEMON VERBENA

LICORICE

LINDEN

LOBELIA

MALE FERN

MANDRAKE (AMERICAN MANDRAKE)

MARIGOLD

MARSHMALLOW

MISTLETOE

<input type="checkbox"/>	MOTHERWORT
<input type="checkbox"/>	MUIRA PUAMA
<input type="checkbox"/>	MULLEIN
<input type="checkbox"/>	MYRRH
<input type="checkbox"/>	OATS
<input type="checkbox"/>	ONION
<input type="checkbox"/>	OREGON GRAPE
<input type="checkbox"/>	ORRIS
<input type="checkbox"/>	OSHA ROOT
<input type="checkbox"/>	PAPAYA
<input type="checkbox"/>	PARSLEY
<input type="checkbox"/>	PASSION FLOWER
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<input type="checkbox"/>	PENNYROYAL
<input type="checkbox"/>	PEPPERMINT
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<input type="checkbox"/>	PINK ROOT
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<input type="checkbox"/>	POMEGRANATE
<input type="checkbox"/>	PRICKLY ASH
<input type="checkbox"/>	RED CLOVER
<input type="checkbox"/>	RED RASPBERRY
<input type="checkbox"/>	ROSE
<input type="checkbox"/>	ROSEMARY
<input type="checkbox"/>	SAFFRON
<input type="checkbox"/>	SAGE
<input type="checkbox"/>	SARSAPARILLA
<input type="checkbox"/>	SENNA
<input type="checkbox"/>	SHEPHERD'S PURSE
<input type="checkbox"/>	SKULLCAP

<input type="checkbox"/>	SKUNK CABBAGE
<input type="checkbox"/>	SLIPPERY ELM
<input type="checkbox"/>	SPEARMINT
<input type="checkbox"/>	SQUAW VINE
<input type="checkbox"/>	STILLINGIA
<input type="checkbox"/>	TURKEY RHUBARB
<input type="checkbox"/>	VALERIAN
<input type="checkbox"/>	WATERCRESS
<input type="checkbox"/>	WHITE POPLAR
<input type="checkbox"/>	WHITE POND LILY
<input type="checkbox"/>	WILD CARROT
<input type="checkbox"/>	WILD LETTUCE
<input type="checkbox"/>	WOOD BETONY
<input type="checkbox"/>	WORMWOOD
<input type="checkbox"/>	YARROW
<input type="checkbox"/>	YELLOW DOCK
<input type="checkbox"/>	YUCCA

ALFALFA

MEDICAGO SATIVA; PAPILIONACEAE

DESCRIPTION

Alfalfa resembles a tall clover, with three-part leaves. The plant is a many-stemmed and branched perennial, usually two to three feet tall when mature. The flowers are like typical clovers, with purple, lavender or blue tufts of blossoms interspersed at the ends of the stems. It is difficult to differentiate between Alfalfa and the light clovers until they are in bloom (Moore:20-1).

The yields of Alfalfa can run as high as 11 tons per acre, and the seedings persist as much as a dozen years or more under favorable conditions. Leaf-cutter bees are usually maintained near Alfalfa seed-production fields to assure pollination. Alfalfa pods are tightly coiled upon themselves in maturity.

If Alfalfa is grown near herbs or other crops, its deep-rootedness assures that it has enough moisture during dry times, as the plants pull up moisture from deep in the earth.

GENERAL

Dr. Christopher greatly honored this herb, which in Arabic is called "the father of all foods", one of the most ancient herbs known. He said that it would help in every condition of the body, whether it would be for healing or maintaining health. Dr. Christopher noticed that animals--such as dogs and cats and certainly other farm animals--seek the herb when they are sick. They are led to this and other herbs by instinct which tells them it will heal them. Perhaps even humans have such an instinct, if they will let it lead them. When Dr. Christopher was a small and sickly child, he used to go out in the springtime to pick Alfalfa leaves to eat. It was as if some force would lead him to the leaves. He felt very grateful because with this guidance, he felt that he was given additional help to fight off some of the sicknesses with which he was born.

The Doctor liked to tell the story of a family who was in a concentration camp where the food and living conditions were far below standard. People were dying from malnutrition, but this family found a small clump of Alfalfa growing in the corner of the concentration camp grounds. Each day they would chew thoroughly a sprig or two of the plant and found that the entire family felt strong and healthy. They would beg others to do the same, but were simply ridiculed. They continued eating the Alfalfa as long as they remained imprisoned. When they were released, they walked out of the camp in good health while their friends who had refused to follow their advice had either died or were very sickly, suffering from malnutrition.

When Dr. Christopher was lecturing in one of the eastern states, a young man approached him to tell of an experience he had had with Alfalfa. He had been trained in the martial arts, including karate, by a black-belt instructor. After a period of time, black and blue welts would rise on his body wherever he had been kicked or hand-struck in his exercises. His instructor gave him a small bottle of capsules and told him to use them several times a day. He did, and was amazed with the results. When he ran out of them, he noticed that the black and blue spots on his body reappeared.

He went to the instructor and wanted to know what was in them, willing to pay any price for such a valuable remedy. He was shocked that the miraculous capsules had one ingredient only--Alfalfa. As long as he continued to take the capsules, he had no more problems. Dr. H. E. Kirschner, relating the research efforts of one of the pioneers of Alfalfa, Frank Bower, retold the story of a man who was very anemic. He was considered a borderline tuberculosis case and had no appetite at all. Bower supplied the landlady of the boarding house where both of them took their meals

with a liberal amount of Alfalfa tea, to be taken at meals. All the boarders liked it, and after about two weeks, the sick man began to eat with gusto. They all ate so heartily that larger meals had to be prepared to meet their demands (Kirsch:28).

Mr. Bower, who is regarded as the "Father of Alfalfa", made up a slogan: "What's good for the piggies is good for the kiddies". Among the interesting applications which Bower suggested was as a food supplement for children. In one test, he fed 200 children in two schools a special vitamin-mineral food based on Alfalfa. These children averaged a weight gain of two to six pounds per month and a height gain of from two to four and a half inches. They were extremely resistant to diseases in the area (Ibid:29).

N.W. Walker, the great promoter of raw vegetable juices and the vegetarian diet, highly recommended Alfalfa. He lived to an active age of over a hundred years! Lucas mentioned that the Chinese specifically recommended Alfalfa as an ulcer treatment. One woman had been suffering with ulcer pains, but when she tried the standard ulcer diet of milk foods she suffered from asthma symptoms. She decided to find a Chinese-American herbalist, and after some searching and travelling, she located one. He told her to avoid fried foods and bread, as well as alcohol and tobacco, and to take a tablespoon of Alfalfa powder once a day in water, along with a teaspoonful of olive oil before meals. Her ulcer had completely healed within a few weeks, with the pain disappearing almost immediately. This woman prescribed the same treatment to family and friends with ulcers, with the same miraculous results, everyone feeling most grateful for this simple and effective remedy (Luc:Secrets:38).

FATHER OF ALL FOODS

In an ancient Chinese herbal, Alfalfa is mentioned in the year 2939 B.C. It was anciently known to the Arabs as well, who called it the "father of all foods". Dioscorides employed a variety of the plant for urinary disorders in the fourth century B.C. Legend has it that the herb is of great antiquity, having been imported into Greece from the East after Darius had discovered it in Medes (Gri:502). Roman writers referred to it, and it is cultivated from Persia to Peru. In the warmer climates, it is mowed all year around (Ibid).

It was adopted in England in the 1700's, and although it is not native to North America, it spread quickly once introduced and the native Americans quickly adopted it for their use and for animals.

Hutchens mentions that stock farmers of South Africa improved the beauty of ostrich feathers with the use of Alfalfa feed, and that cows gave richer milk, chickens laid more often, and turkeys were healthier with the use of Alfalfa (Hut:8). Feeding the herb to our goats, we have noticed a high level of health, even though we are not able to let them run free for optimum health.

HERB OF MANY USES

Although some herbalists consider Alfalfa so mild that it is a food rather than a medicine, the herb

has to its credit some wonderful cures. As mentioned above, researcher Frank Bower (who is known as the Father of Alfalfa) discovered that the plant contained important enzymes which assist in good digestion. Tests over a period of years revealed that in addition to enzymes, the plant contains important chlorophyll, vitamins and minerals, all of which stimulate the appetite. The enzymes are sufficiently present to help in the digestion of all four classes of foods--proteins, fats, starches and sugars. One of the important vitamins present in the food is Vitamin U, which is also present in raw cabbage and which has been used to treat peptic ulcers. This discovery of Vitamin U confirms the Chinese herbalists' use of the herb to cure ulcers. In the Soviet Union, after years of testing Vitamin U on laboratory animals, scientists began clinical testing of the substance on human patients with gastric and duodenal ulcers, with an 80% cure rate, the other 20% being noticeably improved.

Frank Bower conducted many interesting experiments with Alfalfa. Three hundred soldiers at Sawtelle, California, used the Alfalfa tea with remarkable improvement in bladder, prostate and other problems. When his friend, Dr. I. D. Bailer, was suffering from lumbago, he gave Alfalfa tea to him and he immediately got better. These results were so impressive that both Bower and Bailer quit their jobs and spent the rest of their lives studying Alfalfa. Their main problem was to produce Alfalfa products that were palatable to most people, as we generally find that the taste of the plant is very strong and green. The two most palatable preparations turned out to be Green Drink, where the green leaves are blended in pineapple juice, often with other herbs and Alfalfa sprouts. In addition to the important constituents mentioned above, the sprouts contain generous quantities of the amino acids; up to 150% more than wheat or corn. They also contain chlorophyll, which many people consider an important healing agent in many ailments, as well as being a vibrant, live, oxygen-rich food.

A doctor at the University of Indiana pointed out that Alfalfa is especially rich in iron, calcium and phosphorus, all necessary for strong, healthy teeth. Some claim that Alfalfa not only retards tooth decay but actually rebuilds the teeth (Kirsch:35). It's no wonder that so many interesting cures are attributed to Alfalfa. It has been acclaimed as a diuretic. In fact, one woman who was suffering extremely from dropsy began to take the tea faithfully, and with no other remedy was relieved of the problem. The high Vitamin K content of the herb helps to clot the blood properly and prevent against hemorrhages. For this reason--among lots of good reasons--it is recommended that pregnant women take the tea daily. In addition to the blood clotting properties of Vitamin K, it has been found effective in preventing and curing high blood pressure in test animals, and may turn out to be important for the same use in humans. It is important that in the plant kingdom, only Alfalfa contains a significant amount of Vitamin K; most plants are quite deficient in the vitamin.

The high Vitamin A content in the plant is excellent to prevent infection; preparations of the plant are superior to fish-oil preparations for some people as they lack the fishy odor, are of a vegetarian source, and are somewhat more assimilable. This vitamin also helps prevent night blindness. Since many of our foods are degenerated, even if we buy the best we can and prepare them fresh, it is good to know of a consistent source of vitamin A.

The many constituents of the plant make it good for toning the system in high pressure situations; race horses often run faster when taking the herb, and athletes are often encouraged to do the same.

Many people consider Alfalfa an important herb to take throughout pregnancy. If an expectant mother is suffering from morning sickness, she can eat Alfalfa sprouts in her diet and can take from eight to sixteen tablets of Alfalfa until the condition is under control, then she can reduce the dosage (Mal:252). Many people consider that a daily green drink consisting of Alfalfa, comfrey and fresh red-raspberry leaves is an excellent pregnancy drink; it is preferred to a tea made of the same substances. After the birth, Alfalfa is sometimes taken to prevent hemorrhages. Some women have eaten Alfalfa tablets after their births like candy in order to shorten the postpartum bleeding time. Alfalfa is also thought to dramatically help bring the milk in for the nursing mother. It certainly enriches the quality of the milk and is much preferable to other hot beverages, such as regular tea, which can pollute the breast milk. It can be flavored with mint, orange peel, and honey.

Alfalfa is one of the few vegetable sources of Vitamin D. Although the sun is generally regarded as the best source for getting this vitamin (although you shouldn't shower or bathe for about a half-hour after sunning in order to absorb the D that collects in the skin's oils), there are about 4740 International Units of Vitamin D per pound of Alfalfa. This is valuable knowledge if a person is unable to take the sun, such as during the wintertime. Taking Vitamin D in Alfalfa is much healthier than drinking it in pasteurized, homogenized, Vitamin-D enriched milk! Another important element in Alfalfa is vitamin B12. Most nutritionists claim that it is only present in animal products, dairy products, or sewage. Since the 1940's, however, other research has revealed that B12 is indeed in some vegetable sources. Many vegetarian cookbooks go to great lengths to ensure the taking of B12 in diet, such as buying tablets and dissolving them in homemade soymilk, or ensuring that the vegetarian take brewer's yeast which is B12-fortified. The discussion of B12 is complicated by the fact that B12 deficiency can occur not only from the lack of the vitamin in the diet--unlikely in most diets, except those of vegans, which excludes milk, meat and eggs entirely--or from malabsorption of the vitamin present in the diet. This occurs later in life and is considered genetic in origin, developing an illness called pernicious anemia, which is treated by injections of B12 which must continue for the duration of a person's life. Interestingly, dietary deficiency of B12 may not show up even in people who take little or none of the vitamin for five or ten years. The body conserves B12 and can store enough of it to last two or three years, even longer in some cases. When the vitamin passes out of the body in bile salts, it can be reabsorbed in the intestine and recycled; very little actually leaves the body. Taken in conjunction with the knowledge that the RDA charts give a wide margin of safety when recommending amounts of any vitamin to be taken, it is clear that the B12 concern is much less an issue than it may seem for vegetarians. However, the body's ability to absorb the vitamin can affect the levels present. B12, however, is found in Alfalfa, as well as in other foods, such as lettuce, rice polishings concentrate, mung beans, and peas. Sprouted Alfalfa seed is quite a good source. The germination of the seed increase the B12 available, and since they are eaten raw, the seeds retain

their vitamin content; it has been found that cooking removes up to 85% of the vitamin under normal conditions.

Alfalfa has been used in the treatment of jaundice. Harris reports that some doctors supply their patients with fresh Alfalfa. A woman was brought into a hospital with serious jaundice. She had been well up to the onset of the disease, but had become extremely yellow in just a few days. She then began to bleed from her nose, from the bowel, and clots of blood began to form under her skin! Bile in the blood--which is what jaundice is--prevents the clotting of blood, and so doctors hesitate to do surgery for that reason. The laboratory analyses showed that the prothrombin in the woman's blood--the element necessary for clotting--was only five percent of what it should have been. A researcher recommended that the situation be treated with Alfalfa, which it was, and the woman completely recovered (Har: Eat:69).

Alfalfa, along with other foods, is known to help remove cholesterol from the system. Alfalfa has a significant amount of protein--18.9%, as compared with 16.5% in beef, 3.3% in milk and 13.1% in eggs. Eating the sprouts can add a significant amount of important protein in vegans who take no animal proteins at all, and whose diet may include so many grains and beans that concentrated proteins are difficult to obtain. Although we eliminate the mucus-forming proteins in the mucusless diet, this does not mean that the body doesn't need protein. The high-quality proteins in vegetables, especially the sprouted seeds, can supply the important needs. Without proteins, which compose the muscles of the body, the muscles can break down, causing tiredness and weakness. Flabby muscles in the intestines and stomach can result in constipation when there is not enough strength to move the food along. Poor posture often results from lack of adequate protein. The hair, skin and nails may become weak if protein is inadequate, as they are composed of protein, too.

Alfalfa is used in Europe for many functional type diseases such as arthritis and rheumatism, colitis, anemia, etc. It is traditional for wasting diseases in traditional European practice (Moore:21). It is a good supplement when antibiotics or sulfa drugs are taken, and is also recommended for alcoholics and drug addicts who are trying to kick the habit. It is excellent for children who do not seem to be growing well enough, providing an abundance of vitamins, minerals, proteins and enzymes which might not be assimilated otherwise. The chlorophyll abundant in the leaves has been found to assist in granulation of tissue after it has been damaged. The substance also helps in the strengthening of the connective tissue in the body.

Although the herb has attributed to body-building characteristics, excessive use of Alfalfa is said by the Chinese to cause one to lose weight and become thin. It might therefore be good for use in weight loss programs.

There are saponins, soap-like substances, in the herb, which have been recently investigated for their suitability as cortisone and hormone precursors. However, overeating the Alfalfa sprouts could possibly damage red blood cells. It is suggested that moderation in eating the sprouts can avoid this problem as the saponins greatly increase during the sprouting process.

In China, this is one of the plants said to have been brought to the country by General Chang Chien of the Han dynasty. It is called Mu-su, and is included among the vegetables. It was formerly much more cultivated than it is today, although in some parts of China it is still grown; it has been naturalized almost everywhere, however. It is considered too cooling to be eaten very frequently and is thought to make one thin, which is always carefully avoided by the Chinese. If eaten with honey, it is said to cause dysentery. It is thought to benefit the intestines and to help in fevers. The juice is said to be emetic and is given in cases of gravel to relieve pain (Shi:260-261). In India, the plant is an important fodder; however, the young plant is liable to cause bloating in cattle or sheep and the plant is not used much in medicine (IMM:774).

In any conditions which require cleansing and building of the body--and that includes most ailments!--Alfalfa is recommended as a basic, and mild, herbal food.

HAY

Of course, the widest application of Alfalfa in the world is as a feed crop for livestock. In almost every state of the Union, in almost every province of Canada, and throughout Central and South America, Asia, Africa, Australia and Europe, Alfalfa is featured as animal feed. In most parts of the English speaking world, it is known as lucerne. About 27 million acres of ground are used to grow Alfalfa in the United States. Thousands of acres more are used to plant the herb for its seed, which must be grown under controlled conditions. The Alfalfa is used in various ways. Most common is the preparation of hay, where the Alfalfa is cut, allowed to sun-cure, and rolled or baled for winter storage. Sometimes farmers make Alfalfa meal by cutting and chopping the green crop in the fields, hauling the chopped herb to a dehydrator, and quick-drying the leaves and stems. These are ground and put into sacks, preventing leaf loss and ensuring a high food value. This meal is sometimes combined with grains or soybeans for a concentrated feed. Farmers sometimes let their animals graze in the Alfalfa fields, and sometimes ferment the green Alfalfa to make silage. Alfalfa is much more deep-rooted than any of the other plants. Its roots commonly go down twelve feet, as compared to very short-rooted pasture grasses which barely penetrate a few inches, or even clover, which only goes down about five or six feet. This deep-rooting allows the plant to bring up important trace minerals which are only present deep in the ground. In addition, the Alfalfa, being a legume, has the capacity, with the cooperation of nitrogen-fixing bacteria, of bringing fertility to the soil. The bacteria takes nitrogen from the air and changes it into a form that can be used by the roots. Alfalfa is therefore an excellent green manure, often planted to plow under to fertilize the soil.

HISTORICAL USES

Used in disease prevention, for black and blue welts, for anemia, ulcer treatment, urinary disorders, peptic ulcers, gastric and duodenal ulcers, for bladder and prostate problems, for lumbago, to retard tooth decay, as a diuretic, for dropsy, helps clot blood in hemorrhages, for high blood pressure, pregnancy, to increase quality of mothers milk, for jaundice, malnutrition, to

lower cholesterol, for arthritis, rheumatism, colitis, wounds and to help alcoholics and drug addicts.

CULTIVATION, COLLECTION, PREPARATION

Alfalfa is very easy to cultivate on your home ground. Just get some seed and sow it in average garden soil. Keep it moist and weed if necessary; the plant will do the rest. It is a perennial and will provide you with abundant greens for years.

You can gather Alfalfa which has escaped from farmer's fields if you are absolutely sure that the leaves have not been poison-treated. Most farmers do not spray their Alfalfa crops, but many are spray happy and will spray most anything they grow. Furthermore, Alfalfa growing wild in orchards is most likely contaminated, and road-side Alfalfa may have been sprayed with poison to kill weeds. You do not want to blend these deadly poisons into your green drink--it is better to start a few plants of your own. If you live in the country, you may be surprised to find plants already growing near you.

To make Alfalfa green drink, the simplest method is to place pineapple juice in a blender container in the quantity desired. Add green leaves to taste, less at first, and building up to more as you become accustomed to the flavor. Alfalfa is quite strong tasting; you might wish to begin with additional herbs such as parsley, chard, dark lettuce, lamb's quarters, comfrey, and other mild-tasting greens. Two sprigs of Alfalfa has been a good starting point for the green drink which we feed our young children. Blend the greens into the drink until they are thoroughly pulverized. You can add a little water or a couple of ice cubes to thin the drink a bit if you like. Some people like to add an almond-date-sunflower seed emulsion, made by blending the soaked seeds and dates with pineapple juice, for a delicious and protein-filled green drink; however, we have found the pineapple juice and green combination delicious and satisfying. For a tiny infant, you can strain the fibers out of the drink, but most people can benefit from the fibers of the greens. Do not make the drink too thick at first, however, as some people might find it unpalatable. Alfalfa sprouts can also be utilized in the green drink. Sprouting Alfalfa seeds is extremely easy. When you try it, you will regret any money you spent at the store on less than-crisp Alfalfa sprouts. Homemade sprouts taste much sweeter and fresher than purchased ones. Be sure when you sprout them that you use only seeds sold for sprouting; those sold in agricultural establishments are treated with poisons for in field planting. Buy them at the health food store to be sure.

The easiest method by far is to soak a couple of tablespoons of the seeds in a wide mouth quart jar overnight. Drain the water off--some recommend drinking it but it seems rather rank for that. You can use it to water favorite plants, as it is loaded with nutrition. Cover the top of the jar with perforated lids which are sold for the purpose, or with plastic window screen held in place with the jar ring, or with cheesecloth similarly anchored. With the jar tipped at an angle to be sure that the seeds are not standing in water--they rot that way--let the seeds germinate, filling the jar with water and draining it off two or three times a day. If you are not sprouting the seeds in the light,

be sure to expose the jar to sunlight when the seed sprouts have grown to a length of about two inches; they will turn a delightful, appetizing green, developing the important chlorophyll. Before you use any sprouts, be sure to rinse the batch each time. Sprouts will keep in the refrigerator, but it is better to have small batches going constantly to ensure a fresh, sweet supply. Use them with virtually any food. They are especially good in sandwiches, to mix with salads, or to eat out of hand as a low-calorie snack.

A favorite sandwich is made by spreading healthy mayonnaise--homemade if possible--on whole grain bread. Cover one slice with mashed avocado and add a nice, thick layer of sprouts. Chopped garlic or onion make this sandwich delicious and healthy.

Some people like to mix the sprouts with mayonnaise or butter and seasonings to use over salads or in sandwiches. Some blend them with tomato juice or tomato soup in the blender and serve the nutrition of sprouts to people who might not appreciate the good nutrition if they were told. Sprouts are a nice garnish for cream soups.

They also go with almost any vegetable salad. Sometimes when they are used in the ubiquitous salads made with iceberg lettuce and hothouse tomatoes, they are the only ingredient in the salad with any nourishment at all! They are excellent to add texture and crunch to a coleslaw. Many people find that if they enjoy Alfalfa sprouts in salad, they still need to mix a little dressing or mayonnaise with the sprouts to make them palatable taken alone.

The classic health restaurant dish made with sprouts is Bible bread sandwiches. You can make them yourself, inexpensively. You begin with Bible bread or pita bread, which can be made at home by mixing up a simple yeast whole wheat bread dough. Don't let it rise first, but after it is kneaded, take golf ball size lumps, make them smooth, and roll them out about 1/4 inch thick into tortilla shapes. Put them to rise on a cornmeal-sprinkled baking sheet for about a half hour. When risen soft, place in a 450 degree F. oven in the top third of the oven until the breads puff up like balloons and their surfaces harden. Remove and cool on racks. Not all the pita breads may rise uniformly, but you should get enough to make a good batch of Bible bread sandwiches. When they are cool, they may be stored in plastic bags, but do not put into plastic while they are still hot, or they will go moist.

After the breads have cooled, cut them in half crosswise and open up. Butter the inside with homemade mayonnaise, and fill with salad vegetables: tomatoes, avocados, cucumbers, chopped lettuce, cole slaw, chopped onion, minced garlic, etc. Add grated cheese, sesame butter, and top with a generous portion of Alfalfa sprouts. Some people like to put a bit of mayonnaise on top of this and garnish with vegetarian bacon bits. These make a marvelous summertime guest meal, preceded by gaspacho soup, cold, then with each guest making up his own sandwiches. As a full sized Bible bread sandwich costs around \$2.00 in a restaurant (often more in fancier places), it seems a great luxury to serve a whole meal of them, and yet they are quite an inexpensive and very healthy meal.

You can add sprouted Alfalfa seeds to tacos, use them on top of spaghetti, munch them alongside pizza--they work with almost any meal. A very good salad is made by combining the sprouts with grated carrots and mashed avocado. Dressed with an oil and vinegar or mayonnaise based dressing, it is a delicious mixture.

If you plan to use the dried Alfalfa greens, you should gather them fresh just before the plant is in flower. Dry them in a dehydrator or a warm, airy place. Being sure not to lose any of the leaves, pulverize them in a mortar and pestle or in a blender, and store in a cool, dry place. You can make tea out of the leaves or, some suggest, sprinkle them on any cold or cooked cereal. They have a definite green, grassy taste and so take a little getting used to. The commercial infant Pablum has dried Alfalfa in it, and there are a number of commercial preparations which include Alfalfa, including Alfalfa fudge, and a concentrated Alfalfa juice!

If you wish to juice Alfalfa in your juicer, be aware that it is extremely potent. The best way to take it is to make a batch of carrot juice and introduce a small amount of Alfalfa into the juicer as you do the carrots. As you become accustomed to the taste, more Alfalfa can be added, but it is never taken straight.

Some people wishing to treat arthritis or rheumatism take a tea made of the Alfalfa seeds, but we consider this a waste of the germinating power of the seeds. It is better to sprout them and eat the sprouts. Alfalfa tea made from leaves purchased in the health food stores may have an insipid taste or even taste like nothing at all. If you wish to obtain the best results from Alfalfa leaf tea, you should go and gather your own from the very common plants all around.

RELATED PLANTS

M. falcata, Siberian Alfalfa, is similar to M. sativa, but has yellow flowers. M. media, sand lucerne, has been considered a natural hybrid between the two species.

Because of their similar functions, the clovers, Melilotus spp. are related to the Alfalfas. M. alba and M. officinalis are important as forage plants and soil builders. They are also used for hay.

CHEMICAL COMPOSITION

We have mentioned above some of the vitamins and minerals contained in Alfalfa. The essential amino acids in the plant are especially noteworthy, as well as the extremely high content of Vitamin A. You will notice that it is a good source of potassium as well.

The enzymes contained in Alfalfa are some of the most important elements, although they are not included below in the analysis chart. Among these are lipase, a fat-splitting enzyme; amylase, which acts upon starches; coagulase, to coagulate milk or clot blood; emulsin, which acts upon sugars; invertase, which converts cane sugar into dextrose; peroxidase, which has an oxidizing effect on the blood; pectinase, an enzyme that forms a vegetable jelly from a pectin substance, and

protease, that digests proteins (Kirsch:27-8). These enzymes indicate that Alfalfa could be profitably taken with almost any food!

DR. CHRISTOPHER'S COMBINATIONS CONTAINING ALFALFA

Vitalherbs contain Alfalfa leaves.

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 ***ALOE VERA***

ALOE VERA; LILIACEAE

DESCRIPTION

Aloe Vera is a perennial with strong, fibrous roots and numerous, persistent fleshy leaves which proceed from the upper part of the root and become narrow, tapering, thick and fleshy, usually beset at the edges with spiny teeth. The flowers are produced in erect, terminal spikes. There is

no calyx, the corolla is tubular, divided into six narrow segments at the mouth and of a red, yellow or purplish color. The capsules contain numerous seeds.

GENERAL

Aloe Vera is one of the ancient plants that is enjoying a tremendous revival in the modern world. Many homes have a pot of the plant sitting on the windowsill to use in cases of kitchen burns. Also, Aloe Vera has become the subject of much modern research. A general practitioner in Minnesota treated a patient who had stepped into a vat of boiling water at a canning factory. The man had severe burns from his feet to his knees. An Aloe Vera ointment was prepared, placed on gauze and wrapped around the man's legs. Pain was kept to a minimum, there was no infection, and no scar tissue formed because of this treatment. After three weeks, the man was able to return to work.

A study published in The International Journal of Dermatology reported great success in treating chronic leg ulcers with Aloe Vera. These long-term ulcers are often resistant to treatment, despite the many modern preparations available. This study told of a man who for fifteen years had a leg ulcer that would not respond to treatment with a wide range of drugs and ointments. After only ten weeks of Aloe Vera treatment, the ulcer began to shrink and new, healthy skin tissue began to appear. A similar case, a man with a seven year old ulcer was treated with Aloe Vera pulp. Six weeks after treatment began, the pain had subsided and the ulcer began to heal.

Other studies have shown equally impressive results in treatment of X-ray burns. Two American researchers described the results of Aloe Vera treatment for a patient suffering from severe X-ray burns on the forehead. After five weeks, the forehead had not only healed, but the texture of the treated skin was even softer and smoother than that of the untreated skin. X-ray and other radiation burns do not begin to heal like other wounds and often do not respond to customary burn treatment. But according to the hospitals that used it, Aloe Vera ointment was fifty percent better for burn treatment than other remedies previously considered effective.

WAND OF HEAVEN

Aloe Vera--along with the other Aloes--is so ancient that legend places its origin in the Garden of Eden. It originates in the cradle of humanity in Asia Minor and is one of the few plants known the world over by its scientific name. Aloe Vera means True Aloe (to distinguish it from 200 species of Aloe); Aloe is from the Arabic alloe or the Hebrew halal, meaning a shining, bitter substance. Aloe Vera is sometimes referred to as Aloe barbadensis, a native of northern Africa but introduced into the Barbados Islands in the seventeenth century. It is said that a certain variety of A. barbadensis is the actual Aloe Vera.

Those who apply the cave man theory consider that ancient man noticed that Aloes, along with other plants of the class of Xeroids, could close their stomata completely to avoid loss of water. When a Xeroid is wounded, it closes the wound almost immediately so that the plant will retain its

water in the usually hot climates in which it grows. Ancient man, goes the theory, conjectured that the plant must work the same for healing humans as it healed itself, and began to use it.

Whether this theory holds water or not, the clear gel inside the plant's leaves has been regarded as powerful medicine for centuries. According to legend, Nefertiti and Cleopatra use it to enhance their beauty, and Alexander the Great conquered Socotra because he wanted the island's Aloes to heal his troops' wounds. Marco Polo reported that the Chinese used Aloes to treat stomach ailments, rashes, and other disorders. The Egyptians used the plant medicinally; in 1500 B.C. the Papyrus Ebers listed many healing properties of the Aloes, which were known long before this document.

Dioscorides listed this plant as an important medicine. He said that it could be used for wounds, stomach pain and digestive disorders, constipation, headache, itching, baldness, mouth and gum diseases, kidney ailments, blistering, sunburn and blemishes.

You will recall that Aloes are mentioned in the Bible. Although the Aloes of the Old Testament were probably other plants, those brought by Nicodemus to embalm the body of Jesus were doubtless the true Aloes. This juice was used by the Egyptians, who were accomplished in the art of embalming. This drug was imported to Palestine at the time and was very expensive; that Nicodemus brought a hundred pounds of it, with myrrh, indicates that he was very rich (Mold:35).

Columbus' ship log refers to medicinal uses of the plant for sailors. Indian tribes living where the plant grew relied upon it for healing, especially for burns and other ailments. They called it "wands of heaven". Spanish missionaries brought Aloes with them to America and carried them from place to place to help the sick. Other common names for the plant include American Aloe--although this name properly refers to the agave plant, which is entirely unrelated to Aloes--Utah Aloe, Virginian Agave, Rattlesnake Master, Healing Aloe, Savila, and Indian Medicine Aloe (Herbalist:I:8:289).

Interesting ritual and religious associations have developed around Aloes. The Mahometans, especially those in Egypt, are said to regard the Aloe as a religious symbol, and anyone who has made a pilgrimage to the shrine of the Prophet is entitled to hang the Aloe over his doorway. The Mahometans also believe that this holy symbol protects a household from a malign influence (Gri:28). In Cairo, the Jews have adopted the practice of hanging up the Aloe. Near Mecca, at the extremity of every grave, on a spot facing the epitaph, Burckhardt found planted a low shrubby species of Aloe whose Arabic name, "saber", means patience. This Plant is evergreen and requires very little water. Its name refers to the waiting time between burial and the resurrection morning (Ibid.).

It is mentioned in the ancient English herbals as one of the drugs recommended to Alfred the Great by the Patriarch of Jerusalem, and is therefore thought to have been known in Britain as early as the tenth century, being brought into Europe by way of the Red Sea and Alexandria. As

the herb, along with the centers of civilization, moved away from the areas where it thrived, it fell somewhat into disuse until the 1930's, where the first X-rays, being very crude, caused serious burns that responded to no other treatments except Aloes. Some think it ironic that the atom bomb and the X-ray were needed in modern times to bring about a rebirth of interest in the ancient Aloe Vera and other Aloes.

THE HEALING ALOE

Aloe Vera is much prescribed externally nowadays, although its internal uses are many as well. Its most common use for most people is as a burn medicine. Although ointments are now widely available for burns which feature Aloe Vera, probably the most common use of the plant is to cut off a leaf, trim it of its prickles, split it in two, and lay the wet interior on the burn itself. The pain subsides within minutes and often blistering and scarring are totally eliminated. Some consider that its use in burns may not be that useful, that much study should be done before it can be accepted as a burn treatment (Spoerke:22), but empirical experience, even among doctors, suggests that it really works to heal burns. Doctors at the burn unit of the University of Washington School of Medicine said that "it may decrease pruritus (itching) and peeling related to burns" (Bri:81). They considered that the plant's gel has antimicrobial properties and will kill pain (Bri:81). Some consider that the gel stops and reverses the burning process and regenerates the skin tissue (Neb:51). When there is a painful burn on the finger, you can apply a split leaf to the burn and bind it on with a bandage. If the burn is somewhat severe, it may take some time for the pain to subside, but our experience shows that it surely works to relieve pain and heal the burn.

Other burns are said to respond specifically to the application of Aloe Vera. It has been widely used to treat sunburn; it is part of traditional Hawaiian medical teaching that the gel will stop the pain and promote healing of sunburned skin. Significantly, the gel has been successfully used to heal the burns from X-ray and cancer radiation treatments. A study sponsored by the Atomic Energy Commission found that treatment of an ulcer caused by beta radiation was reduced from four months to two months with applications of the juice. They found that the lubricants in the leaves of the plant seemed to reduce scarring and also the astringent qualities of the juice cleansed the afflicted area. The gel can be used to allay heat wherever it occurs in the body.

Other external uses for the herb include treatment for all kinds of wounds--scrapes, cuts, etc. The gel seems to mildly kill the germs on the surface and promote healing. The herb is high in calcium, which reduces bleeding with its coagulating action, at the same time helping to stimulate circulation of blood in the surrounding areas to bring oxygen to the surface.

Aloe Vera penetrates the skin quickly and deeply. This allows water and other moisturizers to sink deeply into the skin, restoring lost fluids and replacing the fatty layer. It permits the uronic acids, which strip toxic materials of their harmful effects, to penetrate deeply and allows the cleansing astringent qualities of the gel to work better. By increasing the circulation of the blood to an area, Aloe Vera sloughs off dead cells and fosters the growth of new ones. This helps foster

the regeneration of scarred or blemished skin tissue and provides a protective coating on the skin to prevent the growth of harmful bacteria. This antiseptic action also stops skin infections (acne) in oil-clogged pores. It heals blemishes with little or no scarring. This accounts for the multitude of cosmetic preparations these days contain Aloe Vera.

For those who do not like commercial deodorant preparations--and the absorption of the aluminum in almost every commercial preparation is a cause of bad health for many people--the fresh Aloe Vera gel, applied directly, works as an excellent deodorant. A piece of the plant, held in the mouth and allowed to release its juice, clears the throat for singers and speakers. It can stop itching, and as an anti-inflammatory agent has an action like that of steroids. One study reported that Aloe Vera inhibited the growth of several kinds of bacteria, including staphylococcus and salmonella, although more research has yet to be done on the plant's bacteriological properties. It has been used to reduce the itch of insect bites, the itching and burning of poison ivy, and to help remove warts, the juice of the fresh leaf being applied daily over a period of weeks until the wart is reduced or removed.

Some people use the gel on their hair, and many commercial shampoo and conditioner formulas contain the gel. For many years one beauty shop operator has used the gel straight as a hair set. She said that it improves hair sheen and helps scalp abrasions. Indians in Mexico have used the Aloe Vera juice straight from the plant. They wet their hair at night, apply the juice, and after letting it dry all night, rinse it out in the morning. This is supposed to add luster, richness, and manageability to the hair. Aloe Vera has almost the same pH factor as skin and hair, which can account for its cosmetic effect.

Dried to a powder--the usual way for preserving the gel for medicinal uses--the gel can be mixed with a little water and applied to the nipples when a mother wishes to wean her infant. The bitter taste will inhibit nursing! The dried powder is also applied to running ulcers on the skin, absorbing the old, putrid matter and encouraging the growth of new skin.

Aloe Vera has had one main internal use, as a very powerful laxative, more active than senna or cascara. It is rarely used alone because it causes griping, and is not recommended for people with hemorrhoids, as its prompt and urgent action irritates piles. A tea of ginger and licorice root can help alleviate the griping of the action. It can activate digestion and even expel pinworms from the system, but because it is so active, it should not be used by a pregnant woman or during the menstrual period. A nursing mother will transmit the purgative action through her milk to the infant, and so should avoid its use as well.

The herb has been used for women's problems and is said to be an excellent cleansing douche for discharge problems. Some women have taken it to bring on suppressed menstruation.

Aloe Vera has recently been tested to confirm the empirical application for stomach and digestive ulcers. After reading about the Soviet Union's studies of Aloe Vera and peptic ulcers, doctors in Florida tested it for themselves. Twelve patients of varying ages who had ulcers were treated

with Aloe Vera gel. In every case, after the juice or gel was ingested, the ulcers healed and no relapse occurred within a year of treatment. Aloe Vera is also thought to perhaps prevent the development of peptic ulcers because it is able to inhibit the secretion of hydrochloric acid in the stomach, too much of which irritates the stomach's lining and leads to ulcers. A normal person's digestion would not be affected, however, other than leading to better assimilation and therefore better health.

Aloe Vera taken internally is said to help maintain good blood vessel tone and healthy circulation. The potassium in the plant is said to aid the heart's rhythm and stimulate the kidney to dispose of body wastes. The herb is said to help the action of digestive enzymes and deter kidney stones. The plant is said to assist oxygen carrying throughout the system.

Aloe Vera has been used to treat chronic nose congestion. Patients treated with Aloe Vera were able to breathe and smell with greater ease, also with a significant decrease in nasal secretions.

Other interesting claims for Aloe Vera include curing anemia and bed-wetting, and, applied externally, relieving the pain of arthritis. It is said to replace lost hair and eliminate liver spots.

In the Doctrine of Signatures, the thick yellow juice that exudes from the leaf signifies the skin (Harris:Complete:57).

In India, varieties other than the A. vera are more commonly used, but the official plant is employed for X-ray ulcers (IMM:56).

HISTORICAL USES

Used for severe burns, chronic leg ulcers, X-ray burns, sunburn, radiation burns from the treatment of cancer, to reduce scarring, for wounds, scrapes, and cuts, as a deodorant, to clear the throat, for itching and insect bites, as a cleaning douche, for digestive ulcers in the stomach, for peptic ulcers, to remove warts, to wean infants and for nose congestion.

CULTIVATION, COLLECTION, PREPARATION

Aloe Vera is extremely easy to grow. In hot climates it can be maintained in the garden just as any other succulent and it multiplies prolifically. For indoor use, just plant the Aloe Vera in a pot, preferably clay for good drainage, with a standard potting mix, perhaps just on the sandy side to approximate desert conditions. Dry soil indicates the need for water. Repot when the plant outgrows the pot and when many little starts form; you can put these in pots for new plants. When you need the plant for use, just pinch off an adequate section of leaf, trim off the prickles, and squeeze out the gel or apply directly to the wound.

Commercially, the Aloe juice is drained from a cut plant and placed in a copper vessel. There evaporates and when it obtains the proper consistency, is poured into metal containers and

allowed to harden.

RELATED PLANTS

Many of the Aloes are medicinal. A. Perryi produces Socotrine Aloes. This is used similarly to A. vera. A. indica is also known as Indian Aloes, cultivated throughout India in many varieties and also found wild there. It is used for worms in children, as an eye-medicine, and for many of the uses ascribed to A. vera. A. littoralis produces small aloe or cape aloe; it is said to be less medicinal than the Aloe Vera. Other varieties include A. ferox, A. africana and A. spicata.

CHEMICAL COMPOSITION

The gel from the leaf contains a miraculous number of substances, including polysaccharides which are said to be the basis for healing in burns.

RECENT FINDINGS

Aloe Vera was successfully used in peptic ulcer therapy, as mentioned above (Journal of American Osteopathic Assoc., 62:731-5). The research on its use in radiation-caused ulcers spans quite a period of time, but current research confirms its superiority in treating such ulcers and burns (Journal of Reontgenogy, 33, No. 1, pages 396-7).

Aloe Vera was proven to be anti-bacteriostatic against streptococcus, staphylococcus and other bacteria (Journal of Pharm. Science, Vol. 53, page 1287).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING ALOE VERA

Beauty Facial Cream contains Aloe Vera.

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Mal
Bri
Herbalist
Mold

ANGELICA

ANGELICA OFFICINALIS, ANGELICA ARCHANGELICA; UMBELLIFERAE

GENERAL

Angelica is one of those ancient herbs considered to be such a cure-all that they are thought to be divine. The name itself refers to angels and the archangels; Kloss attributes the herb's powers to Christ Himself. One legend says that Angelica was given in a dream to cure the plague. Anciently it was held in such esteem that it was called "the root of the Holy Ghost". Angelica is often considered a woman's herb, as it is used for regulating menstruation and relieving cramps. The Chinese dong quai is a mixture of different Angelica species; it is called "woman's ginseng". It should not be used by pregnant women, however, as Angelica powerfully stimulates the feminine organs. It is also used to improve the circulation and warm the body in times of cold. It dispels gas and improves digestion because of its warming qualities. It can break up colds and flu if taken hot. But do not take too much, as it is reported to adversely affect heart action, respiration, and blood pressure if unwisely administered. Add it to your bath to calm your nerves.

HISTORICAL USES

As a cure-all, to regulate menstruation, relieve cramping, stimulate feminine organs, to improve circulation, to dispel gas, to improve digestion and for cold and flu.

ARNICA

ARNICA MONTANA; COMPOSITAE

GENERAL

This is one of the multitudinous members of the Compositae family which is very hard to identify exactly. However, it is an important external use herb; it is rarely if ever used internally. The tincture is used for bruises, sprains and wounds, if the skin is unbroken. You can dilute the tincture, as too strong or repeated use may cause irritation or inflammation. The much-dilute tincture is used for inflammation of the mouth and throat. You can use the diluted tincture, hot, for sore muscles. The homeopathic preparation in the 6X size is often used for shock and muscular pain; it is called the "homeopathic painkiller" by Dr. Dorothy Shepard. It is used for childbirth, bone setting, concussions, injuries, falls, blasts and fractures (Buchman:18).

HISTORICAL USES

For external uses, bruises, sprains, injuries and falls, shock, muscular pain, childbirth, bone setting, concussions and fractures.

BALM OF GILEAD

POPULUS CANDICANS, POPULUS BALSAMIFERA; SALICACEAE

GENERAL

"Is there no balm in Gilead? Is there no physician there?" There are several herbs called Balm of Gilead. The one in the holy land is Commiphora Opobalsamum; it is the exuded juice from a small, rare tree. However, the herb referred to here grows in Canada and North America, and the medicinal part is extracted from the buds; the bark is also used. The American Indians used it for scurvy, chest troubles and coughs, stomach troubles, kidney and bladder problems, rheumatism, and skin affections. Steeped in olive oil, the medicine is good for longstanding constipation, intestinal troubles, and to dissolve cholesterol. You can make a good ointment for all sorts of skin problems by adding eucalyptus oil. This ointment can also be given internally for dry cough. It is great for hemorrhoids and for babies' chafed skin.

HISTORICAL USES

For scurvy and coughs, chest and stomach problems, kidney and bladder problems, for long standing constipation, rheumatism, skin affections, intestinal problems and to dissolve cholesterol.

BLACKBERRY LEAVES

RUBUS FRUCTICOSUS; ROSACEAE

GENERAL

Blackberry bushes are also known as bramble bushes. They grow wild in England and in many parts of Europe. They are especially distinguished by the fact that the green and ripe fruits appear on the same plant at the same time, rather unusual among the vine fruits. It is an ancient plant, mentioned in the Bible, and are of quite easy culture, though not as prevalent in America as in other countries. The whole plant is medicinal, although the rootbark and leaves are specific as a powerful astringent. The leaves have long been considered a specific remedy for burns and scalds. In English ancient times, their application was always accompanied by a spoken charm. The tea is given in dysentery and infant cholera, which often has debilitating dysentery. The herb is rich in tannic acid, which in the system is converted to gallic acid (ShoA:115); this tones and astringes the mucous membranes. Blackberry leaves and rootbark are primarily used for atonic and relaxed conditions of the stomach, intestines, larynx and mucous tissues generally. You can also make preparations from the berries themselves which are very healthful and delicious.

HISTORICAL USES

For burns and scalds, to tone the mucous membranes, dysentery, infant cholera, relaxed conditions of the stomach, intestine, larynx, mucous tissues etc.

BLOOD ROOT

SANGUINARIA CANADENSIS; PAPAVERACEAE

GENERAL

This plant, also called Indian Paint and Puccoon, is a beautiful addition to the herb garden, but it is an extremely powerful medicine which must be used skillfully. Large doses are sedative, and an overdose is said to be fatal. It is employed for adenoids, nasal polyps, sore throat, and syphilitic troubles, always in very small doses and sometimes combined with golden seal when the condition

is hard to overcome. It is excellent, in tiny doses, as an expectorant. Since the taste is nauseating, it has its own control built in against overdose! It is also emetic and cathartic, and of great value in atonic dyspepsia. It has been used in asthma, bronchitis, and croup. It will relieve nervous irritation and lower the pulse rate. It is good for any disease which requires cleansing, including liver problems and related skin problems. Some people have applied it to cancerous growths, but it is also excellent when applied topically for eczema, sores and other skin problems. It is a good addition to formulas for feverish diseases.

HISTORICAL USES

As a sedative, for adenoids, nasal polyps, sore throat, expectorant, for atonic dyspepsia, asthma, bronchitis, croup, nervous irritation, to lower pulse rate, liver problems, skin problems, cancerous growths, and for feverish disease.

BLUE VIOLET

VIOLA ODORATA; VIOLACEAE

GENERAL

Blue Violet is a mild, mucilaginous plant which is very familiar in the springtime. It can be picked and added to the salad, wherein it makes a cleansing, healthful and quite mild-tasting green. It has long been utilized as a medicinal, although never recognized officially. The flowers were recommended by Gerard to be used for inflammations of the lungs. They would take away hoarseness and sore chest and remove thirst, he said. Culpepper recommended their use for leucorrhea and scrofula. The American Indians applied the bruised leaves to boils and painful swellings to ease the pain and promote suppuration. They also used them in mucus diseases such as catarrh. The plant has sometimes been used in heart trouble, and Kloss asserts that they are a specific for use in cancer, combined with red clover and vervain. He also claims that it is good for coughs and colds, with their accompanying sore throat, for ulcers, scrofula, and other related diseases, and for difficult breathing related to gases and morbid matter in the stomach. It is good for nervousness or general debility and relieves bad headaches and congestion in the head.

HISTORICAL USES

For lung inflammation, hoarseness, sore chest, to remove thirst, leucorrhea, scrofula, boils, painful swelling, catarrh, heart trouble, headaches, ulcers, sore throat, scrofula, difficult breathing, nervousness and congestion in the head.

BLUEBERRY LEAF

VACCINIUM MYRTILLUS; VACCINIACEAE

GENERAL

This herb is not commonly used, yet it has some important functions, particularly when a mild medicine of its type is required. The leaves are used similarly as Uva Ursi, although they are less powerful. They contain quinic acid, which is supposed to inhibit uric acid formation and therefore be employed for gout. The bark and roots are even more astringent and can be employed against diarrhea or dysentery. Of most important modern use, the leaves have been used to modify blood-sugar levels, particularly in Europe. This is said to gradually help control high blood sugar levels and assist in the treatment of diabetes.

HISTORICAL USES

To modify blood sugar levels, for gout, diarrhea, dysentery and diabetes.

BONESET

EUPATORIUM PERFOLIATUM; COMPOSITAE

GENERAL

This herb was at one time a virtual panacea among both Indians and whites. Some claim that if the Indians approve of an herb, you can be sure that it is efficacious. Lloyd said that it belonged in every well-regulated household! The Indians used it for many kinds of fever, but especially what was called "break-bone fever", because the pain attending it resembled the breaking of bones--this is known today as influenza, that disease which took millions of lives in World War I. Herbalists claim that if you had Boneset in your home, you could avoid any harm from influenza. At one time there was no plant that had more extensive use than Boneset; it hung in almost every attic or woodshed. "How many children have winced when the maternal edict, 'Drink this Boneset, it'll do you good', has been issued; and how many old men have craned their necks to allow the draught to the quicker pass the palate!" (Herbalist Almanac:85). It is a bitter remedy, and in addition to its use in fevers and infections it is taken to improve digestion and assimilation.

It was recommended during the Civil War to replace quinine in cases of malaria, as well as for typhoid pneumonia. American Indians also used it for a vermifuge and for rheumatism. Patients with epilepsy were treated with a decoction from the roots. This herb which was once a favorite remedy in the practice of American medicine was official in the United States Pharmacopeia for almost a century and in the National Formulary for twenty-five years after that.

HISTORICAL USES

For fever, flu, malaria, typhoid pneumonia, as a vermifuge, for rheumatism and for epilepsy.

 ***BRIGHAM TEA***

EPHEDRA NEVADENSIS; EPHEDRACEAE

VIRIDIS TORREYANA; GNETACEAE

DESCRIPTION

Ephedras are low, much-branched, erect, procumbent or occasionally climbing shrubs, highly ramified with very small scaly leaves growing at the nodes. The characteristics of these species are sinking of the stomata below the general level of the epidermis, thickened and often resin or wax covered cuticle, squamous leaves, occasionally linear but usually of very small size. The herb has both male and female flowers. The males containing stamens are found together on catkins, while the females containing pistils arise from a two-leaved flower branch that is supported on axillary stalks coming from the stems. The fruit consists of two pistil-like capsules containing a juicy cone shaped seed in each capsule. The stems or branches are slender and erect with small leaves somewhat like scales on the stem (Mil:27). It grows in the arid regions of the temperate zones, in deserts or on mountain slopes, in alkaline soils.

GENERAL

Every fall, many herb-minded families in Utah make a pilgrimage to the desert to collect the year's supply of Brigham Tea.

ANCIENT REMEDY

A "living fossil"--akin to the horsetails--Brigham Tea has been used medicinally for more than five thousand years. In 2700 B.C., Shen Mung, the father of Chinese herbalism, used the dried roots and stems to treat coughs, colds, headache and fever (Rose:Herbs). Ma-huang (Chinese for

Ephedra) is still much used in China today. Until the 1920's, China was the only major supplier of Ephedra in the world. In 1926, however, native species in India were analyzed, and in 1928, India began exporting Ephedra from Baluchistan, which is now part of West Pakistan and is the leading world source of natural Ephedra. Spain is a minor producer. In more recent years, most of the ephedrine and pseudoephedrine (the active medicinal constituents of Brigham Tea, carried in alkaloids) had been manufactured synthetically. However, in the 1950's the price of the synthetic increased sufficiently to bring about an increased demand for the natural product, which some pharmaceutical companies had continued to prefer.

An early western record of Mormon Tea appeared in the *Badianus Manuscript*, a 1552 herbal highlighting Mexican plants. Written by an Aztec medicine man, the book was translated into Latin, and the original copy resides in the Vatican today (Hyl:513).

The American Indians used Ephedra roots as a decoction to stop internal bleeding and to cure venereal diseases; they roasted and ground the roots to make bread (Rose:Herbs). The Pima Indians dried the roots in the sun, powdered them on a flat stone and sprinkled the powder on sores (Hyl:513).

The early settlers of the American West termed Ephedra "Squaw Tea", and took it mainly as an anti-syphilitic and blood purifier. The early Mormon pioneers took to the herb because they eschewed coffee or tea; Brigham Tea is another name thus derived. The plant is also called "joint fir" because it resembles a fir bush with jointed, stem-like needles which serve the function of the leaf. Early Mexicans called the stems "canutillos", meaning little tubes or pipes (*Ibid.*). For other names for Brigham Tea you can easily imagine the history: stick tea, desert tea, miner's tea, teamster's tea, Mexican tea, popotillo--and even whorehouse tea!

Some species of Ephedra were said to have been fermented and used ceremonially by Vedic and Zoroastrian priests for tantic lunar rites (Mil:28).

Many species grow throughout the world, in China, Sicily, Afghanistan, Southern Siberia, Inner Mongolia, Japan, India, Spain and of course, the American Southwest. The species vary in the alkaloid content which constitutes the medicinal part; in our discussion below on chemical constituents we will treat that issue.

PAIN AND PURIFICATION

Brigham Tea has been used as a folk remedy and as a very sophisticated medicine. The early pioneers used the brewed tea as a blood purifier; a use recommended by Dr. Christopher although he recommended rotating it with other blood purifiers, such as burdock root or red clover, on a six-week basis. They also used the herb for colds and to flush the kidneys. The ground, dried stems, mixed with pinon pine sap, made a salve for open sores (Hyl:514). In Chinese folk medicine, Ephedra was prized for curing colds, coughs, malarial and other fevers, headaches, and eruption due to infection. In Indian traditional medicine, it has been used for coughs, rheumatism,

syphilis, and as a digestive tonic (IMM:489). The powdered roots have been combined with various other ingredients, including oyster shells, to stop excessive sweating. In Russia, a decoction of the stems and root is used to treat rheumatism and syphilis.

In modern usage, the prized constituents, ephedrine and pseudoephedrine, are extracted from the plants for medicinal use. However, some pharmacists turn to the crude extract for a less expensive and still effective drug. The ephedrine is used instead of epinephrine, a liquid extract made from the medulla of the suprarenal or adrenal gland of the sheep or ox. The most important effect of epinephrine is on the blood vessels; all the small blood vessels, especially the small arteries and capillaries, are made narrower when the small muscle fibers in their walls contract. The narrower blood vessels offer a greater resistance to blood being pumped by the heart, thereby raising the blood pressure. This requires the force of the heart's contractions to increase, thus producing a slower and stronger beat, producing a slow, strong, tense pulse.

Unfortunately the effects of epinephrine do not last, and an overdose can cause death. However, the ephedrine and pseudoephedrine taken from the Ephedra produce the same effect as the epinephrine, lasting longer without the danger of overdose. You should note, though, as we will show in a minute, that extracted ephedrine does cause side effects, which can be avoided with judicious use (moderate use, not overuse) of the herb in its whole, its wholesome, state (Herbalist, May 1978:35).

In the United States, ephedrine, orally or subcutaneously, is prescribed for rhinitis, asthma, hay fever, and emphysema. As mentioned above, the relief is more enduring than that from epinephrine. Ephedrine salts in nasal sprays relieve congestion and swelling. Ephedrine is given subcutaneously to prevent hypotension during anesthesia. It is given orally to relieve certain forms of epilepsy, bedwetting, etc. Pseudoephedrine, taken orally, is an effective nasal decongestant. The pharmaceutical preparations, Ephenerine and Emperin Codeine contain ephedrine as the principal activant (Mil:29).

The pharmacological action of ephedrine is similar to adrenalin. Its pressor and vaso-constrictor activity is slower and less than adrenalin, but it lasts longer. Unlike adrenalin, it can be given orally. It stimulates the respiration, increasing the depth of respiration, reinforces heart action and dilates the bronchi, especially during spasms, hence its use in bronchial asthma. It contracts the uterus and dilates the pupils. It also stimulates the central nervous system, this attribute being the basis for its use in the treatment of depression and for the relief of narcolepsy. It is used in vasomotor rhinitis, coryza, congestion of the mucous membranes, acute sinusitis, and hay fever. It has a slight local anesthetic action.

Pseudoephedrine resembles ephedrine, but its effect is weaker. Both alkaloids produce a dilatation of the blood vessels in the kidney and an increase in kidney volume, but the diuretic effect of pseudoephedrine is more marked. It also has no effect on the uterus. In allergic syndromes, the salts relieve nasal congestion in hay fever, relax bronchiolar muscle spasm in bronchial asthma, and are especially useful in preventing asthmatic attacks in chronic cases.

Asthma, which often originates in allergies, is characterized by pronounced constriction of the bronchi and excessive mucous secretion, which lead to the characteristic wheezing. Ephedra, which is an excellent broncho-dilator, relaxes the bronchi and has been used by the Chinese for this condition for thousands of years.(Stu:185,61).

In the classic work, Indian Materia Medica, the author quotes the famous researcher, Lt. Col. Chopra, on the ill effects of using ephedrine. He observed that it is likely to produce unpleasant side effects. In some patients, acute pains in the heart lasted for 10 or 20 minutes, not an uncommon symptom due to the hypertension produced by stimulating the vaso-motor nerve endings. Some patients, he observed, get palpitation, flushing of the skin, and tingling and numbness of the extremities; fainting fits may occur. The stimulating action of the alkaloid on the sympathetic nervous system may produce constipation, which may aggravate certain kinds of asthma. Loss of appetite frequently occurs, and digestive disturbances frequently accompany the use of the drug. For routine use, ephedrine is discouraged, according to this source (IMM:488-489).

Other authorities remind us that if we use the herbal tea in excess, there might be the possibility of losing elasticity in the blood vessels and bronchial tubes, as well as the occurrence of vertigo, nervousness, and insomnia with prolonged use. However, with this as with any herb, moderate and intelligent use will not produce any adverse symptoms, and the user should be prudent in his application of this or any other herb (Mil:29).

In 1924, Chen and Schmidt demonstrated the close physiological as well as chemical relationship of ephedrine to adrenalin (IMM:442). Pseudoephedrine closely resembles the action of ephedrine, though ephedrine produces a much stronger vaso-pressor effect. While large doses of ephedrine act as a depressant on the myocardium, pseudoephedrine acts as a heart stimulant. Because of this dual effect, Lt. Col. Chopra used effectively the extract or tincture of Ephedra, which contains both constituents in their natural proportions (IMM:494). Indeed, Dr. Christopher always emphasized that if the herbs we use are left in their natural forms, not isolating the various medicinal constituents, they are effective and safe. Dr. Christopher recommended Brigham Tea to be taken for arthritis, rheumatism, bursitis, and other painful muscle and joint problems, for toxic conditions of the body such as syphilis, boils, and acne, to relieve fever, to relieve pain in the kidneys, to stop internal bleeding, and as a general blood purifier (Herbalist:op cit).

POPSICLES ETCETERA

The Navajos boil the twigs with alum to produce a light tan dye (Ibid). The fruits of some species are eaten by humans during times of want; deer and sheep browse on the plant and quail eat the seeds (Ibid). One variety is used to tan sheepskin, the American varieties contain a higher amount of tannin, and the ashes of the burned plant are blended with powdered chewing tobacco in Pakistan. The twigs, still fresh, can be used like horsetails to scrub pots and pans in the wilderness. Once, when Dr. Christopher taught a massage class, two youths who were chosen to

take turns on the table during demonstrations showed their appreciation by bringing delicious popsicles to the thirty adult participants. When asked what they were made of, "Brigham Tea and a little honey", came the reply. Dr. Christopher had never heard of this use before-and he was delighted to find young people enthused about the uses of herbs (*Ibid*).

Some people, interested in the ritual uses of herbs, recommend breathing the fumes of a strong, fermented decoction of Ephedra, along with a lip application of Tiger Balm, an oriental ointment. This is supposed to increase energy through improving breathing efficiency (Mil:28-29).

PREPARATION

Since herbalists are not interested in isolating and concentrating the medicinal alkaloids, they prepare the herb in the standard ways, infusion, decoction, tincture, extract. However, Dr. Christopher stressed an unusual preparation of Brigham Tea, as taught by the old-time herbalists. Use the grounds repeatedly, putting a teaspoon of the fresh herb on top of the herbal grounds left from the previous day. You can do this for four to six days; it takes several days of simmering the tea, fifteen or twenty minutes a day, to sufficiently extract all the organic copper and other minerals. More water should also be added each day.

HISTORICAL USES

For coughs, colds, fever, headaches, to stop internal bleeding, for syphilis, sores, pain, as a blood purifier, or a kidney flush, for malarial fevers, infectious eruptions, rheumatism, arthritis, bursitis, as a digestive tonic, to reduce sweating, for rhinitis, asthma (bronchial), hayfever, emphysema, congestion and swelling, for epilepsy, bedwetting, to stimulate respiration, reinforce heart action, to contract uterus, to stimulate central nervous system, to decongest nasal passages, for sinusitis, coryza, as a diuretic, a bronchitic, for the heart, for boils, acne and inflammation.

CULTIVATION, COLLECTION, PREPARATION

Although the shrub normally grows wild in rocky, arid climates, some species of Ephedra have been successfully cultivated in the United States, England, Kenya and Australia. In the United States, the most successful efforts were in South Dakota, but because of high labor costs and other factors, the crop was not a financial success. In Australia, some results have been encouraging. Certainly the home gardener could keep Brigham Tea, with plants or seeds from an herb supplier, being sure not to overwater.

The plants are propagated by seeds, drills, or divisions of the rootstock. Seeds are sown early in spring, two and one-half feet apart and one-half inch deep; in drills, the distance between rows being about two and one-half feet. Normal watering and weeding are necessary for the first year until the plants are established; thereafter, the plants should flourish untended. They thrive best where rain is less than twenty inches annually.

Collection can begin when the plants are four years old. Gather the branches that are less than one-half inch in diameter, and generally the brown-to-black colored twigs are less acidic than the less mature yellow. Remember not to take more than one third of the plant, so as not to kill it. Always offer a prayer of thanksgiving to the Creator when gathering it, as do the American Indians; we feel this practice should have no cultural limitations. Rainfall dramatically reduces the alkaloid content of the plant, so it is best to gather during a dry spell. Dry the herb in the shade or in cloth or paper bags in a dry place; do not allow it to become damp while drying or in storage, as exposure to humidity can result in a complete loss of medicinal values. The twigs are the medicinal portion; the berries and roots are said to contain hardly any alkaloid. Do not dry at artificial high temperatures.

CHEMICAL COMPOSITION

Some controversy exists over the chemical composition of the various Ephedras. In India alone, thirteen varieties have been located and analyzed for alkaloid content, with varying yields. Of course, the high alkaloid content allows extraction of more ephedrine and pseudoephedrine, which is important in the commercial aspect of the crop, which is often exported, dried, in bales, from the various countries mentioned above. Some authorities state flatly that none of the ten American species of Ephedra contain any alkaloids at all. One asserts that the Ephedra nevadensis contains ten percent of the alkaloid concentration of the Chinese Ma-Huang, while another contends that our desert varieties contain twenty-five percent. Since our laboratory has not yet made a chemical comparison, we can simply bring your attention to the above claims and further mention that from early days the American desert varieties of Ephedra have been used by Indians, pioneers, and residents of the area. Perhaps the lower medicinal content prompted the users to reuse the grounds as described above. We can hardly assume that no medicinal values accrue to the local herb, since it has been used successfully over a long period of time.

The alkaloid content varies with species, locality, and climate. However, Brigham Tea also contains a high-vibrating organic copper that can be assimilated into the body without side effects or after effects. Ephedra transforms the inorganic minerals in the soil, and it usually grows in highly mineralized soils into organic, or "live" minerals, through the process of osmosis. Raw or inorganic minerals in their crude state can be accepted into the body, but they cannot be assimilated (Herbalist:34).

If used in moderation and with wisdom, Brigham Tea's chemicals, in their natural composition within the whole herb, can do no harm.

RECENT FINDINGS

When an herb is used consistently in folk remedies for a long period of time, one of the predominant questions among modern researchers is whether the substance actually contains medicinal qualities that do what is claimed. In anesthetized dogs, the crude extract of Ephedra as well as the alkaloid fraction were injected. Blood pressure, heart rate, and blood glucose

concentration were increased by the intraduodenal administration of both preparations. The two substances worked in about the same amount of time, although the alkaloid had twice as strong an effect. Absorption of the medicinal factor in the extract took place slowly and lasted longer than that of the alkaloid fraction. We can conclude that the extract worked as well, although more slowly and less dramatically, than the isolate, which fits in perfectly with Dr. Christopher's injunction to use the whole herb ("Contribution of alkaloid fraction to Pressor and Hyperglycemic effect of crude Ephedra extract in dogs", Journal Pharmacobiodyn, Japan, September 1981, IV:9, pp.691-699).

In another experiment involving rats, guinea pigs, and dogs, "ephedradines" extracted from Ephedra roots were administered to artificially hypertensive animals to ascertain the effect of the drug on the heart and blood pressure condition. The blood pressure and heart rate were reduced in a dose-dependent manner, due, according to this research, mainly to a ganglion-blocking action ("Hypotensive Actions of Ephedradines, Macrocyclic Spermene Alkaloids of Ephedra Roots", Journal of Medicinal Plant Research, 1983, Vol.48, pp.290-293).

Since the traditional usage of the Ephedras in China suggests that it possessed anti-inflammatory activity, a crude drug preparation was subjected to bioassay for inflammatory activity. Since no anti-inflammatory principles had yet been found in the drug, this research was initiated. Using three different methods, in a crude extract in which ephedrine was said to compose one percent of the drug, this research showed that the pseudoephedrine actually was the anti-inflammatory, very effectively so, and that Ephedra species higher in pseudoephedrine rather than ephedrine were the best anti-inflammatory medicines. However, both worked similarly as vasoconstrictors and broncho-dilators ("Anti-inflammatory Principle of Ephedra Herbs", Chemical and Pharmaceutical Bulletin, Tokyo, October 1980, Vol. 28:10, pp. 2900-2904). It is interesting that these current studies worked with the crude extracts of the Ephedras, with very positive results.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING BRIGHAM TEA

SHA Tea, which is used for sinus, hayfever, and allergies, features Brigham Tea.

AR-1, the arthritis formula, contains Brigham Tea.

Mem, which promotes mental health and activity, contains Brigham Tea.

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BUGLEWEED

LYCOPUS SPP., ESPECIALLY, LYCOPUS VIRGINICUS; LABIATAE

DESCRIPTION

This common perennial weed usually grows from six to 24 inches high. The stem is erect, obtusely angled, a typical member of the mint family, with square stems and opposing leaves. The root is typically creeping and perennial. The leaves on the upper part of the plant are toothed and lance-shaped, the lower ones wedge-shaped and with entire margins. The leaves have no hairs and are dotted with glands beneath. The flowers are whitish or tending towards purple, borne in clusters in the axils of the leaves; the calyx has four broad, blunt teeth and the corolla is four-lobed, purplish, with only two fertile stamens. The fruit is composed of four three-sided nutlets, truncate at the top and acute at the base, the lateral margins thickened.

The Virginian Bugleweed ranges from Labrador to Florida, Missouri, and northwestward to British Columbia and Oregon. In the west, it grows in California, Arizona, New Mexico and northwards. It grows in the middle mountainous regions in the west, found almost entirely near running water or in marshy areas.

GENERAL

Although Dr. Christopher did not stress the use of this herb, it is one of the most beneficial in the herbal kingdom because it is extremely effective without side effects. It is a member of the mint family, resembling motherwort and horehound in its habit but only growing in moist places. L. virginicus is found mostly in the eastern United States, but members of the species are found throughout the U.S., especially in moist places in the mountain west.

The great early botanist Rafinesque was somewhat fooled by the many aspects of this herb; "he disported with it to such an extent that it was forced to yield him 5 new species and 16 varieties 'some of which might even be deemed species'" (Mills:458). This of course is typical of many of the mints, which often show a multitude of variations. Rafinesque thought very highly of its general qualities, especially valuing it because it might replace digitalis, lowering the pulse without producing any bad effects and without accumulating in the system. The medical history of the plant seems to originate with the European species, L. vulgaris of Europe. There is also another unrelated plant, Bugle, which is often used in herbal medicine but must not be confused with Bugleweed. Early American doctors thought Bugleweed was one of the most valuable remedies in the herbal world against hemorrhaging.

This remedy was omitted from the U.S. Pharmacopeia at its revision in the late 1800's; however, it has remained in the Eclectic Materia Medica and in many herbals in general.

SUPERIOR SEDATIVE

Early herbal medicine attributed a wide range of activity to Bugleweed. Early American Dr. Williams acclaimed it as one of the most valuable styptics (checks excessive bleeding) that we possess.

Lycopus was considered an important part of the Eclectic Materia Medica. Dr. King said that it would help treat diabetes when other remedies failed hopelessly. The Eclectics thought it was incomparably valuable in treating circulatory disturbances. They considered that its chief force was on the vascular structures and the sympathetic nervous system, acting best when the circulation was over-excited but the heart weak. Thus they valued it for diseases in advanced acute stages and in chronic diseases with frequent pulse.

The herb was often successfully used in acute pulmonary complaints, as it lessened irritation, calmed the nerves, and slowed and strengthened the heart. It was recommended by the Eclectics in cases where digitalis could not be used because of its offensive action on the stomach. It was used for heart palpitations, thought to be best suited for cases characterized by irritability, irregular heart beat, and weakness. The Eclectics thought that Lycopus "powerfully increases the contraction of the non-striated muscular fibers, particularly those of the heart and arteries, hence its value in cardiac dilatation and hypertrophy--conditions which have been known to undergo marked improvement under its administration" (Felt:465).

Bugleweed has long been used for hemorrhage, although it is not considered very useful for acute and critical bleeding. It is better suited for passive hemorrhage, when the bleeding is frequent and in small amount. It is considered most effective in passive pulmonary hemorrhage (Ibid.). It can be used for nosebleeds, bleeding hemorrhoids, excessive menstruation, etc. Moore considers it good for diminishing the lochia after birth, taken two or three days for the purpose; he claims it does not affect the secretion of colostrum or milk (Moore:43). It is used when blood is found in the urine; for this purpose, it is especially useful when combined with demulcents (San:95).

One of its primary uses is as a nervine; in early days it was even thought to be a narcotic, but Millspaugh states: "We infer from our own experience and that of others, that it is only sedative in that it removes, by checking hemorrhage, that nervous excitability and mental fear always accompanying such conditions" (Mills:459). The remedy is excellent for insomnia and worry. Moore says that it is quite strong as a sedative or tranquilizer, helping a person relax without feeling drugged, with larger doses causing a pleasant, sleepy lethargy. For chronic nervous stress, he says, it is much better than Valerian, which is distinctly drug-like in its effect (Moore:43).

It is claimed to be useful in cases of indigestion, being a mild gastric tonic which sharpens the

appetite and helps normal digestion take place. It enhances normal secretion, and blood-making and nutritive absorption are enhanced by it. It allays gastric and enteric irritability. Natural physicians have used it successfully in cases of chronic diarrhea and dysentery, as well as in the inflammation from alcoholism.

There are many specific uses claimed for the herb as well. Cases of exophthalmic goiter are reported as having been cured by the herb (Ell:224). It is also reported to have a beneficial effect upon the lungs, clearing up chronic inflammations. Similarly, chronic irritable coughs have been relieved by the herb. It has been used frequently to reduce the high temperatures of typhoid fever without apparently weakening the patient. It is also good used for hepatitis, if complicated with pneumonitis.

Scalding urine, resulting from vesical irritation, is reported to be cured by this herb.

We have heard of no non-medicinal uses of Bugleweed.

HISTORICAL USES

It helps to lower pulse with out the bad side effects, it checks excessive bleeding, helps to treat diabetes, helps circulatory disturbances, good for heart palpitations, calms the nerves, helps in pulmonary hemorrhage and help check insomnia and worry.

CULTIVATION, COLLECTION, PREPARATION

Gather the herb as you would the mints, when it is just ready to flower but before the blossoms open. Dry away from direct sun in a warm, airy place. Because the plant grows in remote areas, it is unlikely that you will have to wash it. When it is dry, strip the leaves and store them in air-tight containers.

You can prepare a tea from the herb, or prepare a tincture for emergency use.

CHEMICAL COMPOSITION

Lycopus contains a peculiar bitter principle soluble in ether and another insoluble in ether, the two forming ten percent of the complete solid extract. It also contains tannin and a volatile oil.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING BUGLEWEED

INF, the formula to combat colds and influenza and a threat of infection contains Bugleweed.

Bugleweed Combination, used to eliminate heavy metal from the body which comes from

pollution and chemicals, contains Bugleweed.

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BUTCHER'S BROOM

RUSCUS ACULEATUS; LILIACEAE

GENERAL

This herb is not as commonly used in modern times as it once was. It is also called Knee-Holly because it grows to about the height of a man's knee and has prickly leaves and red berries; it also grows in the vicinity of holly bushes, mostly in England and Europe. It is an excellent herb for the urinary system, opening obstructions and increasing the flow, expelling gravel, and also working on an adjacent system, the female tract, helping to bring on suppressed menstruation. Because of its action on the urinary system, it is excellent for cases of jaundice. The herb also acts as a diaphoretic.

HISTORICAL USES

For the urinary system--to remove obstructions, increase flow and expel gravel, to bring on menstruation and for jaundice.

CALAMUS

ACORUS CALAMUS; ARACEAE

GENERAL

This is a plant that goes by other names: Sweet Flag, Sweet Sedge, Myrtle Grass, etc. It is an aquatic plant, generally found in ditches, by the margins of lakes and streams, and in marshy places. Its leaves resemble that of the iris, hence the common name sweet flag, although it doesn't belong to the same family. Most of the varieties give out quite a bit of heat when they flower, and also bright colors and a strong odor which has been called both fetid and agreeable! The American Indians used it frequently, some northern tribes holding a piece in the mouth when running long distances. For a cold remedy, some tribes chewed the rootstock, drank a decoction, or used it for a smoke treatment. It was also used for stomach cramps and as an ingredient of a remedy to stop bleeding, including nosebleed. The boiled root was used as a burn treatment as well. The herb is of ancient use, even being referred to in the Bible. Even today it is rather an important herb, having some economic importance to the areas where it grows. It was anciently of value as it was used for food and fuel, sails and cord, baskets and sieves and even boat-making in Egypt. The plant has been used for sitz-baths and healing ointments. It is good for acidity of the digestive system and can treat the liver. It is especially used today to help kill the smoking habit, as it has a somewhat bitter taste and a slight nauseous effect after taking it. The tincture is applied for external parasites. Take only in small amounts; the FDA has considered it unsafe.

HISTORICAL USES

As a cold remedy, for nosebleed, stomach cramps, to stop bleeding, as a burn treatment, for liver and digestive problems, against parasites, and a smoking inhibitor.

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CHIA SEED

SALVIA COLUMBARIAE; LABIATAE

GENERAL

These are the small dark seeds of one of the varieties of Sage, the most important being Salvia columbariae, which grows in the American Southwest and Mexico. Chia seeds have long been eaten by the Indians of these areas to achieve energy and endurance. The seeds could sustain a man without other nourishment, if necessary, and were also thought to fortify the body against the intense heat in these areas.

During the times of Montezuma II, the seed was considered so valuable that it was accepted as payment for taxes. When the Spanish conquistadors entered the New World, Chia seeds were already utilized as an important healing food. At the turn of the century, Chia seeds were described as being a food for taking on a forced march, one tablespoon being enough for a day's effort! To test this notion, two groups of hikers undertook a grueling hike to the top of Mount Wilson and somewhat further. One group added Chia seeds to their diet, the other did not. The group using the seeds finished four and a half hours before the other group, who also lost more than half of their members. The group using the seeds finished the hike without losing any participants.

Chia seeds are used therapeutically for constipation. You should grind the seeds before using. One favorite way to prepare them is to grind them in the blender with fruit juice and a banana, with the addition of yogurt optional. Blend until the seeds are well-ground. This is delicious as well as healing. You can also sprinkle the ground seeds over cereal, salad, vegetables, etc.

HISTORICAL USE

Used for energy and endurance, for nourishment and constipation.

CHICORY

CICHORIUM INTYBUS; COMPOSITAE

GENERAL

Chicory, with its beautiful blue flowers and serrated leaves, grows wild at roadsides almost everywhere, although it is not an overly common plant. Its former name was Succory, from the Latin succurere (to run under) because of the deep growth of the root. It was eaten by the Romans in salad, and today the herb is often forced and blanched for this purpose. If you wish to gather the wild leaves for this purpose (avoiding leaves polluted by traffic), be sure to gather them before the herb goes into flower, when it becomes bitter. The main use of the plant is the roasting of the roots for a coffee adulterant or substitute. The cleaned, dried roots are chopped and

roasted at 350 degrees F. until brown like coffee. Grind them and use them like coffee. Culpepper recommended the use of the beverage for effects like dandelion, to cleanse the liver. Edward Bach made a preparation of the flowers to treat those suffering from overconcern, especially for the affairs of others. Anyone who is trying to get away from the coffee habit may find Chicory a satisfactory substitute.

HISTORICAL USES

As a coffee substitute, for liver cleansing and treating the "over-concerned".

CINNAMON

CINNAMOMUM ZEYLANICUM; LAURACEAE

GENERAL

Cinnamon is one of the ancient herbs reputed to have been used by King Solomon. Chinese Cinnamon was used very early, while the Ceylon type was not used until 1275 A.D. Most of us use Cinnamon freely in the kitchen (what is pumpkin pie without it?) but it's nice to know that it's good medicine as well. Cinnamon is most widely used for nausea (Dr. Christopher included it in his anti-morning sickness formula), but it is also good to relieve spasms and ease a stomach ache. It is often combined for both of these qualities with other herbs which might be nauseating or cramping. An old English use of the herb is to place five drops of Cinnamon oil in a tablespoon of water, to be taken at the onset of a flu epidemic or when one is exposed to flu. This only works, it is said, if you take it before you actually come down with the flu. You can combine six parts of Cinnamon with 2 parts powdered cardamom and 2 parts powdered nutmeg to be taken in hot tea form for a quick remedy for nausea. Syrup of Cinnamon can be made up ahead of time to mix with nauseating medicine or for a pleasant and effective nerve tonic.

HISTORICAL USES

For nausea, stomach ache, relieve spasms and for the flu.

CLEAVERS

GALIUM APARINE; RUBIACEAE

GENERAL

Some of the common names for this herb are Goosegrass, Barweed, Grip Grass, Catchweed, and Everlasting Friendship; most of these names are connected with the clinging nature of the herb. Another name is hedge rife, meaning a tax gatherer or robber, from its habit of plucking the sheep as they pass near a hedge. Cleavers, claimed Culpepper, was good to take in broth to keep one from growing fat. He also said that it was good to alleviate the poison in snakebite. The roasted seeds used to be employed as a tolerable coffee substitute, and the stems of the plant were used in the days of Dioscorides to weave into a rough sieve, a variety of it still being used in Sweden in out-of-the-way places to strain milk. The roots are used in red dye. Modern herbalists use the herb as an alterative for skin diseases, but more especially for any kidney and bladder problems, including stones. It is powerfully diuretic, and can help a person lose weight when the problem is due to water retention. In former days it was used in a salve for burns, and can still be so used today. It is one of the few herbs that can be used for hepatitis with good effect but without the fear of irritation. The juice or strong tea can be used to help heal slow healing skin conditions. Some homeopaths have used the herb for cancer.

HISTORICAL USES

For weight maintenance or loss, for snakebite, as a coffee substitute, for skin diseases, for kidney and bladder problems (including stones), as a diuretic, for hepatitis, burns and cancer.

COLTSFOOT

TUSSILAGO FARFARA; COMPOSITAE

GENERAL

The botanical name for Coltsfoot, Tussilago, signifies "cough dispeller", implying that the herb is good for the lungs and for expelling phlegm. Anciently, herbalists recommended smoking the leaves for getting rid of a cough. The leaves are the basis of British Herb Tobacco, combined with other ingredients to relieve difficult breathing problems. In England, the herb is made into lozenges the same as horehound for coughs. Coltsfoot used to be so famous that it was the symbol for all apothecaries in France, and yet today the herb is virtually unknown. Some recommend making a tea with it including licorice root for an excellent cough medicine. The herb is used in Italy as a sedative for epilepsy. The American Indians are claimed to have used it for "sweetening the blood"; and it is sometimes used as a blood cleansing ingredient in teas. It is occasionally used externally as a poultice, and long ago was an ingredient in an herb wine,

combining the herb in a recipe with sugar, oranges, lemons, raisins, brewers' yeast and water.

HISTORICAL USES

Used for coughs, difficult breathing, as a sedative for epilepsy, blood cleanser and as a poultice.

CORNFLOWERS

CENTAUREA CYANUS; COMPOSITAE

GENERAL

Most gardeners, even the amateurs, have grown Cornflowers in their gardens; the blue-blossomed variety is an especially common and delightful sight. It is sometimes considered a pest by farmers when the plant goes wild. In former times it was called "Hurt Sickle" because it blunted the hand sickles of the day. The Latin name was given to the flower after a youthful lover of the flower named Cyanus and the genus Centaurea, derived from the Centaur, who is supposed to have given man herbal medicine time out of mind. Culpepper, named it Blue-Bottle, considered it good for inward bruises and broken veins and for bleeding at the mouth. It was said to be good against poisonous bites, especially from scorpions. It has excellent nervine properties, and has been called a strengthener of the nerves unequalled by any other plant! Some consider it a good addition to pasture grasses to help strengthen the nerves of the cattle. It is a mild laxative, a good tonic and digestive aid. It is excellent applied in poultices for wounds. Some have used it as an eyewash and internal remedy for eye weakness. A famous French eyewash used to be made from the flowers. The expressed juice of the petals can even be used as blue ink, and mixed with alum water, makes a good paint. It can dye linen a beautiful blue, although the color is not permanent.

HISTORICAL USES

Used for bruises, broken veins, nervine, a laxative and digestive aid, for wounds, as an eyewash and as a blue ink and or for paint.

CORNSILK

ZEA MAYS; GRAMINEAE

GENERAL

Nearly all parts of the Corn plant are usable--good news, because cultivating the plant for simply the kernels seems a great deal of work and energy for little. The stalks are used for animal feed, either made into silage or not; the cobs are also great mulch when dried and ground. The husks are used in Mexican cookery and in the manufacture of dolls, and the silk is good medicine. Made into tea, it is demulcent and diuretic. It is used for a remedy against bedwetting both in the very old and in children. It is mixed with agrimony for this purpose. It can also be used as a soothing enema and an antidote for gonorrhoea! It was used as a pioneer remedy for bladder infections, and mixed with dried bean pods for a most effective diuretic. The silk, made into a poultice and applied externally, is a good drawing poultice.

HISTORICAL USES

Used as a demulcent and diuretic, for bedwetting, for gonorrhoea, bladder infections and a drawing poultice.

CRANESBILL

GERANIUM MACULATUM; GERANIACEAE

GENERAL

This plant used to be called Doves' foot; it is a member of the columbine family. Gerard mentioned it as also called Storksbill, mentioning that it grew along highways, in desert places, and especially upon mud walls universally. The root is the medicinal part. Gerard considered that it cured miraculously any ruptures, although if such occur in old people, you need to add the powder of red snails, he advised. It is used to wash inflamed mouths and throats, and taken internally to cure diarrhea and dysentery. It is an excellent styptic, and can be used for hemorrhoids and internal bleeding. It can be used as a douche for excessive menstruation. It is also an excellent gargle, and can be used in children's febrile condition.

HISTORICAL USES

Used for ruptures, inflamed mouths and throats, for diarrhea and dysentery, as a styptic, for hemorrhoids and internal bleeding, for menstruation and as a gargle.

CUBEB BERRIES

PIPER CUBEBA; PIPERACEAE

GENERAL

This is the dried, unripe fruit of a vine native to the East Indies. It is called tailed pepper because of the short stem attached to the fruit. It was probably introduced into Europe by the Arabians, who ate the fruit as a condiment like pepper. Some recommend its use as a pepper substitute, although the King of Portugal at one time forbade the sale of this pepper for fear it would stop the sale of other pepper. The berries are stimulant and carminative. The main medicinal use seems to be as a remedy for gonorrhea, after the first inflammatory symptoms have subsided. The berries are crushed and used as lozenges for sore throat and related problems; it is also smoked for this purpose. Because of its stimulating effect on the mucous membranes, it is used for coughs, flu, colds, etc. Made into an ointment, it is used for inflamed prostate, hemorrhoids, itching, boils etc.

HISTORICAL USES

Used as a pepper substitute, as a stimulant and carminative, gonorrhea, sore throat, for coughs, flu and colds, for inflamed prostate, hemorrhoids itching and boils.

DAMIANA

TURNERA APHRODISIACA; TURNERACEAE

GENERAL

This herb is native to southern California and Mexico, and also to the Antilles. It has also been found in Texas and South America. Its most famous use is as an aphrodisiac. It is one of the most powerful and yet safest of the plants claimed to be so. It is also used as a tonic for sexual exhaustion or debility, even for sterility! It is said to act directly upon the sexual organs, sometimes combined with saw palmetto berries. In most medical experiments with the herb, however, it was combined with other, stronger stimulants which may have nullified the truth of the claims for this aphrodisiac. Although medical science cannot substantiate this claim, common practice definitely supports it. It has also been used as a mild diuretic and laxative.

HISTORICAL USES

Used as an aphrodisiac, for sexual exhaustion or debility, for sterility, and as a diuretic and a laxative.

DEVIL'S CLAW

GENERAL

This is a rather uncommon herb which has been introduced into the U.S. during recent years from South Africa, where it has been a traditional herb for many years among the indigenous peoples there. It is also popular in Europe. It is mainly used for gout, arthritis and rheumatism, removing deposits in the joints and eliminating uric acid from the body. Clinical studies have proven this herb to be directly helpful in these conditions. One of the components of the herb, harpagide, has been shown to have anti-inflammatory properties. No adverse effects have been noted. You can also use the herb for reducing fever.

HISTORICAL USES

Used for gout, arthritis and rheumatism, as an anti-inflammatory, and for fevers.

DONG QUAI

ANGELICA SINENSIS; UMBELLIFERAE

GENERAL

Dong quai is a member of the Angelica family, one of the many Chinese herbs to have lately come into popular use in the United States. It is called "woman's ginseng", as it is said to be the supreme female tonic, used to treat nearly every feminine complaint. It is said to be particularly useful for problems with menstruation, including irregular periods, painful periods, or too profuse or scant a flow. It also helps with weakness and debility occasioned by menstruation, and has been suggested for those with symptoms of premenstrual syndrome. It is also generally used for cramping, as it is a warming herb, and will help with extreme tension and sleeplessness. It is a valuable blood purifier, and can be wonderful to help a woman prepare for pregnancy. It should

not be used during pregnancy, however, as it is too stimulating to the female organs. It is also referred to as tang kwei. Some have substituted western Angelica for the herb, but it is much stronger and harsher in its effects.

HISTORICAL USES

Used as a female tonic, and as a blood purifier.

DULSE

GENERAL

Dulse is a seaweed which grows on the rocky shores of England and Ireland, collected at low tide, dried and packed for sale. It is similar to kelp in its uses, with the nice addition of being much tastier. One family, whose two-year-old was allergic to milk, began to give the child Dulse and, to their surprise, he stopped taking milk entirely, Dulse being an excellent source of calcium. It is also a powerful source of potassium. One family, in search of a natural source of potassium for their cancer-stricken father, utilized large doses of Dulse which, despite its sodium content, was an extremely rich source of natural, assimilable potassium. It can be made into an infusion, dipped in vinegar, dipped in molasses, or simply nibbled. It is a pleasant way for you to supply dietary iodine, which is sometimes deficient in non-coastal diets.

HISTORICAL

See Kelp.

ELDER

SAMBUCUS CANADENSIS; CAPRIFOLIACEAE

DESCRIPTION

Elder is an indigenous shrub growing in all parts of the United States and Canada in low, damp grounds, thickets, and waste places. Elders are frequently cultivated for their ornamental foliage. They grow from 5-12 feet high, blooming in June and July, with star-shaped fragrant flowers 1/4

inch across, grouped in flat flower clusters about eight inches across. Purple-black berries containing three or four round seeds, maturing in September and October are often made into preserves etc. The branching stems are covered with a rough, pitted grey bark; large central stems are smooth. The odor is faintly sweet, aromatic; the taste is slightly bitter.

GENERAL

You don't need any education to use this member of the Honeysuckle family, claimed the herbalist Hutchens; from the tree top to the root's end is full of medicinal properties (Hut:115). We stop a bit short of that, but Elder is one of the herbs that should be in everyone's yard and medicine chest.

Dr. Shook also considered it an essential herb, and devoted much research to its history and uses (ShoA:54-57). He relates that from the time of Hippocrates this tree has been considered one of nature's greatest remedies. There is more romance, folklore, tradition, and superstition recorded in history about this remarkable plant than about any other herb known.

Its generic name, Sambucus, is derived from the Greek word, sambuca, a musical instrument used by the Romans. Pliny records the belief held by country folk that the shrillest pipes and horns were made of Elder trees. The tree is sometimes commonly called the Pipe tree, also because the word Elder derives from the Anglo Saxon aeld meaning "fire". The young branches, with pith removed, were used as blowing tubes to kindle fire. Because these tubes were also made into shepherd's pipes, we have the common name. In Italy, peasants construct a simple pipe which they call sampogna from the branches of the Elder.

In most European countries, particularly in Denmark, the Elder was intimately connected with magic. In its branches was supposed to live a dryad, Hylde-Moer, the Eldertree mother who watched over the tree. Should the tree be cut down and made into furniture, Hylde-Moer would haunt the owners. If a child was put into a cradle of Elderwood, Hylde-Moer came and pulled the child by the legs and would give it no peace until it was lifted out (a nice rationale for colic screams!). Another tradition states that Elderwood must not be cut until Hylde-Moer gave her consent (by remaining silent). An ancient manuscript relates, "Our forefathers also held the ellhorn (Elder) holy, wherefore, whoever need to hew it down (or cut its branches) has first to make request, 'Lady Ellhorn, give me some of thy wood and I will give thee some of mine when it grows in the forest,) which, with bended knees, bared head and folded arms, was ordinarily done as I have often seen and heard in my young days.'" Another herbalist would tip his hat in deepest respect whenever he passed an Elder tree and thank his creator for giving such a profound blessing to mankind.

The Russians believe that Elder trees drive away evil spirits and the Bohemians go to it with a spell to take away fever, although a tea would be a surer remedy. In England, it was thought that the Elder was never struck by lightning and a knotted sprig carried in the pocket was a charm against rheumatism. In order to prevent witches from entering their houses, the common people

of England gathered Elder leaves on the last day of April and attach them to their doors and windows. Elder was also used in English funerals. An Elder bush, trimmed into the form of a cross, would be planted on a new grave. If it blossomed, the person buried was happy in heaven. Green Elder branches were also buried in the grave to protect the dead from witches or evil spirits.

The Romans used Elder, as recorded by Pliny, as did the ancient English and Welsh. In Italy, it was used in the medicine of the ancient School of Salernum. It has kept a place in the English pharmacopeia for its febrifuge capabilities. Shakespeare included it in The Merry Wives of Windsor, Act II, Scene III: "What says my Aesculapius? My Galen? My heart of Elder?"

In 1644, a book appeared entirely devoted to the Elder, written by an army doctor, C. De Iryngio, and translated into English by Dr. Martin Blockwich. This book, 230 pages long, deals extensively with the medicinal virtues of the tree, its flowers, leaves, berries, middle bark, pith, roots, and Jew ears (a fungus found on the Elder). The book states that as every part of the tree contains medicinal parts, so every ailment of the body is curable by it, from the toothache to the plague. This book recommended using the herb in syrup, tincture, mixture, oil, spirit, water, extract, salt, conserve, vinegar, sugar, decoction, bath, and powder! The book is never at a loss for an authority on Elder, from Dioscorides to the pharmacopoeias of his own time, quoting cures from Emylia, Countess of Isinburg, to the tradesmen of Heyna and their dependents. About twenty years after this remarkable book on Elder, John Evelyn wrote praising the tree, "If the medicinal properties of its leaves and berries were fully known, I could not tell what our countrymen could ail for which he might not fetch a remedy from every hedge, either for sickness or wounds...This herb is a catholicon against all infirmities whatsoever."

A king was said to have been hunting with a small party, when they realized that they had become lost in the thick timber. Wandering in various directions, they happened upon a lonely farmhouse which seemed orderly and prosperous. As they approached, they saw an old man sitting on the porch; he had been crying. When the king asked why, he explained that he had slipped and fallen while carrying his grandfather from one room to another, and his father, being angry with such carelessness, beat him.

The king was rather dubious about this, but then he entered the house. To his surprise, he saw elders of advanced years peacefully talking and going about their daily routine. After talking with them and observing their home, he asked how they kept in such good health to such advanced age. They told the king that for as long as they could remember, they had eaten only simple food, homemade bread, milk, cheese--with an emphasis on Elderberries (Hut:117)!

ELEVENTH-HOUR HERB

The great herbalist, Henry Box of England, stated, "For colds, influenza, fevers, inflammation of the brain, pneumonia, inflammation of stomach, bowels, or any other part, this is a certain cure. I have never known it to fail, even when given up and at the point of death. It will not only save at

the eleventh hour, but at the last minute of that hour. It is so harmless that you cannot use it amiss, and so effectual that you cannot give it in vain" (ShoA:59).

Elder's most famous effect lies in its cure of colds, fevers, flu, etc. Dr. Shook noted that since upwards of six million people died of influenza after the last World War, it would be an important remedy to store and use. He explained that all forms of catarrh are caused when fibrin is not dissolved properly; it is thrown into the blood as a stringy, insoluble mass which forms an excess of phlegm and catarrhal mucoid matter. Potassium chloride keeps this fibrin in solution, but when the body lacks enough, the fibrin blocks the circulation of the blood. Potassium phosphate, on the other hand, activates and feeds the skin and mucous membranes, and potassium sulphate acts similarly to iron as an oxygen-carrier and oil-former to lubricate and feed the sebaceous glands and the epithelial covering of the mucous membranes. All three of these potassium compounds are found in the Elder plant. Potassium chloride and sulphate are contained in its inner bark. The Potassium phosphate, chloride, and sulphate are found in the flower (which, incidentally, is the part most used in colds and flu), and potassium sulphate and nitrate are found in the leaves. The fruit contains a number of potassium compounds besides the above mentioned compounds. These potassium compounds are one chemical reason that the Elder so effectually removes colds and flu.

Since the Elder flowers are emetic and sometimes nauseating to some people, they are often blended with Peppermint to use in this flu remedy. One lady never goes anywhere without this simple formula, and she has been able to relieve the discomforts of many children as she travelled.

The Elder effects diaphoresis and helps the body eliminate toxic material from the body through the pores of the skin. The Elder-Peppermint tea should be made in the proportions of one ounce of the herb to a pint of water, and drunk as hot as possible, drunk in bed or just before taking a hot bath, so as to sweat out the cold or flu. You can cover a hot water bottle with a cloth or towel dipped in vinegar to place near the feet. This tea will also induce sleep, while the patient sweats, and allow for a complete cure.

The inner bark is also used, although it should be aged before used. The fresh bark is violently irritating and poisonous to children. It is specifically used for cardiac and renal dropsy, as an emetic in biliary disorders, and for spasmodic asthma with copious phlegm and stringy mucus. It is also used for epilepsy. The infusion is used, one wineglassful every three hours until the bowels move or, in the case of severe dropsy, until urine is voided. If emesis is desired to cleanse the stomach, increase the dose until this effect is produced. After evacuation and urination begin, reduce the dose to continue treatment as watery stools are not desired where there is no dropsy. For asthma, take a tablespoonful whenever an attack threatens. Powdered Cloves can alleviate excessive vomiting when using the bark. To avoid bowel cramps, add a tablespoonful of powdered Ginger to the infusion. The emetic action can give prompt relief in cases of epilepsy (ShoA:58).

This dried, inner bark has been in use for centuries as an active, reliable purgative (Coon:181). Coon warns against using the rootbark, as it is violently purgative and therefore dangerous, but

Shook said that it can be used for internal ulcers or cancers, as a decoction preserved with glycerine, taken by the tablespoonful three or four times a day. It can also be used externally, for boils, tumors, etc., applied on cotton, covered with waxed paper and then with cloth to keep warm. For boils, he added a few drops of eucalyptol on the soaked cloth before applying (ShoA:59).

There are alkaloids and poisons in the leaves, and although they are effective in curing dropsy, they are nauseous and somewhat purgative in their effect; since the bark can be used for dropsy, the leaves are not often used. However, the leaves are universally recommended for making salves and oils and ointments for wounds, burns, sunburn, bruises, contusions, sprains, and rashes. To make Elder leaf ointment, crush 4 ounces of Elder leaves, add to 6 ounces of melted lard, and place in a moderate oven. Stir frequently until the leaves are crisp and have lost their color. Strain through muslin and press, then add 2 teaspoonfuls of Eucalyptol, stirring it in thoroughly. Pour into jars and cool.

For Oil of Elder leaves, simmer one part Elder leaves with three parts olive oil until leaves are crisp. Strain and press; bottle and cool. This is good for burns, wounds, hemorrhoids, and as a cosmetic.

The leaves, warmed, were applied to the forehead for headaches among country people.

The flowers are also sometimes used for skin and cosmetic purposes. One old recipe says to take the flower heads, without leaves, and rub them into the purest lard until no more can be pushed in. Place in a clean baking tin in a moderate oven until the flowers are quite brown. Strain through muslin and store in small jars. This will beautify complexions, heal sores, and keep away flies (Coon:181). From the flowers, a water or perfume was distilled and employed as a perfume; it was once used as a cosmetic to remove freckles, alleviate sunburn, and relieve itching.

The berries, are often used in the kitchen and are good medicine as well. The juice, warmed, is a gentle laxative and digestive cleanse, also a cordial for coughs and colds. Taken in hot water at night it will perform as the flowers do to break up colds and fever and remove the chill. It is also recommended for nasal or bronchial catarrhs and asthma (ShoA:61). Elderberry "Rob" is an old-time pleasant remedy. It is made by crushing five pounds of fresh elderberries and covering them with water. Simmer slowly for fifteen minutes. Strain and press. To the juice add 1 pound of brown sugar. Evaporate in a double boiler to the thickness of honey and pour into heated, wide-mouth jars. Seal and store. This "Rob" will help break up a cold, taken at night in hot water, and will help clear up chest troubles.

Elderberry Jam is a good source of vitamins and minerals, particularly Vitamin B17 (Bar:123). The juice is sometimes used to adulterate wines, and will thus alleviate rheumatic and sciatic pains. In 1899, an American sailor reported to a physician in Prague that getting drunk on old red port was a sure remedy for rheumatic pains. A long series of investigations ensued upon this report, which concluded in the assertion that while genuine port wine has no antineuralgic

properties, the addition of Elderberry juice often banishes the pain of sciatic and other forms of neuralgia, though it is of no avail in genuine neuritis (ShoA:56).

The smell of Elder is somewhat unpleasant and is said to repel insects. If you crush a few leaves and rub them on your face or put them in your hat, you will not be bothered by flies. A decoction of the leaves, flowers or berries is recommended as a wash for wounds to keep away the flies (Porcher, Resources of the Southern Fields). A strong decoction has also been used to expel maggots from parts not readily accessible, particularly the nostrils; a decoction made with the green leaves and shoots has been said to drive maggots and flies from the wounds made from cutting off lambs tails when every other application had failed, acting promptly and being nonirritating. An infusion of the young leaves dabbed on the face, neck, and exposed parts of the body protects from mosquitos and other troublesome insects--a fact which more campers should know!

The tea of the flowers is quieting to twitching and inflammation of the eyes, taken internally. The tea simmered for ten minutes and saturated in cotton may be applied to the eyes over closed lids for the same problems. The tea can be used as a wash for dry skin and to remove freckles or hardened skin (Herbalist:April, 1978:37).

ELDER IN THE KITCHEN (AND ELSEWHERE)

Elderberries are prized for making pies, wine, jellies and jams. Elderberry wine is an old favorite, and taken warm it can work as a diaphoretic--a pleasant remedy indeed. It is made as other homemade wines are: expressing the raw juice, sweetening to taste, adding yeast, and allowing to work before bottling (in scrupulously clean vessels) and corking. In Kent, England, there are entire orchards of Elder trees, cultivated solely for the fruit, which is brought to market and sold for the purpose of making wine, not only pure Elderberry wine, but to give color to raisin wine, which is flavored with vinegar, sugar and a small quantity of port wine and sold as port. Elderberries are often the basis of spurious clarets and Bordeaux. Even experienced wine tasters have been fooled by wine adulterated with Elderberries and sold as French claret, but aside from the dishonesty involved, the medicinal effects of the Elder are all to the good of the consumer (ShoA:55-6).

The flowers can be mixed with pancake batter to enhance its flavor and texture (Barl:123). They can be made into fritters, using a common batter of eggs, flour, and water or milk, and deep fried; they are thus considered a delicacy. As a beverage, the tea has a delightful flavor, recommended for table use as well as for medicine. The leaves may be used for keeping weevils and mice from grain; simply mix a few leaves with the grain as you are preparing it for storage. Old English farmers would use it to drive away mice and moles from their granaries. Old-timers would plant an Elderberry bush at each of the four corners of their houses to keep out mice and spiders; old houses, or the remains of them, have been seen with Elder bushes still growing at the four corners. The flowers are used as a moth repeller.

The bark of the older branches has been used in the Scottish highlands as an ingredient in black dye. The leaves yield, with alum, a green dye, and with alum and salt, a lilac color.

The flowers are said to be poisonous to peacocks and the berries to hens. Cattle refuse to eat the leaves, caterpillars avoid them, and hence the shrubs are planted around the beds of gardens to repel insects. An Elder planted near an orchard will lure birds away from other fruit trees, as they prefer its berries. A decoction of the leaves will keep caterpillars from eating plants on which it is sprayed; it is also used as a spray for mildew. Elder aids in fermentation of compost and creates humus in the soil around it which can be valuable when used in other plantings (Hyl:434).

American Indians called the Elder the "tree of music" and made flutes from branches cut in spring and dried with the leaves on. Large shoots were used for arrow shafts (*Ibid.*).

HISTORICAL USES

It is used for toothaches, the plague, sickness, wounds, burns, sunburn and bruises, colds influenza, fevers, inflammation of the brain or stomach or bowel, for pneumonia, as an emetic, or a purgative, for cardiac and renal dropsy, for spasmodic asthma, for epilepsy, internal ulcers or cancer, boils, external ulcers, contusions, sprains and rashes, hemorrhoids, headache,

CULTIVATION, COLLECTION, PREPARATION

Elders are very effective planted in groups. It is a hardy plant, and while it is not particular about the location of planting, it prefers rich, moist soil with some shade. It can be propagated by cuttings of bare shoots in autumn, or it may be started from seed. Elder should be pruned in late autumn or early spring before growth begins (*Ibid.*).

The leaves are collected in July, the flowers in June, and the bark in September. The outer bark is carefully shaved off and the inner bark collected, being careful not to take so much as to damage the tree. All parts are dried slowly in the shade. They can be stored in dark, tight containers; as mentioned above an ointment or oil can be made of any parts. The herb can be preserved in tincture or extract form; an extract made with brandy is commonly made of the flowers. There is an interesting tradition that if you cut the bark up it will be emetic and if you cut it down it will be purgative, but we suspect this is another interesting tidbit of unproven folklore.

RELATED PLANTS

There are various varieties of the Sambucus. There is a large European Elder which yields purple, white, and red berries; this is the *nigra* variety. *Ebulus* resembles the American Elder, with a strong, disagreeable odor and bitterish, somewhat acrid taste. The fruit is somewhat more agreeable and is sometimes employed medicinally. The plant is commonly known as dwarf-elder.

CHEMICAL COMPOSITION

We have mentioned some of the chemicals contained in Elder above; the berries contain the healing viburnic acid and the bark contains the pain relieving valerianic acid.

Although the contents of the bark and root and leaves are very potent, they should do no harm if used as described above. The chemicals in the flowers are likewise harmless.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING ELDER

Christopher's Elderberry Extract, preserved with alcohol is made with Elder.

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EUCALYPTUS LEAVES

EUCALYPTUS

GLOBULUS; MYRTACEAE

GENERAL

We remember, as children, the Eucalyptus trees planted along freeways in California to absorb toxic fumes from the automobiles. These trees, native to Australia, have also been used around the world to drain marshes, as they grow quickly and absorb much water. In Israel, the malaria-ridden swamps were turned into rich farmlands with planting of this tree. It will not stand freezing temperatures, however. A German Botanist, von Muller, introduced this tree's virtues world-wide. He introduced the oil from the leaves as a disinfectant in fever districts, which has been a prominent use of the herb. Just its presence in malarial districts is said to diminish the

presence of mosquitos, ostensibly because of its draining capacity, but perhaps also because of its medicinal factors. Eucalyptus is used for respiratory ailments, both smoking the leaves and inhaling the steam made with boiling water and the oil. The oil has been used as a germicide and local antiseptic in skin diseases and upper respiratory infections. Ointments made with Eucalyptus are commonly applied for coughs and colds. It has been used as a quinine substitute, but should be given internally only in very small quantities. The oil and its active compound, eucalyptol, have been tested and proven to dilate the bronchioles in the lungs and to have antiseptic effects against a variety of organisms. The wood is a superior fuel, heavier than coal and giving more heat when burned; it has been suggested as a fuel to save the world's depleting coal resources.

HISTORICAL USES

Used as a disinfectant, also for respiratory ailment and infection, as a germicide, as a local antiseptic for skin disease, for cough and colds.

FO-TI ROOT

POLYGONUM MULTIFLORUM;

POLYGONACEAE

GENERAL

Don't confuse this herb with Fo-ti-tieng, which has similar properties but is an entirely different plant. Fo-ti is Polygonum multiflorum, one of the Chinese herbs to have recently come into Western use. It is known as a rejuvenator, working especially on the endocrine glands, which strengthen the entire body. It should restore one's energy and strength and even increase fertility. It is recommended for those who are aging; the Chinese claim that it will keep the hair its natural color and strengthen the muscles, tendons and bones. The Chinese make it into a tonic, combining it with other herbs and calling it "Shou wu chih". It is said to be a safe aphrodisiac and a good digestive tonic. It also renews the liver and kidneys.

HISTORICAL USES

As a rejuvenator, for the endocrine glands, as an aphrodisiac, a digestive tonic and to renew the liver and kidneys.

FRANKINCENSE

BOSWELLIA THURIFERA; BURSERACEAE

GENERAL

This ancient herb, most commonly sold in "tears", or collected oozing from the tree Boswellia Thurifera, is the often-cited Frankincense of the Bible. It is the most important incense resin in the world. It was formerly used as a stimulant, an antidote to hemlock, for tumors, ulcers, fevers, etc., but nowadays is only rarely used internally. In China it is still used for leprosy, but its principal use today is in the manufacture of incense and other preparations for burning scent. Some include it in steam preparations intended to relieve bronchitis and laryngitis. Most of the incense burned in the Catholic Church today is composed of Frankincense. It is commonly mixed with benzoin and storax for such use. You can combine it with other aromatic herbs for your own homemade incense.

HISTORICAL USES

Used as a stimulant, an antidote for hemlock for tumors, ulcers, fevers, leprosy, bronchitis and for laryngitis.

GENTIAN

GENTIANA LUTEA; GENTIANACEAE

GENERAL

This is one of the famous tonic herbs; the yellow Gentian is most commonly used. It has been called one of the best strengtheners of the human system, because it gathers and fixes much oxygen in its root. It is one of the most intensely bitter of the herbs. Legend states that the King of Hungary prayed for relief from the plague which was devastating the people. He requested that an arrow he shot would be guided to some plant that could stop the onslaught of the disease. He followed his arrow to a Gentian root, which it had pierced. The remedy was a great success. The root works in all states of exhaustion from chronic disease, for general debility, and especially for liver problems, including jaundice. It is said to strengthen the stomach; a preparation of equal parts Gentian root and sweet flag root, seasoned with orange peel and cardamom seed and prepared with molasses and glycerine, works wonderfully to correct digestion and give appetite.

Father Kneipp recommended soaking the root in brandy and taking the extract in doses of 20-30 drops for indigestion and similar troubles, including cramps and travel fatigue. Some people recommend chewing the root for cleansing the system of tobacco addiction.

HISTORICAL USES

Used as a tonic, to strengthen the human system, for the plague, for chronic disease, general debility, liver problems, jaundice, digestion, cramping, tobacco addiction and for travel fatigue.

 ***GOLDEN SEAL***

HYDRASTIS CANADENSIS; RANUNCULACEAE

DESCRIPTION

Golden Seal is a small, perennial herb with a horizontal, irregularly knotted, bright yellow rootstock, from 1/4 to 3/4 inch thick, giving off slender roots below and marked with scars of the flower stems of previous years. The flowering stem, which is pushed up early in the spring, is from six to twelve inches high, erect, cylindrical, hairy, with downward pointing hairs, especially above, surrounded at the base with a few short, brown scales. It bears two prominently-veined and wrinkled dark green hairy leaves, placed high up, the lower one stalked, the upper stalkless, roundish in outline, but palmately cut into five to seven lobes, the margins irregularly and finely toothed. There is one solitary radical leaf on a long foot-stalk, similar in form to the stem leaves but larger, when full-grown being about nine inches across. The flower, which is produced in April, is solitary, terminal, erect, small, with three small greenish-white sepals, falling away immediately after expansion, no petals and numerous stamens. The fruit is a head of small, fleshy, oblong, crimson berries, tipped with the persistent styles and containing one or two hard, black, shining seeds. It is ripe in July and has much the appearance of a raspberry, but is not edible (Gri:362).

The rhizome is one to two inches long, about 1/4 inch thick, oblique, with several short branches, terminated by a broad concave scar, somewhat flattened, annulate from the leaf-scars, longitudinally wrinkled, and beset below with many thin fragile rootlets three to five inches long, containing a thin triangular or quadrangular ligneous cord and a thick bright-yellow bark. The rhizome is externally brownish-gray with a yellow hue, is hard and breaks with a short waxy fracture of a bright reddish- or brownish-yellow color. The bark is about one eighth the thickness of the rhizome; the central pith is broad, and the yellowish wood consists of eight to twelve narrow wedges, or, near the base of the branches, of a few linear and several larger irregular bundles.

GENERAL

"Always use the herbs you need, no matter what the price!" Dr. Christopher taught, and this certainly applies to Golden Seal, which is quite an expensive herb because it has become so scarce. It used to grow all over the eastern part of the United States and one could dig it up easily, but it has been harvested so much that it's harder to locate now. However, Golden Seal is a very powerful tonic herb and one should only use what he needs and stop when he has accomplished what he wished. Dr. Christopher said not to keep using it; he compared Golden Seal to fire, which will heat your house or burn it down if overdone. He had often looked into the irises of people's eyes and asked, "How much Golden Seal are you taking?" They would invariably answer, "Oh, I got Golden Seal very cheaply so I'm taking about a tablespoon a day". Golden Seal leaches the B Vitamins out of the body, the Doctor explained, and the animation life line of the body is attacked. This condition reduces one's animation sometimes to the point that an individual who uses too much Golden Seal may not have enough energy to get up in the morning! In Dr. Christopher's formulas, Golden Seal may make up one-eighth part or one-sixteenth part, but rarely more than that; in these small amounts, it works cooperatively with the other herbs. Dr. Christopher recommended that we avoid that American fallacy: if a little is good, a lot must be better, especially when it comes to Golden Seal!

CHEROKEE HERB

Golden Seal is one of the native American herbs given to white man from traditional Indian medical practice. The Cherokee nation, which originally occupied the upper valley of the Tennessee River, was a friendly tribe, rendering valuable service to the Army of General Jackson against the British, and ceding lands without trouble as early as 1817. During the Civil War, they sided with the Confederates and took part in the Battle of Pea Ridge (Luc:131). They were regarded as some of the most progressive of the Indian tribes, within one year developing a written form of their traditional language under the remarkable leadership of Sequoia. Golden Seal was one of their foremost herbs. They employed it as a remedy for sore mouth, inflamed eyes, and as a bitter tonic in stomach and liver disorders (*Ibid.*:132). They also employed it externally for diseases of the skin, and used the juicy root as a dye for garments and a stain for the face. The root was also used mixed with grease and used on the skin as an insect repellent.

Its first printed appearance came from a paper read by Hugh Martin before the American Philosophical Society, 1782, describing dyes in the North American tribal societies. However, it was mentioned previous to that under a different botanical name, Warnera, named after Richard Warner of Woodford in England. The first medical reference to the herb appeared in Barton's Collections for a Vegetable Materia Medica (1798), in which he mentioned the Cherokee uses of the herb. In 1804, Barton continued his herbal research by mentioning that in western Pennsylvania an infusion of Golden Seal root in cold water was used for inflammation of the eyes. He continued, "It supplies us with one of the most brilliant yellow colors with which we are acquainted" (*Ibid.*).

In 1820, Hand, in House Surgeon, referred to the plant and stated that it could be used for indigestion, the secondary states of low fevers and in all cases of weakness in general.

Rafinesque, in his famed Medical Flora of the United States of 1828, defined the active principle of Golden Seal as hydrastine and devoted considerable space to explaining its medicinal uses.

The Thomsonian doctors included Golden Seal in their course of medicine. They recommended it for relief of bowel complaints in children, including the removal of worms. It was also recommended for morning sickness and indigestion. Professor King of the Eclectic School of Medicine in 1852 investigated thoroughly the uses of Golden Seal, as he did so admirably and usefully with other native American herbs, discarding those claims which were too extravagant and bringing to the attention of the medical world the positive uses of Golden Seal. Because of his work, medical doctors began to demand the herb and it was declared an official drug in the U.S. Pharmacopeia in 1860 (Ibid.). In 1905, the U.S. Department of Agriculture called attention to the increasing demand for Golden Seal for medicinal purposes in their Bulletin No. 51. There it is stated that the early settlers learned from the American Indians the virtues of the herb.

In 1905, the annual supply of it was estimated at from 200,000 lb. to 300,000 lb., about one-tenth of which was exported with an ever increasing demand (Gri:363). In 1900, it was plentiful in its wild state and sold for about eight cents per pound, but as the supply diminished, not only from overcollection, but from the forests in the central States being cut away, the price has risen until it is almost prohibitive (Ibid).

One of the first drawbacks to the use of Golden Seal was its distressing tendency to dye everything that it came in contact with yellow; it being especially troublesome when used as a skin wash for dermatological affections. Professor Bartholomew demonstrated that the herb could be combined to form hydrastine hydrochlorate and be free of staining (Luc:134). According to Dr. John V. Shoemaker, this preparation was successfully employed in skin diseases. In many instances the extract of Golden Seal was taken in conjunction with the external applications of hydrastine hydrochlorate. Patients with serious acne, accompanied with weak health generally or with eczema, responded within days to treatment with the chemical. Of interest to herbalists today, however is Dr. Christopher's injunction to avoid using this colorless fraction of the herb; he pointed out that it is missing in many vital elements for complete healing.

The botanical name, Hydrastis, is derived from two Greek words, signifying water and to accomplish, probably given it from its effect on the mucous membrane (Gri:362). Its second name refers to its location. Other common names include yellow root (for obvious reasons), orange root and ground raspberry (because its berries, and also its leaves, resemble the raspberry, although they are not eaten). It is also called yellow paint root, as the Indians used it to paint their skins, Indian paint, tumeric root used in bread, a pinch to the pound of flour, to give color the same as turmeric (Lev:Common:73), jaundice root, Indian turmeric, eye balm root, eye root, yellow eye, and simply hydrastis, referring to its botanical name.

KING OF HERBS

Despite the warnings about overuse of the herb, Golden Seal is considered to be one of the best general medicinal aids in the entire herbal kingdom. It is tonic, laxative, alterative, and detergent, or antiseptic.

Jethro Kloss considered it one of the best substitutes for quinine, a most excellent remedy for colds and flu, as well as all stomach and liver troubles, taken as tea. It is especially recommended for chronic coryza, especially if this is caused by a syphilitic taint (Felk:18). Golden Seal works in these cases of catarrh because it has a potent action on the mucous membranes, clearing up profuse or morbid secretions. It also effectively cleanses the liver.

Golden Seal is highly valued, especially in Europe, for disorders of the stomach. It is a valuable remedy in the disordered conditions of the digestion (Gri:363). It is said to improve the appetite and assimilation.

The herb is especially used in treatment of skin and external organ problems. The chronic indolent ulcer so commonly met with on the leg responds to treatment of the lotion applied locally, with the tincture taken internally (Felk:19). Other external ulcers are treated the same way. For cracks, fissures, and abrasions of the nipples during nursing, one can use a compress dipped in a lotion, the compress renewed every four hours. While this treatment continues, the infant should not nurse more than once every four to six hours on the affected breast, and a breast shield should be used to prevent further damage to the area and to protect the infant from the bitterness of the herb.

An interesting case treated by Golden Seal was the poodle whose hair had all fallen out; his tail looked like a big rat tail. The owner got some Golden Seal and made a weak solution of it to apply as a wash on the dog's bare skin. As soon as she put it on, the dog licked it off; he got it internally, too, this way. She also put Golden Seal in his food and water, and he took it willingly despite its bitterness, his natural instincts telling him what was good for his condition. The poodle's hair came back quickly (Bri:236). It has been used in the treatment of gonorrhea, a lotion applied externally and a syringeful injected up the urethra frequently at first, tapering off after a few days. The patient should be warned that the yellow solution permanently stains the linen (Felk:19).

Likewise, internal hemorrhoids which are also accompanied by various dyspeptic symptoms, can be relieved by a weak infusion given as an enema, with the tincture, tea or capsules taken internally during treatment. The disinfectant and astringent properties of the herb effect this cure.

Golden Seal is known for helping sore eyes; it is often combined with the herb Eyebright as an eye tonic (Tie:94). It is used to cure pyorrhea or sore gums by brushing the teeth and gums with the powder, a bitter but effective treatment. Smoker's sores, caused by holding a pipe in the mouth, have been cured by Kloss with just a few applications of Golden Seal, the powder being applied

directly to the sores. These are sometimes called skin cancers, and may well be: the Cherokees used the herb for cancer.

The lotion is sometimes applied for relief in erysipelas, the distressing condition where the skin swells and turns a dark red.

It is considered good for use in eruptive diseases, both as a healing lotion for the rashes, but as an internal remedy to help cure the disease.

The powdered herb is snuffed into the nostrils for chronic inflammation and catarrh. It can be applied to open sores as an antiseptic and healer. We have used it successfully in the treatment of a newborn's umbilical stump; it keeps the stump dry and heals it rapidly. This will only work if the stump is lightly covered with gauze and left open to the air, not covered with diapers or plastic pants.

Golden Seal is said to alleviate nausea during pregnancy, combined half-and-half with ginger and put into capsules, to be taken with spearmint tea every few hours. This is one of the few applications of Golden Seal during pregnancy because of its possible overuse and toxicity. Some recommend the use of the herb in pancreas troubles. It is said to be an effective agent combined with Cedar berries or even Juniper berries for the condition of diabetes, sometimes taken in large quantities. We have noticed, however, that Golden Seal sometimes has an adverse effect on hypoglycemics; some recommend taking licorice root to soften the effect of the Golden Seal. We consider that a hypoglycemic ought to be quite cautious in his use of the herb as it can lower the blood sugar (Ritchason:57).

For prolapsed uterus and prolapsed rectum, a small injection of the infusion can give results. One should remember that taking it internally can cause uterine contractions, so it should not be used during pregnancy, except as aforementioned.

Kloss considered it an excellent remedy for diphtheria, tonsillitis, and other serious throat troubles, sometimes combined with a little myrrh and cayenne (Klo:245). It can be applied as a spray to a badly swollen throat (Felk:18).

Some people combined the herb with Gotu-Cola as a tonic for the mind. Indeed, in small amounts, combined with other herbs, it seems to enhance their action and help prepare the body's tissues for healing. Therefore, combined with Comfrey, for example, it could be an extremely powerful healing agent.

DYE

Aside from its use medicinally, Golden Seal root has principally been used as a dye, known to be one of the most pure and powerful yellows in the vegetable kingdom. It gives linen a light and very durable yellow, which, with various mordants, can be muted from pale yellow to orange. It

is said to produce a good article for water coloring, and, mixed with indigo, it is said to impart a fine green color to wool, silk, and cotton (Gri:364).

HISTORICAL USES

Used as a bitter tonic, for liver disorders, skin diseases, as an insect repellent, for sore mouths, inflamed eyes, bowel complaints, worms, as a laxative, antiseptic, detergent, alterative, for colds and flue, for stomach problems, chronic coryza, catarrh, skin and external organ problems, ulcers, cracks, fissures, abrasions on nipples, for gonorrhoea, hemorrhoids, sore gums, pyorrhoea, cancer erysipelas, prolapsed uterus or rectum, diphtheria and tonsillitis.

CULTIVATION, COLLECTION, PREPARATION

Plainly put, Golden Seal is hard to grow--as hard as Ginseng, some say. It is as wild and sensitive, although some growers have success with it. The best conditions for the cultivation of the herb are a well-drained, humus soil, partially shaded. Lath blinds, placed overhead on wires and light runners, are used to shade commercial plantings, as the roots of trees are said to interfere with the formation of the Golden Seal root. The plant requires from 60% to 75% shade. The root stocks are divided into small pieces and then planted about eight inches apart in rows. Seeds are not considered reliable. One can plant successfully in autumn, after a crop has been taken, or indeed anytime when the roots are dug during the summer. Root buds often form on the strong fibrous roots, which should be removed and replanted before drying the roots for medicine. The plants take two or three years to grow to marketable size; according to one grower, thirty-two sturdy plants to each square yard in three years' time will produce two pounds of the dry root. The plant withstands transplanting at any time in the season with safety (Gri:363). Grieve mentions that it is difficult to get living roots to start plantations of Golden Seal in England; she wonders if Americans are jealous of the market and do not wish it cultivated in other countries (*Ibid.*). Since the root is highly favored with European practitioners, it could be a profitable venture overseas. The rhizome is somewhat difficult to clean; it should be brushed and washed thoroughly to get the dirt from the stringy fibers. It should be blotted dry and let dry in the shade, keeping it at an even temperature.

When thoroughly dry, so it feels warmish and not cool to the touch, the root is generally ground and well-sifted to remove any unnecessary fibers. When it is fresh, it has a well-marked, narcotic odor which somewhat resembles licorice root and is lost in a great measure by age when it acquires a peculiar sweetish smell. It has a very bitter, feebly opiate taste, more especially when freshly dried (Gri:363).

Golden Seal is generally stored and used as a powder in capsules or in tea. The latter should be well-strained when using for an eyewash; the particles are quite fine and could be irritating if left in the eye. For a lotion, the strained tea is applied externally. It is also used as a douche or herbal injection. The powder can be mixed with slippery elm or other demulcent herbs for a poultice or wound application.

RELATED PLANTS

Because Golden Seal is sold at such a high price, the quality of the commercial product is much lower than in former years, and it is said that almost every native drug that resembles the color of Golden Seal is used to adulterate the herb. The yellow color of the rhizome and the appearance and odor distinguish it from Blood root, which is usually a darker color; you can distinguish it easily because it does not have the fibrous wood bundles of the Golden Seal (Gri:364).

CHEMICAL COMPOSITION

Golden Seal contains three alkaloids; hydrastine, berberine, and canadine. Berberine is known to cleanse the liver and be a marked astringent. Hydrastine can be overdosed and produce convulsions. Because of these potent healing qualities, large amounts of the herb are said to produce irritation of the mouth and throat, nausea, vomiting, diarrhea, and paresthesia which comes from a depressant effect on the spinal cord and peripheral nerves (Spoerke:79). This author recommends that the herb is dangerous and should not be used without medical consultation; we consider that it is safe if used as Dr. Christopher recommended, in small amounts mixed with other herbs or in small amounts until the desired effect is obtained.

DR. CHRISTOPHER'S COMBINATION CONTAINING GOLDEN SEAL

Prospallate, the combination for regeneration of the Prostrate gland, contains Golden Seal.

CSR contains Golden Seal.

Nu-Fem, the female-organ regenerator, contains Golden Seal.

Juni-pars, the combination for the urinary tract, contains Golden Seal.

Fen LB contains Golden Seal.

INF, which is used to promote general good health especially when there is the threat of infection, contains Golden Seal.

SHA tea, the Sinus, Hayfever, and Allergy combination, contains Golden Seal.

BPE, the Ginger Capsicum combination which is used to strengthen the circulatory system, contains Golden Seal.

Panc Tea, which feeds the pancreas and supports its function relative to blood sugar, contains Golden Seal.

Herbal Eyebright, which is the famous and effective eyewash combination, contains Golden Seal.

V.B., the vaginal bolus which is combined with coconut oil and used to heal internal female problems, contains Golden Seal.

X-Ceptic, the best herbal antiseptic available, contains Golden Seal.

It is interesting how many of Dr. Christopher combinations contain the herb, in quite small quantities but nonetheless useful in many different ailments.

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CENTELLA ASIATICA, (HYDROCOTYLE ASIATICA); UMBELLIFERAE

GENERAL

"Two leaves a day will keep old age away", goes the old Sinhalese proverb about this herb which has recently been quite popular in the West. It is common in South Africa and India as well as in other tropical regions. It has long been used in India as a diuretic, blood purifier, and promoter of longevity. It neutralizes blood acids and lowers the temperature. It can alleviate bowel complaints and help conditions of syphilis and inflammation of the lymph nodes; as you can see, most of these conditions are related to aging and deterioration. The extract has been much-used to treat wounds and other skin problems, such as tuberculosis and leprosy. It's said to work marvelously in these complaints. It has been laboratory proven to help prevent infections, and so far has been shown to be absolutely safe. It can treat depression and mental weaknesses; many claim that it is a marvelous memory herb. If you take too much of the herb, you will experience

headache and stupor; thus, you must regulate your personal dosage.

HISTORICAL USES

To promote longevity, as a diuretic, blood purifier, to neutralize blood acid, it lowers temperature, for bowel complaints, syphilis, inflamed lymph nodes, wounds, skin problems, tuberculosis, leprosy, to prevent infection, for depression, mental weakness and to aid memory.

GRAVEL ROOT

EUPATORIUM PURPUREA; COMPOSITAE

DESCRIPTION

This species varies greatly in form and foliage, this type being tall and graceful. The stem is rigidly erect, usually about five or six feet high, though sometimes even reaching a height of twelve feet, and is stout, unbranched and either hollow or with an incomplete pith. It is purple above the joints and often covered with elongated spots and lines. The leaves, oblong and pointed, rough above but downy beneath, are placed in whorls of four or five on the stem (mostly in fives) and are nearly destitute of resinous dots. The margins are coarsely and unequally toothed, the leaf stalks either short or merely represented by the contracted bases of the leaves. The flowers are purple, in a dense terminal inflorescence, the heads very numerous, five to ten flowered, contained in an eight-leaved, fresh-colored involucre (Gri:375).

The dried root is blackish, woody on the outside, with numerous long fibers, from 1 to 3 lines in diameter. Its bark is dark brown, longitudinally-furrowed, beneath which the internal portion is white, or whitish-yellow, according to its age, the last color being the oldest. It has an odor somewhat resembling old hay, and a slightly bitter, aromatic, and not unpleasant taste (Folk:740).

GENERAL

Gravel Root is one of the great diuretics and a solvent of stones throughout the body. Many people think that stones occur just in the kidneys or in the gall bladder because most of the operations are done on those areas; they are easy to diagnose and have the largest money return. But Dr. Christopher taught that stones can occur throughout the body's glandular system--in the pituitary, the pineal, the spleen, or many other parts of the body. Gravel Root effectively dissolves these stones and allows them to be passed out the body.

Dr. Christopher told the story of a man who was sent to the Mayo Clinic for a prostate operation.

It was serious enough that it could not be handled locally. He had to be catheterized to urinate at all, and then only with great pain. His condition was so extreme that he was agreeable to do anything, even change his diet, which turned out to be the roughest "medicine" of all, as he was a big eater of orthodox foods. He changed his diet, however, and began to take Gravel Root. In less than six weeks, he was functioning properly again, and became so enthusiastic that he wanted to go on an all-raw food diet to hasten the process of healing. Dr. Christopher warned him not to do so, as the mucus would break loose so fast that he could become very uncomfortable, but the man insisted. The mucus came so fast that he passed a string of mucus from the urinary tract so painful that, as Dr. Christopher joked, he thought he was going to have triplets.

Dr. Christopher recommended Joe-Pye root, which is another name for Gravel Root, for bedwetting, especially in children. He had to do a lot of teaching, however, to the parents of bedwetters. Often they would bring in a chronic bedwetter who had severe nerve rings, terrible nervousness, and scar tissue in the kidney area. Why? Because the parents would paddle the chronic wetter, and instead of hitting the buttocks, they would hit the kidneys, just a little higher up. These sometimes severe beatings can tear the kidneys loose from the body; Dr. Christopher had seen them loose in the body from the spankings. Many bedwetting problems stem from nerve problems, he taught, and he gave some severe lectures to the parents before ever working with the children. We also must remember that some children remain dry through the night far later than others. If a child of four or five is still wetting at night, the best addition to herbal treatment is a kind, positive attitude. By allowing the child to wear diapers but encouraging him to try for the time when he will be dry at night, he will accomplish it much sooner than any amount of anger or cajoling.

JOE PYE

Joe Pye was an Indian known for his special skill as an "herb man" who made the rounds of rural New England in the late 1700's. He apparently was specially skilled at reducing fevers. One of the few records of him show that he bought "one quart of rum, 1 shilling 6 pence", at a tavern in Stockbridge, Massachusetts in 1775, so perhaps he made tinctures as well as teas. In any case, he is the only herb doctor we know who had a plant named for him. Joe-Pye weed is still its common name. Joe Pye was also reputed to have cured typhus with the herb through powerful diaphoresis.

One of the early records of it is from Dr. Schopf, who reported that the herb was antisiphilitic. Herbalist H.B. Skinner called it a powerful diuretic, which removes strangury, gravel, and stone" (Vog:314). Dr. Williams said that it had been used as an internal infusion for catarrhal fevers, dyspepsia, and to augment other herbs. Dr. Clapp reported that its principle use was as a diuretic.

The herb was used by the Iroquois and Cherokees as a diuretic. The flowers of the closely-related E. serotinum, also called Joe-Pye weed, were boiled by the Houmas for a tea drunk for typhoid fever. The Wisconsin Potawatomis used the fresh leaves of Gravel Root for a burn poultice, while they used the root in a medicine to clear up afterbirth. Flambeau Ojibwas made a strong

decoction of the root to wash a child until he was six years old, the belief being that it would strengthen him. The Menominees used Joe Pye weed and related plants for ailments of the genitourinary canal. To the Meskwakis it was a love medicine (Ibid.314-5).

The name of the genus, Eupatorium is derived from a king of Pontus, Mithridates Eupator, who first used the plant as a remedy.

The plant boasts a number of interesting common names as well: queen of the meadow, referring to the tallness of the plant and the showiness of its purple flower; trumpet weed, referring to flower shape; purple thoroughwort, kidney root, referring to its medicinal uses; tall boneset (it is related to boneset and sometimes used as a febrifuge as is boneset), jopi weed (a corruption of Joe-Pye) and hempweed. It is also sometimes erroneously called by names of other species within the genus, which we will discuss at the end of this article.

THERAPY FOR THE URINARY-GENITAL TRACT

Gravel Root is used principally as a therapeutic agent for the urinary genital tract, influencing the kidneys, liver, bladder, prostate gland, and uterus. This herb is a natural solvent for inorganic minerals such as calcium and other unwanted accepted-but-not-assimilable substances. These accumulate until they form stones, hardening of the arteries, cataracts, etc. Gravel Root will leach off dead inorganic calcium and other minerals and allow them to be eliminated. After getting rid of the inorganic minerals, you can take a natural herbal calcium supplement to give your body live, organic calcium and other minerals.

Joe-Pye weed has a specific action upon the renal tract, increasing both fluid and solid constituents of the urine. As it does not upset the stomach, it can be used for a long period of time without ill effect. It is a proven remedy in urinary calculi and gravel; it removes vesical irritation and prevents the formation of stones (Felk:741). It is also used to treat water retention and joint pains caused by uric acid deposits (Tie:97).

The herb is a specific for most ailments of the urinary tract. For difficult and painful urination, with a frequent desire to urinate but the passage seeming to be obstructed, the herb is indicated. For strangury, especially that resulting from irritating diuretics, with shooting, darting, urethral pains, it will restore proper urination and relieve the pain. After the active pain of prostate problems has subsided, Gravel Root will relieve the disagreeable sensations that some times follow (Ibid.).

When children wet their beds because the vesical irritation is great, so that a few drops of urine in the bladder produce the need to expel the contents. Gravel Root will heal the malady and allow the child to retain his urine normally. The same goes for the irritable bladder of pregnancy, when the mother-to-be needs to urinate every few hours due to irritation and pressure; often when a mother sneezes or coughs or even walks, urine is expelled. Gravel Root will alleviate this condition, as long as it does not result from actual fetal pressure on the bladder itself.

Gravel Root is famed for its febrifuge properties in cases of colds, flu, eruptive diseases, etc. It will prevent a fever if taken when the patient feels achy and chilly, or it will break up the fever, if mild. It helps relieve sore throat and especially coughs, even chronic coughs and bronchial affections.

Gravel Root is said to help with problems in the genital tracts. When there is impotence, Gravel Root can help tone and heal the system. It controls chronic irritability of the womb and will clear up atony of the womb. It can prevent habitual abortion if it is due to a prolapsed, retroverted uterus or to debility resulting from chronic inflammation of the area (Felk:741). Used as a douche alone or with other herbal astringents, it can help in chronic amenorrhea in a weakened female.

Gravel Root can also help relieve dyspepsia, chronic mucus diseases of the gastro-intestinal canal, and other intestinal weakness.

It is sometimes combined with specific herbs for the male or the female tracts; it also combines well with golden seal.

No non-medicinal uses are known for the herb.

HISTORICAL USES

Used for intestinal weakness, as a diuretic, as a stone and gravel solvent, for prostate problems, bedwetting, kidney problems, typhus, syphilis, catarrhal fevers, dyspepsia, burns, for kidney, for liver or bladder or prostate gland or uterus problems, for hardening of the arteries, water retention, joint pain, incontinence during pregnancy, impotence, as an anti-abortion, for prolapsed or retroverted or inflamed uterus, and for chronic amenorrhea.

CULTIVATION, COLLECTION, PREPARATION

Joe-Pye weed grows in wet thickets in the damp lowlands. It flowers at the end of the summer, in August or September. It is a wild plant, found in damp woods or meadows; it is sometimes cultivated in wild gardens or herb gardens, as its flowers are extremely showy and it towers over surrounding plants. It also attracts butterflies. No specific information is given on its cultivation, other than it should be planted in a place with constant moisture and fairly rich, loamy soil.

The root is the medicinal part. If you should happen to live in a part of the country where Gravel Root grows, the northern, western or middle states, you will want to learn to identify the plant and gather the root in the autumn.

It should be thoroughly cleaned and dried slowly in a shady spot. When it is dry, it can be crushed or cut into pieces and stored in a cool, dark, dry place. It is made into a tea, decoction, or tincture; it yields its virtues both to water and to alcohol.

RELATED PLANTS

This genus contains many related species. Eupatorium teucrifolium, also called wild horehound or rough boneset, resembles boneset as a febrifuge and tonic. Eupatorium aromaticum also called white snake-root or hempweed, is used as an aromatic. E. incarnatum is used in fevers, as an antispasmodic and for nervous irritability. E. sessifolium, also called upland boneset, is used similarly to boneset but is weaker. E. rotundifolium, also called round leaved hempweed, is used in cases of phthisis. E. Cannabinum, a European member of the family is a cathartic. E. ayapana, a Brazilian herb, is used as a bitter tonic. E. villosum or Bitter-bush from Jamaica, is a stimulant, bitter and tonic.

CHEMICAL COMPOSITION

Professor J.U. Lloyd of the pharmaceutical company long famous in the East isolated a yellow, neutral, crystallized principle from the root which he called euparin. This is said to be the active principle.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING GRAVEL ROOT

Prospallate, the prostate remedy, contains Gravel Root.

B.F.& C., the bone, flesh and cartilage healer, contains Gravel Root.

DRI, the urinary combination, contains Gravel Root.

B.F.& C. syrup, to be taken internally as the above combination is applied in fomentation or by ointment, contains Gravel Root.

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GUARANA

PAULLINIA CUPANA; SAPINDACEAE

GENERAL

This herb is made into a beverage resembling bitter chocolate. The seeds are shelled, washed and roasted for many hours, then shaken until hulled. They are ground and made into coarse powder, and made into a drink with sugar and water. The Brazilian miners drink this as a disease preventative. It has about three times the caffeine content of coffee. It is specifically used for bowel complaints, but shouldn't be used in cases of constipation or blood pressure problems. The high tannin content cures diarrhea, while the high caffeine content is responsible for alleviating migraine headaches. It is also used for paralysis and urinary tract infections. It is thought to be an aphrodisiac. It has been said that Japanese soldiers were given Guarana to chew in order to keep up their stamina and to keep up their courage!

HISTORICAL USES

To increase stamina, as a disease preventative, for bowel complaints, for migraines, paralysis, urinary tract and for courage.



CRATAEGUS OXYACANTHA; ROSACEAE

DESCRIPTION

Hawthorns are found in woods and hedges and on heaths and wasteland. The leaves are lobed, dark and narrow, with characteristic sharp pointed thorns or spines an inch to five inches long. The flowers are small, white or pinkish, in clusters, with many stamens, and strongly scented. The fruits are small, generally red though sometimes yellow, with hard pips surrounded by a dry or pulpy flesh which is not palatable but can be eaten. These are known as haws. The bark is smooth and gray or light colored.

GENERAL

Dr. Christopher first heard of the Hawthorn berry as a cardiac tonic from England, having been used there for hundreds of years. It is one of the best and richest foods in the world, he claimed. He was the one who brought the Hawthorn berry syrup formula to America. Dr. Nowell gave it to him as a graduation gift many years ago. He had said, "This is just for your patients, until I die."

Afterwards, you can do what you want with it". Dr. Christopher kept the formula only for his patients, as instructed. When Dr. Nowell died, Dr. Christopher shared the formula for anybody's patients. It can't hurt you; he even gave it by dropper to babies for skipping heartbeats.

One doctor who had learned the formula for Hawthorn berry syrup from Dr. Christopher raised his hand after a lecture to tell the following story. He had gone on a house call in response to a call about a heart attack, one so serious that the family was afraid that death was imminent. The doctor had no cayenne in his bag and the family had no cayenne; the doctor began to panic. He remembered that he had a bottle of Hawthorn berry syrup with him. The usual dose is a half-teaspoonful, but the doctor thought a little more might help, so he gave the patient a full tablespoonful. The patient drank it down, sat right up, and said, "Well, I feel okay". The doctor checked him with the stethoscope and the heart sounded alright. As the doctor said, "Talk about quick relief!"

During the second World War a man had been accepted to work in a large chemical depot. The firm had hired him because he was physically unfit for military service--he had a heart leakage--and they were short of manpower. They placed him in their construction division without a physical examination when he was sixty-two years of age, and he worked for them until he was sixty-five years old. He had begun using this heart tonic when he was sixty years old, using it faithfully because, according to him, it tasted good. Now he was sixty-five years old and the war came to an end. He was called into the company's main office, where they complimented his work record and asked him if he would remain as an employee. He wanted to, but feared the necessary physical examination. He finally agreed to take the examination.

You may imagine his surprise when he found that he had been given a clean bill of health. He asked the doctor, "What about my heart leakage?" The doctor replied, "I wish I had a heart as good as yours. You should never worry about dying from a heart attack; in fact, if you don't get hit by a truck or lightning you will probably die quietly in your sleep from old age and won't even muss up the covers." This man worked several more years at the plant, retired, and then lived on until he was in his eighties. On a July evening in 1970, he went to the rodeo with his family and enjoyed the evening like a kid as he watched his son ride and perform. The next morning one of his sons came over to his home and found his father lying peacefully in his bed. He had passed away with his hands folded over his chest and, just as the doctor had predicted, the covers were not even mussed up. No heart attack, just the final sleep of old age.

A lady once came to Dr. Christopher to have her irises read and was told that, among other things, she had a heart weakness. She was advised to use a half teaspoon of Hawthorn berry syrup three times a day. She began using the tonic on a Tuesday; before the week was even over she had experienced a dramatic improvement in her condition.

Hawthorn is also known for its specific action on edema. During one of Dr. Christopher's lectures, a young man asked if he could relate an experience of his mother's. He said that his mother had had such edema in the ankles that they were so swollen you couldn't even see the

bones. Many remedies prescribed by various doctors had made no difference at all. The young man asked his mother to come up to the front of the lecture hall and stand on a chair so the audience could see her feet. She now had well-defined ankle bones after less than a week of using the syrup.

Dr. Christopher mentioned that the syrup takes many tedious hours to prepare. He said that if anyone wants to take more than the minimum dose, one-half teaspoon three times a day, you should whack them over the head with a spoon! It's too valuable to let people generally take any more!

HEDGE THORN

The Hawthorn is a small thorny tree or shrub found in Asia and Europe, but also naturalized in North America and throughout the world. It is the a tree of legends and even magic. According to legend, the Crown of Thorns was believed to be made of Hawthorn (there are five varieties of Crataegus in the Holy Land); therefore, the herb was thought to possess magical healing properties. Other Christian legends state that the staff of Joseph of Arimathea which sprouted when thrown to the ground was also made of Hawthorn. In ancient Greece, the herb was used as a marriage torch, while in Rome it was considered a potent charm against sorcery and witchcraft. The leaves were placed in the cradles of newborn babies to invoke a special blessing and protection. The Greek bride was sometimes adorned with a sprig of Hawthorn and the bridal altar decked with its blossoms to secure a beautiful and blessed future for bride and groom (Luc:188-89). It was thought that bringing the branches into the house portended death for one living therein; the branches were once hung around houses to ward off witches. It is thought to have been the magic hedge that grew overnight in the legend of Sleeping Beauty (Rose:Herbs:66). Another happier version says that Hawthorn brought into the house would bring fairies into the house (Levy:74). The plant is considered unlucky, however, if the fruits are gathered before the first of May.

The Hawthorn is the badge of the Ogilvie clan and get one of its most common popular names from the fact that it blooms in May: Mayblossom and Mayflower. Christopher Columbus' ship was named after this plant. Henry VII chose the device of a Hawthorn bush because a small crown from the helmet of Richard III was discovered hanging on it after the battle of Bosworth, hence the saying, "Cleave to thy Crown though it hangs on a bush " (Gri:385).

The botanic name, Crataegus oxyacantha, comes from the Greek kratos meaning hardness (of the wood), oxus (sharp), and akantha (a thorn). The German name of Hagedorn, meaning Hedge Thorn, shows that the Germans divided their land into plots by hedges; the word haw is also an old word for hedge. This refers to a very healthy practice for the land: hedgerows forming natural barriers that provide a good windbreak, shelter for animals and birds, food for the same, and often medicinal herbs for man and beast. The common name Whitethorn arises from the whiteness of the bark and the name Quickset comes from its growing as a quick or living hedge, in contrast to a fence of dead wood. Other names include Haw, a reference to the fruits, as well as Hazels,

Gazels, Halves, Ladies' Meat, Bread and Cheese tree (Gri:385). The leafy buds are often called "pepper and salt" by country people as they are eaten in the springtime and have that taste (Lev:75). In some places in England, the haws, which when ripe is a brilliant red and in miniature a stony apple, are called Pixie Pears, Cuckoo's Beads and Chucky Cheese. The flowers are mostly fertilized by carrion insects, the suggestion of decomposition in their perfume attracting those insects that lay their eggs and hatch out their larvae in decaying animal matter (Gri:385). This is caused by the presence of coumarin (an anti-coagulant), the odor of which seems to repel bees. Many people are violently allergic to this coumarin. Many country people believe that these flowers still bear the smell of the Great Plague of London.

HEART HERB

Folk medicine and modern research alike are proving Hawthorn to be a prime cardiac tonic and restorer. Rather than doing specific heart repair, it is good for both high and low blood pressure, rapid or arrhythmic heartbeat, inflammation of the heart muscle and arteriosclerosis (Tie:97). Richard Lucas gives a rather lengthy history of the use of Hawthorn as a heart tonic. During the last century, he explained, a Dr. Greene of Ennis, County Clare, Ireland, was achieving amazing results with the use of a secret remedy for treating heart disorders. People came from many parts of the world to be treated by him, which aroused the jealousy of the medical profession. On his death in 1894, his daughter revealed that he had been using a tincture of the ripe berries of English Hawthorn. By 1898 many doctors and herbalists began administering the tincture to their heart patients with remarkably good results. Turn of the century research documents the heart assistance of this herb. The doctors chronicle the use of the herb for chronic as well as acute heart trouble. It was considered to be mild and effective, not working at once, generally speaking, but working over a period of time to renew the heart. Reports were continually given of patients with heart murmurs, heart attacks, etc., who began taking the tincture of Hawthorn and who had their symptoms entirely relieved (Luc:140-1). More modern research indicates that Hawthorn is still held in high repute among certain practitioners. In Germany in 1951, 100 heart patients requiring continuous therapy were given Hawthorn extract, with generally beneficial results. Digitalis could either be reduced or discontinued (Ibid.).

A Dr. T.H. Bartram considered the Hawthorn especially appropriate where the psychological pattern is one of melancholy and irritability. It works best where the pulse is weak and rapid, with concurrent dropsy and dyspnea (Ibid.). Another researcher, in 1951, found that the active substance of the Hawthorn produced dilation of the coronary vessels (Ibid.). It is also said to be effective in stemming arteriosclerosis, commonly known as hardening of the arteries (Hyl:464). It is mild and non-poisonous, with anti-spasmodic properties, considered to be more a sedative and regulator of the heart than a stimulant (Cly:86).

Hawthorn has other uses; it is used in edema or dropsy, as aforementioned. A decoction of the berries is useful in treating sore throats. It can help clear the kidney in such troubles. The fruits can be taken, four to six of them, to prevent miscarriage (Lev:75). A poultice of the pulped leaves or fruits has strong drawing powers and country people for ages have used Hawthorn for

treatment of embedded thorns, splinters and also for whitlows (Ibid.).

HARD WOOD

Formerly the timber, when grown large enough, was used for making small articles. The root-wood was also used for making boxes and combs; the wood has a fine grain and takes a beautiful polish. It makes excellent fuel, making the hottest wood fire known, considered to be even more valuable than the hot burning oak for oven heating. Charcoal made from it has been said to melt pig-iron without the aid of a bellows. The stock is employed for grafting species closely allied to it, such as pear.

The extremely hard wood is used to make everlasting staves and crooks and is also highly valued to make farm implements. The branches, especially the flowering ones, are often pinned to farmhouse doors, stables, barns, byres and hayricks to protect them from lightning strikes--another echo of the former witch-fearing days (Levy:71).

The plant is excellent in shrubbery borders, the line carrying the vision from lower shrubs upward to trees in the background. They are frequently grown as hedges and make excellent lawn specimens (Hyl:464).

Hawthorn has sometimes been used, roasted, as a coffee substitute. The young leaves have been used as a substitute for tobacco. The fruits are sometimes sold in markets in Europe and the Near East. The fruits are well-known in China and are commonly made into jam or preserved with sugar for a sweetmeat.

HISTORICAL USES

Used as a cardiac tonic, for edema, heart attack, to regulate blood pressure, for arteriosclerosis, inflamed heart muscle, for rapid or arrhythmic heartbeat, for a weak pulse, dropsy and heart murmurs.

FORMULA

Dr. Christopher's Hawthorn Berry Syrup is made as follows:

HAWTHORN BERRY SYRUP HEART FOOD RECIPE

We always use stainless steel, Pyrex glass, or uncracked porcelain utensils in preparing a formula. Never aluminum, Teflon, copper, iron, or cracked porcelain.

If you use the fresh hawthorn berries put them into a pan and fill the pan with distilled water 2 inches from the top of the pan. If you have dried berries, reconstitute the berries until they are

about their normal size and then add water to cover the berries and add an additional inch of water. Simmer this mixture on a low simmer (under 130 degrees Fahrenheit) for about 15 or 20 minutes. Stir while simmering. Remove the mixture from the heat and let it steep for 15 to 20 minutes. Strain the liquid off of the top of the solids. Set aside the liquid in a clean container.

Mash the remainder of the berries and cover them with steam distilled water, adding an additional inch of water to the solution. When distilled water is used, the resulting tea is more potent than with ordinary tap water. Simmer this mixture for 20 minutes, stirring while you are simmering. Remove pan from heat. Let steep for 20 minutes. Strain off the liquid and press the excess liquid from the solids.

Combine the second batch of liquid with the first batch of liquid. Stir them together. Put them into a clean pan on low heat.

Simmer slowly with the lid off, stirring while simmering. If you do not have the patience to simmer and stir, then put the mixture into a double boiler so that it will not burn. Simmer the liquid to 1/4 its original amount. (if you have one gallon as the original amount, you will want to reduce it to one quart). Be sure to stir the mixture regularly so that it will not burn. You will now be left with a thick hawthorn berry solution, a 7x or 7 power concentrate. Let us suppose, for convenience, that you have one quart of solution. Add to this 1/4 quart (or one fourth the amount of the solution) of grape brandy and 1/4 quart of pure vegetable glycerine. The vegetable glycerine is United States Pharmaceutical grade of glycerine derived from plant sources. Stir the mixture thoroughly. Bottle it in dark colored bottles and cork it tightly. To preserve the heart tonic for future use, turn the bottle upside down in melted paraffin wax in order to wax the lid on and form an air-tight seal.

This is one of the only good tasting herbal preparations we have, so don't let relatives and occasional guests gulp it down indiscriminately after you have spent so many hours in the preparation of it.

A lady suffering from cardiac dropsy used the syrup and she was able to see her ankles for the first time in four years. My father-in-law was born with leakage of the heart and had to be carried on a pillow as a baby. He began taking the hawthorn berry syrup at the age of 62 years. At 65 he was given a clean bill of health. He lived to the age of 81 and never suffered a heart attack.

Hawthorn berry syrup is high in calcium and is an excellent food for the veins and arteries.

An excellent liqueur is made from Hawthorn berries with brandy, and it is said to possess the medicinal qualities of the berry.

CULTIVATION, COLLECTION, PREPARATION

Hawthorns grow readily in almost any soil. They are propagated by division of young roots or by

cuttings made in September and set in a cold frame. They can be started from seed; however, germination may not take place until the second or third year!

The ripe fruit can be gathered and dried for future use. It decomposes fairly rapidly. It can be made into a tea however its most popular use is in tincture, extract, or syrup form.

RELATED PLANTS

C. Aronia is a bushy species giving larger fleshy fruit than C. Oxyacantha. It is indigenous to southern Europe and Western Asia and is common about Jerusalem and the Mount of Olives, where its fruit is used for preserves. C. odoratissima is very agreeable also as a fruit. C. Azarole has highly esteemed fruit; it grows in southern Europe (Gri:386).

CHEMICAL COMPOSITION

The leaves, flowers and fruits contain flavonoids (hyperoside and vitexin-rhamnoside), leucoanthocyanidins and their tri-terpenic derivatives: crataeguluslactone (which contains crataegolic, ursolic and oleanolic acids).

Hawthorn is an exceptionally mild herb and it would take quite a large dose to even approach toxicity.

RECENT FINDINGS

Recent research has proven that Hawthorn has positive effects on the heart. An isolate of the flowers was found in Germany to help the hearts of guinea pigs ("Cardiotonic Amines from Crataegus Oxyacantha", Planta Medica, 1982, Vol. 45, pp. 98-101). The herb also showed some sedative activity in mice ("Evaluation of the activity on the mouse CNS of several plant extracts and a combination of them" Riv. Neurol., Sept-Oct 1981, 51(5), pp. 297-310, Italy). An article in 1979 claimed that since orthodox has not effectively found a cure for heart trouble, we should turn to traditional medicines for the answers. Although they are not always specific in their action, such medicines as Hawthorn provided positive results in the relief of hypertension {"Plants and hypotensive, antiatheromatous and coronarodilatating action", American Journal of Chinese Medicine, Autumn 1979, Vol. 7 (3),p. 197-236}.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING HAWTHORN

The CSK Combination, which can be used as a nutritional supplement that can assist the whole body during weight loss, and can assist in digestion, provide nutrition, help calm the appetite, sustain energy and help with stress, contains Hawthorn berries.

Adrenetone, the combination to heal and tone the adrenal glands, contains Hawthorn berries.

The Hawthorn Berry Syrup contains Hawthorn berries.

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HIBISCUS FLOWERS

HIBISCUS ABELMOSCHUS; PARITIUM

GENERAL

This name actually refers to a genus which includes more than two-hundred plants, many of which are medicinal. The most commonly used of these is the Musk-mallow, H. *Abelmoschus*. It is used as a nervine and antispasmodic, especially useful for stomach cramps and to enhance good digestion and "sweeten the breath". Some make an emulsion with milk to apply externally for itchy skin. In Egypt, the seeds are considered an aphrodisiac. H. *sagittifolius* is said to be good to stop excess mucus discharge.

HISTORICAL USES

Used as a nervine and anti-spasmodic, for stomach cramps, indigestion, itchy skin and to sweeten the breath.



HUMULUS LUPULUS; URTICACEAE

DESCRIPTION

The root is stout and perennial. The leaves are heart shaped and lobed, on foot-stalks, and as a rule placed opposite one another on the stem, though sometimes the upper leaves are arranged singly on the stem, springing from alternate sides. They are of a dark green color and finely toothed.

The flowers spring from the axils of the leaves, with male and female flowers on separate plants. The male flowers are in loose bunches, the female flowers are in leafy cone-like catkins, the strobiles which are the valued part. When fully developed, the strobiles are about 1 1/4 inch long, oblong in shape, and rounded, consisting of a number of overlapping, yellowish-green bracts attached to a separate axis. If these leafy organs are removed, the axis will be seen to be hairy and to have a little zigzag course. Each of the bracts enfolds a small fruit at the base, both fruit and bract being sprinkled with yellow translucent glands, the lupulin (Gri:411).

GENERAL

Before Dr. Christopher knew much about nervine herbs, he knew about Hops. He had a patient in Olympia, Washington, who had the worst case of insomnia he had ever seen. She walked the floor at night and could not relax in the daytime, either. Dr. Christopher made up an old English formula: he filled a pillow with hop flowers and told her to sleep on it. She tried it, and slept like a baby! This herb is part of the nervine formula which rebuilds the nerve sheath. While working in Washington, Dr. Christopher often got his Hops from the brewery there when his wholesaler could not supply them. Instead of paying a dollar a pound from the distributor, he got a big sack of them for about 75¢. At the Olympia brewery, you could see a big neon sign that read, "It's the Water". On a big hill on the other side of the brewery there was a large park that looked good for a family picnic. When Dr. Christopher drove to the hill, however, he found that it was the largest cemetery in Olympia. There were artesian wells down the hill, which they used to supply water for the brewery. Then he said to himself, "Now I see how they got that sign, 'It's the Water'. Their water has more body in it". Dr. Christopher considered Hops both a stimulating and a relaxing nerve tonic, in that it increases heart action and capillary circulation, yet will produce soothing slumber in nervous and excited mental conditions. Hops is relaxing to the liver and gall

ducts, and reduces inflammation and relieves accompanying pain.

WILLOW WOLF

The origin of the genus name is assumed to come from the word humus, the rich dark soil which the plant prefers. The species name, lupus, comes from the Latin and means a wolf, because the herb strangles plants, as a wolf strangles sheep, particularly willows by which it grows. Hops comes from the Anglo Saxon hoppen, to climb.

The first mention of Hops occurs in a letter of donation by King Pepin, King of the Franks, d. 768, which speaks of humulariae, meaning probably hop-gardens. The word lupulus does not occur earlier than the eleventh century. About the beginning of the twelfth century, Hops were introduced into the breweries of Holland. They were substantially unknown in England for brewing purposes, until brought from Artois about the year 1524 (Luc:167).

Avicenna, an ancient Arab physician who lived 980-1037 A.D., prescribed Hops as a sedative and mild hypnotic. Paracelsus, ancient Roman herbalist, prescribed the same. In England, in 1787, when King George III was suffering from what his physicians thought to be lunacy, he slept on a Hops pillow instead of taking opiate drugs. In 1879, the Prince of Wales also used a Hops pillow for illness and insomnia. The Indians of North America used Hops as a nervine quite independent of European influence. The Mohicans prepared an herbal sedative from Hops, heating them and applying them to toothache. The Meskwakis used Hops to cure insomnia. The Dakota tribe administered Hops tea for digestive troubles. The Apaches made bread from the seeds and female flowers; the Apache name for the plant means "to make bread with it". The Menominees used Hops for most every ailment, considering it a cure-all (Herbalist:April, 1978:12).

Although some ancient herbalists considered Hops a medicinal remedy, they knew them only as a food. Pliny the Elder, 23-79 A.D., wrote about using the young shoots as a pot-herb. Gerarde said that the buds or first sprouts could be eaten raw in salad, though he considered them not very nourishing, quoting Pliny as his source. Dodonaeus considered them quite nourishing, however, and early English and American recipe books include directions for the use of Hops eaten raw or cooked and eaten like Asparagus. During the reign of Henry VIII, they were introduced for use in brewing, their bitter flavor seasoning the beer and the herb itself helping preserve the brew. However, because the Hops quickly aged and developed a nasty taste from the valerianic acid which developed in them, unscrupulous brewers would bleach them with sulphuric oxide. This use of the bleached hop caused an edict to be issued by King Henry VIII that no Hops nor sulphur must be put into the ale (Mills:624), saying that the Hops was "a wicked weed that would spoil the taste of a drink and endanger the people" (Gri:411-12). In the fifth year of Edward VI, however, privileges were granted to Hops growers, though in the reign of James I the plant was still not cultivated sufficiently to supply the consumption, as we find a statute of 1608 against the importation of spoiled Hops (Ibid.).

Gerarde considered that the Hops seasoned the ale, making it into a drink to keep the body in

health, rather than an ordinary drink to quench the thirst. However, in 1670, John Evelyn wrote that Hops "transmuted our wholesome ale into beer, which doubtless much alters its constitution. This one ingredient, by some suspected not unworthily, preserves the drink indeed, but repays the pleasure in tormenting diseases and a shorter life" (*Ibid.*). The beverage drunk prior to the use of Hops was called Ale, from the Scandinavian öl, the Vikings' drink, and was brewed with either malt alone, or with malt and honey flavored with Heath tops, Ground Ivy, and various other herbs. However, the flavor and preservative qualities of Hops were not known to the early Anglo-Saxons. The German and Dutch words, bier or beer, were used to refer to the beverage brewed with Hops. Hops is indigenous throughout Europe, Central Asia, and North America. Hops escaped from cultivation appear wild in most countries of the world. Hops are extensively cultivated in England, the United States and Germany, and are also grown in France, South Russia, Australia, and New Zealand. In England, Hops are cultivated in about half a dozen counties; Kent producing the most Hops.

Hops was considered official in the 17th U.S. Dispensatory, to be used in a pillow for insomnia.

In Russia Hops are called Hmel, the Russian word for a person who is slightly drunk. This plant grows wild in Russia and is also cultivated for brewery use (Hut:154).

THE SLEEP HERB

Hops is most famous as a sedative. The classic home remedy for sleeplessness is a hot cup of Hops tea before going to bed, perhaps sweetened with honey. The Hops pillow mentioned above is made by stuffing a small, muslin pillow (do not use synthetics for this or any other item that touches the body) with Hops strobiles (the flower heads). You can moisten the Hops with water mixed with a little glycerine to reduce the rustling--which might cause insomnia in itself, some suggest! Or you can moisten the Hops with a little alcohol in order to release the medicinal values. Interestingly, as we will relate in the section on Recent Research below, researchers have not been able to find any evidence of physiological activity on the nervous system in Hops. Yet, as Michael Moore pointed out, "Anyone who drinks much of the tea will tend to fall asleep or get groggy". He mentioned that Hops is "a sure cure for insomnia brought on by trashing out on oyster stew or candied watermelon peels (and similar gastric manias) shortly before retiring. When the usual nightmares concerning Attila the Hun or the Teapot Dome Scandal ensue and the indulger is unable to reconcile several realities (including being awake with a stomachache at three in the morning) the Hops can be brewed up" (Moore:84).

Hops is also good for pain relief. The American Indians would heat a moistened mass of Hops, put them in a bag, and hold it to the side of the face for toothache; the same application can help in earache and headache. The herb can be taken internally for additional relief. The herb is reputed to relieve the pains of rheumatism and sciatica, particularly when the pain interferes with sleep. As Hops reduces inflammation, it is excellent to apply as a pack or fomentation on bruises, boils, and gatherings. It is said to relieve the inflammation in a very short time (Gri:414). Apply moist heat over the poultice or fomentation for best results.

Hops is said to help relieve colds and flu. It will help the sufferer rest, often alleviating that nervous irritation which accompanies the cold, especially with children. If a person becomes nervous and irritated, a cup or two of hot, sweetened Hops tea will calm them down. It is used in cases of delirium or in overwrought conditions of the brain (Ibid.). Hops tea is said to be one of the best remedies for delirium tremens, tending to restore its tone to the irritated and exhausted stomach, and to directly allay the characteristic nervous excitement of the attack.

Indeed, it is said to help the stomach generally, to assist in relieving dyspepsia and nervous stomach. It has helped colonic spasms, nervous dysentery, and intestinal cramps in general, "particularly in people who eat quickly or have coffee and doughnuts for breakfast and a bologna sandwich for lunch" (Moore:84). It tones and heals related digestive organs, such as the liver and gallbladder, increases the flow of the urine, and calms a nervous bladder; thus, it may be of use in bedwetting, despite the added liquid it adds to the system.

Hops is excellent to allay spasms; it may be taken to calm the coughs of bronchitis or similar ills. It has been used, combined with cramp bark and black cohosh, to allay the spasms of St. Vitus' Dance (chorea). Hops has been said to possess estrogen, which could cause femininity; modern research has disproved this, as will be discussed below. However, it is used for the reproductive system. Hops is proven to be an aphrodisiac, that is, it reduces sexual drive in both men and women. It has been said to help control nocturnal emissions. In Germany and in other places in Europe, a cold bath in the brewery sludge was said to treat a variety of gynecological disorders. According to legend, King Wenceslas IV in 1406 permitted the incorporation of the hop cone into the coat of arms of the brewers in recognition of the rejuvenating effects of cold brewery-sludge baths (Feneslau and Talalay:598).

Hops contains at least two antibiotic substances, humulone and lupulin, neither particularly water soluble, but both effective on staph and other skin bacteria. This is the reason that Hops began to be used in the making of beer, since these substances retard spoilage and preserve the brew. They are alcohol soluble, making another reason to preserve the Hops by tincture instead of drying; the other reason being the rapid deterioration of the Hops when dried and the formation of valerianic acid.

BREWERY HERB

Clearly the most prominent non-medicinal use of Hops is in brewing. The bitterness of the beer relies to a great extent on the amount of Hops used; in Europe a more bitter taste is preferred to the United States. A well-Hopped beer is actually an excellent tonic and calmant; however, most commercial beers do not contain the high amount of B-vitamins from the yeast and the large amounts of Hops. European beers imported to this country often do. In former days, every farmhouse had an area in which to brew its own beer and beer-making was common knowledge. In addition to Hops, dandelion, nettle, meadow-sweet yarrow, agrimony, and other bitter herbs were added to the brews. To make a good homemade Hops beer, put two ounces of Hops into

two quarts of water for fifteen minutes. Strain and dissolve one pound of sugar, or less of honey into the liquor. To this add four quarts of cold water and two tablespoonfuls of fresh liquid yeast; only a pinch of dry yeast is needed to make this mixture work. Allow to stand for 12 hours in a warm place; it is then ready for drinking. This mixture contains little alcohol and could be compared to homemade root beer or ginger ale rather than to strong liquor.

The new shoots can be used raw in salads or steamed and chopped for a good vegetable dish. They can be added to a breakfast omelette.

The stem that grows long and twiny every year is of great length, flexible and very tough, angled and prickly, with a tenacious fiber which has enabled it to be employed to some extent in Sweden in the manufacture of a coarse kind of cloth, white and durable, though the fibers are so difficult to separate that the stems need to be steeped in water a whole winter (Gri:411). Paper is sometimes made from this stem. The tendrils provide a good vegetable wax. A reddish-brown vegetable dye can be extracted. The ashes are of great value in the manufacture of various Bohemian glasswares. Cardboard and paper can be made from the pulp of the plant. The stalks are also useful in making baskets and wicker-work. The spent Hops are sometimes used for cattle feed, although, as we will see below, they are not as good as the whole Hops, leaves, etc.(Herbalist: April, 1978:12).

HISTORICAL USES

Used as a nervine, for insomnia, rebuilds the nerve sheath, a stimulating and relaxing tonic, to increase heart action, to relax the liver and gall ducts, to reduce inflammation and pain, for digestion problems, toothache, as a cure-all, for stomachache, gastritis, earache, headache, bruises, boils and "gatherings", for rheumatism, sciatica, colds, flu, bedwetting, and all nervous conditions, for intestinal cramps, dyspepsia, colonic spasms, dysentery, spasms, delirium, overwrought condition of the brain, as an anaphrodisiac and against staph and skin bacteria.

CULTIVATION, COLLECTION, PREPARATION

Hops require deep, rich soil, on dry bottom land, with a south or southwest exposure and free circulation of air. The ground is generally well-tilled and manured to considerable depth by plowing or spading before planting. The plants are usually set in hills of from three to five, a few inches apart. They are obtained from cuttings or suckers taken from the healthiest old shoots, which are usually planted out closely in nursery lines a year before being planted permanently.

Very little growth takes place the first year; some growers interplant root vegetables during this first year, although this is said to deplete the soil for the good growth of the Hops. During the third year, the plants bear heavily. Tall poles, fourteen or eighteen feet long, are placed together above each hill for the vines to climb upon. During growth, the plants are manured with animal manure, compost, guano, and so on; a good mulch is often also applied. When the plants are ready to be harvested, the tall poles are removed (Gri:412). The hop quality is influenced by

growing conditions, being best in moderate climates with ample moisture. In the United States, Hops are grown in Oregon and Wisconsin. Plantings are productive for about seven years.

Hops are best picked when fully mature. In many parts of the world, Hops are picked by hand, but in the United States, machines with rotary drums separate the cones from the vine. Fresh Hops contain up to eight percent moisture, and so must be dried; careless heating, however, results in the volatilization of the essential oil. Usually fresh cones are dried in kilns where a large volume of moderately warm air is blown through the loose Hops for about twelve hours. The dried strobiles must be stored carefully or they will deteriorate and lose value. Most of the medicinal factors reside in the lupulin, the slightly transparent, golden, kidney-shaped grains or powder which forms in the strobiles of the Hops and can be shaken out. Hops and lupulin should be stored in dark and tightly covered containers. If it should turn dark-reddish with a valerian like odor, the Hops should be discarded. If you have access to fresh Hops, the ideal preservation would be in alcohol tincture, as the medicinal factors are more alcohol soluble than water soluble.

As mentioned above, Hops can also be prepared in infusion and decoction.

CHEMICAL COMPOSITION

Lupulic Acid was determined by Payen and afterwards purified by Lermer, who called it "Bitter Acid of Hops", later isolated in prisms. Lupuline was isolated by Griessmayer. Choline is present in Hops as are bioflavonoids. Trimethylamine, a nitrogen base of methyl, was discovered in Hops by Griessmayer.

Humulo-tannic acid, oil of humulus, valerianic acid, and other constituents make up the content. It is interesting that a so-called narcotic alkaloid, "Hopeine", was claimed to be extracted from Hops. This product claimed a high price, as it was said to be only obtained at great expense from wild American Hops, consisting of morphine and some aromatic oils; these claims were disproved, however (Mills:626).

Hops are known to be non toxic; however, large doses can cause colic and constipation. The following symptoms, compiled from various doses of the drug, show it to be an irritant to the vaso-motor system and the inhibitory nerves: vertigo and confusion of the head; cerebral and arterial congestion; dilation of the pupils; thirst, nausea, loss of appetite and vomiting; diarrhea with great urging; burning pain along the urethra with increased urine; deep and almost stertorous breathing, rapid decrease of the pulse, high temperature and profuse perspiration (Mills:626).

RECENT FINDINGS

The central nervous system depressant activity of one of the principles of Hops, 2-Methyl-3-buten-2ol was studied by motility tests in order to clarify its sedative action. The

muscles were not relaxed in rats given doses of the isolate principle, but motility was decreased (Nachweis sedativ-hypnotischer Wirkstoffe im Hopfen. *Planta Medica* 1983, Vol.48, pp.120-123).

Similar research was conducted in Germany to determine whether the herb is soporific (sleep-inducing). When injected into mice, the fraction induced no hypnosis ("Sedative-hypnotic compounds in the exhalation of Hops", *Naturforsch*, Nov.-Dec., 1980, pp.1096-7). However, another German study of the herbal compound Seda-Kneipp, a compound preparation of valerian and Hops, was given to sleep-disturbed human beings during the second or third of three consecutive nights disturbed by traffic noise. When the herb was administered prior to going to bed, the preparation reduced the sleep disturbance of the patients ("Experimental studies of the effects of Seda-Kneipp on the sleep of sleep-disturbed subjects; implications for the treatment of different sleep disturbances", *Med-Klin*, 24 June 1977, pp.1119-25).

Hops and marijuana plants are classified as members of the same botanical family on the basis of similar morphological characteristics. The close botanical relationship is usually cited in the lay literature either to promote various uses of Hops in the counterculture or to discourage the drinking of beer. A combined gas chromatography-mass spectrometer test was applied to detect the presence of the intoxicating element found in marijuana in the Hops plant. This compound could not be found in Hops ("The Absence of Tetrahydrocannabinol from Hops", *Cosmet. Toxicol.* Vol 14, pp. 35-39, 1979).

As mentioned above, during the last twenty years several claims have been made for the presence of significant quantities of estrogen in Hops, this hormonal activity appearing in beer. These steroidal and nonsteroidal estrogens often appear in Hops. Women who lived distances from the Hops fields were reported in lay circles to begin regularly to menstruate two days after coming to pick the Hops. As acne appeared on occasion after the consumption of extensive quantities of beer and as acne is reputed to be common among brewers, this estrogen content again came into question. However, the experiments conducted in this report failed to detect any estrogenic activity in Hops, Hops extracts, and Hops derivatives ("Is Estrogenic Activity Present in Hops?" *Cosmet. Toxicol.* Vol.11, pp.597-603,1973).

Allergy to Hops has been reported as causing dermatitis, conjunctivitis and somnolence. This subject has not been extensively reported, but this study confirmed the case of a 28 year old chemist who works for a brewery. He had to crush and rub the strobiles in his hands and smell the aroma, which is pungent. He had symptoms of sneezing, itching, hives, nasal congestion, wheezing, shortness of breath, abdominal bloating, watering eyes and irregular heartbeat. These symptoms come only at work in the laboratory or in the Hops fields and storage facilities. No symptoms came from drinking beer. This article deduces that such allergies can come from Hops ("Hops Allergy and Terpene Sensitivity," *Annals of Allergy*, Volume 41, November 1978).

Another study concluded that spent Hops, which have been used to supplement animal feed, are not a good addition. They are not readily taken by the animals and could only be included in a

ration in an amount equal to about one-seventh of the dry weight of the total ration. The whole Hops plant was judged to be better fodder ("Protein Quality Evaluation of Spent Hops," Journal of Agricultural Food Chemicals, Vol. 27, No. 3, 1979, pp.635-6).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING HOPS

Relax-eze Tea, which is a nerve tonic and builder, contains Hops.

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MARRUBIUM VULGARE; LABIATAE

GENERAL

Have you tasted old-fashioned Horehound drops? This is actually a very ancient herb; the Romans used it, and tradition states that it is one of the bitter herbs which the Jews were commanded to take at the Feast of the Passover. The Egyptians called this herb "Seed of Horus" or "Bull's Blood" or "Eye of the Star". It made a principal ingredient in Caesar's antidote for vegetable poisons. Although it is tonic and laxative, it is most commonly used in respiratory complaints in folk medicine. It promotes the elimination of mucus and helps in coughs, especially stubborn ones. To make Horehound candies, boil a handful of the fresh plant in 1-1/2 cups of water, strain it, and use 4 tablespoons of infusion to 2 pounds of brown sugar, with 1 teaspoon of honey. Put the mixture onto a marble slab and cut into squares when it cools. For serious illnesses, Horehound has been used to treat chronic hepatitis, cancer, serious tuberculosis, malaria, etc. It can be found growing wild, recognizable because of its woolly, singularly shaped leaves and square stem.

HISTORICAL USES

Used as a tonic for respiratory complaints, as a laxative, for chronic hepatitis, cancer, tuberculosis and malaria.

 **HORSETAIL GRASS**

EQUISETUM HYEMALE; EQUISETACEAE

DESCRIPTION

This family of flowerless plants is very characteristically distinct, consisting of one genus only, immediately recognized once you have seen it. They consist of fertile and sterile stems, often branched and always jointed, hollow, and rough. The root, in its solid portion, is composed from center to circumference of several layers. The jointed stems and branches are hollow and bridged by a thin membranous diaphragm at each joint. The fruiting head is somewhat cone shaped, composed of a central axis as a prolongation of the last joint of the stem, upon which are situated, like growing toad-stools, a central axis, and looking inward so that only the somewhat hexagonal flattened cap is seen externally. As they ripen, these sporanges, as they ripen, separate from one another, and finally burst longitudinally, allowing the escape of the spores. These spores are very strange bodies, unlike any other form of vegetable matter. They are ovoid in shape, and composed of two coats, the outer splitting spirally, thus forming four thread-like bodies, thicker at their free ends, called elaters, which are very useful in scattering the seed. While the spores are crowded in the sporangia, or when they are damp, these elaters are tightly coiled around the spore, but, as soon as the theca bursts, or the spores become dry, the elaters uncoil with force, causing the propulsion of the spore to quite a distance. This may be seen by placing a few spores under the microscope and breathing upon them; the exhaled moisture causes the elaters to coil up immediately. By quickly placing the eye at the tube, a curious sight is witnessed as drying commences. If the drying is slow, the spores roll and twist about like spiders in pain; while, if the drying is quick, they will skip from the field of view like grasshoppers. The germination of the spore is quite similar to the process of multiplication in the rod bacteria (Mills:724-725).

GENERAL

One of Dr. Christopher's favorite herbs was the Horsetail. He featured it in his calcium formula; it doesn't contain calcium but is high in silica. He learned about the biological transmutation of silica and other elements from the French scientist, Louis Kervan, who discovered that healthy organisms can change one element to another, combining constituents as necessary. Silica is thus transmuted into calcium, and so on. This obviates the necessity of taking specific vitamins for every particular body need. If a person takes foods and herbs with a good variety of trace vitamins and minerals, the body can transform them into the specific elements it needs.

Dr. Christopher taught that during pregnancy, the body requires more calcium, as the mother needs enough for herself and for the forming baby, and later for nursing. If there is not enough calcium for her, the fetus draws it from the mother's body and causes deficiencies; the acute symptom is aching, particularly in the legs, but other symptoms include bone and muscle problems and even tooth loss. In addition, while the infant is being formed in the womb, if there is not enough calcium, the teeth jaw of the child will not form fully. It will be narrow instead of broad. When it is time for the child to cut teeth, they cannot come in straight because of crowded jaw space.

In addition to the demands of pregnancy, calcium is leached out of the body because of a toxic body condition caused by sugar. Sugar, which has its natural calcium removed from it during processing draws the calcium out of the body to remake its chemical form. Dr. Christopher taught that nearly all tooth decay occurs because of conditions inside the body, a toxic bloodstream and enamel-destroying toxic saliva, instead of attack from "tooth germs".

In order to obtain enough calcium, Dr. Christopher recommended the use of his herbal calcium formula, which features Horsetail Grass. This formula is also made up for children. We have seen infants, teething hard trying to cut their molars, who have developed high fevers, diarrhea, even convulsions. With the faithful administration of the children's calcium formula every hour, the fever goes down, the diarrhea stops, and the pain abates. This formula doesn't stop teething discomfort entirely, of course, but it provides adequate high-vibration calcium for the teeth to form and the body to stand the stress of the teething.

FOSSIL PLANT

Horsetail is a very primitive plant being found as fossils in rocks dating back to the Paleozoic Era. They first developed during the Devonian period and reached their climax during the Mississippian time period, with some species growing over thirty feet tall. These tree-like specimens, prime about 350 million years ago, have modern-day relatives in a species of *Equisetum* that grows in the tropics today.

The genus name derives from the Latin words equus, a horse, and seta, a bristle, referring, of course, to the peculiar appearance of the plant. This appearance has also earned it the common names Bottle-brush and Paddock-pipes. Other common names refer to the utilitarian uses of the Horsetail: Pewterwort, Scouring Rush, Canutillo del Llano.

American Indian tribes used Horsetail as a scrubber: the Chippewas used it domestically and burned and powdered, as a disinfectant (Dens:366). The Nevada Indians made whistles from it and drank a decoction to cleanse the urinary tract (Rose:Herbs:69).

Old English herbalist Gerard said that it was used for scouring pewter and wooden kitchen utensils, and that fletchers and comb makers rubbed and polished their work with it (Wood:36).

He added that Dioscorides said that Horsetail, being stamped and put upon a wound, will perfectly cure it, even if the sinews be completely cut in two. In olden times, it was used to scour dairy pails and implements, and peasant people and gypsies put it to use as a pan scourer (Lev:Common:83). The young shoots were eaten by the Romans of the seventeenth century and the American Indians of the nineteenth and twentieth century (Rose:Herbs:69).

In the eighteenth century, Culpepper wrote, "It is very powerful to stop any bleeding, either inward or outward, the juice of the decoction being drunk, or the juice, decoction or distilled water being applied outwardly...It also heals inward ulcers...It solders together the tops of green wounds and cures all ruptures in children...The juice or distilled water used as a warm fomentation is of service in inflammations and breakings-out in the skin" (Gri:421).

Horsetails grow throughout the United States, in tropical Australia, in the Indian Islands, New Caledonia, etc. In Australia they are sometimes called oaks, as they are giant members of the Equisetum species, their wood burning readily and the ashes keeping their heat for a long time, thus being highly valued for steam engines, ovens, etc. The timber of the tree is very hard and is used in building, appreciated for its extreme hardness (Gri:420). This is a far cry from the slender, thin pipes (sometimes called bull-pipes) found in the temperate regions in wet or marshy lands.

The herb is used in China and in Russia, though not much in India.

CHIEFLY FOR KIDNEYS

Aside from its use as a source of calcium, Horsetail Grass is used chiefly for the urinary tract. It is said to be regarded by the European herbalists as an important remedy for gravel, inflammation of the urinary passages, cystitis, weakness of the kidneys and bladder (Luc:Secrets:90). Its excessive use will irritate the kidneys and intestines, however, so it should be taken in frequent small doses and not for prolonged periods of time. Two or three weeks of treatment with Horsetail should be followed by a week without its use, and then the treatment repeated if necessary (Tie:98). This herb has a specific action in irritation of the bladder and in dysuria with tenesmic urging, in nocturnal incontinence of urine of children, and incontinence in adults resulting from cystic irritation (Folk:713).

The herb is sometimes used for digestive upsets as well. The infusion or the decoction of the green stalks can be used for dyspepsia connected with obstinate acidity of the stomach (Ibid.). It is said to stop diarrhea. It is used to cleanse the liver.

The herb was anciently used as a vulnerary, an herb to treat wounds. It will aid in coagulation and decrease bleeding, whether it be in excess menstruation, intestinal bleeding or external bleeding (Moore:87). It is said to heal broken bones unusually quickly, probably because of the high silica content.

The herb is a general tonic. It will break up a fever or a cold, strengthen the heart and lungs, and

relieve swelling of the eyelids. The Chinese use it for most of these difficulties; in addition they recommend it for irritable uterus during pregnancy and as a specific antidote in case of having swallowed copper cash (Shi:163).

Some herbalists are suspicious about Horsetail, preferring to use other herbs rather than risk the poisonous effects sometimes involved with Horsetail Grass. It is known to poison livestock who feed upon it, notwithstanding some sources recommending it as a good feed. It is unusual that animals, although they become poisoned from overeating the herb, do not avoid it as animals instinctively do other poisonous herbs. Symptoms are muscle weakness, ataxia, weight loss (from inability to get up and eat), abnormal pulse rate, cold extremities, and fever, and finally death (Spoerke:92). This same source recommends that people with hypertensive disease and/or other cardiovascular problems should not consider taking this herb. For a long time it was believed that the harmful effect of Horsetails was due to the mechanical action of the silica compounds present in the epidermal cells of the plants; young folk on survival trips were advised not to eat the plant because of the silica content. This belief was practically discarded when aconitic acid, the principle that stops hemorrhaging, was found in Horsetail and suspected to be the cause of the poisoning. Later an alkaloidal nerve poison called equisetin was shown to be present, at least in *E. palustre*, in quantities sufficient to be dangerous to animals. Frohner suggested that possibly some of the cases of Equisetum poisoning are due to fungi growing upon the plants. Interestingly enough, the young green spring shoots, which are the part most often recommended for use by the herbalists, do not cause these poisonings so much as the mature winter growth.

PEWTERWORT

As most campers know, Horsetail Grass is an excellent potscrubber. If you pick a handful, it will admirably clean up your cast iron pots, as well as any commercial pot scrubber. The American Indians used it for this purpose. It will clean and shine aluminum, copper, and wood. It is said to be equivalent to the finest grades of steel wool in polishing wood finishes, being a standard item with European cabinetmakers (Moore:87). The Indians and Mexicans used the stems for scouring pots; it can also be used for polishing hardwood, ivory, and brass (Hut:207).

Children often use the stems for playthings, taking them apart and putting them back together again. They also use them for whistles, although some report poisonings connected with this use (Spoerke:92). As our children have often used the plant this way without the least sign of poisoning, we wonder about this concern when the plant is used for whistles.

The Horsetail is antifungal when used on plants. The cut and dried herb can be boiled in water, about one and one-half ounces to a gallon of water, for fifteen or twenty minutes. Cool, strain, and spray for fungus and mildew on roses, vegetables, grapes, and fruit trees. Horsetail and stinging nettle teas combined are effected as a spray for peach leaf curl (Hyl:286). This tea has a gentle but swift action that does not disturb the soil life, as copper and arsenic sprays will (Phil:81).

HISTORICAL USES

Used as a source of calcium for fetal development, for children's fevers, diarrhea and convulsions, for wounds, to stop bleeding, ulcers, ruptures in children, skin eruptions, inflammation of the urinary tract, gravel, kidney and bladder weakness, cystitis, incontinence, digestive upsets, dyspepsia, diarrhea, as a liver cleanser, for excess menstruation, broken bones, general tonic, fever, colds, to strengthen the heart and lungs, to relieve swelling of eyes, and as an antifungal for plants.

RELATED PLANTS

E. maximum and *E. fluviatile* were formerly said to be eaten, dressed like asparagus, or fried with flour and butter. Linnaeus stated that reindeer, who refuse ordinary hay, would eat this kind of Horsetail, and that it is cut for fodder in Sweden for cows--but that horses will not touch it (Gri:420). *E. debile* and *E. elongatum* require the support of bushes and grow to a large size; they grow in warmer climates. *E. sylvaticum* grows in copses and hedgebanks and is used for both fodder and medicine.

CHEMICAL COMPOSITION

It has a particularly high silica content.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING HORSETAIL GRASS

Calc Tea, the calcium combination, contains Horsetail.

Kid-E-Calc, the children's calcium combination, contains Horsetail.

Herbal Tooth Powder also contains Horsetail.

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 **HYDRANGEA**

HYDRANGEA ARBORESCENS; SAXIFRAGACEAE

DESCRIPTION

This shrub grows abundantly in the southern and middle western states, in mountains and hills, and on rocks and near streams. The bark is rough, each layer being of a different color when peeling off, which has given origin to the name seven barks. It is quite common in the Susquehanna and Schuylkill valleys, and its flowers are often in bouquets in the markets of Philadelphia. The root is the medicinal part. It is formed of numerous radicles, sometimes not larger than a goose-quill, and again a half an inch or more in diameter, of considerable length. These proceed from a caudex, which sends upward numerous divergent branches. When fresh, the root and stalks are very succulent, containing much water, and can easily be cut, and the root likewise contains a great deal of mucilage. When dry they are very tough and resistant, and exceedingly difficult to bruise or cut, hence they should be bruised while fresh, or better yet, cut into short transverse sections, which facilitates the drying. The bark of the dried root has a rather pungent, aromatic, not disagreeable taste, which is somewhat similar to that of cascarilla bark. The stalks contain a pith which is easily removed, and they are used in some parts of the country for pipe stems (Felk:1000).

GENERAL

Dr. Christopher thought Hydrangea such a beautiful flower, and yet it is also the solvent of solvents, he taught, getting rid of stones throughout the body as no other herb can. He gave the hydrangea-apple juice formula, which we will give below and, as far as we can tell is unique to Dr. Christopher. However, other herbalists have used Hydrangea as a solvent with equally good results, although not with the apple juice. Richard Lucas reported the case of a woman, the mother of twelve children, who was seriously ill, so much that she was passing blood. A neighbor happened to drop by and told the family that an herb called "seven barks" would heal the mother. The father had no idea where this herb could be found but the neighbor informed him that his own farm was full of it! They made up a decoction of the herb by boiling one ounce of the root in one pint of boiling water. This was dropped into the mouth of the semi-conscious woman, who was gently nudged so that she could manage to swallow it. In a few days, much to the astonishment of the doctor and the family, the woman was well. She wrote of her experience to the local newspaper, and before long she received hundreds of letters inquiring about the herb. For fifteen

years the family mailed hundreds of packages of the root, until they finally sold the farm (Luc:Nature's:170).

SEVEN BARKS

Hydrangea is an old Cherokee Indian remedy for calculi; settlers learned of its use from the Indians. Four of the known species are native to America, but a variety of it is commonly cultivated in the gardens of China and Japan, used medicinally as well as for decoration. The name seven barks was given by the Cherokee Indians as the bark is rough and peels off in layers, each layer being of a different color.

Hydrangea was first introduced to the medical profession by a Dr. S. W. Butler in 1850. His father, a physician and missionary, had lived among the Cherokees and used the root of this plant to treat calculi complaints. Dr. Butler claimed that this plant removes, by its own specific action on the bladder, any deposits that are small enough to pass through the urethra. He stated that as many as 120 calculi have been eliminated from one person at one time using this herb (Felk:1001). Dr. Butler used the herb as a decoction or made into a syrup by mixing honey or sugar with the decoction.

However, as we will see below, Hydrangea is one of those herbs of great dispute; because of reputed poisonous properties, some recommend that it should not be used at all!

The name Hydrangea is derived from a Greek compound signifying water-vessel, as the roots contain an abundance of water. The plant grows in marshy or very wet conditions, often even in water itself. It is also called blue bush, Chinese herb, and common Hydrangea.

GRAVEL REMOVER

There is much disagreement about Hydrangea's stone-dissolving properties. Most authorities agree that it does remove the stones, but not everyone considers the herb a solvent. Dr. Butler affirmed that the herb relieves the pain of the passing of the calculi. Dr. Shook explained that the sharp pain that is associated with gravel deposits comes from the sharp points of the crystal piercing the kidney or ureter. When the sharp points are even partially dissolved, he said, the pain, hemorrhage and inflammation all subside, and the stone or stones frequently pass with just a stretching of the tubes. How, he asked, is it possible to account for the fact that when these stones pass through easily after the administration of Hydrangea, they are found to be smooth and round, while x-rays revealed their sharp point piercing the tissues? He said that their clinical evidence proved that Hydrangea is truly a stone solvent (ShoA:85). He said it was destined to become a universal remedy for phosphaturia, cystitis, alkaline urine, stony deposits, deposits of calcium oxalate (which forms many calculi), chronic gleet, mucus irritation of the bladder in old people, backaches caused by kidney trouble, rheumatism of long standing, arthritis and gouty affections, arteriosclerosis and many other common conditions--quite a claim for a disputed herb! As Dr. Shook said, "Dear student, you will never find a more remarkable herb " (ShoA:83).

The Eclectics used this herb, although they also entered the fray of dispute, claiming that the power of dissolving the stones is not claimed for it, that only when the deposits are small can the stones be passed and the disease averted. They said it was chiefly an eliminatory herb rather than a solvent. They also considered it to be a good remedy in acute nephritis, to remove the earthy deposits, such as phosphates of calcium, ammonium, and magnesium, to correct alkaline urine, chronic gleet, and irritation of the bladder. It also provides some relief, the Eclectics taught, in broncho-pulmonic affections and some forms of gastric irritation (Felk:1001).

Dr. Shook recommended a somewhat unusual preparation of the herb:

Hydrangea root	3 ounces
Sodium Acid Phosphate	3 heaped teaspoonsful
Distilled water	3 pints

Dissolve the phosphate in the water, stir in the Hydrangea root, and let stand for six hours with occasional stirring. Boil for 15 minutes. Strain, cool, and add 25 percent glycerine. Bottle and keep in a cool place. The dosage is one teaspoonful to one tablespoonful three or four times a day. This is not suitable for younger children under seven; older children should receive half dosage in honey or syrup. Dr. Shook warned not to overdose this formula. Aside from its gravel-removing properties, he considered that it would be good as a diaphoretic and purgative and a general restorer of the kidney and bladder, especially in very old people and any who suffer from chronic urinary-tract disease (ShoA:84).

Dr. Christopher's recipe is somewhat more simple and natural. He said to take two ounces of powdered Hydrangea root and soak it in a quart of apple juice (sometimes called apple cider) for 3 days. Strain it and bring it to a simmer and heat for one minute. Cool and keep in a cool place. Take a wineglassful of this (two ounces; Dr. Christopher often joked that this was not the Las Vegas wineglass, only the herbalist two-ounce measure) every half hour or every hour until the quart is finished. By the time you finish the quart, he said, you will see the stones coming out.

Dr. Shook said that this herb has radioactivity, natural energy to heal the body, just as does Ginseng. This radioactivity reveals the electrochemical changes that take place both in the production of disease and the death of the cell; also in the cure of disease and the life of the cell itself (ShoA:82). If you wish to see the florescence of this herb, boil some of the root in water to which has been added a small amount of either sodium bicarbonate or sodium or potassium carbonate. You will distinctly see, especially in the sunlight, the greenish florescence emitted from the solution. Through a piece of dark blue glass, it is even more brilliant (*Ibid.* p. 85). This radiant energy indicates a rearrangement of the particles or ions taking place in the chemical reaction, and when brought into contact with calcareous and carbonic solids, tends to liquify them. This can be demonstrated in vitro as well as in vivo (*Ibid.*).

INTOXICANT AND SWEETENER

Hydrangea is sometimes used as a non-nutritive sweetener. Leaves of the common garden Hydrangea, *H. paniculata*, have been smoked to induce intoxication because of its supposed narcotic activity (Pharm:487).

One author considers its use, in any form, unsafe and unwise (*Ibid.*). Another said that the toxic effects include dizziness, an oppressed feeling of the chest, nausea and vomiting. Livestock poisonings have not been consistent with cyanide poisoning; therefore it is thought to be some other compound which causes the poisoning. However, under normal conditions, with moderate and wise use, Hydrangeas are minimally or nontoxic (Spoerke:94). It seems that this herb is surrounded by controversy on all sides! However, we are assured that Dr. Christopher's recommended use of the herb will produce only good results.

HISTORICAL USES

It is used as a stone solvent, for calculi, cystitis, for alkaline urine, stony deposits, calcium oxalate deposits, for chronic gleet, bladder irritation due to mucus, backache caused by kidney trouble, rheumatism, arthritis, gout, arteriosclerosis, acute nephritis, for broncho-pulmonic affection, as a diaphoretic, purgative, kidney and bladder restorative and for urinary tract disease.

CULTIVATION, COLLECTION, PREPARATION

Hydrangea grows as a native only in the central and southern areas of this country, as it can stand only a few degrees of frost. It thrives best in rich, moist soil, but will grow under varying conditions. Shoots should be cut back severely and weak growth thinned for good flower heads. They are propagated by cuttings of half-mature shoots, rooted under glass, also by hardwood cuttings. Good plants can be grown from cuttings in one year. They can also be layered and divided (Hyl:473-4). The flowers come in many colors, but the appearance of pink and blue depends upon the amount of lime or aluminum in the soil; lime must be added for pink flowers and aluminum for blue ones (Rose:Herbs:69).

The plant's roots are the medicinal part. They can be dug in the fall, planting a strong piece of rootstalk back again to continue propagation of the herb. Cleanse the root pieces thoroughly and cut into small portions while still fresh, as they do not cut easily when dry. Dry thoroughly; you should feel no coolness when touching the root pieces. Store in a cool, dry, light-free place. The herb can be powdered in a mortar and pestle or in a herb crusher (used commercially) when needed, or made into a decoction from the root pieces.

RELATED PLANTS

H. hortensia is widely cultivated as a garden ornamental. *H. quercifolia*, a native of Florida, is oak-leaved and also cultivated for its beauty.

CHEMICAL COMPOSITION

A glucoside, hydrangin, fluorescing with opal-blue color in an alkaline solution, was isolated in the late nineteenth century. Acids destroy the florescence.

These chemicals are nontoxic, provided they are used as directed.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING HYDRANGEA

AR-1, the arthritis combination, contains Hydrangea as a featured ingredient.

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HYSSOPUS OFFICINALIS; LABIATAE

GENERAL

"Purge me with Hyssop, and I shall be clean", said the Psalmist, although most Biblical scholars disclaim that this is the true Hyssop. The plant referred to is said to be of the Marjoram family. However, Hyssop is a classic herb; the name came from the Greek azob, a holy herb, because it was used to clean holy places. It is used as a superb expectorant, healing even difficult lung problems and chronic catarrh. It is a diaphoretic herb and thus will help reduce fever. It is gargled for a sore throat and given in colds and flu. It also helps promote circulation and improve digestion, thus toning the system after these common afflictions. Externally, it is used for bruises and cuts--wounds generally--to clear infection and help promote healing. It has sometimes been

added to soup to improve the tone of a weak stomach. Some have used it externally for rheumatism, being an old country cure for that complaint, both internally and externally. Hyssop baths have sometimes been used for this cure, although you would have to have a large growth of the plant in your herb garden. It is commonly used in perfumery and in the brewing of liquors.

HISTORICAL USES

As an expectorant, for lung problems, for chronic catarrh, as a diaphoretic, for fever, sore throat, colds, flu, to promote circulation, to improve digestion, for bruises, cuts, wounds, to clear infections, promote healing and for rheumatism.

 ***ICELAND MOSS***

CETRARIA ISLANDICA; LICHENES

DESCRIPTION

This lichen is indigenous to the northern hemisphere; in its southern limits it is found in mountainous regions, and farther north in the plains. In North America it can be found in New England southward to the mountains of North Carolina, northward throughout Canada, and westward to the Rocky Mountains as far south as Colorado; in Europe it grows as far south as Spain and Italy, and in Asia throughout Siberia and in the Himalaya Mountains. It is plentiful in Iceland, from which island its name is derived.

It is from two to four inches high, foliaceous, irregularly branched, with smooth somewhat channelled, nearly linear, obtuse, toothed, and ciliate lobes; the upper surface is greenish-gray or olive brown, lower surface whitish, with depressed spots, the apothecia or so-called fruits, when present, situated near the margin, round or oval, chestnut brown, and flattish with an elevated margin. When dry it is brittle and inodorous, but immersed in water it becomes soft, leathery, and cartilaginous and has a slight odor; its taste is mucilaginous and bitter. Boiled with twenty parts of water, it yields a liquid which on cooling forms a bitter jelly; and on diluting this with an equal weight of water and adding alcohol, a flocculent precipitate is obtained which while moist can be colored blue by iodine. When it is packed and dried, it becomes light gray.

Impurities, such as pine leaves, mosses and other lichens are usually found in the commercial article, and the drug frequently must be cleaned. Adulterations are not likely to be intentional, but the lichen, as it is collected from different localities, is apt to vary somewhat in size, color, shape and width of the article.

GENERAL

Dr. Christopher considered Iceland Moss an important addition to his Kelp combination, which provides iodine necessary to the thyroid.

LICHEN

In spite of its name, Iceland Moss is not a moss at all; it is a lichen. It is the only lichen that is used medicinally in Dr. Christopher's combinations of herbs. Coon discussed the characteristics of lichens; we will present some of his observations here. Lichens grow in wide variety everywhere in the world. This plant is composed of a fungus growth whose parts are intertwined in one or another species of algae. In this combination, which we called symbiosis, plants coexisting and helping one another, each component is able to secure food or moisture from the other, the fungus deriving food from the algae and the algae receiving moisture via the fungus. The Egyptians used lichens as medicines, and in the fifteenth century when the Doctrine of Signatures was highly regarded, the many odd shapes and colors of lichens provided many imaginative suggestions for cures. The hairlike filaments of Usnea were said to be good for stimulating the hair; yellow lichens would cure jaundice; lung-shaped lichens helped in lung conditions; lichens found growing on skulls were valued in epilepsy. These reputed uses soon proved groundless, and about the only lichen used herbally today is Iceland Moss (Coon:84).

One authority states that there are 16,000 known kinds of lichens, and an examination of them is not too appealing to a botanist or gardener; however, it may be worth nothing that these curious flowerless plants are extremely interesting, in that any one form of a lichen combines within the odd shape and color, and is actually the composite organism we mentioned. In this organism complicated chemical reactions take place, so much so that this chemical and the acids thus formed result in the extremely slow disintegration of rocks on which the lichens often grow, thus changing through the millennia, rocks into soil (Coon:269). Lichens are generally valuable for dyeing, although they add a colorful beauty to lichen-covered walls and woodsy scenes. Some forty or fifty kinds give dyes of lovely soft color, such as seen in the Harris tweeds, with the bright moss-like lichens on stones giving better color than others. Some people claim that the manna given in the desert as related in the Bible was really some sort of lichen, which is still eaten by some desert tribes, and which, when blown loose from its mountain habitat, will roll into the valleys just as the Bible story indicates (Ibid.).

In England Iceland Moss is found in barren stony ground. It grows in Scandinavia and it is said that in seasons of scarcity, the poorer people of Iceland have often little else to eat. It is palatable and nourishing and one writer states that it contains more starch than potatoes and more flesh-building food than oatmeal. The Lapps and northern Indians of Canada have also used it as food. Iceland Moss is possibly an antibacterial herb (Rose:Herbs:70).

NUTRITIVE

Iceland Moss is nutritious, demulcent, and tonic. It increases the appetite, promotes digestion, and improves assimilation. It does not excite the circulation nor constipate, but in excessive doses may occasion nausea and diarrhea. Its bitterness is said to be perceptible in the milk of nursing mothers.

This medicine is a remedy for chronic pulmonary affections attended with profuse expectoration and cough, and with more or less of the other symptoms belonging to consumption. It acts in these by its nutritious qualities in part, but more usefully by reducing the bronchial secretion and thereby lessening both the waste of tissue and the fatigue of coughing. The amount of good the medicine can do depends on whether the bronchitis, which it chiefly influences, is simple. If it is complicated by lung compression originating in pleurisy, or consolidation of the lung produced by pneumonia or by tuberculosis, the influence of the remedy will be much less or even null. Chronic diarrhea and dysentery are sometimes greatly benefitted by it.

An infusion made from the plant is taken for colds and gastroenteritis, and as a bitter drink in cases of anorexia. It is traditionally used for whooping cough, asthma, pulmonary tuberculosis, renal and bladder complaints and exhaustion. It is used to nourish weak children, invalids, and aged people, used as a tonic in dyspepsia, convalescence, and exhausting diseases. Boiled with milk it is excellent in phthisis and general debility (Felk:487).

LIFE-SUSTAINER

Levy considers this plant remarkably lifegiving and nutritious, sustaining life where little else grows. She said it is a favorite with reindeer (Lev:Common:86).

It is first boiled to remove the bitter taste, then dried and crushed to a powder, after which it is made into cakes or bread, or boiled with milk. With the addition of honey, maple syrup or molasses, and cinnamon, nutmeg or cloves, it makes a nutritious and palatable milk jelly. It can also be mixed with chocolate or cocoa.

Nature lovers will be interested to watch for and study this lichen family. Photography of beautiful specimens could be rewarding, and the uses of some forms for such things as Christmas table decorations could provide "conversation pieces" (Coon:270).

HISTORICAL USES

Used for thyroid, to increase the appetite, to promote digestion, improve assimilation, for chronic pulmonary ailments, for consumption symptoms, to reduce bronchial secretion, for cough, anorexia, colds, for gastro-enteritis, whooping cough, asthma, pulmonary tuberculosis, renal and bladder complaints, for weak children, invalids, or the elderly, for dyspepsia, and exhausting diseases.

CULTIVATION, COLLECTION, PREPARATION

In Europe, Iceland Moss is prepared in the following way: To debitter the herb, the Iceland Moss is macerated for three hours in water, 15 parts Iceland Moss to 90 parts water. In the water is added 1 part of potassium carbonate in solution. Afterwards the Moss is well washed in cold water.

To make Iceland Moss Jelly, three parts of washed Iceland Moss are boiled for half an hour with 100 parts of water, and expressed; the decoction is strained, and after adding three parts of white sugar, evaporated to ten parts.

Another jelly concentrate is made by boiling ten parts of Iceland Moss in water, expressing, and washing with cold water; the residue is boiled again with more water for one hour; the decoction is strained and decanted and mixed with ten parts of sugar, evaporated, dried, and powdered.

Although this herb is absolutely nontoxic, recent studies show that many people are infected with the Candida yeast strain to the point that their allergic systems are breaking down. These people are put on a diet which eliminates yeast, yeast products, sugars, and fungi and their products. When the person's symptoms are somewhat relieved, some of these products can be added back into the diet. However, we doubt that fungi are well-accepted by such people. If you suspect that you might be suffering from a Candida infection, you should confirm this with your physician, and avoid taking this herb or any other fungus, such as mushrooms, until your symptoms are in control.

RELATED PLANTS

This plant is not related to any of the mosses. It is a lichen, a fungus.

CHEMICAL COMPOSITION

Iceland Moss contains about eighty percent of farinaceous matter, which is resolvable into lichenine, or lichen-starch, and the starch-like body is called inuline. The former is insoluble in alcohol, ether, and cold water, in which it swells up, but it is soluble in boiling water. Iodine turns it blue, whereas inuline remains unaffected.

The bitter principle is found in the cortical portion and is called cetraric acid. When pure, it possesses the form of acicular white crystals which are intensely bitter and almost insoluble in water, though when boiled in water the crystals give it a bitter taste. It is somewhat soluble in alcohol and ether, and readily soluble in alkaline solutions, forming soluble compounds. There are also found in the herb a little gum, extractive, uncrystallizable sugar, and other ingredients.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING ICELAND MOSS

The Kelp Combination contains Iceland Moss, along with other herbs which supply organic iodine

to the system. Especially for people who live far from the sea and have no regular dietary source of Iodine, this combination can be extremely valuable.

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 ***IRISH MOSS***

CHONDRUS CRISPUS; ALGAE

DESCRIPTION

Irish Moss has a root disk, throwing up tufts of many flat, nerveless, slender, cartilaginous fronds, from two to twelve inches in height, subcylindrical at the base but immediately becoming flat, generally dilating from the base upward until they become three or four lines wide, then dividing repeatedly and dichotomously, each division spreading and becoming narrower than the preceding one, and taking place at shorter and shorter intervals. The summits are bifid, the segments linear, wedge-shaped, varying greatly in length, rounded or acute, straight or curved, often twisted in such a manner as to give the curled appearance denoted in the specific name. The fructification is roundish or roundish-oval, and subhemispherical. The capsules are imbedded in the disk of the frond, prominent on one side, producing a concavity on the other, containing a mass of minute, roundish, red seeds. The substance is cartilaginous, in some varieties approaching to horny, flexible and tough. The color is a deep purple-brown, often tinged with a purplish-red, paler at the summit, becoming greenish, and at length white in decay (Felk:524-5).

When the Moss is exposed to sunlight, it bleaches creamy white and is then frequently called pearl moss or sea moss.

GENERAL

Here is another moss which is not a moss at all; it is a seaweed. This is another important ingredient in Dr. Christopher's Kelp Combination, which provides a balanced, organic iodine.

MOSS OF THE ROCK

The sea is an inexhaustible storehouse of many things for man. Many people would be hard pressed to make a living apart from the sea; fish supply protein and the algae supply vegetables. It is not too many years since the hucksters could be heard through the streets of Edinburgh peddling the algae. Of the two most popular kinds, Irish Moss is still highly valued today. It is rich in a starchlike substance from which a jelly can be made, but it is much more; it is a healing medicine. This plant is very common in Europe, especially along the wet shores of Ireland, where quantities of it are gathered each year. It also grows on the Atlantic shores of America, large quantities annually collected on the Massachusetts coast. It is found attached by its disk to the rocks along the sea, where it is collected in the springtime, washed, and spread on the sand some distance from the shoreline, and allowed to dry in the sun until it becomes well-bleached and of a translucent, horny texture, when it is ready for market. It was introduced into medicine in 1831 by a certain Todhunter of Dublin (Felk:525).

The name chondrus means cartilage or gristle, from the Greek. Crispus comes from the Latin, meaning curled or crumpled. Its Irish name, carrageen, means "Moss of the rock"; it is more properly spelled carrageen in Irish. Its extract, carageenan, is commonly used in food preparation today.

The use of seaweeds for food goes back to the primitive societies of Africa and the Aztecs of Mexico, but today scientists are exploring how the algae can be transformed into palatable, familiar food for hungry nations. The American Indians ate the sea lettuce, Ulva lactua, which is a green seaweed, not only for a condiment or seasoning but as an important source of salt in the diet (Coon:276).

The knowledge of algae is spread throughout the world, going back to earliest medical practices of the Chinese (perhaps 5,000 years ago) when seaweeds were used for the treatment of goiter (iodine treatment), with some species being used for bronchitis, abscesses, intestinal troubles, etc. The Egyptians, Greeks, Romans and other peoples used various seaweeds; one species of Fucus was used to make cosmetics for ladies (Ibid.).

The Japanese today include several species of seaweed in their everyday diet. Some of the most gourmet preparations contain seaweed; we have eaten several of them, and even our children like them very much. Dulse and kelp are recommended by health food teachers as condiment and source of iodine.

Not only commercial concerns gather Irish Moss today; many people along the Massachusetts and other beaches gather and prepare puddings and treatments with the plant. We will provide a recipe below for you to use if you should ever gather it.

NUTRITIOUS DEMULCENT

Dr. Shook has written more extensively about Irish Moss than any of the herbalists. He said that out of the ocean cometh all life, as the ocean contains every element that manifests life on earth, and because the ocean is the ionizer, and everything soluble in the ocean is ionized, the herbs growing therein being most necessary to the process of healthy metabolism (ShoA:150). He explained that Irish Moss is heavily laden with sulfates, all of them in soluble form. Its calcium sulfate cleans out any accumulation of heteroplasm or abnormal growths in the interstices of normal tissue. It causes the diseased parts to discharge their contents easily so that they do not lie dormant and slowly decay. This is the main cause of cancer which feeds on decaying organic matter (*Ibid*:152). Potassium sulfate, present in Irish Moss, is an oxygen carrier with a powerful affinity for the skin, and tends to keep the skin supplied with material for its healthy functioning. Sodium sulfate is a dropsical remedy because it tends to eliminate water produced by the oxidation of organic matter which lodges in the intercellular fluids. Its phosphates of calcium, potassium, sodium and magnesium feed the bones, brain, liver and flesh respectively. Its potassium chloride dissolves fibrin, and so relieves all colds, while its sodium chloride regulates the necessary amount of water in the system, which we know is the great ionizer and producer of vital chemical changes in the fluids of the body. Finally its magnesium phosphate supplies material for the nourishment of muscle (*Ibid*).

Dr. Shook concluded that Irish Moss might be considered good for whatever ails you, from foot and mouth disease to bunions! It is strongly alkaline, presenting the body with sweet organic alkaline salts of four out of seven metals which nature uses to build and vitalize the human body. It provides a trace of iodine, which is just enough to work wonders on the glandular system, often changing the whole chemistry from disease to health. It also contains fluorine, which unites with the metal calcium to form calcium fluoride. This is found in the surface of bone, the enamel of teeth, the walls of blood vessels, and in all connective tissues and elastic fibers. The tensile strength, resiliency, and elasticity of the muscular system, the vascular system, the lymphatic system and the bone and connective tissues all depend on this relatively minute quantity of calcium fluoride, just a fractional part of the herb, but very necessary. Without it the body goes right out of balance and many, many ailments occur (*Ibid*).

Dr. Shook admitted that chemical analyses cannot detect the presence of calcium fluoride quantities but he assumed that it must be present in exceedingly minute quantities, not only because it was everywhere present in the sea but because Irish Moss heals in precisely the same way as calcium fluoride.

In former days, Irish Moss was much used in the treatment of chronic bronchial and intestinal fluxes and irritations of the urinary passages. The degree of efficacy in these affections was thought to be due to its demulcent qualities, and possibly also because of its iodine content. It is used in any chronic irritation of the breathing passages, chronic diarrhea, dysentery, scrofula, rickets, enlarged mesenteric glands, irritation of the bladder, kidneys, etc. (Felk:525).

JELLY SEAWEED

Aside from its medicinal uses, which are minimal nowadays, Irish Moss is very much used in cooking and food preparations. If you should gather the Moss, you can prepare it thus: Wash it thoroughly until the sand is out, then spread it out to dry. To one quart of milk add a piece of the moss, about the size of a golf ball, along with three tablespoons of sugar and a pinch of salt. Cook together for a half hour in a double boiler, strain, and allow to cool, adding vanilla for flavor when half solid. Other flavorings can be added as desired (Coon:278). The extracted material can also be used as a kitchen remedy for burns and bruises, or as a hand lotion.

Irish Moss is used for making soups, puddings, etc. It is often made into a jelly by steeping the plant in boiling water until the jellylike substance is soaked out. It is then strained, sugar and flavoring added and cooled into a jelly. If milk is used instead of water, it forms a custard. When chocolate is added, it resembles chocolate pudding. When only a small amount of the dried plant is used, it makes a pleasant and healthful drink. Old-time cookbooks nearly always gave recipes for the making of Irish Moss jellies and custards.

The herb is used as a suspension agent in toothpastes and is used commercially in hand lotions and various creams. It is widely used in the food industry, in the form of carrageenan, as a thickener and smoothing agent. It is used to some extent in the arts as sizing for paper and cotton fabrics in calico printing, for filling mattresses and in America for making beer. Cattle are sometimes fed on it (Felk:525).

HISTORICAL USES

Used for bronchitis, abscesses, intestinal troubles, healthy skin, it is food for the brain, bones, liver and flesh, it is good for colds, glandular system, muscular system, vascular system and lymphatic system, used for urinary tract irritation, intestinal fluxes, burns and bruises.

CULTIVATION, COLLECTION, PREPARATION

Irish Moss is obtained from the red algae, Chondrus crispus. Commercial supplies are derived from the north and northwest coast of Ireland, from Brittany, and from the Massachusetts coast south of Boston.

The algae grow on rocks just below low-water mark, being covered by about a half inch of water at high tide. In Ireland collection takes place during the autumn, in America during the summer. The collectors put out in small boats at about half tide and after detaching a load of algae from the rocks by means of long rakes, return with them at half-flood. Carrageen is bleached by spreading it on the shore and submitting it for some weeks to the action of sun and dew, with about four or five soakings in sea water at suitable intervals. Chemicals such as sulphur dioxide are also said to be used. After drying in sheds the Moss is packed in bales each weighing about 50, 100, 200 or 300 kilograms. After drying, the herb is washed for use and soaked in water. It is then often commercially combined with sugar and other ingredients, such as arrowroot or gum-arabic, and

made into a jelly.

RELATED PLANTS

Fucus amylaceus, also called Ceylon Moss or Jaffna Moss. It is also a seaweed, sometimes eaten, which also constitutes the material of the birds' nests used in birds' nest soup by the Chinese.

Agar-agar. This term applies to several seaweeds of the East Indies, and some of these are largely employed by the Chinese for sizing silks and preparing jellies. It is used by vegetarians to make jello-like desserts. It has stronger jelling power than the Irish Moss.

Corsican Moss or Helminthocorton. This is a mixture of seaweeds found in the Mediterranean. It is a vermifuge.

Dulse or Halymenia palmatus. This is an edible and delicate tasting seaweed, much prized by health-food enthusiasts.

Gelosine, a Japanese seaweed product, used as a preparation for topical use.

CHEMICAL COMPOSITION

Irish Moss contains oxalate of calcium, compounds of sulphur, iodine, chlorine, bromine, potassium, magnesium, and sodium and a large portion (as high as eighty percent) of pectin matter. Though starch is not present, it develops if the Moss is treated with caustic potash in alcohol. It contains carrageenin, which is the thickening principle.

None of these chemicals are poisonous if taken in the form of the Irish Moss. It should be noted, however, that some individuals with bowel obstructions might take the herb with caution. Some researchers think that there might exist a possible interaction of Irish Moss and any anticoagulant. Individuals on anticoagulant therapy might take special care of using Irish Moss (Spoerke:96).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING IRISH MOSS

The Kelp Combination, which supplies organic iodine, contains Irish Moss.

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JUNIPER

JUNIPERUS COMMUNIS; CONIFERAE

DESCRIPTION

Juniper is indigenous to the northern hemisphere and is found in North America from the southern United States to Canada and Greenland, throughout Asia from the Himalayas northward, in Northern Africa, and throughout Europe. It is commonly a shrub four to six feet high, sometimes arborescent, or in the variety *alpina* prostrate and spreading, the latter being met with in Arctic and mountainous localities. The numerous leaves are persistent, spreading in whorls of three, linear and sharp-pointed; the staminate flowers are arranged in short ovate catkins; the pistillage form a short cone consisting of about five imbricate whorls, each of three scales. Three naked ovules are situated at the base of the upper whorl and, after fructification, these scales enlarge, coalesce, become fleshy, and ultimately enclose the seeds, forming the officinal berry-like galbulus, which ripens during the second year.

GENERAL

Dr. Christopher told the story of a young woman who had arrived in Utah from South America. She had been travelling for three days and had not been able to void her urine; she was coming to Provo to attend Brigham Young University. When Dr. Christopher responded to the house call, he found her rolling around, screaming with pain. Imagine, Dr. Christopher said, trying to hold your urine back for half an hour; this girl had not been able to urinate for three days! The family helping her had tried everything they could think of but nothing would work. Dr. Christopher had told them to have boiling water ready when he got there, and he made some tea with powdered Juniper berry. When it was cool enough he knelt beside the girl, who was on the floor screaming, and poured two swallowsful into her mouth. She straightened right up and smiled, went into the bathroom and voided her urine. That's how fast Juniper berry will work! Dr. Christopher always carried some Juniper berry powder with him in his bag, and he recommended that other herbalists do the same.

He liked to repeat the story published about the pioneers; a woman was about to die of an apparent kidney ailment during a pioneer journey. The wagon caravan stopped because of her and made camp for the night, intending to bury the rapidly declining woman in the morning. A

stranger suddenly approached the camp, and he told the husband to go and gather Juniper berries and leaves growing in the vicinity and to "mix them together, steep them, give them to your wife, and you can be on your way within the hour." The stranger said that he had to go and somehow disappeared from view. The prescription was obeyed and the woman revived miraculously; she helped prepare breakfast and continued on the journey completely healed (SNH:253-4).

GIN BERRY

Although the Juniper berry is ancient, known by the Greeks and Romans and Arabians, and prescribed as so many herbs have been, by the fifteenth and sixteenth century herbalists as a cure for the plague and an antidote for the biting of vipers (Tob:116), in the intervening time it has been most commonly used in the manufacture of gin. The Juniper berry has been used as a flavoring for that form of alcohol for many years, the name gin coming to us from the French word for Juniper, genievre. The berries most commonly used for this purpose have come from Hungary, where their oil is expressed fresh and exported. The herb also grows in North Africa, North Asia, and North America; it is extremely common to find the shrub used in landscape gardens in western America. In the past, Juniper was regarded as a magic shrub to use against devils, evil spirits, and wild animals. It is mentioned in the Bible as a symbol of protection, although scholars concur that the Biblical Junipers are not Juniperus communis but are instead related plants in the same family. Juniper used to be a popular strewing herb, and its shoots were used to disinfect the air in a room (Hyl:480).

The American Indians have always made wide use of the herb. They drank a tea of the berries for fever, and steamed the green boughs to ease the pain of arthritis. They used a tea of the root to control venereal disease and a tea of the berry as a method of birth control. It is said that the Shoshone Indians may have introduced this use of Juniper berries to white folk; one of its early common names was "bastard killer" (Rose:Common:72). The tea was supposed to be drunk three consecutive days for this purpose.

The romantic properties of the plant have been used against bad magic, plague and various negative influences in so many cultures, from the Letts to the Chinese to the Pueblo Indians, that there should be some validity to considering the scent as beneficial in general to the human predicament (Moore:94). Since so many traditions overlap, even though the notion of "clearing bad vibes" seems strange, at least to us in our mechanized culture, it bears consideration. The leaves are traditionally carried about in pouches and clothes, often the only protection or medicine carried by a Tewa Indian (Ibid.).

Since Juniper grows so commonly and so easily, anyone can provide himself with the "good vibes" and medicinal powers of the herb.

STIMULATING DIURETIC

Juniper is a prime herb for eliminating passive congestion of the kidneys resulting from heart

problems and other causes. It removes waste products from the system via the kidneys; thus it is sometimes considered an agent for "internal fumigation" to ward off contagion (Hut:220).

Not only does the herb work through the urinary tract, it also strengthens and builds the tract, the urinary passages and the bladder as well as the kidneys. The herb is said to act like copaiba in arresting mucus discharges, especially from the urethra.

The berries also assist in other problems related to the genital tracts, such as gonorrhoea, gleet, leucorrhoea, cystitis, affections of the skin, etc. Leucorrhoea is said to respond to treatment of a Juniper berry tea douche. If there is a chronic catarrh of any of these organs, Juniper externally and internally can help clear it up.

Juniper is also said to be a disease preventative. Dr. Kneipp of the famous Kneipp water cure advised that "those who are nursing patients with serious illness such as scarlet fever, smallpox, typhus, cholera, etc., and are exposed to contagion by raising, carrying or serving the patient, or by speaking with him, should always chew a few Juniper berries, six to ten a day. They give a pleasant taste in the mouth and are of good service to the digestion; they burn up the harmful miasms, exhalations, when these seek to enter through the mouth or nostrils" (Hut:220). Kloss agreed, recommending that the berries be chewed or a strong tea be taken to gargle with when a person is exposed to contagious diseases. He also recommended that Juniper berries are excellent as a spray or fumigant for a room where there has been a patient with a contagious disease, as it destroys all fungi (Klo:252).

The tea has been given to dropsical patients, often combined with parsley seeds, as a sure and safe way to effect water release through the urine and through the skin. In England, patients are often prescribed Hollands Gin, which is flavored with Juniper berries and which retains some of the medicinal properties to help dropsy and similar ailments. It is said to be particularly useful in dropsy when it is caused by heart, liver or kidney disease. As to Michael Moore's claims that Juniper might just clear "bad vibes" or evil influences, the fact that it is a fumigant and disinfectant could back up the claims. He mentions that our "mechanistic approach to 'primitivism' is too selective, accepting the possibility of drug effect on the one hand and nervously rejecting something as 'subjective' as the warding off of bad influences on the other. In most non-Western peoples the two go hand in hand...A Western professional in mental and emotional sciences is not supposed to rely on such nonsense and has to work through the patient's intellect, the same intellect that is probably the main cause of his problems" (Moore:94). As herbs work to help balance a delicate system, it is quite possible that this clearing up of bad influences is quite a reasonable idea.

Juniper has also been recommended to strengthen the pancreas and the adrenal glands, thus being of importance in the treatment of diabetes. Stan Malstrom reminds us that diabetes and hypoglycemia patients always have undergone or are undergoing considerable stress, so that if we wish to treat them, we must build the adrenals as well as the pancreas, Juniper berry being an ideal herb for the purpose. He mentioned that Hawthorne berries should be used in conjunction with

the Juniper to permanently effect healing (Mal:242).

Juniper is said to be an effective and mild tonic to help with digestion; it is given as a stomachic and carminative in indigestion, flatulence and related diseases (Gri:452). A few berries can be chewed once in awhile for this as peasants are known to do; chewed before meals, the berries will stimulate stomach secretions, hydrochloric acid and pepsin (Moore:94).

If the boughs are burnt to ashes and the ashes put into water, a medicine will be obtained that has cured the dropsy in an advanced stage, recommended Dr. Coffin (Hut:222).

The Juniper berries, dry or moistened, can be thrown on hot rocks in saunas, sweat lodges, and the like, and the dried crushed leaves can be used as an incense (Moore:94). As an anodyne for painful swellings and generally for local pains, bruised Juniper berries are sometimes used, and fumigations made by throwing the berries upon hot coals; this is also said to relieve rheumatic pain.

Used externally, a tincture of the branches is used as a rub for some skin conditions and to combat alopecia. The Juniper oil has been successfully employed in parasitic skin diseases, moist eczema, and psoriasis (Felk:1092).

Parkinson wrote: "To procure safe and easy delivery unto woman with child, Mattheolus adviseth to take seven Juniper and seven Bayberries, half a dram of Cassia lignea, and a dram of Cinnamon, these being grossly bruised put them into the belly of a Turtle Dove to be roasted therewith, let it be basted with the fat of an Hen, whereof they are to eat every other evening..."(Tob:117).

In addition to the above mentioned uses, Dr. Christopher suggested that Juniper might be used as an antidote for poison and a strengthener of the brain, memory, and optic nerve. He suggested that leprosy might respond to the use of the herb, as well as might gonorrhea. It could be used as a natural immunization (SNH:250). He suggested, along with others, that it could relieve sciatica or lumbago, if taken in the form of tea, or as an oil on a little sugar.

FLAVORING

Juniper's main non-medicinal use is the flavoring of Gin. For this purpose an aqueous extract of the berries is used called Rob of Juniper, and the distilled oil is a byproduct, the berries being first crushed and macerated with water and then distilled with water and the residue in the still, evaporated to a soft consistency (Gri:452). In Sweden a beer is made with this which is considered a healthy drink.

Some consider Juniper berries a necessity in venison marinades and in cooking wild-tasting meat. Ten berries per pound of meat is considered a good rule of thumb. The berries are also used in making sauerkraut and German potato salad. The leaves make a good garnish for fish and wild

fowl, placed with the food shortly before removing from the heat (Moore:94).

HISTORICAL USES

Used for kidney ailments, to cure inability to void urine, for fever, arthritis pain and rheumatic pain, for gonorrhea, birth control (abortive), to arrest mucus discharges, for gleet, leucorrhea, cystitis, skin affections, chronic catarrh of organs, as a disease preventative (contagious diseases), for dropsy, liver and kidney diseases, to strengthen the pancreas and adrenal glands, as a digestive aid, for flatulence, indigestion, painful swelling, alopecia, skin conditions such as parasites, eczema and psoriasis, to strengthen the brain, memory and optic nerves, for leprosy, sciatica, lumbago, cold symptoms, hayfever, nasal ulcers, ringing in the ears, to improve deafness, to relieve dry, chapped skin, to help irritated nipples of nursing mothers and to procure safe and easy delivery of babies.

CULTIVATION, COLLECTION, PREPARATION

This is a most important group of ornamentals used in landscaping as foundation planting, for accent, for mass, for ground covers (Hyl:480). It is better to start them from cuttings than from seed, as seeds sometimes take two years to germinate. Tips four to six inches long are cut in August, the needles are stripped an inch or so from the butt and placed in a coldframe bed of sand four or five inches deep. Water thoroughly, cover with glass, and keep shaded. They will be rooted by the following summer (*Ibid.*). You can also buy the started plants from a nursery, in cans or with balled roots. Once the plants are established, they require little special care.

Juniper berries take two to three years to ripen, so that blue and green berries occur on the same shrub. Only the blue, ripe berries are medicinal. When collected in baskets or sacks, they are laid out on shelves to dry a little, during which process they lose some of the blue bloom and develop the blackish color commonly seen (Gri:452). The leaves and branches can be collected anytime.

Dry the collected parts carefully until they are perfectly dry with no coolness to the touch. They can be collected any time of the day from June through September.

Juniper berries are commonly ground and used in powder form with other herbal ingredients. A tea is also a good medicine, as well as a decoction. For longer storage, Juniper berries make a good tincture with alcohol.

For a kidney and stomach tonic, Juniper berry wine is easy to make. Place a large handful of the berries in any gallon of any kind of good quality wine. The bottle is capped and allowed to stand for three days. During this period the bottle is shaken thoroughly once a day. At the end of three weeks the berries are strained off and thrown away (Luc:Secrets:120).

Commercial oil of Juniper is made from the ripe fruit; unripe fruit is less effective for making the oil. When the Rob of Juniper is distilled, the resulting oil byproduct is used medicinally. This is

sometimes called Oil of Cade. The Eclectic School skillfully blended this oil with lard and Fowler's solution to make a Juniper Pomade, which is said to be excellent for all forms of eczema or tetter. It was brushed inside the nose with a camel's hair brush to help cold symptoms, arrest hayfever, heal nasal ulcers, inside the ear to arrest ringing in the ears, improve states of deafness, applied to chapped hands and irritated nipples in nursing mothers (Felk:1092).

The oil of the shrub wood, which should never be taken internally, is distilled and concentrated into a tar. It is used as a local antieczematic and a paraticide; the commercial, non-prescription product is called Polytar (Tyler:133).

RELATED PLANTS

The well known red cedar, Juniperus virginiana, has been shown to have tumor-inhibitory action against sarcoma 180 in mice. Posophyllotoxin proved to be the active principle (Luc:102).

It is used for cabinet making, turnery, etc. The interior wood is reddish and highly valued because it is extremely durable. The highly-colored and fragrant heartwood is largely used in the manufacture of the wood coverings of black lead pencils.

J. scopulorum, which is also called red cedar, is used for gin flavoring and as an emergency wilderness food; birds feed on the berries as well (Coon:126).

CHEMICAL COMPOSITION

The whole plant, but particularly the berries, produces an essential oil rich in alphapinene, cardinene, camphene and terpineol. The berries contain a bitter compound, organic acids, and thirty percent invert sugar.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING JUNIPER BERRIES

Prospallate, the herbal combination which heals the prostate and related systems, contains Juniper berries.

Juni-Pars, the urinary tract combination, contains Juniper berries.

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KAVA KAVA

PIPER METHYSTICUM; PIPERACEAE

GENERAL

This is an herb native to the Pacific Islands which is used medicinally, ritually, and as a healthful alternative to alcohol for sedating and relieving the tensions of everyday life. It has been clinically shown to be an effective calmative, quieting enraged animals, although the principle that does this has not been isolated. The herb was formerly used only by men and in ritual circumstances (being chewed by young virgins to prepare it) but nowadays it is common in everyday use. It is best used by grinding the root and making an infusion, which can be somewhat bitter and could be flavored with other mild herbs such as the mints. It is sometimes served fermented in the Islands. Some use the plant for insomnia, nervous tension, and an aphrodisiac, although too high doses might be dangerous, causing skin problems (called Kawaism, a yellow pigmentation which goes away when you stop taking the herb), ulceration, or even paralysis of the respiratory centers. Some claim that the herb produces mild hallucinations. In large doses, it can cause the liver to accumulate toxins, so one should use it carefully. The plant has a pleasant lilac odor, and in the Hawaiian Islands there are said to be as many as twenty varieties growing wild.

HISTORICAL USES

For calming enraged animals, as a sedative, for insomnia and as an aphrodisiac.

KELP

FUCUS VESICULOSIS; FUCACEAE

DESCRIPTION

Fucus vesiculosus is found on submerged rocks on both coasts of North America and in Europe north of the Mediterranean, where it drifts in from time to time through the Strait of Gibraltar.

The perennial front or thallus is coarse, light yellow or brownish-green in color, erect, and from two to three feet in height. It attaches itself to the rocks by branched, root-like, discoid, woody extremities developed from the base of the stalk. The frond is almost fan-shaped, narrow and strap shaped at the base, the rest flat and leaf-like in form, wavy, many times divided into two, with erect divisions having a very strong, broad, compressed midrib running to the apex. The margin is entire, the texture tough and leathery, mainly olive brown in color, the younger portion yellow, shining. Air vesicles developed in the substance of the frond, usually in pairs, one on either side of the midrib and often one at the fork of the divisions, broadly oval or spherical, attaining when fully grown half an inch in diameter, are the characteristic of this species which have suggested both the English and Latin names. The fructification is contained in small globose conceptacles with a firm wall lined with numerous jointed hairs and sunk in the surface of large ovoid-oblong or narrower, pointed or blunt, swollen receptacles, filled with a transparent mucus. These attain an inch in length and are situated at the ends of the divisions of the fronts.

GENERAL

Dr. Christopher mentioned the use of Kelp as a thyroid healer and as a weight loss aid. However, other researchers have had dramatic results with the use of Kelp. Dr. Eric F. W. Powell relates several cases. One lady was suffering from severe headaches. Her nerves, digestive organs, kidney and all other organs appeared to be healthy. She slept well generally, except when her headaches were very severe. At times she was almost frantic with the pain, which was located at the base of the skull and often extended to the neck. The doctor recommended Kelp, which was given in a homeopathic potency for two weeks. The pain vanished. The doctor said that crude Kelp could also have been used, though the cure would have taken longer. A young man came to this same doctor suffering from malnutrition and nightly headaches which he said nearly drove him crazy. The pains were accompanied by intense throbbing at the top of the head. The doctor noted that the man was very debilitated, thin, nervous, and exhausted. He recommended that the young man sprinkle a half a spoonful of powdered Kelp over two of his meals, breakfast and lunch, every day. Additionally, the doctor corrected his diet and had him take deep breathing exercises each morning and to take a quick cold friction bath each day. Slowly the headaches subsided and he was soon sleeping well. He also began to put on weight, became less nervous and was conscious of more vitality. He became more interested in his work and was a far more happy individual.

Dr. Powell also had a woman come to him with a severe case of dyspepsia which would not

respond to the usual treatment. Kelp proved to be an efficacious remedy in this case. Another lady had suffered from digestive trouble for many years, suffering pain from even the smallest meal, vomiting frequently. She had spasm of the pylorus as soon as food entered her stomach. After prolonged treatment and constant failure with various remedies, the doctor tried Kelp. She experienced gradual relief and is now in a fair state of health. A lady fifty years old came to Dr. Powell with pain in the ascending colon. She was also constipated, was subject to sick headaches and always felt very weary. The painful colon kept her awake at night. Before the doctor placed her on his usual remedies, he decided to try Kelp, taken three times daily for two weeks. There was no noticeable effect for about ten days, and then, surprisingly, she began to experience much less pain and was not so constipated. Her headaches were about the same, due no doubt to the accumulated toxic state. Within a month, however, the headaches had cleared and she required no further treatment. Dr. Powell exclaimed what a simple treatment it was, yet so effective!

A man reported to Dr. Powell with much indigestion with bilious turns. Almost every morning for some months he had risen from bed in the morning with a sick headache. For a time he had taken purgatives, salts and aspirins, which, although giving relief, failed to heal the man; indeed, these things had made him worse. The doctor asked the man to fast and then put him on a cleansing diet. He got somewhat better, though not completely. Eventually he began to take Kelp and cell salts at every meal, and after some weeks his troubles left him. In this case, the doctor noted, Kelp not only acted on the liver, but also on the toxic colon, the gall bladder, kidneys, and meninges. The latter are usually involved when the headaches are severe.

Another lady was extremely debilitated. Her doctor had tested her for diabetes, anaemia, and all the debilitating disorders. Her endocrine glands appeared to be in order and she had no worries. Dr. Powell found a sluggish pancreas. Kelp with one other remedy effected a fairly rapid cure. She did not have to go on a difficult, restricted diet to obtain the desired results.

As a final, but very warming story there was a very thin and nervous lady who was very much the odd one out in a family of jolly, stout people. The mother and sister wished to reduce their weight, while the painfully thin one wanted to be as buxom as the others. A little Kelp taken twice daily resulted in the stout ones losing weight and the thin one putting on several pounds of healthy tissue. She also became much more composed and content (Powell:32+).

SEAWEED

Kelp has been around almost since the beginning of time and references to it can be found in several books of ancient Chinese poetry, written sometime between 800 and 600 B.C. In one particular poem, a housewife is referred to as cooking seaweed and in later Chinese history it is mentioned as a delicacy worth being offered to the gods as a sacrificial food. Several kinds of seaweed were used in ancient China and this practice of eating seaweed still continues strong in the Orient today.

The plants of the sea are almost exclusively algae. They form a group that stands low in the scale

of life. Their commoner name--seaweeds--is a poor one unless we remember Emerson's definition, that a weed is a plant whose use is not known. Even with our present scanty knowledge of sea life, some valuable qualities are already credited to the algae, and the science of oceanography is discovering many others (Smithsonian:167).

The conditions of the sea where the algae grow are remarkably uniform; the salinity does not vary much, the temperature remains mostly the same, and they must undergo only slight strain from winds and currents. To meet these stresses we find superb engineering shown in the structure of such land plants as our trees; the buttressed bases, the sturdiness of their vertical trunks, the fine tapering and elasticity of their limbs and twigs. But in the sea plants, we do not need such devices, where the plants have almost the same specific gravity as the water, or in the case of some algae, even less, by reason of air bladders distributed through their tissues. Strength is the least thing needed in marine plant life and the one least often met with, as our idea of the stormy rage of the ocean is literally a superficial one. In the waters beneath the stormy sea one may find calm and quiet, so that many a gale that wrecks a ship may not dislodge the most delicate algae growing on rocks beneath the surface (*Ibid.*).

Kelp is one of the brown algae. They have no roots, but instead cling to stones, wharves or pilings with holdfasts (RodC:711). They do not have stalks or branches, nor really any special parts of the plant for support or for conducting nourishment from one part of the plant to another. The leaf-like structures are not the same as we have in the land plants; they do not manufacture food for the rest of the plant to eat. In seaweeds, almost every part of the plant can make its own food. Seaweeds have nothing that looks like flowers, fruit or seeds (*Ibid.*).

They grow tall, some of the largest Kelp stretching up for a hundred feet or more from the floor of the ocean. Pillars of full-grown Kelp can contain fifty or more densely packed fronds, all rising to a canopy at the surface. Underwater, the Kelp beds look like shadowy forests, attracting countless marine animals. The brown seaweeds, notably Kelp, are incorporated into flour and are used in almost every household in Japan as noodles, toasted and served with rice or in soup. Other kinds of seaweed are used for sweetening and flavoring and relishes, beverages and cakes. In Ireland, Wales, Denmark and Scotland, seaweeds are often eaten. The Irish eat Dulse, which we will discuss below, called "sea lettuce" because it is tender, crisp, with a taste comparable to land lettuce. Kelp is considered to be the first form of life on our planet. The seaweeds of today have developed considerably from primitive times, but even so they retain many of their early characteristics. They are not nearly so complicated as the land plants that came so much later (RodC:712).

MINERAL-LADEN CURE-ALL

Kelp contains the complete spectrum of minerals needed by man, as they are contained in the ocean itself. Aside from the fact that sea water as such is a veritable treasure trove of minerals, land minerals are constantly washing into the sea, enriching it still further (*Ibid.*). Most plants are tested for mineral content by burning the plant and analyzing the ash. Dr. Black said that the ash

of seaweed may be from ten percent to as high as fifty percent; that is to say that if you burn seaweed, you may have half the volume left as minerals (*Ibid.*)! Carrots, in contrast, leave an ash of one percent as minerals. Apples have a mineral ash of .3 percent, almost 3,0 percent, beets 1.1 percent. Even more important than the minerals needed in relatively large amounts, such as calcium, iron, phosphorus, potassium, and so forth, are the trace minerals--iodine, copper, manganese, boron, zinc, etc. These minerals appear in minute quantities in food. Our bodies need only microscopically small amounts of them. Yet if that tiny amount is not there, we can die from the lack. Floods and poor farming practices are causing our soil to be washed away, and with it goes the trace minerals. Applying commercial fertilizer to the soil does not improve the situation, for this does not and cannot contain the trace minerals (*Ibid.*). What happens to the trace minerals that wash away with the farmlands? They wash into the ocean and are taken up into seaweeds.

One of the most important trace elements in Kelp is iodine. This mineral is essential for the proper functioning of the thyroid which manufactures the hormone thyroxin. If an adequate amount of iodine is not provided in the diet, the thyroid gland is forced to work overtime and becomes enlarged in an effort to make up for the deficiency. This enlargement is known as goiter. In ancient times, the burned ashes of the sea sponge were given to drive out the "evil spirit" which caused the swelling of the neck--but the sponge itself contains iodine, as does Kelp (*Luc:49*). Kelp is a much better source of iodine than the much-touted iodized salt, which is chemically isolated sodium chloride to which potassium chloride has been added. Table salt is a drug, according to the Rodale researchers, to which another drug is added. Such a product has no relation to nature, and most of us should not take as much salt as might be needed to supply the needed amount of iodine, anyway. Most of us should take much less salt! Kelp is the ideal source of iodine. To get the daily requirement of 100 micrograms of iodine estimated as the requirement for human beings: 10 pounds of fresh vegetables and fruits, or 8 pounds of cereals, grains and nuts, or 6 pounds of meat, fish, fowl, or 2 pounds of eggs, or 3 pounds of marine fish, or .2 pounds of shellfish. Used as a condiment, Kelp could supply easily the amount required; it contains 10 times as much iodine as American iodized salt (*RodC:716*).

Kelp is credited for a number of interesting cures. In the standard way of herbal thinking, Kelp is mainly used as an anti-fat remedy. With a little common sense in dieting, Kelp alone can reduce fat people to more normal proportions. The beauty of using the seaweed is that it can only do good, and never harm. It does not deplete the energy of the body as some reducing programs do; indeed, it strengthens the vital energy by working in cooperating with the endocrine glands. It has been found that there is a definite connection between the amount of energy available and our iodine intake. In Kelp, as we mentioned before, we have a perfectly natural source of all the iodine we require.

Obesity is rare among the Polynesians and other races who incorporate seaweeds as a regular part of their daily diet. This plant influences the mucous membranes and lymphatics. It is a slow, persistent agent, but it will accomplish the desired weight loss results. It is stimulating to the absorbents and especially influences the fatty globules. Its best action is observed in individuals

having a cold, torpid, clammy skin and loose flabby rolls of fat. It is an agent that gives better results in sick, overweight people than in cases of healthy, fat people (Luc:50). Instead of being simply a weight loss agent, it is more a normalizer, as thin people can put on weight while taking Kelp.

Kelp is said to be a specific remedy for liver congestion. If you get up in the morning with a sick liver, you will probably feel depressed and out of sorts. The liver is a great influencer of our moods; conversely, however, a morbid state of mind will congest the liver! To be bright and vital one must have an active liver. Kelp is an organ remedy for the liver. It has an affinity for the organ and a direct action upon it. The action of this remedy is to supply the liver with the salts it needs for normal function, and it also has a sweetening and cleansing effect. Very obstinate cases of liver congestion have yielded to treatment with Kelp, as long as a good diet was followed (Powell:21-2).

In connection with the liver, the gall bladder can be cleared from obstructions with Kelp. The highly evolved sodium content of the remedy may play a large part in this action. So many of our illnesses result from constipation, and such a large portion of our population suffers from this ailment! Poisons accumulate in the large bowel and are absorbed back into the bloodstream, causing a host of disorders which are not specific in themselves but stem back to the toxic colon. Many people subscribe to enemas and colonics to cleanse the colon, and Dr. Christopher agreed that these may have a place in an emergency, but they should absolutely never be relied upon. In addition to his formula for toning the colon, Kelp can take an important place doing this job. Because of its high natural mineral salt content, Kelp builds the walls of the colon and the iodine, being highly antiseptic, deals with the toxic condition. For this reason, Kelp can be used in all cases associated with auto toxemia, especially in pregnancy. All constipated people should take Kelp daily, with the addition of blackstrap molasses if needed. Few people are really free from constipation, so almost everyone could benefit from the addition of Kelp to the daily diet (Powell:19).

Kelp is one of the best foods for a sluggish pancreas, as its salts help tune up the whole. If the indigestion one suffers is not linked to the pancreas, often the pyloric valve is not functioning up to par or there may be duodenal ulcers or inflammation. This remedy, while it is not recommended as a specific for such inflammation, is an aid to tone the stomach, aid digestion, and deal with excess stomach acidity; such helps are bound to have a healing effect upon the duodenum. In addition, Kelp is an antacid and can greatly help with chronic indigestion.

In recent years, we have found that the kidneys are not only eliminative organs, they also aid in assimilation and are partly responsible for adequate nutrition (Ibid). Kelp cleanses and tones these organs, and can be especially valuable in cases of irritable or painful kidneys. Dr. Powell cleared up kidney cases that were very stubborn and had failed to respond to other treatments, whether natural or medical.

Kelp is also recommended to tone the prostate gland. It improves the nutrition of the organ and

the circulation of the blood through the tissues. It is necessary to take the remedy over a period of time to get the results, however. A seventy year old man was saved having a prostate operation through the persistent use of Kelp (Ibid).

Kelp, as might be expected, is also of use in the female organs. It will tone up a weak uterus and help produce a more healthy baby, as the balanced minerals will be supplied fully with the use of Kelp. Some women who had lost babies in childbirth and others who had not been able to carry babies were helped by the use of Kelp by Dr. Powell's prescription of Kelp to carry healthy babies full term. Especially when toxemia threatens during the last stages of the pregnancy, Kelp, being a carrier of important minerals and a toner and an antiseptic, can help clear up an otherwise dangerous condition.

Kelp has been used to help painful testicles and painful menstruation and ovaries. The progress is slow but it is sure, as we are not just treating symptoms but rebuilding the organs.

As mentioned above, Kelp has helped in many cases of headaches. Neck pain and congestion comes from various causes, but whatever the case, Dr. Powell found it unusual to locate a case in which Kelp could not be helpful. This also applies in cases of migraine.

Kelp is an arterial cleansing agent and gives tone to the walls of the blood vessels. It is helpful in some cases of arterial tension (high blood pressure). Practitioners believe that it helps to remove deposits from the walls of the arteries and restore their elasticity, thereby lengthening life (Powell:17). Sufferers from low blood pressure can also have this condition normalized with the use of Kelp. Most nervous disorders result from a deficiency of certain cell salts, so we can correctly term nervous disorders "deficiency diseases". Kelp can considerably help balance the system and correct the problems. Dr. Powell helped a lady who could not sleep because of "nerves". She responded to the use of Kelp. An elderly gentlemen with a nervous heart and very frightened about his condition responded to Kelp after many weeks on the remedy. The older you are, Dr. Powell said, the longer you have to take Kelp for remedial purposes. It has no drug action itself but helps rebuild the weakened organs. One of the functions of iodine is to bring calmness to the mind and body by relieving nervous tension. When nervous tension is marked, there is excitability and irritation, sleeping becomes difficult, and there is a drain on the vitality (Powell:14). Kelp reduces tension, produces relaxation and enables the system to store up vitality and reserve energy; concentration becomes easier owing to the freer flow of blood through the brain and it is easier to think clearly (Ibid).

Kelp can be of great help in arthritis and rheumatism. These are due to an excess of certain acids in the system, and are usually associated with faulty kidney function plus a deficiency of the sodium salts. Orthodox medicine treats this problem with massive doses of sodium compounds to counteract acidity. Unfortunately this overdosing ruins the digestion and the kidney functions; arterial disease may also result. Sufferers from these conditions should limit their intake of acid forming foods, such as sugar, white flour products, and overcooked foods. They should eat plenty of fresh fruits and vegetables--and Kelp--which will help de-acidify the system and provide

the necessary salts as well.

There has never been found a cure for the common cold, but Kelp is known to be a help in overcoming colds and coughs. Those who suffer from these have a cell salt deficiency, and they also lack sufficient iodine; this is not to say that a dose of Kelp will get rid of a cold, but the constant use of Kelp should help increase resistance to these maladies and in time the system should become free of them.

Kelp contains alginic acid, which combines with metallic elements in the intestines to form insoluble salts which can then be excreted from the body. Lead enters our bodies from the polluted environment (water, air, food) in which we live. For instance children are known to eat lead based paint. If you regularly eat Kelp, the lead can combine with the alginic acid to form lead alginate which can then be excreted. Oriental peoples who eat large amounts of sea vegetables are known to have more immunity to certain diseases that are prevalent in the western world (Rose:Herbal:80).

We often hear about test findings that residues of strontium 90 fallout are close to the maximum permissible level in milk, or that sometimes it has been exceeded and the milk condemned. This fallout often enters the bones and causes leukemia. It also unfortunately possesses a strong affinity to some of the most nutritious foods we have. Green salad vegetables, for instance, can accumulate a large amount of strontium 90 under certain weather conditions. In fact, any food that is high in calcium will have a tendency to store this radioactivity. Many people saturate their systems with calcium in order to bind the strontium 90 and to excrete some of it. Yet Kelp has a definite protective effect and will significantly reduce the amount of strontium 90 absorbed in our bones (RodC:708).

This knowledge came from the Gastrointestinal Research Laboratories of McGill University in Montreal and was published Medical World News in July 3, 1964. Three doctors, after conducting a laboratory investigation on rats as test animals, found that completely nontoxic Kelp contains a chemical substance--sodium alginate--that reduces absorption of strontium 90 from the intestines by as much as 50 to 80 percent (Ibid.).

In another experiment, strontium 90 and sodium alginate were given to rats in their drinking water. They found that these animals showed a sixty percent drop in the blood levels of strontium 90 and a seventy-five percent decrease in bone absorption! This is such significant news in our world which is absolutely polluted with the radioactive fallout that was released on the world in bomb tests several years ago, not to mention the fallout that could occur should nuclear war become a reality. Kelp is able to discriminate between strontium 90 and calcium, even though the two chemicals are so similar chemically, and the Kelp does not interfere with the body's absorption of calcium while it effectively removes the radioactive element (Ibid.).

Max Gerson, in his very effective treatment of cancer, found that almost all seriously ill persons were very deficient in potassium. He supplemented his cancer patients' diets with significant

amounts of potassium, usually in a liquid concentrate. A cancer patient we know learned that both the seaweeds Kelp and Dulse are the highest in potassium among all foods and herbs. He mixed a brew of Kelp, apple cider vinegar and honey and took a large amount of it in his daily cancer regime, which also utilized raw juices, fruits and vegetables, and herbs. He found that this was a potent--albeit somewhat unpleasant tasting!--source of potassium and other trace minerals. Gerson also employed iodine in his cancer treatment and Kelp is high in this element. We cannot, of course, claim that Kelp is a cancer cure. But it is a powerful source of necessary elements for healing. Gerson found that the seriously ill person might take many months, even a year or two, to balance his potassium level. If the blood samples show a great deal of potassium in the blood, this is misleading, for the body is not assimilating the mineral and it is passing out of the system. If the levels are low, this might actually be a good thing, as the potassium is being absorbed in the body and not being eliminated. At any rate, there seems to be a correlation between illness, stress and potassium levels; during menstruation and pregnancy, for example, the need for potassium skyrockets. If a person is taking an adequate amount of Kelp in his diet, this amount of potassium might help him stand the strains of the stresses or illnesses he might have.

We have mentioned the iodine in Kelp as being necessary to treat thyroid gland trouble, but we might explain the function a bit more. The Greeks ate sea plants to cure goiter, but it was not until 1849 that Chatin established a connection between iodine deficiency and goiter. Later, iodine was discovered in the thyroid and it was found that in people suffering from goiter there was an iodine deficiency. Goiter has been produced in animals by feeding them on foods lacking in iodine, and females fed on iodine-free foods have produced offspring with goiters. By administering iodine, the animals were cured (Powell:29).

Too much iodine may produce overactivity of the thyroid which leads to mental excitement and emotionalism, so small doses of iodine products are best. However, Kelp is not known to have produced hyperthyroidism, which may be due to the fact that the iodine in Kelp is only a part of a highly organized arrangement of salts. The thyroid performs many vital functions in the body. It secretes thyroxin, controls and regulates metabolism, vitalizes every cell of the body and enables the cells to respond to sympathetic stimulation, assists in the control of tissue differentiation, increases the power and rate of heart function, controls coagulation time, increases urea and fluid secretion, stimulates and brightens the mind, controls and regulates body fat, controls intestinal activity, aids the function of the pancreas, helps to harmonize the activity of the suprarenal glands, has a regulating influence on the ovaries and testicles, works in cooperation with the parathyroids, thereby regulating the action of mineral salts in the system, especially of calcium, acts in conjunction with the pituitary gland, thereby exerting a profound influence on metabolism in general--a large order! This gland influences nearly the entire body (Powell:31). Hypofunction of the thyroid produces lassitude of mind and body, cretinism in children, slow growth in children, delayed maturity, obesity, female troubles, dry skin, dry lusterless hair and kidney disorders. Hyperfunction of the gland produces a completely opposite picture: oversensitivity, mental alertness, emotionalism and overactivity (Ibid.). People who find they suffer from any of these ailments related to the thyroid get relief from Kelp, which supplies iodine and other trace minerals which will balance the thyroid and the entire system.

The late Dr. Guyon Richards, a great proponent of Kelp, discussed "reversed polarity" in the automatic nervous system, saying that when such a condition exists it is hell for the sufferer. For such a condition he advised Kelp. When neurasthenias and other nerve sufferers are miserable, they are advised to take small doses of "this humble weed from the sea" (Powell:37).

Jeanne Rose seems to sum it up: "Kelp, used internally, cleanses the body through the external openings such as the sweat glands, seems to have beneficial effects on the reproductive organs, and gives tone to the walls of the blood vessels. It is used for goiter, for smooth skin, sturdy fingernails, and shiny hair, and as a diuretic in obesity. It seems to restore the healthy functioning of the body...I have used it extensively and in small doses it seems to work; however, when I used it like salt, in larger quantities, it caused me to break an incredible amount of Kelp-smelling wind" (Rose:Herbs:73)

FERTILIZING FOOD

Kelp is most used around the world as a food and as a wonderful land-building fertilizer. Along with the other brown seaweeds, Kelp is used as food for many peoples around the world. In Japan, it comprises as much as one-fourth of the everyday diet, used in broths and as garnishes and ingredients in traditional foods. As the Japanese prepare the seaweeds, they are extremely delicious; our children often beg for the Nori preparation, which is thin sheets of the brown seaweed. Dr. Black said there may be present in the intestinal tracts of the Japanese people a specialized bacterial flora, giving the seaweeds a greater nutritional value. The bacterial flora are the beneficial bacteria which live in the intestines and manufacture certain vitamins there, as well as helping in the digestion of food. Dr. Black says that in digestibility tests with cattle it has been found that when seaweed is first introduced into the diet, it is completely undigested and appears unaltered in the feces. After a few days, however, no seaweed is found in the feces. So it seems that the bacteria in the intestines have an important part in the digestion of seaweed. In Japan it appears that children develop the proper intestinal bacteria since they are fed seaweed products since infancy (RodC:710).

Kelp is a valuable manure for potatoes and other crops and is gathered all along the British coast. It is largely used in the Channel Islands, where it is called Vraic, the early potatoes from Jersey being grown by seaweed manure. Fresh seaweed contains 20 to 40 pounds of potash to the ton, and dried seaweed 60 to 230 pounds, so that its collection and use were strongly recommended to farmers during World War II when there was such a shortage of commercial fertilizers (Gri:112). It may be spread on the land and left for some time before plowing in, but should not be left in heaps, as rotting liberates the potash, which might then go to waste. Organic gardeners who live close to oceans might well utilize Kelp in their gardens for a marvelous source of all the trace elements. It is somewhat expensive for inland farmers, yet a small sprinkling added to the garden might go a long way in balancing the nutritional contents of foods. Indeed, added to the compost heap it might interact with other ingredients to make a potent addition to the garden soil.

The early broccoli from Cornwall in Britain is fertilized with Kelp, and on the west coast of Ireland, driftweed is almost the only manure used for raising potatoes. In the Channel Islands it is used for producing the smoke for drying bacon and fish, while in the Hebrides, cheeses are covered with the salty ashes of the seaweed, and horses, cattle and sheep have been fed with it. Back in 1920, a man named Philip Park was startled to see cattle passing over rich, lush grass so that they could feed on Kelp. He investigated the food content of this seaweed and went into business to produce it for animal food and human consumption. At his nonprofit research organization, experiments are carried on to find out more uses for this plant (RodC:711).

During World War II, the French Ministry of War experimented with regard to the value of seaweed as food for horses. A herd of twenty fed on the usual ration of oats and fodder gained eleven kilograms less in two months than a similar number fed on the same weight of seaweed. Another trial resulted in the cure of some sick horses fed on seaweed, while others fed on oats remained out of health (Gri:112).

In Denmark, the possibility of making paper from seaweed was tried, but the cost of collecting proved too serious an obstacle. It is possible that considerable quantities of alcohol might be obtained from various species. Tests on Kelp show that anaerobic bacteria--that is, bacteria free of oxygen--will react with harvested Kelp in airtight conditions to produce methane. Methane is the principle component of natural gas. In other words, Kelp from the sea could come in quite handy in days of energy shortages.

Now researchers want to find out whether Kelp can be grown artificially in the deeper waters of the sea, far from shore, where there would be plenty of room to establish Kelp farms. An experiment is underway off the California coast near Newport Beach, wherein there's been a Kelp planting about 50 feet below the ocean's surface, and about 100 feet in diameter. The Kelp plants are anchored to stainless steel and nylon rope which is strung around the steel ribs of something which looks like a huge upended umbrella. A pipe, two feet in diameter, plunges fifteen hundred feet into the sea beneath the Kelp farm. It brings up nutrients such as nitrates and phosphates from the rich ocean bed to fertilize the Kelp and maintain growth. If the results are promising, the next step will be a bigger Kelp farm, possibly as large as ten acres. Kelp was chosen among seaweeds because it is prolific and its roots can be easily anchored. Kelp grows as much as two feet in a single day. The nutrients it uses come from sea water and the energy for growth comes from the sun. It manufactures its food in the same way as land plants, in the manufacture of chlorophyll, although the green color is usually hidden under some thin overlying pigment, brown in the case of Kelp. If these experiments continue successful, Kelp might provide a viable source of methane to help people become independent from petroleum and natural gas. As one scientist said, "The sea's the limit" (Associated Press, Phoenix, Arizona, 1979).

Kelp used to be the source of commercial iodine, and there were Kelp-burning plants to produce it. It is now a dead industry, as there is a cheaper process of obtaining it from the mother-liquors obtained in the purification of Chile saltpetre. The use of Kelp as a source of alkalis for soap and glass manufacture has been rendered obsolete by the modern process of obtaining carbonate of

soda cheaply from common salt. It might be well to remember these processes, however, if the time should come that the other substances are not easily handled.

HISTORICAL USES

Used for the thyroid, for weight loss and gain, severe headaches, malnutrition, nervous conditions, dyspepsia, digestive problems, constipation, for a toxic colon, for liver, gall bladder, kidney and meninges, for a sluggish pancreas, for cold, torpid or clammy skin, for liver congestion, for gall bladder obstructions, for toxemia in pregnancy, for excess stomach acidity, as an antacid, to tone the kidney, for the prostate, for arterial cleansing, high blood pressure, nervous tension, arthritis and rheumatism, for colds, cough, cancer, goiter, female troubles, dry skin, and for strong nails and shiny hair.

COLLECTION, CULTIVATION, PREPARATION

Kelp is harvested by special boats equipped with a great hook which pulls the plant up out of the sea. Special cutters then mow off the tops of the Kelp plants which are carried back to the boat on a conveyor belt arrangement. The Kelp commonly sold for health food consumption is gathered far off the coast from pure, deep waters to reduce as much as possible the contamination by pollution. At the processing plant ashore, the Kelp is chopped fine, dried, sterilized, and shredded. There is no boiling or draining off of water. Everything in the way of minerals remains in the original plant. Kelp plants are so vigorous in growth that plants cut to a depth of four feet will reach the surface of the sea again within forty-eight to sixty hours (RodC:711).

Kelp can be used in many ways in the diet and as a supplement. By far the easiest use of Kelp is in tablets, which one can buy and take with a glass of water. Since the taste of Kelp is not pleasant to everyone at first, Kelp as a condiment should be added gradually to the diet. It is good sprinkled on buttered popcorn in place of salt. It can be added to soups and broths without a great change in flavor. It can be added to salads or salad dressings, especially herb dressings. It can be sprinkled on cottage cheese or on baked potatoes. You can mix it half-and-half with your salt or, if your family is suspicious of the color, with your pepper for table use. You can add it to bread or cookies, especially to rye products, as it blends very well with the flavor. You can add it to the Green Drink although it changes the flavor somewhat.

If you make a blend of various culinary herbs as a salt substitute, Kelp can be added without too much effect on the flavor. We find that adding Kelp slowly but surely into the diet gives the medicinal effects without raising too much complaining from the family!

In Britain, special preparations of Kelp are sometimes made. Sea-pod liniment is the expressed juice and decoction of the fresh seaweed as dispensed by seaside pharmacists for rheumatism and as an anti-fat aid. Sea-pod essence is rubbed onto sprains and bruises. A wine made from grapes and Kelp is praised as a remedy for diseases of the hips and other joints, and bones in children (Gri:114). Kelp can be made into infusion, decoction, or liquid extract, although the taste is

somewhat strong.

In discussing the problems related to the uses of Kelp, one author recognizes that Kelp products vary widely in their iodine content and that it is not a reliable source of the mineral. Since precise doses are not available, it is not recommended by this author, who claims that in addition to the problems of dosage, Kelp tastes bad (Tyler:488). It certainly is an acquired taste, but used judiciously, Kelp can be a tolerable addition to the diet.

The alginates in Kelp are used as thickening and smoothing elements in the food and manufacturing industries.

RELATED PLANTS

Fucus nodosus, the Knobbed Wrack, has a narrower thallus, without a midrib and single vesicles.

F. serratus, the Black Wrack, has a veined and serrate front, without vesicles. Both contain the same constituents as Kelp.

F. serratus has much been used in Norway as cattle feed, being there called cow-weed. Linnaeus stated that in Gothland the inhabitants boiled it with water, mixed with a little coarse meal or flour, and fed their hogs with it, for which reason they called the plant "Swine-tang". In Sweden the poor people covered their cottages with it and sometimes used it for fuel.

F. amylaceus, or Ceylon Moss, abounding in starch and vegetable jelly, is used like Irish Moss.

F. Helminthocorton, or Corsican Moss, is regarded in Europe as an anthelmintic and febrifuge.

CHEMICAL COMPOSITION

As we have mentioned, Kelp has an extremely high mineral content. It is also a rich source of Vitamin B-12, which is often difficult for the pure vegetarian to obtain. Two or three ounces of the seaweed daily might be sufficient to provide the daily requirement for someone who eats no foods of animal origin.

Even the most avid opponents of herbs can find no toxicity in the chemicals contained in Kelp. It can be used with utmost safety and confidence!

DR. CHRISTOPHER'S COMBINATIONS CONTAINING KELP

The CSK Combination, which is used for losing weight, contains Kelp.

The Kelp-T-Comb, the herbal supplier of iodine and trace minerals, contains Kelp.

Vitalherbs contains Kelp.

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LADY'S SLIPPER

CYPRIPEDIUM PUBESCENS; ORCHIDACEAE

DESCRIPTION

Lady's Slipper has perennial, fibrous, fleshy, undulated or crooked, long roots, about a line in diameter, from which arise one or several round, leafy stems, growing from twelve to eighteen inches high. The leaves are from three to six inches long, by two or three inches broad, sheathing, oblong lanceolate, entire, veined, cauline, acuminate, pubescent, alternate, and generally the same number on each side. Its flowers are large, very showy, terminal, and solitary. The segments number four. The lobe of the style is triangular oblong, and obtuse; the sepals are ovate, oblong and acuminate; the petals long, linear, and contorted; the lip shorter than the other petals, compressed laterally, very convex, and gibbous above, pale yellow, and from one and one half to two inches long (Felk:643).

The rhizomes are horizontal, bent up and down, nearly cylindrical, about 1/8 inch in diameter, nearly four inches long, above beset with the broad circular cup-shaped scars of the over ground stems, the more recent ones with fibrous tufts of ligneous tissue; the numerous simple rootlets which mainly attached on the lower half of the rhizome, attain a length of six to eight inches and occasionally even eighteen or twenty inches.

The roots have a peculiar, slightly bitter and rather nauseous taste, and a somewhat unpleasant odor.

GENERAL

Dr. Christopher considered Lady's Slipper one of the best nervines available. He considered that it contained a wide spectrum of agents to calm and heal the nerves.

THE SHOE OF MARY

The name of Lady's Slipper is ancient, given to the European varieties by medieval botanists in honor of the Virgin Mary. The original Latin for Lady's Slipper was Calceolus marianus, "the shoe of Mary". The old French names for the flower were sabot de la Vierge and soulier de Notre Dame--"the Virgin's Slipper" and "our Lady's shoe". However, the medieval association with the Virgin Mary was eventually removed, probably because of the Reformation, and instead of referring to Mary, the Lady became Venus.

Linnaeus devised the scientific designation of Cypripedium from the Greek Kypris, Venus, and podion, slipper or little foot, and in French, for example, a Lady's Slipper was no longer the sabot de la Vierge but became the sabot de Venus. The name Venus' Slipper was a common nickname both in England and America until quite recently.

The plant has other common names which refer to its unusual and beautiful flower, including squirrel shoe, Noah's Ark, old goose, camel's foot, silver slipper (for a rare white variety), and ram's head (for an even rarer variety, small enough to fit in a thimble). Moccasin flower is an American Indian nickname. Other names include whippoorwill's shoe, nerve root, American valerian (both of the latter referring to its nervine quality), large yellow Lady's Slipper, and lady's shoe.

Gerard described "Our Ladies Shoo", which he said grew upon the mountains of Germany, Hungary and Poland. He had a plant given to him from an apothecary friend in 1597. However, he thought no one knew enough about the uses of the plant to say much about it.

It is beloved as a wild-flower for its unique beauty. Early American writer John Burroughs wrote of it in 1894: Report came to me that in a certain quaking spagnum bog in the woods the showy Lady's Slipper could be found. The locality proved to be the marrowy grave of an extinct lake or black tarn...The Lady's Slipper grew in little groups and companies all about. Never have I beheld a prettier sight--so gay, so festive, so holiday looking. Were they so many gay bonnets rising above the foliage? or were they flocks of white doves with purple-stained breasts just lifting up their wings to take flight? or were they little fleets of fairy boats, with sail set, tossing on a mimic sea of wild, weedy growths? Such images throng the mind on recalling the scene and only faintly hint at its beauty and animation. The long, erect white sepals do much to give the alert, tossing look which the flower wears. The dim light, too of its secluded haunts, and its snowy purity and freshness, contribute to the impression it makes. The purple tinge is like a stain of wine which has slightly overflowed the brim of the inflated lip or sac and run partway down its snowy sides.

Another early American writer lamented that this flower was widely sought by flower pickers.

One country boy uprooted the plants by the dozen and sold them in the markets to be planted in gardens instead of letting them remain in the "shadowy silences of their native haunts" (Mrs. William Star Dana, How to Know the Wild Flowers, 1893).

However, another early writer did not go into such ecstasies about Lady's Slipper. She said that she never found the Lady's Slipper as beautiful a flower as do nearly all her friends, as did her father and mother, and she was pleased by Ruskins's comment that such a slipper was fit only for very gouty old toes (Alice Morse Earle, Old Time Gardens, 1901)!

This plant is indigenous to the lower parts of Canada and the Northern and Western United States, growing in bogs and wet, shady woods, where it blossoms from May until June. It was formerly found in Utah, but construction projects have all but eliminated it. The early American herbalist, Rafinesque, said, "of this beautiful genus, all the species are equally medical; they have been long known to the Indians...They are sedative, nervine, anti-spasmodic, etc., and the best American substitute for valerian in almost all cases...They have no baneful nor narcotic effects" (Mills:684). It was used by the early American settlers as a substitute for Valerian, the powerful sedative and painkiller from which Valium was originally made. It was part of the Thomsonian course of healing, and used in the Eclectic School as well.

The American Indians employed it to treat all nervous disorders and hysterical afflictions by allaying pain, quieting the nerves, and promoting sleep (Tyler:167). The fine and twisted roots, which are the medicinal part, are said in the Doctrine of Signatures to resemble the nervous system (Harris:119).

NERVINE AND RELAXANT

Dr. Christopher considered the herb almost a pure nervine and relaxant. Although the action of the herb is slow, it is effective upon the entire nervous system. Dr. Shook considered that it worked because it contains the salt necessary for brain and nerve building, potassium phosphate. These days, with the high levels of stress and unhappiness that most people suffer, Lady's Slipper can be a tremendous aid. It is a remedy for nervous excitability or irritability, and produces a calm and tranquil condition of the body and the mind (Cly:91), favoring mental tranquility or sleep. It is good therefore when a person is upset or hysterical, when he undergoes nervous headache, wakefulness, or even nervous prostration. It has been found to be very efficient in cases of hypochondria and mental depression which often accompanies digestive trouble, especially among women. Whenever a person feels like he cannot settle down, cannot sleep, cannot think properly, feels depressed, often from sexual overindulgence, Lady's Slipper can be a calming and balancing influence.

It also works with nervous conditions of a more active sort. Chorea has been effectively helped by the use of the herb. Cases of delirium have been cleared by the remedy, especially when accompanied by low fevers and insomnia. It is one of the numberless agents said to cure epilepsy; for this purpose, Dr. Christopher recommended that it be combined with equal parts of Golden

Seal root, Lobelia, and Cayenne. It can be safely used for nervous or weak or hyperactive children, especially if they have twitching muscles or St. Vitus' Dance; it is usually given with a good deal of honey or made into a syrup with honey.

Lady's Slipper is excellent for all forms of pain. It is said to be a specific anodyne for sick headaches. It will relieve the aching of the joints following scarlet fever (Felk:644). It was recommended by Dr. Christopher to be combined with wild yam and ginger for colic and especially for afterpains of childbirth. Whenever there is pain, particularly restless pain during a feverish illness, Lady's Slipper is said to give quick relief.

In addition, the herb is said to act as a tonic to break up recent colds and fevers, and to treat children's colds and fevers, given hot. It is often combined with ginger and a small amount of lobelia for the treatment of fevers (Tie:100). It can be combined with dandelion or camomile for effective treatment of stomach or liver problems, including hepatitis (*Ibid.*). This is also effective in the first stages of pneumonia, often cutting short the trouble (Hut:174).

The roots can cause psychedelic reactions, and, in large doses, giddiness, restlessness, headache, mental excitement, and visual hallucinations (Rose:Herbs:74), although if that amount is taken, the stomach is likely to be irritated (Spoerke:105). Indeed, if the amount were taken to produce significant drowsiness, the stomach should also become irritated (*Ibid.*).

HISTORICAL USES

Used to calm and heal nerves, as a sedative, an anti-spasmodic, for hysteria, as a relaxant, for insomnia, pain, headaches, aching joints, colds and fever, stomach and liver problems, hepatitis and the first stages of pneumonia.

CULTIVATION, COLLECTION, PREPARATION

The plant grows well in moist or boggy conditions, and can easily be grown in the garden using normal horticultural methods. The roots should be collected in August or September. They should be washed and then dried in the shade. When they are completely dry, so that they snap easily and feel warm, not cool, to the touch, store them in an air tight container.

Since the plant is so beautiful, it is a good addition to the wild or formal garden. It is propagated by seed or by cuttings. Since the root is the medicinal part, you can reroot a cutting and plant it back again so as to propagate the herb. The herb is made into a simple infusion, decoction, or tincture. It is often combined with other herbs.

RELATED PLANTS

C. spectabile, C. acaule, C. candidum and C. arietinum all have properties similar to the Lady's Slipper, although C. spectabile and C. acaule are said to possess more narcotic properties than the

others, especially when inhabiting dark swamps (Felk:644).

TOXICITY

The glandular hairs on the stems and leaves contain a toxic substance, probably a fatty acid. Many individuals are poisoned on contact with the plant, especially in hot weather or when they are perspiring. The plants are thought to be most poisonous during the flowering period or later. Irritation may be observed soon after contact, but violent inflammation usually does not appear until eight to twelve hours later. Vesicles and blistering similar to that produced by poison ivy may follow. Since individuals show acute dermatological eruptions on contact, researchers have tried to isolate the chemical which causes the problem and introduce it into pre-sensitized guinea pigs in order to reduce their sensitivity. These researchers isolated a quinone they termed cypripedium, which can be of use to those who are often in contact with the orchid family generally, such as commercial breeders, workers in botanical gardens, florists and home breeders (Naturwissenschaften, "New Sensitizing Quinone from Lady's Slipper", Oct. 1979:527-8).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING LADY'S SLIPPER

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LEMON BALM

MELISSA OFFICINALIS; LABIATAE

GENERAL

This herb is also commonly known as Balm, particularly in Britain. It is an ancient herb, having been recommended by the Greeks; Dioscorides considered it anti-venom and Pliny thought it styptic. It was particularly noted in early England to brighten the spirits and dispel melancholy, to

warm the body, and to keep bees happy in their hives. Parkinson thought it would be good for menstruating women to bathe in it! And some modern herbalists agree that the herb can help bring on delayed menstruation. Others assert that the herb can truly alleviate depression, helping us accept difficult situations. It is widely recommended as a diaphoretic, being one of the few really good tasting, fever breaking herbs. Children and even babies readily accept it, sweetened, for this purpose. It has also been used in wine making, in perfumery, and in the kitchen; it would flavor soups and salads, egg dishes, etc.

HISTORICAL USES

As an anti-venom, styptic, to brighten spirits, for delayed menstruation, to break a fever and as a diaphoretic.

LEMON GRASS

GENERAL

Growing commonly in the East Indies and in Mexico, Lemon Grass is commonly used as a flavoring herb and pleasant drink. It is a good choice for camping, as it keeps better than lemons but makes a good refresher on hot days, sweetened and cooled in a stream. Lemon Grass is often used externally to help dry, oily skin and/or hair and to make hair shiny. It will help mask the unpleasant flavors of other medicinal herbs. In Mexican medicine, it is considered an important alterative and general use herb, good for breaking up colds and treating flu and similar ailments. It can be used to flavor pickles and give sauces a good lemony flavor. Its sister, Citronella, is used similarly.

HISTORICAL USES

Used as a blood cleanser, for dry, oily skin and for colds and flu.

LEMON VERBENA

LIPPIA CITRIODORA; VERBENACEAE

GENERAL

Lemon Verbena is a Native American. It used to be called a member of the Verbena family, but was later considered of the genus Aloysia and finally assigned to the genus Lippia and called L. citriodora. It is highly valued for the sweet savor of its leaves. The plant also grows in warm areas in the world, and is easy to grow in one's herb garden or window garden. It is considered a stomachic and antispasmodic, although it is not widely used in herbalism. It is more commonly employed in perfumery, as an important ingredient in sachets and potpourris, and as a flavoring in cookery, being a good substitution for lemon or mint in recipes for meats and stuffings.

HISTORICAL USES

Used as an anti-spasmodic and a stomachic, but mostly as a perfumery.



GLYCYRRHIZA GLABRA; LEGUMINOSAE

DESCRIPTION

The plants are graceful, with light, spreading, pinnate foliage, presenting almost a feathery appearance from a distance. The leaflets hang down during the night on each side of the midrib, though they do not meet beneath it. From the axils of the leaves spring racemes or spikes of papilionaceous, small pale-blue, violet, yellowish white or purplish flowers, followed by small pods which somewhat resemble a part grown pea pod in form.

The root system, as in so many Leguminosae, is double, the one part consisting of a vertical or tap root, often with several branches penetrating to a depth of three or four feet, the other of horizontal rhizomes or stolons thrown off from the root below the surface of the ground, which attain a length of many feet. These runners are furnished with leaf buds and throw up stems in their second year. The perennial downward-running roots as well as the long horizontal stolons are equally preserved for use (Gri:488).

This plant has the capacity as the others in its family to fix nitrogen in the soil, thus accounting in part for its nourishing capabilities, also assuring that the propagation of the plant will not deplete the ground.

GENERAL

Dr. Christopher often lamented that in recent times, Licorice has often been laughed at or just

ignored. In fact, he said, government officials thought it could be dangerous, so they cleared all the Licorice off their herb shop shelves to make an inspection of it. Of course, they found it innocuous, so they had to bring it back again!

Early in his practice, Dr. Christopher used the herb for sleeping sickness. He also said that it is good for sleepiness in less drastic cases. His wife often told him that he should use his flight time--of which he had a great deal, as he had more than one lecture a week in different cities in the U.S. and in the world--for sleeping, but the Doctor found it impossible to go to sleep on an airplane. His wife suggested that he should pretend that he was in church! He told that as a joke, of course, but suggested that if people do get drowsy in church, they should drink a cup of Licorice tea before going. It has properties to keep you wide awake. People who travel by car often prepare several quarts of the tea to drink as they make cross-country trips. Some women in Arizona, working on a night-shift in a Motorola radio factory, refused to drink coffee to keep them awake because their religion--Mormon--did not permit them to drink it. They began to take No-Doz tablets, but found themselves nervous and jittery. Dr. Christopher suggested Licorice root capsules instead of the caffeine tablets. The result was so positive that some of their co-workers began to do the same, as they saw that Licorice could keep them going without the harmful side effects. One of Dr. Christopher's students prepared a combination tincture of peppermint and Licorice root for an opera singer who was losing her voice due to laryngitis. She regained her voice in a day's time and was able to practice and perform as required. The student called the formula, "Opera Throat Formula", a simple but very effective combination.

Dr. Christopher recommended a cough syrup combination using Licorice. He prepared this for a man whose baby was suffering from cough; early one morning Dr. Christopher got a call from the man who was so angry he was ready to throttle him! The man had just finished redecorating the baby's bed room and had set the bottle of syrup on a shelf. This was before Dr. Christopher had learned to use pure vegetable glycerine to keep his formulas fresh; the bottle of black Licorice syrup exploded and sprayed black syrup all over the newly-decorated room. The man had to repaper and paint the entire thing! However, here is the formula: Make a honey syrup by covering diced onion with honey. Add to this one ounce of Licorice powder. Heat very low or double-boiler for four hours. Strain it and add 1/4 part vegetable glycerine, which enhances its keeping powers but also adds healing properties of its own. Take it by the spoonful as needed.

ANCIENT SWEET ROOT

Licorice root has been used since ancient times. Archaeologists have found great quantities of Licorice stored in the tomb of King Tut, among the fabulous gold, jewelry and art treasures the Pharaoh took with him in his journey to the next world. It was extremely well-preserved, due partly to the fact, no doubt, of the shape of the pyramid, which is known to have unusual preservation qualities. King Tut's tomb is three thousand years old! Other Egyptian pyramids also contained the root. The Egyptians make a sweet drink from Licorice called mai sus; the herb stored there would allow the Pharaohs to make this drink in the next world. Licorice root was introduced into Egypt for medicine by one of Eckankar's ancient masters, Gopal Das. Eckankar is

the ancient science of soul travel (Twi:).

In other areas of the ancient world, the Brahmans of India, the Hindus, Greeks, Romans, Babylonians and Chinese all used Licorice (Luc:Nature's:90). The ancient Hindus believed it would increase sexual vigor when prepared as a beverage with milk and sugar (Ibid.). The use of the herb was taught to the Greeks by the Scythians; Theophrastus called it Scythian root, writing in the third century B.C. The Scythians were able to go twelve days without drinking water because they chewed on Licorice root and ate mare's cheese. He said that it grew in the neighborhood of the Sea of Azof and was good for coughs and all pectoral diseases (ShoA:223). Dioscorides named the plant Glyrrhiza (Greek, glukos, for sweet, and riza, a root); and glabra refers to the smooth pod-like shape of the fruit of this plant (Tyler:69). Two Roman writers, Celsus and Scribonius Largus mentioned Licorice as a radix dulcis, a sweet root. It was recommended by Pliny in about 80 A.D. to be used to clear the voice and to alleviate thirst and hunger. Dioscorides, an herbal physician who travelled with the army of Alexander the Great, told the troops to carry and chew Licorice root in order to allay their thirst when water was scarce during their long marches, especially during their campaigns in the Middle East. He also said that it was good for stomach trouble, throat trouble, liver and kidney disorders, etc.

In 400 B.C. Hippocrates wrote of the uses of Licorice for prevention of thirst in dropsy and diabetes.

The plant is often found under the name Liquiritia officinalis which is derived from the English name Liquorice (Lycorys in the thirteenth century). This is a corruption of Glycyrrhiza, as shown in the transitional form, Gliquiricia. The Italian name for the plant, Regolizia, the German Lacrisse or Lakriz, the Welsh Lacris and the French Reglisse have the same origin (Gri:487).

Gerard, at the end of the sixteenth century, wrote that the "plants do grow in sundry places of Germany wilde, and in France and Spaine, but they are planted in garden of England, whereof I have plenty in my garden: the poore people of the north parts of England do manure it with great diligence, whereby they obtain great plenty thereof". During the Middle Ages, Licorice was often taken to alleviate the bad effects of highly spiced and overcooked food, fat, and often-contaminated meats, as refrigeration was impossible and most meats were preserved by salting and by packing with aromatic herbs and spices.

Licorice extract was used as early as the times of Dioscorides and was in use in Germany during the Middle Ages. In 1264, Licorice extract is charged in the Wardrobe Accounts of Henry IV. Its price during that time was said to be equal to that of "grains of paradise", whatever those are! It was one of the articles paying duty to aid in the repairing of London Bridge in the reign of Edward I, 1305. The plant is described as being cultivated in Italy by a Piero de Cresenzi of Bologna during the thirteenth century. Saladinus, who wrote about the middle of the fifteenth century, names it among the wares kept by the Italian apothecaries and it is enumerated in a list of drugs of the City of Frankfurt, written about the year 1450 (Gri:487). Mattioli wrote in 1574 that the juice, in the form of pastilles, was brought every year from Apulia. The drug was imported

into England from earliest times, though it was cultivated on a small scale for a very long time in that country.

From Turner's Herbal we learn that Licorice was grown in England in 1562, and Stow says "that planting and growing of licorish began about the first year of Queen Elizabeth (1558)" (*Ibid.*). The tradition relates that the Black Friars introduced it into Yorkshire when they settled there during the early days of the sixteenth century, and it has remained in cultivation in that district every since. The subsequent inhabitants of this castle have carried on the tradition even to this day, although the amount of Licorice is much reduced because of the difficulty of the labor required and the ease of obtaining the imported roots. The Pontefract Castle only yields about one half of what it used to; the Licorice is said to be very sweet, more so than the imported roots. The dark, processed confections known in England as Pontefract cakes are sold even today as lozenges that are stamped with a picture of the castle. These cakes were once seen in almost every English pharmacy, although they are less available now.

In France, Napoleon habitually chewed Licorice root, which practice eventually blackened his teeth.

John Parkinson grew Licorice in his Holborn garden, and John Josselyn of Boston in the sixteenth century lists Licorice among the "precious herbs" which had been brought over from England to white settlers, who included it in their medicinal pharmacopeias (Luc:Nature's:90). Josselyn used to brew a beer for the Indians, when they had bad colds, which was strongly flavored with elecampane, Licorice, aniseed, saffras and fennel. The American Indians began to use the herb themselves after learning about it from the white folk--a turnabout of the usual process.

In 1804, early American explorers commented that "the Licorice of this country does not differ from that common to the United States. It here delights in a deep, loose, sandy soil, and grows very large and abundantly. It is prepared by roasting in the embers, and pounding it slightly with a small stick, in order to separate the strong ligament in the center of the root, which is then thrown away, and the rest chewed and swallowed. In this way it has an agreeable flavor, not unlike that of the sweet potato" (Meriweather Lewis, The Lewis and Clark Expedition, 1804-1806).

During the 1800's Culpepper included information about Licorice in his famous herbal. He wrote: "Licorice root, boiled in water with some Maiden-hair and Figs, makes a good drink for those who have a dry cough or hoarseness, wheezing or shortness of breath...It is also a cleansing agent, and at the same time softening and soothing, and therefore balsamic". He also described the common method of preparation of the extract, by boiling the root, straining, and reducing the decoction, but mentioned that if one squeezes the root between two rollers to get the juice, it is "sweeter and of a much more agreeable taste than the root itself".

Licorice is native from southern Europe to Pakistan and northern India. It has been cultivated in Belgium, England, France, Germany, Spain, Italy, Greece, Turkey, Russia, Egypt, Syria, Iraq and in recent years, has been commercially grown in northern India. It has been grown with some

commercial success in the United States.

In western Europe, the commercial plant is cultivated, but the Russian and Persian plants have been obtained from wild growth, which might indicate a more valuable medicine.

Licorice has been official in almost all pharmacopeias, which differ as to which varieties are recognized, the botanical name, and whether the accepted root be peeled or unpeeled. The British Pharmacopeia requires that they be peeled, but most others require unpeeled.

In the 17th Edition of the U.S. Dispensatory, Licorice was said to be "a useful demulcent, much employed in cough mixtures, and frequently added to infusions or decoctions in order to cover the taste or obtund the acrimony of the principle medicine. A piece of it held in the mouth and allowed to dissolve slowly is often found to allay cough by sheathing the irritated membrane".

The Doctrine of Signatures holds that the root suggests, to the herbalist, its use as a blood remedy (Harris:121).

DELIGHTFUL DEMULCENT

Licorice root contains one of the sweetest substances in nature, glycyrrhiza or glycyrrhizic acid; it is fifty times sweeter than sugar. Interestingly, while other sweet substances increase the thirst, this substance decreases the thirst. It is a safe sweetener for diabetics and hypoglycemics to use. This sweetener makes the taste of Licorice one of the most pleasant to take, if you happen to like the flavor. If you do not, it may be an abomination, according to herbalist Moore (Moore:97)! The herb is most commonly employed for colds, coughs and other pectoral problems. It will help in cases of flu, debility, bronchial congestion, and even the more severe forms of these kinds of ailments: pneumonia, pleurisy, and tuberculosis (Lev:Common:92). For colds and flu, you can combine Licorice with stimulating herbs, cayenne or ginger, to intensify the effect (Tie:129). For sore throat and hoarseness, you might try smoking the root (*Ibid.*). It is an ingredient of many of the popular cough syrups, or at least the old fashioned ones that did not contain strong inorganic drugs. It is used on the Continent in lozenges to be sucked slowly for sore throat and chest problems. The old-fashioned Smith Brothers cough drops used to contain Licorice. Various recipes are given for cough medicines, with different ingredients. Dr. Christopher provided another one: Combine one cup Licorice root with one-half cup flaxseed, and simmer in one quart of water until it is thick. Strain and add 1 teaspoonful lemon juice. This is an old English formula. Another more complicated formula calls for equal parts of Licorice, slippery elm, boneset, and flaxseed. These are simmered for twenty minutes in one quart of water and strained. Then add one pint molasses, and 1/2 pound yellow D sugar, stirring thoroughly, straining and bottle. However, unless you plan to refrigerate this combination, you will have to add one-fourth the quantity of syrup of vegetable glycerine, or you may have an explosion as Dr. Christopher described!

For use in sore throat and irritated bronchials, Licorice is even more effective if combined with

Horehound or Mullein (Moore:97). The other classic use for Licorice is as a mild but effective laxative. In Jamaica, Licorice is known as "lick weed", and it is boiled as a tea and given as a laxative to both children and adults (Luc:Nature's:92). It is especially good for children and weak people, or for adults having stomach weakness who are unable to take stronger laxatives. It is valuable for people with hemorrhoids as the soft or fluid stools resulting from Licorice powder lessens the pain produced by normal movement of the bowels. As a laxative, it is best given at bedtime or on an empty stomach.

Licorice is known to have a healing effect on the stomach and digestive tract generally; it softens, soothes, lubricates and nourishes the entire intestinal tract. It will alleviate stomach and intestinal cramps (Lev:Common:92). It has been officially recognized for its use in gastric or duodenal ulcers, collectively known as peptic ulcer, which nearly always occurs in the pyloric region of the stomach or the first inch of the small intestine. The vagal nerve is involved in the stimulation of gastric secretion: excess stimulation results in hypersecretion of gastric juice rich in hydrochloric acid, thus producing conditions favorable to the formation of peptic ulcers. Anticholinergic drugs can block the excessive secretion of gastric hydrochloric acid. However, until 1965 there was no official drug available to assist in healing the ulcer once developed; rest in bed, no smoking and bland diets were the only forms of therapy. Now, however, two derivatives of Licorice root can on the average reduce the size of an ulcer by 70 to 90% (Lewis and Elvin-Lewis:275). Healing occurs in patients who are not confined to bed, and many continue to work during the treatment. Some undesirable side effects do occur, notably edema and some cardiac problems in those who eat excessive Licorice--but the benefits outweigh the undesirable effects. We will speak more about these side effects in our section on recent findings on Licorice.

Chronic painful menstrual cramps can sometimes be helped by drinking at least two cups of Licorice tea a day for a week, beginning after the end of the menstrual cycle. If this helps, after a couple of months one could stop drinking the tea and still enjoy the improved cycle.

The root tea can be used for treating stomach ulcers instead of the extracted principles; this has always been Dr. Christopher's recommendation, to use the entire herb instead of some isolate. It is best taken before the time when the pain is predictable, making a standard infusion.

The root is particularly noted in treatment of female problems because it has a steroidal content, higher in the taproots, but only minute in the runners. This content is very small, but it can trigger higher levels of both estrogen and adrenocorticosteroid in cases of insufficiency (Moore:97). In 1958, Madame Pointent-Guillot discovered that the structure of glycyrrhizine is known to include a triterpene glycyrrhetic acid, with flavone derivatives and a follicular-type of estrogen. It is used in the treatment of female infertility, for delayed and irregular menstruation, and might prove to be useful in the premenstrual syndrome (Lev:Common:92).

The steroidal content has also brought the herb into some prominence for healing and restoring the adrenal glands. About every five hours, the adrenals need some sort of nourishment in order to continue supplying strength to the body. If a meal or some other nourishment is not

forthcoming, Licorice can supply the adrenals. The armies of Alexander the Great, mentioned above as carrying Licorice with them on their long marches for allaying thirst, also benefitted from this strengthening agent to give them stamina and endurance--a far cry from today's chocolate candy bar, Dr. Christopher noted, which is given to the poor G.I. in the military.

LaDean Griffin, in a very interesting article on Licorice, explained the use of Licorice to build the adrenal glands. She noted that we call adrenal exhaustion hypoglycemia in today's modern world. Since we are so stressed at our modern pace of life, the adrenal glands become exhausted easily and frequently. "In hypoglycemia, where sugar is taken to give a stimulating lift in the hope of overcoming (stress), the problem is compounded as sugar leaches the Vitamin B and calcium, causing more stress, losing more potassium and body tone. The insulin is raised to an unnatural high to take care of the sugar, somehow extending past its needs and afterwards dropping to a new low, causing a low blood sugar called insulin shock (overdose of insulin). Immediately we take sugar to lift us up again and a vicious cycle has begun. Having found the herbs that act like cortisone (cortin hormone), I feel it is important for me to make this known". She then described how primitive people used various herbs, including Licorice, to build the endurance, and how the medical world extracted from the herbs the compound we call cortisone. When a person's adrenal glands become so exhausted that they simply do not function anymore, the condition is called Addison's disease, which is a terminal disease. It is characterized by blotchy pigment appearing suddenly on large parts of the body, intolerance to heat or cold, reduction in capacity for muscular work, weakness, inability to stand any stress or emotional excitement, whether positive or negative, sometimes nervous breakdown or even insanity, complete exhaustion, feeling that one is going to die, inability to digest food, and other similar symptoms. The synthetic cortisone is given to supply the need of the natural substance, but it produces complications, side effects and eventual disillusionment as it will not in any way heal the adrenals (Herbalist:1975:16).

Licorice is excellent to use in this condition, as it contains a cortisone-type substance which will help the body restore itself to the point where it will produce its own cortisone. Its sugar-like substance does not increase the demand for insulin in the body, thus giving strength without bringing on insulin shock. LaDean Griffin explains that she is certain that this works, because at a time when she thought she was making a great deal of personal progress, a sudden shock debilitated her so much that she developed Addison's Disease. She found that two capsules of Licorice each day would give her enough strength to begin healing, and to do the day's work. She needed to continue taking the herb, which is not addictive, she explained, no more than food is. You can stop taking the Licorice root without going into shock as you would if you suddenly stopped taking cortisone, she explained.

"When people who have been under severe stress, overworking the adrenals and becoming extremely nervous and irritable, begin to take Licorice, they think they have suddenly spiritually arrived. It is my opinion that many who suffer in mental institutions could be helped with this wonderful herb" (Ibid.).

Licorice root has been used by some to overcome the habit of smoking, although some people

have taken too much Licorice in this connection. In Fads of an old Physician, Keith wrote, "Many years ago, when visiting in East Lothian, a Doctor told me he had found Licorice very useful in a way I had not known. Many farm servants who smoked strong tobacco could not look at breakfast until they had a smoke. This was always relieved by taking a bit of Licorice on getting up..."(Luc:Nature's:93). Another medical doctor reported that he was examining some young men to work in a bakery that would not allow smoking. The young men were very addicted to smoking and could not seem to give it up. The Licorice root seemed to allay the desire for smoking; the doctor suggested that our need to chew on something is a leftover from when we are babies and had to have something to suck on (Ibid).

Licorice is said to be a blood cleanser and detoxifier with a beneficial effect upon the liver. It increases the flow of saliva when chewed or sucked.

The dried root can be given to teething babies to help bring the teeth through; the solid extract could be given them, but a vigorous chewer might give himself a purgative dose! It will alleviate worms in infants. Externally, the pulped leaves are softened in hot water and applied to aching ears, externally and inside as ear plugs. The dried, powdered root is used as a fine powder among the Arabs from drying up discharging parts of the skin, drying blister, and absorbing all kinds of watery fluid. It is also added to flaxseed to make a poultice for non-malignant tumors (Lev:Common:92).

Because of the presence of adrenocortical-like steroids and estradiol and estrone, Licorice may be a little risky for drinking during pregnancy; it may alleviate menopausal symptoms, although it has been known to aggravate them, too (Moore:97).

In Chinese medicine, Licorice root is considered to be of great importance, being the correcting and harmonizing ingredient in a number of prescriptions. It stands next to Ginseng in importance, and like most celebrated Chinese drugs, it is credited with the property of rejuvenating those who take it for a long time (Shi:196). It is used in most of the ways that it is used as described above. In addition, it is applied topically, mixed with honey, to burns, boils and other sores.

In Indian medicine, the standard uses are common. In addition, it is used in scorpion sting and poisoning (IMM;582).

Licorice root seems to enhance other herbs with which it is mixed. Often employed as a flavoring to mask the bad tastes in other medicines (the sweet agent is extremely effective as a mask), it also is found to make other herbs work better. Lucas reported that the following article appeared in Science Digest in 1950: A remedy sold at drug stores and used each month by thousands of women for so-called female trouble now turns out to have real estrogenic action. It owes this, at least in part, to the Licorice used to flavor the remedy (Luc:Nature's:94).

CANDY HERB

By far the most important non-medicinal use of the Licorice herb is in the preparations of candies. When the decoction is reduced to a thick mass, it is formed, often with the addition of molasses and wheat flour, into sweetmeats that also contain the medicinal qualities of the root. However, "the 'Licorice' candies of commerce, those disgusting rubberoid flaccid strips of childhood found in any local store pushing sweets to the usual gaggle of after school sugar addicts, contain about as much actual Licorice as present-day marshmallows contain marshmallow root--i.e., none" (Moore:97).

Licorice also is used in brewing, to add thickness and blackness to porter and stout. The brewer of Guinness stout was always questioned as to what made his brew so calming and delicious, but he never until his later years gave out the answer, Licorice root.

Licorice is much used in tobacco trade as a moisture conditioning, flavoring and sweetening agent. After extracting the water soluble matter, the spent pulp is subjected to a second extraction with dilute caustic soda solution. This secondary extract is utilized as a foam stabilizer in the manufacture of farm fire extinguisher. The residual material is used as a fertilizer in mushroom culture. The waste root is now utilized for the manufacture of boards for making boxes. A recently discovered process makes the refuse into a chemical wood pulp that is pressed into a board that is said to have satisfactory resisting qualities and strength.

HISTORICAL USES

Good for sleeping sickness and sleepiness, for laryngitis, coughs, colds, to increase sexual vigor, for pectoral diseases, stomach trouble, throat trouble, liver and kidney disorders, indigestion, bronchial problems, as a laxative (mild enough for kids), gastric problems, menstrual cramps, adrenal glands, stress, nervousness and irritability, as a viral inhibitor, for Addison's disease, and for peptic ulcers.

CULTIVATION, COLLECTION, PREPARATION

Dr. Christopher stressed that we should not procrastinate in obtaining adequate Licorice root, as we import tons of it from the Middle East every years for commercial medications and the Licorice candy industry. He said that only the good Lord can say when a transportation strike will cripple the nation's economy and we will woefully bemoan the fact that we can no longer get this herb. In addition to the species that grows wild and can be collected (which might be better left to grow), we can grow the Licorice in our yards by obtaining starts from a nursery or perhaps by purchasing seed.

Licorice grows best on sandy soil near streams, usually not being found in the wild condition more than fifty yards from water. It will not flourish on clay and prefers the rich, fine soil of bottom lands in river valleys where there is an abundance of moisture during the growing period, but where the ground bakes hard during the hot, late summer months, when the dry heat is very favorable for the formation of the sweet constituents.

The plant succeeds most in a warm climate; not only can it not endure severe freezing, but cool weather interferes with the formation of its useful juice and renders it woody. It has been found that a climate particularly favorable to the production of the orange is favorable to that of Licorice (Gri:489).

The plant, incidentally, is a persistent weed in grounds where it is indigenous and is exceedingly difficult to eradicate. It is very healthy and robust and rarely subject to disease, at the same time successfully occupying the ground to the exclusion of other plants. For this reason, the continuation of the natural supply may be considered as assured, though it is possible to over-harvest it as it is other plants (Ibid.).

The soil must be cultivated to a depth of two or 2-1/2 feet to allow straight roots to develop. The root pieces, three or four inches in length, with eyes or pieces of the red under ground stems of the same length; are planted in March or April, 2 or 3 inches deep. Ideally, shoots (or canes) that form are cut down to soil level each November of the first two years; the third autumn the roots will be mature and can be lifted. However, damp winter climates do not normally allow for this unless the soil is rich and well-drained. Large polythene cloches will afford some protection if necessary, or the plants may be lifted and the more mature roots used, the pinkish fibrous ones being stored in a dry frost-free place and replanted the following spring. However, the best roots are always from those plants left to develop for three years without disturbance. Once the roots are lifted and scrubbed clean, dry them in the sun or in a warm cupboard, but not in direct heat. They can be cut into pieces and stored almost immediately.

The average yield for an acre is from four to five tons. The same ground yields a crop every three or four years, the fourth-year growth being the best. Earlier harvests are deficient in the sweet principles. It is also desirable to collect the roots of those plants which have never borne fruit since that exhausts the sweet substance of the sap.

In modern pharmaceutical practice, Licorice is utilized mainly in the form of extract, a dark-brown paste obtained by crushing or shredding the fresh roots, decocting under low steam pressure, and evaporating. It is formed into sticks or rolls for marketing.

The decoction can be run off and boiled slowly over direct heat until it forms a thick consistency; it is then formed into sticks and dried.

A syrup of Licorice is made by making a strong decoction and adding it to simple syrup.

A pleasant tea is made by mixing Licorice with flaxseed, ginger, honey and lemon.

Although it is possible to mix other herbal ingredients with Licorice and to decoct, then reduce until they are pills, we prefer to take disagreeable herbs by capsule and enjoy the Licorice in infusion. The children are always begging for Licorice tea, and we find it safe and agreeable to

give to them. Indeed, Dr. Shook recommended that all children be given Licorice tea now and again.

RELATED PLANTS

G. glandulifera has a larger root and spiny pods. Its taste is sweet but contains some bitterness. It is sometimes used as a Licorice substitute.

G. echinata is the official German species. It is medicinal, although somewhat bitter.

G. lepidota is American Licorice. It is somewhat smaller but has similar medicinal properties to Licorice.

CHEMICAL COMPOSITION

The chief property of Licorice is the saponin-like glycoside glycyrrhizin (Glycyrrhizic acid, occurring in amounts varying from five to twenty-two percent.) Licorice contains 20% starch, up to 6.5% glucose, asparagine, fat, resins, mannitol, bitter principles, and other constituents.

RECENT FINDINGS

Much research has been done in the last thirty years on the constituents and effects of Licorice. While some important positive uses are being reported in medical literature, some unfortunate negative results have occurred from people ingesting too much concentrated Licorice extract for long periods.

First, on the positive side, the active constituent in Licorice, Glycyrrhizic acid, was found to be active against some viruses. Vaccinia, Herpes simplex type 1, Newcastle disease, vesicular stomatitis, and polio type one were all inhibited in various degrees when glycyrrhizic acid was introduced ("Glycyrrhizic acid inhibits virus growth and inactivates virus particles", Pompei, et. al. Nature Vol. 281, 25 Oct.1979).

Starting in 1950, research was done which proved that Licorice extract contained cortisone-like materials that could be of help in Addison's Disease. In 1946 Revers proved that it could also be useful in the treatment of peptic ulcers. However, early in the research, it was noted that some of the cases developed edema and hypertension or cardiac asthma, or all of these.

In the treatment of Addison's Disease, about twenty percent of the patients did not respond to the Licorice treatment, although the remainder did ("Synergistic Action of Liquorice and Cortisone in Addison's and Simmond's Disease," The Lancet, March 28,1953).

It was determined that ammonium glycyrrhizinate was the sodium-retaining principle of Licorice which caused the edema. It induced great retention of sodium, chloride, and water. It produced a

mild increase of urinary potassium. It mildly inhibited endogenous production of ACTH as indicated by consistent decreases in the excretion of 17-ketosteroids. It decreased the concentrations of sodium and chloride in thermal sweat. It provoked no demonstrable effects upon organic metabolism ("Preparation of Glycyrrhizic Acid," Journal of Laboratory and Clinical Medicine, Jan. 1956).

Unfortunately, these responses to Licorice have had some dramatic effects. Dutch children and adults often take large amounts of Licorice candy and become hypertensive, with profound salt and water retention and edema formation. The blood pressure rises and the cardiac index shows an increase quite significant; in one study it was about 36 percent. It should be noticed, however, that Dutch Licorice contains quite a bit of salt in its preparation; it is not the sweet candy we know in America. Perhaps the combination of the salt and the candy worsens the situation ("Reversible Severe Hypertension due to Licorice Ingestion", Medical Intelligence, June 20, 1968, Vol.278, No.25, pp. 1381-3).

The symptoms of this condition are generally the same as suffered by a 2-1/2 year old girl. After eating about 1/4 pound of Licorice sweets, she vomited and seemed slightly tired. The next day, she was unable to stand and fell several times. During the day she was drowsy, vomited six times, and when admitted to the hospital in the evening was conscious but ataxic and unable to sit up; there was slight muscular weakness but tendon reflexes were normal. Her blood pressure was high, but it returned to normal after several days, and the child's strength returned. Other cases report the same muscular weakness, even though there seems to be nothing organically wrong with the sufferer. Sometimes the person cannot lift his arms or move normally ("Transient hypertensive encephalopathy", The Journal of Pediatrics, Vol.74, No.6, June, 1969, pp. 963-4).

Another serious result of Licorice intoxication is the loss of body potassium, called hypokalemic alkalosis. A forty five year old housewife, striving to reduce, ate 30 to 40 grams of Licorice daily for nine months. She became lethargic and had flaccid weakness and hypoactive reflexes. The serum potassium was 1.6 milliequiv., and the chloride was 68 milliequiv. per liter. The urine was dark brown and contained myoglobin. After she was given potassium, she showed a marked improvement (Hypokalemic Myopathy, The New England Journal of Medicine, March 17, 1966, Vol.274 No. 11, p. 606).

Similar cases were reported in 1980 in the same journal. One particularly sad case was reported in 1952. A girl age 15 was given a course of streptomycin for tuberculous meningitis. Some of the medicine was flavored with Licorice which reduced the blood potassium significantly enough to turn the illness serious; the girl died ("Fatal Hypokalemic Alkalosis", British Medical Journal, Feb. 16, 1952, p. 360-1).

What can we surmise from these negative effects of Licorice? We notice that in all cases, the patients took large, concentrated quantities of the herb, either in extract form, as in the candy, in chewing tobacco or concentrated amounts in medicines. We suggest that if a person takes Licorice wisely, not to excess, with other herbs and on the mucusless diet, that such poisoning

should not happen. Dr. Christopher always cautioned people to be moderate and wise in their applications of herbs. Surely anyone who takes large amounts of any substance should be prepared for some negative reactions.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING LICORICE

Changease, the combination to help women through the menopause, contains Licorice.

Panc Tea, the combination to heal the pancreas and deal with diabetes and hypoglycemia, contains Licorice.

Red Clover Combination, the cleansing preparation to cleanse the body from impurities, contains Licorice.

Herbal Cough contains Licorice root.

CSK Plus is used during weight loss.

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LINDEN

TILIA EUROPAEA; TILIACEAE

GENERAL

Also known as the Lime Tree or Basswood, Linden Flowers are an old herbal remedy. Culpepper recommended the flowers for brain and nerve troubles, especially for apoplexy, epilepsy and vertigo. Gerard said to use them for headaches caused by colds, for epilepsy, and as a tonic to prevent disease. He also said that the leaves would be good for most kinds of cattle, although the fruits should not be eaten by any animal. Legend has it that the flowers are extremely relaxing; even sitting under a Linden tree in bloom is enough to make one drowsy. The flowers are given for stubborn insomnia and to calm nervous tension generally, especially restlessness and hysteria. The tincture is sometimes given for hoarseness. In Europe the leaves are sometimes dried and given to livestock as hay; epileptic horses in Spain have been given feedbags of the flowers and leaves. The flowers are said to be tonic for bees, the trees being planted near apiaries, and Linden honey is considered among the sweetest and most delicious in the world. The wood is very light and easy to carve; sometimes piano keys have been made from it. It is sometimes used in the manufacture of organs and for furniture veneers. It is also used for artists' charcoal-making and for the making of wood pulp. The inner bark, besides being nutritive and soothing, is often used for basketry and for net-making. In the spring, the sap is drawn and made into syrup much like maple syrup.

HISTORICAL USES

Used for brain and nerve troubles, for apoplexy, epilepsy, vertigo, colds, as a disease preventative tonic, as a sedative, for insomnia, restlessness, hysteria or hoarseness.

LOBELIA

LOBELIA INFLATA; LOBELIACEAE

DESCRIPTION

Lobelia is an annual herb growing in dry fields, pasture grounds and woodland pastures. In dry, sunny places it attains a height of a few inches to a foot or two, the usual height in pasture lands being about a foot. In shady, rich soil, however, it is more luxuriant, growing two or three feet

and becoming more slender and fewer branched. The plant flowers in August continuing into September until frost. When the time to flower arrives, each plant begins to bloom, no matter what its height or size. Often plants will be found in bloom only an inch or two high, and only bearing three or four small leaves and as many terminal flowers.

The flowers appear in August, the first to open axillary to the upper leaves which become successively smaller, passing into the bracts of a terminal raceme. The flowers themselves are rather inconspicuous being only about a quarter of an inch long. They are borne on short, erect peduncles about the length of the calyx lobes.

The calyx is adherent, with a globular ribbed tube and five slender, linear, subequal, erect teeth, which are nearly as long as the corolla. The corolla is small, bilabiate, and of a light blue color, the tube of the corolla is split the entire length on the upper side, a characteristic of all the species of *Lobelia*, the upper lip consists of two erect, narrow lobes, the lower of three sub-equal, broad reflexed segments. The stamens are five and cohering together, both filament and anther, around the pistil, form a column the length of the corolla tube and slightly projecting from the split in this tube. The pistil consists of a two-celled inferior ovary, containing numerous minute ovules attached to the large central spongy placentas, and completely filling the ovary when in flower. The style is enclosed in the tube formed by the stamens, and ends in a small two-lobed stigma.

The fruit-pod is a peculiar shape. It is about a quarter of an inch long, inflated, sub-globular, compressed laterally, and unequal at the base, the cell opposite the stem being longer at the base than the inside cell. This is characteristic of the fruit. The pod is prominently ten-veined lengthwise with numerous intermediate net veins. It is crowned with the five persistent linear calyx segments, which on the unripe pods are nearly erect and slightly more than half the length of the pod; the sides are very thin and easily compressed. The pod is very much inflated, and is divided lengthwise into two cells by a thin partition; it contains an axial two-lobed, comparatively large, spongy placenta, which is densely covered with numerous minute seeds.

GENERAL

Dr. Christopher said that *Lobelia* is one of the greatest herbs in the world. It is certainly one of the most disputed herbs in the world, yet those who use it consider it to be indispensable in their herbal repertoire, acting as a "thinking" agent which goes to whatever part of the body is ailing and treats it, often in conjunction with other herbs. Dr. Christopher considered that *Lobelia* would help correct the entire bodily system, as it is easily diffused and utilized. Its greatest aspect is that it removes obstructions and congestion within the body, especially the blood vessels. Over his years of practice, Dr. Christopher administered *Lobelia* many times, and there were numerous miraculous healings. Time after time, *Lobelia* helped all, from the very young to the very old, with only positive results. As for *Lobelia* being a poison, Dr. Christopher considered this one of the most ridiculous falsehoods ever foisted upon the public by orthodox allopaths. Dr. Christopher himself quickly swallowed as much as four tablespoons of honey sweetened tincture of *Lobelia* at one time, mistaking it for apple cider vinegar. After vomiting profusely, he felt

nothing but improvement, and suffered no damage whatever: only a good cleaning out!

Dr. Christopher said that Lobelia is a selective herb. Lobelia will cause a weak, dead or extremely weakened fetus to abort, for example, but if the fetus is strong and healthy, it will cause the mother to strengthen and allow her to carry the child until the proper time of delivery. Lobelia selects which way it should go. It acts in this way in many instances.

For example, Dr. Christopher made up a simple but extremely effective formula for glands, of three parts mullein and one part Lobelia, to be taken as tea, in capsules, or to be used as a fomentation. This is used anywhere in the body where the glands are swollen and malfunctioning. Dr. Christopher liked to relate the cases of two small boys suffering from an enlarged gland on the side of the neck behind the ear. A nurse had called him in desperation to ask his advice on the first case. Usually the medical practice for this malady, besides antibiotics, which are usually ineffective, is just to wait for the child to grow out of it. The nurse accepted Dr. Christopher's advice to use the Mullein and Lobelia fomentation. She asked, "Which way is the toxic accumulation going to come out of the body? Will it come out directly through the skin like a bursting boil or will it be routed through the bloodstream and be taken out through the bowel?" Dr. Christopher replied that he did not know; that it would be "decided" by the Lobelia.

If the bloodstream cannot handle the poison, it will be taken out through the skin; otherwise, the bloodstream will carry it out to be eliminated.

The second little boy had a similar swelling behind his ear. His mother called Dr. Christopher and asked him what to do; he gave exactly the same advice, the mullein and Lobelia fomentation. She applied the fomentation as described. In the first case, the poison gathered up and burst, and it drained out straight through the neck. The boy cleared up and suffered no more from the problem. In the second case, the poison was absorbed by the body and the toxic material eliminated through the bowel.

In another case, this formula was applied as a fomentation to a small boy who had been playing next to a trailer which flipped up and split his scrotum so badly that the family doctor felt that the only solution would be castration. The fomentation was applied and the damage repaired; the boy grew up normal. We have applied this fomentation to a young boy whose glands became so swollen that he had huge lumps at the back of his neck as well as almond-shaped lumps behind his ears. This had become such a chronic condition that we had little hope of improvement.

We applied it to him last thing at night, and in the morning when he awoke, the swelling was absolutely and completely gone. We were so amazed that we decided that we must have this combination in the house at all times!

Dr. Christopher usually used Lobelia in the form of the acid tincture, which is made by soaking the herb or seed of Lobelia in apple-cider vinegar, one ounce of herb to one pint of vinegar. Incidentally, in recent years it has become all but impossible to obtain the seed, so most tinctures

are made from the herb. Dr. Christopher was once called out on a case where an old man had a terrible case of lockjaw. The Doctor poured a small amount of the tincture into his mouth through his clenched teeth and within minutes he opened his jaws and was able to thank the Lord for the relief. Lobelia solved the effect; when the man could speak, he described working out on his farm, where he stepped on a rusty spike left out in the field by someone years ago. It had penetrated through his boot and now blood poisoning had set in. Dr. Christopher then went to work on this case. He used plantain ointment to draw out the poison, and other herbs to cleanse the bowel and the bloodstream of the poison.

Dr. Christopher used the tincture of Lobelia to clear people of asthma, although they have had it many years. A couple of young fellows brought an old, old man into the Doctor at about two o'clock one morning in Evanston, Wyoming. The old man had had asthma for 26 years. For 20 years of the 26, he had never been able to work. He had never laid in a bed for 20 years. They had to build a special chair so he could sit up at night with his feet stretched out. He had a doctor at the home an average of once a week, either to give him some drug orally to keep him alive, to give a shot, or to administer oxygen. Since the family couldn't locate the doctor that night, they came in desperation to Dr. Christopher. Since the doctors did not want a naturopathic physician in town, most people had never heard of such a thing. The young fellows asked, "Do you treat human beings?" The Doctor said, yes, and to bring him in.

As the man sat down, the Doctor gave him a cup of elderleaf tea to drink gradually. He told him how he had asthma. He had been quite independent, but lately they had had to mortgage their home in order to go on with the doctoring. After he had had the elderberry tea for about ten minutes, the Doctor gave him a teaspoonful of the tincture of Lobelia. He waited ten minutes--being sure to be very accurate about this--and gave him a second teaspoonful of the tincture. After another ten minutes he gave him the third. In forty years of practice, the Doctor commented, he never had to use the tincture of Lobelia more than three teaspoonfuls to a patient. He explained that this was so because each time he was called it was at a crisis, at the climax of the disease, the right time for clearing the disease. They just sat around and chatted. The Doctor had buckets and pans around, and all of a sudden, the man started to heave. This was a little after two o'clock in the morning and he heaved on until five o'clock, for three full hours. At the finish it was dry heaves, but he brought up everything he had eaten for days, plus nearly a cup of phlegm and pus from his lungs and bronchi, from yellow to green. After he was done, the Doctor told his sons to take him home. "Should I bring him back tomorrow", he asked. "No", answered the Doctor, "it's a do-it-yourself-kit; it's all finished".

They took him home and started to walk him to his chair, but the man said, "No, boys, I'm sleeping in the bed tonight". "But, Dad, it'll kill you!" they pleaded. "No, I'm the boss-- take me to bed". They were afraid to stretch him out in case he should choke up and die. This was at five o'clock in the morning. He slept through until five o'clock the next morning--which is twenty-four hours--and slept on past noon--thirty hours he slept! When he woke up, for the first time in over twenty years he took a deep breath of air. He could take it without choking or coughing, and he said, "I'm healed". The boys were quite pleased about this. Twenty years later, one of them

touched Dr. Christopher on the shoulder in Salt Lake City. He said, "My name's Workman; remember me?" Dr. Christopher said, "No". "We brought our pap into you in Evanston, Wyoming at two o'clock one morning." The Doctor then remembered him. He asked, "What happened to your dad?" The young man answered, "He never had an asthma attack from that day to this, and he went to work as a gardener and never missed a day's work since that time. The family thanks you very much".

Dr. Christopher reiterated that this program will only work if a person is at a crisis, at a climax, where they think they are going to die in a few minutes. If a person has a slight asthmatic condition, this would not do them any good. Lobelia is also an important herb in the anti-miscarriage formula. It will do such wonders as seal up a tear in the bag of waters in an instance of a threatened miscarriage. It will also help to expel, without complication, a fetus that is already dead. One lady who was about five and one half months along in her pregnancy began to show signs of bleeding, as if a miscarriage was about to occur. Some women who were assisting her gave her one-half cup of the tea every half hour, while the pregnant woman remained in bed. The women noticed that the bleeding had not subsided after several hours, so they packed her off to the hospital. No sooner had she arrived in the emergency room and was about to be examined by the doctor, when she expelled a fetus that had been dead for several weeks, unbeknownst to her. The doctor was amazed, and questioned the attendants about the events leading to this spontaneous abortion. The women told him about the false unicorn and Lobelia formula. The doctor commented, "Never in all my years of practice have I seen a dead fetus evacuated from the womb in such a clean manner. Usually we have to surgically remove particles of the placenta which adhere to the uterine walls. The herbs you have used are miraculous. I wish I could use them in my practice--but my hands are tied".

Dr. Christopher was lecturing in a large city when a young man came up to the podium to shake his hand; he nearly shook the Doctor's hand off! He said he had been trying to catch up with the Doctor for a long while. His mother had told him that one night, when the weather was fifty below zero, the Doctor had travelled forty miles to their home. The mother was aborting, ready to lose her baby. The Doctor had given her some herbs and saved the baby--and the young man was that baby! He was about twenty-five years old. He said, "I enjoy life. I love you, sir, and I had to thank you".

Dr. Christopher loved to quote Priddy Meeks, who was one of the early herbalists in the Mormon Church. In the 1800's, there was even then the conflict between the orthodox doctors and the herbal practitioners, and most of the early brethren, including Willard Richards, who was with the Prophet at his martyrdom, were herbal doctors. Priddy Meeks was a self-educated Thomsonian physician (we will discuss the history of the Thomsonian system below). He saved the lives of people who were given up to die by local doctors. Meeks was appointed by Joseph Smith to be in charge of the Health Department at Nauvoo, Illinois. He left one of the most thorough extant diaries about the uses of herbs in early America. The following stories are excerpts from his journal. It should be noted that a "Thomsonian course of medicine" is what Dr. Christopher administered to the asthmatic old man. In many cases, peppermint tea or cayenne is used instead

of the elderberry tea. Please note we have retained spelling and usage of the times.

"One widow woman who had the dyspepsia was so bad that she was given up to die by the doctor who had attended her for near a year, and said she could not be cured. She sent for me to come to see her, which I did. She told me to try and cure her if possible. To do my best anyway and if I killed her it would only be death anyhow, for she knew she could not live long if she did not get help. So I went home to prepare for doctoring her, and Doctor Vendeventer, who had given her out, hearing I was going to undertake her case, come to see me. 'Mr. Meeks', says he, 'you had better not undertake that woman's case. That complaint cannot be cured, and you will fail and you will lose practice by it. The remedy for that complaint is not known. Search has been made for it as far as ships have sailed on the ocean, and human feet have trod the soil, and the remedy is not found yet'. I paid the woman five visits and made a sound woman of her. And what did I do? Nothing more or less than gave her a thorough course of Thomsonian Medicines each time. I know no other way to doctor at that time but to follow the letter of directions. I had nothing but kayenne pepper and ginger for my composition powder and Lobelia, and as I went along, gathered green Sumac leaves off the bush, which answered well for kanker medicine and to make a tea to put the medicine in for her to drink...This circumstance being noised abroad brought me as much business with the sick as I could attend to. There being several young ladies in the vicinity that the doctor had give out, which was now ready for me, and with thorough courses of Thomsonian medicine, they were cured. One case I will mention for the novelty of it.

"A Mrs. Perry had a daughter with the green sickness who the doctor had spent nine months on without benefit. Her mother being very anxious about her daughter's situation, having heard of Dr. Meeks living at Versailles who cured everything he tried. He was so far ahead of Doctor Vandeventer, she did not know whether she would know how to talk to him or not, but resolved to try, so she rode up one day to my gate and enquired if Doctor Meeks lived there. I said, 'Yes, ma'am. Light and come in'. I had been at work in the garden. It being hot weather, I was sitting between the two doors where I might be cool, being in my shirt sleeves, bare headed and bare footed. She finally came in, and took a chair. She says, 'Is Dr. Meeks at home?' 'Yes, ma'am,' I replied. She says, 'Where is he? I would like to see him'. 'He is not far off, I presume', I replied. 'What would you have of Dr. Meeks?' She then gave the history of her daughter's case. By this time I thought I ought to let her know that I was the man that she was after. I said to her, 'I am Doctor Meeks'. It struck her dumb for a while. She came very near to jumping out of the chair into the fire...I was truly sorry for her. But when she recovered, so she could speak, she said, 'I do not care how a man looks, so he can only cure the sick'. And with five regular courses of Thomsonian medicine, she was made a sound woman, much to the joy of all her friends. This shows what courses of medicine can do without anything else.

"From the time I become conspicuous among the sick, something like half of the sickness fell to my charge, and I was so successful...

"I will relate another incident...while living at Parowan (Utah). Simeon Houd got badly poisoned with strychnine so that he had his thumb amputated, but that did not seem to stop the poison from

ascending up his arm and going down into his vitals, which would prove fatal. He sent for me and said to me, 'Brother Meeks, if you cannot save me, I am gone, for if the poison gets into my vitals, it will kill me. It is now up to my shoulder'. Never knowing Lobelia to fail in a case of poison, neither indeed in any other case, in full assurance of faith, I went to work and give him several thorough courses of Thomsonian medicine and in three or four days he was so much better that we all believed that nothing more was needed, as the poison was checked. He felt about well. I thought the job was completed and went home. Meeks then relates how a heavenly messenger came to him to tell him to keep giving Houd medicine, as he wasn't completely cured. Meeks did so, noting that his medicine must be good, because heaven seemed to approve it.

"Sister Daniel Tyler, while living in Nauvoo, got desperately poisoned by rubbing red precipitated mercury on her skin for the itch, not knowing the danger. She put it on quite plenty. He (the husband) come for me about midnight. I just give her a few courses of Thomsonian medicine and she was not long till she was well. We need to know but little about the patient, only to know that they are sick and but very little difference what the complaint will be. Thorough courses of regular Thomsonian medicines will seldom, if ever, disappoint you in performing a cure. It will remove obstructions where ever found in the whole system, and restore a healthy action where ever needed. It does act like intelligence. Always in harmony with the living intention of the system, which is always to remove obstructions from the system of whatever name or nature it may be.

"I sometimes look upon Lobelia as being Supernatural, although I have been using it for forty-six years. I do not know the extent of its powers and virtues in restoring the sick and at the same time perfectly harmless. It is undoubtedly the best and purest relaxum in the compass of medicine. That is the reason that it is so good in childbed cases. It puts the system exactly in the situation the laws of nature would have it to be to perform that object. Those in the habit of using it in such cases look forward in pleasing anticipation of having a good time without the forebodings of trouble so common to women. Oh! glorious medicine!

"Brother Nobles' wife was in about one month of her expected sickness and had the dropsy so bad she thought she could not live till that month was out, so that she could be doctored without injury to her offspring. The doctors in the valley held a consultation over her case and President (Brigham) Young with them. They could devise no means to save the woman without destroying the infant, and she could not live but a few days without help, but they would not make a move until they sent for me. When I come, they told me they could not see how the woman could be saved without destroying the child. I told them there would be no difficulty in bringing about that object. They wanted to know if I thought that I could take the water out of that woman and save both alive. I said, 'Yes, certainly I can. And Lobelia is the thing that will do it'. I just give her the Thomsonian Courses of medicine, and soon had all the water out and in due time she had a fine boy, to the joy of all who was watching to see what the result would be. I do not think the medicine is yet found and probably never will be that will act in accordance with the laws of life and the intentions of nature like Lobelia. No difference what the matter is nor where the obstructions are, Lobelia will find it and remove the obstruction and create a healthy action...

"About forty years ago, in Versalles, Brown County, Illinois, there was a woman afflicted with what the doctors called Prolapsus Uteri in its worse form. But the plain English of it is the falling of the womb. She had been attended for along time by the best doctor in the country and given up as incurable. The parts were tanned with stringents to such a degree there was but little or no sensibility in the parts. I think she had been in that condition over a year. I never was acquainted with that complaint before, but with great confidence in the botanic medicines, I undertook her case. I just give her regular Thomsonian courses of medicine, with common tonics or strengthening medicines. I used some female injections of Slippery Elm and she soon got well. Not long from that time her husband eat an overdose of wild grapes and they proved so costive he had no passage for nine days. Doctor Vandeventer gave him up and said he could not be cured without cutting him open, for his guts were tied in a knot and untie the knot with his fingers. Thomas Harold would not agree to be cut open...He said he might as well die one way as another, and he would live as long as he could, so I will send for Meeks. So they sent for me. I went with him. Mr. Brown, the messenger said, 'The Doctor says his guts are tied in a knot, do you think so?' Said I, 'Yes'. Said he, 'The doctor ought to know'.

"It was the first time that such a subject was ever brought to my mind. I paused a minute and saw the impossibility of such being the case. I said to Mr. Brown, 'When you gut a hog and get the guts in your fingers, can you tie them in a knot without ridding them of the striffin a foot or so and then taking the guts in the shape of a bow knot and drawing it double with your fingers'. He said, 'No. You are right'. I treated him with Lobelia in the form of regular courses of medicine and brought grape seeds from him both up and down till he was empty and soon well.

"In Leeds, Washington Country, Utah, some years since, I was called to a case of a woman in childbed and could not be delivered with all the best wisdom and talents that was to be had among the women of that section of country. When I met her husband at the gate, he asked, 'Do you think you can do her any good?' I said, 'I think I can'. He said he had not faith in the world that I could do her any good, for, said he, 'I have buried two women that died exactly in that situation, and I thought there was no remedy in such cases'. Well, she was in a deplorable condition. She had been five days in that condition without any progress whatever. All hands was disheartened and the case given up. There she lay in a cold, lifeless condition, her strength exhausted and her pains gone, and little, if any, progress made.

"Well, I commenced a little before sunset, and by eight o'clock next morning she was comfortable in bed with a twelve pound boy her side, but it was dead before I commenced.

"...I relaxed her system to the flexibility of a wet cloth with Lobelia, which can be done if persevered in sufficiently without any danger whatever, it is perfectly harmless. At the same time give freely of Cayenne Pepper with the Lobelia in warm teas of some kind, and this medicine will diffuse itself thro the whole system from the top of the head to the end of the toes, removing obstructions wherever found and restoring a healthy action wherever needed, increasing vitality and power of life, giving strength and energy to the internal forces. And in that condition of the

system, you can't prevent her delivery according to the law of nature, which is the law of God, and by letting her alone in this condition the pains will return just as natural as the water will follow the ditch when the obstructions are removed...This case was a woman forty three years old, and this was her first child, which made her case much harder to bring her through safely, but she done well and soon was up and around again.

"Those women who have used those medicines before confinement (here Meeks is discussing female relief pills that contained among other things, Lobelia) as a preparatory means have received great benefit thereby, both in speed and ease. One case three and a half hours from the time she first knew what was the matter till she was safely delivered of a fine boy, and both done well. Two other cases only three hours, another case of one and a half hours after the midwife arrived, she having to go not over 100 rods and those that was miserable before confinement found relief by using those pills...

"A remedy for Diphtheria I never knew to fail: Give a good thorough emetic of Lobelia and bathe the throat from ear to ear and gargle also with a liquid made by putting two teaspoons full of finely pulverized Lobelia seeds and the same amount of Cayenne Pepper into one quart of good keen vinegar, and go through the operation of bathing and gargling as often as the emergency of the case may require...

"As an instance, I attended a case of hydrophobia--a boy 10 or 12 years of age. Philetus Davis by name...Having been bitten by a rabid dog. Lobelia was administered. He recovered perfect health and says he has never had a tremor of the complaint. He now lives at Toquerville and has a large family..."

Meeks' experiences seem almost miraculous and certainly belie the claims that Lobelia is a poison. Aside from its historical interest, his experience confirms Thomson's claims.

THOMSONIAN CURE-ALL

Lobelia, also called Indian tobacco or pukeweed, was used by the American Indians as a cure for syphilis, to expel intestinal worms, and as a diaphoretic (Rose:Herbs:77). The herb was known to the Penobscot Indians and was widely used in New England long before the time of Samuel Thomson, who is credited with its discovery. Rafinesque said that the Indians used Lobelia to clear the stomach and head before their great councils.

Thomson was an exceedingly energetic and zealous man who boasted of his illiteracy, never attended a college or received a lecture in medicine, but who created a lasting excitement in the medical world of America, and who has still many earnest followers, though his methods have been altered over the years.

Thomson related his discovery of Lobelia thus:

"Sometime in the summer, after I was four years old (1773), being out in the fields in search of the cows, I discovered a plant which had a singular branch, and pods that I had never seen before. I had the curiosity to pick some of the pods and chew them. The taste and operation produced was so remarkable that I never forgot it. Afterwards, I used to induce other boys to chew it, merely by way of sport, to see them vomit. I tried this herb in this way for nearly twenty years, without knowing anything of its medicinal virtues...

"I had at that time (8 years old) a very good knowledge of the principal roots and herbs to be found in that part of the country, with their names and medicinal uses. The neighbors were in the habit of getting me to go with them to show them such roots and herbs as the doctors ordered to be made use of in sickness for syrups, etc. and by way of sport they used to call me doctor. While in the field at work, I often used to find the herb, which I tasted when four years old, and gave it to those who worked with me, to see them spit and vomit, but I never observed any bad effects produced by it, which simple experiments eventually led me to observe the value of it in disease.

"The herb which I had discovered when four years old, I had often met with; but it had never occurred to me that it was of any value as a medicine, until about this time (1791-1794)-when moving in a field with a number of men one day, I cut a sprig of it, and gave it to the man next to me, who ate it; when we got to the end of the piece, which was about six rods, he said he believed what I had given him would kill him, for he never felt this way before. I looked at him and saw that he was in a most profuse perspiration, being as wet all over as he could be; he trembled very much, and there was no more color in him than a corpse. I told him to go to the spring and drink some water; he attempted to go and got as far as the wall, but was unable to get over it, and laid down on the ground and vomited several times. He said he thought he threw off his stomach two quarts. I then helped him into the house, and in about two hours he ate a very hearty dinner and in the afternoon was able to do a good half day's labor. He afterwards told me that he never had anything do him so much good in his life; his appetite was remarkably good, and he felt better than he had felt for a long time. This circumstance gave me the first idea of the medicinal virtues of this valuable plant; which I have since found, by twenty years' experience, (in which time I have made use of it in every disease I have met with, to great advantage), to be a discovery of the greatest importance." (SNH:358)

Thomson's medical practice began with the treatment of his own family, and then he began to gather roots, herbs and barks to practice empirically in the families of his neighbors. He did study the medical writings of his day, as he was often very caustic and aggressive toward the regular medical profession. Perhaps if he had been less so, and had gone more quietly about his own business, he would have suffered less at the hands of the medical doctors. His mistake might provide a lesson for zealous herbal practitioners today.

In 1805, his practice extended beyond his immediate neighborhood, and he was called to other states to treat difficult cases. During these trips his combative nature led him continually into heated arguments with members of the regular medical profession, who bitterly denounced his treatment. He was finally charged with murder, for sweating two children to death, and for killing

a certain Captain Trickey, who Thomson declared he had not treated at all. In 1809, a Dr. French, between whom he and Thomson there had long existed an intense animosity, preferred charges, and Thomson was arrested for the willful murder of a young man who had died under his attention; Dr. French charged Thomson with murdering this young man with Lobelia, "a deadly poison". Thomson was thrown into prison at Newburyport, Massachusetts, November 10, 1809, where he remained confined in a dungeon for an entire month, without a table or chair or bed, only a dirty straw mat upon the floor with one blanket which had never been washed. The place was infested with vermin, it was filthy, and his cellmate was a man charged with child molesting. He remained there during the winter month without a fire. He probably would have remained in prison for a year, as the court was not scheduled to convene until the fall of the next year, but some eminent friends who had benefited from his work, after much exertion, secured a hearing before Judge Parsons in a special session on December 10, 1809.

The prosecution seemed to base their charges on the fact that the powder given the young man was Lobelia, a Dr. Howe testifying to that effect. The defense showed, however, that Howe was not acquainted with Lobelia, and also that the powder that Drs. Howe and French thought was Lobelia was marsh rosemary root--which Thomson said he had administered to the young man. Finally the court acquitted Thomson without even hearing his witnesses, the case so apparently trumped-up. Later Thomson sued for damages against French, but only succeeded in losing more than \$600, then quite a sum. Thomson embittered so many medical men against himself, that in 1811, while Thomson was passing the office door of a doctor in Maine, the physician tried to kill him with a scythe. In March 1813, he obtained a patent on his system of healing and sold it to whomever wished to apply it for the then-heavy sum of \$20. Thomson died in Boston, 1843, after a tedious application of his own medicine.

Thomson originated a theory of disease and healing that was, and is, distinct from other notions. You may be interested in a summary of his ideas. First, he believed that all diseases are the effect of one general cause and may be removed by one general remedy--which did not mean one herb, however. He thought that all diseases originated from obstructed perspiration, which is always produced by cold or the absence of a suitable degree of natural vitality. His axiom became, "Heat is life and cold is death". He did not perhaps mean this in a literal sense, but he believed that a low temperature caused disease and that fever was a positive thing to remove cold. The cold causes obstructions, he claimed, and a fever arises to remove them.

In all Thomsonian works, the term canker appears, which is somewhat an original idea to Thomson. He believed that a white feverish coat was caused by cold and attached itself to the mucous membranes of the stomach and bowels. If this growth is not checked and removed, it will communicate with the blood, he believed, and cause death, the final victor in the battle between heat and cold. Dysentery is caused by canker in the bowels. The piles (hemorrhoids) are canker below the usual reach of medicine--and so on.

Therefore, good medicine will produce a great internal and external heat to prevent formation of canker and throw it to the stomach, and then remove it from the stomach by emetics. Thomson

called emetics, class no. 1, stimulants, class no. 2, which produce perspiration; astringents, class no. 3, which scour the stomach and bowels and remove the canker; bitters, class no. 4, to restore digestion and correct the morbid secretions of blood and bile; restoratives, class no. 5, to correct digestion and strengthen the stomach and bowels; and antiseptics, class no. 6, to give tone to the stomach and bowels and prevent mortification.

The enemies of Thomson asserted that he first administered no. 1; if that failed, used no. 2, and so on through the list, if the patient still lived!

Of course, that is not the case. But perhaps his system seemed over-simple to many, and perhaps his notions of disease needed expansion. Some think that if he had been permitted to receive a thorough education, and had been led to systematize his labors, his indomitable spirit and tenacity of purpose would have made him conspicuous among the pioneers of America, either within the medical profession or otherwise. Certainly his promotion of Lobelia and cayenne have made them prominent in the herbal world.

Thomson's work was affirmed by Dr. A. I. Coffin in 1853. His motto was "believe one who has experience to justify his own opinion". Dr. Coffin used Lobelia extensively in his obstetrics practice. He used Lobelia and yarrow combined to stop threatened miscarriage, as well as using the herb itself during childbirth. He described the case of an Irish girl, unmarried, who was unfortunately pregnant. She had been in labor three days under the direction of a physician who considered the case so desperate that he recommended breaking open the infant's skull, extracting the brains, and then pulling out the remainder of the child. He had planned this operation for two o'clock that day. The girl called for Dr. Coffin, who found her lying on a pallet of straw on the floor, totally exhausted. The head of the child had advanced into the pelvis, where it was completely wedged and had been so for two days. Dr. Coffin gave her a strong dose of red-raspberry leaf tea together with a half-teaspoonful of cayenne; in fifteen minutes he gave her tincture of Lobelia by the teaspoonful. In about one hour the contractions began to increase, the girl's strength returned, and in two hours from the time Dr. Coffin had arrived, the child was born, healthy and strong. In this case the Lobelia did not make her vomit at all, although she took enough to have vomited three times over, the doctor commented. He called Lobelia and red-raspberry leaf tea the greatest midwife in the world. Needless to say, the other doctor in attendance was astounded; he said, "Good Good--the child is born?"

Dr. Coffin related a similar experience with a woman who was thirty-nine years old, never having borne a child. The child presented breech into the pelvis, and each contraction made the uterus more pulled together. Dr. Coffin gave her the red-raspberry tea and Lobelia, which brought the child in about two hours. However, the child seemed dead, for the cord had been for a long time compressed between the head and the bones of the pelvis, so as to completely stop the circulation. However they placed the afterbirth on some hot coals without cutting the cord, which filled the umbilical cord with warmth and moisture. They gave the newborn a half-teaspoonful of the tincture of Lobelia and gave it a small enema of composition tea; by this means, said Dr. Coffin, the degree of heat was raised sufficient to expand the lungs, and the child was resuscitated!

Coffin was a British physician; quantities of Lobelia were imported into England for such use, where they became a standard in the British pharmacopeia, although the herb had its enemies there as well as here. Perhaps Dr. Coffin's comment will begin to shed some light on the poison controversy. He said that Lobelia is not to be used on the well, but only on this sick, those in crisis. We will return to this concept later in our discussion on the poisonous allegations against Lobelia..

In 1838, Professor William Tully of Yale, writing to a medical doctor, said, "Lobelia is entirely destitute of any narcotic powers. I have been in the habit of employing this article for twenty-seven years, in large quantities and for a long period, without the least trace of any narcotic effect. I have used the very best officinal tincture in the quantity of three fluid ounces in twenty-four hours, and for four and seven days in succession, and I have likewise given three large tablespoonfuls of it within half an hour, without the least indication of any narcotic operation.

I have known four and five tobacco pipes full of it smoked in immediate succession and without any narcosis, and I have also known it to be given by enema with the same result...Dr. Bigelow, of Boston, was the first person who ascribed narcotic powers to this agent, and he did this in 1817, but not from his own observation. I am confident (the old women's stories in the books are to the contrary notwithstanding) that Lobelia Inflata is a valuable, a safe, and a sufficiently gentle article of medicine, and I think the time will come when it will be much better appreciated".

Lobelia is one of the plants named in honor of Mattias del Lobel, one of the early English botanists. He was born in 1538 at Lisle in the north of France and was educated at Montpellier in the south of France; he traveled throughout Europe, finally settling near London. He was a physician, at one time doctor to William, Prince of Orange, but he is primarily known as a botanist. His first book dealt with the materia medica of the ancients. His second work expanded upon this first, with new remedies, rare plants, etc., and the beginnings of a natural system of classification. Although it was very crude and imperfect, some of his groupings continue to this day. The specific name inflata refers to the seed pods, which appear to be inflated like a balloon. A number of other names have been applied to the plant, mostly in older works. The very earliest botanists did not agree on a name for the plant. Aiton in 1810 called it Bladder Pod, and this name together with Inflated Lobelia and Bladder Pod Lobelia are the natural translations of the specific name. From its taste, which resembles tobacco, the plant began to be known as Wild Tobacco, which naturally proceeded to change to Indian tobacco, as a tobacco which grew wild would be presumed to be used by the Indians. However, there is no record that the Indians ever used this plant as a tobacco. Dr. Carver, who spent most of his life among Indian tribes and who wrote a list of their plant uses, did not mention the plant. The herb began to be used by Dr. Bigelow and was adopted in the classical botanical books. Thomson and his co-worker, Dr. Cutler, a medical doctor who became convinced of the virtues of the plant, brought the herb into general attention; they called it Emetic weed, which brought the suggestions of Puke weed, Vomit weed, and Gag root, which names have been variously used. Asthma weed is used by a few writers, and in very old works, it is sometimes called Eyebright.

Lobelia was official in the U.S. Dispensatory in 1887. It was there recommended for asthma, bronchial troubles, whooping cough, and similar ailments.

During the 1800's there was a popular misunderstanding about this plant. Patent medicines would often specify whether the formula was made up from the smaller varieties, "low-belias", or the taller varieties, the "high-belias". Incidentally, the highest of the Lobelias, native to the slopes of Mount Kilimanjaro in Tanzania, is a giant wildflower that grows up to twelve feet in height. A typical recommendation from that time period recommended filling a bottle with Lobelia roots and stems, covering them well with good whisky for a couple of weeks. The liquor was strained and scent added. This, rubbed in the scalp, would stop hair from falling out rapidly, and indeed, it would make the hair grow in thickly.

Farmers used to gather little lots of Lobelia and sell the entire plant. Herb collectors, on the other hand, would wait until the plant flowered, beat out the seed, which sold separately at a higher price, and then sell the herb as well. This is why most of the herb is sold broken and devoid of seeds. Because the herb grew abundantly in the eastern states, the first supplies came from that section, but collectors in other parts of the U.S. began to find it, and it is said to be collected over most of the country. Moore mentions that it is supposed to grow in southern California, but in ten years of looking for it, he has never found it (Moore:98). At times, Lobelia becomes hard to secure; in 1807, a thousand dollars could not purchase one pound. At present, it is nearly impossible to purchase Lobelia seed for medicinal use, although you can buy it to plant in your garden.

HERB OF MANY USES

Most people agree that Lobelia is a specific treatment for asthma, as well as other bronchial or spasmodic troubles. Because the herb removes obstructions, giving it when an attack comes on will often cause vomiting; matter will accumulate in the stomach which will cause obstructions. When the person vomits, it removes the intestinal blockage and often removes the mucus accumulations in the bronchial system as well. Dr. Nowell told the story of a woman who at forty years old was pregnant with her first baby. She was suffering terribly with asthmatic spasms, unable to lie in bed, fighting for breath; both she and her husband begged their doctor to stop the cough. They were told that nothing could be done until the child was born.

Dr. Nowell gave them a bottle of tincture of Lobelia, telling her to take a teaspoonful whenever the coughing began. The next morning, the patient told the Doctor that almost immediately after taking the first dose, the patient brought up long, thick masses of phlegm from the lungs the size of a man's fist. No further dose was taken and the patient never had a trace of any chest trouble since and lived a long and fruitful life (Klo:272).

It is one of the best plant expectorants, but as it is a stimulant to the vagus nerve it can easily produce nausea and vomiting when taken in excess. If a teaspoonful of the tincture produces

nausea, cut down; it can easily be overdone, says herbalist Moore (Moore:98). The leaves and flowers have strong antispasmodic effects on the bronchials when smoked, and certain individuals with asthma can find it a reliable herb to smoke at the first signs of spasms (Ibid.).

Lobelia is in this regard and in other conditions a superior antispasmodic, which is an herb to stop spasms and pains related to spasms. It relaxes the system powerfully, although cayenne should be taken with it to lengthen the duration of the herb's effect. For baby convulsions, place a drop or two of the tincture on the tip of a clean finger and place it in the baby's mouth. This should stop the spasms immediately. The antispasmodic tincture, which combines equal parts of Lobelia, scullcap, skunk cabbage, gum myrrh, black cohosh, and a half part of cayenne, is even more effective. This is also used by the teaspoonful in sweetened warm water for painful spasms of any kind in the body. It should relieve attacks of epilepsy, lockjaw, delirium tremens, fainting, hysteria, suspended animation, etc. (SNH:363).

Lobelia is said to be an excellent remedy (and preventative) for infectious diseases. Since most fevers result from obstruction in some part of the system--usually the digestive tract, we have found--Lobelia "locates" and removes the obstruction. We have seen this happen many times with children; they begin to sicken, and you can tell there is something congesting their system. By removing that congestion, you remove the cause of the illness. Lobelia can be used as an enema to remove congestion from the body via the colon. When Lobelia causes vomiting, Malstrom claims, it usually signals a cleansing process in the body expelling debris that cannot be expelled in any other way (Mal:94). He considers it an effective remedy in scarlet fever, measles, whooping cough, mumps, and other contagious diseases. It gives almost immediate relief from suffocating mucus and phlegm that has accumulated in the respiratory tract and which is often associated with these diseases (Rose:Herbs:77). In connection with infectious diseases, Dr. Christopher told a story about one of the most contagious of them all--mononucleosis. A woman, an elderly student of Dr. Christopher's, was in contact with the disease with the employees she worked with at a nursery hothouse. Since all of them had been using the company drinking fountain, all of them were exposed to the disease, and there was almost a complete turnover in employees because of it. The lady tried to locate Dr. Christopher to ask what she should take to prevent getting the disease, but he was away lecturing. She took a bottle of the tincture to work with her, and took two drops in a teaspoonful of distilled water every fifteen or twenty minutes. Out of all the employees, she was the only one who did not get mononucleosis! Dr. Christopher thought that she might have needed to drink a teaspoonful every so often, as he thought more might be needed to do the job! Often a person who has a fever coming on will take the teaspoonful of tincture of Lobelia with a glass of water. After vomiting, the fever breaks and the person is able to go about his regular duties. Dr. Christopher said that Lobelia is an anti-infection herb as well as a relaxant.

It is also very important in the relief of pain. However, we must stress here that the pain should be of an acute nature and not simply a minor irritation. We feel that there are other herbs of a less potent nature, such as Catnip, which will alleviate pain without requiring the skillful and knowledgeable use that Lobelia does. However, in accidents Lobelia can help immediately. Once

a student of Dr. Christopher's smashed his finger with a hammer. He immersed the injury in tincture of Lobelia and the pain subsided in seconds. Terrific pain from muscle over-exertion has been abated by massaging Lobelia into the affected muscles. People writhing in pain and rolling on the floor have been immediately calmed with the administering one half teaspoonful of tincture of Lobelia. When there is acute swelling, such as with boils or inflammation, an external rub of the tincture or a poultice of the bruised herb mixed with flaxseed or bran, suitably moistened, will relieve the pain. However, used as a sedative, Lobelia depresses the spinal chord function excessively (Moore:98).

Lobelia seems to have been a specific for poisoning, for various reasons. It is used in cases of hydrophobia, where a mad animal bites a human (we suppose that it could be used for animals who have been bitten as well). Give the tincture by the teaspoonful, give the tea as an enema, and rub the tincture over the bitten part. Emesis may result as the poison is eliminated from the body, but the rabies should cause no harm. For tetanus, follow the same procedure. In fact, when any poison is ingested, if you feel that the care of a doctor is not required but you would like to administer something to remove the poison, Lobelia is the answer.

There are various other uses for Lobelia. For pleurisy, you can give Lobelia and pleurisy root for a certain action. For earache, place a few drops of warm Lobelia tincture in both ears (even if only one is aching, put the tincture in both) and plug with cotton. You can put oil of Garlic in first. Of course combinations such as the B&B Tincture or the antispasmodic tincture, both of which contain Lobelia, will do the job as effectively or perhaps even more effectively. For any external problems, such as irritations, swellings, inflammations, boils, and so on, make a mixture of 1 part Lobelia and 2 parts slippery elm; moisten to make a thick consistency, and apply. For liver problems, Lobelia is mixed in equal parts with pleurisy root, catnip, and bitter root; these herbs are made into tea and taken by the tablespoon every couple of hours. Lobelia is used in the case of mumps; when catnip enemas and Lobelia are given, mumps usually have very little effect on males, although there is usually concern when males contract the disease. The illness will disappear, after mild symptoms, within five days (Mal:14). Lobelia reduces palpitation of the heart, and it is in this regard that many herbalists use the plant. Lobelia is employed in midwifery to alleviate rigidity of the pelvic musculature during childbirth (Weiner:120). It is taken internally to help break the smoking habit, as the action of the alkaloid lobeline greatly resembles the action of nicotine. For this reason, doses of lobeline sulfate are incorporated in tablets or lozenges that are intended to aid in breaking the habit (Tyler:201). Lobelia is helpful in meningitis, hepatitis, peritonitis, nephritis, etc. (Mal:94).

Used in very small doses, frequently given it can raise a vigorous perspiration, being a diaphoretic, after which a long sleep of ten to twelve hours often follows. When the patient awakes, he is either cured of his illness or feels greatly improved (Thom:138).

LOBELIA POISONING?

With so many applications of the herb, and with the virulent claims that Lobelia is a poison, it

might be well to discuss the history of Lobelia and poisoning.

From the beginning of its use, Lobelia was labelled a poison by Thomson's enemies. Although no deaths have ever been proven to have been caused by Lobelia, there are certain symptoms which arise when much of the herb is taken. These include great dejection, exhaustion, mental depression; nausea and vertigo; contraction of the pupil; profuse clammy salivation; dryness and prickling the throat; pressure in the esophagus with a sensation of strong vermucular motion; sensation as of a lump in the throat; incessant and violent nausea with pain, heat, and oppression of the respiratory tract; vomiting, followed by great prostration; violent and painful cardiac constriction; griping and drawing abdominal pains; increased urine, easily decomposing and depositing much uric acid; violent racking paroxysmal cough with ropey expectoration; small, irregular, slow pulse, general weakness; violent spasmodic pains, with paralytic feeling, weariness of the limbs, with cramps in the gastrocnemii, and sensation of chill and fever (Mills:388). We have experienced many of these symptoms upon taking much Lobelia; however, we have never experienced the last one: death, preceded by insensibility and convulsions. The great question is whether the effects of Lobelia are a cleansing crisis or simply a poison effect on the body. Do people improve after the vomiting sequence from the herb? Is this improvement a healing; is it relief from illness? Some people say they never experience the weakness and giddiness, only a tobacco-like irritation until the vomiting occurs. Moore treats the subject rather humorously. "The presumption that a patient should puke his or her brains out and then take even more Lobelia is past my understanding..the pedantic idea that Lobelia cannot be poisonous is clearly antithetical to the facts. I know of one genial addlepatte who was rushed to a hospital in Los Angeles in near coma, turning strange colors from respiratory failure, after attempting a Thomsonian 'cleansing' emetic" (Moore:98). We should not simply dismiss the fact that Lobelia sometimes has greatly distressing effects on individuals; as all of us know, herbs react differently upon different people.

For this reason, we usually recommend two things. One is that people taking Lobelia should do so for distressing situations that cannot be handled by other means. If a mother is unable to deliver her infant and has suffered many hours of unproductive labor, this is a situation worthy of using a strong medicine. If a person can hardly breathe due to asthma distress, this again might merit the use of the herb. Dr. Christopher said that the herb simply won't work unless a person is at a crisis. We discourage people from using the herb for simple, everyday problems that can be solved using a milder herb that requires less skill in administration. The second condition we like to apply is that a skilled person administer Lobelia. This doesn't mean a doctor necessarily; it doesn't even mean an herbalist or a naturopath. But it means someone sufficiently knowledgeable and skilled in the application of herbs that they don't overdose with Lobelia. As Brigham Young said, the best doctor is someone with the gift of the Holy Ghost who can discern what is wrong with a person and then discern what is best to overcome it. Dr. Commichaux, a noted reflexologist in Salt Lake City, warned us not to use Lobelia except in the case of heart palpitations. Since we had used quite a bit of it in teething problems and other minor difficulties with one of our children, we asked him what could be the possible bad effects. He said that they are subtle, possibly appetite derangement, trouble with assimilation, nervous complications, some

weakness. We do think, however, that Dr. Christopher's use of the herb in small amounts mixed with others in formulas, to act as a carrier, is certainly within the limits of good application. What we are concerned with is people using the herb excessively without proper cause and without adequate skill. Most really potent medicines require this same skill; this doesn't mean that Lobelia is dangerous, but simply that it is powerful.

In 1981, Dr. Christopher's staff called the Division of Toxicology of the Food and Drug Administration in Washington D.C. At that time the FDA was removing Lobelia from the shelves of herb and health stores, claiming that it was a poison. Since then, it has become legal to deal with Lobelia, although we understand that the FDA still considers it a poison. Dr. Christopher's staff spoke with Dr. Sarah Henry at that office to find out what sort of criteria the FDA uses to classify Lobelia as a dangerous drug. Dr. Henry graciously looked through the files on Lobelia, although she mentioned that there were so many substances for the FDA to investigate, only a limited amount of time could be allotted for the judgment of each one. She mentioned that Lobelia contains lobeline, a poisonous alkaloid possessing properties similar to those of nicotine. Lobeline itself was not considered extremely toxic, however.

There was almost no research in the file on the use of Lobelia by human beings. There was simply not very good clinical data available to the FDA. They relied mostly upon written sources, such as books dealing with poisonous plants. Dr. Henry said that using Lobelia was dangerous because if people used it as an emetic, perhaps 99% of the people might vomit, while 1% might retain the lobeline within their systems and become poisoned. This 99% figure was purely hypothetical. Dr. Christopher's staff member commented that this sounds like the famous argument against home births. Because 5% of all births have complications (although this is overstated; we believe it is only about 2-1/2%), all births should therefore occur in the hospital. It would appear that we limit ourselves because of the minor abnormality.

Dr. Henry considered that there were much better expectorants and emetics nowadays whose dosages are measured and whose purities could be controlled. Dr. Henry mentioned that it is not certain how much Lobeline is in the crude herb; plants vary. She mentioned that 8 mg. is the maximum tolerated dose in a human and that most people take 100 mg. of the herb. Of course, these figures are not documented in the FDA files. Dr. Henry was kind enough to supply the inadequate information that the FDA had.

But Dr. Christopher's staff went a bit further; consulting Phytotoxin Tables by James A. Duke of the U.S. Department of Agriculture, published in 1977, we find that lobeline can be fatal to 50% of a mouse population if injected intraperitoneally in a dose of 39.9 mg. If 37 mg. of lobeline is injected subcutaneously, it will kill 50% of the population. Seventy-eight mg. of lobeline injected into the veins of mice will kill 50% of the population. Setting up a relationship between the human average weight of 150 pounds and the mouse's weight, the amount of lobeline in Lobelia to be toxic in a human is as follows: If 6 pounds of raw Lobelia were eaten by a human population, the lobeline would be sufficient to kill 50% of that population! It is suggested that most folks would vomit before taking the 6-pound lethal dose. Of course, we are talking about

Lobelia herb and not the extracted lobeline. Dr. Christopher always stressed that the herb in its entire state contains elements that help in its assimilation and use in the body. If we begin to isolate the ingredients, we pervert the action of the herb.

HISTORICAL USES

Used to remove obstruction and congestion through the body, as a emetic, to expel weakened or dead fetus, as a catalyst herb when used in formulas, for lockjaw, asthma, as an anti-miscarriage, for dyspepsia, "green sickness", for strychnine poisoning, mercury poisoning, childbed sores, constipation, hydrophobia, syphilis, intestinal worms, as a diaphoretic, for bronchial troubles, whooping cough, respiratory ailments, to prevent hair loss and make hair grow thickly, for spasmodic troubles, infant convulsions, infection, for pain, swelling, and tetanus.

CULTIVATION, COLLECTION, PREPARATION

This herb is a very common weed growing along roadsides and in neglected fields throughout the United States. It is not difficult to grow in the garden. It is an annual, but the seeds are easy to collect and plant again. You can buy established plants from herb suppliers, or buy the seeds. We recommend starting them indoors in peat pots or other controlled conditions, being sure not to let the soil dry out as the seeds germinate. When the seedlings are well-established, plant them outdoors, being sure that the danger of frost is past. The herb is usually collected after some of the pods have "inflated", that is, that the seeds have ripened and the pods assumed their classic opened shape.

Dry the collected herbs in a warm, shady place, not in the direct sun, as the heat will shrivel the somewhat delicate plant. When snap-dry, crumble the plant over paper and store the herb in a cool, dry place. Be sure that no moisture is allowed to reach the dried plant. It can be used in herbal mixtures as needed.

You can also make a tincture of the herb for emergency type use. We have made this successfully many times at home; there is no need to buy the tincture if you wish to make it yourself. Soak one ounce of the herb to a pint of pure apple-cider vinegar. Put it in a jar which will allow you to shake the herb. Shake the jar thoroughly several times a day, for fourteen days. At the end of the fourteen days, strain and bottle, capping tightly. This should last a long time, for many years if necessary. Dr. Kloss liked to make a raspberry vinegar for this use. Simply macerate two quarts of mashed raspberries per quart of apple-cider vinegar for several days. Strain, and precede to make the tincture as above.

To make oil of Lobelia, mix the herb with olive oil, perhaps an ounce of the herb to the pint of oil. Low heat for a day, stirring occasionally, until the herbs are crisp. For a really strong oil, repeat the process. If you live in a hot climate, the oil can be made by standing the olive oil-herb mixture in the sun for a week or so. Repeat if necessary.

To make a syrup of Lobelia, mix a strong decoction of the herb, warm, with thick honey. Stir well. There are other ways to prepare syrups, but this way avoids sugar and avoids ruining the honey by overcooking.

RELATED PLANTS

L. dortmanna. This is indigenous to England, and rather similar in action to L. inflata. A tincture of the fresh plant cures headaches and noises in the ears.

L. Erinus. A tincture of the plant has been used in cancer and has produced absolute freedom from pain; is also used as a remedy in syphilis.

L. syphilitica and L. cardinalis are both used in homeopathy. The first is diaphoretic, emetic and cathartic and has been used in dropsy, diarrhea, syphilis and dysentery, the root being the part used. The L. cardinalis is said to be anthelmintic, nervine, and antispasmodic. L. kalmii is said to be used by the Indians in the cure of syphilis.

L. purpurascens. A tincture of the whole plant is used in paralysis of the lungs and tongue.

CHEMICAL COMPOSITION

The characteristic principle of Lobelia inflata is an acrid alkaloid that pervades all parts of the plant, although it is most easily obtained from the seed. It is known as lobeline. It exists in combination with an unimportant vegetable acid. Lobeline is the most important of ten alkaloids present in the plant.

With wise and careful use, however, none of these constituents is harmful to the human system.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING LOBELIA

Resp-Free, the combination to heal the respiratory tract, contains Lobelia.

Relax-eze Tea, the combination which relaxes the system and heals the nerves, contains Lobelia.

Juni-Pars, the urinary tract combination, contains Lobelia.

Fen LB, the herb to tone and heal the eliminatory system, contains Lobelia.

B F & C, the combination to heal bone, flesh and cartilage, contains Lobelia.

Mullein and Lobelia, works to heal any part of the glandular system, and comes in a couple of forms.

INF, the combination to promote general good health especially when there is the threat of infection contains Lobelia.

Calc Tea, the marvelous herbal calcium formula, contains Lobelia.

SHA tea, the combination that helps us control allergies and hayfever, contains Lobelia.

Pre-Natal Tea, the combination taken five to six weeks before parturition to help the birth, contains Lobelia.

The Yellow Dock Combination, which supplies organic iron and iodine and other important minerals, contains Lobelia.

Adrenetone, the combination to heal and build the adrenal glands, contains Lobelia.

AR-1, the combination to help arthritis and rheumatism, contains Lobelia.

DRI, the herbal incontinence formula, contains Lobelia.

MEM, the combination to help improve the brain's function, particularly the memory, contains Lobelia.

AT-GS, the combination to prevent and alleviate distressing gas symptoms in the body, contains Lobelia.

CC, the combination contains Lobelia.

False Unicorn & Lobelia, which helps nourish the reproductive system supplying hormone building nutrients that can help to sustain pregnancy, contains Lobelia.

Bugleweed Combination, used to assist the body in its efforts to eliminate heavy metals that can build up from exposure to environmental pollution and chemicals, contains Lobelia.

BF & C comes in an ointment and a syrup, is used to heal bruises, minor sprains or other injuries, contain Lobelia.

The herbal tooth powder contains Lobelia.

B & B tincture contains Lobelia.

Antsp, the antispasmodic tincture contains Lobelia.

There is a Lobelia seed tincture, which is very powerful.

Ant-Plg, the anti-plague syrup contains Lobelia.

There is a mullein and Lobelia ointment to externally apply to the glands.

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SNH
IMM

MALE FERN

***DRYOPTERIS FELIX-MAS (LINN.), ASPIDIUM FILIX-MAS (SCHWARZ); FILICES;
ARACHNIODES***

DESCRIPTION

The root-stock or rhizome is short, stumpy and creeping, lying along the surface of the ground or just below it. From its undersurface spring the slender, matted roots. The crown of the rhizome is a brown, tangled mass, with the hairy bases of the leaves, and in it is contained the mass of undeveloped fronds, which, as they unroll, grow in a large circular tuft and attain a length of from two to four feet. Each frond is wide and spreading, stiff, erect, broadly lanceolate or lance-shaped, the stalk covered with brown scaly hairs. The pinnae are arranged alternately on

the mid-rib (which is also hairy), the lower ones decreasing in size, and each pinna divided again almost to its own mid-rib, the pinnules being oblong and rounded, with their edges slightly notched and their surface somewhat furrowed. The sori are on the upper half of the frond, at the back of the pinnules, in rounded masses towards the base of the segments, covered with a conspicuous, kidney-shaped indusium (Gri:301).

The rhizome as used in commerce is three to six inches long, and with the closely imbricated and slightly curved remnants of the stipes two to three inches thick. The latter remains green for about a year, after which it turns brown and is not fit to use. The rhizome itself is fleshy, externally dark brown, internally pale green and spongy, showing upon the transverse section near the surface eight larger fibro-vascular bundles arranged in an interrupted circle, outside of which are a number of smaller ones. The stipes have about eight small vascular bundles in a loose circle. The spongy texture is due to the thin-walled parenchyma and to the large intercellular spaces, into which stalked glands project which exude a green liquid. The rhizome has a slight disagreeable odor and a sweetish afterward, somewhat bitter astringent and nauseous taste.

GENERAL

Dr. Christopher said that Male Fern is one of the most powerful anthelmintics available. He classed anthelmintic herbs into four classes: the vermifuges, which cause the expulsion of worms from the body; the vermicides, which destroy worms in the body; the taeniafuge, which expel tapeworms from the body; and the taeniicide, which kill tapeworms from the body. Male Fern is a taeniafuge and a vermifuge, as well as an astringent, tonic, and vulnerary (herb to help heal wounds). Dr. Christopher commented that Male Fern is the only herb that works as a specific for tapeworms. Tapeworm can be controlled by the multiple vermifuge formula that Dr. Christopher made up, but Male Fern will do the work alone. The tapeworm is really quite a delicate creature, yet one of the most powerful. It is small, pliable, and easy to break, but it will sap every bit of strength out of a grown man if it is allowed to remain in the system, causing him to starve to death.

COMMON FERN

Next to Bracken this Plant is one of the most common Ferns, growing luxuriantly in shady places and on sheltered banks. It grows everywhere in the United States, and Europe, temperate Asia, North India, North and South Africa, and the Andes. In sheltered spots, it will sometimes remain green all winter long. To forest dwellers and cultivators of Fern gardens, it is a most common sight.

The root of the plant was used by the ancients as a vermifuge. Theophrastus, Dioscorides and Pliny all describe its use. It was used as a domestic remedy for worms throughout the Middle Ages and finally was recorded by Valerius Cordus as a drug to be taxed in Germany in the sixteenth century. It was somewhat neglected for a while, then revived as a chief ingredient, combined with purgatives, in a secret remedy for tapeworm, one of the promoters being Daniel

Mathieu, an apothecary of Berlin. It was so successful that Frederick the Great purchased the formula for an annuity of thirty pounds, conferring on its originator the title of "Aulic Councillor". Madame Nouffler, the widow of a surgeon at Murten, Switzerland, was paid 18,000 livres by Louis XIV for a tapeworm cure consisting chiefly of the powder of the Male Fern root. J. Peschier, a pharmacist of Geneva, introduced the extract in ether in 1825, which was not, however, employed in England to any extent until the middle of the last century. Its great success introduced Male Fern to the orthodox medical profession. To this day, the plant is recognized in the United States Pharmacopeia and other official pharmacopeias in various countries.

Gerard wrote: "The roots of the Male Fern, being taken in the weight of half an ounce, driveth forth long flat worms, as Dioscorides writeth, being drunk in mede or honied water, and more effectually if it be given with two scruples, or two thirds part of a dram of scammonie, or of black hellebore; they that will use it, must first use garlicke."

One of the official names of this plant, Aspidium, is derived from aspis, a shield, because the spores are thus enclosed in bosses, resembling the shape of the round shields of ancient days (Gri:300). Another name for it is the Shield Fern, as the undersides of the leaflets are covered with numerous kidney-shaped scales, shielding the spore sacs.

The classification of the order Filices is according to fructification. The dust-like and almost invisible seeds or spores of Ferns are contained in little cases or theca of a roundish shape, which are themselves encircled by a jointed ring, the elasticity of which eventually bursts open the theca and scatters the spores when mature. These seeds are so tiny as to be almost invisible, and the "Doctrine of Signatures" states the use of the Fern will confer invisibility (Coon:103). In Henry IV, Act II Scene 1, Shakespeare wrote, "We have the receipt of fern seed; we walk invisible."

Other common names include bear paw's root, male shield, sweet brake, shield root, knotty brake, marginal shield fern and European aspidium.

TAENIAFUGE

Male Fern has sometimes been used as a tonic and vulnerary in China; it is used for wounds and hemorrhages, such as epistaxis, menorrhagia, and postpartum hemorrhage (Shi:282). Old time herbalists recommended that it be mixed with lard, to be applied to wounds, and that the powdered roots cured rickets in children (Gri:302). However, its most prominent usage has been that of a vermifuge, particularly in cases of tapeworm.

The rhizomes and stipes contain an oleoresin that paralyzes the voluntary muscles of the intestine as well as the analogous contractile tissue of the tapeworm; although it does not kill the parasite, the paralyzed worms are readily washed out the tract by an active purgative (Lewis and Elvin-Lewis:200). Besides the vermifugal action, there is a slightly purgative one of its own, though not enough to expel the paralyzed worms. Some recommend that the patient fast for a day or two before taking tapeworm remedies, but Dr. Christopher recommended against this

practice, because the worm being a parasite, cannot be starved. This only makes the patient feel weak and nauseated, and when he finally takes the medicine on a starved stomach, he may vomit it up. Dr. Christopher recommended instead to advise the patient to eat, for a day or so, foods that the tapeworm dislikes, such as onions garlic, pickles, and salted fish. This weakens the worm and tends to loosen his grip, so that when the medicine is taken, it acts upon the tapeworm and causes it to be expelled more easily (SNH:106).

However, a person might go on the three-day cleanse before undergoing worm therapy. Thereafter, the Doctor recommended taking 1/2 to one teaspoonful of the powdered Male Fern root in the morning on an empty stomach (in a capsule, in honey, or in an emulsion with the thick mucilage of gum arabic and water), followed by a brisk purge of senna and ginger or butternut bark; or take 30 drops of the oil night and morning followed by the brisk purge. The dose should continue for three days even if you are seeing the worms emerge in the stool. You should examine the stools closely and remember that the thinnest part of the worm carries the head; be sure this is eliminated, as the tapeworm has the annoying ability of being able to grow a new tail if the head remains intact. For children, mix equal parts of fluid extract and glycerine, shaking well together. For ages 4-7, give six drops in jam; 7-12 years, give 12 drops in jam; over twelve years, give one or two teaspoonfuls in a half teacupful of cold water; follow with a cathartic tea (two ounces of senna, a half ounce of mountain flax, 1 large sliced lemon, steeped for thirty minutes in two pints of boiling water). Give the worm medicine at 6 a.m. on an empty stomach, give the cathartic tea (to older children as above) at 8 a.m., and serve breakfast at 9 a.m. (SNH:111).

Many doctors recommend that the bowels should contain no accumulation of partially-digested food or of feces, and the vigor of the parasite be reduced by as simple a diet as can be borne. Almost any cathartic can be used, such as Cascara sagrada, butternut bark, turkey rhubarb, and so on, but castor oil should be avoided. Even Epsom salts have been used. The oil may promote absorption of the herb, which can be poisonous. The herb has caused allergy reactions in some, but this is only mild compared to what can result from overdose of the plant, although we do not agree that even a therapeutic dose may cause poisoning (Spoerke:113), some of the symptoms of Male Fern poisoning are nausea, vomiting, cramping, headache, dyspnea, albuminuria, and bilirubinuria. Severe poisoning results in loss of reflexes, optic neuritis, impairment of vision, temporary or permanent blindness, coma, convulsions, and death due to cardiac or respiratory failure (Ibid.). The herb should surely be administered by a skilled person; Rose, who is normally blithe and easy-going about the uses of herbs, recommends that it only be used on prescription from a doctor (Rose:Herbs:80). Coon says that the ethereal extract should be given at night in capsule form at the rate of a single dose of one drachm, followed by a purgative, as mentioned above (Coon:103). If one is unsure about dosage, this should be a good safe rule to follow.

The dose taken by herbal powder is sometimes too small, and failure is then due to the smallness of the dose. However, the too-large dose can produce such serious results--even causing blindness--that one should be very careful in the use of the root powder.

MISCELLANEOUS USES

The ashes of the plant have been used in soap and glass making, and the young curled fronds have been boiled and eaten like asparagus; these are called fiddleheads. In times of great scarcity the Norwegians used the fronds to mix with bread and also made them into beer. The leaves, cut green and dried, make an excellent bitter, and when infused in hot water make good fodder for sheep and goats (Gri:301).

HISTORICAL USES

Used for tapeworms, wounds and hemorrhoids.

CULTIVATION, COLLECTION, PREPARATION

Ferns prefer a northern aspect, shade and shelter not being indispensable but tending to their finer and most perfect condition and growth. Even in desert climates, such as Utah, we have seen delightful fern gardens tending to these criteria. They flourish best in a soil that is a mixture of peat, earth, and sand, pebbles being intermixed for the roots in many instances to cling to. The only manure needed is that from dried leaves or other vegetable matter. They should not be set too deep and are best kept rather moist. Attention should be paid in cultivation to the natural habits of the species. Ferns may be raised from the spores if carefully potted and looked after (Gri:300).

The older rhizomes should be lifted in autumn after the foliage has died down, although for emergency use they can be collected during the winter or early spring. The rhizome should be from three to six inches or more long and from one-and-one-half to two inches or more broad. When removed from the ground, it is cylindrical and covered with the closely-arranged, overlapping remains of the leaf-stalks of the decayed fronds. These stalks are from one to two inches long, somewhat curved, angular, brown-colored, and surrounded at the base with thin, silky scales of a light brown color. From between these remains of the leaf stalks, the black, wiry, branched roots may be seen. Internally in the fresh state, the rhizome is fleshy and of a light yellow-green color. The rhizome must have this color to be good. It should have its scales removed, roots and all dead portions likewise, leaving the lower swollen portion attached to the rhizome, and then it should be carefully cleaned. It is then sliced in half longitudinally. For pharmaceutical use, it is reduced to a coarse powder and at once exhausted with ether. It can also be made into a tincture or an extract. The root loses its potency within a year, so the fresh preparations of tincture or extract are recommended (Gri:301).

Because the Male Fern is much more efficacious than other Fern species which are sometimes tried as adulterants, you can tell from a root-section of the proposed plant if it is true or not. The section of *Felix-mas* exhibits eight wood bundles, forming an irregular circle, while in the other ferns only two are observed. The presence of secreting cells in the hard tissue, the number of bundles at the base of the leaf stalk, and the absence of glandular hairs from the margin of the scales all distinguish Male Fern from the other species (Ibid.)

RELATED PLANTS

Aspidium spinulosa, Shield Fern, is similar to the Male Fern in medicinal use and has always been mixed therewith in Europe.

Asplenium Felix-femina, the Lady Fern, is used like the Male Fern medicinally, but is much less powerful in action.

Asplenium ceterach, Scaly Fern or Spleenwort, is said to remove all obstructions of the spleen and liver.

Asplenium trichomanes, Maidenhair Fern, is chiefly used for pectoral complaints.

Polypodium vulgare, Female Fern, is used somewhat like the Male Fern.

CHEMICAL COMPOSITION

The chief constituents are filmaron, an amorphous acid, and ciliac acid, which is also amorphous and tends to degenerate into its inactive crystalline anhydride, filicin. The filicic acid is regarded as the chief, though not the only, active principle.

Please note that, handled skillfully and with proper care, these chemicals will not harm the body if used in the form of the whole herb.

RECENT FINDINGS

There are few reports of poisoning of cattle by ferns of the dryopteris family. Characteristic features are blindness, a peculiar desire to stand in water, profound drowsiness but low mortality. This report described two cows who had eaten a great deal from a stand of ferns which, when allowed to regrow, were identified as Dryopteris borreri, the rusty Male Fern, and Dryopteris felix-mas, Male Fern. The two animals became blind and comatose, by evening, not able to rise. They responded to no therapy, neither Vitamin B and C complex or dexamethasone. Various physical reactions in the body indicated poisoning by the ferns ("Poisoning in cattle associated with D. felix mas..." The Veterinary Record, March 18, 1978, p. 239).

Another study indicated that one drop of an extract from the Male Fern, either alone or mixed with sunflower seed oil, caused a spectacular enlargement of the penis in male mice and rats. This unexpected effect could not be explained so far by the researchers and needed further experimentation ("Preliminary report on an unexpected effect of an extract from Dryopteris felix-mas", Arzneim Forsch, Feb. 1976, Vol.26:2, p.261-2).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING MALE FERN.

VF, the vermifuge combination, contains Male Fern.

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 ***MANDRAKE (AMERICAN
MANDRAKE)***

PODOPHYLLUM PELTATUM; BERBERIDACEAE

DESCRIPTION

Mandrake is an herbaceous plant with a perennial, creeping, fibrous, jointed, sometimes branching rhizome attaining the length of several feet and a thickness of 1/4 inch, brown on the outside and yellowish-white inside. From the rhizome there arises in spring one or more plants, each having a single smooth fleshy stem up to one foot in height, sheathed at the base and bearing at its apex one or two peltate leaves having petioles three to six inches long. The leaf blade, five to thirteen inches wide, is nearly circular, divided into five to nine triangular lobes, each toothed or flect at the tip; dark green and smooth on the upper surface, pale beneath. A single flower is borne in May and June at the axil of the petioles (on two-leaved plants), its peduncle one to two inches long and drooping. The corolla, 3/4 to two-and-a-half inches wide, has six to nine white, smooth, waxy, concave petals and nine to twenty stamens bearing yellow anthers. Fruit is green and disagreeably scented when unripe, becoming light yellow and brown-spotted and pleasingly fragrant when ripe in September, oval, one-and-one-fourth to two inches long, containing mucilaginous pulp with a peculiar, subacid, faintly strawberry-like flavor and a dozen or so ovate, rough, dark brown seeds. After fruiting the leaves fall and the plant dies back.

GENERAL

Dr. Christopher recommended this agent as a slow but sure cathartic, whose influence will

continue for hours and sometimes days after one stops taking it. It acts mainly on the duodenum, and increases intestinal secretion and flow of bile in very small doses. It should never be taken in overdose and should be combined with slower-acting and corrective laxatives. It also acts upon the liver and in other ways.

HERB OF LORE

Few herbs have as many strange legends attached to them. Some of these may apply to the European Mandrake; sometimes the two overlap in lore, but the stories are very interesting nonetheless. The plant is often forked and in such instances bear a slight resemblance to the shape of a man, though never as markedly as Ginseng; it is, however, anciently referred to as "earthman". It was commonly thought that it clung so desperately to the ground that when it was uprooted it groaned and shrieked like a tormented human, causing instant death to anyone hearing it (Luc:97). Lucas mentions that it is very difficult to imagine that people actually believed such utter nonsense. Evidently it did not occur to them to ask just how it was possible for those hearing the death-dealing cries to convey this warning to others. Legends state that "one must stop his ears carefully, and having tied a dog to the root, run away. The dog is then called and pulling up the root is instantly killed" (*Ibid.*).

Gerard in his herbal of 1597 went to great lengths to dispel these beliefs about Mandrake. He said (and we are transposing his ancient language to current usage): "There have been many ridiculous tales brought up of this plant, whether of old wives, or some renegade Surgeons or physic-mongers I know not...but sure someone that sought to make themselves famous and skillful above others, were the first broachers of the error that I speak of. They (say) that (Mandrake) is never or very seldom to be found growing naturally, but only under a gallows, where the matter that hath fallen from the dead body gives it the shape of a man; and the matter of a woman, the substance of a female plant, with many other such doltish dreams. They fable further and affirm that he who would take up a plant thereof must tie a dog thereunto to pull it up, which will give a great shriek at the digging up; otherwise, if a man should do it, he should surely die in short space after. Besides many fables of loving matters, too full of scurrility to set forth in print, which I forbear to speak of.

"All which dreams and old wives tales you shall from henceforth cast out of your books and memory; knowing this, that they are all and every part of them false and most untrue: for I myself and my servants also have dug up, planted and replanted very many, and yet never could either perceive shape of man or woman, but sometimes on straight root, sometimes two, and often six or seven branches coming up from the main great root, even as Nature lists to bestow upon it, as to other plants. But the idle drones that have little or nothing to do but eat and drink have bestowed some of their time in carving the roots...forming them to shapes of men and women; which falsifying practice has confirmed the error among the simple and unlearned people, who have taken them upon their report to be the true Mandrakes..." (Wood:195-6).

Josephus said, many years earlier, that the Mandrake was held in great superstitious awe by the

Jews and the Greeks. It was said to expel demons from sick persons, as the demons cannot bear either its smell or its presence. He even related that it was certain death to touch this plant, except under certain circumstances (Wars of the Jews, Book 7, chapter 6).

The roots of the Mandrake were supposed to bear a resemblance to the human form. Pictures in old herbals show them figured as a male with a long beard, and a female with a very bushy head of hair. Many weird superstitions collected around the Mandrake root. As an amulet, it was placed upon mantelpieces to avert misfortunes and to bring prosperity and happiness to the house (Gri:511-12).

The ancient Romans considered Mandrake so potent and valuable in medicine that collecting the roots was made a special ceremony. According to Pliny, the collector stood with his back to the wind, drew three concentric circles around the plant with the point of a sword, poured a libation on the ground, and turning to the west, began to dig it up with his sword (Mold:137).

Although the herbalist Turner denied many of the more blatant claims about the plant and deplored the carving of roots into human shape (with eyes of millet seeds) which sold for as many as thirty ducats, he still wrote: "Of the apples of Mandrake, if a man smell of them they will make him sleep and also if they be eaten. But they that smell too much of the apples become dumb...this herb (in) diverse ways taken is very jeopardous for a man and may kill him if he eat it or drunk it out of measure and have no remedy from it...If it is taken (too much) by and by sleep ensues and a great losing of strength with a forgetfulness" (Gri:512).

The Mandrake figures abundantly in folklore. In the "lost books" of Solomon, said to deal with magic and therefore destroyed by King Hezekiah lest their contents do harm, there is said to be a root described--thought to be Mandrake--which had amazing properties. Josephus thought that the leaves would shine in the dark, but if anyone tried to pluck them, they would rise in the air and fly away like will-o-the-wisp. This is still a current belief among the Arabs, who call the plant "devil's candles". The German name for the plant is Zauberwurzel, or "sorcerer's root", and German girls wear it as a charm just as we would wear a rabbit's foot. Similar charms were sold in medieval England, especially at the time of Henry VIII, and Lord Bacon wrote in his work on natural history, "Some plants there are--but rare--that have a mossy or downy root, and likewise that have a number of threads, like beards; as the Mandrakes, whereof witches and impostors do many ugly images, giving it the form of a face at the top of the root and leave those string to make a broad beard down to the foot". The word "alruna" has applied both to witches and to Mandrake since the time of the Goths, thus attesting again to the close connection supposed to exist between evil spirits and the Mandrake. The little images or charms cut from the roots in medieval England were called "alrunen", and medieval Germans dressed these every day lest they be offended and do harm to their owners. Among the French peasants the Mandrake was supposed to be the abode of a little elf who had to be given daily offerings of food (Mold:139). The possession of Mandrake roots was cause for suspicion of witchcraft in some places and as late as 1630 three women were put to death in Hamburg, Germany, on no other charge than that of having Mandrake roots in their homes!

The Mandrake in the Bible, which Rachel begged from Reuben, Leah's son, is not the American Mandrake of which we speak. Gerard in his herbal went to great lengths to explain that Mandrake could not cause fertility anyway! The more man-shaped the root, the more highly it is valued in folkloric medicine even today. It was such a prized commodity at one time that collectors invented dire horror stories surrounding inappropriate methods of collection, predicting horrible consequences to discourage entrepreneurs from trading (Weiner:123-4).

In early American usage, Pahontan called the fruit wholesome, but said that the poisonous root had been used by an Indian woman to commit suicide. It was said to provide a suicide tool for Indian braves, who ate the young shoots. Brickell reported that "this plant is of a very strong purging nature, and is frequently made use of in these parts for several disorders with good success". Mark Catesby called it an "excellent Emetic", for which reason it was known in the Carolinas as "Ipecacuana". Zeisberger ate the juicy fruits, commenting on their thirst-quenching virtue. Dr. Schopf called the root emetic. Barton, writing about the Indians' use of the plant, wrote: "The Podophyllum peltatum is a plant much esteemed by the Cheerake (Cherokee), and other tribes of North American Indians. Its root is used as a purgative, emetic, and anthelmintic...The advantages of this medicine over the Jalap are numerous". He then relates the advantages. Dr. Porcher said that the Shaker sect, once very active in the promotion of Indian remedies, prepared an extract from it which was much esteemed as a cathartic. To its previously announced uses, he added that the plant was diuretic, and that a few drops from the fruit poured into the ear were said to restore the power of hearing. In 1862, Bentley noted the plant was topically effective for cancerous growths.

The Delaware name for this plant indicated its purgative properties. Hunter reported that western Indians used the powdered root as a cathartic, as an antidote for poison, and at the commencement of fevers. The fruit was esteemed as a delicacy. The Penobscot Indians used it as a cure for warts. The Menominees boiled the whole plant for an insecticide used on potato plants. The Meskwakis used it in mixtures, recognizing the root as a physic, emetic, and rheumatism remedy (Vog:321).

The plant is beautiful but smells ill. The fruits are often eaten, especially by children. James Whitcomb Riley described the fruit in his "Rhymes of Childhood":

And will any poet sing
Of a lusher, richer thing
Than a ripe May-apple, rolled
Like a pulpy lump of gold
Under thumb and finger-tips,
And poured molten through the lips?

Asa Gray described this fruit as "slightly acid, mawkish, eaten by pigs and boys", but other writers thought that the fruit was quite excellent. One mentioned that nearly all boys are fond of the May

Apples, but that the appetite for this wild fruit seems to leave one at the approach of manhood. They should be eaten in moderation. One man recalled an experience while a boy eight or nine years old. His parents went to the neighbors for a few hours, leaving him in the charge of a brother three years older than he. They went down a lane to the open woods where thousands of May Apples were at their very best. They were delicious and it was the first time that he could eat all he wanted without someone stopping him. He filled his hat and dug in. Half an hour later he was rolling on the ground with the worst colic one could imagine. He felt he was going to die, but hoped to put off the fatal moment until his parents returned. However, an hour or two later the discomfort left him without any ill effects.

Shakespeare mentioned the plant in *Romeo and Juliet*:

And shrieks like Mandrake torn out of the earth,
That living mortals hearing them run mad.

And in another instance:

Would curses kill as doth the Mandrake's groan?

Moore, in his "Light of the Harem", said, "The phantom shapes--Oh! touch them not--Which appall the murderer's sight, Lurk in the fleshly Mandrake's stem That shrieks when touched at night." Ben Johnson, in his "Masque of Queens", wrote "I last night lay all alone on the ground, to hear the Mandrake groan" (Mold:138).

The generic name is Greek and means footlike leaf; peltatum means shieldlike. Other common names for the plant include such oddities as raccoon berry (as raccoons are fond of the fruit), yellow berry, hog apple, apple, Indian apple, devil's apple, ground lemon, wild lemon, duck's foot (in reference to the leaf shape), wild jalap, vegetable mercury, umbrella plant, vegetable calomel, and just plain May apple.

The plant was first included in the Pharmacopeia of the Massachusetts Medical Society in 1808. The dried rhizome and roots were placed on the primary list of the first United States Pharmacopeia and remain listed today, though they were dropped from 1942 to 1955. Nelson Coon sums it up: "Of the many plants in this book, few are more reputable and useful than the lovely May apple" (Coon:159).

HEPATIC AND SURE CATHARTIC

Probably the most common use of the May apple is as a cathartic, an herb to effectively and surely empty the bowel. It was given the name "vegetable calomel" because of its special reputation as a cholagogue. When the bowel movements have become so obstructed as to be white or clay colored, the herb in small doses has frequently restored the natural character of the evacuations, at the same time regulating the bowels. They will often allay the vomiting and diarrhea of

gastroenteric inflammation and will cut short the symptoms of remittent fevers of children, with high temperature and other symptoms of flu. As a general laxative, the herb will alleviate habitual constipation. It is somewhat slow in acting, but will produce watery and bilious purging, and often this effect, instead of being followed by constipation, will be succeeded by increased and long-sustained habitual activity of the bowels, which makes the remedy quite unusual among laxatives. This is especially useful when the constipation is accompanied by nervous or sick headache.

Dr. Shook considered the herb a remarkable though simple liver herb (hepatic). It steadily acts upon all the tissues of the system for a long time. In chronic liver diseases, Shook considered it better than any other herb. It quickly changes the yellow color of the eyes and skin and restores them to their natural color (ShoA:207). It increases bile flow and stimulates a torpid liver. At one time, mercury compounds were used in ailments of the liver and other organs; thus, this herb is called vegetable mercury (Elt:39). In hepatic derangement, characterized by a loss of appetite, acid regurgitation, putrid taste in the mouth, flatulence, and a tendency either to constipation or to diarrhea, a small dose morning and night will often produce good results. This is particularly useful in chronic and obstinate heartburn related to liver problems. The British Medical Association in 1879 said, "It is a very powerful stimulant of the liver. During the increased secretion of bile the percentage amount of bile solids is not diminished."

Doctor Shook recommended that Mandrake be prepared in a decoction, with equal parts of ginger root to speed the Mandrake to the lower intestinal tract. Dr. Christopher recommended that the herb be taken the same, or in simple infusion. It can be combined with other laxative herbs; Dr. Christopher particularly recommended licorice root or Cascara sagrada.

In Kentucky folk medicine, the root is one of many ingredients used in making a tonic for various ailments. The Indians of the area used it to eliminate warts and to treat cancers. The Early European settlers in America may have learned to use the plant from the Indians.

The concentrated tincture, obtained by gently cooking down the tincture, is directly applied to warts to help rapidly remove them. A prescription drug, podophyllin, is this resinous black extract and is commonly prescribed for venereal warts. Care should be taken to apply this only to the wart and to avoid contact with the surrounding skin. Large doses, even applied externally, are toxic (Tie:103). One woman, having applied podophyllin ointment to a venereal wart and neglecting to remove it after a half hour or an hour was reported to have died from absorbing the toxicity.

It will help all chronic scrofulas, and can act promptly in cases of mercurial poisoning (Hut:248). It is useful in removing constipation caused by lead poisoning.

This plant is of especial interest in the treatment of cancer, of which we will report recent research below. Chemical investigation of the resin podophyllin has revealed the presence of several lignans. Each of these shows tumor-damaging activity in mice. Although damage to deep-lying

malignant tissue has been observed in many instances, the satisfactory use of the plant has been complicated by its toxicity (Lewis and Elvin-Lewis:124). It is interesting that podophyllin was discovered and extracted from the rhizome during the last century by John King, M.D. of the Cincinnati Eclectic Medical Institute. He was the discoverer of many important American medicinal herbs. Podophyllin forms the basis for a number of proprietary medicines, such as "Carter's Little Liver Pills". When tumor-bearing mice were injected subcutaneously with podophyllotoxin and alpha and beta peltatin, tumors were extensively reduced (Luc:103).

FRUIT FOR JAM

Aside from its medicinal use, Mandrake is used primarily for its fruit which, Euell Gibbons reported, is "hauntingly delicious". Some people make it into preserves.

HISTORICAL USES

Used as an emetic, to restore the power of hearing, as a diuretic, as a cathartic, as an antidote for poison, to lower fever, as a rheumatism remedy, to relieve constipation, for chronic liver diseases, for obstinate and chronic heartburn, to remove warts and as an anesthetic prior to surgery.

CULTIVATION, COLLECTION, PREPARATION

The May apple grows wild abundantly in moist, shady, deciduous woods and marshy meadows and ditches from Southeastern Canada to mid-Georgia, extreme Northwestern Florida and westward to Eastern Texas and Southern Minnesota. It has been introduced in England and Europe only as a specimen in drug plant collections in gardens or greenhouses. Almost all of the Mandrake used medicinally is collected wild, although this is a tedious process. It is easily increased by division or seed, and planted in rich, moist soil, it can be a good addition to the wild garden.

Harvesting may take place in the fall or spring. The rhizomes with roots attached are washed, cut into pieces four to eight inches long, and dried. The root may be powdered. If it is made into a tincture or extract, extreme care should be taken not to overdose.

RELATED PLANTS

P. Emodi, the Indian equivalent of the plant, is a native of Northern India and is about twice as strong as the American herb; it should not be substituted.

TOXICITY

Although Mandrake is such an effective herb, even the most ardent herbalists, Dr. Christopher included, warned against overdose. Dr. Christopher said to be exact about dosage; the larger doses will produce sickness and perhaps convulsions and coma, especially with children. He

recommended that only a spoonful of the decoction be taken morning and night. Only one or two tablespoonfuls of the cold infusion should be taken three or four times daily. If using the tincture, only 5-30 minims should be taken. Dr. Shook concurred, adding that the resin, which is sometimes applied externally to ulcers, is very irritating to the skin.

The plant is a poisonous narcotic; it is listed on the unsafe herb list of the USFDA, March 1977. It was widely used by the ancients for its narcotic value and as an anesthetic prior to surgery (Weiner:124). "Morion" or "Death Wine", said to have been administered previous to the torture, was made from it (*Ibid.*).

Poisonous doses attack the gastro-intestinal mucous membrane, even when applied locally. When the alkaline solution was given subcutaneously to dogs, after a few hours the animals suffered from colic, tenesmus, and vomiting, bloody stools and death from exhaustion. Overdose has reputedly caused sweating and a violent headache, copious vomiting and purging. However, the patients recovered in this case. In extreme cases, death can result. All herbalists consider that tiny doses be the norm.

CHEMICAL COMPOSITION

The rhizomes and roots contain 3.5 to 6% of the resin called podophyllin. Its primary constituents are lignan glycosides, including 20% of podophyllotoxin, a toxic principle yielding podophyllic acid and picropodophyllin.

RECENT FINDINGS

Patients with venereal warts (penile condylomata acuminata) were significantly helped by applications of alcoholic solutions with 20% podophyllin from Mandrake applied to the site. About half the patients out of 227 were completely cured with no remission or side effects. Warts in the urinary meatus healed significantly less than warts on the other genital mucous membranes. Eighty-nine percent of patients who had previously been cured of condylomata became wart-free after one or two treatments, as opposed to only forty percent of those who had never had this wart type previously ("Topical treatment of penile condylomata acuminata with podophyllin..." *Acta Derm Venereology*, Stockholm, 1978, Vol. 58:2, p. 163-8).

Etoposide is synthesized from podophyllum extracts from Mandrake. The drug delays and kills cells in the G2 phase of the cell cycle and is active in a variety of animal tumors and leukemias. Major therapeutic activity for the drug has been found in small cell bronchogenic carcinoma, germ cell malignancies, acute non-lymphocytic leukemia, Hodgkins disease and non-Hodgkins lymphoma. Toxicity is primarily hematological, with alopecia, nausea, and vomiting occurring less frequently ("The Mandrake Root from Issyk-Kul", *American Journal of Medicine*, January, 1982, Volume 72:1, p. 136-44).

A crude extract of Mandrake showed to be antiviral in inhibiting the replication of measles and herpes simplex type one viruses ("An Investigation of the Antiviral Activity of Podophyllum

Peltatum", Journal of Natural Products, Vol. 45 No. 6, 1982, p.725-27).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING MANDRAKE

CSK Combination, which helps with weight control, contains Mandrake.

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CALENDULA OFFICINALIS;COMPOSITAE

DESCRIPTION

The common Marigold is familiar to everyone, with its pale green leaves and golden orange flowers. It is an annual plant, spreading somewhat angular and roughish hair stem a foot or two high, and alternate, sessile, father fleshy hair, and entire or few-toothed leaves, of which the lower ones are spatulate or obovate, and the upper ones varying between oblanceolate and

lance-oblong. The flower heads are terminal, about two inches broad, have a flattish hemispherical involucre, with two rows of nearly equal linear-lanceolate scales, and a flat receptacle without chaff. The ray-florets are one or several in rows, pistillate, strap-shaped, and about 3/4 inch long and 1/8 inch wide, veined, three toothed at the apex, and vary in color from light yellow to orange. The numerous disk-florets are tabular, five cleft yellow, staminate, and yellow to orange. The akenes are strongly incurved or coiled and more or less muricate. Those of the outer row distinctly winged, those of the inner rows with slight or no wings. The fresh plant has a rather strong and heavy odor and a somewhat saline taste. After drying, the plant has little odor and a weaker taste.

GENERAL

Dr. Christopher employed Marigold flowers in his very effective Comfrey-Marshmallow-Marigold ointment. Although we think of this flower as a standard in our summer gardens, it is wonderfully medicinal.

Diane Dincin Buchman learned of the use of Marigold from her grandmother. She always said it was one of her favorite skin healing herbs (Herbalist: Vol II No.3, 1977:81). Many homeopathic surgeons used the Marigold plant during the Civil War and had much success with the plant, particularly with the expressed juice of one of the varieties. Dorothy Shepherd, M.D. reported the use of Calendula by Dr. Petrie Hoyle during World War II. She said that he used the herb almost exclusively for dressing "the most filthy wounds" from the front line hospital, and that he was commended by the visiting staff officer for the clean state of the patients wounds and the absence of smell in the hospital wards. He said that this was only due to the action of Calendula lotion and other homeopathic remedies, as no other antiseptics were used in suppurating wounds. Dr. Shepherd herself used Calendula as a routine measure, wherever the skin was broken and remarked that it works wonderfully quickly. It prevents sepsis, she said, "why it does it, I do not know yet; the fact remains that it does, unless an interfering parent, possessed of a little knowledge of first aid chooses to remove the dressing applied at the clinic and uses his own favorite antiseptic; then we would find that it would started to fester...Let me repeat: No iodine, no lysol or similar antiseptic, no boracic fomentations were used any more at the clinic, and of course no anti-tetanus injections were given, only plain, usually unboiled water and a few drops of either Arnica, Hypericum or Calendula tincture were used" (*Ibid.* page 83). Dr. Shepard also used Calendula (diluted) even for injuries of or near the eyes, and also used local dressings of Calendula for gunpowder wounds and for dressings of all the surgery. She found the herb effective in dressings after abscesses were opened up (*Ibid.*). Buchman adds a few drops of the tincture of Calendula to a cup or more of boiled water to treat cuts, bruises, and even open wounds. It is very effective, she says to keep a wet dressing of calendula on the wound, not to change the dressing, but just to keep on adding diluted Calendula. She said that its healing powers are striking (*Ibid.*).

RAYS OF GLORY

Calendula officinalis has been known almost from the beginning of documented records in scientific or medicinal lines.

A native of eastern Asia, it is found under various names, from Japan to India, from the orient to North America where European colonists carried it, according to Josselyn, before 1670.

The history of this herb is filled with poetry and symbolism, most of which has been in reaction to and appreciation of an unusual behavior characteristic which has fascinated poets and prose writers alike. At dawn, the moist blossom opens and rises with the sun, creating the poetic image of the awakening of a "weeping" flower (Hyl:381). Its golden orange color brightens the day until sunset, when the Marigold closes for the evening. The plant has become immortal because of this sensitivity to the sun (Ibid.). There is an allusion to this particularity in the poems of Rowley:

The Mary-budde that shooteth (shutteth) with the light.

And Shakespeare in the Winter's Tale wrote:

The Marigold that goes to bed wi' the sun,
And with him rises weeping.

The Romans recorded that the Marigold was usually in bloom on the first day, or calends of every month. From this came the Latin generic name Calendula and the common Italian name fiore d'ogni. Because of the flower's sensitivity to the sun, it was also called solsequia or solis sponsa. The Anglo Saxons, however, labelled it merso-meargealla, or marsh marigold, the precursor of the familiar name today. In medieval England, a popular religious legend described the Virgin as wearing golden blossoms which the monks of the period decided should be named in her honor. From that association of the golden herb with the Virgin Mary, old poets began calling the herb "Mary Gowles" and "Mary Golde". Years later, in Shakespeare's Cymbeline, the Marigold was referred to as "the winking Marybuds" (Hyl:382). Old English authors also called it Golds or Ruddes. In the seventeenth century, it was also associated with Queen Mary. One explanation of the name was the resemblance of the florets of its disc to "rays of glory"; other common names include Oculus Christi, Pot Marigold, and Caltha officinalis.

In 1578, Dodoens-Lyte in A Niewe Herball wrote that "it hath pleasant, bright and shining yellow flowers..." In 1655, Fuller wrote: "We all know the many and sovereign virtues in your herb, and the Herbe Generale in all pottage". Stevens, in Maison Rustique, or the Countrie Farme in 1699, mentioned that Marigold was a specific for headache, jaundice, red eyes, toothache and ague (chills and fever). He said that the flowers would comfort and strengthen the heart, and that no broths are well made without Marigold. Macer's Herbal said that Marigold would draw evil humors out of the head; further, if the gatherer, who must be out of deadly sin, says three Pater Nosters and three Aves, he will have a vision of anyone who has robbed him.

Gerard commented that the Marigold is sometimes called Jackanapes-on-horsebacke; Culpepper said that it is an herb of the sun, under the sign of Leo. It would strengthen the heart exceedingly. A plaster made with the dry flowers in powder, lard, turpentine and rosin, applied to the breast, would strengthen and succor the heart "infinitely" in fevers, whether "pestilential or not" (Gri:518). King Henry VIII had his own recipe for the plague, which included Marigold, sorrel, burnet, feverfew, and rue--also snapdragons. During the time of Queen Mary, a popular ballad ran:

"To Mary our queen, that flower so sweet,
This Marigold I do apply."

As a culinary herb, Marigold gave its tangy flavor to broths, soups, stews, porridge, etc., and the leaves and petals were considered excellent in salads. In a stillroom account of Tudor times, "Marigold Water" is mentioned. One critical herbalist said he had learned that some use the Marigold flowers to make their hair yellow, not being content with the natural color god gave them (Hut:89).

Published in 1817, John Keats' poem may be one of the loveliest references to Marigold:

Open fresh your round of starry folds
Ye ardent marigolds!
Dry up the moisture from your golden lids
For great Apollo bids
That in these days your praises should be sung
On many harps which he has lately strung;
And when again your dewiness he kisses
Tell him I have you in my world of blisses!
So haply when I rove in some far vale
His might voice may come upon gale.

The gypsies used Marigolds externally to a great extent, and the Arabs fed quantities of the flowers to their horses, as the herb helps the circulatory system (Lev:96). It was believed to have many magical properties, and was one of the ingredients necessary to see the fairies (Rose:Herbs:81).

SKIN HERB

Marigold is chiefly used as a local remedy, although in the early days of English medieval medication it was employed in decoctions for fevers and as a hot drink to promote perspiration. It is said to be the herbalist's most reliable non-poisonous, nontoxic, non-irritating dressing for sores, burns, and wounds (Cly:93). It is used for chronic ulcers and varicose veins (Tob:151). It also helps the toothache. It has long been recommended for use in sore eyes. A Marigold flower, rubbed on the affected part, admirably takes away pain of wasp or bee sting. A lotion made with

vinegar or milk is excellent for chapped skin and other external problems.

The flowers are also much used as a blood cleanser and liver remedy. The flowers and leaves were at one time thought to help in congestions of the liver, jaundice and other blockage related diseases.

An infusion of the freshly gathered flowers is employed in fevers, and it gently promotes perspiration and throws out any eruption; a decoction of the flowers is much in use in country districts to bring out small pox and measles, in the same manner as Saffron. Marigold flowers are much in demand for children's ailments (Gri:518). The leaves, eaten as a salad, have been considered useful in the scrofula of children, and the acrid qualities of the plant have caused it to be recommended to eliminate warts (Ibid.).

The extract is alleged to have allayed chronic vomiting.

The powdered flowers are used as a snuff to expel mucus. The infusion was formerly used to soothe watery, irritated eyes and to relieve bronchial complaints (Weiner:127). Marigold extracts have been shown to lower blood pressure and to have sedative effects in several animal species, and it seems that the use of Marigold tea would have a beneficial effect in these conditions as well. In 1955, an Austrian patent was issued for the use of extracts of Marigold in the treatment of burns in humans (Ibid.).

Weleda makes a number of products utilizing Calendula, including a wonderful baby oil which gently warms the infant and keeps the body heat in. In Europe, the plant is commonly used for many external problems, much more than in the United States.

Since the plant is so valuable in the treatment of wounds, it should be available in every home. The petals do not last longer than one year, so each year the old supply should be discarded and a new one gathered.

CULINARY HERB

Jeanne Rose asks, "How can a marrow soup stock be made without the addition of these flower petals for their taste and colour?" They also substitute for Saffron in rice, and can be added to bouillabaisse. The leaves can be added to salads, and the petals to teas. You can scramble eggs with Marigold, or use it in wine, pudding, or buns. It is a plant that causes no allergic reactions, and when mixed with comfrey and camomile is useful for many ailments, she says. Anyone who is allergic can benefit from this mixture, especially babies. A Marigold sandwich can be made by spreading thinly sliced whole wheat bread with mayonnaise, thin slices of cheddar cheese and liverwurst, topped by fresh Marigold petals and sprinkled with sesame salt (Rose:Herbal:84).

She also recommends a Marigold wine, which she thinks is so delicious that it should be made up by the gallons. Using extremely clean utensils, here is the recipe: one gallon of good water; no

more than 2-1/2 pounds of sugar or 3 pounds of honey. Boil the water and when it cools to about 170 degrees, add the sweetening. When it cools to about 70 degrees, add 1 cup freshly squeezed orange or grapefruit juice, or 1 cup lemon juice and 1 tablespoon malt syrup. Add one package dry yeast immediately, stirring with a sterilized spoon, and cover. When the ferment begins, add 10 to 12 ounces of Marigold flowers. Several times a day stir with a sterilized spoon. No more than one week later, remove the flowers with a sterilized spoon. Siphon the wine into loosely stoppered large bottles. Store the wine in a cool place and bottle when clear (Rose:Herbal:212-213).

The flower heads have also been used, boiled, as a fabric dye. Surprisingly, they yield without mordant not a vibrant yellow, but rather a delicious yellowish-green. The flowers can be used in a bath or facial. They are also often added to potpourri mixtures for color more than for their scent.

HISTORICAL USES

Used for wounds, injuries, headache, jaundice, red eyes, toothache, ague, sores, burns, insect sting, chronic ulcers, varicose veins, chapped skin, chronic vomiting, liver congestion, fevers, to soothe irritants in the eye, for warts, small pox, measles, scrofula and to expel mucus.

CULTIVATION, COLLECTION, PREPARATION

The seeds of the Marigold are unusual in shape and formation. They are light yellow in color with at least a half dozen shapes; the seeds hold their germination for only one year and so fresh seeds are needed for each planting.

The seeds may be planted in April or May, when the weather is warm. The soil should be at least 60 degrees for the seeds to germinate well. Although the plants need to be kept free of weeds and thinned out to nine or ten inches apart, there is not much more cultivation necessary in the care of Marigolds. If the soil is fairly rich, the flowers will begin to appear anytime from June to August. Be sure that the phosphate content of your soil is adequate to assure constant blooming. The plant is frost-sensitive, so it will die after the first hard frost. We have had Marigold seeds over winter where they fell, however, and provide us nice plants in the spring (Hyl:384-5).

To gather the flowers, on a sunny day, pinch them off at the stem. Each petal of the flower is pulled off from the green center stem. The green head should be discarded. The petals should be dried in the shade on paper rather than on screens, since they tend to stick tightly to screens, making them difficult to remove. They should be kept from touching one another, as this causes discoloration. Since the petals are very hygroscopic, they should be stored in a moisture proof container (Ibid.).

The flowers can be used in petal form; they can also be made into tinctures or extracts for emergency use on wounds.

RECENT FINDINGS

Some people who are allergic to ragweed are also sensitive to Marigold ("Multiliter Production and Immunochemical Cross-Reactivity of Plant Tissue Culture Antigens", Journal of Pharmaceutical Sciences, Vol. 65 No. 1 January 1976, p. 163).

The powdered flowers of Marigold are used as a cheap source of carotenoids in chicken production. The flowers color the egg yolks a lovely orange color ("Carotenoid absorption in chicken intestine", Rev. Esp. Pisiol. September 1978, p.257).

Extracts of Calendula have proved effective in treating ulcers in humans with insignificant toxicity in either one time or chronic administration ("Pharmacology of calendulose B..." Farmakol Toksikol, September-October 1978, p.556).

Standard skin wounds in albino rats were treated with fractions from Calendula. They healed rapidly due to variously analyzed constituents (Influence of the physiological regeneration and epithelialization using fractions isolated from Calendula officinalis", Acta Physiol Pharmacol Bulg, 1982, Vol.8 Number 4, p.63-7).

Twenty-four patients with chronic non-specific colitis were treated with an herbal combination including Calendula. The spontaneous and palpable pains along the large intestine disappeared in 95.83 percent of the patients by the fifteenth day of treatment. Defecation was normalized in patients with the diarrhea syndrome ("Treatment of chronic colitis with an herbal combination..." Vutr Boles, 1981, Vol. 20, Number 6, p.51-4).

Water extracts of various herbs were used to see which could improve uterine tone. Among them, Calendula was found to be extremely effective ("Uterotonic action of extracts from a group of medicinal plants", Vet Med Naukl, 1981, Vol. 18 No. 4, pp.94-8).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING MARIGOLD

The CMM ointment contains Marigold.

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 **MARSHMALLOW**

ALTHAEA OFFICINALIS; MALVACEAE

DESCRIPTION

This common weed is most frequently encountered in a virtual mat, hugging the ground. In rich, moist areas it may attain a foot or more in height, long-stemmed and verdant. The leaves are round, five to seven lobed and somewhat blunted palmate, the leaf stems usually much longer than the leaves and springing at all angles from the main stems. The flowers are small, five petaled, cup shaped, and from blue to white in color, clustered along the sides of the stems. The fruit is round, flattened, and resembles the wheels of cheese one so seldom encounters in supermarkets anymore. The root is light tan and rather deep. The whole plant has a slimy, mucilaginous sap when crushed between the fingers (Moore:101). This plant is found at all altitudes in most places in North America, and indeed, its relatives are abundant all over the world, extremely prolific in tropical regions, where it forms a large proportion of the vegetation, gradually increasing in number and size as you near the poles. About 1,000 species have been discovered, all of which contain the healing mucilage, but none of which are poisonous. It is gratifying that even the most anti-herb researchers have found no toxicity at all in Marshmallow, although it is so valuable in healing.

GENERAL

Marshmallow is one of our favorite herbs; humble, it flourishes in the garden as a weed, where many of us struggle to obliterate it. However, as Dr. Christopher said, we should be grateful that it grows back, and instead of trying to obliterate it, we should honor it. In fact, Dr. Christopher once said that when we cut back Marshmallow, we usually do not remove its long, deep root. After a few days, it starts back up through the soil, smilingly asking you, "Well, stupid, here we come again; haven't you learned yet how we can help you?"

Dr. Christopher told many stories about Marshmallow root and herb. In particular, the herb works wonders in cases of gangrene. In one of Dr. Christopher's classes in Ogden, Utah, a

registered nurse attended. One day she called, saying that her young son, about five years old, had severely burned himself--a rope burn on his upper thigh and into the groin area. This wound had become infected and the odor was terrible. Dr. Christopher teased her a bit, "Why don't you take him to the hospital where you work; they would probably give you free service, as you are an employee."

She wasn't in a kidding mood, though. "I should say not!" she snapped back, "I won't take the chance of having them cut into his leg and carve him up. I believe in what you teach. Please help me."

Dr. Christopher told her she could handle the problem in one of two ways. One would be to use a large Marshmallow root poultice, bruising the roots through a meat chopper or a blender, with a small amount of distilled water or apple cider vinegar to make it moist. She might also make a strong decoction of the Marshmallow root, soaking a flannel cloth in the tea, wringing out the cloth so it would not run or drip, and covering the wound with the cloth, afterwards covering the cloth with oilcloth or plastic to retain the moisture. Either way she treated the wound, she should give the boy several cups or more each day of Marshmallow root or leaf tea, which could be sweetened with honey. The boy treated thus healed quickly, without even a scar, although the wound had been a nasty, deep, gangrenous rope burn. The next time the Doctor talked to this nurse, she told him that she had removed the flowers in a large flower bed and replanted it full of Marshmallow herbs!

There was a man who had injured his leg; the wound did not heal and gangrene set in. He went to a medical doctor, who upon seeing the seriousness of the wound, insisted that it be amputated. He refused amputation, however, and came to Dr. Christopher for help. The Doctor dug up a large quantity of Marshmallow root from the yard, sufficient to make enough decoction to completely submerge the leg in the liquid. After a number of hours, the gangrene was conquered and the tissue returned to normal.

In another case, a man ran a pitchfork into his foot, but he went back to work even though the wound hurt him. By afternoon the pain was so bad that the boss sent him to the hospital and the medical doctors said that the man must have tetanus shots or he might risk amputation. The man hesitated, saying that he was busy and would have to put it off. The doctor said that if he did, he might not be living the next day. This man came to Dr. Christopher, and the Doctor told him to gather some comfrey and Marshmallow root which were growing abundantly on the farm, and to first pack the foot with five pounds each of onion and salt as a drawing poultice for four hours, then to apply the comfrey and Marshmallow as a poultice. By the next noon, the swelling had completely subsided and there was only soreness at the place where the pitchfork had punctured. He continued using the poultice until in a very short period it was healed.

One time, a doctor called Dr. Christopher from one of the largest hospitals in Seattle, Washington. He had traced him down by calling Mrs. Christopher, as the Doctor was lecturing throughout the country, often only one night in one place. The Doctor was then on the West

Coast. The medical man asked the Doctor how he might save the leg of a patient with a case of blood clotting associated with gangrene. This was located in the leg and because of the gangrene, the hospital staff wanted to cut off the leg; the medical doctor wished to save it. Dr. Christopher told him to put an oak bark fomentation on the blood clot and a Marshmallow fomentation on the gangrene. He promised the doctor that the blood clot would be cleared within twenty four hours (that's quite a promise!). The clot had been bad enough that the hospital staff decided to do bypass surgery, but then they noticed that the gangrene had set in on the bottom of the leg, on the foot and the ankle. When they decided to cut off the leg, the woman's daughter refused; thus the doctor had called Dr. Christopher.

The medical doctor called Dr. Christopher back a week later and told him that the blood clot had truly cleared itself within twenty-four hours. When you've got a bad blood clot that is stopping circulation which can be cured in twenty-four hours, it is quite an accomplishment. Also the Marshmallow fomentation on the leg had pulled the gangrene out so that the green and black in the ankle and the foot were all gone, except for a little around the toes. Later the woman's daughter called Dr. Christopher and told him that the clot and gangrene had completely cleared when the woman got the one problem that frequently occurs in the hospital--pneumonia. The staff was concentrating on fighting the pneumonia and forgot all about the gangrene and so it came back, even though it had previously cleared. They used the same treatment to clear it again.

Another man was about to have both legs amputated just below the hip; he had gangrene in both legs. By using the Marshmallow soak, he was able to save both the legs. The Marshmallow takes the gangrene right out!

Dr. Christopher was giving a one week series of lectures in Seattle a few years back, and after the Friday night talk, most of the people were standing around talking to each other, some leaving, when a young man came in the door pushing a wheel chair. In this chair was a man about seventy years old with a lap robe thrown over his legs. He was wheeled down to the podium, and the man in the chair motioned for Dr. Christopher to come down. He introduced himself as the president of the Northwestern Spiritualist Church organization. He was scheduled to go to the hospital the following Wednesday to have his legs amputated just below the hips. The gangrene was up partway to his knees by this time and by the time they could get him into the hospital, they estimated that the infection would be so high that it would necessitate taking the legs off just below the hips.

"I do not want to lose my legs," he said. Having heard of others being helped by Dr. Christopher, he asked, "Would you please help me save my legs?" Dr. Christopher asked the young man pushing the chair to come outside with him to the parking lot. There was Marshmallow growing, just handy to show to him. I asked the young man if he knew what it was, and he said, "Yes, it is cheesies; I have been digging it out of the garden and field all day." When asked if there was more that had not been dug yet, he laughingly said, "Acres of it." Dr. Christopher took him back inside to give instructions on the procedure to save the legs. They should gather bushels of Marshmallow herb and root, shake or quickly rinse the roots off, and simmer in large buckets or

pots made of stainless steel, unchipped enamel, or other inert substances--never aluminum or copper. They should make gallons of tea from these herbs. Then they should place it in a large container where the tea would come up almost to the knee, such as a five-gallon can with the top out, tall waste baskets, etc. Put the tea in as hot as can be borne without damaging skin tissue, and use one container for each leg, filled as high as possible. Into the tea, they should put an ounce or more of cayenne pepper. After soaking the legs for thirty minutes in the hot tea, they should take them out and place them into buckets of ice water--or water as cold as it can be obtained. Leave the legs in the cold water five minutes, ten back into the fresh Marshmallow root tea, with cayenne, as above. This should be continued, thirty minutes hot and five minutes cold all day long; by nightfall, the extreme pain should be alleviated enough to apply fomentations over the legs, covered with oiled silk, plastic, or waxed paper. These fomentations are made best by soaking a Turkish towel or gauze in the very hot tea, lightly wringing it out just so that the tea will not run out of it, and placing as hot as possible without blistering over the area. People sometimes apply a hot water bottle or other source of moist heat (never dry heat) to continue the warming, healing influence of the fomentation. This fomentation should be kept on the legs all night long.

The next morning, the soaking program should begin again, and should be continued until complete healing occurs, so that even the scars are gone. During this time, the patient was to drink at least three cups of Marshmallow root tea per day and to stay on juices and distilled water. Food taken should be of the mucusless diet, that is, fruits, vegetables, grains, nuts, and seeds, raw or low heated. Zone therapy could also be applied to speed the action, but never on the afflicted area. If the gangrene occurs on the leg, for example, do reflexology on the arm on the same side, and in the area of the malfunction on the other extremity if it too is not affected.

The men promised to apply this therapy. When Dr. Christopher returned to the area for another week's lecture the following month, a man came down to the front of the hall and asked permission to speak. He said that the Doctor probably would not remember him, but that the last time, he had been brought to the lecture in a wheelchair prior to having his legs amputated for gangrene. He followed the instructions, and using the herbs the good Lord had placed on earth to heal mankind, his legs had been completely healed. He stood there and stomped both feet on the floor so people could see that they were his own, not artificial. This man was quite emotional during his short talk, but he convinced a roomful of people how Marshmallow is truly a great herb.

In addition to its use for gangrene, Marshmallow is excellent as a diuretic and kidney healer. One of Dr. Christopher's students, living in the southern part of Salt Lake Valley, had a teenage boy who was continually ridiculing his mother for studying about herbs and becoming a "witch doctor". One day he was brought home from football practice with severe pain in the abdomen, unable to void his urine. He refused to be taken to the hospital from school, asking instead to be brought home. He lay there on the floor screaming in pain and doubled up in a fetus position. He begged his mother, whom he'd ridiculed, to help him. She went out and pulled up some Marshmallow plants, root and all, because fortunately it was just after an irrigation turn and the

fields were flooded. When she returned to the house, the boy asked how long it would take for her to make up the tea, as the pain seemed almost more than he could stand. She replied, ten or fifteen minutes. Instinct made him ask her to wash and hand him a Marshmallow root immediately. This she did, and he immediately began to chew on the root. Within seconds, he straightened out, stood up, and headed for the bathroom, voided his urine, and was relieved of the excruciating pain. He never again ridiculed his mother's herbal studies.

CHEESIES

Our common creeping Mallow, which is nicknamed "Cheesies" or "Bread and Butter" for the small, round cheese-shaped seeds which children in the countryside love to eat, is best known here in America. However, in England and in Europe, a taller species with mauve or blue flowers is also called by the same official name and has the same medicinal qualities. Our common Marshmallow is so common that we hardly think to attribute important medicinal qualities to it, yet it is a most valuable herb. This plant is not native to America, however. It was introduced here from Europe as were many of our now widespread plants. This involves accidental introduction, such as seeds coming as part of straw packing or, especially with seaside plants, as part of a ship's ballast. Because some of the Marshmallows are commonly found on the banks of tidal rivers and streams, it might have arrived in this way (Coon:56). The "Mallows" eaten during famine in the book of Job are not thought to be Mallows at all; the Hebrew word here translated is "mallauch", which means salted or of the sea. Some scholars think this might truly have been a Marshmallow, which is soft and mucilaginous and is eaten in times of famine, but others say that "mallauch" implies saltiness, which Marshmallow doesn't have at all. Most modern authorities think that this Mallow is really a salt wort or sea purslane. However, most of the Mallows have been used as food and are mentioned by early classic writers with this use. Mallow was considered a delicacy among the Romans. The Chinese used some sort of Mallow in their food, and Prosper Alpinus stated in 1592 that a plant of the Mallow kind was eaten by the Egyptians. Many of the poorer inhabitants of Syria, especially the Fellahs, Greeks and Armenians, subsist for weeks on herbs, of which Marshmallow is one of the most common (Gri:507). In times of scarcity because of crop failure, this plant, which grows nearly everywhere in abundance, is a good source of food. Dr. Christopher said that one could live for a long time upon Marshmallow, as it has a high quality, organic protein which is easily assimilable, not like other concentrated proteins which may cause problems later on.

Horace and Martial mention the laxative properties of the Marshmallow leaves and root, and Virgil mentions the fondness of goats for the foliage. Dioscorides wrote at length about its remedial use, mentioning that it "is good for wounds, ye suppurations, enflamed duggs (breasts), ye griefs of the seats, bruises, flatulent tumors, ye distentions of ye nerves, for it dissolves, and ripens, or breaks and brings to a (head)...and the decoction of ye root being drank with wine doth help ye dysentericall...ye tremblers, ye troubled with ruptures and assuageth ye pains of ye teeth, being sodden with vinegar and ye mouth washed with it. Ye decoction of the seed being drank is good against ye stings of bees and of small beasts, being drank in wine..." In addition to all of this, Dioscorides mentioned that the Musk Mallow was used to decorate the graves of friends.

Pliny said, "Whosoever shall take a spoonful of the Mallows shall that day be free from all diseases that may come to him."

The herb has been in use long among the Arabs, the ancient Arab physicians using the leaves as a poultice to suppress inflammation, the modern using them the same, chewing the stems well and applying the pulp, well-mixed with saliva and still warm from the mouth, to inflamed parts of the skin and to sores and swellings (Lev:Common:94).

Charlemagne demanded that it be cultivated in his domain. Hippocrates felt that it was an immense aid in the treatment of wounds.

During the Renaissance, Marshmallow was used by herbalists to aid sore throats, stomach problems, gonorrhea, leucorrhea, and toothache, and as a gargle to treat mouth infections (Weiner:129).

Marshmallow used to be cultivated in gardens for its medicinal qualities, people commonly having herb gardens adjacent to their homes the way we grow fruits and vegetables. It might be well to follow their example and grow medicinal herbs, although little effort is necessary to establish Marshmallow, as it finds its way to our yards without much help. The generic name, Althaea, derives from the Greek altho, to cure; the name of the order Malvaceae, also derives from the Greek, malake, to make soft, from the special qualities of the Mallows in softening and healing (Gri:507).

In France, the young tops and tender leaves of Marshmallow are eaten uncooked, in spring salads, for their property in stimulating the kidneys, a syrup being made of the roots for the same purpose.

Gypsy babies chew Marshmallow roots to help them with their teething. In America, early botanists and wildflower lovers noted the presence of the Marshmallow. One early writer charms us with the following:

Our path led to the kitchen door at the house end, and there grew a mass of gay flowers and greenery as if they had been swept together by some diligent garden broom. There were portulacas all along the lower step, and clustering mallows that crept as near as they dared like poor relations. I saw the bright eyes and brainless little heads of two half-grown chicks who were snuggled down among the Mallows, as though they had been chased away from the door more than once, and expected to be again" (Sarah Orne Jewett, The Country of the Pointed Firs, 1896).

The Doctrine of Signatures, which notes the formations or composition of herbs and assigns healing uses according to these, suggests that the much desired mucilage so plentiful in the Mallows informs us that the herb will stop the hoarseness or tickling in the throat and soothe and subdue the pain of pulmonary catarrhs and general bronchial disorders (Harris:127). Of course,

we cannot always agree with the Doctrine of Signatures, but it is interesting how often it is correct! Some of the common names of the plant include althea, in reference to the botanical name, mortification root, referring to its miraculous work in gangrene ("mortification"), mallards, sweetweed, cheese plant, mauls, guimauve, referring to the pale pinkish-purple in the flower common in Europe, whitemallow and schloss tea.

DEMULCENT HERB

Dr. Christopher said that Marshmallow is very soothing and healing to the inflamed respiratory, alimentary, intestinal, and genitourinary areas. He said that the herb is high in lime and calcium, and especially high in oxygen and pectin. For those who are concerned that their reduction of dairy products in the mucusless diet will deprive them of needed calcium, Marshmallow is among the many herbs which will richly fill that need.

Dr. Shook explained the importance of pectin. Pectose, he said, is a vital proximate principle abundant in unripe fruits and roots. The action of weak alkaline water on pectose produces pectosinic acid, which carries an abundance of oxygen. He said that this acid is one-third oxygen; hence its great life giving and vitalizing properties which are unrecognized by medical scientists (ShoA:127).

Most herbalists have not used Marshmallow for gangrene as thoroughly as Dr. Christopher, so his discovery is an important addition to herbal practice. He mentioned that the addition of slippery elm powder to a hot root-poultice on gangrene will greatly enhance the action of the herb. Do not allow the poultice to become cold, but reapply a new one (or supply new fresh, hot tea, after the cold soak). This can safely be used on open sores without danger of contamination.

Other external uses of Marshmallow include a hot fomentation for mastitis. Mix equal parts of Marshmallow root, camomile flowers, and poppy heads with enough boiling water to make a poultice. Apply as hot fermentations to the affected area. The herb, mixed with red-raspberry leaves, for their astringency, can be made into a strong decoction for an eyewash to be used on inflamed eyes. Dr. Christopher long recommended Marshmallow ointment for inflamed skin eruptions, facial sores, wounds, external ulcers, etc. Such an ointment is made and sold even today, and we have used it on childhood abrasions, insect bites, rough skin, etc., with wonderful success. Dr. Christopher said that the salve will cleanse, digest and heal sores, wounds, etc. Marshmallow ointment is made like any other ointment, bruising about a cup of the leaves and putting them into a half pound of leaf lard with about a pound of beeswax. Place these into a porcelain or pyrex container, simmering them in a 150° oven until the herbs are crisp. Strain through a wire strainer and stir until cold. If a stronger ointment is desired, repeat the process.

The infusion is used as a wash for skin irritations in New Mexico (Moore:101). The decoction is used as a soothing vaginal douche and a sitz bath for rectal irritations (Rose:Herbal:82).

More frequently, the herb is recommended for internal use, especially for coughs and other

bronchial affections. Country people in England have long prepared a home syrup from it by boiling the roots, adding a few raisins, straining off the liquid and bottling. A delicious syrup, made from the decoction added to honey, is sometimes given to children for sore throats and bronchitis (British Herbs:74). It is especially useful in dry or hacking cough, inflammation of the chest, and the related inflamed and swollen glands. Dr. Shook said that the Marshmallow root, mixed with equal parts of garden thyme and made into a cough syrup by slowly boiling the herbs in distilled water until reduced to one pint, strained, and mixed with brown sugar, simmering for five minutes more, makes a specific remedy for whooping cough, giving almost instant relief, especially if the suffering child is kept on a diet of mostly fruit juices, especially pineapple, and is given no eggs, starchy or greasy foods (ShoA:128). He added that the same remedy will suffice for spasmodic asthma, if one half ounce of Lobelia herb is added, with a little bit more water.

Dr. Christopher recommended mixing the Marshmallow root with other pectoral or expectorant or soothing herbs for cough, such as licorice root, elecampane, mullein, etc. He gave a specific combination for coughs and bronchitis. Mix a half teaspoonful each of Marshmallow, coltsfoot, ground ivy, licorice, and elder flowers, infusing in one pint of hot water for fifteen minutes, covering and letting stand until cool. Strain, sweeten, bottle, and refrigerate, giving a tablespoonful or more as needed for coughing and for throat irritation (SNH:329).

Marshmallow is also useful for intestinal irritation. The infusion will help indigestion and stomach sensitivity (Moore:101).

It is a specific for many urinary tract troubles. It is said to give prompt relief in gravel, inflammation of the kidneys and bladder (ShoA:127). It helps in retention of the urine and cystitis. One woman found that it worked "like a charm" for her painful cystitis. Unable to get the root, she placed three heaped teaspoonfuls of the dried leaves into a small saucepan with a teacupful of cold water, which she brought to a boil, simmered for a half a minute, let stand until cold, and strained. She drank a wineglassful of this after meals, three times a day. She was delighted to have the condition clear, along with a nasty, raw condition of her mouth (Luc:Herbal:96). The herb relaxes the urinary passages and relieves pain, as we described above. Used in combination with other diuretic herbs, such as parsley root, in the form of a tea, Marshmallow root will relieve the attack of kidney stone and gravel and aid in their smooth expulsion (Tie:103).

Marshmallow root is also used for constipation, especially with hard, dry stubborn stools. It can be used with other laxative herbs for chronic constipation that is associated with dryness or lack of roughage (Ibid.). Marshmallow is also protective and healing in the irritations associated with diarrhea and dysentery. For dysentery, sometimes the powdered root is boiled in milk. The action of Marshmallow root on the bowels is unaccompanied by any astringency (Gri:508). In fact, one of the valuable aspects of the herb is that it lacks any astringency whatsoever. As mentioned above, the roots, cleaned and stripped of their brown covering, are used to teethe on by babies; they taste rather sweet, and the mucilage obtained by teething soothes the intestinal tract, which is almost always upset by the teething process. The green leaves, beaten and mixed

with salt, were said to extract thorns and prickles. The tea is said to enrich the milk of nursing mothers. In fact, the whole plant is good for this purpose. One woman, a small and delicate person, gave birth to two robust twin boys. She asked her husband to bring Marshmallow plants to the hospital, roots and all, which she ate--and forbade the nurses to remove when they exclaimed about the presence of those weeds! She produced such an abundance of milk of such good quality that she was able to nurse the babies with ease; indeed, she nursed them for many months, only weaning them when they began to take so much nourishment from her that she couldn't eat enough food to provide for the three of them.

The powdered root can be applied to any moist inflammation, wherefrom it will draw the infection and dry up the moisture. The whole herb will help build the bones and flesh of weak or rickety children. The infusion or decoction can be used as a hand lotion for dry skin, especially nice if perfumed with a little natural flower oil or rosewater.

"MARSHMALLOWS?"

Most people today associate the word with the fluffy confections sold in stores; these are composed of corn syrup, sugar, gelatine, starch, and something called hexametaphosphate. Some Marshmallows have even more chemicals added, but since we rarely see a package of them, we cannot communicate the ingredients to you! But originally, Marshmallows were indeed made of the powdered roots of the Marshmallow plant. Levy mentions that you can make "a popular confection" known as Marshmallow sweets by combining two ounces of Marshmallow root, fourteen ounces of fine sugar mixed with some mucilage tragacanth and the water of orange-flowers, sufficient to bind all together (Lev:Common:96). Rose says that she doesn't have the recipe for genuine Marshmallows; although she supplies one similar to above, substituting brown sugar. She says that a real recipe for Marshmallow comes from Indiana Botanic Gardens.

As mentioned above, the herb is really good eating. We enjoy, with the children, "browsing" on the little cheesies during the summertime. The taste is nut-like and sweet, and we have the added pleasure of knowing they are improving our health. The Marshmallow roots are said to be good eating, sliced crosswise, parboiled, drained, and then gently fried in butter or oil with onions and other seasonings. The water in which the roots have been boiled is very viscid and can be beaten like egg whites into a froth. Euell Gibbons described how he used them to make such gourmet delights as chiffon pies (Elt:104).

The powdered root is used pharmaceutically to bind pills; it might be a good ingredient in making homemade candies with honey, vanilla, etc.

The bark of some of the Mallow species is used to make hemp (ShoA:126). Commercial cotton is made from a related species, and many ornamental flowers are also related, such as the familiar Hollyhock and the Hibiscus.

HISTORICAL USES

For gangrene, as a diuretic, for the kidney, for wounds, bruises, teeth pain, to suppress inflammation, for inflamed respiratory system, for intestinal and genitourinary areas, for eyes, skin, facial sores, external ulcers, abrasions, insect bites, rough skin, swollen glands, intestinal irritation, inflammation of the kidneys, coughs, kidney stones, constipation, and to draw out infections.

CULTIVATION, COLLECTION, PREPARATION

It takes no green thumb to cultivate Marshmallow; most green thumbs aren't even able to eradicate it. It can be raised from seed, however. At the end of the summer, when the seeds are completely dry, gather as many as desired and store in a cool, completely dry place until spring. You can scatter these among your wild garden or wherever you won't mind a fine stand of Marshmallow. Cuttings also do well, and offsets of the root, carefully divided in autumn when the stalks decay, will grow in spring of their own accord. Plant about two feet apart. Marshmallow will thrive in almost any soil or condition, but prefers moisture to dryness, and could be cultivated on unused ground in damp localities near ditches or streams.

To gather the roots, you don't need to wait until autumn. As soon as the flower makes its bud but doesn't open is the ideal time, but you can use it at other times as well. Wet the ground thoroughly, as the plant is deep-rooted and not easy to dig. Uproot the plant. Clean it quickly and thoroughly. You can remove the top of the plant to be used for infusions, and then scrape the root until white. Cut it into small pieces, and let it dry slowly. Neither the herb nor the root should be dried in the sun, but in a warm, breezy place. Store in airtight conditions. Since the herb is so common and so prolific, no one should be without it, as emergencies do occur, and it is comforting to have the herb and root ready for use even in the middle of winter.

RELATED PLANTS

Malva sylvestris, or Blue Mallow, works the same as the Marshmallow, only much less effectively. The leaves and flowers are used more than the roots, which are considered ineffectual. The flowers were formerly used on May Day for strewing before doorways and weaving into garlands.

Malva meschata, Musk Mallow, has the same virtues as Marshmallow, though not as strong, and the leaves have similar properties. The flowers are large and showy.

Malva rotundifolia, Dwarf Mallow, is smaller than any of the other wild Mallows. Its leaves have sometimes been used medicinally.

Lavatera arborea, Tree Sea Mallow, grows five or six feet high, on sea cliffs, and is considered a very handsome plant. Its leaves, steeped in hot water, are used for sprains.

CHEMICAL COMPOSITION

The taproot, grayish-yellow with corky externally and white and fibrous within, is faint-scented, sweetish and astringent; when dried, it contains 25-35% mucilage, about 35% starch, 10% pectin, 10% sugars, and 1 to 2% asparagine, which is said to be an active medicinal ingredient. It may contain tannin. The root must be thoroughly dried or it will have partial decomposition and a sour odor and taste.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING MARSHMALLOW

Prospallate, the combination to heal and tone the prostate gland and related organs, contains Marshmallow root.

Resp-Free, the combination to clear out mucus from the respiratory tract and help heal it, features Marshmallow root.

Juni-Pars, the combination to heal the urinary tract, contains Marshmallow root.

B F & C, the bone, flesh, and cartilage combination, which does wonders in restoring flesh and internal healing of bones and cartilage, contains Marshmallow root.

INF, the combination to promote general good health especially when there is a threat of infection, contains Marshmallow root.

SHA tea, the anti-allergy combination, contains Marshmallow root.

DRI, the herbal incontinence formula, contains Marshmallow root.

The Yellow Dock Combination, which supplies a wonderful combination of vitamins and minerals in an organic, assimilable form, contains Marshmallow root.

V.B., the vaginal bolus, which is mixed with water and inserted into the vagina to help cleanse and heal any problems in the female reproductive area, contains Marshmallow root.

Ant-Plg, the anti-plague formula so miraculously given to Dr. Christopher and which protects from all sorts of infectious diseases, contains Marshmallow root.

The BF&C syrup, which is a pleasant way to supplement BF&C external treatment, contains Marshmallow root.

CMM ointment, which is a marvelous combination to heal many external problems, contains Marshmallow root.

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Tie
Rose:Herbs
Lev:Common
Luc:Herbal
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Mal
Coon
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Durant
Weiner
SNH
British Herbs



VISCUM ALBUM; LORANTHACEAE

DESCRIPTION

A parasitical plant, with a root firmly attached to the wood of the tree on which it grows. Stem is firm, succulent, bright yellowish green, 1 to 2 feet high, divided into numerous dichotomous branches. Leaves opposite, persistent, obovate-lanceolate, obtuse, coriaceous, thick, with parallel ribs, quite entire, light green. Flower dioecious, in sessile axillary heads, of about 5 flowers. Male flowers have an obsolete calyx, a corolla of 4 ovate petals united at the base, each bearing a single compressed sessile anther with many cells opening by pores; female flowers very small; calyx forming an obscure margin; corolla of 4 ovate equal deciduous petals united at the base; ovary inferior, crowned by the border of the calyx, stigma sessile, obtuse. Fruit a smooth, whitish, succulent, globose berry, containing a solitary, cordate, compressed seed. Seed has sometimes 2, occasionally 3 embryos (Weiner:132).

GENERAL

Dr. Christopher taught that Mistletoe is highly valued for its nervine and antispasmodic properties, used anytime there is weakness or disorders of the nervous system. It is also useful in female weakness and will incite uterine contractions. It tones the heart, and is preferable to the powerful whipping action of digitalis or bromides in cardiac affection.

KISSING HERB

Apothecary Mistletoe,
Oh, help me with your ointments!
I cannot come, I cannot go,
I ache in all my jointments!

So wrote Hermann Hesse in Rosshalde. Throughout literature, whether humorous or not, references crop up about the mystical Mistletoe. For many centuries Mistletoe has been connected with legends and mysteries, regarded as a holy herb and a good luck plant. This was probably due partly to its power over mental disorders of which people had little understanding, and partly to its peculiar habit of growing out of its host tree (Complete Book of Herbs and Spices:182).

People still kiss under the Mistletoe, although a generation ago the custom was somewhat different; a kiss was claimed by a beau in exchange for a berry until all the berries were gone. An old Norse legend tells of the killing of Balder, the god of peace, by an arrow made of Mistletoe. The other gods and goddesses were so enraged that they restored him to life and gave the care of the Mistletoe to the goddess of love; from this, some say, arises the age-long custom of men and maidens kissing beneath the bough (British Herbs:78). Others say that the Mistletoe was formerly a symbol of hate when this god of peace was killed. Since a world without peace was unendurable, even before the invention of nuclear weapons, Mistletoe was given to the god of love, and everyone passing under it should receive a kiss to show that this plant had become a symbol of love instead of hate (Gib:215). Others yet consider that the kissing tradition follows another ceremony which did not stop with mere kissing; Geoffrey Grigson's Gardenage (London: Routledge, 1952) is said to contain the whole story in the title chapter entitled "The Mistletoe Bough" (Coon:155). Gibbons wondered if there is not an echo of these ancient observances in the fact that many old herbals recommend an infusion of Mistletoe as a cure for sterility. Perhaps, he said, some of those old pagan rites could cure certain kinds of sterility today (Gib:215).

Mistletoe was formerly a mystical plant, highly venerated by the Gauls. As the oak was sacred to them, their priests--Druids--lived in oak forests, used oak leaves and boughs in religious ceremonies and made their sacrifices under an oak tree. When the Mistletoe was found growing on an oak, it was believed to be a gift from the Divine. A ceremony was performed annually in which the priest, dressed in a long, white robe, climbed the tree and carefully removed the plant

with a golden sickle. It was caught in a white cloth and divided into shares which were distributed among the bystanders. The pieces were kept as charms or sacred relics and were also used in the form of a potion as a remedy against poisons and disease (Luc:75). The Mistletoe was always cut at a particular age of the moon, at the beginning of the year, and it was only sought for when the Druids declared that they had visions directing them to seek it. When a great length of time elapsed without this happening, or if the Mistletoe happened to fall to the ground, it was considered as an omen that a great misfortune would befall the nation (Gri:547). The Druids claimed that the Mistletoe protected its possessor from all evil, and that the oaks on which it was seen growing were to be respected because of the wonderful cures which the priests effected with the herb. As the constituents of the Mistletoe vary according to the host plant on which it is found, this may explain the Druidic belief that the plant from the oak was the most valuable (Malcom:282). The entrance of the new year was announced by the Druids, who sent their attendant youth with branches of Mistletoe for this purpose. It is probable that our custom of including it in the decoration of homes at Christmastime, giving it a special place of honor, is a survival of this old custom (Gri:548).

The curious basket of garland with which "Jack-in-the-Green" is even now occasionally dressed on May Day is said to be a relic of similar garb assumed by the Druids for the ceremony of the Mistletoe. When they had found it, they danced round the oak to the tune of "Hey derry down, down, down derry!" which literally meant, "In a circle move we round the oak". Some oakwoods in Herefordshire are still called "the derry"; and the following line from Ovid refers to the Druids' songs beneath the oak: "Ad viscum Druidae cantare solebant" (Ibid.).

Shakespeare called it "the baleful Mistletoe", an allusion to the death of the god of peace by the Mistletoe arrow.

Mistletoe was originally misteltan in Anglo-Saxon and means "the little dung twig". Mistel is a diminutive of the German mist or dung, and tan is the Anglo-Saxon for twig. The name was given because of the part birds play in propagating this parasitic plant, eating the berries in one place and excreting them in another. In fact, it was formerly believed that Mistletoe would not sprout at all unless ripened in the stomachs of birds. In addition to the Druids, the plant was sacred to the Ainos of Japan and certain tribes in Africa. It has always been surrounded with mystery and superstition. It was a plant that grew without roots in the ground, as though it had fallen from the sky as a divine gift, and as a divine gift it was likened to the soul, because the Mistletoe was evergreen. In northern winters when the trees seemed to die, the fresh foliage of the Mistletoe was the sign of life everlasting; the souls of the trees still lived. Mistletoe was the all-healer; it protected against witchcraft and nightmares; it evoked ghosts and caused them to answer your questions; it opened all locks, guarded your dairy and stable from trolls, cured epilepsy, warded off death in battle, induced omens of good or bad fortune; and as a divining rod, it pointed to buried gold or treasure (:129).

The Mistletoe we are describing is the European variety, Viscum album. It is a half-parasitic plant which attaches itself to such trees as the apple and oak and poplar, drawing its nourishment from

them. The Latin name is from viscus, birdlime, a sticky substance which forms in the leaves, berries, and stalks. The American variety, sometimes known as false Mistletoe, is also a half-parasitic plant known as Phoradendron flavescens. In many instances it destroys the plants upon which it feeds. It is not as ornamental as the European variety (Luc:76); however, the American kind is still greatly beloved by people who know it, and Gibbons reminds us that it is just as good for kissing as any other variety (Gib:216). American Mistletoe is the state flower of Oklahoma. When the territory was opened to homesteaders in 1889, Mistletoe, thick as Spanish moss, filled the forests of the Ozark, Arbuckle, Jack Fork, Kiamichi and Winding Stair Mountains. In winter months it was often the only green plant the pioneers could find to put on the graves of their dead. In 1893, a Mrs. Beason, one of the early settlers in Old Reno City, proposed Mistletoe as the territory flower. There was some stiff opposition to this, because it was a pagan plant. But the bill passed, and the country became known as "The Land of the Mistletoe". Dioscorides said that the fruit of the tree, pounded and washed and mashed with water (or chewed) is good to alleviate swellings and suppurations, mixed with equal wax and rosin. It could be mixed with frankincense to clear old ulcers and malignancies, and mixed with quicklime or Agate stone, it can heal the spleen. It can "draw off nails" being smeared with arsenic or sandarach. Being mixed with unslacked lime and wine-lees extends the strength of it. Hippocrates recommended it for disorders of spleen. Pliny and Galen recommended it for the treatment of cancer ("Baleful Mistletoe", The Lancet, December 25, 1982); in a French work on the domestic remedies published in 1682, Mistletoe was considered of great curative power in epilepsy. Sir John Colbatch published in 1720 a pamphlet on The Treatment of Epilepsy, regarding Mistletoe as a specific for this disease. He procured the parasite from the Lime trees at Hampton Court, and recommended the powdered leaves, as much as would lie in a sixpence, to be given in Black Cherry wine in the mornings. As far back as 3000 B.C. the Persians employed it for epilepsy.

Gerard described the herb, although he did not ascribe any medicinal action to it. He said that it did not grow from a seed, but that the vaporous moisture exuding from bough grew the herb (Wood:282)

Culpepper concurred with the traditional use of the plant, that Mistletoe "made into powder and taken in drink by those that have the falling sickness, heals them if used 40 days successively" (Luc:76).

Mistletoe has been used empirically for many years, although anciently and currently there is much talk of it being a poison. In England, there is a legend that the Mistletoe was a tree originally and its wood was used to manufacture the cross; after which it was condemned to be humble and despised as a parasite until the end of time (Mold:285). Certainly the parasitic nature of the plant and the viscous aspect of its berries and leaves appears disagreeable to many.

After the early medicinal applications of Mistletoe, the herb was all but forgotten until 1907, when Rene Gaultier became interested in the results obtained by practitioners of Cologne, who used Mistletoe in cases of tuberculous hemoptysis. He demonstrated the plant's anti-hemorrhagic

properties (Luc:76).

Some of the common names for Mistletoe include bird Mistletoe, all heal, golden bough, devil's fuge, and herbe de la croix.

ALL HEAL

Mistletoe's historical use, which as been corroborated by modern herbal findings, has been to help in epilepsy. Dr. Christopher taught that this disorder results from an extreme exhaustion or derangement of the nerves; if the nerves can be rebuilt, the malady can be allayed. He mentioned combinations of herbs featuring Mistletoe that can help with such diseases. For Chorea or St. Vitus' Dance, he mixed 1 ounce Mistletoe with 1/4 ounce cramp bark, 1/4 ounce hops and anise or peppermint flavoring to taste, making an infusion, sweetening and flavoring the mixture, and refrigerating. This can be given to children. He noted, however, that involuntary twitching and contraction of muscles is common before puberty and that parents should avoid drawing attention to the problem. A steam bath, followed by a sponging with equal parts of apple cider vinegar and cold water, helps prior to administering this formula.

For epilepsy, the Doctor recommended mixing 6 fluid drams of tincture of Mistletoe, 6 fluid drams tincture of lady's slipper, 4 fluid drams tincture of valerian, 4 fluid drams tincture of scullcap, and 4 fluid drams tincture of horenettle, adding distilled water to make 20 ounces of fluid. This could be given by the tablespoon every four hours.

The physiological effect of the plant is said to lessen and temporarily benumb such nervous action as is reflected to distant organs of the body from some central organ, which is the actual place of the problem. In this way the spasms of epilepsy and other convulsive troubles are allayed. Large doses of the plant, however, aggravate the symptoms; children overeating the berries have suffered convulsions (Gri:548).

The herb can be used in any cases of nerve trouble, delirium, hysteria, over-excited heart. In fact, the herb has been employed in cardiac troubles; the tincture has been recommended as a heart tonic in typhoid fever in place of foxglove. It lessens reflex irritability while raising the frequency of a slow pulse. Mistletoe has been used since long ago as an anti-hemorrhagic in cases of hemorrhages postpartum, epistaxis, and tuberculous hemoptysis; it also dries up the flow of the lochia after birth (Mal:95). It relieves the increase in blood pressure which aggravates the symptoms of menopause, like palpitation, tachycardia, suffocation, dyspnoea of effort, abnormalities in the peripheral circulation, etc. The herb is tonic to the uterus and can be used in uterine atony (Luc:77).

Mistletoe is said to cure stubborn headache, even migraine. The extract is also used in headaches which are accompanied by dizziness, in spells of vertigo when there is a tendency to fall backwards, in people whose gait is wavering, who are afraid of open places, get attacks of "pins and needles" in the limbs and suffer from cold feet (Ibid.). Mistletoe is also a specific in the

treatment of neuritis, an inflammatory condition of the nerves or nerve sheath resulting in shooting or other pains throughout the body. Mistletoe is used to treat asthma in Britain; until 1978 a prescription drug named "Felsol", which contained Mistletoe extract, was marketed in Britain for that ailment. In Portsmouth, England even today an herbalist is reported to sell 30,000 Mistletoe-containing pills every week. Some 150 Mistletoe-containing products are available in Britain, where herbal products are much more popular than in the United States.

In China, the herb is used in puerperal difficulties, that is, difficulties relating to childbirth, threatened miscarriage, menorrhagia and insufficient secretion of mother's milk; it is also considered to promote the growth of hair. The plant which grows upon pine and fir trees is thought to be antimalarial, antiseptic, diuretic and somewhat soporific. It is also used in scalp diseases and difficulties of the external genital organs of women (Shi:248).

In India, the plant is thought to be analogous to cinchona bark in intermittent fevers. The blood pressure is said to be reduced by Mistletoe, which also dilates arterioles and capillaries. It is given to reduce splenic and hepatic enlargements, to disperse swellings, and in menorrhagia and hemorrhages. Like digitalis it may be given in palpitations of the heart and in epilepsy. Locally it is applied to mature abscesses (IMM:1276).

A complicated preparation of Mistletoe called Iscadore is employed in the treatment of cancer patients at a research clinic in Switzerland, with many good results. However, researchers there have found that psychological treatment is also important, that the fear of cancer is every bit as damaging as the cancer itself (Luc:80). Mistletoe contains substances called lectins which may combine with certain cancer cells; the chemistry and pharmacology of the plant is very complicated, however, and no definitive results have been demonstrated in humans (Malcom:282).

Interestingly, American and European Mistletoes have opposite effects on the muscular system. American Mistletoe stimulates the smooth muscles, causing a rise in blood pressure and an increase in uterine and intestinal contractions; while our variety, Viscum album, the European Mistletoe, has the reputation of reducing blood pressure and acting as an antispasmodic and calmative agent (Tyler:490).

Euell Gibbons considers the use of Mistletoe as a home remedy for blood pressure ill advised. He has a friend who suffered from low blood pressure, with a sort of anxious depression that is very bothersome. Acting on the advice of his herb-wise old grandmother, he takes a cup of hot Mistletoe infusion, made by pouring a cup of boiling water over a dozen Mistletoe leaves, whenever he begins feeling nervous and depressed. He claims that this dispels the mental conditions associated with the trouble and makes him feel better generally. Gibbons, however, thinks that his condition should be treated by a physician and that safer remedies could be applied than Mistletoe.

Mistletoe, however, is almost universally recommended for nervous problems; one should be

careful and wise in its use.

PLASTIC KISSES?

In the age of the plastic gnome, plastic Mistletoe which can be preserved from Christmas to Christmas ought to be just as good, much less trouble to cultivate, unlikely to be eaten by children, and safer--but who would want a plastic kiss? (The Lancet:op. cit.). You can cultivate it easily, as we will describe below. The stems and foliage have been given to sheep during the winter when forage was scarce, and they are said to eat it with relish (Gri:547).

It is said that in Sweden, persons afflicted with epilepsy carry about with them a knife having a handle of Oak Mistletoe to ward of attacks (Ibid:548).

HISTORICAL USES

To incite uterine contractions, female weakness, as a nervine and antispasmodic, heart toner, cure for sterility, epilepsy, swelling and suppurations, old ulcers and malignancies, for the spleen, falling sickness, tuberculous hemoptysis, nervous disorders, delirium, hysteria, over-excited heart, to increase pulse rate, postpartum hemorrhages, epistaxis, dry flow of lochia after birth, to lower blood pressure, headache, migraine, vertigo, "pins and needles", for cold feet, neuritis, asthma, puerperal difficulties, threatened miscarriages, menorrhagia, to increase flow of mothers milk, promote growth of hair, scalp diseases, fevers, spleen and liver enlargements, swelling, menorrhagia, genital problems, palpitations, abscesses, and cancer.

CULTIVATION, COLLECTION, PREPARATION

Mistletoe can be cultivated easily, and if the berries are preserved after the end of the Christmas festivities the single seed in each berry can be planted in February and March in cracks or cuts in the bark of branches of hawthorne or apple trees, on the underside, where they are less likely to be picked up by foraging birds. After a few days it sends out a thread-like root, flattened at the extremity like the proboscis of a fly. This grows into the crack and roots itself firmly in the growing wood, from which it has the power of selecting and appropriating to its own use such juices as are fitted for its sustenance: the wood of Mistletoe has been found to contain twice as much potash, and five times as much phosphoric acid as the wood of the foster tree (Ibid:547). It is picked during the winter time as needed. The powdered leaves or a fluid extract are normally used; tinctures are sometimes prepared from the leaves and ripe berries, but are difficult to make because of the viscosity of the sap.

TOXICITY

Children have been reported to have gone into convulsions from eating too many Mistletoe berries. The toxic amines and proteins may cause gastro-intestinal upset. Some people report animal and human deaths resulting from Mistletoe (Spoerke:120); however, others say that there is good reason that these reports are incorrect. In these cases no qualified person confirmed that

the plant ingested was really a Mistletoe or even any evidence that the plant was truly ingested (Weiner:133).

A point of caution in the use of Mistletoe: one should be absolutely sure that he is not taking at the same time any prescription medicine that contains a monoamine oxidase inhibitor, since the mixture will cause very serious side effects. A constituent of the plant is well-established to be tyramine. Tyramine will not have any appreciable effects in humans when taken by mouth, unless a monoamine oxidase inhibitor is taken at the same time. In this case, a serious drop in blood pressure will result. This should not be a cause for alarm, as many foods, including Chianti wine, contains large amounts of tyramine, and the same caution holds true for them as for other Mistletoe preparations (Weiner:132).

CHEMICAL COMPOSITION

Scientific studies have shown that the stems and leaves of the plant contain toxic proteins called viscotoxins. These are small basic proteins having the same molecular size (molecular weight approximately 5000) and the same number of amino acid residues, 46. Six cystine residues occupy the same position in the American and European varieties.

RECENT FINDINGS

In 1926, during the first era of intense interest in tumor immunology, a product made from the crude pressed juice of the Mistletoe, called Iscador in Sweden, was introduced in Europe as an immunotherapeutic agent for cancer. Injections of Iscador reported produced regression or remission of some tumors, but few patients were cured, and the preparation soon fell from favor. However, the production of Iscador and the research on it have continued in Sweden.

Researchers in the United States became interested in two aspects of this research: enlargement of the thymus, the central lymphoid organ in the body, and suppression of certain experimental tumors. The research that the thymus did enlarge with application of Iscador, and that thymus activity was variously affected by the plant drug, depending on the level of stress the animals were subjected to ("Biologic Properties of Iscador: A *Viscum album* preparation", The United States-Canadian-Division of the International Academy of Pathology, Vol. 44, No. 1, p. 43, 1981).

The toxic lectin from Mistletoe was given to rabbits. It, along with ricin and abrin, and to a lesser extent, modeccin, inhibited protein synthesis in the rabbits; these are present in various parts of the plants ("Inhibition of protein synthesis by a toxic lectin from...Mistletoe", Biochemical Journal, 1980, Volume 190, pages 843-845).

A case of hepatitis was reported by a woman who had ingested an herbal remedy containing Mistletoe. She was 49 years old, with nausea, general malaise, and a dull ache in the right hypochondrium. Liver biopsy showed a slight inflammatory cell infiltration, and the results of liver function tests suggested hepatitis. Two years later she had the same symptoms after taking the same preparation, containing kelp, motherwort, skullcap, and Mistletoe. Mistletoe was the

only constituent of the tablets known to have any toxin, the report said, and therefore was probably the cause of the illness, which they say could happen to anyone ingesting Mistletoe. They did mention, however, that they have found no record of any toxic reactions to Mistletoe in man, and it has not been implicated in drug-induced hepatitis, although other herbs could cause liver injury. Although Mistletoe was thought to be the culprit, they did not run another test on the woman to be sure, as the herb was already quite assimilated into the system. This was the only case of reported hepatitis, but subclinical hepatitis could result, they said, and so progress insidiously ("Mistletoe hepatitis", British Medical Journal, Vol. 282, January 1981, Page 186-187). A brief comment on this report: although Mistletoe definitely contains some toxins, it is hardly thinkable that in a dose so small as described, in mixture with other herbs, that such a serious case of hepatitis could result, it being more likely that other substances or infection could have caused the condition.

In Germany, Iscador was applied to tumors in the ovary. The women with the ovarian tumors who were given the herb preparation lived 16.2 months in contrast to the women who did not receive the preparation, who lived 5.2 months. They conclude that the extract from the Mistletoe plant is a useful and effective treatment of carcinoma of the ovary, particularly since it usually does not cause serious and undesired side effects ("What prospects of success does Iscador therapy offer in advanced ovarian cancer?" Onkologie, Feb. 1979, Vol. 2 No. 1, pages 28-36). In a like study, the Mistletoe preparation was said to be immunostimulating and to have a significant anti-tumor effect ("Cecular and humor adjuvant activity of a Mistletoe extract", Immunobiology, September 1979, Vol. 156, No. 3, p. 309).

After "careful study of the literature and other information available to it, the American Cancer Society does not have evidence that treatment with Iscador, an extract of Mistletoe, results in an objective benefit in treatment of cancer in human beings. Lacking such evidence, the American Cancer Society would strongly urge individuals afflicted with cancer not to participate in treatment with Iscador" ("Iscador", Cancer Annals, May-June 1983, Vol. 33, No. 3, page 186). We can only comment that treatment by chemotherapy or radiation present such horrific alternatives, that Mistletoe or laetrile or other natural treatments present alternatives that might at least be considered before the medical route. We have had members of our family treated with conventional means; sometimes the cancer is arrested, but sometimes it will persist. We have also had a permanent healing of cancer in our family using natural methods, and therefore consider it quite a workable alternative.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING MISTLETOE

The Relax-Eze combination, which heals the nerves, contains Mistletoe.

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MOTHERWORT

LEONURUS CARDIACA; LABIATAE

GENERAL

As the name implies, this is an especially important herb for women. It is considered a female corrective, quieting nervous irritability and bringing quietness to the whole system--quite a specific, especially for mothers! It is useful to treat suppressed menstruation and to tone and heal the female system generally; it can be combined with other herbs for this purpose. The elite of the ancient Chinese courts used this herb to prevent pregnancy and venereal diseases. It is an ancient herb for the heart (the specific name is cardiaca); Culpepper recommended it for "trembling of the heart, fainting or swooning". He also thought it made mothers joyful and settled the womb, and brought on suppressed menstruation. One ancient writer considered it all powerful against evil spirits! Motherwort can be used to break fevers and to help a patient recover after a fever. It gives an emotional lift without after effects, such as caffeine-containing products cause. Most herbalists stress its use as a cardiac tonic, combining it with hawthorne berries. It is said to prevent heart attack and quell palpitations. It contains a large amount of organic calcium, which explains its good effect on the heart and nerves. Some people dislike its flavor, so it should be combined with other, better tasting herbs, such as peppermint.

HISTORICAL USES

Used as a female corrective, for nervous irritability, suppressed menstruation, to prevent pregnancy, and for venereal disease, for heart trembling, and palpitations, fainting, swooning, and for an emotional lift.

MUIRA PUAMA

PTYCHOPETALUM OLACOIDES;

GENERAL

The root of this plant is used as an aphrodisiac and nerve stimulant. It is considered very powerfully sex-stimulating, but may contain dangerous elements or corrosive factors which could be damaging to the health. Muira Puama grows in Brazil.

HISTORICAL USES

Used as an aphrodisiac and as a nerve stimulant.

MULLEIN

VERBASCUM THAPSUS; SCROPHULARIACEAE

DESCRIPTION

In the first season of the plant's growth, there appears only a rosette of large leaves, 6 to 15 inches long, in form somewhat like those of the Foxglove, but thicker--whitish with a soft, dense mass of hairs on both sides, which make them very thick to the touch. In the following spring, a solitary, stout, pale stem, with tough, strong fibers enclosing a thin rod of white pith, arises from the midst of the felted leaves. The leaves near the base of the stem are large and numerous, six to eight inches long and two to two-and-one-half inches broad, becoming smaller as they ascend the stem, on which they are arranged not opposite to one another but on alternate sides. They are broad and simple in form, the outline rather wavy, stalkless, their bases being continued some distance down the stem, as in the comfrey, and a few other plants, the midrib from a quarter to half-way up

the blade being actually joined to the stem. By these decurrent leaves the Great Mullein is distinguished from other species. The leaf system is so arranged that the smaller leaves above drop the rain upon the larger ones below, which direct the water to the roots. This is needed because Mullein grows mostly on dry soils. The stellately-branched hairs which cover the leaves so thickly act as a protective coat, checking too great a giving-off of the plant's moisture, and also are a defensive weapon of the plant, for not only do they prevent the attacks of creeping insects, but they set up an intense irritation in the mucous membrane of any grazing animal that may attempt to browse on them. The hairs are not confined to the leaves alone, but are also on every part of the stem, on the calyces and on the outside of the corollas, so that the whole plant appears whitish or grey. The tea should be strained thorough a fine cloth to remove these irritating hairs.

Towards the top of the stalk, which grows four or even five feet high and in gardens has been known to reach eight feet, the much-diminished woolly leaves merge into the thick, densely crowded flower-spike, usually a foot long, the flowers opening here and there on the spike, not in regular progression from the base. The flowers are stalkless, the sulphur-yellow corolla, a somewhat irregular cup nearly an inch across, formed of five rounded petals, united at the base to form a very short tube, being enclosed in a woolly calyx, deeply cut into five lobes. The five stamens stand on the corolla; three of them are shorter than the other two and have a large number of tiny white hairs on their filaments. These hairs are full of sap, and it has been suggested that they form an additional bait to insect visitors, supplementing the allurements of the nectar that lies around the base of the ovary. The three short hairy stamens have only short, one-celled anthers, the two longer, smooth ones have larger anthers. The pollen sacs have an orange-red inner surface, disclosed as the anthers open (Gri:563).

GENERAL

Although it is a common herb, Dr. Christopher esteemed Mullein as one of the most valuable healing agents that we have. He said that we should always have some of the Mullein ointment or oil available for an emergency, whether serious or minor. Mullein is the major part of Dr. Christopher's wonderful glandular formula, which is three parts of Mullein and one part of Lobelia herb.

He told the story of a boy and his friend playing by a two-wheeled trailer, the tongue of which was balanced on a log. The little fellow was sitting cross-legged by the trailer; the tongue dropped from the log and hit him between the legs, mashing the testicles and splitting the scrotum open. When his parents rushed out to see what all the screaming was, he was in a really serious condition. They called their family doctor, who said, "Bring him right up here and I'll castrate him". That wasn't what the father wanted, though, so he called Dr. Christopher, who rushed over. Since the testicles are glands and Mullein is the basis for the glandular herbal aids, Dr. Christopher told him to make a strong tea of Mullein and Lobelia, making a fomentation and applying it to the crushed scrotum, removing the old and providing a fresh fomentation when needed, always keeping it wet. The scrotum as well as the testicles were healed with no scar. The boy grew up normal. Dr. Christopher mentioned that this fomentation, together with

drinking the tea, has been used for enlarged swollen testicles and also for those that have dropped down into the scrotum.

Mullein has another specific use. At one time, Dr. Christopher was at the hospital visiting someone, when a man came up to him. "You're Dr. Christopher, aren't you? My friend just pointed you out to me. He said you could help me. I am bleeding at the bowels." Dr. Christopher said, "Well, you're here at the hospital aren't you? Aren't they able to control this?"

"No, he said, they haven't been able to help me. I'm bleeding worse. I'm taking blood transfusions now and I'm going home. I would like you to help me."

The man came to Dr. Christopher's office in Salt Lake. He went immediately to the bathroom because the blood flowing down into the bowel made him feel that he had to have a bowel movement. While he was there, Dr. Christopher called on the intercom into the herb lab, "Fix me a cup of tea right quick. This will be one ounce of Mullein to a pint of whole milk." A shout came over the intercom, "MILK?!" They knew that Dr. Christopher recommended the use of no dairy products in the mucusless diet. Dr. Christopher told them, "This is medicinal". They raced out and got some from a store. They made it into a tea, ready by the time the gentleman came out of the bathroom. Dr. Christopher had him drink the whole pint down. It was warm, and had been strained. After he drank the whole pint, Dr. Christopher said, "That's the whole program. Every time you feel like you have a bowel movement, which could be blood, go have the bowel movement and then drink immediately after that a pint of the Mullein tea made with milk. The next day, just take it three times a day, and then once a day for three days. As time goes on, you'll find that you have fewer of these bowel movements. That's it. Dr. Christopher sent some Mullein herb home with the man, instructing him to get some milk on his way home. This poor man was so sickly that he needed someone on either side of him to support him as he came to see the Doctor. He said he would come back later to pay, but that he was too sick to stay and take care of it then.

Dr. Christopher mentioned that he used milk in this program rather than water because milk has a high casein content. Nutritionists claim that cow's milk has around twenty times more casein than can be assimilated by the human body; Casein is the protein part of the milk, but it is extremely sticky, gluey and hard to digest. The casein glues the Mullein right to the hemorrhaging area. Milk does the same for ulcer patients, gluing or painting over the affected area for temporary relief. A few days later, the man came bouncing in and said, "Hey, where's the Doctor?" Dr. Christopher didn't recognize him at first. "I was here just three or four days ago", he said, "and you told me what to do about those bleeding bowels. I had planned not to return to the hospital, as we decided to go home for the blood transfusions. They were going to operate on me if things settled down, but I've decided not to go back. I am all clear." The man was overjoyed.

A woman in Roy, Utah, had mastitis; she was a nursing mother. Her breast was double its regular size, with red streaks. Anyone experiencing mastitis knows that it is terribly painful, and accompanying symptoms resemble flu. A mastitis fever is really uncomfortable. Her baby had

nursed from the other side, but the mother couldn't let it get near the inflamed breast, which sometimes can relieve the pain and swelling if possible. The baby was crying from hunger; the mother was crying from pain; what misery for the two of them! The Doctor made a fomentation of three parts of Mullein and one part of lobelia. Plastic was put over the fomentation, and the mother was told to drink half a cup of the tea each half hour until time to sleep, then a half cup each hour the next day if needed, which the Doctor did not think would be necessary.

The next morning she called Dr. Christopher, happy to tell him that the swelling was all gone, as well as the soreness and flu symptoms, and the baby was nursing happily again on that side.

Another lady told Dr. Christopher that she had used the same fomentation on her nanny goat who was bawling with a painful case of mastitis. She put the goat's udder into a bag with the fomentation in it and secured it to the goat with a harness. The next morning the goat was well and the little goat kids were nursing again.

You may recall the story of the two children with swollen glands behind their ears and on the backs of their necks. If you have ever seen these on your children, you will know how distressing they are. Most doctors will tell you that the child cannot eliminate wastes fast enough, so that the lymphatic system stores them until the body can eliminate them. They say that the swollen glands will do no harm, yet we have seen the child debilitated and sickly because of this condition. Dr. Christopher recommended the same Mullein-Lobelia fomentation.

The stronger child, a robust boy of ten, experienced the reduction of the gland and the absorption and elimination of the poisons through his system. The weaker child, also ten years old, couldn't support that many toxins going through his system; his gland continued to swell, though with no pain, until it came to a head and broke open. Nearly a cup of infectious pus poured out and continued to drain a day or so longer; the mother considered that this saved the child's life.

One of Dr. Christopher's students had gone with others into the hills for a day's outing. They had left a beautiful modern home with all the conveniences to go to a one-room shack with torn screens, broken-down wood stove, etc., for a change of pace. Everyone was having fun except for the woman who was left alone with a fretful baby with diaper rash. The baby had used up all the diapers--this was before the days of Pampers--and there was no way to wash any more. The woman looked out the door and saw a beautiful large Mullein plant. She remembered that it is called "blanket weed". Using some of the large leaves as a diaper and her head scarf as a fastener, she put the new diaper on the infant. In just a few minutes, the child was relaxed and happy, not fretful at all. Dr. Christopher said that the Mullein relieved the symptoms on the affected area although it did not restore health to the toxic system that caused the rash in the first place--but sometimes it is mighty nice to take off the pressure. The American Indians used various plants for diaper material, and certainly Mullein could work well as a diaper. It's also quite possible to follow the example of other primitive peoples and use no diapers at all; that will clear a diaper rash, too, eventually.

The Mullein and lobelia will reduce the swelling of mumps and the swollen palate, Dr. Christopher taught. It is also an excellent remedy for poison ivy or poison oak, etc. Dr. Christopher said that if you run into a patch of these plants, or perhaps stinging nettle, if you will look around the area, within view will be Mullein, plantain, or hound's tongue. Take only one of these leaves, bruise it, and rub it over the area. You will get immediate relief from the plant "sting" and not have to suffer for weeks with it. One man said that his little six-year-old was helping him in the garden and all of a sudden he ran into a stinging nettle. He let out a yip as he started to dig. He said, "I'll take care of it, Dad". He walked over to where some Mullein was, bruised it in his hand, rubbed it over the affected area, and smiled. "There it is," he said. "How did you know that?" his dad asked. "Well, you know, you told me when I was five last year about that. I remembered. I know what Mullein is and I know what stinging nettle is." Dr. Christopher said that the herbs will automatically neutralize the poison; the Lord has put an "eraser on the pencil."

CANDLEWICK PLANT

Mullein is part of the natural order Scrophulariaceae, the snapdragon family, an important group of plants comprising about 200 genera and 2,500 species, occurring mostly in temperate and sub-tropical regions, many of them producing flowers of great beauty including familiar garden flowers and herbs. Most of their curative powers lie in resinous substances instead of volatile oils. The genus Verbascum contains about 210 species, most of which live in the northern hemisphere.

The generic name, Verbascum, is said to be a corruption of the Latin barbascum, meaning bearded, on account of the whiskery appearance of the leaves. The specific name refers to an ancient town on the Mediterranean coast, Thapsus. The plant boasts a large number of common names. Its rigid uprightness has earned it such titles as Aaron's Rod, Jupiter's Staff, Jacob's Staff, Shepherd's Club, Peter's Staff, Shepherd's Staff. Because it was picked and ignited and used for a light, it was called Torches, Hedge Taper, High Taper and Hag Taper, because witches used it to light their incantations, brews and love potions. It was called, because of its velvety leaves, blanket herb, velvet dock, old ladies flannel, velvet plant, woollen, flannel flower, rag paper, flannel leaf, Adam's flannel, feltwort, old man's flannel, feltwort, our Lord's flannel, hare's ear, and beggars blanket! Because the silky down of its leaves was used to form wicks and tinder before lamps and regular wicks were in use, the plant was called Wick plant or candle plant. Its color earned it the name wild ice plant. Because of its well-known medicinal properties, it was called variously clown's lungwort, bullock's lungwort (it is given to cattle to help the with affections of the lungs), and Clot. Other interesting names include gorches, wood blade, and duffle. In France, it is called bouillon blanc, "white soup", the French always alluding to gastronomic delights (Complete Book of Herbs:148), but it is also the Herbe de St. Fiacre, the patron saint of gardeners, whose saint's day is August 30.

The common name is a derivation of the Latin mollis, meaning soft, because of the plant's thick gray-green woolly leaves. Mollis is also the root for mollify, emollient, and mollusk, the invertebrate marine creatures who were the "soft ones", the mollusca.

Mullein is one of those patriarchal plants used by the ancients. Pliny described its uses, and Dioscorides wrote that "as much as a knucklebone is profitably given with wine in a drink to ye fluxing. But the decoction of it is good or ruptures & convulsions and Squatts, & old coughs, and being colluted assuageth ye toothaches, but ye golden-coloured in ye flowers, dyes the hair, & wheresoever it be put, draws to it woodworms...But with Acetum, it heals wounds & helps ye Scorpion-smitten. But ye leaves of ye wild kind are cataplasmes for ye ambusti. And they say that ye leaves of the female being laid up together with figs, doth keep them from corrupting". He also said that the mixtures of Mullein seeds, camomile flowers and dry Venice turpentine would relieve piles. This mixture was placed in a pot on the coals and the fumes were inhaled. Agrippa, a general and minister under Caesar Augustus, felt the fragrance of Mullein leaves was an excellent defense against demons. Ulysses took this plant to protect himself against the wiles of Circe, who wanted to turn him and his men into pigs.

Both in Europe and Asia, the power of driving away evil spirits was ascribed to Mullein, possible because of the ghostly appearance of the whitish-grey leaves. Monks grew Mullein in large quantities in their gardens for medicinal purposes. In India it had the reputation among the natives of being a sure safeguard against evil spirits and magic. In ancient England it was believed that those who trafficked with the devil used dried Mullein stalks, dipped in tallow, to light their witches' sabbaths. In southern Europe, Mullein torches were formerly burned at funerals. The stalks were dipped in suet or wax for private use as well, and the silky down of the leaves was made into candlewicks, as they ignite readily and burn very slowly. It was also used as tinder. The vernacular name of hag taper also derives from the Anglo-Saxon hoege or haga, "a hedge", denoting the usual habitat of the plant, where its tapering growth looked like candles or torches as they stood in the hedges to light the harvest-home procession (Complete Book of Herbs:148).

Gerard said that the country people, especially the husbandmen in Kent, "give their cattle the leaves to drink against the cough of the lungs, being an excellent approved medicine for the same, whereupon they call it Bullocks Lungwort". He said that the plants "grow in great plenty neere unto a lyme-kiln upon the end of Blacke heath next to London, as also about the Queenes house at Eltham neere to Darford in Kent; in the highwayes about Highgate neere London, and in most countries of England that are of a sandy soile" (Wood:159).

Dr. Prior of England states that the word Mullein was Moleyn in Anglo-Saxon and Malen in old French, derived from the Latin malandrium, that is, the malanders or leprosy; he wrote: "The term 'maldre' became also applied to diseases of cattle, to lung diseases among the rest, and the plant being used as a remedy, acquired its name of Mullein..." (Gri:564).

Because Mullein could effect so much healing, wild claims arose about it which far exceeded its powers. Some said that merely carrying a bit of Mullein about the person would prevent one's being infected with any illness (Gib:229). A decoction of the root was thought to cure toothache, cramps, and convulsions. The juice of the leaves (although not much juice can be squeezed from a Mullein leaf) was said to get rid of warts. The distilled water of the flowers was believed to cure gout. A poultice of the crushed leaves and seeds was used to draw out splinters and thorns

that had become imbedded in the flesh. The thick, woolly leaves were used to keep the feet warm, worn inside the stockings--especially since the herb is rubefacient, this may be true. A piece of the herb carried with the person was supposed to prevent epileptic fits, according to Gerard.

Mullein may have been carried to the New World by a sympathetic herbalist who wanted to introduce its healing principle, but it was more likely brought in the ballast of a ship and scattered quite unintentionally. In North America, there are about a dozen species of Mullein. Two of these are found in the Rocky Mountains; however, these two species have long been used by the Indians. One early botanist, Brickell, thought the plant to be indigenous to America, although F.A. Michaux in 1802 said he saw none of it west of the Alleghenies (Vog:327). It must have spread rapidly, for Edwin James saw it along the Missouri west of St. Charles in 1819 and remarked that "it follows closely the footsteps of the whites". Peter Kalm said that the Swedish settlers called it wild tobacco and tied the leaves around their feet and arms when they had the ague. Some prepared a tea for dysentery from the leaves. A decoction of the roots was injected into the wounds of cattle when afflicted with worms, which caused the worms to die and fall out (Ibid.). He wrote, "The humming bird always builds its nest in the middle of a branch, and it is so small that it cannot be seen from the ground...the one in my possession is quite round, and consists on the inside of a brownish and quite soft down, which seems to have been collected from the leaves of the great Mullein, which are often found covered with a soft wool of this color, and the plant is plentiful here...(Peter Kalm, Travels into North America, 1748-1751).

Some early Indian tribes soaked their sprains in Mullein water to cure them, and pneumonia was cured by bathing the patient in its cool essence. Strong Mullein tea was used for severe colds, as it calms nerves and induces sleep (Herbalist:I:3,101). Some of the early Indians suffered from respiratory problems and lung infections due to the dusty terrain in which they lived. Mullein roots were used to treat pulmonary diseases, and in combination with prickly ash, they were helpful in fighting bronchial infections as well. Some Indians smoked Mullein leaves as tobacco; women smoked only to cure a cold, while men carried their pipes with them for use in ceremonies as well as for pleasure smoking. The Mohicans smoked the leaves to relieve asthma and sore throat, and the Penobscots smoked the dried and powdered leaves for asthma. The Forest Potawatomis smoked the dried leaves for asthma, though it is thought that they might have learned of this practice from the whites. The Menominees smoked the roots for pulmonary diseases. The Navajos called Mullein "big tobacco"; they mixed the dried leaves with ordinary tobacco and smoked the mixture for the relief of coughs and bronchial troubles, and the Indians even claim that smoking these Mullein cigarettes will correct mild mental disturbances, such as thinking bad thoughts or a tendency to use bad language. Euell Gibbons said he would like to prescribe these cigarettes to some of our modern novelists (Gib:228)! Mullein smoke was blown under a child's clothing to cure colic, and for earache it was blown into the ear (Herbalist:op cit.).

The Catawba tribe boiled the root and sweetened it to make a syrup for croup in children. The leaves were mashed and applied as a poultice for pain and swelling, sprains, bruises and wounds. The Choctaws put the leaves on the head as a headache poultice. The Creeks boiled the roots

with those of button willow, for a drink used internally for coughs. The leaves were also boiled and the patient bathed in the infusion while it was still hot. The flowers were believed to be diuretic and have been used by the Indians for tuberculosis (Vog:327-8).

The Indians of New Mexico soaked Mullein leaves in mula blanca (an extremely potent local corn whiskey) and inhaled the resultant concoction for asthma. They also used Mullein for diarrhea. The season of the year indicated the different herbs to be used in combination with Mullein (Herbalist:op cit.).

The early settlers in America used Mullein in similar ways; the dried leaves were sometimes smoked in ordinary pipes or cigarettes, or the smoke was inhaled from a dish of the burning leaves for the relief of cough, bronchitis, or asthma. Early settlers of the west made a tea from the young Mullein plant by boiling it in milk. This was said to relieve griping pains in the bowels. The early Americans also used the herb cosmetically. Quaker girls considered it immoral to paint their faces, and yet they wanted to appear attractive to the boys. They learned that rubbing a Mullein leaf on the cheeks would cause extra blood to flow to that area, giving the cheeks an attractive glow. Euell Gibbons said that he tried this, but since he was already so florid, it made little difference. He persuaded a young friend to try it. The second-year leaves from the flower stalk had little effect, but when she rubbed the woolly, first-year leaves rapidly over her cheeks for a few minutes, a rosy hue appeared. This pretty glow persisted for over an hour, and the girl said she felt no discomfort (Gib:230). "Quaker rouge" might be useful one day if we cannot obtain cosmetics!

In his journals Thoreau wrote: "Here are Mulleins covering a field where three years ago none were noticeable, but a smooth, uninterrupted pasture sod. Two years ago it was ploughed for the first time for many years, and millet and corn and potatoes planted. Now, where the millet grew, these Mulleins have sprung up. Who can write the history of these fields? The millet does not perpetuate itself, but the few seeds of the Mullein which perchance were brought here with it are still multiplying the race "(July 8, 1851).

Mullein, also known as Donkey's Ears, Bunny's Ears and Bull's ears, is not commonly grown in the flower garden, although we have a friend with a very prim and proper garden who brings in a Mullein plant or two for its beauty. "We are afraid of that word 'weed', and the name Mullein in the minds of many of us is synonymous with this outlaw term...We do not countenance weeds. But can anyone with an eye for line and color view without interest a raw roadside cut rescued from blatant hideousness by the amazing dignity and beauty of crowding, towering stalks of what we are pleased to call our native Mullein?...Garden plants are required to hit you in the eye, so to speak, before they are admissible, and the common Mullein has a stingy way of opening its blossoms one by one, or a few at a time; and so this plant is not deemed fit for garden circles (Louise Beebe Wilder, What Happens in My Garden, 1935).

LUNGWORT

Because Mullein has a specific affinity for the respiratory organs, it is a valuable remedy for all pulmonary complaints, and it is famous for this use. Moore says that Mullein is an herb for the lungs and throat and can be consumed in any rational quantity needed, being nontoxic. It is a mild sedative--one of the few sedative plants available with no toxic effects--and is especially useful in the initial stages of an infection when there is a mild fever, a raspiness in the throat, and a hot, dry feeling in the chest (Moore:113). Its effect decrease when the infection is broken and an expectorant is needed. The flowers work for a more serious infection. Mullein soothes the lungs and helps bring up the phlegm. It can be combined with sage and plantain for use in asthma. Sometimes a vapor treatment of Mullein is good for asthma, which is made by simmering a strong pot of Mullein tea and inhaling the steam with a towel over your head. This is also good for bronchial troubles of various kinds.

The herb was formerly used, before tuberculosis was so well-controlled, to relieve the cough of that ailment and facilitate expectoration (Coon:204). We do not know if modern medicine may someday be unavailable to us as the last days come upon us, so it is good to know that Mullein is considered, in Ireland, a specific for all lung troubles, especially tuberculosis, and that it is extensively cultivated there and kept on hand for that purpose. Mullein contains both potassium and calcium phosphate. These two organic minerals are absolutely necessary for the nervous system and bone structure. As the ravaging effect of tuberculosis is to feed on all the tissues of the body until they are literally wasted away, it is possible and probable that the presence of these two vital salts renders the Mullein so effective in checking this disease (ShoA:194-5). A simple infusion, sweetened with honey, is good for the beginning stages of the disease, as well as for hemorrhage of the lungs, stomach, intestines, or other internal parts. When the disease is more advanced, a strong decoction is more useful. It calms and quiets the nerves, soothing the inflamed tissues markedly. Shook said that tuberculosis has been cured in its earlier stages by this one remedy alone; in all stages it is said to give prompt relief and promote rest and sleep. Its narcotic principle is not well-known, but it is well known that it is non-poisonous.

Enormous amounts of it have been taken, and there is no case on record of injury or harm to patients who have taken as much as a quart a day (ShoA:195). Shook did recommend for advanced stages of tuberculosis a strong decoction of Mullein mixed with the mucilage of comfrey root, to help expectoration and to soothe, and a syrup of garlic, to stop the decay of cells in the body. This also helps with almost any serious condition of the body, he said, especially all diseases that show a marked deficiency of calcium and sulfur. It is indicated in all wasting diseases, and gives prompt relief to any pulmonary troubles. Since Mullein has been reputed to have some antibacterial properties, mild and inoffensive as the herb is, it is not surprising that it can help with these serious problems. Garlic, of course, is the superior antibacterial.

Garlic is used internally for the treatment of gastro enteric problems. It is simmered in milk and taken for bowel hemorrhage; interestingly enough, the same treatment works to stop diarrhea and to help ease out the hard, dry stools of constipation. It can also relieve the accompanying hemorrhoids that accompany this condition, as hemorrhoids are usually congested veins, filled with toxic matter that the body is unable to eliminate. Mullein ointment is applied, or a

fomentation or wash of the hot infusion or decoction can be applied. The Mullein oil is used in Germany for irritated hemorrhoids, as well as for bruises, frost-bite and other external problems.

The oil is often used in the ears to relieve earache. The ointment, which is made from the oil, is used in the same way. We have had earaches in our family which resulted from congested lymph glands and colds. Although we treated the problem with garlic oil and B&B tincture, the problem did not clear up. By inserting oil of Mullein into the ear, however, we were able to stop the irritation in the ear as well as in the accompanying glands. The oil can be inserted into the ears to soften hard ear wax, or to moisten the area where the ear wax is insufficient; hearing losses due to ear wax have sometimes been thus alleviated. The oil may be used as a lotion and applied to wounds, skin rashes and burns. Chilblains are soothed by the application of the oil, as are insect bites. We can report near miraculous results with Mullein ointment in the wilderness. We camped in one of the most mosquito-infested areas in the world, Alaska. The children (and adults) were bitten a great deal. Although we have not yet found a really effective natural mosquito repellent (we didn't rub ourselves with a garlic clove as someone suggested, however; that might work), we found that a simple dab of Mullein ointment was enough to stop the itching and inflammation immediately. We felt very lucky to have the ointment along with us.

The tea is said to be good to relieve the belly-ache or colic pains. The flowers have a stronger pain relieving action than do the leaves.

Mullein is used to treat lymphatic congestion and the conditions that accompany it. It is marvelous to see how quickly these conditions clear. As we have mentioned before, we had a child with extremely large lumps behind his ears and on the back of his neck. We tried Vitamin C, herb teas, massage, rest; all which helped some, but did not really get rid of the problem. Finally we read about the Mullein-Lobelia combination. Lacking the Lobelia herb, we rubbed some Mullein ointment behind his ears and around his neck, hoping the next day to go and buy some Lobelia. The next morning, the lumps were gone--entirely. We are simply amazed at the power of the herb.

The herb is also used for bladder problems. If there is bleeding in the urinary tract, the Mullein-milk tea will stop it, as it will also stop hemorrhage throughout the system. The root is diuretic and a urinary tract astringent. One-half teaspoon in one-fourth cup water drunk before retiring will increase the tone of the triangular base of the bladder (the trigone) and aid in preventing bedwetting, or incontinence (Moore:113).

In dryness of the windpipe, with a constant desire to clear the throat, attended with little expectoration and considerable pain, Mullein smoked through a pipe acts like a charm and gives instant relief. It seems to act as an anodyne in allaying irritation, while it promotes expectoration and removes sticky mucus which gathers in the windpipe (Luc:146). People who have smoked Mullein say that it has a pleasant and interesting taste, although anything smoked too much will irritate the windpipe. Mullein has been used to help people stop smoking. An old gentleman who had smoked for many years began to mix the Mullein with his tobacco, one-fourth at first, then

half, then three-fourths. It satisfied as tobacco and healed him of a cough which he had from an inflammation of the lungs. The flavor has been favorably compared to tobacco smoke (Luc:Ibid.). One herbalist says that he knows several people who have detoxified their bodies by using Mullein this way and broken the smoking habit (Neb:72).

He also says that the herb is mixed with other herbs, such as comfrey, spearmint, rose hips, orange peel, and a touch of golden seal; this, he claims is a "Detox Brew", an herbal mixture given to drug addicts to cleanse their bodies from the drugs therein. The Mullein helps the drug addict return the breathing process, which is essential to his detoxification and transformation (Ibid).

A conserve of the flowers has been employed on the Continent against ringworm and a distilled water of the flowers was long reputed a cure for burns and erysipelas (Gri:565).

The Doctrine of Signatures claims that the woolly hairs on the leaf, like horehound's, indicate a tickling sensation of the throat and therefore of the bronchia (Harris:130).

OTHER USES

The herb has been used to expel tapeworms in cattle. The leaves, cut into long strips, are used as candle wicks. Along with the dried thistle heads, the leaves are some of the best emergency tinder available. The plant has been used to fatten poultry. The herb is famous for helping cattle with lung and bronchial problems (Lev:91). The woolly leaves can be put into the socks to warm the feet; not only the thick "flannel" of the leaves helps here, but also the rubefacient nature of the leaves.

The flowers impart a yellow color to boiling water and a rather permanent green color with dilute sulphuric acid, the later becoming brown upon the addition of alkalis (Gri:566). An infusion of the flowers was used by the Roman ladies to dye their hair a golden color. According to an old authority, the ashes of the plant made into a soap will restore hair which has become gray to its natural color. The seeds, being slightly narcotic, are said to intoxicate fish when thrown into still water, and are used by poachers for that purpose. The seeds contains a fish poison which is not strong, but can stun the fish for a short time (Bar:25).

HISTORICAL USES

Used for enlarged swollen testicles, to control bleeding bowels, for mastitis, swollen glands, diaper rash, mumps, poison oak, poison ivy and stinging nettle, toothaches, cramps, warts, gout, to draw out splinters and thorns, sprains, pneumonia, severe colds, to induce sleep, for pulmonary diseases, for bronchial infections, asthma, sore throat or croup, for colic, earache, diarrhea, griping, as a mild sedative, for infection, mild fever, to bring up phlegm, for tuberculosis, for hemorrhaging, congested veins, hemorrhoids, frost-bite, lymphatic congestion, bladder problems, to stop smoking, for burns, erysipelas, for a dry windpipe, tapeworms in cattle, fallen poultry and restores hair to natural color.

CULTIVATION, COLLECTION, PREPARATION

Mullein is easy to grow in the garden. The seeds germinate in about ten days, and the resulting plants will self-sow freely. The plant is a biennial, the stalk growing tall during the second year. The seeds are tiny, but they have a high germination rate, so either thin them or transplant them once they come up.

You can uproot the whole plant, dry it upside down and then strip the leaves and the flowers as you wish. Moore objects to this, as he does to the "rape-and-pillage" method of stripping off the flowers, buds and pods indiscriminately. He prefers to pluck them out singly with a pointed grapefruit spoon, delicately prying them out with the spoon tip and his thumb...a sort of Mullein flower yoga (Moore:112). It may seem easier to uproot the plant, he says, but doing so allows the sap to draw back into the thick woody stem, thus making the leaves and flowers less medicinally active. The fresh leaves are best, but the dried leaves work well. Be sure not to bruise them when preparing them, or they will turn black.

In storage do not pack them so hard that they turn black. The plant is given in the standard infusion or decoction, though tinctures can be made and used. The oil of Mullein is made by combining equal parts of Mullein flowers and olive oil, sun-steeping them for a week or so, or low-heating them for three or four hours. You can repeat this three times or even more if you like; this makes an extremely strong and effective oil. Be sure to press every little bit of oil out of the flower before proceeding. You can make a good ointment by low-heating the leaves of Mullein with olive oil until the leaves are crisp. This may also be repeated. Mix in enough beeswax to solidify the ointment. Lobelia may be mixed with the Mullein herb, and peppermint oil or other aromatic oils will sweeten the smell.

This herb is said to be absolutely nontoxic, one authority considering this to be so because the herb has little medicinal activity (Spoerke:126). However, some say that overdose of the herb produces ear discomfort, numbness, urge to urinate, constrictive and pressive pains in the bones and muscles and weakness of the lower limbs. It is considered that the Malic acid contained in the herb causes these symptoms (Mills:433). Such a reaction is really quite rare, however.

Moore says that Mullein can be used in place of floral-scented bathroom tissue; it has sort of a floral design and it is not easily confused with poison oak (Moore:113).

RELATED PLANTS

There are many different kinds of Mullein. Commonly known are V. nigrum, the dark Mullein, and V. blattaria, the Moth Mullein. The seeds of V. sinuatum are said to poison fish very markedly. V. phlomoides and V. thapsiforme are common in the south of Europe and are used for the same purpose. V. pulverulentum of Madeira is also thus used, and V. phlomoides is employed as a taeniicide, an expeller of tapeworms.

CHEMICAL COMPOSITION

The leaves contains gum, with 1 to 2 percent of resin, one part of which is soluble in ether, the other not. Also present is a bitter substance, tannin, saponin, mucilage, and an iodine principle which has not been identified. The flowers contain stronger amounts of these, plus a chlorophyll-like substance, a glucoside, fatty matter, free phosphoric acid, sugar, mineral salts of potassium phosphate and calcium phosphate, a mucilaginous saponin, a volatile oil, an astringent, narcotic, and sedative principle. The herb has not been subjected to careful scientific scrutiny, as have other herbs which have been more prominent in the medical world. However, this vagueness does not detract from the wonderful healing properties of the herb.

None of these chemicals is harmful if taken in the Mullein herb in its natural form.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING MULLEIN

Resp Fre, the combination to heal the respiratory tract, contains Mullein.

B F & C, the marvelous combination which heals the bones, flesh, and cartilage, even restoring bone to a disintegrated spine, contains Mullein.

The famous Mullein and Lobelia formula features the herb.

The Yellow Dock Combination, which contains high-grade vitamins and minerals in an organic, assimilable form, contains Mullein.

The Adrenatone combination, which heals the adrenal glands, contains Mullein.

V.B., the vaginal bolus which heals the internal female system, contains Mullein.

Mullein oil is prepared and sold, as is Poke and Mullein oil.

The Comfrey-Mullein-Garlic syrup is used in the treatment of colds and flu and respiratory problems.

BF&C syrup is used to supplement external bone, flesh and cartilage applications.

The Black Ointment, Dr. Christopher's famous preparation which heals all sorts of external problems and also has been known to relieve ulcerated surfaces and cancers, contains Mullein.

Mullein and Lobelia ointment is a convenient way to apply externally that wonderful healing combination.

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COMMIPHORA MYRRHA, BALSAMODENDRON MYRRHA; BURSERACEAE

DESCRIPTION

The bushes yielding the resin do not grow more than nine feet tall, but they are of sturdy build, with knotted branches, and branchlets that stand out at right angles, ending in a sharp spine. The trifoliate leaves are scanty, small and very unequal, oval and entire. Botanically there is still uncertainty about the origin and identity of the various species (Gri:571).

Myrrh exudes spontaneously from the shrubs, which grow in the Somali country and in southwestern Arabia, and is collected by the Somalis who cross the Gulf of Aden for the purpose; but the principal supply of Myrrh comes from Eastern Africa. The tissue breaks down between ducts in the bark, and from the large cavities flows a granular secretion which is freely discharged when the bark is wounded, or from natural fissures. It flows as a pale yellow liquid, but hardens to a reddish-brown mass, being found in commerce in tears of many sizes, the average being that of a walnut. The surface is rough and powdered, and the pieces are brittle, with a granular fracture, semi-transparent, oily, and often whitish marks. The odor and taste are aromatic, the latter also acrid and bitter. It is inflammable, but burns feebly (Gri:572).

GENERAL

Dr. Christopher commended Myrrh as an agent which stimulates the flow of blood through the capillaries, increasing the circulation up to four times the original number of white corpuscles, and quickening the heart action. He said that it helps the mucous membranes in the broncho-pulmonary tract eliminate poisons, while helping to avoid the build-up of mucus. He used it for an excellent internal tonic for any diseases in which mucous surfaces, such as spongy gums, relaxed throat, ulcerated sore throat, ulcers, etc., as well as being good as an external antiseptic for wounds, lessening the possibility of inflammation and accelerating the healing action.

BIBLICAL HERB

Myrrh is one of man's oldest favorites among the botanicals and there are many legends about it. Most of us are familiar with the New Testament reference to Myrrh, "and when they had opened their treasures, they presented unto him gifts; gold, frankincense, and Myrrh" (Matthew 2:11). The Hebrew word translated "Myrrh" is "mor"; no one questions that the word refers to the medicinal Myrrh which we are writing about. The name for this well-known spice is practically the same in all languages: "murr" in Arabic, "Myrrha" in Latin, or sometimes "murra", "Myrrhe" in French, and in Middle English, "mirre". Its Arabic name means "bitter", and the Hebrew word for bitter, "mar", is very similar. There is much evidence from the earliest writers that the plant grew commonly in Arabia. The first Biblical reference to Myrrh comes in Genesis: "and behold, a company of Ishmaelites came from Gilead with their camels bearing spicery and balm and Myrrh, going to carry it down to Egypt" (Gen. 37:25). It is significant that the caravan was bound for Egypt, for Myrrh was in great demand by the ancient Egyptians who employed it as one of the chief ingredients in their embalming. Mummification dates from about 4000 B.C. through 700 A.D.; an estimated 750,000,000 bodies, the majority of which were human, while some were those of sacred animals, were embalmed during this period (Luc:Nature's:72). It was believed by the Egyptians that the soul of the dead who departed from this life would eventually return to reclaim the body and enjoy an everlasting physical existence. Thus it was essential that the bodies of the dead be well-preserved during the waiting period, which was supposed to cover from 3000

to as many as 10,000 years. It was assumed that during this time the soul was performing a probationary pilgrimage in the other world (Ibid.).

The price of higher-class embalming ranged from \$500 to \$4500 for each corpse, depending upon the value of the various perfumes, ointments, spices, chemicals, etc., that were employed. During this process all internal organs were removed except the heart and kidneys. The body was then washed and shaved and all of the necessary spices applied. Powerful drugs were used in effecting passage into the various cavities of the skull and different parts of the body. In some instances the nails were gilded, and the fingers and toes encased in costly enclosures of gold. The face was given considerable care and was treated with a coat of fine plaster and expensive chemicals. Once this treatment was completed, the bodies were carefully wrapped in the finest Indian muslin, and placed in mummy cases (Ibid.).

The poorer classes used Myrrh, as they could not afford the more expensive spices. The bodies of the poor were washed with Myrrh and salted for 70 days. When this was completed they were wrapped in coarse cloths and placed in catacombs. Myrrh appears in dozens of Egyptian prescriptions; it was identified in medical papyri by the name antyw. In the famous Ebers papyrus it is used externally in 63 of the 66 different cases! Unfortunately, it is completely missing from the renowned Edwin Smith Surgical Papyrus (Hei:139). The ancient Hebrews regarded Myrrh as one of the earth's most precious and versatile products; they used it as medicine, incense and perfume. It was also used for embalming; the term "Myrrhophore" is applied to any of the women, especially the Mary's, who bore spices to the sepulcher of Jesus. They are usually depicted as carrying vases filled with Myrrh (Mold:83). It was also used as a perfume, as David sang of its fragrance and the erotic Song of Solomon is replete with it. One of the most important uses of Myrrh was as an ingredient in the holy oils with which they anointed the Tabernacle, the Ark, the altar and the sacred vessels. The Myrrh used for this was probably a very fine kind of liquid Myrrh.

Queen Esther mentioned that six of the twelve months of purification were accomplished with oil of Myrrh. One Biblical translation renders this "beautifying", thus implying that Myrrh was also employed as a cosmetic. However the purification, though perhaps intended to be spiritual, might well have been accomplished physically too by the antiseptic Myrrh. Chinese usage corroborates this, as Myrrh is used in herbal liniments to strengthen women who are prone to rheumatic illness due to the monthly loss of blood and the rigors of childbearing (Luc:73).

Myrrh was mentioned by Herodotus, Theophrastus, Diodorus, Sicilus, Strabo, and Pliny; Dioscorides said that it was good for expelling the menstrual period and afterbirth. He also mentioned that some people thought that it could prevent infection by the plague.

The story of Myrrh's name is told by Ovid. She had an unnatural passion for her father, and by deception she had taken her mother's place by his side one night. Her father, the king of Cyprus, learning that she had become pregnant, banished her from her home. Lost in the desert and overcome with remorse, having given birth to the lovely Adonis, she prayed to the gods that she

might not live any longer among men, yet not be accounted among the dead. Touched with pity for her, they changed her into the Myrrh tree, which yields the gum to this day bearing her name. Myrrh was the incense burned on the alters of the sun god at Helipolis at noon daily. Persian kings wore it in their regal crowns. As late as the reign of King George III of England, Myrrh, along with frankincense, was one of the spices burned ceremonially in the royal chapels (Mold:84).

It is asserted by many authorities that the "wine mingled with Myrrh" of the Gospel of Mark is not to be taken as referring to any actual use of the Myrrh plant. Matthew mentions the drink as being "vinegar mingled with gall". It is probable that both meant a strongly bitter drink, possibly only the ordinary "acetum" of the Roman solidary. One scholar mentions "drugged wine" but whether any additional substance was put into the wine is still a moot point among theologians (Mold:83). However, Myrrh was considered to be the ultimate wine preserver in the ancient world. In other words, it kept it from going sour like vinegar (Hei:139).

The products of the Myrrh tree were known to the ancients under the name of Bola, Bal, or Bol. The drug is still known to Indian traders as "heerabol", while the Somalis call it "Mulmul" or "Ogod". The best Myrrh is said to come from Somaliland and is bought at the fairs of Berbera by the Banians of India, shipped to Bombay, and there sorted, the best coming to Europe and the worst being sent to China. The true Myrrh is known in the markets as karam, formerly called Turkey Myrrh.

Myrrh was first recognized botanically in about 1822 in Ghizan on the Red Sea coast, a district so bare and dry that it is called Tehama, meaning hell.

HEALING GUM-RESIN

Myrrh is famous for its external applications, but internally it can also be a great healer. In small doses it quickens the appetite and digestion, though it nauseates and causes irritation in too large doses. It is useful in atonic dyspepsia with flatulence, mucus evacuations, constipation and associated nervous disorders. A small teaspoon each of powdered Myrrh and golden seal to a pint of boiling water with a little ginger added will be found useful to a weak stomach where the food is prone to ferment (Luc:Nature's:74). It is excellent to allay chronic diarrhea.

The gum is also useful internally as an expectorant, and has been commonly administered to patients suffering from chest problems in order to stimulate mucus secretions and promote their drainage (Weiner:138).

Where low blood sugar is a problem, Myrrh can replace golden seal in herb preparations (Rit:63). Mixed with cayenne, it is a powerful stimulant in cases of shock, prostration and collapse (Beth:131). It is also good to treat internal ulcers.

Myrrh is a famed external remedy. It is a wonderful agent for any kind of dental problems. It has

been used in the United States, Canada, and Great Britain in dental clinics to strengthen gums, whiten teeth, and generally prevent serious periodontal diseases, such as gingivitis or bleeding gums, inflammation, loose teeth, and plaque buildup, from occurring when possible. One herbalist simply mixes Myrrh with golden seal and brushes his teeth with it. He comments that though this may seem strange to use for preventative health care, it is more strange to use toothpastes which have sugar added (Neb:118). A tincture of Myrrh makes an excellent mouthwash good for spongy gums, pyorrhea, sore throats, and other ailments requiring an astringent (Tie:105). This use of Myrrh to heal spongy gums and mouth ulcers, especially in children, is based on the known presence of astringent tannins in the Myrrh. Dr. Christopher recommended using the diluted tincture, or mixing the tincture with red-raspberry leaf tea for these purposes. For a sore throat or ulceration of the tongue, mouth or throat, you can spray the diluted tincture on the affected part. For irritation following dental work, a mouthwash of Myrrh, or an application to the affected part of Myrrh paste is said to quickly alleviate the problem (Bricklin:239). To relieve the pain of a cold sore, try a little tincture of Myrrh (Ibid.104).

Myrrh has also been used in problems of the reproductive organs. Myrrh has been taken to stimulate the menstrual flow or to bring it on, even when the patient had never menstruated. It was often combined with aloes for the laxative properties (Weiner:139). Myrrh has been said to relieve too profuse a flow of menstruation as well as scanty flow, and to help clear up leucorrhea (whites). It can be used as a douche. For cases of hemorrhoids, it can also be used as an herbal injection. Applied to fresh wounds, the tincture of Myrrh excites healing action and lessens the liability to inflammation or suppuration. It is good for sore nipples. We have applied the powder to the umbilical stump of a newborn, keeping it covered with a loose piece of gauze. We did not let the diapers touch this application, but every diaper change, we added a little bit of Myrrh and changed the gauze if needed. The stump fell off in just a few days, and the healing was complete. We felt that, especially since the Christ child received Myrrh at his birth, this was an especially appropriate application of Myrrh.

One herbalist has a favorite application of Myrrh. He combines equal parts of finely powdered golden seal and powdered Myrrh gum. He mixes a pinch of the combination with a little saliva (or water, he says, if you are squeamish), and applies the paste to cuts, sores, pimples, abrasions--any kind of skin wounds. As this dries, it forms a crusty, protective scab over the wound, just like a real scab, but with the additional antiseptic and healing properties of the herbs. He says that he has been able to wean himself from the constant use of band-aids (Neb:118)! The compound tincture is used in veterinary practice to treat the wounds of cattle and horses. It has also been used as a vermifuge.

After a vapor bath, when the patient is rubbed dry, washing the surface with a partially diluted tincture of Myrrh protects him against cold, and strengthens and improves the condition of the skin. This is especially useful in cases where the skin is relaxed and the patient feeble, such as chronic bronchitis, chronic pleurisy, asthma, chronic rheumatism, etc. (Cly:99). The herb has been scientifically proven to be an antiseptic. Three different kinds of bacteria culture were deliberately streaked across a flat, clear glass dish to form a star, staphylococcus aureas, e. coli,

and B. subullis. After an incubation of 24 hours at 37 degrees centigrade, two of the three bacteria failed to grow in the vicinity of the Myrrh. As a former Harvard pathologist who witnessed these experiments for himself said, "The result was clear cut--Myrrh acts as a bacteriostatic against Staphylococcus aureus and other gram-positive bacteria" (Hei:139).

In India, Myrrh is used as a rare and costly product, often adulterated with Indian Myrrh, so often called false Myrrh. It is good mixed with rose water, honey, and spirits for a mouthwash and for stomatitis. It is useful alone in dyspepsia, and mixed with molasses or vegetable bitters it is given in amenorrhea, chlorosis, and other uterine affections, and as a stimulating expectorant. Externally, Myrrh is used as an astringent for ulcerated conditions and spongy gums. Dissolved in human or ass milk it is dropped into the eye to cure purulent ophthalmia. It is used to prevent hair loss (IMM:170-1).

In China, it is used to treat wounds and ulcers, and is thought to be especially useful in uterine discharges and purulent lochia (Shi:62). It is also used as a mouthwash and as a treatment for sore mouth and throat (Luc:Secrets:66).

Tierra mentions that other gums from conifers such as pine and fir have similar properties; an elderly healer he knows in Northern California is highly regarded for her ability to cure arthritis, skin diseases and indigestion using resins from the local trees (Tie:106).

The herb can cause some internal discomfort if overdosed, including nausea, diarrhea, vomiting, etc., but it is not a dangerous herb. One man points out that if the herb were vaporized and aspirated, there could be some problem, but this is not a likely situation (Spoerke:127).

HISTORICAL USES

Used to stimulate blood flow, quickening heart action, for mucous membranes, to eliminate poison, to avoid mucus build-up, as a tonic for mucous surfaces, spongy gums, to relax throat and for ulcers, as an antiseptic, anciently for embalming and mummification, used as a holy oil,, in cosmetics, to expel menstrual periods and afterbirth, for infections, to quicken the appetite and digestion, for mucous evacuations and for constipation, for chronic diarrhea, chest problems, internal ulcers, dental problems, as a mouthwash, for cold sores, for cuts, sores and pimples, for ulcerated conditions, for purulent ophthalmia and as a hair loss preventative.

RELATED PLANTS

B. Kua of Abyssinia has been found to yield a gum used as Myrrh.

Mecca balsam, a product of B. or C. Opobalsamum, is sometimes considered to be the Myrrh of the Bible, though not all concur on this point.

Bdellium, recognized as an inferior Myrrh and often mixed or substituted for it, is a product of

several species of Commiphora, according to American writers, or Balsamodendron, according to English ones. Four kinds are collected in Somaliland, making subdivisions of African Bdellium:

perfumed bdellium or Habaghadi
African bdellium
opaque bdellium
hotai bdellium

The product of Ceradia furcata is also called African Bdellium.

The commercial Gugul, or Indian Bdellium, is said to be a product of one of the Commiphora, but others consider it another plant. It is more moist than Myrrh, found in irregular, dark reddish-brown masses, with a waxy fracture; softens with the heat of the hand; adheres to the teeth when chewed, and smells slightly like Myrrh (Gri:572-3).

CHEMICAL COMPOSITION

Myrrh contains a yellow or yellowish-green, rather thick volatile oil, 2.5% to 8%, that has the characteristic odor of Myrrh; resin, 25 to 40%, composed of several constituents, among which are resin acids, resenes, phenolic compounds, and a bitter principle (Lewis:158).

DR. CHRISTOPHER'S COMBINATION CONTAINING MYRRH

Antsp, the antispasmodic, contains Myrrh.

X-Ceptic, the "best herbal antiseptic available", contains Myrrh.

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Rose:Herbs
Shi
Mold

OATS

AVENA SATIVA; GRAMINEAE

DESCRIPTION

There are about twenty-five varieties cultivated. *A. sativa* has a smooth stem, growing up to four feet high, with linear lanceolate, veined rough leaves; loose striate sheaves; stipules lacerate, panicle equal, loose; spikelets pedunculate, pendulous, two-flowered, both perfect, lower one mostly awned; palea cartilaginous, embracing the caryopsis; root fibrous, annual (Gri:597).

GENERAL

Oat straw is an ingredient in Dr. Christopher's calcium formula. Dr. Christopher explained that the body needs calcium for nerve sheath, vein and artery walls, bones, teeth, etc. Most of our diets nowadays are deficient in calcium because of the denatured foods we eat, which have most of the calcium processed out of them. We also lack calcium because of the many inorganic sugars and starches which we eat, the starches turning to sugar in the body. This sugar, which has had the calcium removed during processing, looks for chemical links to regain its calcium, and the calcium leaches out of the system. The result is weakened teeth, charlie horses, and general systemic weakness.

Dr. Shook taught that calcium is the great builder of the structural parts of the body, not only of the bones and ligaments, but of the walls of the arteries, the heart, the walls of the veins, the teeth, and the epithelial and connective tissues. Malnutritional diseases, such as rickets and cretinism, he says, are usually the result of a calcium deficiency (ShoA:80). However, he warns that while children and pregnant women need abundant calcium in their diet, grown men and women need less, as too much calcium becomes a very dangerous thing, often bringing about calcification in the system that causes chronic suffering and even death (Ibid.).

Inorganic calcium, which is derived from mineral sources in the earth that are not alive, cannot be assimilated into the body; it can be accepted but remains in the system to cause problems.

Organic calcium, on the other hand, can easily be assimilated into the body and used to supply the important calcium need. Organic calcium can come from many plants, but the Calc formula of Dr. Christopher supplies it in an easily assimilable and trustworthy form. We have seen little babies, sick with a teething fever and accompanying digestive stress, take the Calc formula (in a liquid form) every hour or two; the teething symptoms have remitted and the teeth come through easily. A pregnant mother can take the Calc formula freely throughout her pregnancy to assure good calcium for her and the child; the body will favor the fetus and draw calcium out of the mother's bones, if necessary, to supply the new life. Mothers complain of losing teeth as if it were necessary during childbearing, but actually if they would take good calcium during the time they would be fine.

"Milk's the one for calcium", proclaims the advertisement, and most of us worry if we don't get enough milk for our calcium needs. Actually, the bad effects of pasteurized cow's milk far outweigh the calcium that might be obtained from the milk. A person can grow up through his whole life without taking any milk and still enjoy abundant calcium. In addition to the Calc formula, arrowroot, comfrey, camomile, chives, dandelion root, flaxseed, nettle, okra pods, plantain, and shepherd's purse contain lots of good organic calcium. Dried dates and dried figs contain significant amounts. Brazil nuts are a good source. Beet greens contain exactly the same amount, cup for cup, as milk. The other deep green vegetables, such as broccoli, chard, collards, dandelion greens, kale, and turnip greens all supply large amounts. Turnip greens and collards supply almost twice the amount of calcium, cup for cup, as milk itself (Mal:36).

Dr. Shook points out that lemons, limes, oranges, cabbage, cauliflower, celery, lettuce, string beans and onions supply an alkaline calcium, while milk, cheese, peas, beans, lentils, cucumbers, radishes, fish, meat, potatoes, and so on provide an acid calcium. He points out that calcium chloride, which is found abundantly in the common herbs that we can use abundantly, is the great heart tonic. He said that the good Lord supplied it to us because He knew that we'd have many people with chronic heart trouble (ShoA:80).

Oat straw itself is an important part of the calcium in formula, but it is used in other medicinal ways. And the oats themselves, though they are a prime food, are also medicinal.

FOOD AND FODDER

No one knows where oats originated, although they are supposed to have sprung from one of the wild species indigenous to Europe. Remains of the plant have been found in the digestive tracts of prehistoric man. They are cultivated in most countries, even in the subarctic regions, and many varieties or species are known, all similarly related. Oats are not mentioned in the Bible, but Dioscorides wrote about the plant, describing it and mentioning that the grain is good for "cataplasmes...the Puls for binding ye belly. The creame of it being supt up doth help such as are troubled with the cough". Oats were introduced into North America in 1602, and now the United

States is the major oats supplier in the entire world.

Most of us use Oats in our diets, and it is considered to be one of the best foods for horses, goats, and other livestock, who love it and will fight to get it. There are chemicals in the straw and "beard" that are said to be stimulating; the cliché "feeling his oats" comes from this notion.

MEDICINAL OATS

Oats are a soothing, demulcent, nourishing food. They are taken as an important restorative in nervous prostration and after all febrile diseases, as they seem to support the heart muscles and urinary organs (Hut:209). The gruel, sometimes with wine, lemons, or raisins added as flavoring, is a mild nutritious food of easy digestion in inflammatory cases and fevers; it is very useful after parturition and is sometimes employed against poisoning from acid substances (Gri:598). It is sometimes taken for chronic constipation, although it may not be well-digested and can cause fermentation and gas and even compactions in the system. Fermentation can be somewhat allayed if the oat gruel or porridge is not sweetened. An oat and slippery elm gruel is sometimes useful in cases of croup, where overeating or eating of the wrong kinds of foods sometimes brings on the spasms.

A tincture of the oats is said to relieve the craving for cigarettes and opium (Lewis:393,448). Research on this use was initiated in India. The whole healthy fresh plant was crushed and made into a tincture with 90 proof alcohol kept at room temperature and agitated for 72 hours and then filtered. This tincture was given, diluted, at the rate of 5 ml. four times a day. The drug seems to reduce the number of cigarettes smoked per day and diminishes the craving for cigarettes (Nature, Oct. 15, 1971, vol. 233).

The pericarp of the oats contains an amorphous alkaloid which acts as a stimulator of the motor ganglia, increasing the excitability of the muscles. A tincture is made to be used as a nerve and uterine tonic (Gri:598). In homeopathy, the tincture is used in the treatment of arthritis, rheumatism, paralysis, liver infections, and skin diseases.

Oats are well-known for their external uses. Most of us have heard of Oatmeal soap, which is used to stimulate the skin and cleanse the pores. Many people moisten oats and rub the skin with them for the same purpose. Oatmeal is placed in cotton bags with a few drops of perfume, moistened, and rubbed over the skin for a complexion treatment (Lev:Common:105).

Hot oat straw compresses are applied to painful areas when in pain from kidney stone attack. Oat straw and oak bark decoctions are used as baths for excessive foot perspiration. Oat straw steam baths are used for children with rickets and scrofula (Hut:210).

Oatmeal is sometimes used as a poultice or as a base for other medicinal poultices. Oatmeal baths are often used for kidney infections.

In India, oats are described as a perfect food, and an unrivalled fodder for horses. The tincture of the green oats is recommended for nervous strain. It is also taken as an antidote for drug addiction, alcoholism, diphtheria, paralysis, and dysentery (IMM:162-3).

In China, oats are not domestically grown, although the wild oats are gathered and eaten during times of dearth. The decoction of the growing shoots is given to parturient mothers to excited uterine contractions, as in retained placenta. This action may be due to the growth of an ergot upon the plant (Shi:59). Oats are also used to regenerate and strengthen the male reproductive system, an effective agent in conditions of spermatorrhea, nervous debility of convalescence, nervous exhaustion, and general neurasthenia. They are considered an effective agent in conditions of impotence or sexual debility due to over indulgence as they are said to produce a tonic effect on the nerve structure of the sexual organs. They are employed for prostatic irritation (Luc:Secrets:149). For this purpose they are combined with black willow bark and celery seeds and made into a decoction. One teacupful is taken three or four times a day. For other male troubles, fifteen drops of the extract of oats are taken three times a day in hot water (for quicker effect) or cold water (for more prolonged effect) (*Ibid.*).

NUTRIMENT

Most of us are familiar with Oat porridge for breakfast. They are high in protein, though they must be combined with beans, nuts, or other protein products to produce a complete balance of the amino acids. Some people during survival times have lived for extended periods on oats alone. They are an extremely rich and satisfying food. For centuries they have been the staple food of the Scots; coarse or whole oats were cooked in water and eaten with a sprinkle of salt. They also form the basis of haggis and a variety of cakes and biscuits peculiar to that country. Dr. Max Bircher-Benner, an early pioneer of food science and a vegetarian, devised a perfect food which he called muesli, containing all the ingredients needed for health and growth. It was made by mixing raw oats, honey, hot water, cream, the juice of half a lemon, two medium sized apples, grated, and one tablespoonful of grated hazel nuts. This was fed to patients twice a day and nothing else; convalescing patients improved dramatically from the first day (Day:26). Commercial muesli can be purchased; we have bought it and found it somewhat rancid. Since it is so easy to prepare fresh, and so much nicer, no one need spend the extravagant amount that Muesli costs. Overnight, soak the desired amount of oats in water to barely cover. In the morning add cream (or nut cream), honey, grated apple, ground nuts, and either lemon or orange juice. You can warm the cereal if desired. Most people enjoy Muesli and it is easily digested.

Many people eat preparations of Granola which are largely based on oats, roasted in a honey-oil syrup with nuts, seeds, bran, etc. This preparation requires a lot of chewing, and most people don't chew very well. Also, the cooked honey and oil can cause health problems, especially since the honey, when cooked, loses its enzymatic activity and the cooked oil has been proven to have carcinogenic properties. Better to roast the desired ingredients separately until lightly golden and, while still hot, mix in the honey and oil as well as the dried fruit desired. If the granola is soaked overnight before eating, it is more digestible.

Oats are said not to make good bread. This is so if we wish a conventional, light, airy yeast bread. However, they make a perfectly palatable and delightful flat bread. Mix the oats with butter, an egg, a touch of salt, and milk or nut-milk to bind. Pat out on an oiled baking sheet into the form of a circle; score to make portions. Bake at about 350 degrees F. until firm and dry, about a half hour. You can use a similar preparation to make oat crackers or crisps.

Oats can be eaten raw if they are flaked, the slight heat used in this process rendering them palatable. Mixed with grated carrot and parsley, sea salt and herbal spices, it is eaten with milk and salt or honey for a true whole food (Lev:Nature's:105). Another good preparation for the raw oat flakes is to mix them with lemon juice, finely grated lemon rind, and thin honey enough to bind the cereal flakes. Make this into little haystack shapes of several inches high and leave to harden. This makes a fun and natural food for children (Ibid.). Our children like to take handfuls of the raw oats and eat them plain, or often they will choose the raw oats for breakfast instead of cooked porridge or granola.

Oat flour possesses a property that retards the development of rancidity in fat products and this may be used to help keep butter or curdled milk fresh. They were sometimes used for making malt for beer by the Romans.

HISTORICAL USES

Used as a skin cleanser, for cataplasm, cough, to stimulate motor ganglia, for nervous prostration and prostatic irritation, for febrile diseases, heart muscles, urinary organs, and inflammatory cases and fevers, for chronic constipation, post labor to expel the placenta, for croup, to relieve craving for cigarettes and opium, as a nerve and uterine tonic, for arthritis, rheumatism, paralysis, liver infection and skin diseases, rickets, scrofula, kidney infections and stone attacks, as an antidote for drug addiction, for alcoholism, diphtheria, dysentery, for nerve structure of sexual organs as in spermatorrhea, neurasthenia and impotence.

CULTIVATION, COLLECTION, PREPARATION

Oats are cultivated on farms, although many people grow small stands for home use. We think it is a good idea to grow one's own grain, as pesticide residues often accumulate in the oats, particularly in the straw, and cause poisoning. Livestock have been poisoned in this manner (Lewis:21).

Oats are grown according to normal horticultural practices, being sure to test the soil to maintain a proper balance. Well-rotted compost or well-rotted manure is a good addition to the soil, and a mulch can help retain moisture during dry periods. When the oats are cut, they are divested from their palea and integuments; they are then called groats. Some people think that groats are superior in nutrition than the rolled oats. When these are crushed, they are called Embden groats. Oatmeal is the ground grain, and oats flakes are the flaked grains, which are heated and pressed.

Kloss assures us that there is not a hairs breadth difference between the steel-cut or the finely-flaked oats. The finely-flaked product is preferred because it is prepared much more quickly and is more quickly digested. He asked the Quaker Oats Company to describe their method of preparing the oats, and they complied, as follows:

"We are very glad to enclose a description of the manufacturing process for...oats. The glumes of the oat grain are wrapped a bit more securely (than wheat) around the kernel, and remain on the oat until they are removed at the rolled oats mill. After removing the hull from the kernel from which rolled oats are made, the oats possess all of the bran, middlings, endosperm, and germ portion natural to the grain. Whole oat kernels (oat groats), steel cut oats, large or 'standard' type rolled oats flakes, and small or 'quick' type rolled oat flakes are all whole grain products. In the sense that refined is sometimes used as an antonym for whole grain, there are no refined oat foods...The oats go through an extensive cleaning process in which corn, wheat, barley chaff, and weed seeds are removed. The oats are then carefully sized to uniform diameter by grading...Only the plump sound-oats of good size go into (our) products. The clean graded oats are roasted and partially dried, after which they are cooled and passed to a large burr stone where the hulls are torn from the groats. The oats mixture is next bolted to remove any flour, and the hulls are then removed in special air separators. Any unhulled oats are removed in cell machines and the cleaning process is continued until the groats are free from hulls and unhulled oats...the groats are then steel-cut. The clean groats pass to the steaming chamber where they are partially cooked with live steam and from which they pass to the rolls where the groats are formed into flakes. The rolled oats flakes are cooled in a current of air to about 110 degrees F., following which the product is immediately weighed and packed by automatic mechanical equipment" (Klo:83-85).

Oat straw can be collected after the harvest of the oats. Be absolutely sure that the crop from which you collect has not been sprayed, as the chemicals collect in the straw. Dry it in a cool, airy place and crumble or powder as desired. Store in a cool, dry place.

Oats and vetch are considered good companion plants. Root secretions from the oats have been found to inhibit the growth of young apricot trees (Phil:64).

CHEMICAL COMPOSITION

The largest portion of the protein compounds is avenine, which is a tonic compound and is said to be the stimulating part of the grain. The grain is also 55% starch, 2-5% sugars, 14% protein and 5% lipids.

The straw is slightly different in composition.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING OAT STRAW

Calc Tea, which contains a natural balance of calcium, silica and other minerals, contains Oat Straw.

The Vitalherb combination has Oat Straw as an ingredient.

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ALLIUM CEPA; LILIACEAE

DESCRIPTION

Onions are so widely known that they need no description. The long tubular leaves are characteristic of the entire Lily family, and the concentric layers constitute the bulb.

GENERAL

Dr. Christopher recommended the use of Onion as an alternative to Garlic if it wasn't available. It works much the same, but is weaker in action. He said, however, that there is a specific use for onions, and here is the story he told.

He was practicing with a small band many years ago. He was going to travel to Europe, entertaining on board a ship. But as he would play his banjo, he had such a bad cough that he would cough in rhythm! The French dancer who was going with them said, "That's awful". "We can't continue this way." She went off into the kitchen in her apartment. When she came back to

finish the practice, she brought him a bowl of onion syrup. Dr. Christopher had had this cough for four years. He had been working in a planing mill, running a three-gun sander and the sandings from the hardwood--mahogany and similar wood--came into his face. It was during the Depression and they couldn't afford a mask, so he had to contrive a mask himself. However, it didn't work, and he got his chronic cough. Medical doctors and his family physician, told him he had tuberculosis, which they said they couldn't treat or cure.

But after just a spoonful of this Onion syrup, Dr. Christopher had the first peace and ease he had had in a long time.

Here is the way you make the syrup. Dice up big dried onions, whatever amount you want, and put them into a stainless steel, unchipped enamel, or pyrex pan. Don't use aluminum. When you have about the amount you want, pour liquid honey over them until they are covered. Add nothing else. The honey extracts the Onion power, which is the greatest antihistamine known. This goes into the honey solution and provides a wonderfully effective cough syrup.

At one time he couldn't fly out of upper New York, but he had to be in Boston the next day to lecture for a three-day series. No planes were available, so he had to go on a train. He joked that he thought it must have been the same train that George Washington rode on. It was so drafty that by the time he got to Boston, he had pneumonia, and was all choked up. It was close to midnight, and the hotel kitchen was closed. He asked, "Can you fix me something for an emergency?" They would. He had them chop up a big dried onion and pour honey over it, and he ate the whole thing. In fact, he said, he had an audience. All the hotel staff there--the clean-up people, cooks, waitresses and all--came to watch him eat that onion down. But the next day he lectured in Boston.

The Onion is so powerful, he said, that once a medical doctor in the East had a patient with strep throat that nothing would touch and the patient was getting worse. The doctor thought he'd try an old-fashioned remedy that his grandpa had told him about. He just diced up a big dried onion, put it on a saucer, and placed it on a table by the man's bed, not where he could reach it or use any of it, but just inhale it. The next morning the strep throat was gone. Just from inhaling it! Just from breathing it!

We have tried another treatment recommended by Dr. Christopher, and strange as it seems, it really works. For an earache, no matter how painful or swollen, roast a whole Onion. When it is cool enough to touch, but still warm (be careful because the layers of the roasted Onion hold the heat a long time), peel off the skin, cut it in half, and bind it on the ear. Let the patient sleep this way. The onion clears up the infection and gets rid of the pain.

We have used a raw onion poultice on a child for a serious case of croup. Rub the chest first with Vaseline ointment so that the onion will not burn the skin. Finely chop, shred or mince the onions and warm them gently. Place them on a clean cotton cloth and bind this onto the chest. Be sure to keep the chest area warm, either with plenty of covers or with a hot water bottle. This will

stop the croup and relieve the inflammation.

"WE REMEMBER THE...ONIONS"

"During the olden days when the Devil amused himself by taking human forms to visit people so he could harass them, folks exchanged secrets of how to outwit him. One sly farmer told of using the smelly Cepa to do so. When the Devil saw him planting onions, he demanded half the crop. On the day of harvest, the farmer laboriously dug an onion out of the ground and asked the Devil if he preferred to snip off the good green shoots from his half or dig out the smelly roots. The Devil selected the fresh tops, leaving the smelly roots (the onions) for the farmer. When the corn crop was ripe, the Devil returned for his half, complaining that since he had gotten nothing from his Onion tops, which had simply dried out, this time he was taking the roots of the corn. The family happily took the tops with the ears of corn. After the Devil had been digging for a few weeks to get all of his Corn roots, he began to realize his error and went to complain to the farmer who was cheerfully threshing his corn. The Devil told him 'Thou has cozened me thus twice'. But the farmer replied, 'Nay, I gave thee thy desire, but thou didst not thresh out thine Onion tops as I am doing with my Corn.' So the Devil went back to thresh out his dried onion tops, hoping to get some onions. He may still be there, because he has not been seen since that time" (Keller:178).

The onion has been in cultivation so long that its country of origin is uncertain. It also grows wild, and foragers and survivalists make good use of it when they find it in the countryside. It was in use in ancient China and India, and in Egypt it was considered a powerful symbol. Ever since the Egyptians noted that the onion was composed of layer upon layer adhering to its core, this food has been considered a means of having contagion adhere to the bulb and not to the patient. The many layers clinging together were to the Egyptians a symbol of eternity. Herodotus records an ancient inscription in the Great Pyramid of Cheops stating that the sum of 1600 talents of silver had been paid (about \$5 million in today's currency, maybe more) to supply the workers on the pyramid with onions, garlic and radishes while the pyramid was being built. The vegetables were said to supply stamina, and from the amount spent you can get an idea of the amount consumed!

One writer says that "who ever has tasted onions in Egypt must allow that none can be had better in any part of the universe. Here they are sweet; in other countries they are nauseous and strong. Here they are soft; whereas in the northern and other parts they are hard, and their coat are so compact that they are difficult to digest. Hence they cannot in any place be eaten with less prejudice and more satisfaction than in Egypt" (Mold:33). Because of the symbolism of eternity, Egyptian priests were forbidden to eat the onion, which to the common people seemed a supreme sacrifice. Many of the poor in Egypt survived on little more than Onions. In view of the glowing accounts of the excellence of Egyptian onions, it is little wonder that the Israelites, in a moment of rebellious dissatisfaction in the desert just before the terrible plague at Kibroth-hattaavah, remembered them and even longed to return to Egypt for them. In this time of privation and hunger, they were willing to trade their freedom, the vines and olives of the Promised Land, and

even their happy and independent homes for "the Onions, leeks, and garlic of captivity".

The Romans brought onions north over the Alps and their doctors and herbalists used them extensively. In A.D. 79 Pliny extensively described their culture and uses. In A.D. 42 Columella introduced the word unionem, from which the common word is derived. Dioscorides and Galen also praised the A. cepa, its culinary and medicinal uses.

In early Rome, a dozen fresh Onions for each member of the family were strung together and hung from the ceiling of a communal room to attract diseases from all members of the household. Pearl Buck told of the same ritual in China, with an added bit of extra insurance--Garlic. Although they had never met a Roman or a Chinese, Mexicans living in Gaudalajara used Onions in the same way, particularly to protect mourners at funerals if the victim had been taken by cancer. The directions were to paint on the floor under the casket a cross exactly the size of the casket, out of lime. At the center of the cross, place a dish containing onions, vinegar and lemon juice, to draw the illness of the deceased into the dish and away from the mourners (Keller:178).

Egyptians convinced the ladies that they actually cared most about them if they protected her beauty and health. They gave engagement gifts of a necklace of fresh onions. The women proudly wore the necklaces, knowing the men were protecting them by drawing evil diseases away into the onions.

Onions were also included in Egyptian ritual in the elaborate funerals of the era. They represented the teeth of Horus, the sun god. If the deceased hoped to be resurrected, he had to offer onions to Osiris. If Osiris accepted the offering, he then spoke to open the mouth of the corpse, enabling him to also speak, live again and dwell "with the Company of the Great gods in Anu". For protection throughout unending eternity, the cavities of the body were filled with myrrh, aniseed and onions (Ibid.).

During the Plagues of the Middle Ages, it was also believed that you could hang a bunch of onions outside the door to absorb the infection and thus be saved. In England during one of the plagues, all families in a neighborhood were said to be infected except for one. Doctors demanded to know this household's secret. They pointed to the bags of onions hanging above the room which absorbed the infection, they said. But no one was to eat the onions, or they would contract the illness. Putrefaction was also believed to come to the onions during the Middle Ages. One remedy was to hollow out an onion, fill the center with black treacle, roast the Onion, and, after peeling, mash the hot black paste for use as a poultice.

Children who slept with their mouths open were thought to be susceptible to the Devil, who would enter the body when they were not able to stop him. The only way to force the evil one to leave was to feed him something highly objectionable to demons. So the mothers fed sick children onions, which were considered harmful to demons, and honey, which is sweet to the living, bitter to the dead (Keller:179). If a newborn refused its mother's milk, it was a sign of evil spirits bespoiling the milk, possibly because the child was illegitimate or was not the child of the

legal husband. To remove the hex, friends held onions between the mother's breasts while everyone chanted, "Flow, flow white milk; Flow, flow, as I desire to my hungry child".

The Romans suggested some specific uses for the Onion. Pliny the Elder said that professional racers should eat onions daily and they would never finish last in a race. Homer, who didn't mind writing of familiar, homey things, recommended that men eat onions to accent the bouquet of wine. For husbands who had the penchant during those decadent times to stay out late with other women, he recommended that they eat an Onion just before they go home, so that the wife would be sure that no one would think of kissing such a "disgusting man".

Only the Arabs could apply onions so extensively as an aphrodisiac. Sheikh Umar Ibn Muhammad al-Nefzaoui in his treatise on sex, The Perfumed Garden, makes much of Onion for this use. He told the story of two men who were captured by a beautiful princess who ordered them to satisfy the women in her harem for thirty days. She allowed them any food or drink they desired to meet this arduous task. They asked for milk with honey, chick peas and meat, and an abundance of Onions. For drink they requested the juice of onions mixed with honey. Nefzaoui assures his readers that they performed the trial with honor. He said that someone needing an aphrodisiac for cold winter nights could mix onion juice and honey with chickpeas, though he warned that this shouldn't be taken during the summer or for more than three days at a time. After taking it, he said, the man should "hurry to bed".

In old England, two doctors applied for the position of physician to the King. The King decided to select the one that could survive poison. One ate a stewed Toad and then applied onions to his stomach to extract all of the poison of the toad; the other doctor ate the onions and died (Keller:198). Old-time doctors were said to cure body poisons by placing Onion poultices under the armpits--an interesting concept in the light of the lymph glands being in that place. A Chinese doctor named Fa-Hien, while touring India during the fourth century, was not surprised to find many ill and undernourished, since the people didn't eat onions or garlic. Interestingly, India's leaders have in modern times been trying to improve their countrymen's health by advising the people to eat some every day.

In the 1500's the Onion was used to heal gunshot wounds. Elizabeth I's surgeon used onion juice to cure burns caused by gunpowder. Gerarde wrote that the onions "bite, attenuate or make thin, and cause dryness". Snuffed up the nose, they purge the head, he said, and bring out the mucus. Crushed with salt, rue and honey, they are good applied to the bite of a mad dog. Roasted in the embers, they can be applied to ripen and break swellings. The juice combined with pennyroyal will relieve gout, he taught, and the juice will bring hair on a bald head, if it is exposed to the sun. The juice will also take away the pain of burns. Onions will cure a cold or epilepsy. However, Gerarde warned that onions can cause headache, eye pain and dullness, dull the senses and provoke oversleeping, especially if eaten raw (Wood:177-8).

In folk tales, onions have been regarded as a plant of ill omen and misfortune. To dream of onions was indicative of domestic strife and a portent of impending sickness. Other simple folks

have endowed the Onion with magic properties. The onion is regarded as sacred to Saint Thomas, and at Christmastime is frequently a rival to Mistletoe in popularity. "At the old holiday sports, a merry fellow who represented the saint would dance into the firelight when the Yule logs blazed, and give to the girls in the company an onion which they were to cut into quarters, each whispering to it the name of the young man from whom she awaited an offer of marriage, waving it over her head, and reciting this spell, 'Good Saint Thomas do me right and send me true love come tonight, That I might see him face to face and him in my kind arms embrace'. The damsel will be in her bed by the stroke of twelve, and if the fates are kind she will have a comforting vision of the wedding" (Mold:34).

In 1579, a Dr. Langham told soldiers and peasants who labored from sunrise to sunset to eat onions every morning to maintain their health and resist infections. General Ulysses S. Grant refused to order his armies into battle because the War Department had not sent Onions. "I will not move my armies without Onions", he said. However, the same Dr. Langham warned that onions can cause headache, sore throat, flatulence and fearful dreams. He did say that onions will take away stomachache and bad breath (and we can only ask, really??). They will cause the menses to begin and urine to flow. Warts will fall off from an application of onion juice and honey, and this combination, he said, would heal any wound.

Culpepper said, eaten raw like apples, onions ease the belly and pains of the bowels, provoke appetite or the menses. Eaten with bread and salt before breakfast, onions are a preservative against infection. Roasted with honey or sugar, they relieve an inveterate cough and help expectorate tough phlegm. He said that the juice would purgeth the head and relieve lethargy, if snuffed up the nostrils. Dropped in the ears, it eases pains and removes noises in them. Applied with mashed figs, it helps relieve sores.

A French herbal written at the same time as Gerarde said that whoever rubs their teeth with an onion every morning will never have a toothache. An English herbal recommends the juice for any man who has lost his speech. Onions were also thought to be a source of beautification. In Sweden, onions were especially famous for restoring beautiful skin. It would restore hair if the hair follicles were still alive.

"For oyntment Juice of onyons is assign'd,
For heads whose haire fals faster than it growes;
If Onyons cannot help in such mishap,
A man must get him a Gregorian cap."

This referred to the necessity of wearing a hat in the presence of ladies if one were unfortunate enough to be bald. Dr. Langham recommended that onion juice mixed with vinegar, applied hot, worked as an overnight application to remove crow's feet, wrinkling, or bags under the eyes. The pure juice applied all over the body would make the skin whole and fair--and pungent, we might add.

The Englishman's Doctor

"I would not to you Ladies, onions praise,
Save that they make one faire (Aescclapius saies),
Yet taking them requires some good direction,
They are not good alike for each complexion"

BACTERIOSTATIC

In the fresh state, the onion is bacteriostatic. It is considered a great preventative for illness; Dr. Christopher said that whoever eats a lot of Garlic and onions will never get colds or flu (no one will get close enough to give it to them, he joked!). Scientific studies have proven that onion will kill germs. So the folk practices of hanging onions in the room to prevent germs may not be as farfetched as it first seems. People around the world persist in this folk custom, and they explain that as long as the Onion (which must be cut or bruised to absorb the germs) is burned the next day, all is safe. However, any onion that has been bruised, peeled or sliced for more than a few hours should not be eaten because it has absorbed germs around it (Luc:40). Onions are commonly used for coughs and colds. Dr. Christopher's onion syrup, described in the introduction, is an excellent syrup for coughs and colds, bronchitis, croup, whooping cough, etc. He recommended adding licorice root powder, horehound and cherry bark to the syrup, and said to add 25% glycerine to the syrup if you plan to keep it. Keep it in a cool place or it will sour.

Onions are said to help bring up the most stubborn, thick phlegm. They clear the sinuses and promote free breathing. Homeopaths say that if you have the kind of cold which has a streaming runny nose, you can quickly get rid of it by cutting a slice from a raw onion and immersing it quickly in a glass of hot water. Do not let it remain in the water for longer than a second or so. Take little sips of this water throughout the day. The profuse runny nose will quickly stop, and the cold will go away. You can also cut an onion in half and put it on your bedside table so you can breathe in the smell during your sleep. An onion poultice bandaged around the neck is said to work, too (Luc:44).

A French army doctor used fresh Onion juice to treat flu patients by giving them 200 cubic centiments of the juice in hot tea, divided into three doses each day. In two days the fever and complications were gone. There were no fatalities among the 80 patients who received the onion treatment.

Onions are said to be a soporific--sleep-inducer. A Dr. Fernie wrote about this, saying that if a person is not sleepy at night, he can take a couple of raw onions and promote a good sleep.

Dr. Christopher's recommendation of roasted Onion for earache is corroborated by many herbalists. It is important however to be sure to roast the onion, as the acids in the raw bulb are too strong for the delicate ear.

Honey-onion syrup as made by Dr. Christopher is said to provide miraculous relief for the sufferer

of asthma.

Modern science has not neglected the study of Allium for the treatment of these problems. Scientists say that eating goodly amounts of garlic and Onions can really stimulate the bile production, lower the blood sugar and blood lipids, reduce hypertension, accelerate wound healing, and cure the common cold. Recent controlled studies in human beings showed that those persons on a garlic and onion free diet had significantly higher serum triglycerides and beta lipo-proteins than those eating an adequate portion per week. The isolation of a potent prostaglandin from Onion supports the speculation that it possesses considerable potential value as a therapeutic agent (Tyler:482-3).

Research by Indian physicians show that feeding onions to people along with butter prevents the usual steep rise in cholesterol levels that occurs after consuming butterfat. Researchers compared the blood levels of cholesterol and triglycerides in three groups of people: one group that regularly ate Onions in liberal amounts, another that ate Onions in small amounts, and a third that totally abstained from eating Onions. The results indicated that routine Onion consumption has a beneficial effect on maintaining blood fats at low or normal levels (Bri:256).

A research team found that onions and garlic contain chemically similar compounds. These compounds inhibit platelet aggregation by blocking the synthesis of a powerful clumping agent called thromboxane. In that study, platelet-rich plasma was prepared from the whole blood of healthy volunteers who hadn't taken aspirin or other drugs known to affect clotting. Results showed that the purified extracts of onion and garlic almost completely suppressed the synthesis of thromboxane. That is important because when heart attacks occur, blood flowing to the heart may be cut off by tiny blood clots called thrombi (Bri:256).

Onions are said to keep blood sugar in check. When twenty diabetics ate the equivalent of one-third cup of raw, chopped onions daily for a week, their blood sugar levels were reduced to a "statistically significant" extent. Onions also contain a natural enzyme inhibitor that apparently slows down the growth of cancer cells (Ibid.).

Some years ago, a Russian electrobiologist announced that a peculiar type of ultraviolet radiation called mitogenic radiation was emitted by onions. These radiations appeared to stimulate cell activity in general and produce a rejuvenating effect on the system. Garlic and ginseng emit the same radiation. Other researchers have found that a similarly charged electrical field is also produced by penicillin. These are called M-Rays (Luc:45).

There are many, many folk remedies utilizing onions. Headaches are cured by smearing the brow with crushed Onions. Pneumonia is treated with a poultice of crushed onions to break the fever. Ant bites stop stinging with a similar poultice. Burns and scalds are treated by slicing an onion in spirals and wrapping it around a new burn to prevent blisters and to stop the pain, or you can grate a raw onion and wrap it over burns to halt pain and prevent scars. Onions are eaten to help the symptoms of allergies. An onion, roasted, split and applied to the surface helps suppurating

tumors. For stubbed toe or jammed finger, one tablespoon of olive oil is poured over one or two large grated onions. This is applied as a thick poultice around the injured part. The pain will subside in a few moments. Arthritic pains are said to subside with raw or cooked onions in plenty in the diet. To remove calluses, cut an onion in half and place in a jar filled with strong wine vinegar and steep for about three hours. Bind these to the calluses just before bed. Repeat several nights, each morning removing the top layers of the calluses.

Onions pounded with a mallet are applied to ulcers, boils, abscesses, and insect stings. For hemorrhoids, two cups of finely chopped or grated green onions are mixed with wheat flour and fried in animal fat until the mixture resembles a salve. A thick layer is spread on a cloth and bound to the affected area just before bedtime. Repeat for two days; this usually clears it up in two days.

The water in which onions are boiled is drunk to eliminate retention of fluid in the system. A finely-chopped onion mixed with sugar is spread on a cloth to treat sprains. To build the blood or to prevent obesity, to provide strength during pregnancy or to prevent toxemia, take Onions three times a week cooked, two times a week raw. For rheumatism accompanied by shooting pains, bran is boiled in water and the painful part soaked in the solution for fifteen minutes just before bedtime. As soon as the soaking is ended, several onions are separated into leaves and spread on the affected area and bound with a cloth. In the middle of the night, remove the poultice and wash the affected part, replacing the poultice until morning. This is repeated until results are obtained.

Severe headache is treated by pulping three or four onions which are generously salted and mixed with olive oil. The mixture is spread on a cloth and bound to the head. This has been reputed to relieve a headache in two hours. For athlete's foot, rub onion juice between the toes two or three times a day until the condition clears. Warts have been said to disappear when treated perseveringly with raw onion dipped in salt. For baldness, if the hair roots are still alive, ten parts of onion juice are mixed with ten parts of cod liver oil and five parts of raw egg yolk. This is beaten together thoroughly and applied to the scalp once a week. Other recipes advise rubbing the scalp with a fresh slice of onion once or twice every day. (These folk remedies come from Keller and Lucas).

In India, onion is considered especially antiseptic for the alimentary canal, particularly when taken raw. It is useful for chest complaints, dropsy, fever, colic and scurvy. The juice is used like smelling salts in fainting, in infantile convulsions, headaches, epileptic and hysterical fits; it is dropped into the ear to relieve earache; it is applied to the bottoms of the feet as for convulsive disorders; it is sniffed in epistaxis; it is applied to eyes in dimness of vision and skin diseases. It is an antidote in tobacco poisoning. Cooked with vinegar it is given in jaundice, spleen enlargement and dyspepsia. It relieves malarial fevers remarkably, taken with two or three black peppers. It stimulated the growth of children. A decoction relieves strangury (suppressed and painful urination) and extreme heated sensation (IMM:64).

In China, the onion makes up a large portion of the diet, being eaten with rice, millet or bread, together with succulent and green vegetables. It is used to treat high blood pressure and circulatory problems. It is given as a sedative in children's diseases. The persons in charge of life boats on the Yangtze River depend upon strong onion tea to excite vomiting and reaction. Onions are applied to the noses of persons who have attempted to hang themselves. It is given in many of the ways we have outlined above; every part of the plant is supposed to have some special therapeutic activity (Shi:26).

During the First World War, researchers published papers on Onions and their effects on specific diseases, and found that the essential oils of the onion and garlic kill bacteria. They call this element phytoncide. The antiseptic properties lie in the smell, for when the onion is peeled and cut and the odor evaporates, so do the phytoncides (Day:118). Soviet scientists ground onions and garlic into pulp, put them into open tubes and applied the ends to wounds and septic sores that refused to heal. Though none of this pulp was in contact with the wounds, this vapor treatment healed them after two or three applications of from two to ten minutes (*Ibid.*).

Onions are said to contain a therapeutic chemical, allyl aldehyde, which kills bacteria and fungi as well as worms (Neb:121).

Onion packs are applied to swellings in the lymphatic system to reduce infection and hasten cleansing (Mal:94).

Indians used the wild onion as an insect repellent by rubbing the whole plant on the skin (Nie:99).

You should be careful about overeating onions, however. Research has shown that anemia can be induced by doing so. A group of volunteer medical students consumed over two pounds of cooked onions every day for five days in addition to their regular diet. At the end of this period all showed symptoms of anemia, which was confirmed by laboratory examination. Within one week after ending this binge, all experimenters successfully recovered. Similar experiments with animals have produced the same results (Luc:45).

Onions are an excellent treatment, it is said, for conditions of macho; men who cannot cry should go into the kitchen and chop onions (Neb:121).

ONION DELIGHTS

Almost any savory dish benefits from the addition of Onions. Who can imagine a soup or stew that doesn't begin with onion? We like to melt butter in a soup pot and saute onions as we prepare the other soup ingredients. Onions frying in butter must be one of the most delightful fragrances in the world. Some say that onions fried in chicken fat are equal; this forms the basis of many Jewish culinary delights.

Rose visited Maui, Hawaii, and there purchased some of the famous Maui Onions. She said they

are sweeter and more delicate than any onion she has used. Others say that the Utah Red Spanish is superior to other onions. If you can grow your own, you will enjoy finding different varieties. To the connoisseur, the recipe indicates the choice of variety (Barr:66).

One of our favorite Onion preparations is also an extremely healthy one. We simply scrub good baking potatoes and prepare them for baking. We put them in the oven with washed, unpeeled onions of equivalent size. These we bake for about an hour at 400 degrees F. After cooking, we feast on these delicacies, peeling the onions but not the potatoes. Eaten with white cheese and salad, it is a great meal. Many people want to bake potatoes when they go camping, and they wrap them with aluminum foil and put them in the coals. Aside from the fact the aluminum is an unhealthy way to cook, it is nigh impossible to bake potatoes this way without burning them. We prefer to get out our Dutch oven (though any cast-iron cover pan will do) and cover the bottom with rocks or a cake rack. Put in your potatoes and Onions and bake for an hour on the coals. The scent of this meal while camping, especially when cooked over cedar or other fragrant wood, is indescribable.

Most of us like the familiar dish of Onions fried in butter, and if we are to believe the research, eating this frequently is good for us. Another interesting dish is to take five pounds of onions, peel and quarter them, and put them in a big, heavy pot with water to barely cover. Simmer this for twenty-four hours, covered. Peek when necessary and add water as needed. When it has concentrated into a dark-brown, slightly lumpy "honey", break up the pieces into a paste, salt to taste and simmer until the final liquid evaporates--uncovered. You can use this on bread, biscuits, vegetables, and so on. As unusual as it sounds, it is delicious, and since it is low heated, it retains much of the vitality of the Onions.

Research shows that Onions retain their medicinal action whether they are cooked or not. But sometimes the raw onions work faster. We like to chop raw Onions into a salad, although not everyone agrees. A seventeenth century writer suggested, "Let onion atoms lurk within the bowl, and half suspected, animate the whole." On the other hand, we like a salad broadly spiked with the vegetable. If you like the raw Onion but cannot tolerate so much pungency, you can do as Jewish housewives do and marinate the sliced onions in vinegar; red wine vinegar is nicest. Season with salt and a generous sprinkling of black pepper. Cucumbers can be marinated along with this. You can either eat it as it is, or drain the vegetables and add them to salad. The vinegar is also delicious and should be used for cookery.

Onion soup is said to be good for preventative medicine and for weight loss if eaten every night. The standard recipe calls for beef bouillon, but if you want to make a vegetarian version, the secret of success is to slowly saute the onions until they are golden brown and very soft but not burned. Patience is the key here. Add tamari bouillon, which is made by adding tamari soy sauce to taste with water, and simmer for a few minutes. This is a delicious soup even without the traditional French bread toast floating on the top.

Onion pie is made by topping a whole-wheat pie crust with sauteed, sliced onions and a grating of

cheese. Bake until the cheese melts. Simple as this sounds, it is very delicious.

You can cream onions, you can boil, bake, braise and steam them. One of our favorite dishes is to chop onions and to cook them in a little water with a lot of other favorite vegetables: zucchini, potatoes, carrots, broccoli, etc. When they are steamed soft but not limp, you can dump them out in a glorious heap on a serving platter (after draining) and top with butter and vegetable seasoning. This makes a wonderful meal in itself, even without the addition of salad.

American Indians often ate the wild Onion raw. If you want a good raw onion recipe, try buttering a slice of whole wheat or rye bread, adding a layer of sliced onions, and covering with another piece of bread. If you are worried about Onion breath, drink a cup of cold milk with this preparation, or chew parsley after eating. You can get quite attached to raw Onion sandwiches and they are very good for you.

Dr. Christopher recommended stuffing parboiled Onions with whole wheat bread crumbs, green peppers, tomato pulp, the insides of the Onions, and seasoning to taste. These are baked in a little milk until tender. You can serve this dish to guests when they are a little worried about eating with a vegetarian, and they will be happily impressed.

WINDSHIELD WIPER

In addition to culinary uses, some people pack a slice of Onion wrapped in foil when they travel by car in the winter time. Wiped across the inside and outside of the windshield, it prevents moisture and steam from building up.

HISTORICAL USES

It is used for coughs, croup, pneumonia, fever, sore and strep throats, earaches and infection, for bronchitis, whooping cough, plague, for disease prevention, as an antidote for tobacco poisoning, as an aphrodisiac, to heal wounds, for inflammation and swelling of the lymphatic, to clear the head of mucus, for baldness, mad dog bites, insect bites and as an insect repellent, for epilepsy, convulsions and hysterical fits, for fainting, as an antiseptic for the alimentary canal, to reduce hypertension, to lower blood sugar and lipids, for scurvy, dropsy, colic, ulcers, boils, abscesses, warts, blemishes, headache, delayed menses, as an expectorant, athletic foot and fungi, for jaundice, malarial fevers, spleen enlargement, dyspepsia, to stimulate growth of children, for high blood pressure, circulatory problems, stomach and bowel complaints, calluses, arthritic and rheumatic pains, to reduce the pain of wounds and sores, for suppurating tumors, allergies, to prevent scarring, for burns and scalds, to kill bacteria, fungi and worms, for asthma, fearful dreams, insomnia, flatulence, toothache (prevention), skin beautifier, wrinkles, crowsfeet and bags under the eyes, for a runny nose and sinuses and for the flu.

CULTIVATION, COLLECTION, PREPARATION

Onions have been grown since ancient days, and they are not difficult to cultivate provided the garden soil is rich, fertile and reasonably well-drained. The topsoil should be deep and contain an ample supply of humus. If the soil is exceptionally sandy or clayish, this condition should be corrected the season before planting by the addition of well-rotted horse manure or other organic material deeply dug in.

If you wish to grow mature onions, you can most easily do so by purchasing "sets", the small seed onions commonly of the Ebenezer type, although they come in different varieties. Plant these carefully in their natural position, two to three inches apart in the row. Cover with a quarter inch of sifted compost, water, and firm. One pound of sets plants fifty feet of row.

Sow early in the spring, water, and weed. By five weeks the plants can be pulled and eaten as scallions or green bunching onions. Mature Onions take 100 days. You can hasten maturity at the end of this time by breaking down any tops that have not fallen down naturally. A day or two later pull the onions and leave on the surface of the ground for a couple of days to cure. Gather and clip their tops about an inch from the bulb. Spread loosely in a shed or airy lean-to where they should dry until cold weather arrives. Then place in orange crates, net bags, or similar open containers and move to a cool, dry storage cellar. They could also be stored in an airy place such as an attic. Slight freezing does not injure them, although they shouldn't be handled when frozen.

Onions grown from seed mature in about 130 days, but offer a much wider range of varieties than ones grown from sets. One ounce of seed provides for about 100 foot of row. Seed can be planted even before frosts have stopped, as onions need the long days of sunlight to mature. Plant the seed thickly and evenly in a shallow drill and cover with a half inch of sifted compost; firm (culture directions from [Rodale Encyclopedia of Organic Gardening](#)).

RELATED PLANTS

Garlic, shallots, leeks etc!, are all related to the onion family. They all have similar medicinal activity.

CHEMICAL COMPOSITION

Onions consist of water, protein, fat, carbohydrates, and mineral matter, mainly potassium, calcium, phosphorus and silicin. They contain various sulphides, which are healing constituents, including allyl propyl disulphide. In addition, they contain enzymes and Vitamins A, B, and C.

RECENT FINDINGS

Guinea pigs were sensitized to ovalbumin. They had been pretreated with onion extract. Thirty minutes later they were challenged by the inhalation of ovalbumin. The oral treatment of the guinea pigs with Onion extract markedly reduced the asthmatic response in the animals ("Prevention of allergen-induced bronchial obstruction in sensitized guinea pigs by crude alcoholic

onion extract", *Agents Actions*, June, 1984, Vol 14, No. 5-6, pages 626-9.)

Extracts of Onion and other herbs were found to inhibit platelet formation in rats. In the case of Onion, relatively high volumes were needed to bring about even a modest inhibition ("Effects of aqueous extractions...on platelet aggregation and metabolism of arachidonic acid in the blood vascular system," *Prostaglandins Leukotrienes Med* [Scotland], February 1984, Volume 13 No. 2, pp. 227-35).

Aqueous extracts of garlic and Onion were tested for activity against gram-positive organisms, gram-negative organisms and fungi. A significant growth inhibition was shown by most of the organisms, tested at random. Garlic extract was more powerful than Onion, although both showed activity (The antimicrobial activity of garlic and onion extracts", *Pharmazie* [East Germany], November, 1983, Volume 38 No.11, pages 747-8).

When volunteers were injected with allergenic substances, applications of onion extract significantly reduced the allergenic responses ("Suppression of immediate and late anti-induced skin reactions by topically applied alcohol onion extract", *Allergy*, [Denmark], January 1984, Volume 39, Number 1, pages 43-9).

Onion extract was found to exhibit anti-coagulant and fibrinolytic activity in vitro. In contrast, garlic extract and garlic oil were inactive ("Effect of Onion and garlic on blood coagulation and fibrinolysis in vitro", *Indian Journal of Physiological Pharmacology*, April-June 1983, Volume 27, Number 2, pages 141-5).

The effects of administration of cholesterol alone and of cholesterol and fresh whole onion extract on the shape of erythrocytes were studied in albino rabbits. In animals on a cholesterol-enriched diet, the erythrocytes changed shape and showed an increased tendency to aggregate, whereas they retained their normal appearance in animals on cholesterol and onion extract and did not differ from those of normal control rabbits ("Changes in shape of erythrocytes in rabbits on atherogenic diet and Onion extracts", *Arteriosclerosis*, May 1980, Volume 36 No.1, pages 39-45).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING ONIONS

The herbal cough syrup contains fresh onion juice.

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OREGON GRAPE

BERBERIS AQUIFOLIUM, MAHONIA AQUIFOLIUM; BERBERIDACEAE

DESCRIPTION

The genus Berberis is a large one, comprising shrubs or trees widely distributed throughout temperate regions and in the mountains of the tropics. Of the genus, the Rocky Mountain group yields Berberis aquifolium. It is a low ground cover, with evergreen, coriaceous, bright and shining leaves, and having numerous small, yellowish-green flowers in the early spring, and later clusters of purple berries containing an acid pulp. The color of the autumn leaves of the Oregon Grape have earned the plant its Spanish name, yerba de sangre, herb of the blood.

The leaves are pinnate, usually with seven or nine leaflets, in pairs along a thin but tough stem. They are rough-textured, wavy margined on somewhat prickly edges, and darker above than below. The main stems seldom rise more than an inch or two, and are actually not so much stems as the upper extensions of the many creeping thin roots that form interconnected colonies. Both

the stems and roots have a bright yellow pith color and are intensely bitter, owing to the presence of the alkaloid berberine.

GENERAL

Oregon Grape is the sister plant to Barberry. It has a high berberine content, which cleans the bile, makes it flow better from the liver and gall bladder, and carries poisons from these important cleansing organs out of the body. Oregon Grape is classified as a blood cleanser or "blood sweetener". It is also one of the best liver stimulants. If the liver is torpid and the bile sluggish, retained in the system, it can cause a number of seemingly unrelated problems: skin eruptions, indigestion, and so on. Being fully aware of what is causing the blood impurity in the first place (or we should never be able to overcome it), we can use Oregon Grape to slowly but surely cleanse the bloodstream. It will create appetite, promote digestion, improve absorption, and increase strength and vitality. It gently improves bowel evacuation and urine elimination and is very healing to the lymphatic and skin tissues (SNH:73).

HOLLY GRAPE

Berberis aquifolium is the American native of the Berberis family, found usually on the mountain ranges of the Pacific coast area. The Indians there made a decoction of the roots which they took for general debility or to create an appetite. Such uses were picked up by the settlers and the use of roots as a bitter tonic was introduced into American medicine during the late 1800's. Oregon Grape was official until almost 1950 (Hyl:353).

While the bark of the root was the official drug, the berries, leaves, and bark have been used. The leaves were chewed for acne. Some Indians used the roots and bark for ulcers, as a tonic, for heartburn, and for rheumatism. A root decoction was used for cough, kidney and liver ailments, and as a wash for cuts and bruises (Ibid.). The Catawba tribe boiled the stems and roots to take for an ulcerated stomach. Along with Barberry, which Dr. Christopher considered almost interchangeable with Oregon Grape, it was introduced into American medicine in 1877 by Dr. J. H. Bundy (Vog:330).

Other names for the herb include Holly Berry, mountain grape, wild Oregon Grape, rocky mountain grape, holly-leaved barberry, California barberry, trailing mahonia, and just plain mahonia. Moore grieves that botanists get too picky about naming the plant. Most agree that the berberis name applies to plants that have smooth leaves and stem thorns and are deciduous. The mahonia classification has prickly leaves but no stem thorns and is evergreen; this is our plant, but there is yet some confusion about the botanical names. Some botanists ignore the differentiation, Moore explains, and retain the single Berberis genus for both types. He thinks that there is too much confusion about the old Latin names in general, and that "it seems an unnecessary perversion to have this poor plant listed variously as Berberis repens, Mahonia repens, Berberis aquifolium, Odostemon repens, and Odostemon aquifolium!" He says that it is still an excellent remedy, whatever the name (Moore:119).

LIVER HERB

The uses of Oregon Grape are nearly identical to Barberry; you should see the newsletter on Barberry to obtain that information. It is said to be more effective in cases of liver malfunction of a constitutional or chronic nature, and is used more effectively externally for staph infections. Dr. Christopher said that it worked somewhat better in scorbutic and syphilitic problems. Unlike Barberry, it seems to exert a mild stimulating influence on the thyroid function (Moore:117).

Oregon Grape root, because of its purifying action on the liver and bile system, will treat all skin diseases due to toxins in the blood, including psoriasis, eczema, herpes, and acne. It is also useful in treating rheumatoid arthritis and hepatitis (Tie:107). Dr. Shook said, in differentiating the use of the two (if you should happen to have both available), to use Oregon Grape root for scrofulous and syphilitic cachexias, and barberry for chronic dyspepsia, jaundice, and liver disease. It is good to know the subtleties between both plants, but also good to know that they could be interchanged, if necessary.

Dr. Shook's recipe for Oregon Grape root included 1 pound of the cut root, 1 gallon of distilled water, and 1/2 ounce of diluted phosphoric acid. Dissolve the phosphoric acid in the water, add the root and let stand for two hours, stirring occasionally. Boil slowly until the root is barely covered. Strain and set liquid aside. Put the bark back into the saucepan and add 3 pints of fresh distilled water. Boil down again until the root is just covered with the water. Strain and combine the two liquids. Again boil down to one pint. Add one pint of glycerine, blend thoroughly, cool, bottle, and keep in a cool place (ShoA:208). This is said to be good for a tonic, laxative, hepatic, and digestive agent. It is also a good nerve tonic.

Oregon Grape was believed to have specific action on the spleen and was administered in cases of malaria where the spleen was dangerously enlarged; this was risky, however, since the ability to produce contraction was so strong that there was a possibility of rupture if the herb was taken by a person whose spleen was dangerously softened (Weiner:146).

Oregon Grape root has mild antiseptic effects and is thus useful in douches for vaginitis (Tie:107). It is recommended to treat leucorrhoea and to help the body rid itself of yeast infections when combined with scrupulous cleanliness and internal use of the herb (Mal:250-2).

It is mentioned as a specific to increase appetite (Lewis:213). It has been used for bronchial congestion.

Dr. Christopher said that in cases of chronic constipation, Oregon Grape root combined with cascara sagrada would clear the condition, taken in wineglassful doses. For skin diseases, he said, use the strong decoction internally and externally, either as a wash or a fomentation.

JELLY HERB

Evidently the berries of this plant make "the most incredible purple-blue jelly" (Lang:26). This jelly can be used medicinally as well as at the table. The berries, once gathered, should be processed immediately. To make the jelly, use your favorite recipe or the following from Dr. Shook:

2 pounds of fresh Oregon Grape berries
1 gallon distilled water.

Boil until the water is just level with the top of the berries. Mash the berries to a pulp; then strain through a sieve and press. Return liquid to a clean saucepan (enamel is best; do not use aluminum or iron), add 1-1/2 pounds of brown sugar and simmer for another ten minutes, or until the syrup is not in excess of three pints. Pour into hot sterile jars, seal, cool, and store in a cool, dark place (ShoA:209).

The berries can likely be used in the same ways as the barberries are; check that newsletter for these uses.

HISTORICAL USES

It cleans and promotes the flow of bile from the liver and gall bladder, it is a liver and kidney ailment, good for skin eruptions and acne and indigestion, it promotes bowel movements and helps constipation, good for general debility, used as a bitter tonic, helps ulcers and ulcerated stomach, heartburn, rheumatism and arthritis, cough, cuts and bruises, for scorbutic and syphilitic problems, stimulates the thyroid function, for herpes, for psoriasis and eczema, for hepatitis, as a nerve tonic, for malaria, enlarged spleens, vaginitis, yeast infections, leucorrhea, bronchial congestion and to increase the appetite.

FORMULA

For syphilis, he recommended a combination:
2 drams Oregon Grape root, cut or powdered
1 1/4 drams red clover
1 dram burdock seeds
1 dram cascara sagrada
4/5 dram blue flag
2/3 dram prickly ash
2/3 dram blood root

This was to be made into a standard decoction and taken 2 tablespoonfuls at a time three or four times a day. Dr. Christopher also said that at times this herb could be substituted in formulas for golden seal as a tonic.

CULTIVATION, COLLECTION, PREPARATION

Oregon Grape occurs in the wild, but it can be cultivated easily in the garden. It is propagated by seeds, cuttings, suckers, and layers. Sow the seeds in flats or broadcast beds in fall; in most cases, they will germinate by spring. For cuttings, place green cuttings of young wood in sand in a shady bed. The roots put out suckers to form a hedge, and you can also layer the branches for the same effect. We have grown Oregon Grape for many years in our backyard in less than ideal conditions (too much shade, too much moisture) and it thrives. It is of very easy culture.

The roots are collected in the fall, or anytime needed. Clean them carefully and cut into pieces. Dry them on screens until they are snap dry and do not feel cool to the touch. You can store them as is or powder them for storage.

RELATED PLANTS

B. repens, creeping barberry, has bluish-green leaves, with three to seven leaflets, and crawls low over the ground. It is similar to B. aquifolium.

B. nervosa a free-suckering dwarf variety, has large lustrous leaves of 11 to 19 leaflets.

B. bealei or japinoca is not as hardy as the others and grows up to 12 feet high (Hyl:353).

B. Asiatica grows in dry valleys of the Himalayas, and in other eastern areas. It is used as a blood-purifier and quinine substitute.

B. Aristata is the Indian Barberry, a common household remedy in India used similarly to Barberry (B. vulgaris).

B. lycium grows in the western Himalayas; it is used in many medicinal ways, particularly hemorrhoids.

B. nepalensis grows in the outer Himalayas.

TOXICITY

Berberine in overdoses--and this includes Barberry and the Oregon Grape root--is said to produce feverishness, inflammation of the mucous membranes from the throat to the intestines, and dysentery. It causes a high degree of inflammation of the kidneys with hematuria. It seems to act with much force upon the venous system, causing pelvic engorgements and hemorrhoids (Mills:56). However, if the herb is used prudently, no such reactions should occur; the herb is perfectly safe to use.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING OREGON GRAPE

The Red Clover Combination, the wonderful blood cleansing tea that is so useful in almost all ailments, contains Oregon Grape. This is available in capsules and in a syrup form.

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ORRIS

IRIS FLORENTINA; IRIDACEAE

GENERAL

Orris is made from the roots of three beautiful garden irises. The fresh roots of these plants have little smell, but when they are dried for two years or more, the pleasant violet odor develops. This odor is extremely long lasting, and it is the most common fixative in potpourri and other scented mixtures. It is mostly in use today in cosmetics, such as in scented face powder. If you want to make face powder of your own, you can mix orris root powder with rice flour, rice starch, carbonate of magnesia, and essence of bergamot, according to an old recipe. Orris roots are made into sachets to perfume drawers and closets, etc. The whole roots, which, like mandrake, resemble the human form, are sometimes used in witchcraft, and the powdered root has been used in love potions. Medicinally, the root has been used for liver congestion, suppressed urine, colic, and for bronchial affections.

HISTORICAL USES

For liver congestion, for suppressed urine, colic and bronchial affections.

OSHA ROOT

LIGUSTICUM PORTERI; UMBELLIFERAE

GENERAL

This is a favorite healing herb of the Mexicans and Mexican Americans. It grows at high altitudes in the Southwest of the United States and Mexico. Herbalist Michael Moore warns that it only grows at about 9,000 feet, but is often confused with poison hemlock, which looks similar but grows much lower. Be careful if you gather it yourself! Osha is a pungent, fragrant herb, the seeds and leaves being used in cookery, tasting like the parsley and celery which it resembles. The medicinal root, however, is used for many problems, especially for viral infections. You can bring about cleansing and sweating by chewing the root or taking the tincture. The root will help break up mucus and soothe inflamed throat and bronchial surfaces. You may make it into an excellent cough syrup. The tea or tincture can be used on skin wounds, as it is antibacterial.

HISTORICAL USES

Used against viral infection, as a diaphoretic, for inflamed throat and bronchi, as an expectorant and as an anti-bacterial for wounds.

PAPAYA

CARICA PAPAYA; CARICACEAE

DESCRIPTION

Papaya trees are small, about five to twenty-five feet high, and though ordinarily unbranched many develop several erect branches. The trunks are gradually tapering, are hollow within, and have light-colored bark, which contains a very caustic milky juice and is nearly smooth except for regular, heart shaped scars. Ropes can be manufactured from the bark fiber. The smooth broad leaves, two feet or more across, with milky juice, are deeply-lobed groups of 7 and again divided. They are clustered at the top of the trunk on hollow stems two feet or more long, and directly at their base, five-petaled, cream-white, fragrant flowers and the fruit are borne. A tree generally

bears about a year after being set out, and though the best crops are produced after three or four years, trees have been known to bear for fifteen years. During winter, fruit ripens slowly, hence the supply is then smallest. The fruit is globose to ovoid, with five shallow grooves, six to twelve inches long, more or less, yellow or green and yellow, thin-skinned pulp white to orange or red, sweet, juicy, the central space ordinarily lined with small, hard, knobby, black seeds, covered with a gelatinous coat and a smooth, glistening skin.

In nature of flowers the trees vary considerably, about a dozen different kinds having been noted. One kind produces only fruit-bearing flowers, a second, only pollen-bearing, a third, both fruit and pollen-bearing, a fourth, all three kinds. Except the fruit-bearing, these forms are not constant, some pollen-bearing trees changing to fruit-bearing after being cut off at the top. Fruit develops from some pollen-bearing flowers, and it is of exceptional quality. The fruit varies in shape and size, large Papayas weighing about eight pounds, "solo" Papayas much less. Some pollinated and unpollinated fruits develop without containing seeds (Weiner:148).

GENERAL

Dr. Christopher recommended the juice of Papaya (as well as the fresh or dried fruit) to quell the burning sensation of indigestion almost immediately. Papaya contains the enzyme called papain which can digest nine times its weight in protein. The papaya tablets, which you can buy in health-food stores can also be used freely and without fear of poisoning which is a concern when you take over-the-counter antacids to stop acid indigestion.

Papaya is said to work many wonders. One woman who had trouble digesting even the most simple foods was restricted to a very monotonous diet. Her father who lived in Hawaii, sent her yearly packets of dried Papaya leaves. She would chew on these as she went about her work and her ability to digest food remarkably improved. Another woman was plagued with gas even when she drank water. This disappeared when she began to take Papaya tablets. Another man suffered so much from dyspepsia that his wife complained, "He could clutch his middle and issue a series of little moans like owls wailing among the ruins of some buried city. Papain killed all the owls and now he's fairly hooting for his fish and chips" (Luc:Herbal:57).

Papaya has also remarkably healed painful hemorrhoids. A woman 52 years old, suffered painful external piles. Standard therapy produced no results. Her doctor told her to take one papain tablet every four hours. In two days swelling and pain both subsided. After three more days she was completely healed and did not have to consider painful surgery (Luc:Secrets:194).

A most impressive use of Papaya: A kidney transplant patient developed a postoperative infection in a London hospital. After antibiotics failed strips of Papaya were laid across the infected wound and the man recovered rapidly. His mother had donated her kidney for the transplant. Infection set in following her surgery and this infection did not respond to the ordinary treatment. A young doctor suggested the use of Papaya in this case also. To find the fruit in March relatives and the family scoured the London market. The Papayas were taken to the hospital where strips of the

fruit were placed on the wound. The smell generated by the fruit was so bad that the medical staff had to wear masks. But the remedy worked. This remedy was discovered by a young doctor, Christopher Rudge, who observed it used in the South African bush while working at Cape Town's Groote Schuur Hospital. He saw natives using it on dirty ulcers and infected wounds. He had had no great interest in tribal medicines but he believes that the Papaya can be used more frequently in cases that do not respond to antibiotics and on the ulcerated sores of the elderly (Hie:7273). We consider this to be a wonderful remedy for difficult-to-heal sores provided that the fruit can be obtained. We wonder if the juice or soaked dried fruit could produce the same results.

MEDICINE TREE

The Melon Tree or Medicine Tree is sometimes called Pawpaw in the West Indies. In Britain it is also called the same. This sometimes causes confusion as there is an American Pawpaw, Asimina triloba, which is not related at all to Papaya.

Papaya is thought to have originated in southern Mexico and central America though it was found as far south as Lima, Peru in pre-Spanish times. Today Papaya is grown in all tropical countries and in subtropical southern Florida as a dooryard and commercial crop despite virus diseases which seriously affect the growth of the industry. Experimental crops are being grown in the Rio Grande Valley in Texas. In most growing areas like Hawaii it is grown only for its fruit. Only in regions with low cost labor and land, such as Ceylon and East Africa, is the plant produced for papain.

In the tropics, many legends accrue to the Papaya tree mainly because male and female flowers develop on separate plants and because the fruit takes nine months to develop, like the human embryo.

Papaya is often mentioned in the accounts of early explorers. Columbus recorded the fact that the natives of the Caribbean could eat exceptionally heavy meals of fish and meat without any apparent distress if the meal was followed by a dessert of Papaya. Marco Polo credited Papaya with saving his crew from scurvy. Ponce de Leon wrote that the natives called it "Vanti" which means "keep well". Vasco de Gama referred to Papaya as the Golden Tree of Life. Magellan considered it a valuable article of diet (Luc:Nature's:110). These early explorers usually noted that the natives could tenderize tough meat or fowl by wrapping it in green Papaya leaves overnight before cooking. Sometimes the juice of slices of the unripe fruit were simply rubbed over the meat which accomplished the same thing. These practices are still used today where the fruit is grown. Commercially meat tenderizers are often nothing more than papain and salt.

DIGESTANT AND CURE

As mentioned above the Papaya is considered wonderful for digestive disturbances. The unripe fruit abounds in the enzyme papain which diminishes as the fruit ripens until there is a relatively

small amount in the completely ripened fruit. Papain contains other enzymes as well, one or more proteolytic enzymes, among which is peptidase I, capable of converting proteins into dipeptides and polypeptides; a rennin-like enzyme that acts on the casein of milk; an amylolytic enzyme, a clotting enzyme similar to pectase and an enzyme that works only feebly on fats (Tyler:291). Papain can digest about 35 times its weight of lean meat and 300 times its weight in egg albumin. This is considered important because these heavy proteins as well as those in beans, peas, nuts, and lentils are often difficult to digest and putrefy more quickly in the digestive tract causing gas, foul mouth taste, foul breath, constipation, sour stomach, and heartburn.

One herbalist, whenever he "pigs out on eggs or meat", brews a cup of Papaya leaf tea mixed with spearmint and camomile or if he's in a hurry (which, he mentions, is the worst cause of indigestion), he takes a Papaya-papain enzyme tablet. This removes the indigestion well (Neb:125).

In addition to being a prime digestant Papaya is used for a remarkable number of other cures. It is employed to relieve the pain of a healing episiotomy (incision made to facilitate childbirth) (Lewis:291). It is used as a styptic and vermifuge as the juice of the unripe fruit has a very caustic smell and is said to repel insects. It is a remedy for freckles, warts, corns, calluses, eczema, ringworm, infected wounds, malignant tumors, bleeding hemorrhoids, tubercles and the pain of burns in countries where it grows native. Some of these uses have been borne out in scientific work in industrialized countries. One of its enzymes, chymopapain, has been used to dissolve herniated intervertebral discs in patients complaining of back pain (Weiner:148). Many medical authorities think that papain is a cancer inhibitor (Herb:April, 1978, p.7). They also think that the enzyme can reactivate one's endocrine glands including the thyroid, adrenal, and pituitary glands (Ibid.). It is said to dissolve the fibrinous membrane in croup and diphtheria, a solution being painted over the pharynx every five minutes. Papaya is said to be an active blood clotting agent and has been employed to arrest bleeding. It is said to destroy intestinal worms and in central America it is used as an amebicide, to kill the ameba Entamoeba histolytica which causes dysentery and liver abscesses in man (Lewis:292). It is thought to have significant anti-hypoglycemic activity (Ibid.:218). It is said to reduce edema after operations for the removal of tumors and cysts from the head and neck areas, and is also applied to wounds and to surgical incisions to promote healing and prevent sloughing in infected wounds. It is claimed to lessen fever and dysphagia after tonsillectomies and adenoidectomies. A papain-containing nasal spray is sold for relief of some pollen-caused allergies.

One practitioner prescribed a Papaya "fast" with aloe vera gel for three weeks, to a friend who was nervous, depressed, with aching muscles and a pain in his back that made sleep impossible. The man received complete relief from the back pain, became clear-eyed, alert, and cheerful through the Papaya diet (Herb op cit.).

The inner bark has been used in the Fiji Islands to treat toothache while the leaves are often bound directly onto wounds to facilitate healing.

An infusion of the latex and honey is given to Asiatic children to expel roundworms. In India and Malaya the latex is smeared on the mouth of the uterus to induce abortion.

In India, Papaya or papain is used in deficiency of digestive enzymes, excess of unhealthy mucus in the stomach, in digestive irritation, and the like. It is applied to ulcers and fissures of the tongue and mixed with borax and water it is used to remove warts, corns and other horny excrescences of the skin. It is used for an anthelmintic. The fruit is used for chronic diarrhea. It is used in India as a certain remedy for scorpion stings and the seeds are used the same way. The ripe fruit if eaten regularly is said to remove constipation, and it is used to correct bleeding piles. The dried and salted fruit is used to reduce enlarged liver and spleen. The unripe and green fruits are mixed with curry and eaten by women who wish to increase their secretion of milk. The leaves dipped in hot water or warmed over a fire are applied to painful parts for nervous pains. The bruised leaves are said to reduce elephantoid growths. The juice of the fruit in pill form is given internally for the same disease. In India meat is hung on the branches of the tree to tenderize it. The green fruit is also mixed with meat when set to boil for the same purpose (IMM:276-7).

In China it is called tree melon or longevity fruit. It has not been long introduced in China but it is used to make tenderize meat and to maintain regularity in the eliminatory tract. Modern Chinese herbalists sometimes recommend papain tablets for treating external hemorrhoids (Luc:Secrets:193).

The digestive enzyme papain is recognized as a powerful abortive agent by many people in India. When the purified substance is administered internally it can induce an abortion in developing fetuses as well as to change the cellular structure of the surrounding placenta. Laboratory experiments have demonstrated papain's incredible degenerative and killing effect on rat placenta during normal gestation (Hie:73).

FRUIT OF DIVERSE USES

Papaya fruit is eaten freely in areas where it grows. We have found that most people either love it or hate it. It has a very rich flavor when ripe which some have compared to the taste of vomit! It can be an acquired taste. However, it's very good dried, and the bottled juice is quite palatable. Almost everyone enjoys the taste of Papaya tablets.

Hawaiians dip it into a tempura batter and deep fry it. They also add it to meat stews where it acts as a tenderizer. The fruit is made into sherbets, fruit cocktails, salads, marmalades or jam. It is often stewed or baked and served as a substitute for squash. It is often pickled or preserved. Papaya is also put up in the form of a bottled drink which you can buy as a concentrate in health food stores. It's very good added to more acidic drinks. It is sometimes made into a meat tenderizing sauce or the extracted papain is made into meat tenderizer. The fruit is an excellent source of Vitamin A, a good source of Vitamin C, and contains Vitamins B and G.

Crude papain is made by making incisions in the unripe fruit and collecting the latex which oozes out into non-metallic containers. Annual imports of crude papain into the United States are considerable. Papain has been injected into the jugular vein of cattle just one-half hour before slaughter to tenderize the meat more thoroughly and to make it possible to utilize a greater percentage of the animal. The liver, kidneys and tongue of a tenderized animal break down quickly on cooking and cannot be sold in their natural form but only in processed products.

Papaya latex is an ingredient in chewing gum and confections. Xylitol, which is extracted from the Papaya latex, has been shown to prevent cavities and it is made into a health food chewing gum. The latex is extensively utilized in cheese-making helping to curdle the milk and is also used to prevent chill-haze in beer and ale. The tanning industry uses papain for batting hides and skins. Papain facilitates the extraction of oil from tuna liver and it is used to soften silk cocoons and to shrink-proof and improve the texture of silk and wool before dyeing. It modifies the latex of rubber during its manufacture.

It is an ingredient in dentifrices and cleansing cream and is incorporated into "face-lifting" preparations which peel the outer layer of the skin removing blemishes and superficial wrinkles. It is added to detergents to improve laundering activity. However, this can be a source of dermatitis and such use is discouraged.

HISTORICAL USES

Used for indigestion, a sour stomach and heartburn, for gas, dyspepsia, hemorrhoids, piles, bleeding hemorrhoids, infectious wounds, ulcerous wounds, scurvy, foul breath and taste in the mouth, for constipation, to relieve pain of a healing episiotomy, for worms (intestinal), as an insect repellent, for freckles, warts, corns, calluses, ringworm, malignant tumors, eczema, burn pain, to dissolve herniated intervertebral discs in back pain patients, a cancer inhibitor, to reactivate endocrine glands, for croup, diphtheria, to stop bleeding, to kill ameba that causes dysentery, for hypoglycemia, for edema, fever, nervous disorders and depression, for aching muscles and back pain, for toothache, to induce abortion, for diarrhea, enlarged liver and spleen, to increase secretion of mothers milk, for blemishes and wrinkles and to peel layers of outer skin for face lifts.

CULTIVATION, COLLECTION, PREPARATION

People generally only cultivate those strains known to be rich in papain and of long-oval or oblong form. The female plants of Red Panama have the highest yield, followed by Florida and the hermaphrodite types of Red Panama.

The seeds on removal from the fruit are washed to remove the gelatinous coating then dried and dusted with a fungicide to prevent damping off of seedlings. They may be planted immediately or stored in a cool dry place for several months. Planting may be done at any time of year. Seeds are best planted in unshaded, regularly watered nursery beds about 3/8 inch deep and 6 inches

apart. Germination occurs within three to four weeks. Three months after planting the seedlings are trimmed from 6 to 8 inches down to four inches and transplanted to a cleared plot. Blooming begins within five to seven months. Most plants with male flowers are cut down at this time leaving only one male to pollinate every 10 to 20 female plants. Thinning of female seedlings is done by first cutting down all but the three first females to bloom and then four weeks later destroying the two weakest. Cutting unwanted plants is preferred to pulling them out to avoid root disturbance.

The Papaya plant flourishes with a good supply of organic fertilizer and a thick mulch. There are as yet no uncontrollable diseases or serious insect pests. Plants with mosaic disease are quickly eliminated from the plantation.

Latex is harvested in the morning or throughout the day in overcast weather. The lowest most mature fruits on each female plant are tapped at the age of about two and one-half months when full-grown but still entirely green. The upper fruits are tapped later as they attain full size. Some trimming is required to clear the route of the tapper, who, using a knife of bone, glass, or bamboo or a razor blade mounted in a wood handled rubber or cork holder makes up to four vertical, shallow incisions,--no more than 1/10 to 1/8 inch deep--in each suitable fruit, catching the flowing latex on a tray or a canvas or plastic inverted "umbrella" affixed to the stem of the plant. He scrapes the latex into a collecting box and carries his tray to another plant. The final drops of latex which have nearly coagulated on the fruit are wiped off into a cup by a helper who follows fifteen minutes behind the tapper and cleans the incisions with a damp sponge. The same fruits are retapped twelve to fourteen times at intervals of five to eight days until the latex flow is greatly reduced or the fruits begin to yellow. Tapped fruits are sometimes used for human consumption and for pectin extraction, the surplus being used for livestock feed. In India it is believed that the tapped fruits should not provide seeds for replanting as they will produce weak plants.

The collected latex is dried to a paste and blended with salt as a preservative or is simply sun-dried. Oven-drying is sometimes used to produce a more uniform product. The latex is dried down to a moisture content of nine or ten percent. It is then coarsely ground and vacuum packed in four-gallon, paper-lined cans. This material is exported as crude papain ranging in color from ivory white to orange. The latex is then delivered to a laboratory for alcohol-and-acetone separation of the solids which are then oven-dried for one hour at 50 degrees C. and packed in polyethylene lined, air-tight metal drums.

Yields of fresh latex range from 80 to 175 pounds per acre per year. Five pounds of fresh latex become one pound of crude papain.

Techniques are being developed for extracting papain from the leaves and stems of the plant and may be substituted in the future for the manual labor of fruit tapping.

TOXICITY

The fresh latex is acrid and will cause severe eye inflammation. It can provoke irritation and blisters if allowed to remain in contact with the skin. Papaya harvesters wear gloves and aprons or coveralls to avoid dermatitis and some wear sunglasses to protect the eyes. Under rings and bracelets the latex will digest the tissues and cause sores. Internally it is a severe gastric irritant and has been employed in malicious poisoning.

Some people are acutely allergic to any part of the Papaya plant. Particularly sensitive people react to meat tenderized by papain and to papain administered in any form or manner as medication. Pharmacists may experience rhinitis, asthma and other allergic reactions from handling papain preparations. Some people have reacted when exposed to papain-containing tooth powders.

CHEMICAL COMPOSITION

Papaya contains the enzymes noted above. Papain is especially valued because it is not affected by an acid or alkaline environment. From the seeds come a glucoside, Caricin, which resembles sinigrin and also the ferment myrosin and by reaction of the two a volatile, pungent body suggestive of mustard oil. From the leaves comes an alkaloid called carpaine which is said to have the same effect on the heart as digitalis.

RECENT FINDINGS

Papaya seed extract is being considered experimentally as an antifertility agent in the male. A short-term administration of an aqueous extract of the seed manifested an androgen-deprived effect on the male organs and thereby caused antifertility in male albino rats. The complete loss of fertility is attributed to decline in sperm motility, alteration of sperm morphology and reduced contractile response of the vas deferens. The androgen-deprived effect of the extract led to slight alteration in the histo-architecture and weight of the reproductive organs mainly caudal and distal vas deferens which has been related to their greater androgen sensitivity in comparison to other target organs or their greatly diminished target organ response to testosterone or its metabolites. Functional sterility was positively induced in the male rats and Papaya extract promises to be a potential male contraceptive ("Induction of functional sterility in male rats by low dose Carica Papaya seed extract treatment", Acta European Fertility, (Italy), Nov-Dec 1983, Volume 14 No.6, pages 425-32).

The effects of Papaya were studied on the exogenous ulcer and histamine-induced acid secretion in rats. The latex of the unripe fruit was effective in protecting the ulcers. It significantly lessened the acid secretion induced by intravenous infusion of histamine in chronic gastric fistulated rats. Crystalline papain worked the same. The conclusion was that papain is the active principle that exerts the ulcer protective effect (Protective effects of Carica Papaya on the exogenous gastric ulcer in rats", American Journal of Chinese Medicine, Autumn 1981, Volume 9 Number 3, pages 205-12).

Ripe and unripe Papaya fruits including the seeds and leaves were extracted separately and

purified. All the extracts except that of the leaves produced very significant antibacterial activity on staphylococcus aureus, bacillus cereus, E. coli, Pseudomonas aeruginosa and shigella flexneri. The substances were bactericidal and showed properties of a protein ("Antibacterial substance from Carica Papaya fruit extract", Journal of Natural Products, March-April 1982, Volume 45 No. 2, pages 123-7).

Xylitol which is an extractive from the bark of the Papaya plant, was shown to have anti-dental-carie activity in a study made in France ("Antihemolytic effect of Xylitol isolated from the bark of Carica Papaya", Planta Medica, (France), Volume 41, No. 1, pages 40-7).

Papaya, along with other tropical foods, were shown to enhance calcium absorption ("Effects of soluble carbohydrates from several tropical foods...on calcium utilization in the rat", Annual Ntr Aliment, 1980, Volume 34 No. 3, pages 527-36).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING PAPAYA

AT-GS, the combination for indigestion, contains Papaya.

VF, the vermifuge or anti-parasite formula, contains Papaya.

CSK, which is a supplement to use during a weight loss program, contains Papaya.

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PARSLEY

PETROSELINUM SATIVUM; UMBELLIFERAE

DESCRIPTION

Herbalists almost all agree that Parsley is so common that it needs no description!

GENERAL

The humble Parsley is used as a popular garnish but is usually left uneaten. This is a pity since it is probably more nourishing than the concoctions which it garnishes. Often it is the only green on the plate! Parsley is also a remarkable diuretic which, among other things heals many complaints of the urinary system.

Dr. Christopher told the story of a woman, Mrs. Hanger, who came to America from England while she was in her twenties. She was very sickly and wanted children but couldn't conceive so she went to the medical doctor. He told her that she had a kidney infection of a very progressive type that he could not treat and that she had six months left to live.

She came home very discouraged and sat in her living room meditating. She heard a knock at the front door. There stood a bearded man in a gray suit. He he said, "Sister Hanger, may I have a glass of water?" She gave him one although she didn't know him. He said, "Sit down a moment, I would like to talk to you." She began to wonder how he knew her name. "I would like to help you if you would like me to," he continued. "You have just come from the doctor who told you that you have a bad kidney condition. Well, you are from England and you have brought your herbs with you. In your little herb garden out in the back you have a nice stand of Parsley. If you will take a handful of Parsley each day and put it in a pint of water, cover and steep i, and drink it in regular doses during the day it will heal this condition. The doctor told you that you have only six months to live but I will tell you what you will see. You will see another depression"--and he went on a told her the things that would happen during her lifetime--"and there will be a Third World War but you won't see this one; it will be after you go." When he had finished the short interview something momentarily distracted her attention and in that instant, he disappeared. Dr. Christopher spoke at her funeral, and it wasn't just six months after she was supposed to die. She was eighty-six years old and she had raised a number of wonderful children.

Dr. Christopher gave a routine to help in cases of dropsy. He was especially sensitive to the horrors of this condition because when his mother died, her condition was very fast advanced and her body swelled up to the size so large that the door had to be removed from the hinges to get her body out to the ambulance which took her to the morgue. Her pain had been so severe during the final months but nothing could be done to give her relief. As a young man Dr. Christopher was praying for a way to help her and felt frustrated that the doctors could do nothing at all. Dr. Christopher's routine is best told in this tory:

A lady came into the weekly herb lecture late, just a few minutes after they had gotten started. She asked if she could interrupt and tell something that had just happened to her. Dr. Christopher invited her to tell her story. Just after the last week's lecture she received a call from her brother-in-law in Chicago. He told her that if she wanted to see her twin sister alive she must fly

back there immediately because the doctors had given her only a day or two to live. The student took a few days off from work and arrived in Chicago on the following Friday. She went in to see the sister and would not have recognized her if she hadn't been told who it was. Her sister was so badly swollen from edema (dropsy) that she seemed to be only a bloated, unrecognizable mass of flesh. She had been under doctor's care for several months and they had been unable to give her anything but temporary aid from the water accumulation. Now they were utterly baffled and had, at the family's request, sent her from the hospital to die in a day or two.

The sick twin was in a coma, not recognizing anyone. The herb student wept to see her favorite sister lying there so helpless. With little school children needing their mother so much she asked the husband if he would allow her to use an herbal routine she had heard about at a lecture recently. He said the doctor was just waiting for the sister to die so to go ahead!

The herb student found a little health food store nearby and bought some parsley root and glycerine. At that time she was only able to get animal glycerine but now the herbalists use vegetable glycerine which is superior. When she got back she made up Parsley root tea, one teaspoon of herb to a cup of water (or one ounce of the herb to the pint of water), making up about one gallon of the tea. One quart of the tea was used straight to give the patient orally and three quarts of the tea were mixed with equal parts of glycerine, making six quarts total of the combination, for fomentations.

They would give a cup of Parsley tea each half hour to the patient to drink and the heated combination of glycerine and tea was used as a fomentation to the badly swollen legs, arms and abdomen. This was done by soaking white flannel cloths and laying them over the area, not allowing them to become cold, but replacing whenever they cooled down. One can also use a hot water bottle over fomentations if they are not over a large area.

As the patient lay there so helpless her sister remembered how to check the progress of the treatment. She was to lift the corner of the cloth, after the fomentation had been on for a short time, and watch to see if the pores were starting to take the water from the swollen areas. She said that as she looked it was like seeing hundreds of little springs coming from the body. She had never used this routine before and was walking by faith and it was a miracle to see it working. She had to fly back to work on Monday so she left all the instructions with the husband to continue on with the program that had been started.

After work Tuesday she rushed home to get ready for the regular Tuesday night lecture. The phone rang. It was her brother-in-law from Chicago who said, "There is someone here who would like to talk with you." He put his wife on the phone! She was so happy that she was crying. The swelling had gone down and she was recovering rapidly. In fact she said she had got the children's breakfast and fixed their school lunches that day. She was so grateful to be a mother again and not a dying patient. There were not many dry eyes in the lecture room when the student finished the story and it is a great routine to remember. One should store Parsley root or grow plenty of it so as to have it available in an emergency. Vegetable glycerine is also available

and should be stored.

VICTORS' CROWN

Parsley is thought to have originated in Sardinia, Turkey, Algeria and Lebanon where it still grows wild. In the rest of the world it is cultivated although some may grow wild from escapes. The Romans brought the Herb to England and the English carried and cultivated it throughout the world. It is completely naturalized in some parts of England and Scotland on old walls and rocks.

The specific name Petroselinum from which our English name is derived is of classic origin and is said to have been assigned to it by Dioscorides. The ancients distinguished between two plants, selinon, one being celery, being called marsh selinon (heleioselinon) and the other, our Parsley, being called Oreoselinon, or mountain selinon or petrocilium, meaning rock selinon. This last was corrupted into petrocilium and anglicized into petersylinge, petersilie, persele, percely, persil and finally Parsley. It is one of the 2,500 members of the Carrot family related to caraway seed, celery, chervil, coriander, dill, parsnip and the poisonous hemlock. You can see the resemblance in the leaves of the plant.

In the earliest years of its history Parsley was the forerunner of Death. Later it became a good luck herb and even later a beauty herb. Today it is a most frequently used herb but one which is often unwisely discarded. It decorates most plates in lowly hamburger stands as well as in the finest restaurants but most people push it aside after the meal.

In Greek mythology, Olfenich (early Greek for Parsley) first became the companion of Death when the child Archemorus, while sleeping on a Parsley leaf, was swallowed by a serpent. Since the child's name meant "before death" the omen indicated Death had selected the herb as his forerunner. When Greeks of ancient times said that a person was in need of Parsley it meant that he was at the point of death. They decorated tombs with wreaths of the fresh herb and carved its image on tombstones to bring good luck to the departed especially for those who may have departed to the underworld where they would meet Persephone, the Queen of Hades, to whom the herb was dedicated (Keller:266).

Persephone, a beautiful young maiden of spring, was the only beloved daughter of King Zeus and his maiden sister Demeter. One sunny afternoon while Persephone was joyfully enjoying spring her cruel uncle, Hades, ruler of the Underworld, burst through a hole from Hell riding a chariot catapulted through the air by fire-breathing steeds. He seized her screaming to take her to his land of the Shadowy Moaning Dead, Homer related. Her Mother, goddess of the harvest wealth, who controlled all of the crops on earth refused to allow anything to grow so long as her only child was held captive. For one entire year nothing grew. No seed sprang up. The earth turned into a frozen desert. Zeus, ruler of the gods and the brother of Hades, demanded that he send the girl home. Otherwise everything would die. But Hades refused to listen as he greatly loved Persephone although she was very unhappy in the dark underworld. Rhea, the mother of all gods, ruled that Persephone should stay with Hades only a third part of the year. Up to that time man

had enjoyed bounteous crops throughout all seasons. Then winter came. He had to learn to store his crops and began to fear Persephone and her symbol, the Parsley plant.

The ancient Greeks' fear of the plant was well-known. When an experienced Greek army advanced to invade a young Celtic country the Celt king realized that his inexperienced troops would not be able to defend their land. So he sent long lines of asses covered with Parsley to meet the Greeks. When the invaders saw the Parsley coming to engulf them they became panic stricken and fled.

Later, the Greeks began to regard Parsley differently when an Indian mystic came to Greece during the time of Plutarch and tried to convince the people of its efficacy. He said that the Parsley actually drove away evil spirits. Then the herb became a symbol of good luck and supremacy over evil. The Greeks began to crown the victors of the Isthmian games with Parsley. Greeks wove head garlands of spring for their most beautiful girls to wear in festivals and included a few sprigs of Parsley.

At drinking parties servants offered guests sprigs of crisp Parsley on cracked ice on silver trays. A few dubious guests excused themselves and went outside to test the sprigs by first feeding some to their horses. These horses not only survived but even ran home faster, so it became a tonic food for expensive colts (Keller:269). Homer said that the finest chariot horses were fed on the leaves of Parsley. Athletes noticing this began to eat parsley every day and since they were always virile people began to think that the herb was an aphrodisiac. It was grown in every private garden--as no one wanted to admit that they needed an aphrodisiac!

Anciently in other countries it was also considered an herb of good luck. Romans would tuck a sprig of it in their togas in the morning to ensure a good and healthy day. The herb was connected with nuptials and brides wore a chaplet of flowers and Parsley on their heads. Bridegrooms were crowned with a garland of the herb as a symbol of victory while singers and dancers at the happy occasions wore sprigs of Parsley, rosemary and myrtle. Roman charioteers used the herb on their banquet tables to absorb the fumes of strong drinks and thus prevent drunkenness. It was also used to prevent bad breath at these extravaganzas.

Romans also used the herb to keep their pools or ponds clean as it was considered to absorb the filthiness therein!

Since Parsley is slow to germinate the superstition grew up that before it came it had to go to Satan and back seven times. Some believed that only a witch could grow it and that a fine harvest was assured only if it were planted on Good Friday or by a pregnant woman. Parsley was never transplanted because it was said to displease the herb and bring bad luck to the household. This is probably because Parsley doesn't transplant easily although we have taken up plants of it and potted them for winter use with perfect ease.

The early Greeks also used Parsley medicinally. Its name partly means "stone" and "breaking"

stones" in the treatment of bladder and kidney complaints is one of its important uses. The Early Egyptians are said to have eaten Parsley to regulate their urine. Old Oaxaca Indians, however, used the herb as a headache remedy worn over the ear, or as a nosebleed deterrent, putting a sprig up in the nose until the bleeding stopped! The juice of the plant was used by the Oaxaca's for colic in children and wind in adults. The early Greeks used a decoction of the roots to strengthen the heart.

Old English herbalist, Turner, said that it would cure sick fishes if it were thrown in their pond! Other old English uses include the use of the herb applied as a poultice and taken internally to dry up the milk of nursing mothers. It was also said to hinder conception something unwanted in olden days when people still enjoyed having children. Langham in 1579 said that it was good for epilepsy and fever. It was excellent for mastitis, he said, or swollen gums and testicles. It was helpful to clear up a black eye when applied, mixed with egg white. For dropsy, he said, it should be eaten daily with watercresses and mints.

Culpepper writing in the 1600's said that the herb is comforting to the stomach, helping to provoke urine and menstruation, break wind and remove obstructions of the liver and spleen. The seeds he recommended to break kidney stones and the leaves would relieve inflamed eyes. The juice warmed and mixed with wine could be dropped into the ears to ease earache. The seeds, he said, were good against the cough, the danger of lethargy or the venom of any poisonous creature.

USES OF PARSLEY

Isn't it good to know that this common herb is a potent one as well? Dr. Christopher taught that Parsley works on the gall bladder and will help remove gallstones. He said that it is a specific for the adrenal glands, is powerfully therapeutic for the optic nerves, the brain nerves, and the whole sympathetic nervous system. He said that it is a remarkable remedy for expelling watery poisons, excess mucus, flatulence, reducing swollen and enlarged glands, etc.

Parsley has long been used as a healer for the urinary tract. In bladder infections which are particularly troublesome because they are rarely cleared up except with the use of antibiotics (and they can make you so sick that you can barely walk), Parsley works very well especially if taken with equal parts of echinacea and marshmallow root (Tie:107). However, Parsley is a warming herb Tierra says, and should be avoided when there are acute infections or inflammations present, especially of the kidneys. Parsley root tea will help remove all stones including gallstones and kidney stones if they are not too large. One doctor who made a trip to Holland was surprised to see medical doctors prescribing Parsley tea for kidney stone and other kidney and related complaints, including pressure of the prostate. He returned to his practice at home and began prescribing the same remedy with the same good results (Luc:Herbal:89). Parsley taken with boiled onions is said to be good to remove gallstones although some writers prescribe juniper berries instead of the onions which would also be a great specific for the urinary tract (Coon:154).

One gentleman in his sixties was in great distress because he was unable to urinate. The doctor catheterized him several times and told him that he would have to undergo an operation. It was then discovered that the man had sugar in his urine and the operation was deemed too dangerous until the diabetes was under control. The patient's osteopath finally prescribed Parsley tea. The results were astonishing. Not only was he able to urinate freely but every trace of sugar disappeared from his urine. After first drinking the tea a lot of offensive substance came away in his urine. But it soon became normal and the patient was soon playing his normal rounds of golf with enjoyment and with no further thoughts of an operation (Luc:84). To void urine Dr. Christopher specifically recommended combining the Parsley with Juniper berries.

Dr. Shook reminded us that Parsley is one of those herbs that have to be taken abundantly to be of any permanent benefit. That is all right because it is such a pleasant herb! He mentioned that when there is suppression of the urine and dropsy a treatment similar to the one described in the introduction as employed by Dr. Christopher could be used but he also said that after applying the fomentation to cover it with a sheet of plastic and a towel, and then with an electric hot pad, leaving this on for twenty or thirty minutes. After removing the hot application, he said, apply a cold but not iced towel for just one minute. He said that this application was very important and not to omit it although Dr. Christopher's treatment got very good results without it (Hei:60).

The Parsley root is the part used to relieve strangury (painful suppressed urination) and attacks of gravel. If the stones are not too large to pass the decoction will help remove them and relieve the pain. Parsley tea was useful during the Second World War when the men in the trenches got kidney complications when suffering from dysentery (Gri:614).

The root is also important for treating diseases of the liver and gallbladder. It can be used with a small amount of licorice or marshmallow root for the treatment of jaundice, asthma, water retention, and coughs (Tie:108). It is said to be excellent to remove obstructions of the liver and spleen (Mal:97).

Medical doctors have sometimes used the Parsley tea for the treatment of diabetes uncomplicated by prostate trouble.

In Sweden the tea is drunk as a brain tonic and preventative medicine. Lucas describes the use of raw Parsley or Parsley tea for improving the action of the brain (Luc:85).

It's perhaps fortunate that Parsley is served with so many meals as it can help relieve gas in the system. Dr. Shook lamented the ignorance of many parents in feeding their infants as they are then subject to cramps, aches, pains, colic, spasms and convulsions through indigestion. Many parents used to give their children paregoric to keep them quiet which is nothing but an opiate derivative and very dangerous to the child. Instead, Dr. Shook recommended a combination which comes from England and in his opinion there is no better remedy for babies' and children's ailments in all the world. (See Formula's)

A hot lotion of the seeds will relieve the irritation of all kinds of insect stings. The seeds made into decoction, can be cooled and steeped about seven hours and then rubbed into the hair to clear away head lice and any other such vermin. You can massage the head scalp with the lotion of seeds and leaves to stimulate the growth of hair, check baldness (as long as the hair follicles are still alive) and remove dandruff (Lev:Common:109).

Whether it's true or not some herbalists said that Parsley helped favor conception (while other said that it was a contraceptive. This contradiction should prevent anyone from relying on it for either use)! It was also supposed to be a Love Philtre wherefrom anyone would get someone to fall in love with him or her. For this purpose it was made into an infusion with champagne and cooled.

Parsley is also good for alleviating the afterpains of childbirth if taken in tea (Mal:97). For other female ailments it is said to help in cases of painful menstruation, scanty menstruation, or any other malfunctions of the female system. It has also been used in cases of fetid menstruation. The medicine should be commenced four or five days before the expected menstruation.

Parsley is also said to be effective for making a woman or man beautiful. Dutch women have used it for sweet breath, clear skin, lustrous hair and slim figures. Their husbands used it for vermin in the hair and to prevent baldness. Keller says that while no one should count on magical remedies to bring about beauty a certain routine should firm the chin line, reduce bags under the eyes, take away puffy eyelids and restore a youthful color to the skin within a few weeks. Here is her prescription: Drink two large glasses of hot water upon arising and two more just before retiring. Drink four more glasses of cold water during the day. Use no alcohol, coffee, milk, fruit juices, or carbonated beverages. Eat 1 entire bunch of fresh Parsley with one of your meals (Keller:275).

Herbalists have often said that Parsley, like Chickweed, is a reducing herb. Simply munching on the root was once thought sufficient to "make thin". However, as we will demonstrate below there are many ways to include Parsley in the diet to help reduce. Dr. Christopher especially recommended using the herb in a daily green drink which blends Parsley and other greens (comfrey being especially valuable) in a base of pineapple juice, broth, or plain water. This preserves the complete nutrients of the plant in their natural form and it tastes good.

In France, a popular remedy for scrofulous swellings is green Parsley and snails pounded in a mortar to an ointment, spread on linen and applied daily. The bruised leaves applied externally have been said to dispel tumor suspected to be of a cancerous nature (Gri:614). It is thought to be one of the effective anti-cancer remedies. It is rich in potassium and cancer germs cannot live in potassium (Klo:291).

The juice is applied to the skin in the summertime for use as a non-toxic insect repellent. The whole herb is effective against bad breath and people who take garlic often take Parsley to avoid offending.

Chinese use of the herb includes relief of kidneys and bladder. It is said to remove irritation, congestion, inflammation or weakness of these organs. It is also claimed to be helpful in cases of kidney and bladder calculi (Luc:Secrets:125).

In India the herb is used as a culinary article and also as a diuretic. The leaves are applied to the breasts to dry up milk and they are used, bruised as a poultice for sore eyes. The oil, apiol, which is extremely potent is used in minute doses for painful or difficult menstruation and also for epileptic fits (IMM:934).

SOUPS AND SAUCES AND SAVORIES

Parsley can be used in almost any kind of food and is therefore a good herb to include in the daily diet. It is thought to be a good disease preventative. Parsley contains much calcium, potassium, iron, copper and chlorophyll. It is also a good source of vitamins A, C and E. It contains niacin, riboflavin, thiamine, phosphorus, sulfur, magnesium and silicon. Many people think that you can't get enough Parsley in the diet to maintain good health, however, the Spanish gypsies say that too much Parsley will make you look old before your time (Lev:Common:108). Rose recommends eating a daily salad of Parsley, rosemary, alfalfa sprouts and a bit of lettuce, sprinkled with olive oil, minced garlic and freshly squeezed lemon juice (Rose:Herbs:94).

There are several ways to enjoy fresh Parsley in the diet. We usually serve a salad plate of finger vegetables and Parsley ranks high with the children in our family. It's especially appreciated when the Parsley comes from our own garden.

The Italian pesto is often made with Parsley when fresh basil is not plentiful. In a blender, place 2 bunches of chopped parsley and 3 bunches of chopped basil. Add 3 cloves of garlic, 1/4 pound of pine nuts, 1 slice of butter and olive oil enough to make a thick paste. If the fresh basil is not available you can substitute more Parsley and use dried basil, about two or three tablespoons. If the pine nuts are not available you can omit them or replace with roasted sunflower seeds. Pesto is served over spaghetti in place of sauce and it is used as a dollop to top minestrone soup.

You can roll small, cooked new potatoes in melted lemon butter (1 part lemon juice to 3 parts butter) and then roll in minced Parsley. You can sprinkle the minced Parsley over almost any cooked vegetable. You can add the minced herb to soup or stew just after it is completely cooked but about ten minutes before serving. We enjoy a simple Parsley soup:

In a blender put milk, herb salt, soup herbs and chopped Parsley to taste. Blend well and heat till almost boiling. Two blenders full should serve a family of six. You can serve with a pat of butter. If you do not use dairy products, you can make its this soup quite well with nut or soy milk.

We make potato soup by boiling potatoes and onions in water to cover. When they are done we add lots of chopped parsley and sometimes milk and butter and season to taste. This is a favorite soup with children and an excellent, healthy one.

Keller recommends a Parsley sandwich. Butter heavily two thin slices of whole-rye or whole-wheat bread. Fill with mashed avocado, several dashes of tabasco sauce and minced Parsley. This is said to be a healthful sandwich and it is really a delicious one.

The Dutch use Parsley to add to any food which has had too much vinegar added. The Parsley corrects the flavor.

An interesting treatment of Parsley replaces the heavy sometimes unhealthy french fries or french-fried onions. Dip sprigs of Parsley into parmesan cheese. Immerse for a few seconds in hot oil, drain, salt and serve.

USES FOR ANIMALS

Parsley is said to be poisonous to birds, particularly to parrots. However, hares and rabbits seek it and eat it avidly. Sheep also seek it and if they eat enough of it, it prevents foot-rot. It can be given to livestock when green herbs are wanted if the household feels it can spare it!

HISTORICAL USES

It can be a diuretic, used for kidney infection, dropsy, edema, bladder problems, to strengthen the heart, nosebleed, to dissolve stones, headache, as a poultice, to dry up mother's milk, for mastitis, swollen gums and swollen testicles, for black eyes, to provoke menstruation, cure breaking wind, to comfort the stomach, to remove the liver and spleen obstructions, for inflamed eyes, earache, cough, lethargy, as an anti-venom, for liver and gall bladder stones, for the adrenal glands, optic nerves, brain nerves, and whole sympathetic nerve system, for swollen and enlarged glands, prostate pressure, jaundice, asthma, colic and other digestion problems, diabetes, as a brain tonic, as a preventative medicine, for insect stings, lice and other vermin, for conception, help afterpains of childbirth, to sweeten the breath, to clear skin and make lustrous hair, to firm the chin line, to reduce bags under the eyes, and for puffy eye lids, for weight loss, to dispel tumors and for epileptic fits.

FORMULA

Dr. Shook remedy to relieve gas or indigestion.

2 ounces Parsley seed crushed or powdered

2 ounces caraway seed crushed or powdered

2 ounces dried rhubarb, cut

1 ounce cinnamon bark, powdered

1 quart distilled water

Put the herbs into the water and let stand for twelve hours. Bring to boil, then cover and simmer slowly for one hour. Strain and return to saucepan. Add 1 1/2 pounds brown sugar and 1/2 ounce of essence of peppermint. Cover and let stand until cold. Bottle and cap tightly,

refrigerating. If you wish to keep at room temperature add 25% its volume in vegetable glycerine.

CULTIVATION, COLLECTION, PREPARATION

The best type of soil for Parsley is a fertile humus with good moisture holding capacity. Well-rotted compost is excellent for fertilizer, worked into the soil with a hoe or by roto-tilling. Avoid manure however as this attracts flies and could result in an infestation of maggots.

You can sow Parsley as early as February although it takes as much as a month to germinate in cold conditions. The largest sowing is usually done in April and this provides lots of plant material for late-summer gathering. You can sow in August for plants to be taken indoors or to be put into cold frames for winter use. An even broadcast sowing is preferred and the ground can be raked smooth and then lightly trodden to keep the seed in place during the often long germination period. The seed should be only slightly covered, not more than 1/4 inch deep. Be sure that your young chickens don't scratch out your seed (ours did). It is generally said that you mustn't disturb Parsley once it is sown but we have transplanted it and it really can be done with ease. You can also thin plants if desired. A well-grown plant will cover a foot in area. Keep your plants well watered, as the hot summer sun can dry them right up. Be sure to keep the area free of weeds especially at first. Later, when the plants are well-established you can apply a hay or straw mulch to conserve moisture and keep the weeds down.

Parsley is primarily used fresh and you can pick it every day when the plant is mature. It is a biannual which means that it will make good growth the first year and then die back with the frost. The second year it makes spectacular growth and can be used freely in the spring if it is growing in a sheltered place. However, it quickly goes to seed which can be avoided by cutting the plants back as soon as they seem to begin to shoot. You can cut the plants back if their growth gets coarse as well, watering well afterwards to encourage much fine growth after. We like planting Parsley in a sheltered place in the fall to enjoy an early-spring growth.

The harvested plant to be dried should be placed on screens and quickly dried in an airy, warm place. Oven-drying may be necessary to complete the process. Sometimes the herb loses a little of its intense green color during the drying process but the flavor and nutritional value should remain the same. Home-grown and dried Parsley is much preferable to the store-bought type which is quite expensive and might have been grown with chemicals.

You can use the dried Parsley freely as you would the minced fresh Parsley.

The curly-leaved Parsley is generally preferred in gardens. It is also preferred because Fool's Parsley, which looks a lot like plain-leaved Parsley but which is extremely poisonous, can be mistaken for it. The Fool's Parsley however doesn't smell like genuine Parsley and doesn't taste like it, either, should a person dare to try it. However, plain-leaved Parsley winters better than the curly-leaf variety. We live in a rather severe climate, yet our Parsley plants sheltered in a moist

place by the side of our house put out new shoots during warm spells in the wintertime!

RELATED PLANTS

Parsley Piert, *Alchemilla arvensis*, is not botanically related to Parsley but it is sometimes used similarly, especially for bladder stones. It is also used for problems with bladder and kidneys. It is sometimes used as a salad herb.

Fool's Parsley, *Aethusa cynapium*, is of the same family and is sometimes mistaken for Parsley. It is less poisonous than Hemlock though it is quite poisonous. It has been used as a stomachic and sedative for gastro-intestinal problems and for summer diarrhea.

TOXICITY

The herb itself cannot really be overeaten. Even if taken in green drink it is self-limiting! However, the apiol content dries up the nursing mother's milk so such ladies shouldn't take the herb in large quantities. Really large doses may cause congestion of the membrane lining of the uterus, so pregnant women should use the herb in moderation (Neb:74).

The real danger lies in the extractive called apiol. Dr. Christopher said that we should use the herbs in their whole form and in that case there is no danger. Sometimes apiol causes polyneuritis. One pregnant woman took six grams of the oil within a forty-eight hour period and then experienced dizziness, nausea, vomiting, urticaria, swollen liver and mild icterus (Spoerke:133). However, this misuse is rare and we doubt that anyone will have any problems taking toxic doses of Parsley.

CHEMICAL COMPOSITION

Parsley contains a volatile oil rich in apiol. In some varieties apiol is almost entirely replaced by myristicin. These are both considered uterine stimulants.

RECENT FINDINGS

Some people have incurred contact dermatitis from handling Parsley plants ("Contact dermatitis from Parsley", Contact Dermatitis, April 1980, Volume 6 No. 3, pages 233-4).

Parsley, along with other fresh vegetables tested retained harmful bacteria because of being watered with waste water in both Mexico and Lebanon and Italy. It should be washed well with a biodegradable detergent or perhaps with a mild Clorox bath and then well rinsed before eating if such contamination is at all possible.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING PARSLEY

Prospallate, the herbal combination to heal the prostate and related areas, contains Parsley.

Garlic, Rose Hips and Garlic, the combination to fight the common cold and other such ailments, contains Parsley.

SHA tea, which helps control allergies and hayfever, contains the Parsley root.

CSK, the combination, the formula to help with weight loss, contains Parsley.

BPE, used to strengthen the circulatory system, contains Parsley Root.

Juni-Pars, a mild diuretic, contains Parsley Root.

DRI, a urinary tract formula, contains Parsley Root.

Kelp-T-Comb, contains Parsley Root.

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PASSION FLOWER

PASSIFLORA INCARNATA; PASSIFLORACEAE

GENERAL

This beautiful climbing vine, with flowers sometimes known as Maypops, is principally used for the nervous system. It has been used since ancient times as a sedative, antispasmodic and nerve tonic, especially valuable because it does not upset the emotions as it calms the nerves. It reduces pain and produces a calm, settled feeling throughout the body. The herb can well be taken for headaches, whether nervous or not, and to quiet hysteria. It is especially useful for insomnia. You may give it to children who are troubled with muscle twitching and irritability. In the elderly, it can reduce lower back pain and nervous exhaustion. It is sometimes used in diarrhea and dysentery and profuse menstruation. It is said to be a depressant to the motor side of the spinal cord, slightly reducing arterial pressure and increasing the rate of respiration without affecting circulation. When the plant was brought to Europe, the Catholics thought that it symbolized the Passion of Christ. The corona was the crown of thorns, and the five sepals and petals represented the Apostles; other parts indicated the nails and wounds.

HISTORICAL USES

Used for nervous disorders as a tonic, as a sedative, anti-spasmodic, for twitching and irritability, for lower back pain, diarrhea, dysentery, profuse menstruation, slightly reduces arterial pressure and increases rate of respiration.

PEACH

PRUNUS PERSICA; ROSACEAE

DESCRIPTION

The Peach is a medium-sized tree, with spreading branches, of quick growth. The leaves are lance-shaped, about 4 inches long and 1 1/2 inches broad, tapering to a sharp point, borne on long, slender, relatively unbranched shoots, and with the flowers arranged singly, or in groups of two or more at intervals along the shoots of the former year's growth. The blossoms come out

before the leaves are fully expanded, and are of a delicate pink color. They have a hollow tube at the base, bearing at its free edge five sepals, and an equal number of petals, usually concave, and a great number of stamens. They have very little odor. The fruit is a drupe, like the plum, having a delicate, thin outer downy skin enclosing the flesh of the Peach, the inner layers becoming woody to form the large, furrowed, rugged stone, while the ovule ripens into the kernel or seed. This is exactly the structure of the plum and apricot, and differs from that of the almond, which is identical in the first instance, only in that the fleshy part of the latter becomes dry and leathery and cracks along a line called the suture, which is merely represented in the Peach by a furrow on one side (Gri:619).

GENERAL

The luscious Peach is a much-valued fruit all over the world. Few of us realize that the bark of the tree is also of great importance medicinally. Growing a few Peach trees food will answer the scriptural dictum, the fruit for food and the leaves (and other parts) for medicine.

Peaches are generally classified with the prune family although some have classed it with the Almonds (*Amygdalus*) and others have considered it important enough to give it its own classification *Persica*. That word means Persian Apple and the fruit is native to either Persia or China although some say that nowhere in the world does it appear wild today. In Chinese the character for Peach is one of the few unchanged ancient characters still surviving today and most Chinese maintain that it is native to China. It has been cultivated time out of mind in Asia and appears to have been introduced into Europe from Persia as the name implies (Gri:619). The Romans brought it direct from Persia during the reign of Emperor Claudius but it is uncertain when the Peach was brought into Greece. When it was first introduced to the Romans it was called Malus persica, or Persian Apple. The expedition of Alexander probably made it known to Theophrastus, 392 B.C., who writes of it as a Persian fruit. It has no name in Sanskrit although it came from the same area that those people are said to have originated. In Japanese it has the same name as in Chinese, "too".

The Peach is mentioned in the books of Confucius, fifth century B.C., and the antiquity of the knowledge of the fruit in China is further proved by paintings of it and representation in sculpture (Gri:619). The wood of the tree was used anciently for fortune telling, the right hand part of the character signifying "omen", and the left part meaning "wood" (Shi:356). It is also thought that the right part of the character signifies "million" referring to the many leaves and fruits of the tree (Ibid.).

In ancient Chinese folklore the flowers of the Peach tree were believed to possess supernatural powers that could drive away demons of ill health. Slips of Peach wood were used as charms against evil spirits. The slips were worn on the person, attached to the door of the house, or set around the rooms of the house (Luc:Secrets:167).

The Peach is thought to have arrived in Europe at about the same time that Christianity reached

there. Pliny in 79 A.D. wrote that the fruit was imported by the Romans a few years prior. He also stated that the Peach was brought from Egypt to the Isle of Rhodes where it never produced fruit. At that time it was imported to Italy and France. The tree was introduced from France to England about the middle of the sixteenth century A.D. In England it was formerly trained against walls or under glass (Gri:619). Gerard mentioned that he grew several varieties in his garden including a rare double-blossomed variety. Culpepper wrote that a powder of the fresh leaves would stop a wound from bleeding and that the milk or cream from the Peach's kernels applied to the forehead and temples would bring rest and sleep to a sick person as would the Peach kernel oil. He taught that the gum which exudes from the tree, added to coltsfoot, sweet wine and saffron was good for coughs, hoarseness and loss of voice and that it would clear and strengthen the lungs and relieve those who vomit blood. The kernels, bruised and boiled in vinegar until they become quite thick, he said, would restore the hair marvelously to anyplace that it had become bald.

In 1692 the Peach stones were ordered by the Governor and Company for use by the Massachusetts Bay Colony. In 1683 reports from New Jersey said that they had Peaches by the cartloads. That same year William Penn said of Philadelphia, "There are also very good peaches, and in great quantities; not an Indian plantation without them...not inferior to any peach you have in England, except the Newington" (Sturtevant:462). Peaches became so widely distributed in North America that many people considered them a native American fruit. It was found growing almost everywhere in the United States at that time.

In England it was thought that the Peach could not grow in exposed gardens till in 1936 a farmer in Suffolk planted twenty-eight Peach bushes on an exposed site 360 feet above sea level. He argued that it flourished in America and Canada where the climate is far more extreme than in England. His experiment exceeded all expectations and in due course he planted fifty acres of Peach bushes each of which produced hundreds of marketable Peaches every year (Day:123-4). They thrive in America with almost no care.

MEDICINAL BARK

Peach bark is most well-known for its action against diarrhea. An infusion or a few capsules are said to stop cases of difficult diarrhea almost immediately. However, if the system is constipated Peach tree leaves are an excellent, gentle laxative. Evidently the medicine regulates the eliminatory tract whatever the problem.

This balancing effect may explain a very important use of Peach bark; the relief of the nausea and vomiting of morning sickness in pregnancy. Anyone who has suffered this problem will be glad to know of a possible Peachy solution. Two to four tablespoons of the tea are to be taken first thing each morning and the same dosage continued if necessary every one to two hours. The tea may be prepared the night before and refrigerated, reheating in the morning to take first thing. Dr. Eric Powell of England pointed out that if some do not respond to the infusion they usually react positively and immediately to the fresh plant tincture of the bark, the dose of which is about five

drops in a little tepid water (Luc:Herbal:163-4).

It is also good for the urinary system. It relieves scalding urine, inflammation and tenderness in that area (Klo:292). It is similarly useful in uterine complaints.

The Peach kernels are said to be of great value on strengthening the stomach and bowel and restoring the digestion. Made into a cordial it is one of the best remedies to restore good digestion after a prolonged illness. It is also good to restore the strength of weakened patients particularly after a bout of dysentery (Weiner:171). Combined with other herbs it is a good blood cleanser.

Folk legends say that if you have an upset stomach you should scrape the bark downward from a Peach tree, boil it and drink it. If that upset turns to diarrhea you should scrape the bark upward and repeat the process!

The Peach is good for the nervous system. The tea of the leaves or bark is said to calm the nerves and relieve coughing spasms. A tincture of the flowers was formerly thought to give relief to pains of colic caused by gravel.

The fresh leaves were stated by older herbalists to possess the power of expelling worms if applied outwardly to the body as a poultice. An infusion of the leaves was also recommended for the same purpose (Gri:620).

In Italy applications of the leaves were believed to get rid of warts, if the leaves were then buried and the person waited for them to rot in the ground. The warts are thought to disappear by the time the leaves decompose (Ibid.).

In China the tree is used extensively for food as well as for medicine. The fruit is said to improve the complexion and heal the lungs. A late variety is recommended for the feverishness of work or anxiety. The kernel is recommended as a substitute for the apricot kernel. It is recommended for coughs, blood-diseases, rheumatism, amenorrhea, ague, postpartum hemorrhage and worms. Crushed and mixed with honey, they are applied at night to the hands to keep them smooth. The outside skin is used in hemorrhages and "evil effluvia". The flowers are said to give a good color to the complexion and rejoicing to the countenance. They are regarded as diuretic, vermifuge and quieting and they are applied locally in acne and as a cosmetic. The leaves are thought to be anti-parasitic, anti-fever, and astringent and are given in typhoid and other fevers. The bark is considered to be a prophylactic, paraticide, and nervine. Extreme jaundice, epidemics and dropsy are treated with it. The exuded gum is used as a sedative, alterative, astringent and demulcent (Shi:356-7).

Also in China, Peach wood is still set about in houses or posts of it set around the house to charm against evil spirits (Ibid.).

DELICIOUS FRUIT

Other than the use of the wood for furniture, especially in India, the main use of the Peach is its fruit. Peaches are only in season for a short time during the autumn but eating them raw remains the most delightful way to consume peaches. The best way to preserve them we think is drying. We found an excellent method to dry peaches that preserves a light color and good flavor. Because dipping the fruit in some solution such as vitamin C solution or in pineapple juice seemed to us to add unwanted moisture to the fruit we wished to dry, we sprinkled lemon-juice powder, which is a preparation of dried lemon juice mixed with other ingredients, on the fruits. First we cut them in half then we "popped their backs", that is, we pushed in the pitted side so that the center tissues were broken and could release moisture faster and then we placed them, unpeeled, on drying screens for an outdoor, fresh-air dryer. We sprinkled each half with a little lemon juice powder and let them dry in the sun and air. In contrast to heat dehydrating which can only take a couple of days, this method took almost a week. However, the flavor and nutrition were excellent in these dried Peaches and the color was light and inviting. We certainly prefer this method of preservation to canning although we can many Peaches, too. If you choose to can you might like to remember that completely ripened Peaches require no sweetening for a delightful flavor. The Utah State Extension Service informed us that sugar has no preservative effect on fruit unless it is in the proportion of half and half such as with jam. Most people therefore add sugar just for its taste but we feel that it ruins the nutritional value of the fruit. Try canning some good, ripe Peaches without any sweetening at all this season and see what a delicious natural treat they can be.

Peaches are also made into Brandy and in former days were used as pig food (Gri:620).

A delightful Peach dessert is made by blanching the ripe Peaches with hot water, peeling them, cutting them in half and pitting them. Each half is placed on a dessert plate and partly covered with ripe, mashed, honey-sweetened raspberries. This summertime delight is beautiful to see and it is a good natural dessert, too.

We love to cut up many ripe Peaches and place them in a bowl with a drizzle of honey and some cream or nut cream. Sometimes we add some soaked, raw oats to this and a few almonds. It is a wonderful summer supper dish.

You can puree Peaches and make a Peach nectar for drinking alone or for mixing with other, thinner juices. We use this nectar instead of milk for mixing pancakes and muffins. It helps to make a balanced food and tastes good, too. The pureed Peaches can either be raw or cooked.

Of course Peaches can be made into jam but we rarely use them that way. Honey jams or even unsweetened jams which the Rodale people have developed, are much preferred to sugar jams.

HISTORICAL USES

Used to stop bleeding, to bring rest and sleep to the sick, for coughs, hoarseness, loss of voice, to clear and strengthen blood, to relieve those who vomit blood, for baldness, diarrhea, as a gentle laxative, for nausea, morning sickness, scalding urine, inflammation and tenderness of the urinary system, to strengthen stomach and bowel, to restore digestion, for the nervous system, for colic pain, expelling worms, heal lungs, warts, to improve complexion, for blood diseases, amenorrhea, ague, postpartum hemorrhage, acne, jaundice (extreme), dropsy and for epidemics.

CULTIVATION, COLLECTION, PREPARATION

Peaches are usually grown from grafted stock, as pip-grown stock can be weak. However, you can grow quite good Peaches from the pits of your peaches. The trees grow steadily and often produce the second or third year. There are many good varieties of Peaches including dwarf trees which have been developed to attain only a small size but to produce standard sized fruit.

The bark is collected in the autumn after the Peach harvest. It should be stripped from young trees being careful not to take too much from any one tree. The pieces of bark are often threaded on strings and hung up in a warm current of air. They should not touch each other. When thoroughly dry so that the snap easily and feel warm, not cool to the touch, they can be broken up or powdered and stored in a cool, dry, place.

You can make a tincture of the fresh bark using alcohol as a menstruum. This is said to be effective in cases that the regular infusion will not work.

The leaves are collected during late summer when they are at their best. Kloss said that every household ought to have a supply of Peach leaves.

TOXICITY

Since Peach trees are often sprayed in certain areas of the country you should be sure that you are using bark from an unsprayed tree. Also, all parts of the tree contain prussic acid, also known as hydrocyanic acid or hydrogen cyanide. In low doses this is considered harmless since the poison is not cumulative. However, if taken in large doses prussic acid or cyanide becomes violently poisonous. If the tea is left to stand too long, the prussic acid can develop, so do not let it stand (Beth:133).

The symptoms of prussic acid poisoning are rapid pulse, also feeble and irregular pulse, abnormal breathing, either very rapid or very slow and deep, nervousness with trembling or jerking muscles, spasms or convulsions, continuing at short intervals, numbness in the throat, blue coloration of the lining of the mouth, anxiety, confusion, unconsciousness. Death can occur within five minutes of taking an overdose, usually due to respiratory failure. A classic symptom of this type of poisoning is the breath has a bitter almond odor (Herb:Sept.1977:38).

The kernels may cause cyanide poisoning which is the same as prussic acid poisoning. "Although many individuals ingest peach kernel without harmful effects there is still significant danger since

the amount of cyanide per kernel may vary even between trees" (Spoerke:135). This is the same case as with apricot kernels. We recommend that a person use the item carefully but without fear as the Peach is known to be a wonderful healer.

Animals have died however, from eating the leaves and it is known that deer who browse among orchards avoid the Peach in favor of the apple trees.

CHEMICAL COMPOSITION

Peach fruits contain malic and citric acids. They consist of almost 89 percent water, .70 percent protein, .10 percent fat, 9.40 percent carbohydrates, and .40 percent mineral matter, mainly potassium. They contain Vitamins A, C and D.

The Peach bark contains cyanide and a volatile oil.

RECENT FINDINGS

In Denmark contact urticaria was found to result in some patients from Peach skin as well as from fish and honey (Contact urticaria...Contact Dermatitis, [Denmark], September 1983, Volume 9 Number 5, pages 422-3).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING PEACH BARK

The Red Clover Combination, which is the important blood cleansing combination, contains Peach Bark. This is available in syrup and in capsule form.

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 **PENNYROYAL**

***MENTHA PULEGIUM (EUROPEAN), HEDEOMA PULEGIODES (AMERICAN);
LABIATAE***

DESCRIPTION

American Pennyroyal is a small dwarf plant with a superficial resemblance to thyme. It has small opposite leaves and many straight unbranching six-inch stems radiating from the root like a delicate pincushion. The flowers are no longer than the quarter inch leaves and form loose clusters of two or four flowers all along the little square stems. The many dead flower stems of the previous year with their gray dead flower tufts are a distinctive aspect of this dwarf mint. The flowers are bright magenta and bloom from May to late September. The plants may form two or three stems in the first year or several hundred stems in old plants (Moore:122).

English Pennyroyal has weak, prostrate stems, bluntly quadrangular, three inches to a foot long, which readily take root at the lower joints or nodes. The leaves are opposite, shortly stalked, more or less hairy on both sides, roundish oval, grayish green, about 1 to 1 1/2 inches long and 1/2 inch broad. The flowers are in whorled clusters of ten or a dozen, rising in tiers one above the other at the nodes, where the leaves spring in pairs, beginning about the middle of the stem, their color reddish purple to lilac blue, and in blood during July and August. The seed is light brown, oval, and very small (Gri:625).

GENERAL

Amateur herbalists, after reading that Pennyroyal must not be taken during pregnancy because it is an abortive, criticized Dr. Christopher for including it in his five-week formula which is taken by expectant mothers during the last five weeks of their pregnancy to facilitate an easy labor and delivery. Dr. Christopher explained that the Pennyroyal is included there to help prepare the uterus for easy delivery and that the quantity is quite small compared to the rest of the formula. Also during the last five weeks his small amount acts as a tonic and regulator rather than a strong abortive. He told many stories of how women received great relief during their labors because of the use of the five-week formula. One woman who had had two very difficult and long labors before was questioning whether she wanted to have another baby. The ordeal seemed to her too difficult. She began to take the five-week formula for the third pregnancy and to her delight her labor was just a few short hours and the delivery extremely easy.

Another woman took the formula routinely with each of her pregnancies preceding the last five weeks with daily doses of red raspberry, comfrey, and alfalfa. Her labors were extremely short

and easy. The first baby came within two hours, the second within an hour, the third within a half hour, and so on!

Pennyroyal is not a particularly trustworthy. It only works a quarter of the time anyway, and could cause problems with a fetus if it were taken during the first part of a pregnancy. Recently a woman took a large dose of Pennyroyal in order to induce an abortion and died, although it was found later that she intended to commit suicide. Instead of taking the herb, she took the essential oil, which contains the very concentrated medicinal factors. Three women were involved in this case. Two ingested a quarter ounce each and lived, while the third consumed a full ounce of the herb oil and died painfully. It was thought that all three women were trying to induce abortion although a subsequent investigation revealed that the woman had been despondent and had talked of suicide and that she probably knew from her former experience with herbs that the ounce of the oil would be lethal. However, the story was widely published and prompted the director of the Rocky Mountain Poison Control Center to label the health food industry "murderers". Many people take herbs without knowing the full risk. In all cases they should follow the advice of Dr. Christopher who recommended that we do not generally take herbs in extracted or concentrated forms but that we take the herb in its natural form or at the most, in a tincture, so that we have the balanced elements needed for proper use.

LURK-IN-THE-DITCH

There are two kinds of Pennyroyal that are used medicinally, one English and one American. The two are from the same family but are totally different plants. However, their uses are just about the same and so we will discuss both of them.

English pennyroyal both in the form of oil and dried has been highly thought of for many centuries not only for human beings but also for animals, particularly cattle. It is the Pulegium of the Romans, named by Pliny from its reputed power of driving away fleas. Pulex being the Latin name for flea hence the Italian pulce and French puce. This name has been retained in modern times for the modern specific name. The Mentha refers to its place in the family of mints. It is sometimes thought to be the forerunner of modern cultivated mints. It has a pleasant minty smell and taste.

The name Pennyroyal is a corruption of the old herbalists' name "pulioll-royall" which in the Middle Ages became "Piliolerial". This also refers to the insect-repelling quality of the plant. One of its popular names is Pudding Grass from formerly being used in stuffings for hogs' puddings (grass meaning herb). Other common names are Run-by-the-Ground and Lurk-in-the-Ditch referring to the creeping quality of the plant. It is quite insignificant in appearance as you can see by the description yet its medicinal qualities made it an important plant early on.

American Pennyroyal is indigenous to this country and not as well-known medicinally. However it is just as effective and deserves an equal place. The Onondaga Indians called it smelling weed because of its strong minty smell. In other tribes it was called squaw mint because of its ability to

bring on suppressed menstruation. The Chickasaws soaked the plant in water and then put it on the forehead to relieve itching and watery eyes. The Mohicans made a stomach-warming tea of it. The Catawbas used it for a cold remedy. White settlers learned of its use from the Indians and used it in colds and fevers and as an antispasmodic. It was used to treat colic in infants. The plant was official in the American dispensatory from 1831 to 1916, being used as a stimulant, carminative, and emmenagogue. From 1916 to 1931 the oil of Pennyroyal was officially listed as an intestinal irritant and abortion-causing agent.

English Pennyroyal is not indigenous to England though. It originated in the Near East. From there it spread across the cooler parts of Europe and north to Finland. Both the Greeks and Romans valued Pennyroyal listing quite a few ailments that the herb was thought to remedy.

A very old English herbal states that if you put drowning flies and bees in the warm ashes of Pennyroyal, in one hour they will regain their life! Gerard said that if you put large amounts of Pennyroyal into polluted water it will make it drinkable and even help those that drink it. He also said that it was a good blood purifier and, being taken with honey, will cleanse the lungs and chest from thick mucus.

Other old herbalists in England said that a garland of Pennyroyal worn about the head would greatly help swimming in the head and pains and giddiness.

Culpepper said that if you drink it with wine it will treat venomous bites and applied to the nostrils with vinegar it brings back a swooning person. Dried and burnt, he said, it strengthened the gums, helps the gout, and if applied fresh to the face it will take away spots or marks. Applied with salt, he further wrote, it would help a person with liver or spleen problems. The green herb bruised and put into vinegar would cleanse foul ulcers and take away the bruising of a black eye and even take away leprosy. He also said that one spoonful of the juice sweetened with sugar candy would cure the whooping cough.

Grieve quotes a charming poem about Pennyroyal:

PENNYROYAL---A CAROL

"Far away in Sicily!"
A home-come sailor sang this rhyme,
Deep in an ingle, mug on knee,
At Christmas time

In Sicily, as I was told,
The children take them Pennyroyal,
The same as lurks on hill and wold
In Cotsall soil.

The Pennyroyal of grace divine
In little cradles they do weave--
Little cradles therewith they line
On Christmas Eve.

And there, as midnight bells awake
The Day of Birth, as they do tell,
All into bud the small buds break
With sweetest smell.

All into bud that very hour;
And pure and clean, as they do say,
The Pennyroyal's full in flower
On Christmas Day.

Far away in Sicily!
Hark, the Christmas bells do chime!
So blossom love in thee and me
This Christmas time! (Gri:626).

Pennyroyal salts were early used as a remedy against seasickness. But the most common use of Pennyroyal, both English and American was to repel fleas, which we often forget, were more common even among high society than they are today. William Byrd one of the early American settlers wrote, "And now I am upon the subject of Insects, it may not be improper to mention some few Remedies gainst those that are most Vexatious in this Climate. There are two sorts without Doors, that are great Nuisances, the Tikes [ticks] and the Horse Flies...Both these sorts are apt to be troublesome during the Warm Season, but have such an aversion to Penny Royal, that they will attack no Part that is Rubb'd with the Juice of that fragrant Vegetable. And a Strong Decoction of this is likewise the most effectual remedy against Seed-tikes, which bury themselves in your Legs" (William Byrd, Histories of the Dividing Line betwixt Virginia and North Carolina, 1728).

More than a century later, a botanical writer recorded:

"We went down to the edge of short grass above some rocky cliffs where the deep sea broke with a great noise, though the wind was down and the water looked quite a little way from shore. Among the grass grew such Pennyroyal as the rest of the world could not provide. There was fine fragrance in the air as we gathered it sprig by sprig and stepped along carefully, and Mrs. Todd pressed her aromatic nosegay between her hands and offered it to me again and again. 'There's nothing like it', she said; 'Oh, no, there's no such pennyroyal as this in the state of Maine. It's the right pattern of the plant, and all the rest I ever see is but an imitation...'" (Sarah Orne Jewett, The Country of the Pointed Firs, 1896).

EMMENAGOGUE--AND MORE

Pennyroyal is well-known as a very reliable and effective emmenagogue especially for retarded or obstructed menstruation due to a sudden chill or cold. Taken warm in connection with a vapor bath it is said to be almost a specific cure for this problem. Hot footbaths taken several days before the due date and two cups of Pennyroyal tea, especially if taken before retiring at night, will correct scanty or suppressed flow (Thom: 171-2). It is especially useful if the period is overdue with a feeling of bloating and discomfort. Extracts of Pennyroyal have been proven experimentally to stimulate the uterus which could account for the menses-inducing effect (Weiner:150). Both the tea and the volatile oil have been used to promote the menstrual flow although Dr. Christopher recommended the use of the herb tea as preferable.

He said to take the infusion in cupful doses repeated every one or two hours until the problem was alleviated. (See formulas)

Pennyroyal is also very much valued for its use in colds and fevers. Meyer says that a large cupful can be taken of Pennyroyal tea in connection with a footbath to bring on perspiration to break a fever and cure the cold (Meyer:92).

Pennyroyal drives out the heat and inflammation through the pores of the skin and helps the circulation (Tie:108).

Pennyroyal is good for the digestive tract being listed as a carminative. It will relieve the spasms of stomach cramps much as most of the mints will and is especially recommended for infant colic. Some merely bruise the leaves, warm them slightly and place them on the infant's stomach, binding with a cotton cloth. It is a traditional herb used for flatulence which is a common embarrassment especially among vegetarians who eat a lot of beans in their diets.

The herb is an antispasmodic nervine that works against restlessness and peevishness in children which often precede colds or flu. It is good to relieve the nervousness which accompanies or precedes menstruation.

Locally Pennyroyal has long been used in hot fomentation to relieve congestion, mixed with lobelia or other agents, whether of heart, lungs, stomach, uterus, bladder, or kidneys (Cly:133).

Although it has sometimes been recommended as an abortifacient there are some drawbacks to the use of the herb. Dr. Christopher always used to counsel young women who thought they didn't want babies that it is in the grand plan of the earth that they should have children. One young woman in particular came to Dr. Christopher asking for an herb to use to abort the newly-conceived baby she was carrying as she didn't want to submit to surgery or chemicals. But Doctor Christopher talked to her at great length that she was meant to carry the baby that she conceived. She left his office very angry indeed. But about a year later she came to visit him with a cooing baby in her arms. She said, "Isn't he darling? I am so grateful to you for convincing me

to keep him." Pennyroyal has been abused in trying to abort babies. Although only one death has occurred, women have gone to the hospital sick from taking too much of the essential oil. Moore, while qualifying that Pennyroyal only works a quarter of the time and can cause fetal problems if taken during the first part of a pregnancy which doesn't abort, describes the proper use of the herb. He mentions that more and more women are trying to abort their babies and since the government funding of abortions might not always cover the cost women are searching for alternatives that are not always safe. He says that Pennyroyal should be used within the first four weeks of the fertilization. Up to an ounce of the herb can be drunk in a day (this is the tea, not the oil!) accompanied by a half-cup brewer's yeast. Traditionally if cramping occurs the treatment may be repeated again the second day. If the Pennyroyal is successful a pelvic examination should follow to rule out complications. Because the herb varies in potency, lethargy and dizziness can accompany the herb tea when the plants used are high in oils, whereupon the dosage should be decreased. He says that Pennyroyal should only be used when a therapeutic abortion is contemplated anyway. Other more dangerous herbs such as tansy, rue, blue cohosh, mugwort and such carry too many risks with them to take as an abortive. He mentions that although many people have developed a cavalier attitude about clinical abortions many women who have had abortions later have problems carrying a baby full-term (Moore: 122-3). We personally feel that if a person conceives a baby, she (with her mate) has the responsibility of bearing that baby. The abuse of one's sexual powers and subsequent action to try to remedy that abuse is a great evil in our day and one that must result in ill health both physical and spiritual.

However, Pennyroyal can be used in overdue or difficult childbirth, a cup or two of the normal tea sometimes helping to induce initial contractions or the diluted tea drunk, when tolerated, to clarify cervix dilations. The volatile oil contains pulegone which is a uterine vasodilator.

The other famous use of Pennyroyal is as an insect repellent. This is the only real medicinal use of the oil although it could be applied externally as a rubefacient. However, the oil can be dabbed on clothing where protection is needed or, diluted with a small amount of apricot or almond oil rubbed directly upon the skin. We have used a Pennyroyal insect repellent in Alaska where the mosquito is said to be the state bird and where the children were badly attacked by the pests. Unfortunately it is not a hundred-percent effective and we suppose that it could be used only where mosquitos are not so virulent. Pets can be rubbed with the oil, lightly at first because they do not like the scent, to prevent flea infestation. They can be washed weekly with a strong Pennyroyal tea to remove the eggs. Many people soak a leather strip or heavy cord in Pennyroyal oil for twenty-four hours and tie it around the pet's neck to prevent fleas. It is also said to be good to repel flies and ticks. You can try rubbing the fresh plant over the skin for a similar effect.

Pennyroyal has further been used in animal husbandry as a tonic and as a postpartum feed to cattle.

In the Thomsonian system of healing the herb was used, in connection with a hot footbath to stop nosebleed, the idea being to balance the heat and pressure throughout the system.

HISTORICAL USES

Improves circulation, helps inflammation, brings on menstruation, for cold and fevers, to relieve itching eyes, as an anti-spasmodic and nervine, for colic, stomach cramps, gas, as a digestive aid, for venomous bites, to strengthen gums, for dizzy spells, gout, facial spots, liver and spleen problems, for foul ulcers, help bruising of black eye, for leprosy, to cleanse lungs and chest of mucus, for giddiness, seasickness, as an insect repellent, to relieve congestion of any organ, as an abortifacient, to ease difficult childbirth and for nosebleed.

FORMULA

It could be combined with other female herbs, if desired, to accentuate the affect. One formula he recommended was:

1 part Pennyroyal
1 part motherwort
1 part blue cohosh
1 part life root
1 part thyme herb

Make into a tea, take by the half-cupful every two hours.

CULTIVATION, COLLECTION, PREPARATION

American Pennyroyal and English Pennyroyal are cultivated similarly. They both germinate slowly from seed, at temperatures of about 65 to 70 degrees F. They can more easily be started from root divisions or cuttings. As the plant creeps along the ground it forms roots wherever the stem touches the ground which makes it rather easy to subdivide an older plant and make new plants. The growing of Pennyroyal is similar to that of the other mints. It likes rich soil and sun but will also grow in the shade. It needs plenty of humus in the soil or it will develop a light-green yellowish appearance. It is somewhat time consuming to harvest Pennyroyal because the plant grows so low and the leaf is so small. The plant should be used fresh as long as possible but can also be dried in the shade, preferably whole. You can crumble and store the dried herb later, but be sure to take it in for storage as soon as it is dried because it loses its potency quickly in the open air. Store it tightly sealed in a non-metallic container (Hyl:535). The herb is a nice moth repellent sown into cotton bags. Pennyroyal can be used for a lawn, especially in shaded situations, in a way similar to camomile. The pieces must be divided, each with a root piece, set out six to nine inches apart and planted fairly deeply with a dibber. Sprinkle compost into each hole to form good roots. This is nice among paving stones and smells good when trodden.

RELATED PLANTS

Pennyroyal is related to the mints.

CHEMICAL COMPOSITION

The principal constituents include menthone, isomenthone, and pulegone, which is a uterine vasoconstrictor.

RECENT FINDINGS

A study was carried out to see how much Pennyroyal oil was necessary to be toxic to rats. They found that the toxic levels of oil produced liver and heart damage which damage is strikingly similar to the young woman's who died from an overdose of the Pennyroyal oil. The main toxic element was pulegone which is also present in peppermint and other mints and thus could cause some health problems if peppermint or other candies are overeaten ("Hepatotoxicity and Pulmonary toxicity of Pennyroyal Oil and Its Constituent Terpenes in the Mouse", Toxicology and Applied Pharmacology, Volume 65, Pages 413-424, 1982).

A study was carried out to determine the insect-repelling qualities of various repellents including Oil of Pennyroyal. It was found that it does repel fleas but only for a short period of time. Reapplication would be necessary to maintain the flea-repelling qualities ("Tests of Repellents against *Diamanus Montanus*", Journal of Medical Entomology, Volume 19, No. 4, pages 361-365, 28 July 1982).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING PENNYROYAL

The Pre-Natal tea contains Pennyroyal.

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 **PEPPERMINT**

Mentha piperita LABIATAE

DESCRIPTION

Peppermint is classed as a stimulant herb, the most pungent of all the mints. Dr. Christopher also recommended it as a marvelous antispasmodic, which can give tone to the entire body as well. It is a soothing sedative for nervous and restless people of all ages, promoting relaxation and sleep--a wonderful combination of characteristics. On top of all that, it is a very delicious and welcome tea.

Dr. Christopher recommended that anyone taking the Thomsonian cleanse with lobelia--for asthma or other acute conditions--should take Peppermint tea beforehand. This allows the vomiting to take place without any discomfort to the person. He knew people that had vomited upwards of three hours without the least discomfort because they had first use the Peppermint tea.

BRANDY MINT

Peppermint is one of the ancient herbs. It was prized in ancient Egypt; sprigs of it have been found in the pyramids, and instructions for distilling the oil have been found in ancient Egyptian manuscripts. For centuries, it has been a social drink among the Arabs, also considered a stimulant to virility. It was well-known to the ancient Greek and Roman civilizations as well.

The name comes from a Roman myth. Minthe, a beautiful nymph, attracted the god of the underworld, Hades. His wife, Persephone, who was stolen away when she was just a young maiden, learned of his infidelity. She transformed the girl into an herb, forcing her to live above the ground away from Hades below the earth, thus condemning her to spend eternity creeping above the ground seeking him, seldom rising more than two feet above the land. But Hades, in memory of their love, gave the new herb an extremely pleasant fragrance and aphrodisiac powers so everyone would love her. As she crept along the ground, she encountered a number of other plants, each of which fell in love with her. There were soon more than 3,000 members in her family, including Bee Balm, Horsebalm, Lemon Balm, Dragonhead, Heal All, Horehound, Marjoram, Sage, and Thyme (Keller:245).

Pliny wrote that the Greeks and Romans crowned themselves with Peppermint at their feasts and adorned their tables with its sprays, and that their cooks flavored both their sauces and their wines with its essence. It was frequently mentioned by Dioscorides and Hippocrates as well. The Greeks scoured their dining tables with it before a meal, and added it to their bath water. The Romans used it to flavor sauce to stimulate the appetite. Pliny wrote that it makes men hungry for their meat.

We are familiar with the Biblical condemnation of the Pharisees, who paid tithes of mint and anise and cumin and yet omitted the weightier matters of the law. Many mints are common in the land of Israel, but we are not sure which variety this refers to. Hebrew synagogues formerly strewed mint stems and leaves over the floors, which yielded their fragrance as they were stepped upon (Moldenke:140).

The Romans also used it as a strewing herb in their temples, to stir up the mind. They also used it in their private chambers and places of recreation, pleasure and repose, where feasts and banquets were held, in order to attract the blessings of the gods. Since the herb was important in the religious rituals of the pagans, they paid their tithing in mint instead of money. It is said to be a symbol of the abandonment endorsed by the pagans. The priests extracted its aphrodisiac water for a sacred drink which they served to worshippers at Eleusis to animate everyone's spirits for the licentious orgies which concluded their rites. Although "its priesthood were sworn to chastity, like all such brotherhoods, they were noted for their licentiousness", Keller reported (Keller:246). Early Greeks grew the mint so they would be able to welcome their gods, who often descended from Mount Olympus to visit them in disguises, then awaited an invitation for a lavish dinner.

The herb is mentioned in Icelandic pharmacopeias of the thirteenth century, and was used by East Indians to fill four-foot-high silver urns lining entrance halls to create a pleasant atmosphere and a fragrant welcome for guests. Later Romans served the leaves chilled on cracked ice as an appetizer for their famous feasts. Since the aroma reduced irritability, wives "crushed leaves into cocktails for their husbands, who were cross after spending a difficult day at the wars and driving a horse-drawn chariot home over dusty, rocky roads" (Keller:247). It was served by the Italians between heavy courses to refresh the palate. They also candied the leaves for desserts (*Ibid*).

During wars, Turks sent scouts ahead of the troops not only to reconnoiter but also to search through the woods and destroy any mint. It was thought that the plant was such a potent aphrodisiac that it would turn men's thoughts from war to searching for the country girls!

It was first recognized as a distinct species in England late in the seventeenth century. Its medicinal properties were quickly recognized, and it was admitted into the London Pharmacopeia in 1721, under the name *M. piperitis saporis*. The oldest existing district in England for growing Peppermint is in the neighborhood of Mitcham in Surrey, where its cultivation from a commercial point of view dates from about 1750, at which period only a few acres of ground there were used for growing medicinal plants. At the end of the eighteenth century, however, above 100 acres were cropped with Peppermint, but so late as 1805 there were no stills at Mitcham, and the herb had to be carried to London for the extraction of the oil. By 1850 there were about 500 acres under Peppermint cultivation at Mitcham, and the Peppermint plantations of England have remained in that area to this day (Gri:537). It is also grown in several other areas in England.

In Europe, Peppermint was first grown in 1771 at Utrecht, but it is now grown in considerable amounts in many countries. In France, an inferior plant called "Red Mint" is grown and used as Peppermint, although some real English plants of superior quality are also grown. Japan

peppermint is nearly 90% oil, but of inferior quality. Germany, Russia, and Hungary also grow Peppermint, as does British East Africa. However, the United States is the main producer of Peppermint in the world today.

Peppermint, along with the other mints, was thought to have magical qualities. Mixed with other herbs, it was made into a water for exorcising evil spirits.

Roman women used the herb for a special purpose. At a time when it was a penal offense, punishable by death for women to drink wine at all (because, said Horace, they selected the finest wines which the husband wanted for themselves), they would end their afternoon soirees by giving their guests fresh mint leaves to chew on to remove the odor of wine from their breaths so that they could safely meet their husbands.

During the eighteenth century, John Priestly studied the effects of noxious air on mice. He reported his findings that when mice breathed air that had been made thoroughly noxious from their own exhalations and other mice dying in it, he added a growing sprig of mint in one vial. The other vial he kept as it was. The one in the vial with mint remained perfectly well, while the one without mint died. During epidemics of plague when hospitals were vastly overcrowded, early English doctors gave patients sprigs of mint to smell and asked relatives to bring the plants to the patients instead of cut flowers. In Holland, nurses carefully tended open tubs of boiling water containing whole branches of mint to purify the air (Keller:248).

Gerard wrote that mint tea prevented seasickness. He recommended using it as an eyewash for people who weren't used to the salt air on sea cruises. It prevented heat prostration in field workers. He also recommended it for a variety other ailments.

Langham before him said that it would help bring on menstruation and would help relieve the pain of a woman in hard labor before childbirth.

From earliest times in England it was used in preparations to clean the teeth and freshen the breath.

Mint was thought to have been brought over from England by the Pilgrims. It was found wild in America only rarely before then, although its habit of rapid spraying, which can be an annoyance to the home herb gardener, as it will often take over gardens and lawns where it is planted, quickly sent it all over the country. The Indians were said to have used it as a vermifuge, along with the traditional ways of using the herb as a digestive and carminative.

Mint growing first become an important agricultural activity on the mucklands of northern Indiana and southern Michigan in the early 1900's. Verticillium wilt discouraged growing there, and production shifted chiefly to the Columbia River basin of Oregon and Washington. It is said that the midwestern area oil is superior to that of the West, however, because the western oil must be fractionated to remove certain unfavorable flavors and aromas. Mints do well on moist, organic

soils. In the West, where these are lacking the crop is usually irrigated, which may account for some of the variations in flavor.

HOME REMEDY

Peppermint is used for most of the minor ailments that plague people. It is a prime remedy for colds and flu. The classic formula for these ailments, which is said to break a fever quickly, is a combination of equal parts of peppermint and elder flowers. This is made in a usual infusion and given hot to the sick person, who goes to bed and keeps warm until he begins to sweat. Sweating always breaks the fever (and that is why we hurry to make the patient sweat; dry fever kills, but a moist, sweating fever kills germs and brings the patient to better health than he was before the illness). You can also make hot cups of infusion, as strong as you like, for the same purpose, without the elder flowers. The formula is soothing for restlessness and nervousness that often accompany the onset of illness; it can be used to calm people of any age no matter what reason their nervousness.

In place of aspirin or other inorganic, harmful painkilling drugs, take a cup of strong peppermint tea, lying down for a little while. It should relieve the pain quickly; if need be, take two or three cups. This strengthens the nerves instead of weakening them as so many of the drugs do. Furthermore, it has been shown that aspirin destroys some of the bacteria-resistant protection in man; peppermint tea, on the other hand, only strengthens the person against disease.

Dr. Shook recommended making a "Ready Peppermint Water" to be mixed for instant use, such as relieving pain almost instantly, to cure nausea and vomiting, to calm the nerves and reduce inflammation in stomach and intestines, to act as a sleep-bringer, and to flavor nauseating medicines. To make this water, triturate 1/2 teaspoonful oil of Peppermint in 1/2 teaspoon purified talc and 1/2 teaspoon powdered sugar. Triturate for five minutes. Add 1 tablespoon glycerine and triturate again for five minutes. Add 2 ounces of distilled water and triturate. Pour through a filter paper into a glass container. Rinse out mortar without enough distilled water to gather the remainder of the ingredients. Pour into filter, stir, and allow to filter. If the first filtrate is not clear, add two ounces distilled water; and filter again. This is somewhat tedious, he says, but once the mixture is made, it will keep indefinitely, and will always be ready for use. This is extremely strong (1 part in 64), and can be used, taken in hot water in honey, as needed. It also mixes with alcohol or glycerine in any proportion (ShoA 258).

For severe pain, Shook recommended a strong decoction of peppermint. This was made by mixing 3 ounces of peppermint leaves, cut, in 1 quart of hot distilled water. This was covered and let stand for two hours. Bring to a boil, then simmer slowly for five minutes. Add 4 ounces glycerine and again simmer for five minutes. Strain, cool, and bottle. This is given when a person suffers pains and feelings of discomfort in the stomach and abdominal region without knowing the cause. These pains, Shook said, tend to create all kinds of fears of ulcers, cancer, and other dreaded diseases, and a double dose of the above formula, made hot by the addition of boiling water, will bring "almost magical relief", both physically and mentally, because when the pain disappears, the fear of diseases such as cancer also disappears (ShoA:257).

This brings us to the other most common use of peppermint, the relief of gas in the system. Many people, because they lack sufficient enzymes, or do not chew their food properly, or eat improper combinations of foods or improper foods, suffer from flatulence. Some foods, such as the legumes, contain chemicals which cause gas formation in the system, although certain methods of cooking them can reduce the gas considerably. However, many people take a cup of Peppermint tea after meals as insurance against flatulence. Taken with meals, it will assist digestion generally (Bethel:134) and is much a preferable beverage for everyday use instead of coffee or tea, which hinder proper digestion and cause health problems generally. The mint will get rid of a queasy stomach and nausea; for this purpose it is often mixed with camomile, which has pain reducing and relaxing properties as well (Nebelkopf:69). Many of us have experienced sudden, sharp pains in the abdomen, which are often caused by pockets of gas cramping in the system. Peppermint relieves these almost immediately; it is therefore a good remedy for colic in infants. The leaves can be slightly warmed and bound on the infant's abdomen, which is a good method especially in cases of small infants who cannot tolerate the proper amount of tea. Some people mix a little of the extract or oil of Peppermint and give it with a little water or (though we don't recommend this) on a cube of sugar to the ailing child. Usually the baby's system is out of balance, and the sugar would tend to imbalance the child further, as it leaches the calcium out of the body. We are convinced that many cases of the nursing bottle syndrome (which often happens to nursing babies who have never seen a bottle) are due to this imbalance of calcium in the system, which is often acidic and overloaded with foods that the child cannot digest. It is better to nurse the child more, give it fresh juices and mild teas, and administer the peppermint tea. Levy explained that she thinks the baby bottle with its rubber nipple is unclean and insulting to the child. She prefers giving the baby spoonfuls of the herb (or even goat's milk or nut milk if mother's supply is insufficient) rather than using a bottle. We have used a (very clean) little baby spoon to administer herb teas, and it works admirably. You can sweeten the Peppermint tea with honey if the baby is not tiny; some cases of honey-caused deaths have been reported in young infants, as there is some constituent of the honey that the youngest infants are not able to tolerate. Maple syrup, pure, is well-tolerated in these cases.

Peppermint is a powerful stimulant, and will bring the body to its natural warmth, helping in cases of sudden dizzy or fainting spells, with extreme coldness and a pale countenance (Kloss:293).

It is given in cases of diarrhea, and some doctors consider that it is one of the surest, as well as the simplest, remedies for this complaint. As soon as the diarrhea appears, drop 15 drops of essence of Peppermint in a cup of hot water, and sip with a spoon as hot as can be borne. Repeat every three hours until cured (Lucas:Nature's:191). The essence of Peppermint is also valuable in a nervous sick headache, such as a migraine. To a cupful of water add one teaspoonful of the essence; saturate a cloth with it and apply to the head and temples. For many persons this gives quick relief. As soon as the cloth becomes dry, wet the cloth again. In seasickness, the essence is taken, one teaspoonful in the cup of hot water, sweetened. You can take a swallow occasionally, warm if possible (*Ibid.*). This is one of the few herbs that the oil and essence are used without danger of overdosing, although they should always be mixed with water for internal use.

The oil of Peppermint can be applied, straight, to an aching tooth while awaiting a trip to the dentist. It works, like oil of Cloves, to relieve the pain.

To make an excellent liniment for reducing the pains of rheumatism, sciatica, lumbago, stiff and swollen joints, congestion of the chest, sore throat, and so on, including sores, even purulent sores and gangrene, Dr. Shook recommended making Liniment of Peppermint. To do so, heat 1 pint of pure olive oil, and add to it 1 dram (teaspoonful) of oil of Peppermint, 1 dram, menthol crystals, and 1 dram of flowers of camphor. Mix in a warm jar or bottle, shaking until dissolved. Let stand until cool, then keep in a cool place (ShoA:258). This can also be used to reduce varicose veins, clear up acne, boils, abscesses, eczema, etc.

Peppermint oil was official in the 25th edition of the U.S. Dispensatory with the following uses:

"...it is generally regarded as an excellent carminative and gastric stimulant, and is still widely employed in flatulence, nausea and gastralgia. In a study on human beings Van Liere and Nortrup concluded it had no perceptible effect on the emptying time of the stomach. Heinz...claimed that it is an active cholagogue and recommended its use in gallstones. As a local application for coryza, it was used in strengths of from 0.5 to 1 percent in liquid petrolatum or olive oil. Incorporated into a lozenge it has been used as a pleasant and efficient antiseptic and anesthetic in pharyngitis. For internal administration it may be dispersed in sugar and given in aqueous solution, or more commonly in the form of the spirit. It is popular as a flavoring agent."

In China, the plant is called Wu-pa-ho, although formerly it was called Soochow. It is given in fevers, colds, nervous disorders of children, nosebleed, fluxes, snake and insect bites, and diseases of the nose and throat (Li Shih-Chen).

In India, it is given in cases of vomiting, gastric colic, cholera, diarrhea, flatulence, etc. It is also given in such preparations as Noxzema Medicated Cream, Solarcaine, and Unguentine. It is also used in poison ivy treatments and diaper rash medication. It is used as a counter-irritant in analgesic preparations such as Absorbine Jr., Ben-Gay, Mentholatum, and Vicks Vaporub (Tyler:121).

Peppermint is violently disliked by rats and can be used in their eradication (Barlow:39).

Of course, one of the nicest uses of Peppermint is culinary. Euell Gibbons pointed out that to him Peppermint wasn't a medicine, but a delightful food. He had samples of wild mint analyzed for vitamins A and C and found that the freshly picked plant, had, on the average, approximately as much vitamin C as the same weight of oranges, and more carotene, or provitamin A, than do carrots, making this herb an excellent source of both vitamins (Gibbons:74). Instead of just an occasional garnish or flavoring you can use mint freely in your diet. In the near East, it is the main ingredient of salads, some of the best Gibbons has ever eaten, he said. Add a quantity of finely-chopped mint to almost any tossed salad, for it seemed (to him) to combine well with all

salad materials. It must be chopped very fine, and the salad must be thoroughly tossed, but don't be afraid to add enough mint. When it is tempered by oil and vinegar and mingled with the flavors of other greens, it takes at least a half-cupful of chopped mint to properly flavor a big bowl of salad (Gibbons:76).

Gibbons gave another original and very good recipe for using the fresh mint, Mint Aspic. Into the electric blender container put the juice of 1 lemon, 1/2 teaspoon of salt, 1/4 cup sugar or honey, 1/4 cup water, and 2 envelopes of unflavored gelatin. Let stand a few minutes until the gelatin has softened, then add 2 cups boiling water, turn on the blender and blend at high speed, gradually adding 2 packed cups of clean, fresh mint. Blend until smooth, then pour into a large mixing bowl and set in refrigerator. When it is set until it barely mounds, stir it well and pour into a mold that has been rinsed in cold water. You must stir it or the mint will settle to the top of the mixture. When it is ready to serve, dip it in warm water to unmold and it will slip out easily. A small serving of this aspic will give you more than your daily requirements of vitamins C and A, he said. If you don't like the color of this aspic, you can add a couple of drops of green food coloring to cheer it up a bit (Gibbons:76).

If you want to make Mint Jelly, Gibbons recommends that you never boil it. In a 3-quart saucepan, instead, put 2 cups of freshly picked mint and crush it thoroughly with a potato masher. Add 2 cups of boiling water. Invert the saucepan lid and fill it with water and ice cubes. The volatile oils will condense on this cool lid and go back into your mixture. Bring the water to a simmer, remove from the heat, and allow to steep for ten minutes.

Strain and add 1/4 cup of apple cider vinegar, 4 cups of sugar, and just enough green food coloring to tint the syrup a light emerald green. Stir until the sugar has completely dissolved. Add 1 package of commercial powdered pectin dissolved in 3/4 cup of hot water, brought to a boil and boiled hard for 1 minute. Stir this pectin solution into the mint syrup, then pour into classes and sea. He uses tall, thin jars that hold about 1 cupful each, and pours them only half full, being very careful to pour the jelly so no bubbles appear on the top. Then, when this has set, he takes a tiny sprig of fresh mint and sets it into the jelly in each jar. He makes another batch of mint jelly and fills the jars, leaving the sprigs of mint nicely visible in the jelly. This should be stored in the freezer (Ibid.).

He also made a wonderful uncooked Mint Jam which keeps intact all the vitamin content. Put 2 cups of fresh mint in your blender, add 1/2 cup of apple cider vinegar, 1/2 cup of water, and 4 cups of sugar (we would reduce or eliminate the water and just add about half the amount of honey). Blend until smooth. Prepare the pectin mixture as above and pour this hot mixture into the blender with the other ingredients and blend on slow speed for 1 minute. Pour it quickly into the jars and sea, freezing. It is a favorite condiment to use when fresh mint is not available.

Peppermint vinegar is made by filling a bottle with clean, freshly picked peppermint. Cover with apple cider vinegar and let steep for two weeks; strain off the vinegar. A small fresh sprig of mint can be added to the final bottles for beauty and quick identification. In small, decorative bottles,

this is a lovely Christmas gift.

Mint puff biscuits are made by chopping peppermint finely and mixing with pastry dough. They are cut into shapes, placed on a greased baking sheet, and baked quickly. We sometimes put a little honey into this mixture for a sweet dessert biscuit (Hat:138).

Peppermint butter is made by chopping finely a desired quantity of mint leaves and blending with softened butter, putting the mixture into a mold as desired. This is very nice on cooked vegetables, especially zucchini and those of the cabbage family.

You can line a cake pan, as did our pioneer foremothers, with fresh peppermint leaves instead of greasing it. This works to give a wonderful flavor to cakes. You should, however grease the sides of the pan.

A good beverage is made by mixing cold Peppermint tea with apple juice and chilling. Mint ice cubes, frozen with a small sprig of mint in the center, make this a party drink.

Some people add cold Peppermint tea to their pie crusts instead of using Ice water. It makes a good flavor, subtle but pleasant.

Finely-chopped mint is wonderful added to fresh-fruit salads. You can garnish the combination with a few mint leaves.

Industrial uses include the testing of the tightness of pipe joints with Peppermint oil. It has the faculty of making its escape, and by its pungent odor betrays the presence of leaks.

CULTIVATION, COLLECTION, PREPARATION

Any humus, moist soil will support the growth of Peppermint admirably. When you plant it, you should be sure to contain it, if you don't want it to overtake the rest of your garden. Be sure that you are planting Peppermint starts, if that is what you want. Peppermint is a different plant from spearmint. It has a dark-green, smooth leaf, while spearmint is hairy. When you chew Peppermint, it gives a cool feeling to the mouth, while spearmint does not do so.

To grow the herb commercially, it is necessary to obtain a good strain of mint that yields a large quantity of good oil. The plant thrives in a warm, moist climate, and in deep soils rich in humus and retentive of moisture, but fairly open in texture and well-drained. These conditions are frequently found in well-drained swamp lands, but the plants may be commercially cultivated in well-prepared upland soils such as would produce good corn or potatoes. It flourishes in America in what is known as muck land, those broad level areas, often several thousand acres in extent, of deep fertile soil, the beds of ancient lakes and swamps where the remains of ages of growths of aquatic vegetation have accumulated.

The usual method of Peppermint culture in America is to dig runners in the early spring and lay

them in shallow trenches, 3 feet apart in well-prepared soil. The growing crop is kept well-cultivated and absolutely free from weeds and in the summer when the plant is in full bloom, the mint is cut by hand and distilled. A part of the exhausted herb is dried and used for cattle food, for which it possesses considerable value. The rest is cut and composted and eventually plowed into the ground as fertilizer.

The area selected for Peppermint growth should be cropped for one or two years beforehand with some plant that requires a frequent tillage. This is continued as long as possible. The land is not good for constant growing of Peppermint, as it tends to exhaust the soil after a couple of years.

In England, a rich and friable soil is tilled well. The plants are propagated in the spring. When the young shoots from the crop of the previous year have attained a height of about 4 inches, they are pulled up and transplanted into new soil, in shallow furrows about 2 feet apart, lightly covered with about 2 inches of soil. They grow vigorously the first year and throw out numerous stolons and runners on the surface of the ground. After the crop has been removed, these are allowed to harden or become woody, and then farmyard manure is scattered over the field and plowed in. In this way the stolons are divided into numerous pieces and covered with soil before the frost sets in; otherwise, if the autumn is wet, they are liable to become sodden and rot, and the next crop fails. In the spring, the fields are often dressed with Peruvian Guano (Gri:539).

Liberal manuring can make the difference between a mediocre crop and a good one. Peppermint is said to require, per acre, 84 lbs. of nitrogen, 37 lbs. of phosphoric acid, and 139 lbs. of potash. Ground bone and lime do not seem to be of much benefit. A good well-rotted compost should supply most of the needed elements; in France, sewage is extensively used, together with sesame seeds which have had their oil pressed out.

Properly cultivated, one acre can yield from two to three tones of Peppermint, but this can only be expected from fields that have been best managed. Weeds can substantially reduce the amount of oil from any field, and new plantings have to be carefully hand-weeded.

Peppermint requires frequent irrigation if the soil does not remain moist on its own. It is important to keep the soil constantly moist though well-drained. Absorption of water makes the shoots more tender, thus facilitating cutting, and causes a large quantity of green matter to be produced.

In England, a plantation lasts about four years, the second year producing the best Peppermint. The fourth-year crop is rarely good.

Few pests trouble Peppermint, although crickets, grasshoppers and caterpillars may do some damage (Ibid.).

The herb is cut just before flowering. Sometimes a second crop can be obtained, much like hay. It should be carried out on a dry, sunny day, in the late morning when all traces of dew have

disappeared. In many places, the herb lies on the ground for a time in small bundles, raked into heaps. In other countries the herb is distilled as soon as it is cut. The oil seems to be best if distilled right after cutting.

Commercial distillation is as follows. The herb is carted direct from the fields to the stills, which are made of copper and contain about 500 lbs. of the herb per still. Before putting the Peppermint into the still, water is poured in to a depth of about 2 feet, at which height a false bottom is placed, and on this the herb is then trodden down by men. The lid is then let down, and under pressure the distillation is conducted by the application of direct heat at the lowest possible temperature, continuing for about four and a-half hours. The lid is then removed, and the false bottom with the Peppermint resting on it is raised by a windlass, and the Peppermint carried away in the empty carts on their return journey to the fields, where it is placed in heaps and composted. The usual yield of oil is 1 ounce from 5 pounds of the fresh flowering plant (Gri:540-1). This is the process long used in England; in America the process is much more automated.

For companion planting, Peppermint planted or strewn between cabbages protects them from the white cabbage butterfly. Peppermint growing with camomile will be hindered in its oil production, while the camomile itself benefits from this association and will have a higher oil content. Peppermint, if planted with stinging nettle, will have nearly double the oil content (Phil:68-9).

In the home garden, pick the plant's tops just before the flowers burst open. Dry it quickly in a warm, airy place out of direct sun. When it is completely dry, crumble it and store it in a cool, dry, airtight place. Be sure to cap it well each time you remove herb for use.

When you make the tea, never boil it. Add boiling water to the crushed herb, lid well, and allow to steep for three to five minutes. The herbs medicine and flavor reside in its volatile oils, which will escape if the herb is boiled.

DESCRIPTION

Peppermint is a perennial herbaceous plant, with a creeping root, and erect, quadrangular, channeled, purplish, somewhat hairy stems, which are branched toward the top and about 2 feet in height. The leaves are opposite, petiolate, ovate, serrate, pointed, smoother on the upper than the under surface, and of a dark-green color which is paler beneath. The flowers are small, purple, and disposed in terminal obtuse spikes, which are interrupted below. The calyx is tubular, furrowed, and five-toothed, the corolla is also tubular, with its border divided into four segments, of which the uppermost is broadest, and notched at its apex. The anthers are concealed within the tube of the corolla; the style projects beyond it, and terminates in a bifid stigma. The four cleft germ is converted into four seeds, which are lodged in the calyx. The herb has a penetrating, grateful odor, somewhat resembling that of camphor. The taste is aromatic, warm, pungent, glowing, camphorous, bitterish, and attended with a sensation of coolness when air is admitted into the mouth. These properties depend on a volatile oil which abounds in the herb, and may be separated by distillation with water (Weiner:151).

CHEMICAL COMPOSITION

The oil is contained in glands in the leaves. This oil contains the medicinal properties. These are from 50 to 78% free menthol and from 5 to 20% combined menthol in various esters such as the acetate. It also contains positive and negative gram menthone, cineole, negative gram limonene, positive gram isomenthone, positive gram neomenthone, and negative beta caryophyllene (Tyler:118).

RECENT FINDINGS

Sometimes people are allergic to the Peppermint flavoring in toothpastes. In six years, there were seven cases of contact dermatitis with peppermint-flavored toothpaste, although this is unusual due to the local factors in the mouth, the low sensitizing potential of the flavors, and the lack of recognition ("Contact allergy to Toothpaste Flavors," Contact Dermatitis, August, 1978, Volume 4 Number 4, pages 195-9).

Clinicians are becoming increasingly aware of the functional capabilities of sensory systems in the newborn infant. When the odor of Peppermint was introduced to sleeping infants they responded by sucking or a combination of sucking and general arousal. Habituation after three or four days lessened these responses ("Olfactory reflexes in the newborn infant," The Journal of Pediatrics, April, 1978, pages 624-6).

The sucking of Peppermint lozenges stimulated the salivary flow and could be used to help people whose salivation is decreased due to illness or injury ("Relationship between Swallow Rate and Salivatory Flow," Digestive Diseases and Sciences, Vol. 29 No. 6, June, 1984, pages 528-33).

Peppermint oil was used to flavor topical lidocaine which is used to anesthetize the pharynx and nasal passage before bronchoscopy. Most patients thought that it tasted much better than unflavored lidocaine. Although some people think that this might be ingested by children or incapacitated patients, the doctor explained that it is only used in hospitals or offices, so the danger is minimal ("Peppermint Flavored Lidocaine, a letter," New England Journal of Medicine, August 23, 1979, page 437).

Peppermint oil capsules have acted locally to reduce irritated bowels which spasm during colonoscopy (Peppermint Oil to Reduce Colonic Spasm during Endoscopy," a letter, The Lancet, October 30, 1982).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING PEPPERMINT

Barberry L.G., the liver and gall bladder combination, contains Peppermint.

AT-GS, the anti-flatulence formula, contains Peppermint.

The Herbal Tooth Powder features Peppermint.

The Nose Ointment contains Peppermint

Many of the ointments are scented with Peppermint.



PINUS SPP.; PINACEAE

DESCRIPTION

The Pine family is made up of no less than 36 different trees and shrubs with a complete roster of over three hundred distinct species. Pines grow up to 200 feet with the more common species growing up to about 50 feet. They have short and erect branches that form a narrow head. During the first or second year of growth the branchlets are orange-colored, then they turn light grey, brown or reddish-tinges. The rigid, triangular, stout needles grow in clusters of two or rarely three.

GENERAL

Although many herbalists prefer using the White Pine, many species of the Pine family are excellent medicine. We will discuss the uses of various Pines although much of the time White Pine is used.

Quite apart from their medicinal uses Pine trees are extremely important economically as their wood is straight grained and tall. Pines are beloved by camping families and woodsmen. Their familiar smell epitomizes the out-of-doors for many of us.

Pines were common during Biblical times. In the Authorized Version the words "fir Pine", "cypress", "juniper" and even in a few cases "cedar" were used interchangeably and may have referred to Pines. Newer translations are more strict about word choice and render Pines their proper places when the text says so. *Pinus brutia* grows frequently in the mountainous areas of the Holy Land and is probably the species referred to. In Nehemiah, the Pine branches used to build the tabernacles for the Feast of Tabernacles are now commonly thought to be oleasters. After Nehemiah, a Biblical scholar notes, the word Pine does not appear in the Bible but after five hundred years it is mentioned by Josephus, who says that Solomon had Pine wood brought in ships from Ophir which was made use of "partly for pillars and supports to the king's temple and palace, partly for musical instruments, as harps, cymbals, a psaltery and the like for the Levites to glorify God upon. It is to be noted that for size and beauty Solomon had never seen any of this sort of wood comparable to it before. This was none of the wood that passes commonly upon the

world for Pine in the way of trade. This was somewhat of the grain of a fig tree only a little whiter and more glossy". On considering that Josephus wrote eleven hundred years after Solomon had trees from Ophir and as we have no account of any being imported after that, Josephus' description must be received with some reservation but what he says is sufficient to show that in his time a kind of wood was known in the way of trade by the name of Pine (Mold:175). Isaiah refers frequently to Pine trees in reference to the glory of Lebanon, and wonderful forests of Pine can surely be that. In recent times many, many Pines and other trees have been replanted in Israel to reforest the hills denuded by conquerors and unwise use. The wind blows through the Pines in the Holy Land once more.

The White Pine is also called the Weymouth Pine as it refers to a Lord Weymouth who planted many of the trees shortly after their introduction to England in 1705. In the United States it grows up to 200 feet high but rarely reaches 100 feet in height in England. The wood is particularly adapted for the masts of ships and in Queen Anne's reign legal measures were taken for the encouragement of its cultivation. The bark is very smooth and the leaves grow in small bundles of five, the cylindrical cones being a little longer than these.

The Larch Pine was named in the time of Dioscorides, beginning as "Larix". It is only indigenous to the hilly regions throughout central Europe where it forms large forests in the Alps but it has for long been largely cultivated throughout Europe. It is very strong and especially valued for shipbuilding, house building and cabinet work. It is valued medicinally as an expectorant.

Siberian Cedar or Tannenbaum, Pinus Cembra, yields edible seeds which are eaten by the Russians as nuts.

The Pinion Pine grows in the American southwest. At the Santa Clara Pueblos it is said to be the oldest tree and its nuts the oldest food of the people. It was the result of going up on the western mesa and eating the fallen pinion nuts that the people "first knew north and west and south and east". Many tribes made long treks to the closest mountains to get them and since the Navajos often collected much of the crop, those who had a trading relationship with the Navajos could get extra supplies from them. The Indians supplied several recipes for the Pine nuts which we include below (Nie:47).

PINE MEDICINES

The various Pines have sometimes similar but often diverse uses. The pinion of the Southwest Indians supplied a pitch which was applied to the face to remove facial hair and to protect cuts and sores from the open air. The Pine needles were used as a cure for syphilis by the Zunis. The patient chewed the needles, swallowed them, drank a quantity of cold water and then ran for a mile or until he perspired profusely. When he returned home he wrapped himself in a heavy blanket. Women patients were not required to run. A tea of the twigs was drunk warm in conjunction with chewing the needles. Syphilitic ulcers were scraped with the fingernails until they bled and the powdered pinion gum was sprinkled over them to promote healing (Nie:50).

Chicanos and Indians used the charcoal wrapped in a wet cloth as a throat compress for laryngitis. Some chewed the gum or resin, for sore throat. They used the heated resin to bring boils to a head and to treat sores, insect bites, swellings and cuts. Hot resin smeared on a warmed cloth has been used as a poultice to treat muscular pains, soreness and pneumonia (Herbalist: Vol II No. L, page 1).

White Pine is the basis for the long lived Compound Syrup of White Pine and Tar which was a cough syrup quite common even in the last generation and which outlasted many other cough medicines. This was made from the pitch that oozed out of the wood. Harris says that this oozing is the signature of the plant representing the mucus which comes out of the bronchial tract (Har:Herbal:144). This pitch was also used externally to heal a variety of skin diseases and sores. The bark and twigs help remove morbid mucus secretions, however, they are best when combined with wild cherry, sassafras and spikenard (Meyer:122). Other medicinal uses of White Pine include using a decoction of the buds as a purgative and Pine tar for burns and the itch (Coon:157).

Montezuma Pine, *P. montezumae*, is used in Mexico to heal open wounds. The resin of this species is used for this purpose. Scotch Pine, *P. sylvestris*, furnishes a heartwood which is said to be lethal to bacteria and fungi (Lewis:360). *P. mugo*, Mountain Pine, is the source of Pine needle oil widely used as a mild antiseptic (Lewis:365). It is also used as a perfume and flavoring (Tyler:140). Pine tar is commercially obtained by the destructive distillation of the wood of *Pinus palustris*, the long-leaved Pine. It is used as a local irritant and an antibacterial agent. It also possesses expectorant properties. It is used in eczema and psoriasis preparations such as Packer's Pine tar and Polytar. The rectified Pine tar oil which is obtained from the Pine tar by distillation is used in expectorant syrups such as Pinex cough syrup and in ointments or lotions as a paraticide and an irritant (Ibid:133).

General uses of the Pine include the Pine needle bath. This is used to treat nervousness, neuritis, rheumatism, renal and heart conditions. It simulates the activity of the skin and the vapor arising from the bath has a soothing effect on the linings of the air passages in the lungs. Pine needle extract is usually purchased and is added to the water according to directions. The temperature of the bath depends on the condition being treated (Thom:176).

Moore says that the Pines found in the American West have various uses. He recommends the use of the needles as a pleasant tea simply for its good taste, notwithstanding the good diuretic and expectorant effect of the tea. The inner bark boiled and sweetened with honey is still stronger as an expectorant. It is useful after the feverish, infectious stage of a chest cold has passed. The pitch is the most specific of all. A piece the size of a currant is chewed and swallowed. This is followed shortly afterwards by strong, fruitful expectoration and general softening of the bronchial mucus. Moore especially recommends this use for children. The pitch is also somewhat useful as a lower urinary tract disinfectant, only useful if kidney infection is not also present. In New Mexico the pitch is warmed slightly over a stove or campfire and applied to splinters, glass

and other skin invaders, allowed to set and peeled off, carrying the problem with it. "While gathering near Questa one day, I encountered an elderly patriarch named Joe Rael (it was midafternoon and he was working on his third cord of wood for the winter) who had run a splinter halfway up his arm...or so it seemed. Cursing in obscure Spanish, he grabbed some pitch, warmed it over a cigarette lighter in a crushed beer can, and slapped it on the wound, waited a moment, and plucked out the splinter with the pitch. I tried the same thing the next week and got a blister for my troubles. An acquired technique, I guess" (Moore:126).

TREE OF MULTITUDINOUS USES

One of the nicest thing about the Pine of various species is Pine nuts, also called pinion nuts. These are valued by health food enthusiasts and connoisseurs of good food but they are also a staple food for many Indian tribes. The Hopis do not allow their pregnant women to eat the Pine nuts lest the unborn child grow too fat (the nuts have more than 3,000 calories a pound!) but they grind the shelled nuts to make a cooked baby gruel, flavored with honey. They also mix the nuts with sunflower seeds and make cakes of them, baking at 350 degrees for almost an hour. Hopis in the olden days used to grease their moccasins with the oil extracted from the nuts. They also used the pitch to waterproof their baskets and chewed it for chewing gum (Nie:49-50). To preserve the Pine nuts they would combine the nuts with some hot coals in a basket, shaking fast so that the coals wouldn't burn the basket but would nicely roast the nuts. Another method, which won't destroy your Indian baskets, is simply to roast the nuts at 250 degrees F. for one hour, stirring occasionally. To shell them easily while they are still warm, put them between two damp cloths and roll them vigorously with a rolling pin. To roast the nuts over an open fire put them in a cast-iron skillet and shake them over the fire until a sample nut is toasted to your taste (Nie:48).

The USDA has determined that a 100 gram portion of Pine nuts contains 635 calories, plus 13 grams of protein, 60.5 grams of fat, 20.5 grams of carbohydrates, 100 milligrams of phosphorous, 5.2 milligrams of iron, 1.28 milligrams of iron, 12.8 milligrams of thiamine, .23 milligrams of riboflavin, and 4.5 milligrams of Niacin. What a pleasant way to get these essential nutrients!

The New England Indians boiled the spring-collected needles for drinking during a week long fast. This was done to prevent scurvy and research in modern times has shown that the needles contain about five times as much Vitamin C as lemons. The Russians have used an infusion of Pine needles as a source of this vitamin also (Har:Eat:187-88).

The thin layer of delicate and tender tissue just underneath the bark contains a rich descending current of sugary liquid manufactured by the needles. Often during times of hunger people have been able to sustain life by gathering this inner layer of wood for food. Drying this bark to be eaten with meat and fat of animals could spell the difference between life and death. Hemlock and spruce trees also contain this good food. No one need go hungry in the forests. This sweet substance has been extracted for use as a non-sugar sweetener.

The needles can be used to flavor game such as venison and game birds such as quail or grouse (Rose:Herbal:90).

The resin of the Pine is almost entirely used, in its crude form, for the distillation of Oil of Turpentine and Rosin, only small quantities being used medicinally. When the Oil of Turpentine is entirely distilled off the residuum is Rosin or Colophony, but when only part of the oil is extracted the mass remaining is sold commercially as crude turpentine. Oil of turpentine is a good solvent for many resins, wax, fats, etc. Medicinally it is much employed in both general and veterinary practice as a rubefacient and vesicant and is valuable as an antiseptic. It is used for horses internally as a vermifuge and externally as a stimulant for rheumatic swellings and for sprains and bruises and to kill parasites (Gri:633).

Rosin is not only used by violinists for rubbing their bows but also in making sealing wax, varnish, and resinous soaps for sizing paper and papier mache and dressing hemp cordage. One of its special uses is for making brewer's pitch for coating the insides of beer casks and for distilling resinous oils when the pitch used by shoemakers is left as residuum. Pitch is also used in veterinary practice.

Tar is an impure turpentine, viscid and brown-black in color, procured by destructive distillation from the roots of the various Pines. It is used medicinally especially in veterinary practice for its antiseptic, stimulant, diuretic and diaphoretic action. Tar water is given to horses with chronic cough and used internally and externally as a cutaneous stimulant and antiseptic in eczema. Oil of Tar is used instead of Oil of Turpentine in the case of mange, etc.

Pine oil is used for making paints which dry without gloss and as a "flatting" material. It flows well under the brush and is a powerful solvent and is useful for emulsion paints used for inside work.

Pine resins are employed for the manufacture of brown soaps (Gri:633-4).

HISTORICAL USES

Pine is used to remove facial hairs, to protect cuts and sores, for syphilis, laryngitis, for sore throat, insect bites, swellings, cuts, muscular pains, soreness, pneumonia, skin diseases, mucus secretions, burns, itch, as a mild antiseptic, for perfume and as a flavoring, to treat nervousness, for neuritis, rheumatism, renal and heart conditions, for softening of bronchial mucus, for kidney infection, as a source of food (Pine nuts), and in veterinary practice as an antiseptic and a stimulant.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING Pine

The Herbal Composition powder contains white Pine bark.

The Black Ointment contains Pine tar.

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PINK ROOT

SPIGELIA MARILANDICA; LOGANIACEAE

DESCRIPTION

Pink Root is an herbaceous plant with a perennial root, which sends off numerous fibrous branches. The stems, several of which rise from the same root, are simple, erect, four-sided nearly smooth, and from 12 to 20 inches high. The leaves are opposite, sessile, ovate-lanceolate, acuminate, entire, and smooth, with the veins and margins slightly pubescent. Each stem terminates in a spike, which leans to one side, and supports from 4 to 12 flowers with very short peduncles. The calyx is persistent, with five long, subulate, slightly serrate leaves, reflexed in the ripe fruit. The corolla is funnel shaped, and much longer than the calyx, with the tube inflated in the middle, and the border divided into 5 acute, spreading segments. It is of a rich carmine color externally, becoming paler at the base and orange-yellow within. The end edges of the segments are slightly tinged with green. The stamens, although apparently very short and inserted into the upper part of the tube between the segments, may be traced down its internal surface to the base. The anthers are oblong, heart-shaped; the germ superior, ovate; the style about the length of the

corolla and terminating in a linear fringed stigma projecting considerably beyond it. The capsule is double, consisting of two cohering, globular, one-celled portions, and containing many seeds.

The plant is a native of our southern states, being seldom if ever found north of the Potomac. It grows in rich soils on the borders of woods, and flowers from May to July. The root is the official part although the whole plant has been gathered and dried for sale (Weiner:153).

GENERAL

Pink Root has one specific purpose, Dr. Christopher said, for which it is quite safe, as long as it is administered properly. It is an active and certain remedy for both tapeworms and round worms.

WORMGRASS

This herb was used by American Indians long before the discovery of North America by the Anglo-Saxons. Through their teaching of its use to white settlers, it was long in use before the medical profession recognized its properties. In 1750, a Dr. Browne said that it had long been used as a vermifuge by the Indians and the Negroes of the West Indies, and the native peoples of South America. Drs. Lining, Chalmers, and Garden of South Carolina acquainted the medical public with its use, after which it became an official remedy in the United States. It was introduced into England by Nickley, Brocklesby, and others; narcotic properties were attributed to it. The latter were said to have caused death, although this was never substantiated.

It grows mainly in the western United States, where it is very abundant, and is gathered and exported abroad in bales and casks.

Botanists have varied in their classification of this plant. It has been given the order of Loganiaceae, in addition to Gentianaceae, Spilaceae and Rubiaceae. Other names for the plant are Carolina Pink, Worm Grass, American Worm Grass, Indian Pink, Maryland Pink, Carolina-, Maryland-, and American-Pink Root, and starbloom.

Formerly, a preparation was sold under the name of Worm tea; this contained Pink Root, Senna, Manna, and Savin. It was mixed in different strengths by the apothecary to suit individual needs (Weiner:153).

The numerous long thick rootlets are said, in the Doctrine of Signatures, to give the appearance of small snakes or large worms, inferring its good use as a vermifuge (Har:Complete:144)

EXCELLENT WORM REMEDY

Pink Root is considered to be a most active and certain vermifuge, especially among children. An infusion was sometimes given to children liable to worm infestation in place of ordinary tea. It is so commonly associated with purgative when used against worms that it is thought to act upon

the intestinal worms by benumbing if not killing them, after which an associated purgative, such as cascara sagrada, expels them from the bowels.

Dr. Christopher suggested a combination that would take care of both functions at once. He said to mix two teaspoons of Pink Root powder, 2 teaspoons of American wormseed powder, and 20 grains of cascara sagrada powder. This would be mixed well and divided into twelve equal doses. One dose, three or four times day, would be taken in something sweet, like honey or jelly. This procedure would be repeated in a week or so to kill any worms before they mature that were possibly hatched from eggs left in the intestines. If there is itching in the rectum, it could be treated by a small garlic or onion enema. The rectum area should be kept very clean with soap and water. If there is itching in the genital organs, the worms may have migrated there, and an injection of garlic or onion will take care of that. This treatment is especially useful for children, who are often very prone to getting worms through associating with other infested children or with animals.

Dr. Christopher said that any good cathartic may be used with this treatment but never castor oil; this should never be taken internally.

In large doses, the herb is said to be apt to purge and produce various unpleasant symptoms, such as increased action of the heart and arteries, dizziness, dilatation of the pupils, imperfect vision, and muscular spasms, often terminating in convulsions. One of its more frequent effects is twitching spasms of the eyelids.

One gentleman, a Mr. Thompson, took large doses, and found that it produced quickness of the pulse, flushed face, and stiffness of the eyelids. In another case, $\frac{3}{8}$ of an infusion of three drams of the root, in boiling water, were given to a child; after the third dose, the skin became hot and dry; pulse rose to 110 and irregular; the face, especially about the lids, was much swollen; the pupils widely dilated. There was the inability to focus both eyes on an object together and a wild staring expression of countenance. The intellect seem unaffected, but the child could not sit up or stand without general tremor which made the effort impossible. The tongue was also very tremulous. The next morning every symptom had disappeared except the swelling of the eyelids. These symptoms, however, rarely occur in general use, possibly because the cathartic eliminates the herb from the system rather quickly. If taken as Dr. Christopher recommended, there should never be any problem.

If you do not wish to make a combination of herbs, the infusion can be taken, one teacupful morning and night for adults; one tablespoon morning and night for children, followed always by the use of an herbal cathartic.

If you should happen to take an overdose, the remedy is a mixture of alcohol, ammonia, and ammonium carbonate.

The Eclectic School suggested an agreeable form of administering the herb. To 16 fluid ounces of

water add 8 ounces of powdered Pink Root and 4 drams of Corsican moss; boil down to 10 fluid ounces. The decoction should be decanted into a saucepan containing 2 1/2 ounces of sugar, and again boil down, carefully stirring with a silver spoon, until 4 ounces of jelly are obtained. Strain through a sieve into a jar containing 2 drops of the essence of citron or caraway. It will keep for some time in a cool place, and its flavor may be improved by substituting syrup of raspberries, strawberries, gooseberries or mulberries for the sugar (FeE:1808). This is also useful in those conditions of the system which are caused by worms, which resemble infantile remittent fever and other fevers, also hydrocephalus (*Ibid.*). The herb is said to be a remedy for endocardial troubles, although it is inferior to its sister, *Spigelia anthelmia*.

The herb is sometimes administered combined with senna, fennel, or wheatgrass (Thom:203). Among many practitioners, it is still a valued formula today. Some, however, consider its use too dangerous for anyone except a skilled herbalist and discourage it (Weiner:154).

HISTORICAL USES

Use for tapeworms and round worms as a vermifuge.

CULTIVATION, COLLECTION, PREPARATION

The plant is generally found under partial shade, but it may be grown in the open in rich moist loamy soil. It is propagated either from seed or from divisions of old roots. The seed, which ripens in midsummer, should be sown immediately in drills six inches apart in a well-prepared seedbed or mixed with moist sand and kept in a cool place and sown in fall. In spring, when the young plants are a few inches high, they are set in their permanent location, spaced 18 inches apart in rows at least three feet apart. The old roots are divided when dormant, so that each division consists of a portion of the root with one or more buds and a number of the small rootlets. They are set in the same manner as the seedlings. Thorough cultivation to control weeds is necessary (RodE:851).

RELATED PLANTS

The genus *Spigelia* comprises some thirty species, all American, mostly tropical, and several of them used like Pink Root. Chief of these is *S. Anthelmia*, native of the West Indies and northern South America, where it grows abundantly and is used as an anthelmintic. It is an annual, growing up to 2 feet high, of a similar habit to Pink Root. It has a stronger narcotic and bitter taste than Pink Root. In large doses, this is said to be a very powerful poison, causing death to animals and humans (Gri:638).

CHEMICAL COMPOSITION

The herb contains a poisonous alkaloid named spigeline. This resembles nicotine, lobeline, and

coniine.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING PINK ROOT

Dr. Christopher has no products containing Pink Root.

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PLANTAIN

Plantago major ***PLANTAGINACEAE***

DESCRIPTION

A man came into Dr. Christopher's office in Olympia, Washington, with an arm that was held away from his body because he couldn't bear the pain of dropping the arm to his side. There was a painful lump in the armpit, the size of a baseball. A red streak also ran up the length of the arm starting at a point of infection in the hand. A few days before, he had cut the palm of his hand with a chisel. He felt he couldn't take time off to go to a doctor, so he wrapped a rag around the wound to stop the bleeding and went on with his work. In a day or two he noticed swelling and fever in his damaged hand had really began to be concerned. A friend of his had had a similar situation and the family doctor had amputated the arm. He didn't want to lose that arm! He wanted to try some other, "unorthodox" procedure.

Dr. Christopher took him out onto the lawn in front of his office and showed him some Plantain growing there. The man knew the plant well; he had been trying to get it out of his lawn at home! Dr. Christopher told him to have his wife get a number of the plants, rinse off the dirt, and bruise the plants using a mortar and pestle, a hammer, a blender, or food or meat grinder--whatever--and put the bruised herb, root, leaves, seed and stem, every part, right over the cut area. The Plantain

would be covered with gauze and bandaged to hold it in place. The man wanted to know what he should do besides the bandaging, and Dr. Christopher told him to drink some of the Plantain tea, three or more cups a day. He asked if he should come back the next day, but Dr. Christopher told him that if he followed the instructions, this was a "do-it-yourself kit"; he would be healed. The man left the office but was back within several days. He came to pay the office call and gratefully show the Doctor a hand that was healing rapidly with no scar. He said that right after using the poultice, the pain stopped and the red streak faded away and the lump in the armpit started getting smaller within hours. By the time of his visit, the streak and lump were entirely gone and he had full use of the hand and arm again at work--"good as ever", he concluded.

A lady called Dr. Christopher to quickly come make a house call, as her son, age about 10, had been stung by a wasp. His hand was swollen and he had passed out from the pain. Before getting ready to go, Dr. Christopher stepped out on the lawn to get some fresh Plantain leaves to poultice the sting with, but it was too early in the year to find any Plantain leaves. He went into the office and got a small jar of Plantain ointment and put it into the bag.

When he arrived at the home, the boy was unconscious on the floor and his hand was swollen to nearly twice its normal size.

The wasp had stung him on top of the hand. Using a spatula, he put, right over the sting area, enough Plantain ointment to cover the size of about a silver dollar and about a quarter to a half inch thick, placed a gauze patch over the ointment, and then with additional gauze put a bandage on the hand to hold the ointment in place.

By the time the Doctor was ready to leave, the boy had regained consciousness and was sitting up. The mother said, "Is that all you're going to do?" The Doctor said, yes, it would take care of the sting and give relief from the pain in a short time. Within the half hour, after applying the ointment, the boy said the pain was much better. He was out playing baseball that afternoon with no discomfort, and the swelling was completely gone, the hand back down to its normal size.

Dr. Christopher informed his students that the herb is an alterative, diuretic, and antiseptic. It would clear up infections, which makes it perfect for applications to wounds perhaps instead of strong antiseptics that are used to kill germs.

One of Dr. Christopher's beloved teachers, Dr. Nowell, was on a holiday with his family. A hornet stung the baby, two years old, so much that the neck swelled to a dangerous point, and no physician was available for twenty miles. The sixteen-year-old daughter remembered Plantain. She found four leaves near the camp and bound them on the child's neck, and when the bandage was removed an hour later, no trace of the trouble could be found (Mast:lesson 19, page 1).

Dr. Shook also described a great healing experience with Plantain. A woman with only one arm came to him in great distress. She had been stung by a bee on the only hand she had left. Several years previously, she had been similarly stung by a bee. That time she had gone to a doctor, because the whole arm was swollen and she was in great pain and even danger of her life with the

infection.

The doctor lanced and drained the pus from the infected hand, but still the arm continued to swell. Finally, the doctor amputated the arm. This lady was full of despair, thinking that now she would have to lose the other arm.

Dr. Shook went outside his door to where some Plantain was growing. He picked some of the leaves, telling the woman to wash them and crush them, making a poultice to apply to the arm where she had been stung. The next day the lady returned to thank Dr. Shook for his advice and to pay him. The hand was entirely well. No sign of poison or inflammation could be seen, where only a day before there was swelling, inflammation, and the risk of amputation.

Plantain grows almost everywhere; it is considered to be a real lawn pest, and people go to great measures to eradicate it. But we should be glad it's in our lawns--plant it there if we aren't troubled by it--and gather it. It should be preserved against emergencies in ointment or tincture form.

WHITE MAN'S FOOT

Plantain is truly an ancient herb. One legend has it that Adam didn't cover himself with fig leaves (they were too small to do the job) but with a leaf of broad Plantain!

The Romans called this herb plantago, from planta, meaning broad or spreading, which was the root word for "plant" and also meant the sole of the foot. Plantago was anglicized to Plantain. By odd coincidence, the Indian name for the plant was White Man's Foot, for wherever the white man went, this plant seemed to follow in his footsteps.

The herb, as common and even disliked as it is (for it disfigures lawns, which is how most people know the plant), is attributed many miraculous cures. Pliny stated "on high authority" that if Plantain is put into a pot where many pieces of flesh are boiling, it will join them together. He also said that it would cure the madness of dogs.

Dioscorides said that they would stop all malignant, leprous, running, and filthy ulcers. He maintained that it would heal a mad dog bite. It should be given for dropsy, he said, as well as asthma and epilepsy. It would help the pains of the ears, the griefs of the eyes, bleeding gums, and the spitting of blood. It would stop dysentery applied as a bolus. It would help stranglings of the womb (whatever they may be) and overabundant menstruation, again applied internally. The seeds made into a tincture in wine would help diarrhea and the spitting of blood. The root chewed would help toothache, he said, and the root and leaves would heal ulcers in the bladder and kidneys. Some used the root as an amulet. And, as a secret, Dioscorides confided that the Syrians taught that the broth of Plantain, with calamint and honey, will cure someone who is paralyzed, being given on Tuesday, Thursday and Friday!

An ancient Anglo-Saxon herbal said that "Waybread" is one of the nine sacred herbs. In this

venerable source is written a salve for "flying venom": "Take a handful of hammer wort and a handful of camomile and a handful of waybread and roots of water dock, seek those which will float, and one eggshell full of clean honey; then take clean butter, let him who will help to work up the salve, melt it thrice; let one sing a mass over the worts before they are put together and the salve is wrought up" (Gri:641).

Another old English herbal said that if a mad dog bit a man, Plantain, rubbed fine and placed on the wound, would completely cure the problem. Erasmus, in his Colloquia, tells the story of a toad, who, being bitten by a spider, was straightway freed from any poisonous effects from the bite by the prompt eating of a Plantain leaf.

The story goes that a dog was one day bitten by a rattlesnake and a preparation of the Plantain and salt was applied as promptly as possible to the wound. The animal was in great agony, but quickly recovered and shook off all trace of its misadventure (Ibid.).

Gerard mentioned that the juice dropped in the eyes cools the heat and inflammation thereof. He merely shrugged off, however, the "ridiculous toys" or "old wives" tales that three roots will cure one grief, four another disease, six hung about the neck are good for another malady, etc. (Wood:118).

Culpepper noted that "the plantains are singular good wound-herbs to heal fresh or old wounds or sores, either inward or outward". In at least two Shakespearean plays, the herb is recommended for wounds:

Romeo: Your plantain seed is excellent for "that", Benvolio? For what, I pray?
Benvolio: For your broken shin.

The herb is immortalized in poetry perhaps as much as any other.

Mother of worts,
Over thee carts creaked,
Over thee Queens rode,
Over thee brides bridalled,
Over thee bulls breathed,
All these thou withstoodst,
Venom and vile things
And all the loathly things
That through the land rove
(Aelfric, c. 955-c. 1020, Lacunga)

An old Chinese poem went:
Gathering Plantain Seed
Pluck, pluck, the plantain spikes!
This is how we pluck them off!

Pluck, pluck, the plantain spikes!
In our hands we hold them firm!
Pluck, pluck the plantain spikes!
This is how we crush them up!
Pluck, pluck the plantain spikes!
Rub them thus to thresh them out!
Pluck, pluck the plantain spikes!
In our aprons put the seeds!
Pluck, pluck the plantain seeds!
With our girdles tie them tight!

In Hiawatha, Longfellow wrote:
Whereso'er they tread, beneath them
Springs a flower unknown among us;
Springs the White Man's Foot in blossom.

Oliver Wendell Holmes, in The Island Ruin, mentioned the herb:
Knot-grass, plantain--all the social weeds,
Man's mute companions, following where he leads.

Salmon's Herbal in 1710 gave the following uses for Plantain: "the juice, clarified and drunk for several days, helps distillation of rheum upon the throat, glands, lungs, etc. An especial remedy against ulceration of the lungs and a vehement cough arising from the same. It is said to be good against epilepsy, dropsy, jaundice and obstructions of the liver, spleen and reins. It cools inflammations of the eyes and takes away the pin and web (so-called) in them. Dropped into the ears, it eases their pains and restores hearing much decayed. The powdered root mixed with equal parts of pellitory of Spain and put into a hollow tooth is said to ease the pain thereof. Powdered seeds stop vomiting, epilepsy, lethargy, convulsions, dropsy, jaundice, strangury, obstruction of the liver, etc. The liniment made with the juice and oil of Roses eases headache caused by heat, and is good for lunatics. It gives great ease (being applied) in all hot gout, whether in hands or feet, especially in the beginning, to cool the heat and repress the humors. The distilled water with a little alum and honey dissolved in it is of good use for washing, cleansing and healing a sore ulcerated mouth or throat. He also said that a good cosmetic is made with the essence of Plantain, houseleeks and lemon juice (Gri:642).

The Russians call the herb "Podoroshnik", meaning "near the road" or "along the road". It is valued there for inflammations, ulcers, and stomach pain.

The American Indians used Plantain for a variety of ills. It is said that a South Carolina Indian was given a reward for the information that Plantain was the chief remedy for the cure of rattlesnake bite. Indians are said to have applied a poultice of Plantain for battle bruises and for drawing out snake poisons (Coon:211). The Shoshone Indians made poultices of the whole plant and applied them to the bruises of battles. In some cases, the poultices are combined with the

foliage of wild clematis. The Indians of southern Massachusetts applied the leaves both for wounds and for snakebites (Coon:158). The Chippewas used it for inflammation, and as an application to draw out a splinter (Densmore:291).

As late as 1903, Lady Northcote, in The Book of Herbs, tells about an ointment made by an old woman in Exeter, England, that up to her death was in much request. It was made from southernwood, Plantain leaves, black currant leaves, elder buds, angelica and parsley, chopped, pounded and simmered with clarified butter, and was considered excellent for burns or raw surfaces (Gri:641).

Other names for Plantain include Broad-leaved Plantain, Ripple Grass, for the ridges which are very prominent in some varieties, Waybread, Slan-lus, which means Plant of Healing in the English highlands, Waybread, Snakeweed, referring to its ability to neutralize snake bite, cuckoo's bread, Englishman's foot (this in New Zealand and Australia, where the white man brought Plantain just as in America), and in Anglo-Saxon, Weybroed. Legend calls it the Foot of Christ, saying that it grew wherever he walked (Rose:Herbal:90).

ALTERATIVE HERB

Alteratives are very important herbs. They gradually alter and correct impure conditions of the blood without increasing the elimination through the colon. They slowly but surely clean and purify the bloodstream and at the same time tone up the organs which are not properly eliminating. Because Plantain is a germicide as well as an Alterative (among other things!) it is a very important herb.

Although historically, Plantain is most known for its external application, it is also wonderful as an internal remedy. It is often recommended for impure or septic conditions of the blood which lead to serious diseases such as cancer (ShoA:337). It is useful in the treatment of water retention and kidney and bladder affections (Tie:109), and yet is known to stop profuse discharges, even profuse menstruation (Kloss:297). It was used during the Middle Ages for women's troubles, and European herbalists even now use it, in connection with other herbs and treatments, to treat frigidity in women (Lewis:331). It helps with diarrhea, pain in the lumbar region, and will help stop bedwetting (Bethel:134). Proteolytic enzymes found in the fresh leaf and the fresh or dried root make it useful as a gentle internal vasoconstrictor for mild intestinal inflammation, from stomachache to dysenteric inflammations (Moore:129). The dried leaves or roots made into a mild tea will help treat chronic lung problems in children. The fresh juice can be almost miraculous to treat stomach ulcers; it can be preserved with twenty-five percent vodka or ten percent grain alcohol, putting one teaspoonful into warm water before every meal until pain ceases. The seeds, like the psyllium of the sister plant, can be soaked in hot sweetened water or fruit juice until a mucilage is formed and the whole gruel drunk as a lubricating laxative (Ibid.).

In early times, the tea was drunk to relieve thirst and reduce fever, to remove obstructions from the system, and as an astringent, although in later times the internal uses of the herb have almost totally been replaced by external uses.

One of the foremost of these is to treat wounds and sores of all kinds. The herb is so common that we often overlook it when we are injured out of doors, yet there is a "first-aid kit" right at our feet. If you get a bee sting while playing in a park or on your lawn, just look around for some Plantain. Chew a leaf just enough to bruise it, then apply to your bee sting. This will cool, comfort, and help heal your wound. It will help stop bleeding and makes a good protective first-aid bandage out of doors. If using it over a longer period of time, change it daily or more often as needed. For large areas of skin irritation, make a tea of Plantain and wash with it. A few drops in the eyes or a simple poultice over the eyes will alleviate inflammation and irritation from strain or smog--but make sure that you make this tea with distilled water and be sure that it is strained well (Sal:Plantain).

If you chance to be troubled with poison ivy or poison oak or other such plants, look around. You should be able to find a Plantain plant (or mullein or hound's tongue) to ease the pain and inflammation. One person recommends using Jewel weed as well, although we haven't had experience with this plant.

Plantain is commonly known to relieve the pain and neutralize the toxins of insect and snake bites. Take a fresh leaf or two, chew it slightly and then apply directly to the bite. If you cannot get the fresh herb, use the ointment, which you should take with you on any outing or camping trip that you take. If you can, take along the extract or tincture; should the fresh herb not be available, you can drop a few drops into hot water and take that, too. Be sure to renew applications of the Plantain on the bite until swelling and pain cease.

An unusual use of the petiole of the Plantain: for aching ears, in Europe and also in Russia, small pieces are placed in the ear when teeth are aching. It should relieve the pain of the earache (Lewis:257).

Hikers with sore feet put fresh Plantain leaves into their socks to prevent blisters. It really works, especially when one gets a hole in his sock (Nebelkopf:130).

Because of the shape of the plant stem, some people have considered that the herb works as an aphrodisiac. Other interpretations of the Doctrine of Signatures include the plant stems as snakes, which means that the herb will treat snake bites (Harris:Complete:146).

The herb is said to be so actively antiseptic that it equals or surpasses some of the best commercial antibiotics. It is thus considered one of the best medicinal plants available to the herbalist (Barlow:51).

It is well known for the treatment of piles (hemorrhoids). Make a strong tea with an ounce of granulated Plantain to a pint of boiling water. Let steep for twenty to thirty minutes. For hemorrhoids, use a syringe and inject one tablespoonful of this tea three or four times a day at least, and especially after each stool, using more frequently in bad cases. For external

hemorrhoids, apply externally with soft gauze or cotton. A saturated piece of gauze may be kept on the piles by using a belt or band around the body to which has been attached a narrow strip of cloth for holding the saturated gauze. Plantain ointment may also be applied, and even a poultice of the fresh, pulped herb may be held to the area with a cloth band (Kloss:296).

For skin diseases that result in scrofula or eczema, use the tea internally as a blood cleanser and use the strong tea externally as a wash. If the skin is not oily, you can use the ointment topically to affected areas.

To make an injection to stop diarrhea, use a strong tea and inject one tablespoon three or four times daily to stop the problem. You can also drink a mixture of Plantain, silver weed and knotgrass for the problem.

As mentioned in the introduction, for blood poisoning, use the Plantain preferably as a poultice but also possibly as a fomentation, and increase internal dosage as needed.

In India, the herb is given as a cold infusion in urinary disorders and dysentery. It is also used in arresting fluxes and griping pain in the bowels (IMM:986).

In China, the plant is considered as much a pest as it is everywhere else in the world. It grows at the roadside and in dooryards, and is exceedingly prolific, springing from both seeds and roots and killing out all other grass. Formerly the plant and the seeds were eaten, and in rare cases this is still done. The seeds are mucilaginous and have a sweetish cooling taste. They are considered to be quieting, diuretic, antirheumatic, and tonic. The drug is good for wasting diseases in male and female, promotes the secretion of the semen, and therefore conduces to fertility (Shih:335). It has an ancient reputation in China, used for spermatorrhea and loss of sexual power. It is often combined with flaxseed, taken in tea, which is said to heal the prostate gland (Lucas:Secrets:148-9). It nourishes the liver, assists in difficult labor, and cures summer diarrhea. The plant and the root are used as astringents in wounds, nosebleed, hematuria, and other hemorrhages, as a diuretic, in seminal emissions, and in gravel (Shih:335).

Additional uses include making the seeds into a jellylike water, or using the fresh juice, to treat intestinal ulcers, spitting of blood, and internal inflammation generally (Thomson:178). It is used to treat diabetes, dysentery, earache, ear inflammation, pains of the spleen, tobacco habit, toothache, delayed urination, and worms (*Ibid.*).

PLANTAIN FOR DINNER

Plantain has often been recommended by wildfood enthusiasts as a good salad plant, when quite young, or as a pot-herb. The young leaves are said to be a good addition to vegetable stew, nicely chopped, and served with a dash of lemon juice and butter (Langshaw:30).

The seeds serve well as additional feed for chickens, other domestic fowl, canaries, and caged birds. Goslings are known to gorge themselves on patches of the tough leaves; thus the plant is

known as cuckoo's bread. Although the seeds are not generally recommended for human consumption, they might add some protein to the diet (Harris: Eat: 188).

The mucilaginous qualities have been used in hair lotions, while the leaves and roots are a source for a good green dye.

Sheep, swine and goats eat it, but cows and horses refuse it.

CULTIVATION, COLLECTION, PRESERVATION

Anyone devoted to an immaculate lawn will laugh at the notion of cultivating Plantain. Its root system, persistent and tough, makes it almost impossible to eradicate. One breath of wind and the plants are multiplied easily from seed, while they also spread by roots. However, if you should want to start some Plantain in your garden, simply locate a plant that is newly in flower and wait until the seeds develop. Gather these seeds and sprinkle them in your plot, covering lightly and watering. You'll get Plantain plants. And we are serious in saying that every family should have access to this plant, as unpleasant as it may sometimes seem. In emergencies, it may save someone's life.

You can gather the whole plant, including the roots, anytime during the summer months. It is best gathered in the afternoon when the dew has completely dried from it. Wash the plant quickly, shake it dry, and cut it into pieces. It should be dried quickly, as it can lose its potency in the open air. You can make an ointment of Plantain to have always available during emergencies, and you can make it into a tincture with 90 proof or better alcohol for internal use out of season.

DESCRIPTION

Plantain grows from a very short rhizome, which bears below a great number of long, straight yellowish roots, and above, a large, radial rosette of leaves and a few long, slender, densely-flowered spikes. The leaves are ovate, blunt, abruptly contracted at the base into a long, broad channelled petiole. The blade is four to ten inches long and about two-thirds as broad, usually smooth, thickish, five-to-eleven ribbed, the ribs having a strongly fibrous structure, the margin entire, or coarsely and unevenly toothed. The flower-spikes, erect, on long stalks, are as long as the leaves, one-fourth to one-third inch thick and usually blunt. The flowers are somewhat purplish green, the calyx four-parted, the small corolla bell-shaped and four-lobed, the stamens four, with Purple anthers. The fruit is a two-celled capsule, not enclosed in the perianth, and containing four to sixteen seeds.

Plantain belongs to the natural order Plantaginaceae, which contains more than 200 species, twenty-five or thirty of which have been reported as in domestic use.

The drug is without odor; the leaves are saline, bitterish and acrid to the taste; the root is saline and sweetish (Gri: 640).

CHEMICAL COMPOSITION

The plant is believed to be rich in vitamins C, K and the factor T, which helps stop bleeding.

TOXICITY

Plantain is quite a mild herb, but some warn that repeated or strong use could result in poisoning. Symptoms of an overdose include headache, excessive digging and boring pain in carious teeth; severe dryness of the fauces and pharynx; colic; urging to urinate with copious discharges; looseness of the bowels; weakness and oppression of the chest; restless sleep; and a strong fever, with a high pulse which finally becomes weak and intermittent (Millspaugh:422).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING PLANTAIN

The Black Ointment contains Plantain.

Plantain Ointment is also sold.

RELATED PLANTS

Several other species of the Plantain family are useful medicinally and may be available in various localities.

Plantago coronopus, Buck's Horn Plantain, grows in England. It has divided leaves more or less downy and usually prostrate. The flower spikes are slender, many-flowered, either short or long, the bracts to the flowers having a long point and the sepals are strongly winged. The herb is useful for strangury (difficult, painful urination) and is used for stones in the kidney. An old herbalist, Salmon, wrote in the 1700's that "the cataplasm of leaves and roots with bay salt applied to both wrists and bound on pretty hard (yet not too hard) cures agues admirably" (Gri:642). The decoction of the leaves is said to be helpful when applied to sore or water eyes.

Plantago media, Hoary Plantain, is a common meadow species. The plant lies very close to the ground, the flowers stalks being shorter than P. Major, but with a longer stalk, which is downy. The flowers are very fragrant, and conspicuous by their light purple anthers, the filaments being long and pink or purplish. This is reputed to be a cure for blight on fruit trees. A few green leaves from the plant, if rubbed on the part of the tree affected, will cure instantaneously, and the wounds on the stem afterwards heal with smooth, healthy coverings. The plant is often found growing underneath trees in orchards. The medicinal uses of this Plantain are much the same as P. major.

P. ovata, Ispaghul Plantain, grows in India, Persia, Spain and the Canary Islands. The mucilage in the seed coat is sometimes used to stiffen linen. It is used in place of linseed or barley, also for diarrhea and dysentery; the decoction is a good demulcent to reduce inflamed mucous membranes of the intestinal canal. When roasted the seeds become astringent and are used for children's diarrhea. In European medicine they are used chiefly for chronic diarrhea and for catarrhal conditions of the genitourinary tract.

P. psyllium, or Psyllium Plantain, is the source of the psyllium seed often used by natural healers.

This seed is named after the Greek word meaning flea, referring to the color, size, and shape of the seed. It is also called fleaseed. Other names for this plant are P. arenaria, from the Latin arena, referring to the sandy habitat of the plant; and P. ovata, referring to the ovate shape of the leaf. The plant is native to the Mediterranean area but is cultivated extensively in France, which yields the bulk of the American imported psyllium seed. In Europe, the seeds have been a domestic remedy since the sixteenth century, but only since 1930 have they been extensively used in America as a popular remedy for constipation. Natural healers often recommend them, ground with flaxseed and soaked overnight, for those who cannot take herbal laxatives for various reasons, such as pregnancy. The action of the seed is caused by the swelling of the mucilaginous seed coat, thus giving bulk and lubrication. The remedy should be taken with a good deal of water. Proprietary products use the mucilaginous layer of the seed coat which is separated by a physiochemical process. It is combined with other chemicals to make products to treat constipation, such as Metamucil, Hydrocil, Mucilose, Serutan, and so on (Tyler:50-1).

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PLEURISY ROOT

ASCLEPIAS TUBEROSA; ASCLEPIADACEAE

GENERAL

Pleurisy root is an American Indian herb. In addition to using it for medicine, some western Indians used it for food, boiling the root-tubers for a potato substitute and making a sugar syrup from the flowers. The shoots were eaten by Canadian Indians as a sort of asparagus. Medicinally, Pleurisy Root's name explains itself; it was formerly much employed for both pneumonia and pleurisy. It acts as an excellent diaphoretic, and will act quickly to break up flu, colds, etc. It has been recommended for irritable children troubled by digestive problems. It acts specifically on the lungs, however, reducing inflammation and aiding expectoration. It has been used in acute dysentery and chronic rheumatism; in large doses it is emetic. Pleurisy Root is one of the milkweeds that doesn't exude a white juice; its juice is opaque green and its blossoms are orange instead of the usual cream color. For many years it was official in the American pharmacopeia, only recently having been surpassed by "miracle drugs" for serious problems as mentioned above.

HISTORICAL USES

Used for pneumonia, pleurisy, as a diaphoretic, for colds and flu, for irritability in children due to digestive problems, as an expectorant, for dysentery, chronic rheumatism and as an emetic.

POKE

PHYTOLACCA DECANDRA, PHYTOLACCA AMERICANA; PHYTOLACCACEAE

DESCRIPTION

Poke is a handsome plant growing from three to nine feet tall. It is perennial, with a root of large size, frequently exceeding a man's leg in diameter, usually branched, fleshy, fibrous, whitish within, easily cut or broken, and covered with a very thin brownish bark or cuticle. When young the stem is green, but as the plant matures it becomes more or less purple. The stem is annual, about one inch in diameter, much branched, smooth, stout, and hollow. The leaves are opposite, scattered, ovate, entire, 5 inches long by 2 or 3 inches wide, smooth on both sides with ribs underneath. The flowers are numerous, arranged in long racemes opposite the leaves. There are no petals, but 5 rounded, incurved, petaloid sepals, whitish or greenish-white in color. Stamens are low, shorter than the sepals. Styles 10, recurved. Ovary of 10 carpels, green, and united in a ring. The fruit is a handsome, flattened, black or blackish-purple berry, 10 seeded, and contains a beautiful crimson juice (Felk:1471).

GENERAL

Poke is one of the more important medicinal plants in America. It is a wild plant rarely cultivated and yet it is known all over America and in many European countries (Hyl:537). It also grows in the Mediterranean countries, North Africa, China and in the Sandwich Islands (Felk:1471). It grows commonly in the Eastern United States growing in hedges, along the borders of fields and clearings, along roadsides and in uncultivated fields and moist grounds. An early American writer commented, "Pokeweed is a native American, and what a lusty, royal plant it is! It never invades cultivated fields, but hovers about the borders and looks over the fences like a painted Indian sachem. Thoreau coveted its strong purple stalk for a cane and the robins eat its dark crimson-juiced berries (John Burroughs, A Bunch of Herbs, 1881).

Poke was much used by the American Indians but it should not be confused with a plant called Indian Poke, which is Veratrum viride. The name has an interesting Indian origin. At first glance this looks like an everyday descriptive sort of name as the plant Pokes up out of the ground, bigger and taller than any other sprouts nearby and Pokes along until it has grown as high as a bush. The name, however, comes from the Virginian Indian pokan which meant any red-juiced plant which yields a stain or dye. Pokan came from pak which meant blood. (Puccoon, from the same source, was an early word for Bloodroot.)

The Mohawks told Cadwallader Colden, a physician, botanist and statesman and a great friend of the tribe, that the root of the plant would restore the spirits if chewed upon while travelling and fasting. They claimed it was a cure for cancer. Colden was convinced enough to communicate this information to Benjamin Franklin. He also claimed that the Poke root would remove corns within twenty-four hours (Vog:45).

The botanical name comes from the Greek word for plant (phyton) and crimson lake (lacca), a reference to the plant's dyeing qualities, one of the few botanical names referring to a dye use. The plant has so many common names that it is confounding. There are many variations of the Phytolacca designation; Phytolacca root, radix, berry, vulgaris, americana and so on, including

branching Phytolacca. It was called Pigeon berry because in the days when passenger pigeons were still an important method of communication they loved to eat the berries. It was called Bear's Crowberry, Jalap, and Cancer-root, because although many medical sources deny the possible use of the plant as a cancer remedy, it is firmly in the Indian and folk tradition. It is called American Nightshade because of its poisonous qualities, which we discuss below. It has various European names such as Herbe de la Laque. It's also called Virginian Poke and Poke Berry and Poke Weed and Poke Root.

During Polk's presidential campaign in 1845 Pokeweed twigs were worn by his followers and later it was said that the plant got its name from the President. But Pokeweed was named long before James Polk. Another nickname for the plant is Inkweed because in former times some ink preparations were made from it.

"When the juice of its berries is put upon paper or the like, it dyes a deep purple which is as fine as any in the world and it is a pity that no method has as yet been discovered of making this color last on woolen and linen cloth, for it fades very soon. Mr. Bartram mentioned that having hit his foot against a stone he had gotten a violent pain in it. He then bethought himself of putting a leaf of the Pokeweed on his foot, by which he had lost the pain in a short time...The English and several Swedes make use of the leaves in spring, when they just come out and are still tender and soft and eat them, partly in the manner we eat spinach...Great care has to be taken for if you eat the plant when it is large and its leaves are no longer soft, you may expect death as a consequence, a calamity which seldom fails to follow, for the plant has then got a power of purging the body to excess (Peter Kalm, Travels into North America, 1748-1751). Thus wrote one of the earliest American writers to describe conditions in the wilderness.

The plant was much used in former times for the inflammatory condition of cow's udders known as "garget", and is sometimes known by that name.

In Portugal the juice of the berries was formerly used to color wine. However, because this imparted a disagreeable taste to the wine a law was passed that any plant found must be cut down before the berries formed to assure that no wine would be thus adulterated. The Turks would sometimes use the juice of the berries to color sweetmeats.

It is said to be a plant that every nature lover should get to know and to enjoy the fall beauty of, for no color is more beautiful and striking than the sun shining through the foliage as stems, leaves, and berries become crimson (Coon:207).

Poke was official in the United States Pharmacopeia from 1820 to 1916, and in the National Formulary from 1916 to 1947, where it was listed as a slow emetic, purgative, and alterative (Elt:94).

POWERFUL ALTERATIVE

Poke is said to be one of the most superior alteratives if properly gathered and prepared for medicinal uses (Hut:281). It works principally upon the skin, the glandular structures and most markedly upon the mammary glands. The green root is said to be especially good for enlargement of the glands, especially the thyroid gland and also enlargement of the spleen (Beth:135). It is said to be wonderful for congestion of the lymphatic system. Malstrom tells of a young man from Salt Lake County who had been suffering from congestion of the lymphatic system for a period of time. It began from a cold that would not leave and developed into a period of tension in which he slept very little. This caused adrenal exhaustion and swollen lymph nodes over most of the body. He was listless, had no energy and could work only a few hours a day, but only inefficiently. Dr. Malstrom told him to take a mild fast, to use green drinks for a week or so and then only take raw root vegetables with the green drink and some seeds. After a time he could take some fruit. After three months of this strict regimen along with the use of Poke root and other herbs to clear the lymphatics, he got strong again and could live a normal life once more (Mal:196).

Because it is an alterative the plant is often used as a spring tonic. The green root is said to be a most useful herb. Scrofulous, syphilitic and rheumatic conditions are invariably benefited by it (Felk:1473). It is especially useful for chronic rheumatism although quite large doses are said to be necessary. The Pamunkey Indians of Virginia introduced this use of the herb. They drank a tea of the boiled berries for the illness. They also used the plant as a tea for the same purpose (Lewis:167).

The skin is an indicator of toxicity in the body. Poke is a good remedy for skin problems. It is also good for "the itch" in cases of scabies. Anytime you have skin which doesn't eliminate properly along with vitiated blood, you can well use Poke. It is said to be a great eliminator of toxins out of the system (Hut:36). Usually the glands are not performing properly in these conditions so the herb works on both areas. It is often used in chronic eczema, syphilitic eruptions, psoriasis, varicose veins and leg ulcers (Felk:1473). Mixed with iris it is used in boils, carbuncles, skin abscesses and all ulcerations of outlets of the body. It relieves the pain of burns and promotes rapid healing. For skin problems it should be used internally and externally (Felk:1473).

It is a dependable herb to treat breast swelling, from which so many women suffer following childbirth, making nursing impossible. Dr. Kloss described this use. He said to grind fine the fresh root and roll this out into a poultice to cover the breast completely, cutting out a hole for the nipple. Using a piece of cheesecloth or other thin (cotton) material to cover the breast, apply and once daily moisten the poultice with Poke root tea made fresh each time. Do this for three days, each time putting on a fresh poultice. You can continue the treatment for fifteen days which should pull little sores filled with pus. In some weeks, he said, the hardness should leave the breast although we consider that it works much faster in many cases (Klo:298). This same treatment has worked wonders in cases of breast cancer. We have also noted, in the problem of mastitis, that a calcium deficiency in the body is sometimes a cause. A midwife informed us of this and said that if we would saturate the body with a good quality calcium supplement such as

the Calc tea or perhaps Dr. Christopher's eggshell formula, using Vitamin C and blood-cleansing herbs to eliminate infection, we would quickly get over any breast infections. Dr. Christopher made his eggshell formula by covering clean eggshells, with their inner lining removed, with apple-cider vinegar allowing this to set for several days. He then strained it and combined it with honey and water for a pleasant source of good calcium.

The plant is said to be good for goiter if taken internally or it can be applied as a poultice or liniment (Mal:99).

Poke root has been recommended for other women's ailments. Sore nipples and breast tenderness during the menstrual period will be remedied by the use of Poke root. It is a good remedy for ovaritis. Subinvolution of the uterus, uterine, vaginal leucorrhea and some cases of membranous dysmenorrhea are cured by this agent (Folk:1474).

In diseases of the mouth and throat it can be highly effective. It can help in acute or chronic mucus affections such as tracheitis, laryngitis, influenza, catarrh and especially illnesses that tend to form false membrane such as diphtheria. It can help in tonsillitis and simple ordinary sore mouth. Coughs resulting from inflamed or irritated sore throats are cured by it when they arise from lymphatic congestion (Ibid.).

The herb is much employed for venereal disease afflictions both internally and externally.

In cases of granular conjunctivitis the eyes can be bathed daily with a decoction of the root (in distilled water, well-strained), applying it to the affected conjunctiva with a camel's hair brush at the same time administering the tincture of the fresh root internally (Ibid.).

Sick headache, which may result from exhaustion and congestion of the system, responds to the tincture.

The root roasted in hot ashes until soft, mashed and applied as a poultice, is unrivaled in felons and tumors of various kinds. It dissolves them rapidly or, if they are too far advanced, hastens suppuration (Ibid.).

Authorities differ as to its value on cancer. Great relief towards the close of a difficult case of cancer of the uterus was obtained by an external application of 3 ounces of Poke root and one ounce of the tincture in the strength of 1 tablespoon to three pints of tepid water for bathing the part (Gri:649). Hutchens reports that "the juice of the berries dried in the sun until it forms the proper consistency for a plaster, applied twice a day, has cured cancer" (Hut:282).

It has been used as an emetic but its use is generally discouraged because it takes so long for it to begin to work. Its use as a cathartic is similar and causes more problems because once it begins to work it doesn't easily stop, although it works without griping.

It is said to be a specific for throat conditions especially when the throat membrane is dark in color, the tonsils swollen, with shooting pains through the ear. With difficulty in swallowing it should be used at the first indication of irritation or inflammation of the throat and combined with other herbs as needed (Cly:105).

It has been reported that birds, eating the berries, lost their excess fatty tissue. Therefore some have tried using it in cases of obesity although this use is not well-proven. Some have used it for fatty degeneration of the heart (Felk: 1474).

It has been applied topically as an ointment for swellings and skin affections and also for relief of hemorrhoids.

In China the plant is used for dropsy and as a counter-poison especially in abdominal parasites. Externally it is used for foul sores of all kinds. The flowers are prescribed in apoplexy (Shi:319). The berries are used as a remedy for relieving the pains of rheumatism and arthritis. The tincture is used for this and it is borne out by Western use. One woman suffered intense pain from arthritis so much that she dreaded the winter months that would bring dampness, cold, and pain. She started taking a teaspoon of Poke berry tincture in a small glass of water twice a day and this completely cured her rheumatism (Luc:Secrets:106).

The Doctrine of Signatures suggests that the root resembles the human form which commends it as a useful alterative. The red berries remind us of the blood and the hollow, moist stems remind us of the systems of elimination serving as a diuretic and laxative to cleanse the system (Har:Complete:148).

POKE SALET

The young shoots are commercially canned in some parts of the American South where they are known as "Poke salet". Many novices hear the name as Poke salad and are very disappointed by the taste of raw Poke in a salad. The term "salet" usually means a wild green to be cooked, most often in the southern tradition of overboiling with salt, pepper and hogfat. Poke lends itself well to this cooking style. Its strong taste is best tamed by boiling a few minutes, casting off the first water and then simmering slowly for about 15 minutes, adding a little oil, butter (or hog fat) and seasonings to taste.

One must be sure to gather only the young shoots. When they become hard the toxic elements form in them and can cause serious poisoning. Some people think that their taste is superior to that of asparagus and cook them to be served with buttered toast, covered with a white sauce and accompanied by crisp bacon. Be sure never to use any root for salet.

Some housewives used to prepare pies from the fruit. Millspaugh confesses that he might like to try it, but the reports of toxicity have so far deterred him (Mills:558). Other herbalists, however, firmly discourage the use of the fruits in pies!

The leaves, roots and berries have been utilized as dye plants. Mordanted properly they yield reddish tints.

English farmers formerly fed their poultry large amounts of these fruits but discovered that although the birds were quite fond of them the fruits, if eaten in large quantities, would give the flesh a rather disagreeable flavor (Har:Eat:190). Pigeons who ate quantities of the berries, when killed for food would sometimes cause purging.

HISTORICAL USES

It is used for cancer, to remove corns, for congestion of the lymphatic system, for enlarged thyroid glands, for chronic eczema, syphilitic eruptions, psoriasis, varicose veins, leg ulcers, boils, carbuncles, skin abscesses, burns, breast swelling, breast cancer, for ovaritis, goiter, cancer of the uterus, throat conditions, abdominal parasites, sores, as a diuretic and a laxative, for arthritis, for swellings and skin infections.

CULTIVATION, COLLECTION, PREPARATION

Poke is rarely cultivated although some of it has been transported to France and other parts of Europe where it is valued as a potherb. Collectors are careful to maintain good stands of it where it grows wild. Sometimes people lift the roots in autumn after the berries and stalks are dry. The roots are placed in beds after the fashion of rhubarb and asparagus, being covered with five inches or more of mellow soil. The plants produce shoots in the spring for tonic greens.

When the root is gathered (after the flowering stage of the plant, in autumn), it is best used fresh or preserved in tincture form as it decomposes and loses its medicinal factors very rapidly.

RELATED PLANTS

Phytolacca dioica, is a tree about 25 feet high and from 6 to 10 feet in circumference. It is a native of Brazil or Mexico and naturalized in Algeria.

P. acinosa, is said to be violently toxic. The Japanese use it as a diuretic.

TOXICITY

Poke root requires skillful and careful use. It can stimulate mitogens as it contains a lectin. When lectins contact functional cell membrane glycoproteins bearing polysaccharide side chains, they can combine to form bridges between cells, causing agglutination *in vivo*. They can induce preferential killing of tumor cells and when also acting as mitogens, they can stimulate B and T lymphoid cells to divide and mature. Both T and B cell mitogenesis can be induced by the mitogen of Poke. Whenever B cells are mitogen activated it is possible for them to produce the immunoglobulins for which they are genetically programmed. The mechanism of mitogen

stimulation remains obscure but it can disrupt normal cell division and can also modify a variety of physiological processes of lymphocytes in such a way that cytotoxicity is induced (Lewis:97-8).

The toxicity can be absorbed through the skin. People who harvest the herb should wear gloves. Skin abrasions have resulted from just handling the roots. The fruit is the least toxic, then come the leaves and immature shoots. The stems are more toxic and the roots most of all. The toxic symptoms from an overdose are more or less nausea, violent vomiting and purging, great thirst and discomfort in the gastric region, feeble pulse, dimness of vision, vertigo, drowsiness, great prostration and coldness of the periphery, followed by convulsion and, rarely, death (Mills:560).

Blue Vervain is an herbal antidote to Poke poisoning.

CHEMICAL COMPOSITION

The berries contain phytolaccic acid. The root contains large amounts of potassium and an alkaloid named phytolaccine. It also contains saponins which can have toxic reactions.

To be safe in using this herb medicinally one should either use in combinations by approved herbalists or use it under the direct care of an herbal or a natural practitioner.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING POKE

The Red Clover Combination, which is the excellent blood cleanser and alterative, contains Poke root.

Poke tincture is sold, as is Poke and Mullein Oil, which is used externally for glandular swellings and skin troubles.

Black Ointment contains Poke Root.

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 **POMEGRANATE**

PUNICA GRANATUM; LYTHRACEAE

DESCRIPTION

The Pomegranate is a shrub or small tree about 20 feet high, with lanceolate or oblong, pointed, entire and shining leaves, bearing one to three large crimson-colored flowers in the axils of the upper leaves, and producing a depressed globose fruit about the size of an orange, irregularly divided by a transverse membrane into two unequal parts, the lower and smaller of which is about three-celled and the upper five- to nine-celled. The numerous seeds are oblong, irregularly angular from pressure, each invested with a fleshy, pink-colored translucent coating. The bark of the root and trunk is alone recognized by the pharmacopeias, but the flowers and rind of the fruit and the sweet acidulous seed-coating are likewise used.

GENERAL

Pomegranate may be one of the ancient patriarchal herbs. When Moses sent spies to investigate the land of promise they brought back Pomegranates with figs and grapes. These same fruits are promised in Deuteronomy as an inheritance for the righteous; the prophet Joel indicates the withering of the same three as a sign of desolation. The Pomegranate always symbolizes plenty and even luxury.

The Hebrew word is rimmon, so wherever you see that word in the scriptures, it refers to the Pomegranate. The names of the towns Remmon and Rimmon in the Old Testament speak of the abundance of the trees in those localities. The Arabic word is still today rumman.

The Pomegranate is a native of Asia, probably brought from northern India, but has been cultivated since prehistoric times and is now common in the Holy Land, Egypt, and along both shores of the Mediterranean. It is abundantly cultivated in Israel and occurs wild in Syria, Lebanon, and Gilead. In the Bible it is listed as one of the pleasant fruits of Egypt and one of the promised blessings of the Holy Land. It is recorded that from the days of Solomon it was used

for cooling drinks and for eating raw. Pomegranates in their native lands attain a fine sweetness which makes them highly valued in those hot climates. Growing up in southern California, we had in our neighborhood a large Pomegranate tree which provided many good snacks for us children much to the chagrin of the owner of the tree?

In very early times the Pomegranate came to be regarded as a sacred plant. Because of its large number of seeds, it was regarded as a symbol of fertility. In Egypt it was held sacred, and its fruit is easily recognized in Egyptian inscriptions and sculpture. In Persia it adorned the head of the royal scepter. In Rhodes its blossoms form part of the royal coat of arms. An ancient representation of Jupiter shows him bearing a Pomegranate in his hand. In Solomon's temple it adorned the trellis-work at the top of the Pilasters, and, in blue, purple and scarlet embroidery it garnished the skirts of the Priestly robes or ephods (Mold:191). There is said to be a wonderful Pomegranate ornament on the walls of an old Jewish temple at Capernaum in which Jesus is said to have preached.

The Pomegranate symbolized maidenly beauty, just as we say today that someone's complexion is "Peaches and cream".

Ancient legends say that the Pomegranate was the tree of life in the garden of Eden, and from this belief it became the symbol of hope of eternal life in early Christian art. It is still used by the Jews for some ceremonies (Gri:649).

In Greek mythology, Ceres, goddess of the earth, became enraged when Zeus gave her daughter Proserpine, to Pluto, god of the underworld, as his wife. Ceres left heaven in her rage and came down to earth, blessing all men who were kind to her and cursing anyone who was not. So much did she curse that Zeus soon realized his mistake and commanded Pluto to give up Proserpine. This he did, but first he asked her to eat some Pomegranate, she not knowing that if you ate something in Hades that you could not leave its realm. She did so, and remained in his power, having to return to Hades for part of every year. For the summer months, Ceres is happy in the company of her daughter and blesses the earth; for the winter months, Proserpine returns to Pluto and the earth mourns in cold. So the Pomegranate to the Greeks and Romans the symbol of the nether world and its power, and typified all seeds that must be placed underground to germinate, then emerge into the light for a season, only to have their seeds return, in due time, to the darkness beneath the surface of the earth (Mold:191).

The original Pomegranate, according to Greek mythology, was a beautiful nymph who had been told by a soothsayer that she would one day wear a crown. She was transformed into a Pomegranate tree by Bacchus, god of wine, and a crown was placed at the top of her fruit. In China, the Pomegranate symbolizes fertility and women offer Pomegranates to the goddess of mercy in hope of being blessed with children. Chinese temple porcelains are decorated with representations of this fruit. In Turkey a bride throws a ripe Pomegranate to the ground, and the number of seeds that drop out indicates the number of children she will have (Ibid.).

The fruit was dedicated to Juno, a deity always represented in sculptures as holding a Pomegranate.

Theophrastus described the Pomegranate under the names of "roa" and "roa side"; Dioscorides set out quite a list of Pomegranate's uses, including benefitting those who are "aguish", helping a burning stomach, and binding the bowels. The juice mixed with honey would cure mouth ulcers and ulcers in any of the openings of the body. The pressed juice would also cure earache, he said. Pliny and Celcius also recommended various uses. Arabic physicians in the ninth century echoed pretty much the teachings of the Greeks and Romans concerning the fruit; in the Arabian Nights the seed was used, and cooked as part of a dinner.

The flowers were sometimes called balaustion by the ancients.

The Latin name of the tree was Malus punica, or Punicum Malum, the Libyan or Carthaginian apple; while the name of granatum was given on account of its many seeds. Having no close relations, the tree has been placed by various authorities in different orders, some giving it an order of its own, Granateae (Gri:649).

Other common names include grenadier (a sauce being made from the seeds being called grenadine sauce), punic apple, garnet apple, carthaginian apple and blood oranges.

WORM REMEDY

Dr. Christopher classified the herb, the bark, fruit-rind, and flowers being active principally as an anthelmintic, a worm medicine. He recommended that a teacupful of the decoction be taken night and morning (the dosage being less for children), with an active cathartic being taken on the second or third day. The powder could also be taken, but the decoction is preferable. This decoction is made by simmering 4 ounces of Pomegranate rootbark in 3 pints of distilled water for one hour. This is strained, and the liquid returned to the cleansed vessel. The tea is then simmered at low heat until reduced to 1 pint and sweetened.

The treatment may produce a little nausea, but rarely fails to expel tapeworms. Before the treatment, vegetable broth and a spare diet are prescribed. You can also take food that the worms dislike, such as Garlic and Onions. It has a tendency to make the patient vomit, which may, in a measure be prevented by giving a little lemon juice and by keeping the patient quiet. When vomiting can be prevented, the remedy seldom or never fails to bring the worm out of the body whole. Usually the worm is expelled tangled in knots.

The powdered rootbark also functions admirably as an astringent of moderate power. It is good to arrest chronic mucus discharges, passive hemorrhage, relax tissues of the openings of the body, night sweats, diarrhea, and so on. It is sometimes employed in excessive menstruation.

The juice of the fruit is good for breaking up fevers, diluted and lightly sweetened with honey. It

helps alleviate the raging thirst that often accompanies feverish disorders. The fruit also helps relieve biliousness.

The rootbark decoction can be used as a gargle for sore throat in its early stages and as an injection in leucorrhea, or whites. The powder is sometimes given in intermittent fevers; the flowers are said to have the same properties medicinally (Gri:650).

The pomegranate is not indigenous to China, but was introduced by the famous general Chang Chien (B.C.120) from Kabul or Parthia. The plant is much cultivated by Chinese gardeners for its flowers; some very beautiful ones are produced, among which is a plant bearing large white flowers. The red fruit, bursting open and revealing its numerous seeds, is compared to a grinning mouth showing the teeth. The Chinese like the fruit very much and eat it frequently. The sweet Pomegranate, if eaten to excess, is said to damage the lungs. It is used for caked breast and worms. The fruit of the sour kind is used in fluxes from the bowels, colic, menorrhagia, and leucorrhea. The peel is used in dysentery, seminal losses, paralyzes, incoordination of the muscles, intestinal worms, prolapse of the rectum, and fluxes of all kinds. The east-extending root is said to be anthelmintic and astringent. It is used in diseases of the mouth or gums, in any diseases for which the rind is used, and in dyes for hair or whiskers. The flowers, if dried, pulverized, mixed with iron, and taken for a year, cause the hair to turn white (Shi:361).

In India, the fruit, flowers and bark are used as an astringent and stomachic. The fruit is esteemed as food and medicine, especially as a post-illness diet. The syrup is commonly used as a febrifuge and as a cooling drink to ameliorate the action of bile. The bark of the tree and rind of the fruit are said to be valuable in chronic dysentery, given in decoction and flavored with bruised cloves or cinnamon. The rind of the fruit is chewed in cases of chronic bronchitis and bronchorrhea. It is also used as an anthelmintic. The unripe, dried flowers are used as a snuff which is excellent used in nosebleed, while it is good internally for infants' diarrhea. Green leaves are made into a paste and applied on the eyes for conjunctivitis. The plant is also used for scorpion sting (IMM:103405).

WINE AND LEATHER

The seeds are eaten as dessert, either raw or extracted from the fruit and sprinkled with sugar. A wine is extracted from the fruits, as is a special sauce called Grenadine, which is the juiced fruit simmered with sweetening and thickening; this is a special treat on fruit salad or plain custard. The seeds are used in syrups and preserves. The bark is used in tanning and dyeing, giving the yellow hue to true Moroccan leather.

HISTORICAL USES

It is used for burning stomach, mouth ulcers, ulcers of the body, to expel tapeworms, for chronic mucus discharges, for night sweats, diarrhea, excessive menstruation, to break a fever, for caked breasts, worms, colic menorrhagia, leucorrhea, dysentery, seminal losses, paralyzes,

incoordination of the muscles, prolapse of the rectum, diseases of the mouth and for the gums, dye for hair, as an astringent and a stomachic.

CULTIVATION, COLLECTION, PREPARATION

The Pomegranate is grown to a limited extent from California southward in the American tropics, but is more popular in the Old World than anywhere else. Propagation is by seeds, cuttings, or layering. The fruit is picked when ripe, usually toward the end of the growing season. It has excellent keeping qualities and will hold for up to six months in cold storage.

For collecting the fruit rind, simply clean and dry it after enjoying the fruit. It can be stored in pieces or powdered.

To collect the root bark, only dig a few portions of the root of any given tree so as not to damage the plant. Clean well and pare off the rootbark carefully. Dry until it snaps easily and does not feel cool to the touch. This should be stored carefully in a cool, dry place, until needed.

CHEMICAL COMPOSITION

The principal constituent is tannin. The anthelmintic property, however, is said to be pelletierine, which is composed of several components. This is also the cause of toxic doses, which produce symptoms of muscle weakness, dizziness, and in larger doses, mydriasis, amblyopia, vomiting and diarrhea. Temporary blindness has also occurred (Spoerke:143).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING POMEGRANATE

None of Dr. Christopher's combinations contain pomegranate.

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PRICKLY ASH

***ZANTHOXYLUM AMERICANUM OR XANTHOXYLUM FRAXINEUM OR Z.
CLAVA-HERCULIS; RUTACEAE***

DESCRIPTION

Prickly ash is an indigenous shrub or small tree, ten to twelve feet in height, with alternate branches, which are armed with strong, conical brown prickles, with a broad base, scattered irregularly, though most frequently in pairs at the insertion of the young branches. The leaves are alternate and pinnate, the leaflets about five pairs, with an odd one, nearly sessile, ovate, acute, with slight vesicular serratures, and somewhat downy underneath; the common petiole round, usually prickly on the back, though sometimes unarmed. The flowers are borne in small, dense sessile umbels, near the origin of the young branches; they are small, greenish, dioecious or polygamous, appear before the leaves, and have a somewhat aromatic odor. In the sterile flower the calyx is five-leaved, with oblong, obtuse, erect segments, five stamens with subulate filaments, and sagittate, four-celled anthers; the ovary is abortive. In the hermaphrodite or perfect flower, the calyx and stamens are like the last, ovaries three to four, pedicled, with erect, converging styles as nearly long as the stamens. Fertile or female flowers grow upon a separate tree, are apetalous, with a smaller and more compressed calyx, and five pedicled ovaries, with styles converging into contact at the top, and a little twisted, stigmas obtuse. Each fertile flower is succeeded by as many capsules as it had ovaries. Capsules stipitate and are covered with excavated dots, varying from green to red, two-valved and one-seeded; seeds oval and blackish (Folk:2087-8).

GENERAL

This is one of the peculiar American herbs from the Rue family. It was ranked among the most important during the investigations of our indigenous remedies by the Eclectic School of Medicine. It was a particular favorite of Prof. John King who was one of the pioneers in indigenous healing plants.

As is typical of our American remedies the white men first learned of them from the Native Americans. Mark Catesby, an early friend of the Indians, remarked that the seeds and bark were aromatic, hot and astringent and said they were used for toothache by natives of the coasts of Virginia and the Carolinas. Carver reported that the Indians valued it highly to "radically remove impurities of the blood" (Vog:338). He claimed that a trader who traveled with him was cured of gonorrhoea by a decoction of Prickly Ash bark given him by a Winnebago chief.

Dr. Schopf called the species a toothache remedy, a use which is echoed by many reports from Indian tribes. Andre Michaux reported from Illinois in 1795 that he considered the root of the tree good "for obstructions of the liver and spleen". Lawson reported that it relieved toothaches by inducing the flow of saliva. The bark, he said, held a high place in cases of paralytical infections of the tongue or of "the muscles in deglutition" (*Ibid.*). He reported that the berries of the tree were used in Virginia as a remedy in "violent colicky affections" and called attention to London notices concerning the use of the bark in rheumatic affections and ulcers. Thomas Nuttall in Arkansas in 1819 remarked that the bark of the Prickly Ash was good to relieve toothaches. Lloyd reported that it was used as a remedy against Asiatic cholera at Cincinnati in 1849 (*Ibid.*).

The bark of the tree was used in several ways by a number of Indian tribes. Some used it for a rheumatism remedy and took decoctions of the roots to break fevers. The inner bark made into an ointment with bear's grease was used externally as a poultice and was applied in powdered form to ulcers, both by the Indians and by white settlers. The Houmas applied the pulp of grated roots and bark to aching teeth and mixed grated roots with whisky to rub on limbs for swelling. The Alabama Indians used the scraped roots for a toothache remedy and the inner bark both for toothache and for "the itch". The Comanches used the bark as a fever medicine, for sore throat and toothache. The Meskwakis used the trunk bark, root bark, berries and leaves. The bark and berries were used as a strong expectorant and were used in cough syrup and medicines for stopping hemorrhage and tuberculosis. The Menominees also used all parts of the tree. The ripe berries thrown in hot water made a medicine used in the mouth and to spray on the chest and throat in bronchial diseases and sores. It was also used to season disagreeable mixtures. The root bark was used in poultices and combined with other medicines was often put on swellings. Garfish teeth moistened with medicine were used to open swellings so that pulverized or liquid medicine might enter, then the poultice was applied. The liquid of the berries was often drunk for minor maladies. The Flambeau and Pillager Ojibwas made trips farther south to get this bark which did not grow near them. They used it to treat quinsy and sore throat while the berries were used for sore throat and bronchitis.

Prickly Ash bark was at one time collected by southern Negroes and used for toothache and rheumatism. It was an old domestic remedy since the earliest settlers learned its uses (*Ibid.*).

The Eclectic School made much use of the herb beginning with the prevalence of the Asiatic cholera in Cincinnati, 1849. The berries were for many years much employed in proprietary medicines. The berries were official in the National Formulary 1820-1926, while the bark was official in the United States Pharmacopeia from 1820-1926 and in the National Formulary from 1926-47. They were said to have tonic, mildly stimulant, diaphoretic, antirheumatic, carminative, and antispasmodic properties. We can only regret that an herb so long-used and respected was removed from our national array of medicines. Other names for the plant include Northern Prickly Ash (it is called this to distinguish it from another species, Southern Prickly Ash), pellitory bark, suterberry, toothache tree, toothache bush, and yellow wood.

TOOTHACHE TREE

Dr. Christopher had great regard for this herb. He classed it among the stimulants. It acts similarly to Cayenne pepper though more slowly. So for an excellent thorough going stimulant effect the two could be taken together. He said that the herb's effects are more permanent than those of Cayenne and that it would remove obstructions from every part of the body. It was thus an excellent blood purifier. The volatile oils in the herb, he said, act principally upon the mucous membrane.

Prickly Ash has been recommended for a long time for a lot of different ailments. The bark acts principally upon the secretions, the nervous system and the circulatory system (Felk:2089). When it is chewed it brings about a copious flow of saliva together with a great quantity of mucous from the cheek and throat glands. It is very warming to the stomach and the flow of gastric and intestinal juices increases markedly when taken. It is thus useful for weak digestion as well as for colic and cramps.

The herb greatly increases the circulation in the body so that it is used in most cases of impaired circulation, including cold extremities and joints, rheumatism and arthritis, lethargy and wounds that are slow to heal (Tie:110). It is called an "innocent" agent as it can be taken without fear of harm in overdosing, generally speaking. In most cases where there is a deficiency of secretions, dryness of mouth and feces, etc., Prickly Ash helps restore proper functions of secretions. It is wonderful for debilitated cases of digestion where the processing of food is slow and fermentation occurs with resulting gas.

Prickly ash has long been reputed a good herb to treat rheumatism. Its value in rheumatism is likely due to its eliminatory power (Felk:2089). It works especially well when the patient is debilitated and with cases of transient and fugitive rheumatism, particularly lumbago and muscular rheumatism and similar ailments (*Ibid*:2090). It is used internally and externally.

Because it is an excellent alterative the herb has long been applied in constitutional syphilis and scrofula, being considered as good a remedy for the former as other specifics. The herb mixed with blue flag and mandrake should be given in small doses at short intervals.

For post-nasal drip, with dryness of the mucous membranes and soreness thereof, the decoction can be sprayed on the surface and taken internally.

Constipation due to lack of secretions has been overcome by the use of Prickly Ash alone. It is especially indicated when accompanied by a flatulent distension of the abdomen. As an agent for flatulence the preparation from the berries will give the best results (*Ibid*.). Spasms of the bowels or colic respond to the same treatment although the bark is often used as well. It can also restore the bowels to a normal state after an attack of dysentery and has been of particular service as a remedy for epidemic dysentery.

In connection with this use Prof. King introduced the saturated tincture of the berries to the medical profession in Cincinnati in 1849 as a remedy for the Asiatic cholera. He said, "I have used this tincture for some years past and had the pleasure to introduce it to the profession in this city during the year 1849, both in the treatment of tympanitic distension of the bowels during peritoneal inflammation and in Asiatic cholera. In tympanites it may be administered by mouth and by injection...The action is usually prompt and permanent and, as far as my experience has gone, I prefer it, in a majority of cases, to...other remedies prescribed in this condition. In Asiatic cholera during 1849-50 it was much employed by our physicians in Cincinnati, and with great success--it acted like electricity, so sudden and diffusive was its influence over the system. In this disease the tincture was given, in teaspoonful doses and repeated, according to circumstances, every five, ten or twenty minutes, at the same time administering an injection after each discharge from the bowels, and causing it to be retained by the bowels as long as possible" (Felk:2090). Dr. King also recommended it for atonic diarrhea and for typhoid conditions requiring a stimulant believing it superior to other drugs for that purpose.

In tympanitic conditions related to cholera in infants and other forms of diarrhea he combined equal parts of olive oil and tincture of Prickly ash berries and had the little patient's abdomen freely rubbed with it, in a downward direction only, for one or two hours until the flatulent state was over. He claimed to have saved many a little one who would otherwise have gone to an early grave (Ibid).

It may be used for chronic cases of lack of hepatic and pancreatic activity and even temporary paralysis of the system (Cly:134). Combined with diuretics and tonics it has been used in cases of dropsy (edema) and malaria as well as helping in painful and irregular menstruation. The bark and the berries are both useful in treating this last ailment as they eliminate pain and hypersensitivity.

The herb is a valuable herb nerve stimulant and may be used for a long period of time without ill effects. It is valued in all cases of nervous prostration or debility after illness or whenever the vital forces of the body have for some reason been depressed. Pains down the anterior portions of the thighs as well as after-pains associated with birth are relieved by it. This is good news for those who have been searching for a working remedy for after-pains as some have them more intensely than the contractions of the labor itself and without the happy gift to anticipate!

When a person is coming down with an eruptive disease Prickly Ash can overcome capillary engorgement and bring the rash to the surface. It is especially useful in cases where the eruption begins but because of poor circulation and lack of warmth in the body the eruption retrogresses and the patient remains ill without breaking the illness.

Externally the powder of the root bark can be applied to help heal wounds. The bark powder or bark pieces can be chewed for relief of toothache. A tincture of the fresh bark can also be applied for the same purpose (Hut:227).

It is said to be a wonderful herb to stimulate the absorption of other medicines being a better

stimulant for this use than cayenne, black pepper, or ginger (Tie:110).

The powdered bark is used for paralytic conditions and as a topical application for nervous headache.

Both the berries and the bark make a good bitter. They might well be employed in a tonic of homemade root beer.

If taken on an irritable stomach the herb can cause vomiting. Often the tincture is better used in this condition.

HISTORICAL USES

Used as a blood purifier, for gonorrhea, toothache, colic, rheumatic affections, ulcers, fevers, a sore throat, for bronchial diseases, as an expectorant, for swelling, asiatic cholera, as a mild stimulant, as a diaphoretic, anti-spasmodic, for constipation, to increase circulation, for arthritis, lethargy, slow healing wound, for dryness of the skin or mouth, etc., for diarrhea, typhoid condition, lumbago, syphilis, scrofula dysentery and as a nerve stimulant.

CULTIVATION, COLLECTION, PREPARATION

This tree usually occurs in the wild and is not usually cultivated. Collectors take the berries when ripe and dig for root-bark during the autumn. However, only small portions of the root should be taken from any tree so as to avoid damaging the tree. The roots are cleaned and the root-bark carefully scraped off, the scrapings dried in a warm, airy place until they are snap-dry and do not feel cool to the touch. The berries and root bark may be made into tincture or extract form although they retain their medicinal qualities well enough that such immediate preparations are not necessary.

RELATED PLANTS

Z. floridanum, or Yellow thorn, also called Yellow Hercules club and satin wood, contains a paralyzing and lethal alkaloid.

Z. piperitum yields aromatic, pungent berries employed as condiments in Japan and north India. They are also used as bitters and aromatics.

Z. senegalense, or Artar root, is used as a cardiac stimulant.

Z. pterota yields pungent leaves and bark and has a hard, dense, yellow wood.

Z. naranjillo is used as a sialogogue, diuretic, and diaphoretic.

CHEMICAL COMPOSITION

Xanthoxylin has been extracted from the bark and has been determined to be berberine which we have discussed in the articles on Oregon Grape and Barberry. Oil of Zanthoxylum is also found in the bark and is an aromatic, warm, pungent factor of the herb. This herb has not been carefully analyzed and there may be other constituents that account for its wonderful medicinal effects.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING PRICKLY ASH

The Red Clover Combination contains the bark. This combination is available in capsule or syrup form.

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Vog
Tie
Densmore

RED CLOVER

TRIFOLIUM PRATENSE; LEGUMINOSAE

DESCRIPTION

Red Clover's leaves are palmately or sometimes pinnately three-foliolate, rarely more. The leaflets are usually minutely toothed, rarely entire. The stipels are scarious, coherent with the petioles. The flowers are dense heads or spikes or sometimes, when the flowers are few, umbrella-like. The calyx is persistent, tubular or somewhat bell-shaped, five-cleft or toothed. The teeth are awl-shaped. The corolla is five-cleft, withering or persistent, monopetalous at the base. The vexillum is longer than the alae and longer generally than the keel. The stamens are rendered more or less diadelphous by the tenth filament, the tube usually free from the corolla; when united with it, it is through the mediumship of the claws of the alae and keel. The ovary is two to

six-seeded, the style filiform. The fruit is a small, scarious legume, containing from one to two or sometimes three to six seeds; dehiscence none, or, if present, it takes place at the suture and extends through the calyx (Mills:187-8).

GENERAL

The bloodstream is the river of life Dr. Christopher would often say. To work perfectly it must carry good food to the whole body and carry off the waste materials. The miles of veins, arteries and capillaries must be taken care of. The tissues and cells have to be kept alive and vibrant, first of all from proper eating. Most of us eat refined sugars and starches which convert to sugars in the body. The blood vessels in the body become lined with toxins so badly that they can be compared to corroded and limed pipes in the plumbing system of a house. Only a small channel is available for the blood to flow through. Hardening of the arteries is one of our foremost killers today. The sugars and starches leach out the calcium from the body so the tissues become so weakened that they sometimes break.

To keep the blood vessels healthy we must follow the mucusless diet, including the three-day cleanse once a month. We can also use blood cleansing teas. One of the best is Red Clover. Dr. Christopher made it into a combination which is a superior blood cleanser and purifier. Dr. Christopher thought for years that he had an exclusive formula in his Red Clover combination. People with malfunctions of all kinds, including cancer, got excellent results using this combination. Eventually, one of the people using his combination went to the Hoxy Clinic just to see how the cancer was coming along and they were informed that Christopher's formula was almost identical to the Hoxy formula! Neither one knew that the other had the formula! Chief Sundance from Idaho Falls would chat with Dr. Christopher exchanging formulas, and during one of these conversations they found that they had the same blood purifying formula. Dr. Christopher said that the good Lord put it into various people's hands because each had different kinds of people coming to them. In this formula is featured Red Clover which is an alterative. Most of the other herbs in the formula are also alteratives, concentrating on certain organs of the body.

Dr. Christopher emphasized that we need to know the source of our problems. Perhaps our toxic condition begins with a poorly functioning bowel which should be taken care of with the Lower Bowel Formula. But suppose a person has a case of boils or acne. The Red Clover combination should be used about three times a day, six days a week for six weeks. Then you can switch to another blood purifier such as burdock or chaparral or Brigham tea. Then switch back to the Red Clover combination.

For many years Dr. Christopher taught that cancer is not an isolated problem in the body. If the cancer breaks out in a place where we have an old injury or a weakened portion in the body it only indicates that the cancer is in the bloodstream. It only accumulates, like a boil or an ulcer, in a weakened area and drains the poisons in the area. The medical profession cuts it out and says, "Well, the cancer's all gone!" The cancer breaks out in another place. The bloodstream must be

cleaned. The Red Clover combination or even Red Clover alone has a powerful alterative effect to clean the bloodstream.

A woman came to Dr. Christopher asking if he could help her with an Rh factor problem. She had had three children and each of them had to have a blood transfusion at birth because of the Rh incompatibility. In addition the woman had had open heart surgery so she had a serious Rh problem herself. The Doctor put her on the mucusless diet, the three-day cleanse and the Red Clover Combination. He didn't hear from her for a while, but a couple of years later at a lecture she walked up the to podium with a darling little baby in her arms. She just wanted to show Dr. Christopher the miracle baby who hadn't had to have his blood drained out of him and, although she had had the open heart surgery, she bore the baby just fine thanks to blood purification.

A man at eighty years old was diagnosed with cancer throughout his body. The family gave him carrot and celery juice along with the blood cleansing formula in capsule form. They would alternate the carrot and celery juice with grape juice. In four months' time the doctors could not find any cancer cells. They didn't believe it was the same man.

Dr. Christopher included Red Clover in his list of "Ten Honorable Herbs" which are ten of his favorites. He said that the beautiful blossom, which is quite mild in flavor and action, is one of the most powerful blood purifiers. The tea, not taken in the combination but alone, is a good stimulant for the liver and gall bladder.

In cases of acne, a six-week course of three cups of Red Clover tea a day, alternated with two weeks of burdock root tea, will bring good results in even the most stubborn cases. And many of the old American Botanic physicians used a syrup of Red Clover for whooping cough.

MEADOW CLOVER

Moore has said that Red Clover is common to the United States and is extensively cultivated in grass lands. It is most reliably found in meadows 6,000 feet or higher where there is or has been cattle or horse pasturing or where the manure from livestock has been used. From Colorado and Utah northwards, Red Clover can be expected anywhere.

It is a sweet smelling herb. Many country children remember their first taste of "sweet" from the red blossoms. It is much larger and more dramatic than white clover which also has a sweet smell.

The ancients burned Red Clover incense to invoke the spirits of the dead. The ancient Chinese used dried Red Clover buds in pillows to facilitate relaxed and peaceful sleep. They also took the tea to impart a pleasing fragrance to the body before the use of soap became widespread. Native American tribes used an infusion of Red Clover as a gargle for sore throats, whooping cough and asthma. In the Thomsonian system of healing an extract of Red Clover was used in the form of a salve for the removal of external growths on the surface of the skin (Neb:132).

In the Doctrine of Signatures, the red blossom of the plant suggests blood and therefore treatment of the blood (Har:Complete:84).

Red Clover, along with white, hosts a number of magical beliefs. Perhaps its wonderful healing qualities are related to people's faith in the herb. Many people search for four leaf clovers which they wear for good luck. In parts of England the leaves of Red Clover are worn as a charm against witches and evil and in Ireland, another species of clover is the lucky, sanctified and emblematic shamrock (Coon:197).

Red Clover is not native to the United States. It was brought here from Europe where it has been so extensively cultivated that it has escaped to unused fields, along roadsides and even in the open woods, beautifying all with its close, red, sweet scented flowers which appear from May to August (Mills:188).

The name Trifolium refers to the generally three leaved plant. From this comes the often used name Trefoil for the plant. It is also called purple clover, wild clover, meadow clover, honeysuckle clover, cleaver grass, marl grass and cow grass.

In China the ancients burned the plant as incense to make the spirits descend and when worn in the girdle it was said to dispel noxious influences (Shi:262).

Red Clover is described in old herbals as God's greatest herbal blessing to mankind. It is considered a good omen to dream of a clover field.

DELICIOUS BLOOD CLEANSER

One of the best things about Red Clover is its good taste. Most of the alterative herbs are not so tasty, except perhaps sassafras and sarsaparilla. Chaparral on the other hand is downright nasty. Red Clover can be taken as an everyday tea for its flavor somewhat resembles table tea. Sweetened it is accepted by all, even children.

Alteratives are known as blood sweeteners. They take wastes gradually out of the body without overloading the elimination through the colon or the kidneys. Red Clover is specific for counteracting scrofulous and skin diseases and as an antidote for cancer. It is also good used for bronchitis and spasmodic affections. Most herbalists recommend either a daily tea or a syrup for these chest afflictions. It similarly cures croup, colds, bad coughs, hoarseness and all troubles pertaining to the lungs, windpipe and bronchial tubes (Luc:67). You can treat it for the spasms of asthma and colds and coughs. It is the "twin sister" of honey although not everyone recommends it as a good honey plant as the bees don't visit it for as long a time as the white clover. However the taste is delicious. It is one of the few remedies that favorably influences whooping cough, suspending the spasmodic cough entirely in two or three days (Felk:1995). The strong infusion is generally used for this. The herb can also be used as a gargle.

The herb is extolled for its application to growths in any place in the body. It can be used as a wash for mouth ulcers or other skin growths. Kloss remembered, as a boy, gathering the Red Clover blossoms for the family postmaster who had a serious cancer. He lived to be an old man without an operation (Klo:301). For internal cancers the strong tea can be drunk four times a day on an empty stomach. For throat cancer gargle with the strong tea several times a day and take it internally. For cancer of the female organs take the tea as a drink and douche with the strong tea, retaining it as long as possible, five or six times a day.

Dr. Thomson suggested a cancer plaster which is widely recommended. Cover the flowers with water and boil for one hour. Then strain and reduce the liquid until it is the consistency of tar. It can be spread on a clean cloth and applied to external cancers. This is not one hundred percent verified in all cases where it has been tried, but together with the tea administered internally there have been many reports of successful healing with the treatment. If there is a cancer in the rectum you can give an injection (small herbal enema). Bethel says she has seen many cancers disappear with treatment of Red Clover (Beth:136).

Red Clover is also a quieting herb. It will soothe the nerves and promote better digestion especially in weak and sickly children. It is a good maintenance liquid for the duration of any infection and a good tea for people with debilitating diseases such as hepatitis and mononucleosis (Moore: 139). It strengthens weak nerves and general debility thus is also useful in treating infertility (Lev:51).

There are several combinations of various alterative herbs for the treatment of cancer. We consider Christopher's Red Clover combination as probably superior to them all. In his School of Natural Healing Dr. Christopher suggested a couple of other combinations, if you should need to look further.

In China the herb is prescribed in flatulence, colds, muscular rheumatism, nose polyps and toothache. The sap is good as an application in colds and flu and as an excellent local application in piles, prolapsed anus and seat worms (Shi:262).

Red Clover contains goodly amounts of calcium and potassium, both indicators of high healing qualities. It is extremely high in Vitamin A and contains good doses of some of the B's. It also contains the vital Vitamin D, which is considered necessary for the assimilation of calcium. Vitamin E and B-12 are also present, along with K. It also contains iron, phosphorus, chlorine, silicon, magnesium and trace elements.

FODDER

As hay Red Clover is highly valuable, either alone or mixed with other grasses. It is said to be less nutritious than timothy but ruminants eat it more greedily and with a fuller sign of satisfaction (Mills:188). As a green manure for field fertilization and an element of importance in the rotation

of crops, it is also greatly prized on account of its large percentage of potash, lime and phosphoric acid. Like the other members of its family, the legumes, it is nitrogen-fixing. Thus it is greatly valued as a green manure and could be considered a good cover crop for wintertime.

When food is scarce in Ireland the powdered flowers are mixed with bread and esteemed as wholesome and nutritious.

In China the plant is used for making mats, pillows and mattresses. It is also employed in cosmetic applications (Shi:262).

In the Pomo culture clover was extensively used as a food as it is high in protein and the appearance of the succulent young leaves in the spring was the signal for special clover feasts. The people moved out into the fields and reveled in the abundance of these greens, eating great quantities as they gathered them and bringing them back to the village by the basketful. So quickly did the people devour these greens that it was not unusual for them to be afflicted with bloating similar to that sometimes found among horses and cattle in the spring (Har: Eat: 113-4).

HISTORICAL USE

Used as a blood cleanser, for cancer, boils, acne, Rh problems, as a liver and gall bladder stimulant, for whooping cough, sore throat, asthma, skin growths, bronchitis, for spasmodic affections, scrofulous and skin diseases, croup, colds and hoarseness, all troubles with lungs, windpipe and bronchial tubes, for mouth ulcers, to sooth nerves, as a digestive aid, for infections, hepatitis, mononucleosis, infertility, flatulence, rheumatism, nose polyps, toothaches, piles, prolapsed anus and for seat worms.

CULTIVATION, COLLECTION, PREPARATION

Red Clover is easily grown. In prepared ground, which can be enriched with well-rotted compost and should be checked for proper balance, it can be broadcast and soon after germinates easily. Weeds should be kept down and the ground kept moist but not wet. Red Clover is not choosy about the soil although it is often found in open, sandy soil and seems to prefer such locations. The soil should be well drained. One of our friends, noting that the plant did not grow in the canyon where she lived, walked along the road and scattered Red Clover along the roadside. Thereafter many beautiful red blossoms appeared. She said that you can sprinkle them about in autumn or even on top of the snow and that they will germinate nicely.

When the flowers are newly opened, you can gather them. It is pleasant work, as the scent is delicious and they blossom in the summertime. Dry in a semi-shady place and store in airtight containers. You can crumble them before storing if desired. Use them to make tea throughout the winter. You can also make an extract, tincture or ointment from the herb following standard directions.

RELATED PLANTS

Sweet clover is a close relative to the Red Clover. Its botanical name is Melilotus officinalis. The Mayo Clinic reported the discovery of a new chemical in Sweet Clover which was traced to the eating of spoiled clover. The Wisconsin Agricultural Experiment station has completed a seven year study of clots lodging in the heart, the lungs and in thrombosis. The only practical remedy up to now has been heparin, a liver extract, whose drawback is that it often makes people ill. Sweet Clover seems to have no such ill effects and the Mayo report states that it could replace heparin in general use. It is effective, cheap and has a prolonged action (Har: Eat: 115).

CHEMICAL COMPOSITION

The active principles have not been well described. Some phenolic substances and two glycosides have been discovered (Spoerke: 146).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING Red Clover

The Red Clover Combination Tea contains the herb. It is also sold in syrup form.

The Black Ointment contains Red Clover blossoms.

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 **RED RASPBERRY**

RUBUS IDAEUS; ROSACEAE

DESCRIPTION

This plant grows to a height of six feet. The young branches are glaucous, somewhat bristly and spinous, with odd pinnate leaves, bearing one, two or three pairs of serrate, ovate, sessile, whitish, pubescent leaflets. The flower petals are white, about the length of the calyx. The plant is believed to be derived from Rubus strigosus.

GENERAL

Red Raspberry leaves belong to such a common plant that many people do not realize what powerful medicine they contain. Dr. Christopher recommended it as a most valuable herb for women expecting babies. It is splendid proof that some herbs have an attraction for specific organs, he said. They act upon the procreative organs of women, stimulating, toning and regulating them more effectively than any other known herb. In his clinical experience Dr. Christopher repeatedly proved the efficacy of this herb.

More than thirty years ago a woman came to Dr. Christopher while he was living in Evanston, Wyoming, travelling from her Utah home. She had been told when she was first married that she could have no children without cesarean section. She had at that time three children and was advised that if she became pregnant again, it would kill both her and the child because of the extremely heavy scar tissue from the previous deliveries. But this lady was a natural mother and hungered again for the feel of a baby in her arms. Dr. Christopher told her to use Red Raspberry leaf tea, three or more cups per day, as well as to go on the mucusless diet and to use the three-oil massage on the pelvic and abdominal area, which is an alternating program of two days with castor oil, two days with olive oil and two days with wheat germ oil, resting on the seventh day. Dr. Loretta Foot who was working with Christopher's office as their obstetrician, was with this lady for her next four children, the babies being born naturally and normally in the home.

A young lady came to Dr. Shook, Dr. Christopher's herbal teacher in Los Angeles, some years ago. She was twenty-nine, married and somewhat overweight. She suffered intensely painful menstruation and had so suffered every month since she was fourteen, each month having to go to bed for one or two days with medical treatment. Dr. Christopher recommended one of the intestinal tonic laxatives and a cup of Red Raspberry leaf tea at every meal (or three times a day)

for two or three months until her distress came under control. After two months of this treatment she reported that she was entirely free from any distress during her monthly flow and when the Doctor last heard from her she never again had a recurrence. Her digestion and elimination wonderfully improved and she lost seventeen pounds bringing her weight down to about normal.

An elderly nurse called on Dr. Shook to buy some Red Raspberry leaves. She reported that during her work as a nurse and midwife for thirty-seven years, delivering upward of two thousand babies, the only medicine she ever gave during labor was Raspberry leaf tea with a little composition powder in it and even if the child was not being born in the right position the tea caused it to turn and produce an easy and speedy delivery. She always had easy and complete success never having lost a baby during her many years of nursing.

Lucas reports the case of a woman who had had four miscarriages and who despaired of ever bearing a child. Several doctors had told her that she would never become a mother. She followed the advice of an herbalist's family to drink Red Raspberry leaf tea as soon as she knew that she had conceived. She gave birth to a lovely baby girl and in eighteen months she had another. The labor in each case was practically painless (Luc:Nature's:194).

He reports another case of a woman who had given birth to her first child after a long, frightening and very painful labor and delivery mainly due to her fear and inability to relax the right muscles. Three years later she was pregnant again and dreaded the coming ordeal. One day she was admiring the ease with which a sow seemed to give birth. The farmer told her that he always gave his sows an herbal remedy of Red Raspberry leaf tea to help them when farrowing and also thought that many women could similarly benefit.

She was willing to try anything to allay her fears and purchased a package of Red Raspberry leaf tea from a local herbalist. At first she did not care for its unusual flavor but in time she grew used to it and disciplined herself to take it every day. When the time came for her baby to arrive her fears dissolved. She responded to the contractions with very little discomfort and was amazed when the baby was born with such ease. The baby was born so quickly that it arrived before the doctor, who had taken his time in arriving because he remembered the last drawn out ordeal (Luc:Secrets:164).

This herb works rapidly to heal menstrual difficulties as well. When one woman begins to experience too profuse a menstruation, she chews a few fresh or dried Red Raspberry leaves. In just a couple of hours the flow is reduced to normal.

Dr. George Zofchak reported that almost forty years ago he and his wife had their first son and after a few years they decided they wanted more children. But his wife Irene had trouble carrying the babies and there were several miscarriages. Finally Dr. Zofchak learned that Red Raspberry leaves helped a woman in many ways throughout her pregnancy, strengthening the attachment of the fetus and easing delivery at the time of the birth. Although he had been selling herbs for some years he had overlooked the use of the Raspberry leaf tea. When his wife became pregnant again

she began drinking a few cups of the tea during the pregnancy, which proceeded normally even though ten years had passed since the birth of their first son. They had two other children through the use of the Red Raspberry leaf tea (Bri:233).

Dr. Christopher recommended taking at least a daily cup of Red Raspberry tea throughout pregnancy. He said that in addition to its good effects on the uterus it is also anti-nausea. A woman who was expecting her ninth child often experienced nausea during pregnancy. When she suspected that she might be pregnant again she began taking the tea even before she began to feel morning sickness. She never experienced any discomfort so she wondered if it might just be an unusual or unhealthy pregnancy, so she discontinued the tea. Not long after she began to feel nausea! She quickly began to take the tea again and felt no discomfort since then.

HINDBERRY

The cultivated raspberry is indigenous to Europe and to Asia, eastward to Japan, where the wild raspberry also grows. It grows wild in Canada and the northern United States, growing in hedges, neglected fields, thickets, and hills. It grows wild in some parts of Great Britain.

This herb was known to the ancients. Pliny reported its healing properties, and even its generic name goes back to the Romans, Ida referring to Dioscorides, who named it. It was abundant on Mount Ida in Asia Minor. It was called in Greek Batos Idaia and in Latin Rubus Idaea, the Bramble of Mount Ida. The specific name Rubus refers to the Celtic word for the red color of the fruit. Gerard called it Raspis or Hindberry, which is a derivation of the Saxon name Hindbeer:

Tw'as only to hear the yorling sing
And pu' the crawflower round the spring,
The scarlet hep and the hindberrie,
And the nut that hang frae the hazel tree
(Gri:671)

The Danish and German names resemble the Saxon name; they are Hindebar and Hindbur.

For children growing up in northern regions, the wild Raspberry is a delightful wild treat to come upon. When we camped in Alaska, our campsite was bordered by an abundance of wild Red Raspberry plants. We waited expectantly for these to ripen, and when they did, we enjoyed fruit that exceeded the garden berries in flavor and in delicacy. Even the leaves seemed to make a tastier tea than did the cultivated leaves we have used. Some collectors recommend that if you have access to the wild leaves, they contain more medicinal properties than the cultivate varieties.

Wordsworth wrote of the delight of gathering the wild berries:

Hither soon as spring is fled
You and Charles and I will walk;

Lurking berries, ripe and red,
Then will hang on every stalk,
Each within its leafy bower;
And for that promise spare the flower!
--Wordsworth, "Foresight"

The leaves have long held a place in herbal lore as an aid to expectant mothers. However the medical profession regarded this rather lightly. During the Second World War when drugs were unobtainable, research was conducted in England which revealed that Red Raspberry leaves contain a valuable principle, fragarine, which definitely acted upon the pelvic muscles of the mother at childbirth with a most beneficial effect. This principle was extracted and offered for people to use but midwives continued to recommend that their women use the tea (home birth was, and is still, more common in England and other European countries than it is in the United States).

In the 1600's an early herbal recommended using the Raspberry shoots for ulcers of the mouth and for gum swellings. A poultice of the leaves was employed for pain and looseness of the stomach and for a trembling heart. The juice was used to stop painful or profuse menstruation. Hemorrhoids and blood flux were cured with the unripe fruit (Boly:128).

The Rappahannock Indians steeped the dried, brown runner in water and drank the infusion for dyspepsia and diarrhea. The berries could be mashed and their juice drunk instead. Oneida Indians used the root decoction of a certain variety as a speedy dysentery cure. Chippewa Indians made a poultice by scraping the inner layer of root into a cloth, soaking this in water and squeezing the juice over an inflamed eye to promote healing (Ibid.).

Levy reports that it would be rare for a gypsy woman to go through pregnancy without having taken the tea from the first weeks of her knowledge of conception. And, she says, "the true nomad gypsy gives birth to her children with the ease of a wild vixen" (Lev:Common:119).

The Doctrine of Signatures assigns three interpretations of the herbs formations. The fruits' acidulous juice emphasizes the property of stimulating the urinary organs, the stiff prickles of the plant indicate pain accompanying complaints of the internal organs and the root's astringency recommends it as an antibiotic which is due to a concentration of tannic and gallic acids (Har:Complete:153).

ASTRINGENT HERB

Dr. Christopher classed Red Raspberry leaves among the astringent herbs, substances that contract unhealthy expanded tissues. He said that it is a great agent for cleansing a canker condition of the mucous membranes in the alimentary tract leaving the tissue toned. It soothes and tones the stomach and bowels healing any soreness in the entire tract and stopping fluxes. It is especially valuable in these cases for use by children (SNH:142). Other herbalists concur with

Christopher's use of the herb as an astringent. It soothes the mucous membranes and lining of the kidney as well and can be used externally as a wash for wounds (Neb:132). It is said to be an excellent remedy for burns and scalds mixed with slippery elm. If the skin is off, applying Red Raspberry as a poultice or washing with the tea will astringe the area, harden the wound and stop the smarting feeling (Thom:185). It is used in canker sores of the throat as a gargle (Hut:231) or as a wash for canker sores in the mouth. Dr. Christopher recommended combining the leaves with equal parts of shavegrass and agrimony for a canker sore mouthwash. For relaxed sore throat, spongy gums, canker sores, etc., he recommended equal parts of Red Raspberry leaves and Bayberry bark, two powerful astringents, to cleanse and tone the area. It is good to stop diarrhea especially in infants.

The foremost use of the Red Raspberry leaves, however, must remain as a wonderful healer in all kinds of women's problems. Shook quoted a world famous Quaker herbalist from England, Henry Box, as saying, "A tea made from Red Raspberry leaves is the best gift God ever gave to women. Its utility in travail is surprising. As a drink before and after confinement it is unequalled by any other agent. If the pains of childbirth are premature it will make all quiet. When timely it will occasion a safe and easy parturition. If the mother is weak it will abundantly strengthen her, cleanse her and enrich her milk. It is perfectly safe under all circumstances. Raspberry tea with a little composition powder in it will effectually remove the afterpains from which some suffer so severely. It is also most excellent in flooding, uterine hemorrhage and to prevent miscarriage...just as a woman was heaven's last and best gift to man, so of all nature's remedies, this plant is heaven's best gift to mothers and babies and it behooves every mother to rest not until this great gift is known from pole to pole"(ShoA:112).

One of the reasons that Red Raspberry leaves are so efficacious is that they contain iron citrate upon which depend the remarkable blood making and regulating properties in the body. It also promotes the astringing and contracting action of the female organs and other internal tissues and organs. The leaves also contain pectin which has recently been found to be a soothing and healing agent, malic acid and other organic acids, calcium chloride, potassium chloride and potassium sulfate. Especially in light of these healing potassium compounds, which modern science has discovered to be absolutely necessary for promotion of healing tissue, it is no wonder that Red Raspberry is such a wonderful herb for women and especially for mothers-to-be (ShoA:113).

The herb is used for preventing miscarriage along with proper rest and diet. Dr. Christopher also recommended the False Unicorn and Lobelia combination (Luc:147). It can be used freely to prevent and reduce menstrual cramps and combined with other herbs such as uva ursi and squaw vine is a good treatment for vaginal discharge and other similar disorders (Tie:112). To relieve the nervousness that often precedes menstruation (as well as that which accompanies menopause) a woman can drink equal parts of Red Raspberry leaf tea and dried lime flowers. One cup is taken three times daily (Luc:Secret:165). Leucorrhoea can be treated with a combination of Red Raspberry leaves, gentian root, comfrey, uva ursi and golden seal, taken in fluid extract or tincture in a little water three times daily. A douche can also be taken for these conditions as well to cleanse and tone the female reproductive tract. Dr. Shook recommended this combination: put

two ounces of Raspberry leaves into 1-1/2 pints distilled water. Simmer for fifteen minutes while closely covered. Strain and add one ounce glycerine, 15 drops of sandalwood oil, and 8 ounces mucilage of Irish moss. Shake all together thoroughly and use as a douche, up to three times daily, considering the severity of the case. Make fresh each time. He said that this it is a most remarkable and speedy remedy for leucorrhea, gonorrhoea, inflamed mucous membranes, prolapsed or enlarged uterus and so forth. He recommended it for every woman who desires to retain youth, health and strength in the female organs as well as to prevent possible contagion. He considered the douche sufficient if applied once weekly (ShoA:113-4).

Lucas describes another douche formula. A mixture of one ounce each of Raspberry leaves, white oak bark, witch hazel leaves, black currant leaves and cranesbill is boiled slowly in two quarts of water for twenty minutes and then strained through a cloth. The straining process should be repeated until the liquid is perfectly clear and when the solution has cooled to tepid warm it is used as a douche. The douche should be retained until a slight stretching feeling is experienced when it is expelled and another applied until the liquid has been used up. A fresh batch should be prepared and used every other night until the leucorrhea or other problems have cleared up. Some cases respond after only one or two douches. Others take up to ten days to heal. After the problem stops you do not need to continue the douches (Luc:Secrets:165-6).

During pregnancy the tea will help prevent spotting in the first trimester and increase muscle tone in the uterine walls. The tea should be taken a cupful three times a day (Moore:138). Drunk after birth it will help decrease uterine swelling and cut down on postpartum bleeding. Although medical men have so long spurned the folk tradition of Red Raspberry leaf for pregnancy, a woman physician in England "somewhat shamefacedly" encouraged many expectant mothers to drink this infusion...In a good many cases labor has been easy and free from muscular spasms (Luc:Nature's:194). One woman called it "an incredibly simple insurance policy for an easy delivery" (Neb:132).

The douche can be used as a remedy for prolapsed uterus (Felk:1682). It is also good for yeast infections (Mal:252).

Taken during labor the sweetened tea is used as a natural regulator for contractions and after the birth the infant's mouth can be washed with it if the mouth seems sore. The mother can use the tea to wash sore nipples with and to enrich the milk supply (Thom:185).

Interestingly the berries are said to provide many of the medicinal factors of the leaves. We have been encouraged by midwives to eat freely of the berries, if possible, for the same good effect during pregnancy--a lovely medicine! Since some people never get used to the taste of the tea a good way to use the leaves (aside from capsules or tablets) is to make a green drink. Our "pregnancy green drink", to which we have grown so accustomed that we can hardly imagine pregnancy without it, is made thus: To a cup or more of pineapple juice in a blender container, add a handful of Red Raspberry leaves, a handful of comfrey leaves and a few alfalfa leaves. Blend until the fibers of the leaves are broken down and drink immediately. You can add a couple

of ice cubes or a little cold water if you want an icy or thinner drink.

The fruits are accredited as a remedy for breaking up and helping to expel stone accretions from the kidneys and gall bladder (Har:Complete:153). They are also good eaten during a bout of diarrhea (Rose:Herbs:100). The tea of the leaves is equally good for the urinary tract, especially for urethral irritation (Thom:185).

A strong infusion of the roots and leaves act as a good laxative (Spoerke:147). A tea from the twigs is said to help in difficult breathing (Hut:233). The herb is said to help against frigidity in women and sterility in men, and the foliage and shoots are a well known tonic for stallions and bulls (Lev:Common:120).

Dr. Christopher said that the tea of the leaves is a perfect remedy for colds and flu. He said to take no foods or other liquids but to drink large amounts of Red Raspberry leaf tea. His son, David, used this method when he came down with a cold and became well so fast that he and his wife went out to eat that night before the cold was completely cleared. His cold returned and so he decided to repeat the Red Raspberry treatment but it would not work the second time. He had to use the anti-plague formula which is somewhat nasty but effective.

While Dr. Christopher was in Great Falls, Montana, he had a call from a woman who was extremely worried because two of her eight children had come home with the intestinal flu that was then rampant in the area. It was such a serious epidemic that when a person carried it into the home the entire family would come down with it and be ill with it for some time. Dr. Christopher advised her to make up gallons of the tea from leaves in the garden. She reported later that the two children who came home with the flu were started immediately on the tea as well as the rest of the family. When they were thirsty more Red Raspberry leaf tea was given, when hungry, more tea and when they would complain they got more tea. The two who came home sick went to school the next day and not one of the rest came down with the flu (Herbalist: April, 1976, p.130).

Dr. Christopher also recommended the use of the tea, well strained, for sore eyes.

RASPBERRIES!

These are among the finest of fruits. We like them best raw and out of hand and we feel privileged if we can browse through the rows of bushes eating raspberries on a hot afternoon. However, there are many ways that you can use the berries.

To replace sugar laden and chemicalized fruit flavored yogurt try this. To a pint of fresh, homemade yogurt, add a cup of Raspberries crushed in one-fourth cup apple juice. You can simmer a small handful of raisins in the apple juice and puree them in the blender if you require a sweeter taste. Mix the berries and juice lightly into the yogurt. This has all the good taste of the flavored yogurt but is much better for you.

If you happen to freeze many berries, a delightful treat is to place a cup or two of (raw or nut) milk in a blender. Put in a quantity of the frozen berries and put the lid on. Start the blender and when it is going well remove the lid. Add more frozen berries until the mixture turns into a slush. This is great without sweetening, although you can add a little honey and/or vanilla at the beginning if you like. Serve immediately.

To peach crisp add a half-cup or more of Raspberries before you add the crumble mixture. You can drizzle the fruits with honey (since your home-canned fruits need not contain any sweetening) and use whole grains and wholesome oil or butter for the topping. The Raspberries add a delightful quality to the crisp.

If you are going to make homemade ice cream in a handcranked or electric freezer, once you mix the ingredients, add a cup or two of frozen, crumbled Raspberries. This will not only help freeze the mixture but will result in a thoroughly delicious ice cream.

Harris recommends a recipe for Raspberry wine. Bruise the finest ripe raspberries with the back of a spoon, strain them through a flannel bag into a stone jar, allow one pound of fine powdered loaf sugar to one quart of juice, stir these well together and cover the jar tightly. Let it stand three days stirring the mixture up every day, then pour off the clear liquid and put two quarts of sherry to each quart of juice or liquid. Bottle it off and it will be fit for use in a fortnight (Har: Eat: 195).

The berries contain enough pectin to set up nicely as a preserve or jam. It is sometimes difficult to get a good jam using honey, although possible. To a cup of the berries add a half cup honey. Simmer until the mixture jells. Of course this recipe can be multiplied as needed. We have made indescribable jam with the freshly gathered wild berries over an open fire. We used two cups of berries, about 3/4 cup turbinado sugar, and just a bit of water to get things started. We cooked the mixture until it jelled and poured it into a jar. We ate it immediately!

Raspberry vinegar can be made either with malt vinegar or white vinegar. Malt vinegar is preferred but apple-cider vinegar is best. Two pounds of raspberries is required to flavor a pint of vinegar. Grieve gives the technique: Put a pound of good berries into a glass bowl and pour on it a quart of good vinegar. Next day strain off the juice onto another pound of berries. Repeat the following day. Do not squeeze the fruit, just drain the liquid as much as you can. The last time you can strain through a stout cloth to prevent waste. Put it into a glass jar with a pound of sugar to every pint of juice, stir it and then put the jar into a saucepan of water, simmer and skim. Cool and when cold bottle it.

This can be added to cold water for a beverage but is also good for coughs and for complaints of the chest (Gri: 672).

You can make syrup of Raspberries by simmering the berries with a little honey and thereafter

straining it. It is superlative on pancakes but can also be used by the spoonful to help break fevers in children. If you make enough quantity to save, freeze it. It is not a good keeper even in the refrigerator.

For a delicious treat, though not as nutritious as the raw berries, slowly simmer equal parts of berries and honey until they reach the soft-ball stage. Put them out by teaspoonfuls onto a buttered plate. These candies are good for company and special occasions. They are really delicious.

To make Raspberry Brandy pick fine dry fruit, put it into a glass jar and the jar into a kettle of water or on a hot hearth till the juice runs. Strain and to every pint add 1/2 pound of sugar, give one boil and skim it. When cold put in equal quantities of juice and brandy and shake well and bottle (Gri: 672).

You can dry the fruits in a dehydrator or in a very warm, airy place. They can be added to bakery recipes or reconstituted and used in fruit salad or other fruit preparations.

If you do not enjoy the flavor of the Red Raspberry leaf tea, you can add equal amount of peppermint leaves. It somewhat covers the flavor and sweetened with honey makes a good beverage. Some people prefer this to table tea. It is certainly preferable from a health point of view!

HISTORICAL USES

This herb stimulates, tones and regulates the organs of women, good for painful menstruation, promotes easy and painless delivery, strengthens the uterus, stops nausea, good for ulcers, gum swelling, inflamed eyes, stimulates urinary organs, tones the stomach and bowels, for mucous membranes and the lining of the kidneys, used as a wash for wounds, for burns, canker sores, as a mouthwash, for infant diarrhea, for pre-mature labor pains, to prevent miscarriage, as a douche, to prevent spotting during pregnancy, for muscular spasms, yeast infections, to regulate contractions, for sore nipples, to expel stones, for the urinary tract, as a good laxative, for difficult breathing, to help frigidity in women and sterility in men, for colds and the flu.

CULTIVATION, COLLECTION, PREPARATION

The plant is generally cultivated by suckers although layers are often preferred because they will be better rooted and not so liable to send out suckers. In preparing these plants their fibers should be shortened but the buds which are placed at a small distance from the stem of the plant must not be cut off, as they produce the new shoots the following summer. Place the plants about two feet apart in the rows allowing four or five feet between the rows. If planted too closely, without plenty of air between the rows, the fruit will not be so fine. The most suitable soil is a good, strong loam. They do not thrive so well in a light soil. In October cut down all the old wood that has produced fruit in the summer and shorten the young shoots to about two feet in length. Dig

the spaces between the rows well and dress with a little manure. Beyond weeding during the summer no further care is needed. It is wise to make new plantings every three or four years as the fruit on old plants is apt to deteriorate (Gri:671). Be sure not to let the grass and weeds grow up around the plants as they choke the plants and make tending the Raspberry plants an onerous task.

There are many varieties of Raspberries: black, golden, different strains of red; there are even thornless varieties that make picking a pleasure. The red varieties have a different sweetness and acidity. Often the more acidic types offer more medicinally. You pick the berries, of course, when they are ripe. You can tell when they are because they slip off very easily. Aside from leaves that you will use fresh during the summer months wait to gather the season's leaves until the berry crop is finished. They are still in perfectly good condition and your picking the leaves will not harm the bearing plants.

The very best way to preserve Red Raspberries is to pack them dry in a suitable container (cleaned out cottage cheese containers offer an ideal size for most families) and freeze them. No sweetening is necessary and they thaw with good quality and flavor. Some people enjoy the taste of the canned berries (they really are delicious), but they lose nutritive value in the canning process. If you have so many that you cannot freeze them, an enviable problem, can them but don't sweeten. If you find them too tart when you open the jars during the winter you can drizzle a bit of honey on them then.

Dry the leaves in a warm, airy place and crumble them using gloves. Store in a cool, dry, airtight place. They hold their medicinal values very well so you can use them any time during the year. When the new crop of berries and leaves appears discard all your old ones (you can use them in the compost heap or apply them directly to the feet of the plants as a mulch) and replenish your supply with fresh ones.

RELATED PLANTS

R. odoratus, the Rose-flowering raspberry or mulberry has large, purple-rose colored flowers. It bears broad, thin, bright-red, sweet fruits. A decoction of the plant is said to be powerfully diuretic and may be used freely in problems of the urinary system and dropsy.

R. Chamaenoros, or cloudberry, is a small, herbaceous plant. The berries contain much sugar, citric acid and coloring matter. In Russia, where it is indigenous, the infusion of the leaves is used for cystic debility and dropsy.

R. villosus or blackberry is used for diarrhea, dysentery, hemorrhoids, leucorrhoea, offensive saliva, relaxed stomach and mucous tissues generally.

R. occidentalis, the thimbleberry, is similar therapeutically to Red Raspberry. The fruits are similar to and make a good camping fruit if one is lucky enough to find it. Black Raspberry is

similar therapeutically to Red Raspberry.

CHEMICAL COMPOSITION

The fruit contains one to two percent of organic acids, ninety percent of which is citric acid. It also contains Vitamin C, various sugars and pectin. The seeds contain 24% of a fatty oil.

The leaves contain fragarine, which is the uterine tonic.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING RED RASPBERRY

The Nu Fem Combination contains Red Raspberry leaves along with other herbs to renew the female system. Many women who had painful menstruation, flooding, cramps, irregularity, etc., have been helped in having a painless menstrual period that arrives on time and a new outlook on life. It takes time to correct malfunctions that may have taken years to accumulate. Some severe cases have been cleared up in as short a time as three to four months.

In combination with Nu Fem, Dr. Christopher recommended that women take a combination that equalizes the hormones and estrogen. Although it doesn't contain Red Raspberry we mention it here as it is part of the sexual regenerative program. This combination, called Changease, helps youths going into puberty, expecting mothers whose hormones sometimes cause problems (one husband says that when his wife is pregnant her "hormones are raging"), women going through the change of life and men, too.

If there is yeast infection and/or Herpes Simplex before or during pregnancy, you can use the Slant Board combination. These are harmless to the mother and the child in the womb. It is administered in a douche or bolus form. The mother-to-be lies down on the slant board and massages the pelvic and abdominal area so that the combination will be absorbed into the organs. This bolus can also be administered in the rectum for problems in that area and for men.

Feb LB contains Red Raspberry leaves.

The Pre-Natal Tea contains Red Raspberry leaves. If the mother is taking the Red Raspberry tea throughout the pregnancy this is just an added help. This combination is taken five or six weeks before the expected due date. The herbs tone and strengthen the uterus muscle and help assure a good labor and delivery. Many women have reported very smooth and near painless births with this combination.

Herbal Eyebright contains Red Raspberry leaves. This is sold in capsule form for internal use and in bulk form for making into an eyewash. The Red Raspberry, along with the Bayberry, acts as an astringent.

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Mal
Moore
Neb
Boly
ShoA
Har: Eat
Spoerke
Luc: Nature's
Luc: Secrets
Thom
Hut
Weiner
Tie
Klo
Luc
SNH
HHHC
Bri
Gri
Felk
Rose: Herbs
Lev: Common
Har: Complete

ROSE

Rosa var.,

DESCRIPTION

Linnaeus in 1762 described fourteen Rose species, a number which he soon increased to twenty-one. Other botanists followed his lead with more and more complete descriptions and classifications. John Lindley in 1820 described 76 species and sub-species. In recent years, Professor Alfred Rehder at Arnold Arboretum classified 296 species (Hyl:544).

From these pure strains, over 16,000 varieties of Roses have been developed, with more offered in the catalogs each year. Herbalists are only interested in a few of these many varieties. One of

the best Roses, which we have mentioned many times in this newsletter, is the Rosa damascena, the Damask Rose. This is a graceful bush, growing about three feet in height. The flowers, with thirty-six petals, range from apple pink to deep red and pure white, and are very fragrant. Although they only bloom once a year, their fragrance makes their cultivation worthwhile.

Red Rose, R. gallica, is a little larger, and resembles the former in its foliage. The stem is beset with short bristly prickles. The flowers are very large, with obcordate widely spreading petals, which are of a rich crimson color, and less numerous than in R. centifolia, which is often grown for its fragrance as well. In the center is a crowd of yellow anthers on threadlike filaments, and as many villose styles bearing papillary stigmas. The fruit is oval, shining, and of a firm consistence. The red Rose is a native of southern Europe, and is cultivated in gardens in the United States and throughout the world.

Because of their importance in producing fruits with high levels of vitamin C, wild Roses can feature in the herb garden. R. rugosa is a native of China, Korea, and Japan. It is a hardy shrub rose which grows six to fifteen feet tall, will endure heat, cold, dryness, sandy or clayey soil, and even salt sea air. Its flowers are single, double, or semi-double, in white, pink and red (Hyl:544).

R. canina, the Dog Rose, is the variety most of us pick Rose hips from. The general growth of the Dog Rose is subject of so much variation that the original species defined by Linnaeus has been divided by later botanists into four or five subspecies. The flowers vary very considerably in color, from almost white to a very deep pink, and have a delicate but refreshing fragrance. The scarlet fruit (which turns this color after a good sharp frost), is generally described as flask shaped. It is what botanists term a false fruit, because it is really the stalk-end that forms it and grows up round the central carpels, enclosing them as a case; the real fruits are the seeds inside. At the beginning of the season, the hips are tough and crowned with five-cleft calyx leaves; later in autumn these fall and the hips become softer and more fleshy (Gri:691).

The Field Rose, R. arvensis, is generally a more trailing Rose than the Dog Rose. The leaves are similar to R. canina, but are often rather smaller and their surfaces more shinny. The prickles, too, are somewhat smaller in size but more hooked. The flowers are white, much less fragrant than those of the Dog Rose and sometimes even scentless. Though occasionally occurring singly on the stem, they are generally in small bunches of three or four at the ends of the twigs, though only one of these at a time will be found in bloom. This species generally comes into blossom rather later than the Dog Rose and continues in bloom longer. It is one of the chief ornaments in hedgerows in England, both for the summertime flowers and the brilliant hips in fall. It has its styles united into a central column and not free or septate, as in the Dog Rose (Ibid).

The flowers of the Sweet Briar, R. rubiginosa, are a little smaller than those of the Dog Rose and generally of a deeper color. They bloom during June and July. The hip is egg-shaped, the broadest part being farthest from the stem.

The specific name rubiginosa signifies in Latin, "rusty, the plant being so named as both stems and

leaves are often of a brownish-red tint. Its fragrant foliage has led to its holding a cherished place in many old gardens. Although its leaves are richly-scented, the flowers hardly have any scent at all (*Ibid.*).

The Downy Rose, *R. villosa*, is found in northern climates. It gets its name from the downy texture of both sides of the leaves, the word *villosa* meaning softly hairy in Latin. This species is subject to many variations, five or six of which have been by some botanists considered separate species. The flowers are white or pale pink. The fruit, which is globular, is covered with fine prickles.

Sometimes you will find the stems of wild Roses covered with what looks like little fluffy balls of crimson moss. These are really galls and result from the puncture of a small insect--a kind of wasp--in the same manner that Oak Galls are formed. The wasp punctures a leaf while it is yet undeveloped in the bud and there lays its eggs. Immediately the normal growth of the leaf alters and numerous larvae are formed, which hatch out and creep further into the leaf tissues, until the whole swells into the moss-like gall we can see. In the middle ages, these galls were supposed to induce sleep if put under the pillow (*Gri:692*).

ROSE PETAL SANDWICHES

Soften a quarter of a pound of butter and wrap it in waxed paper. Place it in a container which you partially fill with Rose petals. Place the waxed-paper-covered Butter on top of the petals, and put more petals on top. Chill for several hours. Remove to room temperature. Slice thin whole-grain bread and spread with the scented butter. Put a thin layer of Rose petals in the sandwich, letting the edges show outside the sandwich.

To scent linen, when you are folding it, spray or sprinkle homemade Rosewater on it. It keeps a lovely smell in the drawer or cupboard. You can mix orange-flower water with it if you like. Old-time housewives often scented their laundry this way.

The Rose is the symbol of love; the bridal Rose is the symbol of wedded bliss. The cabbage Rose is the ambassador of love, and a Rose sent daily to a person communicates that you aspire to his/her smile. The damask Rose communicates admiration for a beautiful complexion. A deep red Rose lets someone know that you are embarrassed about something you did. A single Rose communicates simple love. A thornless Rose means that you began to love someone early in your relationship. A withered Rose means that your love is decreasing or that you are jealous. White and red Roses given together suggest that you wish to enhance unity. A Rosebud means that you think someone is pure and lovely, if the bud is red; a white one communicates girlhood love. A moss-colored Rosebud given means that you are confessing your love.

A British scientist explained that "we set the children and teachers in the country to collecting them. Everybody else who took a weekend walk in the country carried a basket to gather Rose hips, and turned them in. There was a big basket in the Ministry of Health where we all dumped our contributions Monday morning" (*Harris: Eat the Weeds: 198*).

During this time, British researchers noted that vitamin C is a variable factor according to geographical position and variety of the plants. Rose hips growing in Scotland are in some cases ten times as valuable as some British species, and one kind, Rosa cinnamomea, contains nearly five percent of the vitamin, while the Dog Rose or the English wild Rose, contains only 0.4 percent. The more northern climates produce Rose hips with the greatest amounts of vitamin C.

Long and searching experiments were carried out when the decision was made to produce Rose hips syrup for the public in England so that the highest amount of vitamin C might be retained in the finished product. Rose hips were made a priority freight so that they would retain their values. The Rose hips were processed soon after picking or frozen solid at a low temperature to preserve the vitamin. Either way, they were coarsely ground and treated very rapidly with boiling water to destroy an enzyme present in the hips which inactivates vitamin C very rapidly. While the hips are whole or frozen, this enzyme does no harm, but when the hips are crushed or ground, the whole amount of C can be easily lost. Hot water extraction was performed by percolating hot water through a bed of crushed hips or by suspending the crushed hips in linen bags in boiling water. The watery extract was tested for vitamin C, concentrated under reduced pressure at a low temperature to preserve the vitamin, and sugar added to produce a syrup. The vitamin content was then again checked to ensure that it contained no less than the minimum requirement of 200 milligrams per 100 milliliters of syrup. The syrup was quickly bottled and sealed. During the war, National Rose-hip Syrup was sold at a controlled price of 1 shilling 9 pence for a six-ounce bottle.

In Denmark, Norway and Russia, and to some extent in England, tablets are made from the extract of Rose hips which is concentrated and vacuum dried. This is more stable than the syrup. In Russia during the Second World War, the Soviet Union reported that the women and children there collected large amounts of the fruit, the high-school students alone having in one season delivered 17 tons of the dried berries.

We can only comment here that Rose hips grow wild in most parts of the country, and while collecting them is a time consuming task, it can be a very pleasant one. We hope that we will remember the lessons of World War II if ever a shortage of C-containing foods occurs again. The good-natured cooperation evinced by the British and Soviet people can be an example to us in times of need!

According to the Journal of the Canadian Medical Association, there is enough vitamin C extract from the fruits of the Wild Rose crop in Alberta alone for more than ten times the amount necessary for a generous yearly ration of C for the entire population of Canada (Harris op cit., 198).

Red Rose petals are official in nearly all Pharmacopeias, often in syrup or honey form. They were formerly employed as an astringent and tonic, but are mainly used now as a pleasant odifereant to other pharmaceutical preparations. However, the acid infusion is used to treat night sweats

resulting from depression (Gri:688).

The root of the wild Rose was once used as a cure for rabies, and this is a possible reason for its name. The ancient Celts used to employ this species against infected wolf-bites, both for themselves and for their domestic animals (Levy:122).

In the Middle Ages, conserve of Roses was eaten for colds, coughs, for the lungs and for burning urine (and for gonorrhoea). The thirteenth century English philosopher Roger Bacon used the conserve of Roses as a drink (Rose:101).

The California Indians used the species there as a treatment for colds.

SWEET-SMELLING HEALER

Rose petals were long used in infusion as cooling and astringent for the relief of uterine and other hemorrhages, and as an application to ulcers affecting the mouth, ears, anus, etc. The fresh bruised petals were applied to inflammations of the eyes.

The essential oil, because of its powerful aroma, has been believed since early times to exert an effect on the nervous system. Hippocrates recommended the oil in diseases of the uterus (Weiner:165). It can be used to treat all kinds of female complaints, including leucorrhoea, metritis, threatened miscarriage, and as a tonic for the ovaries and uterus (Levy:122).

The petals are mildly astringent and slightly laxative; they are considered a good nightly antidote to take for sluggish bowels.

They are, interestingly, also a good treatment for diarrhea, five to ten flowers or buds steeped in hot water for twenty minutes and drunk as often as needed, generally every two or three hours, beginning at least twelve hours after the onset of the trouble. This, herbalist Moore explains, is because most diarrhea serves a useful defense purpose in the body, and so the condition should be allowed to run a sensible course before taking herbs to control it (Moore:141).

Petals of the white Rose make a cooling astringent lotion for sore eyes (Levy:op cit); Rose buds are said to be one of the safest and most widely used eyewash, acting as a mild astringent, giving tone to the tissues, and shrinking capillary inflammation and redness. Two or three flowers, steeped in a half cup of water until it reaches body temperature and then strained well is sufficient. Eyewashes such as this will reduce the symptoms of eye problems but will not stop infection; a pharmaceutical preparation of Rosebuds is marketed by at least one company for eye use (Moore:142).

A compound infusion of Rose, containing sugar and diluted sulfuric acid, is employed as a coloring and flavoring ingredient of mixtures and as an excipient and solvent for sulphate of magnesia and for sulphate of quinine, whose taste it partially covers. It forms an agreeable gargle for inflamed and ulcerated states of the mouth and throat; its virtues are said to be largely due to

the sulfuric acid it contains.

In India, Rose petals are used as a syrup and conserve for a mild laxative and for sore throat or enlarged tonsils. It is said to fatten women and old people. The petals are used to relieve uterine hemorrhages. Locally they are applied to cure aphthae. The attar, which is the expensive concentrated oil of the finest Roses, is only used medicinally in perfuming emollients and medicinal soaps (IMM:1073).

According to the Doctrine of Signatures, the gravelly ground in which the Rose grows and the many seeds indicate the Rose's property of dissolving and gradually removing gravelly deposits and stone from the kidney and gallbladder areas. The color represents conditions of the liver and blood stream. Since the pollen and sometimes the odor are irritating to the eyes, the Doctrine of Signatures suggests that the Rose can be used in eye lotions, including those for relief of eye irritation from hay fever. The sharp prickles represent the pain that is associated with the above internal disorders (Harris:Complete:156).

HIPS

R. rugosa, Dog Rose, or Wild Rose, is actually a native of China, Korea, and Japan. The hips of this plant are the main source of wild vitamin C, although other species yield varying amounts. We have discussed the good use of Rose Hips during the Second World War by England and other European countries, outdoing the orange and black currant and other better-known sources of this vitamin. They also contain goodly amounts of vitamin E, as well as vitamins A, B-12, F, P, and potassium, calcium, phosphorus, and iron.

Each hip is said to contain 10 mg. of vitamin C; the hips are reported to contain 60 times the amount of C of lemons. However, there is some discussion as to whether the commercially-available hips are actually a good source of C. The actual vitamin content does depend on the exact botanic variety employed, its habitat, the climate where grown, the time of collection, and the method of drying. Many of the marketed samples that were analyzed no longer contained any vitamin C (Tyler:494). The authors of Pharmacognosy suggest that even if one assumes that commercial Rose hips contain the relatively high ascorbic acid concentration of one percent, and further assumes that all of the vitamin is extracted in preparing the tea, jam, soup or other preparation, the cost of this source would be about 25 times that of the synthetic product. Because, they say, none of these assumptions is necessary valid and because the natural vitamin is not intrinsically superior to the synthetic, Rose hips are not an economical source of vitamin C. We would agree, if the hips one uses are always purchased. You can't beat the cost, however, of hips that you gather from surrounding mountain areas or from wild lands around your home! If you take proper care in preparing the hips, they can provide an excellent (free) source of good-quality vitamin C. And while laboratories cannot determine any difference between synthetic and natural vitamin C, Dr. Christopher always taught that constituents of herbs always work better when taken in the form of the whole herb itself; perhaps laboratories cannot yet find what causes this, but experience has proven it to be so.

Do be careful, however, not to gather Rose hips where they might have received orchard sprays or pollution from passing traffic.

The Rose petals have also been used in cookery. We provide several interesting recipes in our section below on preparation.

One of the most famous--and most expensive uses of Rose petals is Attar of Roses, also sometimes called Otto of Roses. The discovery of this marvel is attributed to the princess Nour-Djihban of Persia. At her wedding feast with the Emperor Djihanguyr, son of Akbar, a canal circling the whole garden was dug and filled with Rose water. The heat of the sun separating from the essential oil of the Rose was observed by the bridal pair when rowing on the fragrant water. It was skimmed off and found to be an exquisite perfume. The discovery was immediately turned to use and the manufacture of Attar of Roses was commenced in Persia about 1612 and long before the end of the seventeenth century the distilleries of Shiraz were working on a large scale (Gri:684-5). Persia no longer exports Attar of Roses to any extent, and the production in Kashmir and elsewhere in India, probably as ancient as that in Persia, serves for local consumption only.

Through the Turks, the manufacture was introduced into Europe by way of Asia Minor, where it has long been produced. It is probable that the first attar was distilled in Bulgaria, then part of the Turkish Empire, about 1690--its sale in Europe at quite a high price is alluded to in 1694--but the importance of the Turkish attar is of comparatively late origin; not becoming an important export until the beginning of the last century.

French attar of Roses, being made from the French rose water which was always said to be superior to any grown elsewhere, was only made on a small scale for some time. Over the years, however, French scientists have developed strains of Roses that provide an even better scent, and France is known for its production of superb perfume oil.

You may be surprised that, being as the cost of attar of Roses is 150 per ounce, you can make your own attar of Roses from your garden. Fill a large clean ceramic crock with Rose petals. If you grow an old-fashioned, beautifully scented variety in your garden, this is the one to use. Lightly press the petals down and cover them with pure spring water or rain water. Place the crock outside where it will receive a full day's sun. Watch the surface of the water for scum to form, which will take from four to seven days. This scum is the attar of Roses and should be oily with a yellowish color. With a small piece of cotton absorb the oil and squeeze it into a small container. Remove the Rose oil daily. If rain threatens, cover the crock so the Roses aren't flooded and your precious oil lost. A faster method to extract the attar is to place two pounds of freshly picked Rose petals on a cloth tied around the edge of a large enamel pan filled with hot water. Keep the water hot on the stove and place a dish of cold water upon the petals. Keep changing the pan of water on top to keep it cool. Soak up the Rose oil with cotton and place in glass bottles (Hyl:171).

Rosewater is often sold in cosmetic preparations, although many Mid-Eastern peoples use it in cookery and as a condiment. Sometimes we might like to try these recipes but haven't any idea of how to get the brew. Actually, it's quite easy to make Rose water. Gather Rose petals early in the morning, place them in an enamel pot, just cover them with spring or rain water--never chemicalized water--and slowly bring the mixture to a boil. Simmer for several minutes and strain; that's it! You can use this as a hair rinse, as a cosmetic or ingredient in cosmetics, as a light perfume, or in cookery.

To make oil of Roses, which is often used in perfumery (it makes a delicious perfume itself), collect a half pound of Rose buds. Use a mortar and pestle to crush them fine, place them in an earthenware crock and add a quart of olive oil. Place the crock in a sunny location for three to four weeks stirring daily. At the end of this period, heat the roses and oil in an enamel bowl until warm, force the warmed mixture through a fine sieve or use a blender. Filter through four layers of cheesecloth before storing in two-ounce or less dark glass bottles (Hyl:172-3).

Rose petals are primary ingredients in potpourri, which is a mixture of aromatic flower petals, spices, and fixatives. You can use almost any combination you desire, but Roses usually predominate. It is an exquisite way to capture the scents of a summer's day for a dark, wintery time. The dry kind of potpourri is easiest to prepare. Dry the Rose petals as well as other ingredients desired--sweet geranium, sweet verbena, bay leaves and lavender are a good combination. Anything with a lasting scent, such as cedar or sandalwood shavings, can be added. For two-thirds of a bushel of petals, the spice mixture is 2 ounces of cloves, mace and cinnamon, 1/2 ounce each of coriander, allspice, gum storax and gum benzoin, and 4 ounces of violet powder (Gri:692). Just mix them all together and seal in closed containers. You can also put them onto bits of cotton or quilt batting and sew them into sachets--a lovely and not expensive gift. A simpler way to make a potpourri is to dry Rose petals, lavender petals, lilac petals, marjoram, and powdered orris root (which you can't grow, like you can the others; you'll have to buy) which acts as a fixative. A nice blend for sleeplessness is a combination of Rose petals, spearmint, cloves, and orris root (Hyl:161). You can get books from the library on potpourri and concoct many interesting combinations.

You can make wet potpourri, which is made with salt, but it is rather difficult to do and we won't discuss it here. If you should wish to make it, you can easily find instructions on the method in libraries.

CULTIVATION

The Rodale Herb Book gives excellent instructions on growing roses, from which we will extract information. The best plants to buy are two-year-old, field-grown, budded stock. Roses may be planted in spring or fall. They require sun, free circulation of air, well-drained, porous acid soil with a pH of five to six. Soil should be trenched and prepared to a depth of 24 inches for best results with Roses. Experiments have proven that Roses planted in more shallower prepared soil will give equal results with those in deep beds during the first year, but after that the Roses in deeper beds are superior.

In preparing a Rose bed, the top spade's depth of soil is removed and saved, the lower spade's depth then removed and discarded. In its place, a mixture of one-fourth rotted manure and one-half humus is mixed with the top loam. The mixture is then returned to the bed and permitted to settle for two weeks before planting.

A hole slightly larger in diameter than the spread roots of the plant should be dug deep enough barely to bury the bud graft when planting. Soil is mounded cone-shaped in the center of the hole and the planted seated upon it. If any of the roots are damaged, they should be pruned back of the damage. Long straggly roots also are cut back and the tips of most others removed. The hole is half filled with soil and a pail of water poured into it, to wash among the small rootlets. When the water has seeped away, the hole is filled to garden level and tamped around the plant. Canes are then pruned to six to eight inches above soil level.

Roses are seldom grown from seed. A more common method is to grow cuttings or slips. These are taken from the most healthy plants, at a point where the cane breaks with a snap. They may be set directly into an existing Rose bed, or may be started in a corner of the garden where they will receive morning sun only. Cover them with glass jars, pushing the jars securely into the soil and water well. You don't need to water often because moisture condenses in the jar. If the cutting forms roots, new shoots will appear within three or four weeks.

Roses need plenty of water when the season is dry, but it should be supplied at weekly intervals in quantities large enough to reach the deepest roots rather than in small daily doses. Mulch helps conserve moisture. Roses are pruned in the spring before growth starts. Mulch should be raked away and the winter's manure cultivated into the top layer of soil (Hyl:548-9).

COLLECTION

You should collect Rose petals when the Rose has nearly opened full but before it begins to fade. Collect them during the morning hours after the dew has evaporated but before they receive the full heat of the sun. You can dry them in a warm, airy spot and keep them in sealed containers for culinary or perfume use.

You should wait to collect the hips until at least the first frost, since the vitamin C content rises considerably after that first nip. Just browse among the bushes and collect the hips into a container. Refrigerate them when you get home unless you plant to process them immediately. If you wish to dry them, do so in a dehydrator that doesn't heat above about 135 degrees F., and be sure that air circulates freely. Don't let them dry too slowly, or you'll lose the C content, but don't let them get hot, or the C will flee away.

PREPARATION

If you are going to process your hips in a way other than drying, either do so immediately after collection or refrigerate. They hold fairly well under refrigeration, but you should get to them as soon as convenient.

To make Rose hip syrup, place the hips in a pan (after topping and tailing them) and cover well with water. Bring to a boil and simmer until tender, about ten minutes. Put into a jelly bag and squeeze out as much juice as possible. Return pulp to pan and repeat process. Empty bag and wash thoroughly. Mix the two lots of juice and pour into the clean bag. Let it drip overnight. This may be heated to boiling and poured into sterile jars, sealed, and stored indefinitely. You do not need to sweeten this syrup. If when you use it you desire sweetening, add a little honey.

To make Rose Hip jelly, cook 1 quart cleaned and trimmed Rose hips with 5 tart unpeeled, chopped apples and 1 lemon and 1 teaspoon of cloves. Strain in jelly bag. Add 1 cup of sugar to each cup of liquid. Boil until it jellies and put into sterile jars.

For Rose hip marmalade, top and tail Rose Hips. Just cover with water and simmer until tender. Pass through a fine sieve. To each pound of pulp add a pound of preserving sugar (or half that amount honey). Simmer till it jellies, pot up, and seal.

For Rose hip jam, follow the same procedure, adding two apples before starting.

For Rose hip soup, which is a favorite in the northern countries, grind the hips and cover with water. Simmer for ten minutes. Strain, bring to the boil again, and thicken with 4 level teaspoons of potato flour (or other flour) which has been prepared with cold water. Heat to serving.

A fancier soup is made by seeding 5 cups of Rose hips (horrors!), and grinding them with a half cup of blanched almonds. Cook together with five cups of water for about five minutes. Add four drops of vanilla, and 2 tablespoons of flour mixed in 1 cup red wine. Cook five minute more, chill, and serve cold with shipped cream.

You can add dried ground Rose hips to cookies and cakes for a good flavor and lots of vitamin C.

For candied Rose petals, a true gourmet treat, gather the petals on a dry day after the dew has evaporated. Clean them carefully, and snip off the white part at the bottom, which is very bitter. Dip them into egg white well beaten with sugar, it should be quite thin. You can color this mixture and flavor it as desired. Place the dipped and coated petals on a wire tray and before the coating sets, sprinkle them with castor sugar, then let them dry in a very cool oven with the door open (Hat:149). This is the easiest way to do it; there are other recipes involving gum tragacanth, but this should suffice.

To make a confiture of red Roses (sweetmeat); for every pound of freshly gathered red Rose petals, take one pound of cane sugar and three tablespoons of honey and the juice of one lemon. Add the lemon juice to the sugar and gently heat until dissolved, then slowly add the honey and heat further. When all the sugar is melted, add the Rose petals slowly. Boil gently for an hour or so, stirring frequently until the mixture begins to harden well against the side of the pan. When almost ready, take from the fire and add about three drops of almond oil to every pound of the

mixture and further heat for a few minutes. Don't add too much oil. Spoon onto clean warm jars and seal. This is a delicious treat(Levy:122-3).

Rose Petal scrambled eggs are made by picking Roses in the morning before the sun has dried out their volatile oils. You'll need 20-25 red Rose petals. Wash them, drain on a paper towel, and cut off the white tip which is very bitter. Sliver the petals with a sharp knife. Beat and scramble six eggs with a little water, adding a delicate touch of tarragon. Add the Rose petal slivers to the cooked eggs, and serve with bacon (if you eat it) and muffins. Serves three (Rose:Herbal:135).

To preserve Roses for winter, gather the buds in the spring when they are just showing color, on a dry day and when the dew has dried from them. This will probably be between 8 and 10 a.m. Select Roses with long stems and cut with a sharp knife. Short-stemmed specimens will not do. Dip each stem at once into softened beeswax. When the wax on all the stems is set, wrap the Roses separately in tissue paper. Pack them loosely in a wooden box. Put the box in a cool place that maintains an even temperature of about fifty degrees; a wine cellar or root cellar works well. Keep away from heat of any kind. You could also pack them carefully in a waterproof container made of wood and submerge them in the nearest stream until winter. When you want to use the Rose buds, unpack them carefully, cut off the waxed ends, and put the stems into tepid water. If you have done everything right, they will open very slowly (Rose:248).

To dry Roses, choose flowers that are neither buds nor fully open. Take clean sand that has been washed in four changes of water that and then thoroughly dried, and distribute in an even layer in a shallow wooden box or large stationery box that is three to six inches deep. Use as many boxes as you need. Cut off the stems of the flowers and cut slits in the calyx. Place the flowers (or the petals separately) in the sand, stem side down. Sprinkle sand carefully over each flower until they are all filled (make sure sand completely covers each side of the petal and that there is sand within the slits that you have cut in the calyx). Lay another layer of sand over all. Set the box in a warm place, preferably in the hot sun, for two or three days until the flowers are thoroughly dried. Then remove the flowers carefully, blowing out all the sand. Add artificial stems of green nursery wire, or green or colored pipe cleaners. Or don't add artificial stems and just lay the dried flowers attractively in a shallow bowl (Rose:248-9).

You can dry flowers similarly (but quite a bit more expensively) with crystals that you buy in a crafts store. Either way, the Roses darken somewhat during the process, but they still turn out most elegantly.

You can also put enough gum arabic into Rose water or orange flower water to make the liquid sticky; dip flowers into the mixture and swing them around until all the extra liquid has dripped off. Set the wet flowers in a sieve to dry in the sun, and then store for future use. This will keep the flowers all year long as well (Rose:249).

If you have little girls in the home, you might enjoy making Rose beads. In former days, these were made into rosaries, because the Rose became the symbol of the Virgin Mary. The

old-fashioned damask or cabbage Roses are preferable to newer hybrid varieties which don't have as lovely a fragrance. However, any variety may be used. Early in the morning on a dry day, collect Roses, and pull the petals off. Using a mortar, crush them very fine. Spread the finely-mashed petals on a piece of waxed paper to partially dry. Return the petals to the mortar and add a small amount of water to create a fine paste. Dip your fingers into Rose oil and proceed to roll the petal paste into small balls. Black, shiny beads may be made by crushing the Roses in an iron mortar or iron pot (the Roses are oxidized by the iron, turning them black). While the mixture is still wet, carefully poke a needle through the center of the beads to make a hole for threading later. Lay the finished beads to dry on clean waxed paper, turning several times so they dry evenly. When they are completely dried, in two or three days, polish them with a soft cloth (Hyl:180). You can also let the beads partially dry, and then pierce them with a hot needle. Thread them onto nylon line, moving them back and forth once a day or so to maintain the hole. If after time the beads begin to lose their fragrance, just rub them with Rose oil. That will renew the smell perfectly. It is said that, as the warm hands release the fragrance while the person is saying his or her rosary, the sweet smell ascends to heaven and brings the prayer to God's attention.

You can make a good scented after-bath powder using Rose petals. In a wood mortar, finely grind one ounce Rose petals, 1 ounce lavender buds, and 1 ounce orris root. Using a wooden spoon, blend well while adding two ounces of cornstarch. Store in a powdering container. This makes a lovely scented powder (Hyl:168).

If you make soap, you can add an elegant scent by mixing in, just before pouring, two tablespoons of Rose oil to the standard recipe which uses six pounds of fat. If you age the soap well, your product will rival the fine Rose soaps you can buy.

You can also scent candle wax with Rose oil, or you can add dried, powdered Rose petals to the melted wax. For fine candles, use one part beeswax and three parts of paraffin. In the seventeenth century, scented candles using Rose petals and other herbs and spices were used to ward off the plague (author Rose says that they can be used nowadays to ward off pollution). Mix the finely powdered 3 ounces Rose petals, 3 ounces cloves, 1 tablespoon powdered storax, three ounces labdanum, two teaspoons powdered benzoin, 1 1/2 ounce frankincense, 2 ounces lavender, 1 tablespoon powdered citron peel, 1 tablespoon powdered sandalwood, 1/2 ounce juniper berries, 1/4 teaspoon tincture of musk and ambergris. Make a mucilage of Rose water and gum tragacanth and mix the powders with it; make pastilles. Let them dry thoroughly before using (Rose:253).

A fifteenth century recipe for incense can be used today to make good incense. Rose petals are particularly suited for incense because of their religious associations. To a half pound of Damask Rose buds, with the whites cut off, add 3 ounces of powdered benzoin, an eighth ounce musk, ambergris and civet. Beat all these together in a stone mortar, adding an ounce of sugar. Make it into cakes of incense and dry in a warm place (Rose:252).

You can scent snuff and tobacco by mixing them together and keeping in a clean box for a couple of days. Sift the flower petals out and repeat until the mixture is scented to your liking.

Old-fashioned Glycerine and Rosewater still makes a good hand and skin lotion, although it is somewhat tacky-feeling for modern tastes. Mix seven parts of Rose water and three parts of Glycerine. If you want a less sticky-feeling concoction, you can follow this interesting recipe: Mix 2 tablespoons ethanol alcohol, 1 teaspoon powdered pectin, and 1/2 teaspoon rosewater perfume. Mix separately 2 tablespoons witch hazel, 2 tablespoons glycerine, and 2 tablespoons water. Add the two mixtures together, with 2 drops of any food coloring. Mix well, heating. Pour into a jar and allow to cool. This feels good and is good for the skin--and omits that tacky feeling.

To make an astringent for oily skin, mix equal parts of Rose water and alcohol. This can be made less strong if it seems too astringent by increasing the Rose water, decreasing the alcohol.

Here is the recipe for old-fashioned cold cream, which went in olden times by the name Rose water ointment. One and one-half ounce each of spermaceti and white wax are melted with nine ounces of almond oil; the mixture is poured into a warmed mortar and seven fluid ounces of Rose water and 8 minims of oil of Rose are poured into it. These are mixed until creamy. Pot and cool. This is excellent for sore or chapped hands, face, and other roughened skin, as well as for abrasions and minor skin lesions (Gri:689).

Sweet-scented Rose petals are sometimes made into jam. They are chopped fine, with the white parts removed, and combined with just less than their volume in honey. This is simmered until it reaches jam consistency. You can add a little lemon juice if you like, or heighten the flavor with Rose water. Although Rose Jam might be an acquired taste, it is such an elegant condiment that you might like to try it.

Western American Indians gathered the hips for a food supplement. It was eaten out of hand by children at play. Rose hip tea was also sometimes used, and jam made with honey. At the Santa Clara Pueblo, the finely-ground Rose petals were mixed with grease to make a salve, which was used for sore mouths (Niethammer:78).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING ROSES

The Garlic and Rose Hips combination contains rose.

CHEMICAL CONSTITUENTS

The important constituent of the petals is the red coloring matter of an acid nature. There have also been isolated two yellow crystalline substances, the glucoside Quercitrin, which has been found in many other plants, and Quercetin, yielded when Quercitrin is boiled with a dilute mineral acid. The astringency is due to little gallic acid. The odor is due to a very small amount of volatile oil. A considerable amount of sugar, gum, fat, etc., are also present (Gri:688).

The hips are rich in vitamin C and also contain organic acids, tannins, flavonoid pigments (vitamin P) and carotenoids (Pro-vitamin A).

RECENT FINDINGS

Hibiscus rosa sinensis has been administered to male rats to determine its effect on their reproductive organs. The results indicate that the organ weights were unaffected by the extracts: weights of the testis, epididymis, ventral prostate, and seminal vesicle of the treated animals were not significantly different from those of the controls.

In another study, various extracts of Hibiscus rosa-sinensis flowers have been studied for their antifertility activity on female albino rats. Benzene extract was found to be the most effective. This is significant because a number of indigenous drugs have been tried for their contraceptive effect, as people try to avoid using synthetics, both for the damage they may do and for the expense in poverty-stricken countries. This plant is commonly known as the China Rose. It is a common Indian garden plant. In Ayurvedic literature, the flowers of this plant are said to possess contraceptive properties. As the active constituents have not yet been identified, it was submitted to detailed chemical and pharmacological investigations as an anti-fertility agent.

There was 100% antifertility activity and an abortifacient type of activity when a measured dose was given from day of pregnancy. When given from day 14 to day 20 of pregnancy, 80% antifertility activity was recorded. The drug was reported to have no toxic side effects as would warrant its withdrawal. It was not seen to have any significant action on the gastro-intestinal tract or any of the other systems. This is a welcome feature, as most of the currently available oral contraceptives have serious side effects ("Anti-Fertility Activity of a Benzene Extract of Hibiscus rosa-sinensis Flowers on Female Albino Rats", *Planta Medica*, 182, vol. 44, pages 111-4).

Other research investigated whether this benzene extract had any effect on the menstrual cycle or reproductive organs in rats. Most of the females showed normal cycle with low doses. However, fifty percent of the females showed persistent leucocytic smears after treatment.

In the majority of animals the cycle was again regular after 10 days recovery period. The remaining females continued to show heat and an erratic pattern, though this corrected after the extract was withdrawn. Body weight decreased somewhat. There was a significant decrease in ovarian, uterine and pituitary weight when the extract was administered in strong doses. The ovary showed marked follicular atresia characterized by thick-walled follicles, derangement of granulosa, cytoplasmolysis and nuclear pyknosis. Uterus showed atrophy. Endometrium was fibrotic. The staining intensity of cytoplasm decreased considerably, and increased acidophilia was also observed. Some of the ovarian function was disturbed, including the length of the cycle. Interestingly, all functions returned to normal after discontinuation of the treatment, suggesting that the effect of this drug is transient ("Effect of Hibiscus rosa sinensis on Oestrous Cycle and Reproductive Organs In Rats," *Indian Journal of Experimental Biology*, November 1976, page 703-4).

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ROSMARINUS OFFICINALIS; LABIATAE

DESCRIPTION

Rosemary is an evergreen shrub which attains a height of 1-2 meters and has slender, ash-colored branches. The leaves are about 3.5 cm. long, 2-4 mm. broad, rigid, opposite, sessile and linear. The upper surface is dark green and glossy while the lower surface is grey and woolly owing to the presence of numerous branched hairs. Typical labiate glandular hairs are also present. The margins of the leaf are revolute and the midrib is very prominent on the lower surface. Rosemary bears verticillasters of mauve flowers which in England appear from April to June. The flowers are easier to examine than those of lavender or the mints because they are larger. They have a campanulate, two-lipped calyx and a widely-gaping, two-lipped corolla. The upper lip of the corolla has two lobes and the lower lip three. Only the anterior pair of stamens develop. The bicarpellary ovary develops unto four nutlets.

GENERAL

For some herbalists Rosemary is one of the most important herbs. Levy for instance, has filled her garden with it, heeling in shoots everywhere. It has a remarkable history and is infused with legend and lore.

The Ancients were well acquainted with the shrub. Because it is universally recommended to strengthen the memory it has become the herb of remembrance, the herb of fidelity. In Rome all those attending a wedding would carry sprigs of Rosemary. Several sprays were entwined in the bride's chaplet to remind her of the loving hearts she was leaving behind and to suggest loving fidelity in her new life. Often these sprigs were dipped in scented water before being woven into the wreath. The guests were often given small gifts of Rosemary richly gilded and tied with silk ribbons of all colors as emblems of love and loyalty. The herb was used before the wedding, too. Young girls were advised to carry Rosemary powder in sachets to attract the attentions of men. "Since wedding will come after wooing, give her (a homely daughter) some Rosemary and let's be going", wrote a sixteenth English poet of this tradition. This tradition of Rosemary being a wedding herb seems to have travelled the world over. In Portugal, wedding attendants slipped the herb into the shoes of the bride and groom so that they would always be loyal to one another and they carried sprigs of the herb for the same reason. "Young men and maids do ready stand", went the ballad, "with Sweet Rosemary in their hand". At bridal parties, ushers strewed the herb on the dance floor so that it would release its fragrance when trod upon. In the days when certain flowers symbolized feelings for people and most people knew the meanings, a girl could give a young man a sprig of the herb for remembrance. If a young person tapped another on the finger with Rosemary it was sure that they would fall in love.

The herb also symbolized eternity. Members of funeral parties carried sprigs of Rosemary during the procession and silently cast them upon the casket before it was buried. The evergreen foliage suggested immortality and it was one of the Roman herbs of embalming. A book of French natural history reported that many of these sprigs took root and grew so that when coffins were opened for some reason years later, the leaves of the Rosemary covered the corpse (Keller:286). Sewell wrote:

Nor one of all thy plants that grow
But Rosemary will with thee go,

This suggests that Rosemary accompanies a person to the other world. Robert Herrick wrote that it should be in his garden:

Grow for two ends, it matters not at all,
Be't for my bridal or my burial.

Sir Thomas More wrote: "As for Rosmarine, I lett it runne all over my garden walls, not onlie because my bees love it, but because it is the herb sacred to remembrance, and therefore, to friendship, whence a sprig of it hath a dumb language that maketh it the chosen emblem of our

funeral wakes and in our burial grounds."

Shakespeare alluded to this association with remembrance. When Ophelia is preparing a "tussie mussie", a bouquet of dried flowers and fragrant herbs, for Hamlet, who in his madness has killed his father, she says, "There's Rosemary, that's for remembrance; Pray you love, remember."

Greek students studying hard for examinations, wreathed their heads with Rosemary to facilitate their remembering.

Rosemary has always been associated with magic, with the resistance to evil spirits. Rosemary was protection against the Evil Eye or witchcraft. People put leaves or sprigs under their pillows to repel evil spirits during the night and to prevent nightmares. It was planted by the doors of churches for similar reasons. However, the Sicilians believe that young fairies, taking the form of snakes, lie amongst the branches. It was often used in magic potions (hopefully of the harmless variety such as the following): "If a maid is curious as to her future, she may obtain information by dipping a spray of Rosemary into a mixture of wine, rum, gin, vinegar and water in a vessel of ground glass. She is to observe this rite on the Eve of St. Magdalene in an upper room in company with two other maids and each must be less than 21 years old. Having fastened the sprigs to their bosoms and taken sips of the tonic--sips are quite enough--all three go to rest in the same bed without speaking. The dreams that follow will be prophetic" (Tob:119-120).

Rosemary was often used as a crowning herb so much so that it was often called Rosmarinus coronarium. Anne of Cleves, who married Henry VIII, wore it in her wreath at her wedding combined with gold and precious stones.

The herb was often associated with merriness and festivity. It was added to wedding cakes, Christmas puddings and other special fare. The boughs were used in Christmas decorations as Herrick described in his Ceremony Upon Candlemas Eve:

Down with the Rosemary and so
Down with the bays and mistletoe;
Down with the holly, ivy, all,
Wherewith ye dressed the Christmas Hall:
That as the superstitious find
Not one least branch there left behind.

Applying Rosemary powder to the body was thought to put a person in a merry frame of mind. "To be merry and joyfull, binde the Flowers to thy right arme, or drinke the Powder of the Flowers in warm Wine morn and even. To make thee lustie, lively and likeing, seethe much Rosemary and bathe therein," sixteenth century herbalist Langham recommended.

The association of Rosemary with Christmas may have been suggested by the many legends connecting the herb with a religious background, especially to Mary. An old Spanish legend says

that when Mary was escaping from Herod's soldiers with Jesus in her arms, some plants rustled as they passed, betraying the whereabouts of the Holy travelers. But a beautiful Rosemary bush quickly stretched out its branches, encircling the Mother and Child, hiding them safely in its foliage (Luc:108). Another legend says that Mary draped her azure blue cloak over a blooming Rosemary bush during the flight. Whereas the flowers were formerly only white, they took up the beautiful blue of her cloak and retained varying shades of blue forever. Still another legend says that Mary spread the frocks of the Christ child on a Rosemary bush to dry. When she returned to get them she found them dangling from a sunbeam. The herb therefore became Mary's Rose (although it's not a rose) and was said to bless every household with peace and goodwill if it was included among their Christmas decorations (*Ibid.*). Yet another legend relates that the Rosemary bush will grow up to six feet, which it does only in warm climates, in 33 years but never higher. It grows up to the height of Christ during the amount of time he lived but will never exceed it out of honor to Him. It will only grow outward after it reaches that height.

A Christian Doctor of Divinity, who wrote in 1607, reflects some of the feeling about Rosemary during his time. From a sermon entitled "A Marriage Present" he wrote: "Speaking of the powers of Rosemary, it overtoppeth all the flower in the garden, boasting man's rule. It helpeth the brain, strengtheneth the memorie, and is very medicinable for the head. Another property of the Rosemary is, it affects the heart. Let this rosmarinus, this flower of men, ensigne of your wisdom, love and loyaltie, be carried not only in your hands, but in your hearts and heads".

However, Rosemary did not always suggest joy and happiness. In Gloucestershire and other counties it was believed that Rosemary will not grow well unless the mistress is "master" and men were suspected of secretly damaging Rosemary plants so as to destroy this evidence of their want of authority. When the first children were born the mother gave the boy a name beginning with an R and the girl the name of Rosemary, so that both would be loyal to their aging parents when they grew up. The flowers were used in these households to avoid madness and foolishness. A strong decoction, according to Culpepper who wrote in the seventeenth century, was used to cure dullness of mind, stupidity, a weak memory or the usual giddiness in wives. Against weakness of the brain in husbands, recommended a French herbal of the century before, Rosemary wine would be a good drink of aromatic scent. This wine could also be used to wash the feet of thieves that might enter the house. The wash would cure them forever of thieving or hurting people! The wine could be drunk before doing business to help a person have good luck and speed in sales. Rosemary was sometimes given to departing guests to prevent them from any danger on their way home. The herb, made into tea, would help those men who wore very tight trousers not be embarrassed by an untimely erection. It was therefore used as an anti-aphrodisiac although as we mentioned before it was thought to be aphrodisiac as well.

Rosemary has long been considered a protection against the plague and other infections. Culpepper recommended burning Rosemary to "expel the contagion of the pestilence". It was an old custom to burn Rosemary in sick chambers, and in French hospitals it was customary to burn Rosemary with Juniper berries to purify the air and prevent infection. Nurses brewed gallons of fresh Rosemary tea for an antiseptic wash in delivery rooms to protect the mother, baby and

instruments. They burned tubs full of the dried leaves to deodorize the air after deaths in hospitals or homes. On the public streets ladies carried fresh bouquets of the herb to "smell into and thus avoid vile street odors and infectious diseases". Like Rue, it was placed in the dock of courts of justice as a preventative from the contagion of jail fever. The leaves were used as strewing herbs on the floors of prisons and courts to counteract the diseases that prisoners carried. A "hangover" from these times is the ubiquitous air freshener usually made from chemicals. A container of Rosemary and water placed on the woodstove to aromatize the room is much healthier and more pleasant.

Rosemary was hardly known in Europe before the Crusades began in 1095 under the zealous French priest Peter the Hermit of Armiens. Christians had been permitted to visit Palestine when it was controlled by the Moslems after the seventh century but when the Islamic Turks conquered the city during the eleventh century and persecuted other visitors, Christian leaders united to rescue Jerusalem. As waves of thousands of pilgrims flowed through northern Europe into Italy en route to Palestine, they were forced, because of inadequate financing, to learn local customs and to find any indigenous vegetation which could supply food and medicine. In Italy people learned to value Rosemary enough to take some seeds with them when they returned to their homes (Keller:288).

An old tradition says that during the Black Death in the 14th Century Queen Phillipa's mother, the Countess of Hainault, sent her supplies of Rosemary branches as a protection against the plague. Rosemary was said to have been unknown in England before that time.

From the 14th to the nineteenth centuries people wore heavy velvets trimmed with rich furs and jewels and there were no dry cleaners to handle the clothes. Servants hung clothing outdoors to freshen and then stored it in drawers with Rosemary for protection. The flowers, put in chests with clothes and books, were said to protect them according to Richard Banckes, 1525. This old herbalist suggested many different uses for the herb. The leaves, boiled in white wine would make a good cosmetic to make a fair face. The leaves under the bed would prevent evil dreams. The leaves put in wine would keep it from all sourness and evil savors and it would sell with good speed if you wanted to sell it. If you are feeble you could boil the leaves in water to wash yourself and you will become "shiny". If you've lost your appetite a decoction mixed with white wine will give you savor for your food again. If you have gout the decoction could be rubbed on your legs to restore them to health. The decoction in white wine would get rid of your cough. The wood, burnt to charcoal, will keep your teeth from all evils and just the smell of it will keep you "youngly". If you've lost your sense of smell just bake your bread over the fire of Rosemary, eat the bread and you'll come whole again. Finally, if you make a box of Rosemary wood and smell it now and again it will preserve your youth (Gri:682-3).

He also said that if you put Rosemary on the doorjambs your house would be protected from burglars.

Rosemary grew on the sea cliffs and its name Rosmarinus meant sea-spray. It belongs to the mint

family and is aromatic like the mints.

Combs were made from it and in France it was said that such a comb, used daily, would prevent a person from being light minded. In place of costly incense Rosemary was used in religious ceremonies. The old French name for it is Incensier.

When the Queen Elizabeth of Hungary was paralyzed a gnarled hermit invented Hungary water, which is a powerful distillate of Rosemary oil in alcohol. This was rubbed on her limbs and eventually cured her of the problem. Another rendition of the story is that the Queen wanted to retain her flawless complexion without going to any trouble to do so, as she spent a good deal of time working for charities. The hermit said that this formula would make "a young face exceedingly beautiful, an old face very tolerable". To make the distilled oil for Hungary water you put the flowers into a strong glass while tying a piece of fine linen cloth over the mouth. Turn it upside down into another strong glass which is set in the sun for a week or two. The oil is said to distill down into the lower glass. The Hermit's recipe is said to contain 24 tablespoons of Rosemary distilled oil, 2 tablespoons mint distilled oil, 2 tablespoons balm distilled oil, 2 tablespoons fresh lemon peel, 2 tablespoons fresh orange peel, 2 cups Rose water and 2 cups spirits of wine. This is mixed, corked and allowed to steep for three weeks before using three times daily on a clean skin, allowing to dry naturally before splashing off with cold water (Keller: 293). Grieve supplied a simpler recipe. She said that Hungary water was prepared by putting 1-1/2 pounds of fresh Rosemary tops in full flower into 1 gallon of spirits of wine. This was allowed to stand for four days and then distilled. This was used for gout as well as paralysis of the limbs.

Rosemary was often used in colonial days of the United States in tussie-mussies. Sometimes a sprig of the herb was sent to a loved one or sprigs were painted on a heart for Valentine's Day. Houses were perfumed by strewing herbs for weddings, feasts and such. A tea was taken by the Mexican Indians for fertility control (Vog:231).

CURE-ALL

Levy says that this herb comes as close to being a cure-all as any that we have. She would rather be associated with it than with any other herb in her repertoire and she plants it wherever she goes (Lev:Common:123).

Father Kneipp, who is known as a water healer but also endorsed other important healing methods, considered Rosemary an important remedy for the heart and stomach. He wrote, "Prepared as a tea, it cleanses the stomach from phlegm, gives a good appetite and good digestion. Whoever likes to see the medicine glass, this comforter in illness, shining on his table, let him fill it with Rosemary tea and take from two to four tablespoonfuls morning and evening. The stomach will soon become sensible, that is, will not stick fast much longer in phlegm...Rosemary wine, taken in small doses, has also proved an excellent remedy against heart infections. It operates in a sedative manner and in cases of heart dropsy it works strongly on

removal through the urine...The preparation of this wine is exceedingly simple. A handful of Rosemary is cut up as small as possible, put into a bottle and good, well kept wine poured upon it. White wine is preferable. Even after a half a day's standing it may be used as Rosemary wine" (Luc:109).

This same wine is said to be good for the brain and nervous system, relieving headaches. Tierra says that it is an excellent headache remedy even to being used as a substitute for aspirin. It is high in easily assimilable calcium and is therefore good for the entire nervous system (Tie:72). Prepared as a tea it soothes nervous insomnia, mental fatigue and simple or congestive headaches. Another method to relieve headache is, as soon as the headache begins, a small bottle of spirits of Rosemary is held to the nose and the fumes are inhaled. In addition, a few drops of the preparation are rubbed gently but thoroughly on the temples, on the forehead, on the veins of the neck and behind the ears. This reputedly gives prompt relief (Luc:Secrets:213). Another combination, this one used for sick nervous headaches, uses equal parts of Rosemary, sage and peppermint leaves. This is made into an infusion and one cup of the hot tea sipped slowly every hour or two until relief is obtained. Migraine headaches are sometimes cured with equal parts of Rosemary, scullcap, vervain and wood betony made into an infusion. One woman reported permanent relief from her frequent migraines after several weeks' use of this formula (Ibid.).

Part of the reason that Rosemary takes away headaches (other than that "its fragrance takes one to lush spring fields far away from any worldly worries") is that it stimulates capillary circulation. In this way more blood, oxygen and nourishment are brought to the cells and more waste matter is removed (Sal:185).

English Dr. Eric Powell says that tests over a long period of time demonstrated that Rosemary is good for the memory. "It undoubtedly has an affinity for the brain," he said (Luc:110).

Just as the Queen of Hungary benefitted from the external application of Rosemary for joint troubles, village healers in the Balkans employ it for the relief of aches and pains in the bones and joints. Three fourths of a bottle is filled with vodka and the remainder of the bottle filled with the flowers and small tops of Rosemary. This is tightly corked and placed in the hot sun or by a stove for three days. It is shaken well three times a day. At the end of the steeping period the liquid is carefully strained and placed in another bottle and two or three grains of camphor are added. This is shaken well as soon as the camphor dissolves. This is rubbed thoroughly on the aching parts until it is no longer absorbed by the skin and the part is covered with flannel or wool. Eight drops of this preparation are taken in one tablespoonful of water, three times a day. For minor pains it is used once a day (Ibid.).

Rosemary is celebrated for its property of encouraging the growth of the hair and mitigating baldness. A pint of boiling water is poured over an ounce of the dried herb or powder and one tablespoonful of Borax is mixed to a cup of the preparation. This is rubbed into the hair to prevent or even to forestall baldness (Kadans:174).

A cooled and strained tea can be used as a final hair rinse after shampooing. It is not rinsed out. Many commercial preparations of hair products contain Rosemary. We have used diluted oil of Rosemary to rub into an infant's scalp to get rid of scurf cap. It is said to help the beard grow and to encourage the development of lush eyebrows (Keller:294).

To give hair a glossy sheen, mix two ounces of Rosemary herb, an ounce of raspberry leaves and two ounces of red sage. Mix well. Place some in a small bowl and saturate with boiling water. Cover and let stand until cold, then strain. This is brushed into the hair once or twice a day. Make this fresh every few days as it will not keep (Luc:112).

Early English herbalists recommended expressing the pure juice of the Rosemary and letting it soak into the scalp without rinsing it off to restore hair.

Keller recommends using Rosemary mayonnaise to heal damaged hair. In a blender mix 1 cup minced fresh Rosemary leaves with 12 tablespoons cold water. Blend well and wring through a fine linen cloth to extract the juice. Separate 3 or 4 eggs, removing all white. Add olive oil a drop at a time while whipping the yolks very thick. Thin with Rosemary juice and whip to blend. Freeze 15 to 20 minutes and whip to blend once more. Add salt if the mayonnaise is to be served for food. If you are going to use it for the hair omit the salt. Massage this into the hair and leave on for one hour before shampooing. After the shampoo, rinse with Rosemary tea and set without rinsing out (Keller:295).

Rosemary is a supreme heart tonic, says Levy, one of the few powerful heart tonics which is not a drastic drug (Lev:123). Dr. Vogel said that if you carry dried currants and raisins in your pocket while you work, chewing them slowly, this will greatly help your heart especially if you chew the tops of Rosemary first thing in the morning after breakfast (Luc:111).

The flowers are said to be youth-giving and a disease preventative. Early herbalist Banckes suggest that eating the flowers every day would disinfect the body. Dioscorides said that they would help dim eyes and procure a clear sight. After a stroke the Arabs restored speech by eating the flowers pounded with sugar. Englishmen made a wine for the heart by steeping the flowers in white wine. This same wine would act as a disease preventative if taken daily (Keller:291).

These claims of disease prevention might make sense if you consider that Rosemary is prescribed for torpidity of the liver, that important organ which cleanses the body of toxicity. If the body remains toxic it is easy for it to become sick. It is also said to be excellent for when the body is congested with morbid matter. All those who are congested, as indicated by frequent colds, would do well to take Rosemary tea at regular intervals of three days each. It is an ideal fall and spring remedy (Luc:111).

Rosemary is famed as a wound herb (vulnerary). The Arabs sprinkle the dried powdered herb on the umbilical cord of newborn infants as an astringent and antiseptic treatment. Spanish peasants pound Rosemary into common salt and consider this remedy as the finest of all wound cures

which is also used by the Arabs (Lev:123). The herb can be used powdered without the salt for treating wounds. After the Six-Day War in Israel a wounded donkey was brought over from Syria with an injury neglected and so deep that the flies had laid eggs within it and the wound crawled with maggots. Levy advised applications of dried Rosemary and wormwood. Within a week the maggots were gone and within ten days the wound had healed (Lev:Nature's:92).

Rosemary can be smoked with coltsfoot leaves to cure asthma and mucus congestions of the lungs and throat (Tie:92). It can be added to tobacco to help cut down on smoking. It can even be used as a non-nicotine tobacco.

The herb is used internally for threatened miscarriage. It can be used for bites and stings and as a powerful insecticide. The Chinese used to burn it against mosquitos. Fomentations made with the plant steeped in hot water or alcohol are used for relief of local pains. The oil may be used for the same purpose and it is good added to liniments for soreness externally. It can bring warmth back to numbed limbs.

The herb has been used as an abortifacient and you should never use it during pregnancy. Prostitutes formerly used the herb to induce abortion. It does promote the menstrual flow.

The decoction and various preparations of Rosemary, including the Queen of Hungary's water, have been used for cosmetics. The Gypsies have sold it all over the world for many ailments and to beautify women.

If you apply it as a hair-setting lotion it is supposed to keep the curl in your hair even if it gets damp.

You can make a pleasant mouthwash of Rosemary, lavender and ground lemon peel. Steep them in hot water, allow to cool naturally and swish in the mouth. It makes an equally good gargle.

CULINARY HERB

We are familiar with the use of Rosemary in the kitchen. The dried herb is quite stiff so it should be soaked in water for an hour before using in recipes. Once you begin to like its distinctive flavor you will add it to many dishes, much to the improvement of your health. When the ancients began to eat meats and heavy foods they started to get sick. They conceived the idea of including medicine along with their foods to counteract the bad effects of bad diet. Rosemary, a member of the mint family, can help improve and digestion and strengthen the stomach. It is used in any savory dishes desired. Foods especially suited to Rosemary are rice pilaf, wild rice and various meat preparations. For example Chinese Po Po is made by blending 1/2 pound ground beef with 1/2 teaspoon Rosemary salt, 1/2 teaspoon crushed Rosemary, 1/4 teaspoon chili powder, 1/4 teaspoon dry mustard and 1 egg yolk. Form into 3 dozen balls the size of marbles. Saute in butter. Roll in Parmesan cheese. Skewer and char over a Rosemary fire (Keller:296).

Rosemary Chicken is made by browning chicken on all sides in butter. Onion and garlic to taste are cooked in the same skillet. Water and bullion are added until all brown bits dissolve in the pan. Add chopped parsley and chopped fresh Rosemary. Pour over chicken. Bake 45 minutes in a 375 degree oven. Serve over brown rice.

Rosemary is good added, just a touch, to scrambled eggs. You can lay fresh sprigs on roasts in the oven during the last hour of cooking. It can flavor sauces and gravies and bits of the fresh herb can be added to a salad.

A very good beverage is made by infusing one heaping tablespoonful of Rosemary tops in a bottle of white wine or freshly made lemonade. Leave the herb in the wine at least three days or in the lemonade at least three hours. You don't need to strain it out before serving.

Another beverage circa 1669 is made by boiling sliced apples in water to make a strong apple tea. Sweeten it to your taste and then bottle it up, after straining, for three or four months. There will come a thick mother at the top which you remove and all the rest will be very clear and better, the recipe says, than any cider. It is even better if you put a very little Rosemary into the liquor when you boil it and a little lemon peel into each bottle when you bottle it up (Rose:Herbal:212).

Rosemary butter is said to be excellent over most vegetables especially over eggplant and peas.

You can use Rosemary in other ways. Shepherds like to pasture their milk animals on Rosemary as it strengthens the animals and gives a good flavor to the milk. Nursing mothers could do the same for their little ones.

You can toss a bag with a couple of handfuls of Rosemary into your bath with you. This is relaxing and stimulating at the same time and refreshes and renews the spirits.

You can use Rosemary tea as a hair rinse especially if you are a brunette.

We like to place a container of water on the wood stove and place in it the flowers of lavender and the leaves of Rosemary. This fills the house with a delightful smell and we think that it adds to the health as well.

Levy quite seriously mentions that the gypsies place sprigs of Rosemary under the pillows of sleepers, especially children, to protect them from evil spirits and from nightmares. She did so with her children and suggests that people do the same. Others say that the herbs in a small pillow near or under the pillow make for a good night's rest.

To prevent moth damage to your clothes dry some Rosemary leaves and sew them up in small decorative cloth bags of any shape you wish. Place several such bags among your clothing in a drawer or closet. A simple method of keeping the herbs in a drawer is to line the bottom of the drawer with paper, sprinkle the herbs on the paper and then cover it all with a thickness of cloth,

holding it in place with thumbtacks (Hyl:162).

Rosemary is often used in companion planting. Rosemary and Sage have a stimulating effect upon one another. Rosemary repels carrot worm butterfly (Phil:76). It is a good companion to cabbage, carrots and beans. It deters cabbage moth, bean beetle and the carrot fly (Sal:185).

You can take a few drops of Rosemary oil and place them on a natural bristle hair brush. Brush this through the hair to remove tangles, help split ends and add sheen to the hair.

Messegue says that a bath with Rosemary in it (decocted or the oil) helps strengthen weak children and old people.

The gypsies hang it in their (horse-drawn) vans as they go along for good luck and protection.

HISTORICAL USES

Used to strengthen the memory, as an anti-aphrodisiac and as an aphrodisiac, for plague protection, as an antiseptic, to restore appetite, for paralysis, gout, heart and stomach remedy, for dropsy, for the brain and nervous system, for headache, insomnia, mental fatigue, head congestion, to stimulate circulation, to mitigate baldness, for healthy shiny hair, as a heart tonic, to restore speech after stroke, for a torpid liver, for chronic colds, for wounds, local pains, as an abortifacient and to promote menstruation.

CULTIVATION, COLLECTION, PREPARATION

Emil Pierson gives excellent instructions for growing Rosemary.

It is often used in landscaping. The official herb grows to six feet in warm climates. In cooler areas it may grow to about two feet tall. The plants will withstand very poor growing conditions and still give fragrance and beauty to almost anyplace in the yard and garden. It will grow well even in sandy soil with low fertility as long as the soil is slightly on the alkaline side. Good drainage is a must. It can be grown indoors and out in containers and responds well to this kind of culture but the soil must be clean, well-drained and a few pieces of rock limestone placed in the bottom. Rosemary will grow in full sun or semi-shade but they need at least five hours of sun a day and plenty of air circulation.

Once the plants are established they need little watering except in the desert or very hot climates. However, it cannot stand to be dehydrated as sometimes happens in indoor container gardening. Don't water too much or fertilize or you'll get rank growth and woodiness and eventually death of the plant.

When you set out young plants, feed lightly and then control the growth by pinching to encourage fullness. It is much better to start with plants although you can grow the plant from seeds if

necessary. However, the germination rate is quite low and it may take up to four weeks for the seeds to germinate. We have planted Rosemary seeds many times but never got one plant.

Rosemary is a perennial and hardy to 0 degrees. But if your climate goes below that you will have to supply some winter protection such as planting Rosemary along the south face of a building or wall and making glass or plastic miniature greenhouses around the plant. Burlap or a bushel basket can be substituted if necessary. You can plant the Rosemary in the spring and dig it up in the fall to be taken indoors but many gardeners just plant Rosemary in large pots to be taken out in the summer and indoors during the winter. The large plants respond quite well to this kind of treatment and they are beautiful in a patio or porch.

You can grow Rosemary indoors being sure that it never fully dries out but does not get too much water. It is lovely cascading over a hanging container. Window box cultivation is another excellent way to grow indoor Rosemary.

You can trim Rosemary into a nice hedge or use the prostrate variety for a ground cover. This is a graceful and very fragrant planting.

If you have large plants you can take cuttings and root them for more Rosemary plants. Layering is also a good reliable way to increase your plants. You just weigh down one or two mature branches from your plant and bring them in contact with the soil. These take root while still attached to the parent plant. You cut it off from the mother after several months.

Rosemary likes and needs to be pinched often to stimulate bushy rather than tall growth. These bits can be used immediately or dried on screens to be stored for later use. The dried herb should be stored in a cool, dry, place. It keeps well and doesn't require special treatment.

Rosemary brews into a nice infusion and an equally useful decoction. It makes up well into an alcohol tincture (not so well with vinegar) or into a liniment soaked in alcohol. As we mentioned many times it makes a good wine.

CHEMICAL COMPOSITION

The plant contains some tannic acid, together with a resin and a bitter principle and a volatile oil. The chief constituents of the oil are borneol, bornyl acetate and other esters, a special camphor similar to that possessed by the myrtle, cineol, pinene and camphene. It is colorless with the odor of Rosemary and a warm camphoraceous taste. Rosemary yields its virtues partly to water and entirely to rectified spirits of wine.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING ROSEMARY

The Garlic and Rose Hips combination contains Rosemary.

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Hyl
Sal
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Hat
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Shi
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Kloss
Luc:Secrets
Phil
Tyler
Tie
Lev:Common
Lev:Nature's
Harris
Day
Lev
Tob



CROCUS SATIVUS; IRIDACEAE

DESCRIPTION

Saffron is only part of the flower, consisting of the three filiform, deep orange-red stigmas attached to the upper part of the style, whole about 1 to 1 1/2 inches long. The stigmas are tubular and slit open at the end and toothed at the apex. Taste is aromatic but characteristic. The odor is pleasant and also characteristic. Saffron, if pure, should not contain anything different in it from the above description, should not throw down a deposit when placed in water and should

not fizz or decrepitate when burned (Potter's Cyclopedic:265).

GENERAL

Saffron is the costly spice collected from the stigmas of the crocus plant. It is an ancient herb, first mentioned in the Song of Solomon as one of the many valuable products of an Eastern garden. Crocus sativus is native to Greece and Asia Minor. Since it requires over 4,000 stigmas of the crocus to make one ounce of Saffron, you can imagine how many Crocus plants in the wild were early stripped of their stigmas. Today true Saffron costs well over \$4,500 a pound (Bri:270). In Palestine springtime brings a brilliant show of white, pink, purple, lilac, blue or orange-yellow crocus plants, several of which yield Saffron. The plant was common enough and valuable enough for Joshua to enact laws concerning it (Mold:87). The Hebrew word for the plant is "karkom" or "carcom". The Arabic word is "kurkum" and the commercial substance in the Arabic is "zafran," meaning "yellow". From this we have derived our English word Saffron.

Before the advent of inexpensive chemical dyes, Saffron was used as a natural dyestuff for cloth. The Saffron robes of certain Eastern religions continue this tradition. The yellow dye is considered to be the perfection of beauty and a path to spirituality. Saffron yellow shoes formed a part of the dress of the Persian kings (Gri:700). Greek myths and poetry extravagantly admire the color and perfume. Homer sings "the Saffron morn"; gods and goddesses, heroes and nymphs and vestals are clothed in robes of Saffron color. The ancients are said to have scattered Saffron on the floor of their theaters, mixed with wine and used it extensively during wedding ceremonies (Mold:87). The floor of banqueting halls were strewn with the leaves of the plants and cushions were stuffed with them. It was used in the Orient as a perfume and was sprinkled over the clothes of guests as they entered the house. It was, and still is, used to color confections, liquors and varnishes. Anciently Saffron tea was used "to revive the spirits and make one optimistic (Bri:272). Dioscorides taught that it causes a good color to come into the skin. He said that it stops running eyes, if applied mixed with mother's milk. It helps with problems of the uterus, he said, and stirs men up to lust. He taught that it relieves erysipelas and helps with inflammations of the ears.

In England during the sixteenth century a happy person was said to have been "sleeping in a bagge of saffron". Irish women colored their bed sheets with it to strengthen their limbs and it was even added to drinking water so it might sing more cheerfully (Ibid.).

In olden times it was employed for the same purpose as a potpourri, to scent a room.

Gerard wrote extensively about its use. He said that using it too much would cause headache and loss of sleep but that moderate use of it would help the head and make the senses more quick and lively, snaking off heavy and drowsy sleep and make a man merry.

He also said that it would strengthen the heart and remove obstructions in the lungs. It would loosen and remove mucus in the chest. He said that it was a special remedy for consumption of

the lungs when a person is even at death's door and almost past breathing. He said that it would bring breath again and prolong life for "certain dayes" if ten or twenty grains at the most be given with new or sweet wine. In a moment it is said to take away the difficulty of breathing. If a person has smallpox or measles the Saffron dissolved in milk or fennel or rosewater will prevent damage to the eyes, if applied externally he taught. Finally, if mixed with walnuts, figs, mithridate and a few sage leaves and some pimpernel water, Saffron will keep a person from getting the plague (Wood:257-8).

Culpepper said "let not above 10 grains be given at one time, for the sun, which is the fountain of light, may dazzle the eyes and make them blind".

MEDICINAL SAFFRON

This is such an expensive herb that usually only a pinch or so is used in cooking and little in medicine. However, there are some interesting uses possible.

Its foremost application is that of a carminative, an herb to prevent or relieve flatulence. It is rather an expensive item to use for that, however, as Peppermint and Ginger and other similar remedies work excellently and cost much less. It also relieves pain and works as an antispasmodic. It is sometimes given to check the pain of menstrual cramps and can help bring on the menstrual period if it is delayed by cold or illness. It is thought to be excellent in colds and fevers working as a diaphoretic to bring out perspiration and help the disease work itself out of the system.

It is often recommended in cases of eruptive diseases especially to bring out the eruption and speed along the healing of the disease.

It has sometimes been recommended as an abortifacient. This use has been discouraged, however, as dosage is uncertain and damage could be done to an unabortifacient fetus. Also some deaths have been reported with the use of Saffron to abort. As we will discuss below, an overdose of the herb can be quite dangerous, so it must be applied with wisdom and skill.

Taken in very small doses it is said to be a proven remedy for jaundice (Lev:Common:126). It is reputed to work well as an aphrodisiac (Tyler:329). It has been used as a respiratory stimulant in asthma, tuberculosis and whooping cough (Spoerke:153).

In India, it is usually used as a condiment for its aromatic odor and beautiful color. Medicinally it is used in fevers, in cases of melancholy, enlargement of the liver and in coughs and asthma, also in colds and fevers of children. It is given in anemia, chlorosis and seminal debility. Chopra considered it to be a sovereign remedy as an aphrodisiac. Externally it is applied for headache and bruises and superficial sores. It is used externally for hemorrhoids. It is also used in snakebite and chronic diarrhea (IMM:391).

In China, it is said to be a stimulant, carminative and antispasmodic. It is thought to have a beneficial effect upon the blood and to be quieting in cases of fright (Shi:132).

In the Doctrine of Signatures the color of the stigmas and their resultant yellow-red liquid symbolizes the liver. It is said to free the liver and blood systems from catarrhal formations and toxins that may accumulate in those areas. Its content of Vitamin B2 is said to be the richest source known having three times the amount of riboflavin as yeast or liver (Har:Complete:158-9). Riboflavin acts as a coenzyme in several enzyme systems for the purpose of hydrogen transport in the essential Krebs cycle in body cells. It also functions in the degradation of fatty acids and the oxidation of pyruvic acid in the nervous system. Deficiency of this vitamin can lead to fissures at the angles of the lips, inflammation of the tongue and inflammation of the cornea. If other sources of B2 are unavailable Saffron could be important in treating its deficiency (Bri:272).

Marderosian, a pharmacognosist (a scientist who analyzes the constituents of plants for their healing properties), described some interesting possibilities for the uses of Saffron. Crocin is the major yellowish-red pigment of the plant, also known as carotenoid. It is actually a mixture of glycosides. The two major principles are known as crocetin and a-crocetin. They are also known as flavonol glycosides. Their chemical structures are similar to the prostaglandin-type structures which are used for the treatment of abortion, peptic ulcer, sterility, contraception, induction of labor, thrombosis, hypertension, asthma and nasal congestion. It is hypothesized that some of these prostaglandin effects might be reproduced with the use of Saffron (Bri:272-3). However, the most interesting use of Saffron is that crocetin has been found to increase oxygen diffusibility. A patent has even been granted on the use of crocetin to increase the diffusibility of oxygen into solutions such as blood plasma, hence reducing local hypoxia when injected into animals. Also the specific intramuscular injection of crocetin decreased the incidence of arteriosclerosis in rabbits fed a one percent cholesterol diet for four months. The cholesterol levels dropped apparently because of the ability of crocetin to increase oxygen diffusion through the blood plasma. This suggests that the herbal extract could play an important part in the reduction of arteriosclerosis, although something injected into the veins of an animal might not act the same as the herb ingested internally by humans (Bri:273). However, studies have shown that in areas where rice dishes flavored with Saffron are commonly eaten such as in Valencia, Spain, heart disease has a low order of incidence.

DYE

As mentioned Saffron has long been used as a dye plant, although it is water soluble. Craft people who like to prepare their own yarn for dyeing still use Saffron. It is remarkably diffusive in water, a little bit going a very long way. Saffron has also been used to add a glowing red color to the hair.

Saffron is usually used in cookery, bouillabaisse and paella, for example, being impossible to make without it. A pinch of Saffron is often added to rice pilafs. It is often added to recipes that require the appearance of many eggs having been added. It is used to color cheese, butter, rice,

noodles, chicken gravies and soups, cookies, and pastries.

HISTORICAL USES

Used to revive spirits, for erysipelas, inflamed ears, to quicken senses, to strengthen the heart, for consumption, to remove obstruction from the lungs, to loosen mucus in chest, for flatulence, to relieve pain, for menstrual cramps, to bring on delayed menses, as a diaphoretic, as an anti-spasmodic, for fevers, melancholy, enlarged liver, coughs, asthma, anemia, chlorosis, seminal debility, hemorrhoids, snake bite, diarrhea, to quiet fright and for catarrh.

CULTIVATION, COLLECTION, PREPARATION

It is best to buy the plants since new plants won't blossom for three years. Saffron must be hand pollinated to get seed, so the best method of propagation is bulb division. They can be divided annually or only once in every three years. The plants shouldn't remain the same spot more than three years. The corms are planted in late July to early August. Place them six inches deep and six inches from any neighbor. The soil should be light and rich and the location sheltered. They bloom in the fall about a month before frost (Hyl:559).

If you expect to collect Saffron for medicine or cookery, however, you should plant thousands of the crocus plants. Each plant only bears three stigmas. A grain contains the stigmas and styles of nine flowers and so one ounce of Saffron comes from 4,320 flowers!

The harvesting period is quite short, spanning only about 15 days and the stigmas must be collected carefully by hand. They should be dried in a very slow oven or in direct sun because any trace of moisture left will ruin the herb. Commercially they are often made into cakes and dried in slow kilns. The herb should be stored in a completely dry place and well sealed. It is used by the pinch in cookery or herbal combinations.

English Saffron is considered to be the finest in the world but much of what is sold today is grown in Europe or Persia, although the Persian variety has a less intense color than the European.

Sometimes Saffron is adulterated by safflower, marigold flowers or other yellow plant material.

RELATED PLANTS

The Safflower, Carthamus tinctorius, is often used similarly to Saffron, although it is completely unrelated to the Crocus. It is often called false Saffron or bastard Saffron.

TOXICITY

Some cases of death have been reported with the use of Saffron given in cases of measles and other eruptive diseases. Severe poisoning and death have also been reported with its use as an abortifacient. As it is such a powerful herb (its very scarcity implies this), one should use it with

care and skill. We are confident that no harm will come of its intelligent and wise use.

DR. CHRISTOPHER'S FORMULAS CONTAINING SAFFRON

The CSK Combination, which is used to control weight, contains Saffron.

BIBLIOGRAPHY

Gri
Lewis
Hyl
Shi
Rose:Herbal
Lev:Common
Spoerke
Klo
Bri
Luc:Nature's
Har:Complete
IMM
Wood
Potter
Mold
Tyler
Potter



SALVIA OFFICINALIS; LABIATAE

DESCRIPTION

Sage generally grows a foot or more high, with wiry stems. The leaves are set in pairs on the stem and are 1 1/2 to 2 inches long, stalked, oblong, rounded at the ends, finely wrinkled by a strongly marked network of veins on both sides, grayish-green in color, softly hairy and beneath glandular. The flowers are in whorls, purplish and the corollas lipped. They blossom in August. All parts of the plant have a strong, scented odor and a warm, bitter, somewhat astringent taste, due to the volatile oil contained in the tissues.

GENERAL

"He that would live for aye
Must eat Sage in May."

Thus goes an old English proverb about Sage, an herb which is almost always used in cookery today but in former times was considered a valuable herb, one of the ancient cure alls. As you read the lists the ancients compiled about the herb you realize that there are very few ailments that the herb couldn't cure in the days when herbs were considered more powerful than they are today. It was even considered an immortality herb. An ancient Latin proverb goes, "Why should a man die when Sage flourishes in his garden?"

There is some disagreement about the meaning of the name. Salvia is said to mean "I Save" because the herb was thought to save lives. It was also thought to come from the Latin salveo, I am well. The name is said to derive from salvere, to be saved. The name was corrupted to Sauja and Sauge (the French form), in old English Sawge, which has been corrupted into the present name of Sage. The name was thought to refer to being wise as a person who took it every day was wise. In Arabic the word refers to camel's tongue because the soft leaves are supposed to resemble one. Another Oriental notion is that the Sage means clear because Sage tea clears the eyes. The herb is usually called garden Sage in contrast to wild Sage or sagebrush, which is from a different family. Culpepper thought it meant "I Save" because the herb sheltered the Virgin Mary from Herod's troops.

That the herb is ancient is attested by the fact that the menorah, the seven-branched candlestick that has come down from ancient times as a traditional Jewish symbol (it was first mentioned in Exodus), has as its origin the lowly Sage plant which grows on the mountains and hills of Palestine (Mold:218). This plant's inflorescence, when pressed flat, has almost exactly the shape and form of the menorah with its central spike and three pairs of lateral branches, each bending upward and inward in a symmetrical way.

The Greek herbalist Theophrastus taught that it cleansed the body of disease and reduced strain on the heart. Pliny said that even the aroma killed germs in the air on contact. That even growing it in the garden would improve your health. Dioscorides claimed that it would cure most kidney troubles and turn faded hair black again. He advised using it for ulcers, rheumatism, consumption, coughs, sore throats, etc. It was anciently thought to cure snake bite.

Sage was said to have been taken in the packs of the Roman soldiers as they conquered their way through Europe. It grows easily in most of the European climates.

Sage was thought to cure grief in olden times. Samuel Pepys in his diary noted that there were churchyards that had Sage planted around them to assuage the grieving of the mourners. Even to this day, in some areas of France, the herb is thought to mitigate grief. A French proverb goes, "Sage helps the nerves, and by its powerful might, Palsy is cured and fever put to flight."

Many kinds of Sage have been used for tea. When the Chinese were first introduced to Sage tea they are said to have bartered for it with the Dutch giving three times the quantity of their choicest tea in exchange. The Italians have long eaten the herb for health in sandwiches of bread and butter, which would give the good raw herb but avoid the dominance of the flavor.

Chaucer claimed that Sage is a witch's herb that was used in secret evil rituals. However, many thought that Sage could not be so used because it destroyed evil. In fact to remove evil thoughts or animosity, the Indians of South America used to roll the leaves into cigarettes to smoke so they could surround themselves with its wholesome powers.

In China it was considered one of the protective herbs that people should eat every day to continue in good health. In ancient India a king had one hospital built for people and another one nearby for animals. He purchased miles of contiguous acreage for the growing of medicinal herbs. One of the first he planted was Sage (Keller:305).

An old tradition recommends that Rue should be planted near the saving Sage plants so that toads wouldn't come and ruin them. Just as with Rosemary, it was held that this plant wouldn't flourish unless the mistress was master and that the master was successful financially. In fact the herb was said to flourish or fail according to the owner's business prosperity.

Sage has for a long time been thought to cure a person of excessive sexual desire or to restore a person suffering from sexual debility.

If in your drinke you mingle Rue with Sage,
All pyson is expeld by power of those;
And if you would withall Lusts' heat assuage,
Adde to them two the gentle Flower of Rose
(The Englishman's Doctor, 1608).

Gerard mentioned that Sage is good for the head and the brain, to quicken the senses and memory, to strengthen the sinews, cure the palsy and, snuffed to draw thin phlegm from the head. It was also to be used against the spitting of blood, for cough and pains of the sides and the bitings of serpents. Specifically for pains in the sides one was to take the leaves of the red Sage and put them in a wooden dish wherein you were to put some very hot coals, with some ashes in the bottom of the bowl to keep it from burning, and a little vinegar was to be sprinkled on the leaves lying on the ashes. These very hot leaves would be wrapped in a linen cloth and held to the person's side and a painful side ache can thus be alleviated, he said (Wood:164).

Banckes, also an early English herbalist, wrote that it could cleanse a man's body. He thought it remarkable that anyone using it should get sick. A French herbalist of the same time period said that it would cure any illness at all, either laid on as a poultice or eaten. Langham reported that Sage cleanses the blood, brings speech to someone who is dumb and removes rottenness or

soreness of teeth. If you are burned, he said, you should mash the leaves with salt bacon and apply to the burn.

The juice was early thought to have specific and important uses. During the days when children were thought a blessing and not a curse as they are today, women who could not conceive were considered especially unlucky. An early German herbalist recommended that a woman should drink a little over a cup of the pure juice of Sage with a little salt for four consecutive days. This would prevent any miscarriage and bring her forth "a store of children". Such a potent tasting cure would take courage to take but in those times children were worth it. Langham, an herbalist of about the same time (1500's) said that both the husband and the wife should drink this juice.

In 1608, the rhyming English text for doctors said of Sage juice:

From washing of your hands much good doth rise,
'Tis wholesome, cleanly, and relieves your eyes.
He who would not be seasick when seas doth rage,
Sage water drink with wine before he goes.

In the early 1600's Culpepper said that Sage is good for diseases of the liver and good for making blood. A decoction would provoke urine and cause the hair to become black, he asserted, quoting Dioscorides. It would stop wounds from bleeding and clean ulcers and sores. Three spoonful of the juice of Sage taken fasting with a little honey would arrest spitting or vomiting of blood in consumption. It would help headache related to rheumatism, as well as all pains in the joints. The juice, drunk with vinegar, would stay the plague. It would cure sore throat and help get rid of stitch or pains in the side, if the place would be fomented warm with the decoction in wine and the herb also, after boiling, being laid warm on the place (Gri:704).

Another British herbalist claimed that Sage "will retard that rapid progress of decay that treads upon our heels so fast in the latter years of life, will preserve the faculties and memory, more valuable to the rational mind than life itself without them; and will relieve under that faintness, strengthen under that weakness and prevent absolutely that sad depression of spirits, which age often feels and always fears, which will long prevent the hands from trembling and the eyes from dimness and make the lamp of life, so long as nature lets it burn, burn brightly" (Hyl:560).

Sage wine used to be given to even children every day as a tonic. Some think that this wine was more to increase the number of wine-bibbers than improve health. Gerard said that it would bring on menstruation or induce abortion if used as a douche. It would also moderate the flow, he taught. Other herbalists concurred that it could induce abortion adding that only "naughty women" would do such a thing. The herbs were applied in a pessary, a pack of the crushed fresh leaves. We could only comment that this could be a dangerous procedure and that no woman today should endanger her health or the health of a new life by trying this. As Dr. Christopher taught, if we take the responsibility of conception we are obligated to nurture the new life in health till it is born, then we are to take care of it.

In England when the Romans brought it first to the monks' herbaries and thence to private gardens, people took seriously the claim of the herb for long life. Many old people ascribe their long life and good health to Sage tea in spring and autumn, to Sage sandwiches for breakfast and supper, or chopped Sage added to porridge (British Herbs:182).

In Latin Salvia takes the name of safety,
In English Sage is rather wise than crafty,
Sith then the name betokens wise & saving,
We count it Nature's Friend and worth the having
(The Englishman's Doctor, 1608).

SAVING SAGE

Sage is usually administered in cases of common illness, involving fevers, sore throats, etc. Dr. Christopher said that it is an excellent diaphoretic, if used hot, opening the pores quite freely so much so that the person taking it must be sure not to get in a draft or he might take cold from exposure. It is especially useful in the delirium of fevers as it breaks the fever and quiets the nerves. It has often been given in cases of brain and nerve diseases, as it quiets and soothes the person and relieves nervous excitement.

It has been especially recommended as a gargle for any kind of throat ailments. Kloss recommended it particularly for ulcerated throat or mouth mixed with a little lemon and honey (Klo:306). Sage vinegar is also used for a gargle using apple cider vinegar instead of water to make an infusion. A half pint hot vinegar is added to an ounce of Sage leaves and another half pint of cold water is added. The mixture is allowed to stand until needed. It keeps very well because of the vinegar. Some people add such things as alum, borax or chlorate of potassium to the Sage tea to make it more effective. With vinegar added, the hot tea is good for a stubborn sore throat or inflammation of the tonsils. For tonsillitis a strong Sage tea is made, two ounces to the quart of boiling water. It is allowed to steep for two hours. Strain, and then add a small bit of pulverized alum. One woman who tried this gargle wrote that her oldest boy had recurrent tonsillitis, so she prepared this Sage-alum tea and had him gargle with it several times a day. The next morning he got up without any tonsillitis although he had suffered for weeks with it previously and could not eat or sleep (Luc:Secrets:67). Sage and St. John's Wort is another good combination for tonsillitis. For quinsy, which is a severe inflammation of the throat with swelling and fever, strong Sage tea and cayenne are used as a gargle. The throat can also be fomented with strong Sage tea and vinegar changing the application as it cools (*Ibid.*). Cayenne tea is also taken internally to speed healing in this condition.

Sage tea is said to cure laryngitis and to help public speakers who can strengthen their throats and voices by taking a tablespoon of the tea internally just before the meeting starts.

In illnesses which cause profuse sweating due to weakness, which is often the case in the

recuperative stage of many colds and flu, Sage is said to be excellent for controlling the sweating, although in the acute stage of the illness it is wonderful for diaphoresis! French herbalist Pidoux said that he took cold during the last of July one year and that an infusion of half an ounce of Sage caused him to sweat profusely for several hours. However, a cold infusion can control sweating. It even helps in the profuse sweats of phthisis. Taken cold the antiperspiration action will start within a couple of hours and many continue for several days. It is especially good if a person suffers from night sweats.

Because the herb arrests secretions, it is good to use for hemorrhages of many kinds. Applied as a strong tea to small wounds it is said to stop the bleeding. It is good for excessive menstruation and will help contract the uterus after birth, although a prospective mother should not use it for this if she plans to nurse her baby as it is a particularly good remedy for drying up the milk. Taken cold it should help dry up the milk if weaning is desired. Dr. Christopher said that a mother should nurse her baby about eighteen months until the eye-teeth come in. Usually a mother's milk reduces naturally and no tea is needed for this purpose. However, should a mother lose her baby at birth or through accident, her abundant milk can be reduced by taking Sage tea. Parsley tea also works for this purpose. It can be taken a cup before each meal until the milk is reduced. This will work for animals as well as for humans.

Because it works so well to reduce perspiration it should be used alone instead of with other stimulants which might work against it, such as peppermint. However, in one case the combination of peppermint and Sage is particularly good. It is used thus for kidney infections, equal parts being made into a tea. The herbs are covered with boiling water, the pan lidded and the tea allowed to stand until cold. One cupful is taken three times daily. One woman reported that she suffered from a kidney infection for more than a year, antibiotics only helping temporarily. She finally had so many treatments of antibiotics that they stopped working entirely. Her son brought home an Oriental friend whose father was an herbalist. He suggested a tea of Sage and peppermint. The next day she began drinking the tea, two cups a day for three months and her kidney infection never returned (Luc:Secrets:127).

Sage tea is given in digestive weakness or ailments. It is especially good for flatulence and lack of appetite, constipation and obesity (Lev:Common:128). In Greek villages it is brewed as a tea in cafes to be used instead of other harmful beverages and its scent characteristically floats over the streets. Kloss said, "The American people would do well if they would use Sage instead of tea and coffee. The Chinese make fun of the American people because they buy the expensive tea for their drink and pay a big price for it, while the Chinese buy Sage from America for a small price and drink that for their tea, which is a most wonderful remedy. The Chinese know that the Sage will keep them well, while the tea that we buy from the Chinese makes the American people sick, is a cause of great nervousness and one of the causes of insanity. Sage tea is very soothing and quieting to the nerves while the tea that we buy from China is a great cause of nervousness, headache and delirium" (Klo:307). Because of its excellent use in digestion it is often used in cookery, particularly of difficult to digest foods. Pork and other fatty foods difficult to digest are often prepared with Sage, with sausages made with the herb, or turkeys or ducks roasted with the

herb. In the Middle Ages Sage was used to preserve and disguise rotted meat as it does have some antibacterial and fungicidal properties.

Sage is said to have some specific effects on the reproductive systems. It is generally thought to heal spermatorrhea. Sage is believed to exert a beneficial influence over the human spirit and to quell unnatural or vicious sexual desires. It will also restore normal virility when the failure is not due to venereal disease (Lev:Common:128). When its use is indicated, it is good to use for sexual debility as well as "excessive venereal desire" (Hut:238). Anciently it was considered a good wash for venereal sores or other genital soreness when soaked in wine. "Sage leaves, plantain, rosemary, honey, alum and white wine together make an excellent wash for the secret parts of man or woman..." (Keller:309). It was also said to prevent miscarriage if eaten by a woman threatened with premature birth. It retained the birth and gave it renewed strength and life (Keller:307). It is also useful as a disinfectant in cases of fetid menstruation or leucorrhoea. It is said to have estrogenic properties.

Sage is occasionally recommended for serious afflictions. Rheumatism is said to be relieved by Sage tea taken internally and applied externally. The American Indians are said to have relieved rheumatism by making a very strong decoction of Sage and cascara. Sage and chaparral have also been combined to make a very strong decoction for cancer as well. The Indians are said to have successfully cured many such ailments with these potent medicines (Mal:75). It was used by the Mexicans, the white variety, to cure diabetes.

Sage is used for a variety of minor ailments as well, the most common being the common nervous headache, which a strong cup of the tea is said to stop very quickly. It is often used to help a person sleep (it could be a useful addition to an herb pillow), to reduce itchiness of the skin, applied as a wash and to ease aching muscles and sore feet. Ancient Mexicans often used it as a steam bath to help with congestion in the head and chest. It is often used to restore a nice dark color to the hair and is used as an antibaldness remedy if the hair roots are still intact. The fresh leaves, rubbed on the teeth, will cleanse them and make them white. It is a common ingredient in tooth powders. In cases where external heat is required, such as in sore muscles, Sage has been considered valuable when applied externally in bags, as a poultice and fomentation. In Sussex, at one time, to munch Sage leaves on nine consecutive mornings while fasting was a country cure for ague and the dried leaves have been smoked in pipes as a remedy for asthma (Gri:704). Sage wine has long been used as a tonic. Although it was made by more strenuous methods in the past an easy recommended method is to blend a cup of fresh Sage leaves into half of a quart of claret or good burgundy, using the blender. Run it on high speed until the leaves have been pulverized and suspended through the wine. Then return the concentrated mixture to the original bottle. This wine has been given in Europe extensively, even to children, although many people warn that such remedies contribute to drunkenness and alcoholism. In France, where children drink much wine, alcoholism has reached to such a proportion that it is a dreadful problem. Sage tea would probably serve better than the wine.

Sage is also said to be refreshing to the spirit and has been used in cases of slight depression or

derangement. It is said to be good for the memory and to enhance mental acuteness. However, the volatile oil is a violent epileptiform convulsant, resembling the essential oils of absinthe and nutmeg. When smelled for some time it is said to cause a sort of intoxication and giddiness (Gri: 704).

The tea is said to be rejuvenate the eyes, brains and glands. It is good to cleanse the liver and make good blood. It produces strong circulation. It is antipoisonous or antivenomous. As a wash it will cure sunburn or pimples. "Young girls, hoping to develop attractive breasts, slept with poultices of bread soaked with Sage tea on their breasts" (Keller:311). Sage leaves soaked with rose water, vinegar and sliced cloves, are an excellent treatment for morning sour mouth.

In India Sage is given against exhausting attacks of perspiration, tickling coughs, especially in tuberculosis and for stomach disorders; in habitual miscarriage and night sweats during convalescence from serious infectious diseases (IMM:1094-5).

In China the herb is used for kidney infection, sore throat and against fluxes and discharges. The white flowered kind is said to be good for colorless discharges and the red flowered kind of red discharges. It is also used in ague and dropsy (Shi:392).

In the Doctrine of Signatures the growing conditions of the herb in Europe, being mountainous sections or limestone formations with a minimum of soil, points to its use in the kidneys and to remove gravel and stone formations. The soft, downy hairs suggest the irritation or tickling of the throat. The tendency of the herb to stick together when it is pressed down suggests its astringent action and its cleansing and detoxifying power (Har:Complete:159).

SAGE IN COOKERY

Aside from its medicinal use, Sage is most often used in the kitchen, although in former days it was familiar to the apothecary, now it is most used by the cook. The most traditional use of Sage is to flavor the stuffing in the holiday turkey stuffing. A very good recipe for this, which can be used without stuffing a turkey, is:

1/2 cup minced onion
1 cup minced celery
1 cup butter
1 teaspoon crumbled Sage, or more if liked
1 teaspoon salt
1/4 teaspoon pepper
1 pound whole wheat bread crumbs
1 1/2 cups boiling water or chicken or turkey broth

Brown the onion and celery in the butter. Add all the dry ingredients to the crumbled bread. Add liquid and vegetables in butter. Place in a buttered casserole and cover baking for 1 to 1/2 hours

at 325-350 degrees F. Take cover off near the end to brown it a little. Or you can use this to stuff the turkey.

Keller recommends Swiss Zurcher Leberspiessle. You marinate finger length slices of liver and drain them slightly, rolling them in crumbled Sage. Wrap a piece of bacon around them and then barbecue them (Keller:312).

You can make a Sage honey which is medicinal and delicious although the cooking destroys the enzymes in the honey and somewhat reduces its own medicinal effectiveness. Cover Sage blossoms with Sage honey, which is honey made by the bees from the flowers of the Sage plants, and simmer gently for one hour. Strain and bottle. This is good for colds as well as good on food (Rose:Herbal:220).

An ancient recipe recommends Sage balls. Boil pork until it is well cooked. Grind it small and mix it with eggs and grated bread. Salt it and saffron it to taste. Wrap it in leaves of Sage, wet it with an egg batter and fry (Gri:704).

An somewhat later cookbook recommends Sage and Onion Sauce. Chop very fine an ounce of onion and a half ounce of green Sage leaves. Simmer with four tablespoonfuls of water for ten minutes, salt and pepper to taste and add an ounce of fine bread crumbs. Mix well and then add a half cup of broth, gravy or melted butter, stir well and simmer. This is a good sauce for meats, especially heavy meats such as pork, goose or duck (Ibid.).

You can candy Sage for a different after dinner mint. Just dip the leaves or flowers into slightly whipped egg white and dip immediately into sugar. Set on waxed paper to dry. This is also supposed to be a good sweet for the children. I wonder if it might be made without sugar, perhaps with honey and a coating of arrowroot or powdered milk.

Sage pancakes were popular from the fifth century B.C. to the eighteenth century A.D. They are made by mixing four eggs, four spoonful of fine flour, a little salt and 2 cups of milk. Melt butter on a griddle and drop some batter into a thin pancake. Add some Sage leaves which have been washed, dried and minced fine and then put on a little more batter. Let them brown nicely on both sides and serve with butter and Sage honey (Keller:312-3).

Sage Wine was made by this recipe in 1300. Chop 24 pounds of Malaga raisins very fine. Put them in a large vessel and pour over 24 quarts of boiling water. Cover well. Steep for twelve days stirring twice a day. Strain into a clean cask over four quarts of the clean tops of Sage when in blossom. Seal for six weeks allowing the wine to fume by putting an opening with a hose into the cork. Strain and bottle for two months. Be sure that all your utensils are boiling water clean.

An easier method is to marinate Sage in wine for a month or so. This can be used in cookery.

Sage Cheese used to be common. Bruise the tops of young red Sage in a mortar with some

leaves of spinach and squeeze out the juice; mix it with the rennet in the milk to be made into cheese according to the preferred color and taste. When the curd forms, break it gently and put into a cheese press. Press it 8 or 10 hours. Salt it and turn every day (Gri:705).

You can make Sage vinegar by steeping several sprigs in a quart of apple cider vinegar. In about a month, strain and put into attractive bottles with a small perfect sprig of fresh, clean Sage. These can be stoppered and given as lovely Christmas gifts tied with a bright ribbon.

Sage and Onions seem to go well together. Steam small, white onions until they are nearly done. Sprinkle them with chopped, fresh Sage to taste and steam slowly until the onions are tender. Top with soft butter and serve. This is a health promoting dish as well as a delicious one.

You can flavor a standard white sauce with Sage to flavor gamey or fatty meat dishes.

Sage jelly can be made by making an infusion of 2 1/2 cups boiling water over 4 tablespoons of dried herbs. Let stand 15 minutes. Strain. Add 1/4 cup vinegar and 2 1/2 cups honey. Bring to a boil stirring constantly. Add 1/2 bottle fruit pectin and boil hard for 1 minute. Remove from heat, skim and pour into a sterile jar containing a sprig of Sage (Hyl:134).

Sage butter is interesting on vegetables particularly those of the cabbage family and on asparagus. Simply mince fine the desired amount of Sage leaves (remembering that the flavor is quite strong and that you might like to start with only a small amount) and mix into softened butter. Mold into desired shape and refrigerate. The addition of bacon bits or cooked crumbled bacon makes a luscious butter and a delicious one, if you eat bacon.

Sage is used for other purposes. It is a dye plant, yielding black when properly mordanted. It is used to tint the hair a darker color. "German women dropped a handful of the leaves of (Sage) into a cup of cold water, boiled it for fifteen minutes, cooled it naturally, strained, then applied it to their hair. The longer it was brewed and then allowed to cool before straining, the more intense was the color. If some ran into the eyes, it simply made them sparkle" (Keller:310). The tea was also drunk internally to make the hair black.

An interesting hair coloring mixture was made by boiling a handful of Sage in two cups of water for ten minutes and cooling naturally for several hours. Measure in a dry bowl: 2 rounded teaspoons of henna with a teaspoon of ground cloves, blending well. Add enough Sage tea to make a thin paste, blend thoroughly. After shampooing, partially dry and apply paste. Tie a cloth around the hair and leave on for thirty minutes or longer. Rinse out with tepid water only. Finally rinse with Rosemary tea and do not rinse out (Keller:311).

The Mexicans make brushes from the branches of the herb using them to cleanse and dry off the sweating bodies of their horses and cattle, the leaves being both absorbent and invigorating to tired flesh (Lev:109).

The herb can be hung in bunches in clothes closets or sachets can be made from it to put in clothes drawers for protection against moths and to give a delightful fragrance.

HISTORICAL USES

It clears the eyes, cleanses the body of disease, used to reduce the strain on heart, for kidney troubles, to return hair to normal color, for ulcers, sores, rheumatism, consumption, coughs, sore throats, snake bite, palsy, fever, grief, nerves, to quicken the senses and memory, for the spitting of blood, for side pains, to remove rottenness or soreness of teeth, as an anti-miscarriage, for liver disease, to provoke urine, for headaches, depression, trembling hands, to induce abortion, for brain and nerve diseases, for laryngitis, wounds, as a digestive aid, as a spermatorrhea, to quell vicious sexual desires, for venereal sores, for genital soreness, fetid menstruation, leucorrhea, diabetes, as an anti-baldness, anti-poisonous and anti-venomous, for sunburn, pimples, sour mouth, excessive perspiration, tuberculosis, night sweats, fluxes, discharges, ague dropsy and as a detoxifier.

CULTIVATION, COLLECTION, PREPARATION

Sage is easily grown. It is a hardy perennial that will withstand most American winters and will tolerate even the most lackadaisical of herb gardeners. It is easy to start from seed because the seeds are large and can be spaced and observed well in their early growth. Indoor seeding will start the plants four weeks earlier than outdoor planting. Place the seeds a foot apart in March for inside planting or in April outside.

The plant is also easily propagated by layers in the spring and autumn, the branches of old plants being pegged down on the ground and covered with a half inch of earth. The plant, like other of the woody stemmed garden herbs, is a stem rooter, each of the stems thus covered producing quantities of rootlets by just lying in contact with the ground and after a time can be cut away from the mother plant and planted in the garden. This is by far the easiest way to propagate Sage and it is a nice way to share among neighbors. The established plants are easy to take care of. They like best a sunny area with no strong wind and plenty of water. Early spring hoeing and cultivation are important. Compost can be applied but not manure because it produces an unwanted flavor in the herb and diminishes the essential oils. You can harvest leaves during the first growing season as long as you are careful not to over harvest and damage the plant. Never collect later than September and then only leaves and stems high up on the plant should be taken. This ensures a good overwintering. During the first year only a small September picking will be available. During subsequent years you'll get two good harvests of Sage.

Sage and Rosemary stimulate one another's growth. If Sage is grown among cabbages it protects them against the cabbage butterfly. Even twigs of Sage strewn across the cabbages will have the effect of repelling this pest. Sage also aids cabbages making the plants more tender and digestible.

You can use Sage tea in growing your vegetables. This should not be applied to young plants so as not to retard their growth but it can be applied on older plants which have passed the stage of blooming.

Some indigenous members of the Salvia family (S. leucophylla, S. apiana and Artemisia californica) retard the growth of vegetables and grasses. Seedlings have been stopped from growing if evaporation from uninjured shrub leaves is trapped in dew and deposited on the seedlings (Phil:78).

Dry the gathered leaves in an airy, shady place, never in direct sunlight. When they are crisp dry crumble them and store in airtight, light tight containers. Bring them out during the wintertime for a delightful scent of summer. You can also freeze the leaves rolled into cylinders for like fresh winter use. You can extract the juice and freeze it. For culinary use you can rub the leaves through a screen. The fresh sprigs can be hung right in your closet or linen closet to scent your things as they dry and they will keep giving their scent throughout the year.

RELATED PLANTS

There are several Sages of medicinal importance and Desert Sage, or Sagebrush, is also important medicinally. It is very important not to confuse the two. One of our neighbors used Sagebrush tea for healing and his wife wished to use it in place of tame Sage for culinary purposes. However, as Moore said, "If you use the wormwoods as Sage", Sagebrush being an Artemisia which is the wormwood family, "you are guaranteed to ruin even the biggest, oldest, gamiest tom turkey you can catch, let alone the indeterminate turkoid fowls of the supermarket. Although some of the wild Sages might taste a little peculiar in stuffing, they would still be recognizable Sage" (Moore:142). We will discuss the various important members of the Sage family, true cultivated Sage and then the wild Sage, or Sagebrush, Artemisia.

Clary Sage, S. sclarea, is an important member of the Sage family. There are even several varieties of this Sage itself! Other familiar names for it include Clear Eye and See Bright which refer to one of the important uses of Clary Sage. Clary Sage was known in ancient times. One of its name was Dioscorides. This is a biennial plant, its square, brownish stems growing 2 to 3 feet high, hairy and with few branches. The leaves are arranged in pairs, almost stalkless and are almost as large as the hand, oblong and heart shaped, wrinkled, irregularly toothed at the margins and covered with velvety hairs. The flowers are in a long, loose, terminal spike on which they are set in whorls. The lipped corollas, similar to the Garden Sage but smaller are of a pale blue or white. The flowers are interspersed with large colored membranous bracts, longer than the spiny calyx. Both corollas and bracts are generally variegated with pale purple and yellowish-white. The seeds are blackish-brown and the whole plant possesses a very strong, aromatic scent, somewhat resembling that of tolu, while the taste is also aromatic, warm and slightly bitter.

This herb was first brought into use by the wine merchants of Germany who used it to adulterate their brews. They infused it with Elder flowers and then added the liquid to Rhine wine which

converted it to seem like Muscatel. It is still called in German Muskateller Salbei, Muscatel Sage. It was used in England as a substitute for Hops, for sophisticating beer, communicating bitterness and intoxicating property, which produced an effect of "insane exhilaration of spirits, succeeded by severe headache". Grieve also quotes Lobel as saying, "Some brewers of Ale and Beere doe put it into their drinke to make it more heady, fit to please drunkards, who thereby, according to their several dispositions, become either dead drunke, or foolish drunke, or madde drunke" (Gri:706). Some in England make a wine from the herb in flower, boiled with sugar, which somewhat resembles Frontiniac.

The plant is used as an antispasmodic being of use in violent cases of hysteria or gas pains. It is used in stomach ailments helping the digestion. It has been useful in kidney disease much as the garden Sage has. Culpepper said that it was used for tumors (the seeds being the part used). This will also draw splinters and thorns out of the flesh. To bring boils or inflammations out, he recommended making a salve out of the leaves boiled with hot vinegar, adding honey later to the right consistency. He said that a powder of the dry roots be taken as a snuff to relieve headache and that the fresh leaves being made into fritters will be an agreeable and medicinal food.

Grieve points out that in Jamaica the plant is much in use among the Blacks who consider it cooling and cleansing for ulcers and who also used it for inflammations of the eyes. A decoction of the leaves was used to cure the stings of scorpions. The herb is sometimes used as an eyewash, thus bringing it the name Clear Eye, or See bright or even Eyebright, though this usually refers to another herb, Euphrasia (Gri:706-7).

White Sage, S. apiana, grows abundantly throughout the southwestern United States and northern Mexico. It is one of the most wisely used of the medicinal herbs known to the Native Americans of this area. One of its main uses is as a treatment of poison oak, taken internally as a tea and applied externally by bathing in an infusion (Neb:78). White Sage was used by native Mexicans as a digestive aid, a remedy for excessive urination and a mild sedative. Some of the tribes used this Sage in a treatment for newborns. Large quantities of the tall white plants were burned and the newborn infants covered with white Sage ashes. These "cooked" babies were believed to be the strongest and healthiest members of their tribes and it is claimed that these children were immune from all respiratory ailments (Ibid.).

In Mexico, S. azurea grandiflora, has blue highly scented blossoms and is considered highly medicinal.

The Red Sage, S. colorata, is also considered extremely healing. It is one of those herbs thought to be a cure all. Kloss said that you cannot go amiss when you take red Sage.

It is very good for chest troubles, asthma, coughs, colds, bronchitis, inflammation of the lungs, fevers of any kind, flu, sore throat and tonsillitis. You can gargle with the strong tea or tea preparations as given in the uses of Sage and you can also swab the throat until the false membrane loosens.

It is a good regulator for menstruation, increasing it if too scanty and checking it when too profuse.

It is, like Garden Sage, good for digestion. It prevents gas, fermentation and biliousness. It is slightly laxative as well. It will cleanse the liver and relieve nervous headache (the two are often related). This Sage is good in eruptive diseases of all kinds. If you have serious throat trouble, add equal parts of red root or wood betony and prepare the tea as usual. It is to be taken internally and used as a gargle (Klo:309). Red Sage is also useful in tuberculosis.

Salvia Aegyptiaca is found in India in the Punjab plains. The seeds are used in diarrhea, gonorrhoea and hemorrhoids. In Mexico and some parts of the United States where it grows, a drink is made from the seeds. It assuages thirst and improves the taste of water. It works well as a demulcent in gastrointestinal disorders. Like flaxseed, a grain of the seed placed in the eye forms a mucilage by means of which a foreign body may be removed. It is also of great service as a poultice. The seeds are sometimes referred to as chia seeds which are collected, roasted (if desired), ground and mixed with water and sweetening. It soon develops into a mucilaginous mass several times the original bulk and is eaten. The taste is mild and pleasant and it is exceedingly nutritious. We especially like this preparation of chia seed: in a blender put about a cup of milk (goat's, nut, soy, etc. are all good). Add an equal amount of any kind of juice. Add two bananas and 1/4 to 1/2 cup of chia seed. Blend until smooth. Allow to sit a couple of minutes, to develop the mucilage and blend again. Serve. Everyone likes this and it is very nutritious.

You can make a nice pudding by crushing a desired quantity of chia seed. Mix it with pureed fruit of your choice and sweeten it if necessary. Let it stand several hours, stir and eat.

Some people like to put chia seed in their granola. It can be mixed with other crushed or ground seeds for a protein mix or sweet, if honey is added.

Chia is excellent for hypoglycemics. If made into a "shake" as described above it can keep the hypoglycemic person in energy and strength for several hours.

Bloodveined Sage, S. haematodes, is found throughout India and in other parts of the world. It is tonic, astringent and is thought to be aphrodisiac. It is often prescribed for seminal debility, chlorosis, anemia, etc.

S. plebia is a peculiarly Indian variety. The seeds are used in gonorrhoea and menorrhagia and also in diarrhea. It is given to promote sexual powers and useful in whites, seminal weakness and hemorrhoids.

S. spinosa yields triangular seeds which are available in Indian bazaars. The seeds soaked in water form a thick mucilaginous drink much used in gonorrhoea and urethritis (IMM:1006).

A species of Sage, S. pomifera, the Apple bearing Sage, is common on some of the Greek islands. It is very peculiar. It has firm, fleshy protuberances of about 3/4 inch thick, swelling out from the branches of the plant and supposed to be produced in the same manner as oak apples, by the puncture of an insect of the Cynips genus. These excrescences are semitransparent like jelly. They are called Sage apples and under that name they are sold in the markets. They are candied with sugar and made into a kind of sweetmeat and conserve which is regarded by the Greeks as a great delicacy and is said to possess healing qualities. It has an agreeable and astringent flavor. This plant is considerably larger than the common Sage of our gardens and its flavor and smell are much more powerful, being more like a mixture of lavender and Sage. It grows very abundantly in Candia, Syros and Crete, where it attains the size of a small shrub. The leaves are collected annually, dried and used medicinally as an infusion, the Greeks being particular as to the time and manner in which they are collected, the date being May 1 before sunrise. The infusion produces perspiration, languor and even faintness if used to excess (Gri:702).

Another south European species, S. horminum, the Redtopped Sage, has its whorls of flowers terminated by clusters of small purple or red leaves being for this peculiarity often grown in gardens as an ornamental plant. The leaves and seed of this species, put into a fermenting vat, greatly increase the inebriating quality of liquor. An infusion of the leaves has been considered a good gargle for sore gums and powdered makes a good snuff (Ibid.).

Spanish Sage oil is produced from the S. triloba variety, which gives an odor more closely resembling that of spike lavender than the Sage oil distilled in other places in Europe, which is usually derived from the officinal variety. It is an open secret that this Sage oil is sometimes used to adulterate Spanish Spike lavender oil, though this can be detected by chemical analysis.

S. cyprea, a native of the island of Cyprus, yields an essential oil having a camphoraceous odor and containing about 75 percent of Eucalyptol.

S. millifer is a labiate plant found in Southern California, known as Black Sage, with similar constituents and also containing formic acid.

S. rutilans is the delicious pineapple Sage, with true pineapple scent and flavor. It is only half hardy and must be potted and taken indoors before winter. It can be grown as a pot plant on a sunny window sill where its scarlet flowers would bring much autumn pleasure.

The Brazilian Sage, S. uliginosa, is a swamp Sage which bears bright blue flowers on stems five feet tall and likes a moisture holding soil.

The Violet Sage, S. virgata nemorosa, makes a branching plant with long bloom sprays of purple bracts and violet blue flowers. It reaches about three feet high.

Artemisia tridentata is Sage brush, the silvery-gray colored shrub which can be found in many

variations throughout the Great Basin Desert in the American West. Many people confound this with Garden Sage as we mentioned above. The two are completely unrelated botanically. "The Sage in bloom is like perfume", goes the Texas song and we agree. We think that it is one of the finest aromas. This plant is related to Wormwood and has a similar taste and action.

This family is large, varied and multipurpose with several characteristics that make it fairly easy to identify. The leaves tend to be noticeably hairy, either on the underside of the leaf or on both sides. Usable species are strong scented when crushed, like a cross between Sage and camphor; the flowers are round or slightly tubular balls found along the extended flower stems in unleafed, generally one-sided rows. The leaves may be lance shaped but more often are deeply cleft or irregularly fingered.

Even in ancient times, Sagebrush was reported to have medicinal qualities. Dioscorides said that it is like wormwood but larger and with grosser leaves. He especially recommended it for women's problems, for bringing on late menstruation, for expelling the fetus, for inflammation of the womb, for stones and for stopping of urine. He also mentioned that using the herb would dissolve weariness and drive away venomous beasts and devils. If a person has arthritis, he said, he should use an external application of the leaves soaked in hot water.

He also said that it dyes the hair black and can be used as a wound herb and a blood stauncher and a cleanser of old rotten ulcers. The decoction of the leaves and their branches fomented in wine will get rid of itching in the private parts. Being drunk with white wine it cures pain of the spleen and dysentery. It dissolves chilliness and bad cough as well, including curing blood spitters. Dioscorides finally reiterated all the good things it can do for women, mentioning that "ye most wicked women making a Pessum of it, do apply it, & cast out ye Embrya".

Dr. Christopher told of meeting with Indian medicine men exchanging formulas and treatments. He was once talking with Chief Sundance and asked him about using Sagebrush. Dr. Christopher told him that he thought that Sagebrush tea, made as a usual infusion, would be good as a blood cleanser and for cancer. The chief said yes, it would--for a horse. For internal use, he said, Sagebrush tea should only be used in a cold infusion. Dr. Christopher was so grateful for that information, he said, that he "bowed to him" for that.

The Indians used this cold infusion of Sagebrush for resolving serious body crises such as tumors and cancers. Sage tea was taken extensively as a cure for asthma, taken morning and evening for forty days and at night a sagebrush poultice was applied to the chest and back. Sage branches were burned as a fumigant and the baskets and blankets used during the birthing process were held in the smoke to retain the odor. The Indians believed in sweating out almost any illness and so the tea was warmed as a diaphoretic. In the sweat baths, moistened branches were thrown onto hot rocks or bricks, "the victims grimly inhaling the humid vapors until nearly prostrate" (Moore:162).

A tea made from the leaves of the Sagebrush became a standard eyewash for soldiers in the U.S.

Army in the west, the practice having been learned from the Indians. Sage tea was used as a treatment for influenza, taken warm while inhaling the fumes from a Sagebrush fire. If one's legs were ailing, weakening or shaking, the Indians bathed them with hot Sagebrush tea and then poulticed them with Sagebrush leaves. To steady and strengthen mind and nerves the Indians drank the tea.

The tea was used for morning sickness during pregnancy. We have tried it and considered the bitter taste just as bad as the nausea! It causes vomiting itself to the sensitive stomach! The Sagebrush leaves were used for diarrhea, menstrual disorders and swellings. It was particularly used as a tonic after childbirth. Fresh leaves were crushed, strained and mixed with lukewarm water for stomach distress or were chewed for flatulence or as a tea for indigestion. The powdered herb destroyed worms in children and were so accepted officially in 1840 with the coming of the white man. The juice of the herb or the powder was put on moist sores which, with this procedure, were said to dry and heal quickly, as were "green wounds".

For numbness of the feet a wash of Sagebrush was recommended followed by the application for wax and ground nettles. This same Sage and wax remedy was used for all foot injuries by the Aztecs.

This is the epitome of bitter herbs making it good as a stomach tonic for indigestion and acidity, or for an agent to promote sweating in dry fevers. Interestingly, modern use corroborates Dioscorides' use of the herb for female ailments. It is good for suppressed, cramping menstruation, particularly following illness or some emotional or physical trauma (Moore:162). It will help expel pinworm or roundworm infections, the secret being constancy with at least two cups a day for a week or two. Moore says that some people have informed him that they can abide the taste. We know a man who felt that his ailments could be helped by Sagebrush tea. He brewed himself a couple of doses each day and before long his chronic and painful aching in the chest and arms left him and he felt well again. He said the tea was bitter but not impossible to take.

Wild Sage was used in former times in similar ways. It was said to get rid of cramps and "wycked humors". It would expel a dead fetus without peril to the mother. It was especially good applied externally if a person suspected broken veins. It would disperse and void congealed blood and consolidate the veins (Keller:310).

Chia seeds were used by the Indians, made into a poultice and applied to a wound. It was later considered by mountain men and miners as the finest poultice for gunshot wounds.

Sagebrush can be used to flavor corn mush and posole but must be used with the lightest of touches, as it is extremely bitter.

The Chippewa Indians used it for medicine in cases of convulsions, hemorrhage and poisoning. It was used for female hemorrhage and other female weaknesses. Children and old people were

bathed in the decoction to strengthen them and the fumes were burned in a room to prevent infections (Dens:287). The tea is said to be a good hair tonic.

In extreme cases of mourning, Sagebrush played a part. If a person were extremely grieved he would cut off one joint of the little finger and apply to the bleeding stump a handful of Sagebrush leaves. The foliage and flowers of the plant have also been used as a fumigant to revive a comatose patient (Vog:383).

CHEMICAL COMPOSITION

The most important constituent of Sage is a volatile oil of which the fresh herb yields as high as two percent at the beginning of harvest but decreases toward the end of the harvest to about 0.7 percent, the average being about 1.4 percent. The oil contains salvene and other constituents.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING SAGE

VF, the vermifuge combination, contains tame Sage.

The Desert Herb combination contains Wild Sage.

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Bri
IMM
Hut
Hyl
Mold
Mal
Phil

ShoA
British Herbs
Hat
Lev
Neb
Vog
Klo
Wood
Luc:Secrets

SARSAPARILLA

*SMILAX OFFICINALIS (TRUE), ARALIA NUDICAULIS (WILD); LILIACEAE,
ARALIACEAE*

DESCRIPTION

Smilax officinalis has a twining, angular, smooth and prickly stem; the young shoots are unarmed; the leaves ovate-oblong, acute, cordiform, five or seven nerved, coriaceous, smooth, 12 inches long and four or five broad, with footstalks an inch long, smooth and furnished with tendrils. The young leaves are lanceolate-oblong, acuminate, and three-nerved.

Aralia nudicaulis is a herbaceous perennial, with large, tortuous, fleshy horizontal, creeping, long roots, externally yellowish-brown, from which grows a large solitary compound leaf. The leaflets are oval, obovate, acute, finely serrate. The flower stem also comes from the root, naked, about one foot high, terminating in three small many-flowered greenish umbels, no involucre. The fruits are small, black berries the size of an elderberry. The root has a sweet spicy taste and a pleasant aromatic smell.

GENERAL

The True Sarsaparilla comes from the Caribbean and from Mexico. We have several wild Sarsaparillas in America which are not even from the same family. But both kinds work and taste similarly, and so we treat them both here. However, if there's something peculiar to one species, we mention it.

The name Sarsaparilla comes from the Spanish, sarza means bramble or bush and parilla means little vine. It's a good description of the plant. Other names include Honduras Sarsaparilla, Jamaica Sarsaparilla, Mexican Sarsaparilla, Guayaquil Sarsaparilla, Red Sarsaparilla and

Zaraparilla, the name in Spanish.

True Sarsaparilla was discovered by the early Spanish settlers in Jamaica, Perus, St. Domingo and Brazil in the middle of the sixteenth century. It was introduced into Seville about 1536 from "New Spain" and another variety soon arrive from Honduras. Pedro de Cieza de Leon in 1553 wrote that he saw it growing in South America. It was recommended as a cure for syphilis and for some time was considered the only effective remedy for this ailment. It soon came to be used for other chronic diseases, especially rheumatism, as there are often rheumatoid symptoms in venereal disease and since the herb worked so wonderfully to treat these, non-infected sufferers of rheumatism also used it. It was from the time of its introduction considered a superior blood purifier. It fell into disuse for a while until Sir William Fordyce revived it in 1757. After this short resurgence it was ignored. During the latter part of the nineteenth century its use was considered the result of ignorant superstition.

In 1928, however, Perutz studied it extensively and concluded that it really did help in the treatment of syphilis, probably by stimulating the body's defensive mechanism (Luc:54).

Most herbals insist that we do not confuse the true Sarsaparilla with the wild variety. This wild or native Sarsaparilla is quite different, a leafy plant with white flower clusters typical of the Ginseng family to which they belong. The taste is quite similar, although is said not to be quite as delicious. Vogel chronicles the history of American Sarsaparilla and we extract from him: The first notice of American Sarsaparilla is found in the account of the voyage of Captain Davies to Sagadahoc on the Kennebec River of Maine, 1608, where he noted that he found a good store of Sarsaparilla gathered when he arrived. It is recorded to have treated a case of palsy in 1652. Carver claimed that it is "very powerful in attenuating the blood when impeded by gross humours". Cutler said that it was good for people with debilitated habits who could use it as a fasting device. He said that the Indians would undertake long journeys with only the root as sustenance and it kept them for considerable lengths of time. It was used in "diet drinks" by white settlers.

The herb became so popular that by the middle of the nineteenth century, it was said to be vulnerary, pectoral, sudorific, stimulant, diaphoretic, cordial and depurative. A disgruntled physician grew tired of these overreaching claims, writing, "Such...is the furor for swallowing it, that the manufacturers employ steam engines in its preparation and these syrups and extracts of sarsaparilla are becoming among the chief exports from commercial emporium and a sufficient quantity will soon be made here to supply all creation with physic for a century to come. Some of the 'regular faculty' have been carried away by this speculation and are now installed as superintendents of these sarsaparilla factories making their fortunes".

Many of the concoctions prepared in these factories did not feature Sarsaparilla but contained many and various other ingredients. In 1911 the Connecticut State Agricultural Station analyzed nine proprietary Sarsaparillas, and found them to contain yellow dock, stillingia, burdock, licorice, sassafras, mandrake, buckthorn, senna, black cohosh, poke root, wintergreen, cascara sagrada,

cinchona bark, prickly ash, glycerin, iodide of potassium and iron and alcohol.

The American Indians, however, did not usually compound Sarsaparilla but used it alone. The Montagnais and Penobscot women cut up the roots, tied the pieces on a string and kept them in their lodges until needed. Montagnais Indians fermented the berries in water for a wine used for tonic purposes. The Penobscots dried the roots, crushed them to powder and steeped the substances together with roots of sweet flag for a cough medicine. Some tribes made a decoction of the root for sore eyes. The Kwakiutls mixed the beaten root with an oil for a medicine used for coughing and spitting blood. The Houmas used seven kinds of Sarsaparilla to be used at differing times throughout the year. The roots were boiled for feelings of high blood pressure and as a blood purifier. The Catawbas boiled the root for a tea which was sweetened with sugar and taken as a tonic and health beverage. Creeks used the root for difficulty in passing urine, when blood was passed and for pain about the lower part of the abdomen and in the back. It was also used for pleurisy. Meskawki Indians pounded the root to make a poultice for burns and sores. It was mixed with the inner bark of prickly ash and another unnamed root to give strength to weak people. Flambeau Ojibwas pounded the root for a poultice for boils and carbuncles. Pillager Ojibwa women used it for purification in pregnancy. It was also pounded and boiled for a cough remedy. The Potawatomis used the pounded root as a poultice on swellings and infections (Vog:347-8).

An early botanist wrote, "The wild sarsaparilla, which must not be mistaken for the true sarsaparilla of soda water fame is nevertheless often used as a substitute for the official article. Its slender roots, which run horizontally three or four feet in every direction away from the stem, are as aromatic as the mucilaginous twigs of the sassafras tree. But every country boy knows all about sassafras and sarsaparilla. Any plant which appeals to his sense of taste or his propensity to chew is a component part of the well digested knowledge he never learned at school..." (Schuyler Mathews, Familiar Flowers of Field and Garden, 1895).

Other common names for this American variety include False Sarsaparilla, wild Sarsaparilla, shot bush, small spikenard, wile licorice and rabbit root.

During the time that this was considered a wonder drug in America--and the true as well as the wild varieties were used--you could read about it in most newspapers and almanacs while the drugstores carried a wide variety of Sarsaparilla preparations. Folk healers kept the fire fueled with such reports as these: "I saw a case of scrofula caused by a bad vaccine virus. The flesh seemed as though it would fall from the bones and the physicians that were in attendance gave her up and said she would have to die. The mother made a strong syrup or tea of Sarsaparilla and made her drink it instead of water. It did the work. She got well"(Hyl:568-9).

The herb was only official for two years in the early 1800's. After it slowly went into disrepute, it has been used steadily by the few herbalists that remained during the "dry" years of herbalism. Now that natural medicine has been revived Sarsaparilla has come back into good use. You can even buy Sarsaparilla soda pop in the health food stores.

BLOOD PURIFIER

Dr. Christopher taught that Sarsaparilla is a wonderful tonic blood purifier. It has been used as a spring tonic to eliminate poisons from the blood and purify the system from all leftover infections of winter (Hut:241). The Doctrine of Signatures says that the long creeping roots suggest the blood system (Har:Complete:161). It is said to be an excellent antidote to take after ingesting a deadly poison (Klo:310). Tierra says that it is good for all ailments requiring a blood purifier, including gout, rheumatism, colds, fevers and catarrhal problems (Tie:113). Dr. Shook explained that the root contains sulfur and four metallic salts: iron in the form of iron oxide, calcium in the form of calcium oxalate, potassium as potassium chloride and magnesium as magnesium sulfate and magnesium chloride, which is the element which provides the bitter taste of the herb. Iron works as an oxidizer in the system and vitalizer of the blood, the calcium oxalate carries four atoms of oxygen and the calcium absorbs carbon dioxide, and the potassium chloride is a fibrin solvent. The organic magnesium sulfate is an excellent laxative (ShoA:217). Shook asked, is there any wonder that this is such a successful blood purifier?

The claim was early made that this herb treated venereal diseases--"before or after the fact", it was written. Pirates made use of it as soon as they learned of it for this purpose. Kloss claimed that it is one of the best remedies for infants infected with V.D., being able to cure them without the use of mercurials or other medicines. He said you can administer the herb internally mixed with the child's food, or apply the decoction locally to pustules (Klo:310). For adults, however, the herb was used as an adjunct to mercury treatment, the sarsaparilla often being employed to remove the undesirable side effects of the mercury! The herb was often employed in chronic cases where the constitution of the person had broken down, whether from long suffering from the disease or long suffering from mercury treatment. It was said to effectively restore broken down physical systems when given no less than a pint during the day. Early on it was recognized that the herb was not a specific against venereal disease but that the herb helped to renew the tissues and cleanse them so that they could eliminate the disease themselves.

Most practitioners knew that it did not prevent the secondary symptoms of the disease from appearing but that its persistent use did slow or prevent the appearance of the tertiary symptoms. It was not used, however, in cases that demanded haste as it cured mildly and slowly as blood purifiers do.

Sarsaparilla is claimed to be a powerful diaphoretic. Even this claim has been disputed, as some say that hot water will promote diaphoresis as well as the infusion or decoction but most herbalists agree that it is an excellent remedy to promote diaphoresis in cases of colds, flu, etc. It is also said to powerfully expel gas from the system.

The herb is still used in cases of rheumatism which stem from impure blood or toxicity. Since this affliction has so many sources and manifestations, of course, it can't be recommended for all cases but it does help remove toxins from the body which might be causing some of the pain.

When a person is recuperating from a long illness or severe operation Sarsaparilla can often be an important agent in strengthening the system. It increases the appetite, brings down the pulse, augments the tone of the body and is given with milk for both food and medicine.

Skin diseases were often treated with Sarsaparilla. Scrofula, elephantiasis and other similar ailments responded to the tonic and alterative effects of the herb. Lucas reports the successful use of the herb in the treatment of psoriasis in 1931. A Dr. Philippsohn advised his patients to put 15 gr. of Sarsaparilla in 1000 ml. of tepid water and allow the mixture to steep overnight. On the following morning they were to boil the mixture for twenty minutes and drink half of the decoction then and there, taking the remainder during the day. This was repeated for several days running. After a week the psoriasis patients suffered less peeling of the skin, which, after it disappeared, was replaced by a smooth red blemish which eventually faded. One patient with a previously stubborn cases of psoriasis followed this treatment for twenty years without a single relapse of the ailment. Tablets containing Sarsaparilla have also been used for psoriasis (Luc:55).

Sarsaparilla is also credit with a number of other good uses. It is said that an infant who is given the herb will never suffer from any poisoning! The stem bark has been used to allay tooth pain and the root has even been recommended as an aphrodisiac. In the Middle East Sarsaparilla has been used with dapson in the treatment of leprosy (Spoerke:154). It has been used to remove skin parasites. It promotes the flow of urine and has been used in passive dropsy. It is also a good eyewash (Beth:139).

Dr. Shook recommended a specific treatment to rid the body of arthritic and rheumatic pains. He mentioned that it must be given in connection with a diet low in calcium and starches. Citrus may be used in moderation, but berries, apples grapes, celery, parsley, carrots and cabbage may be taken freely. He also recommended vinegar rubs. The herbal combination is 6 ounces of yellow parilla root, 10 ounces of Sarsaparilla root, mixed together. Heat 1 gallon distilled water and add 1/2 ounce potassium chloride (which is sometimes used as a salt substitute). Put in the herbs and boil briskly until the water is one inch above the herbs, simmering slowly at the last. Strain and set liquid aside. Add fresh water to herbs to slightly more than cover them and simmer ten minutes. Strain, combine the two liquids and reduce by slow simmer to one and one-half pints. Strain, add twelve ounces of glycerine, cool, bottle and keep in a cool place. This is used internally, one tablespoonful three or four times a day or less for children. It can be diluted with equal parts of boiling water to massage painful joints, as much as the patient can stand. He said that this treatment, over a period of time, would greatly help an arthritic sufferer (ShoA:216).

Sarsaparilla contains hormone like substances and is sometimes used in glandular balance formulas (Tie:113). The roots are now used in steroid chemistry as they yield sarsapogenin which is related to progesterone and is used in its synthesis (Rose:Herbs:104). A search for hormones from plant substances has been going on for several years. Hundreds of plants have been tested for hormones or pro-hormones. In 1939, two scientists discovered that Sarsaparilla root certainly contained hormones, while other plants often proved disappointing.

The first hormone found was the male hormone testosterone. Progesterone and cortin have also been extracted from the root. In Mexico, another scientist, noticing that Sarsaparilla was used frequently by the Indians for physical debility, weakness, and impotence, found the same results. In Mexico and South America testosterone tablets are made for impotence from Sarsaparilla roots.

The heart ailment angina pectoris also responds to the use of testosterone. The heart muscle is starved for oxygen and consequently becomes painfully cramped. A doctor at Harvard University concluded that testosterone could improve the condition. At the time of his experiments only animal extracted testosterone, very expensive, could be obtained. Now that the plant hormone is obtainable treatment is much less expensive. However, the patient must continue taking the hormone for the effect to continue (Luc:56-7).

A Dr. Papa of the University of Pennsylvania Hospital applied testosterone to bald men's heads and found that it actually grows hair. He cautions that he is not a practitioner and doesn't prescribe it but rubbing testosterone brought hair back to men who had gone bald, although in one case it took a year to happen.

Progesterone is also found in Sarsaparilla. This is the hormone normally produced by the ovaries in the female. It is necessary for the development of the secondary sexual characteristics in females and is essential for reproduction. It helps prepare the womb for pregnancy and tends to prevent miscarriage. It quiets the muscles of the womb and eases the afterpains of childbirth. Sarsaparilla can profitably be used by women especially during their child bearing years (*Ibid.*).

Sarsaparilla also contains cortin one of the hormones secreted by the adrenal glands. The body will die almost immediately if this hormone is stopped but if there is only a small or insufficient amount the body becomes easily ill and develops nervous depression and general weakness. So many maladies are related to adrenal weakness and exhaustion, including hypoglycemia, so people should take note if they are striving to rebuild their adrenals. Sarsaparilla may be able to help.

ROOT BEER

Sarsaparilla root can be used as a dye plant although it has a tendency to fade. It was formerly used in the making of root beer, so much so that the flavor has been duplicated synthetically and the root is no longer present in the beer. Harris said that his grandfather made a good homemade root beer with more or less equal parts of Sarsaparilla, burdock, dandelion roots, sassafras bark and red clover. Dr. Christopher gave a good recipe for root beer. If you are going to serve root beer to the kids, start ahead of time and give them the genuine article.

2 ounces Sarsaparilla root
2 ounces Sassafras rootbark
1 1/2 ounces wintergreen herb

1/2 ounce tansy
1 pint molasses

Simmer the herbs gently in water for about a half an hour. Strain. Add molasses. When cool, add just a pinch (about 1/4 teaspoon) of baking yeast or wine yeast. After two hours add 2 1/2 gallons of lukewarm water. It will be fizzy in five or six hours and then should be bottled in clean bottles, well capped and kept in a cool place. This is a good blood cleanser and a delightful cooling beverage as well.

HISTORICAL USES

Used for syphilis, rheumatism, high blood pressure, as a tonic, for a cough medicine, for spitting blood, suppressed urine, blood in the urine, as a blood purifier, pleurisy, for lower back and abdominal pain, for swelling, infections, boils, carbuncles, scrofula, gout, colds, fevers, catarrhal problems, as a laxative, for mercury poisoning, to strengthen the system, for psoriasis, for tooth pain, skin parasites, as an eyewash, for passive dropsy, leprosy and as a source of hormone.

CULTIVATION, COLLECTION, PREPARATION

Sarsaparilla is not often grown in the garden as it grows wild. You could transplant some wildings into your herb garden or perhaps wild herb specialists might be able to obtain plantings for you. The flowering stalk bears clusters of whitish flowers from May to June followed by round almost black berries. The root is collected in autumn. You should clean it well, cut it into pieces and dry it in a warm, shady place until it is crisp dry. Try to leave a couple of pieces of root in the ground in hopes of perpetuating your crop. You can store the herbs in a cool, dry place, well-sealed, until needed.

The herb yields its virtues by decoction. Earlier formulas made syrup of the herb including, usually, saffras, licorice root, anise, etc.

RELATED PLANTS

Indian Sarsaparilla, Hemidesmus Indica, has been long used in India as an antisyphilitic in place of Sarsaparilla. It is also useful for rheumatism, skin diseases and thrush. It has been successfully used in the cure of venereal diseases, even surpassing the use of American Sarsaparilla.

S. China is sometimes called China Root. They are used in China in place of Sarsaparilla.

Carex arenaria, sand sedge or German Sarsaparilla is also employed like Sarsaparilla.

S. medica is indigenous to Mexico and is the source of commercial Mexican Sarsaparilla.

S. syphilitica is sometimes used as a source of Sarsaparilla.

CHEMICAL COMPOSITION

Of the S. officinalis, two isomeric genins are known, smailagenin and sarsapogenin. The crystalline glycoside sarsaponin was first isolated in 1913. It also occurs in a spices of Yucca.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING SARSAPARILLA

The Red Clover Combination, which is the superb blood cleansing combination, contains Sarsaparilla.

Changease, the combination to help females through the change of life, contains Sarsaparilla.

AR-1, the arthritis formula which alleviates congestion in the joints and reduces pain and swelling, contains Sarsaparilla.

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CASSIA ANGUSTIFOLIA; LEGUMINOSAE

DESCRIPTION

Senna is a small undershrub from two to three feet high, with a straight, woody, branching, whitish stem. The leaves are pinnate, alternately placed upon the stem and have at their base two small narrow pointed stipules. The leaflets, of which four or five pairs belong to each leaf, are almost sessile, oval lanceolate, acute oblique at their base, nerved, from a half inch to one inch in length and of a yellowish-green color. The flowers are yellow and arranged in axillary spikes. The fruit is a flat, elliptical, obtuse, membranous, smooth, grayish brown, bivalvular legume, about one inch long and a half inch broad, scarcely if at all curved and divided into six or seven cells, each containing a hard, heart-shaped, ash-colored seed.

GENERAL

Dr. Christopher classified Senna among the cathartics, herbal agents which cause active peristalsis and stimulate the glandular secretions of the intestines, producing one or more semifluid bowel movements accompanied by some irritation and griping. He said that Senna is a prompt cathartic that acts on nearly the whole intestinal tract but especially the large intestine and colon, so it is especially suitable in cases where a person is habitually constipated in the lower bowel area. This is very common, especially at the sigmoid flexure, where the intestine makes an S curve and where sluggish feces often get caught and remain. The herb acts locally on the intestinal wall increasing peristaltic movements and secretions, except for bile. The leaves can cause griping or nausea but never binding or constipation afterwards, as some laxatives do. With aromatic herbs to correct griping they are excellent for nearly everyone, even children and delicate people.

TINNEVELLY

Senna is used either with the leaves or the pods. It is known in commerce as Tinnevelly Senna, which is produced in Africa, Arabia and India, although other varieties are sometimes used and produced in other localities.

One variety of Senna is native to Nubia and other sections of Africa and the other abounds in Yemen and Southern Arabia. It is said that the African Senna was brought to Egypt from Mecca. The Arabians introduced the herb into western Europe during the eleventh century but its use did not become widespread until the middle ages.

The name Senna is from the Arabic senā which is the native name for the indigenous plant. Cassia is from the Hebrew getsiah, meaning to cut off and refers to the fact that the bark of some of the species was once peeled off to be used, cinnamon bark being a member of the family. Angustifolia refers to the narrow leaves of the plant.

Senna was introduced in England in the 1600's. By keeping the plants in a hot bed all summer, they frequently flowered but rarely matured seeds.

In 1542, it was common in commerce, its price being about the same as pepper or ginger. In the Orient, Senna is a familiar cathartic everywhere, its native use antedating the historical record.

Even today it is common in commercial laxative preparations. Such familiar products as Black Draught, Dr. Caldwell's Senna Laxative, Fletcher's Castoria, Swiss Kriss and X-Prep contain the herb.

CATHARTIC

Dr. Christopher always emphasized that the bowel must be open and elimination good if a person is going to keep good health. He did not teach the constant use of laxative herbs. However, if a person suffered from constipation, especially due to congestion in the lower bowel, he often recommended Senna or a combination of herbs containing Senna. He did say, however, that it should not be used where there is an inflamed condition of the digestive tract or hemorrhoids, intestinal hemorrhage, etc.

Senna is generally considered to be a non-habit forming, safe and certain purgative. It has a local irritant effect on the intestinal wall, being absorbed from the small intestine and carried by the circulation to act on the nerves of the large intestine, thus stimulating motor propulsion (Lewis:280). Some say that the nausea produced by the herb will include vomiting with purging, although this is not necessarily the case. Taken into the stomach in a moderate dose it causes first a sensation of warmth in the stomach. The pulse becomes slightly accelerated, and a safe purgative action soon ensues, the stools being liquid and of a yellow color. Even the odor of senna leaves or the infusion is enough to cause an evacuation in certain sensitive persons. It colors the urine yellow quite soon after its ingestion.

Most herbalists indicate that Senna can produce griping pains although some say this is simply the encrusted fecal matter breaking loose and to grin and bear it. Others indicate that you can add other herbs to lessen the griping. The most common of these is ginger root, from a pinch to a half-teaspoonful in the pint infusion. Other ways to eliminate the griping are to add anise, caraway, fennel, coriander, cinnamon, cayenne, nutmeg, peppermint, etc., those herbs which reduce flatulent pain anyway.

Levy always recommends Senna pods when the laxative is needed. When a person fasts he or she should take her Senna pod preparation the evening following the day's fast. The pods are actually milder in action than the leaves and are said to cause less griping than the leaves. To every senna pod add a dessertspoonfull of cold water and soak overnight. Give the dose the following morning. Two pods are put in to soak for an infant's dose and from four to eight pods for an older child. Add powdered ginger as desired but never use hot water. An antigriping treatment, if children complain of pains after dosing with Senna, is nasturtium seed ground to a powder

combined with a half-teaspoon dose in a little cold water (Lev:Nature's:66).

Interestingly, Senna's effect is transmitted through the mother's milk and its effect is sometimes intentionally or inadvertently seen when the mother takes Senna. This should teach us generally to be careful what we ingest when we are nursing as the constituents of our intake will affect the infant. One new mother took some rice bran syrup after her birth. To her astonishment the new infant, still attached to the umbilical cord, turned a bright red from niacin flush from the syrup! The mother's intake is felt almost immediately in the infant who nurses as well.

Although its action as a purgative is prompt, Senna is remarkable for its mildness. Even if administered in large doses it is never poisonous.

Senna has other uses than as a cathartic. It is sometimes recommended for halitosis, which indeed often results from a toxic colon. If it is given after a person takes wormwood, it is certain to expel the worms. It is used to treat colic in infants, exhaustion, nitrogenous waste, sleeplessness and sneezing (Thom:197). It is also used to treat rheumatism and gout and is often recommended to control biliousness.

The Arabians used it as a local treatment for skin affections. It is also given for jaundice, obesity and faulty menstruation (Lev:Common:133).

In China, it is said that if the pods are eaten at night on an empty stomach, "articles will appear as if illuminated. The drug is therefore considered to be of special use in diseases of the eye, being used both internally and locally in their treatment" (Shi:97).

In India, *C. angustifolia* and *C. lanceolata* are used interchangeably. The pods and the dried leaves are both used as a purgative, "but heaty and apt to grip and cause nausea, but free from astringency and does not induce after-constipation" (IMM:287). Sometimes the leaves are soaked in wine to remove the costive effect but the medicinal substance is not sure to pass into the wine, so this use is not advocated. An infusion is made with a tablespoonful of brandy added to enhance its stomachic properties, and increase its keeping properties but the Indians stress that for use in children this should not be added. Externally the powdered leaves mixed with vinegar and made into a plaster are applied locally in certain skin diseases. Senna leaves combined with Henna are used as a hair dye to make the hair black (IMM:288).

In the Doctrine of Signatures, the pods are said to resemble human feces and are thus used in constipation (Har:Complete:165).

Senna is generally prepared in infusion, usually with ginger infused together with it. A children's laxative is made with equal parts of Senna, red raspberry leaves and pennyroyal herb. This is also good for tonsillitis. The Black Draught which is so familiar is made by combining 1 ounce of Senna, 1 ounce of Gentian root, and 1/4 ounce of some aromatic herb as described above. This is infused in boiling water to cover. Be sure to prepare only the amount of Senna needed for one

dose, as it does not keep well.

Senna should not be taken during pregnancy.

HISTORICAL USES

Used as a laxative, for jaundice, obesity and faulty menstruation.

CULTIVATION, COLLECTION, PREPARATION

Since Senna is an herb of some economic importance its cultivation has been of considerable interest.

Indian Senna is considered to be a superior variety. It is grown in the district of Tinnevely and is commercially known by that name. It is usually cultivated on dry land. It may be given light irrigation and grown as a semi-irrigated crop but heavy irrigation is injurious. Sowing is done either by broadcasting or by dribbling, the seed rate being about 15 lbs. per acre. The seeds have a tough coat and a certain amount of abrading of the surface is necessary to induce quick and even germination. This is done by pounding the seeds lightly with coarse sand in a mortar. The plants require bright sunshine and occasional drizzle. Continuous rain during growth spoils the quality of the leaves. The plants are usually allowed to grow for three to five months only and the first flush of flower stalks is cut off to induce lateral branching. When the leaves are fully grown and are thick and bluish in color, they are stripped off by hand. A second stripping is made about a month later and the plant is then allowed to flower and set seed. Stems and pods are separated from the leaflets by using sieves. The portion that passes through the sieves is then "tossed". The leaves work to the surface and the heavier stalk fragments sink to the bottom. This accounts for the large number of broken leaves in the Senna. It is sometimes baled before shipping.

A crop of dry land Senna yields 300 lbs. of cured leaves and 75-150 lbs. of pods. Yields from a wet land crop are 750-1,250 lbs. of cured leaf and 165 lbs. of pods.

RELATED PLANTS

There are many different varieties of Senna which are used for similar purposes, although some have particular applications.

C. fistula is also called Purging Cassia or Pudding Pipe Tree. It is used as a laxative and in liver ailments, in intestinal ulceration and against chest diseases in children. The pulp of the pods is used as an electuary for constipation. It is also used as a confection and a flavoring for coffee. It is good for delicate women and can even be used during pregnancy. Externally the pulp is applied for gout, rheumatism, snakebite, etc. The pulp of the ripe pod mixed with tamarind pulp taken at bedtime acts on the bowels mildly, causing one or two soft motions the following morning. In the flatulent colic of children it is commonly applied around the navel to produce motions. Flowers in

decoction are given in stomach affections. Externally the leaves are ground into a paste and applied to ringworm. Bark and leaves mixed and rubbed with oil are applied to pustules, ringworm, chilblains, insect bites, facial paralysis and rheumatism. The root is useful in fever, heart diseases, retained excretions, biliousness, etc. (IMM:286).

C. obovata is found wild in Egypt, Nubia, Abyssinia, Tripoli, Senegal, Arabia, India and is cultivated in Jamaica. This was the first Senna introduced into Europe. It is also used as a purgative. It is sold in India as "country Senna".

C. sophera is called Senna Sopheta. It is used as a cathartic. The juice of the leaves are made into a plaster with sandalwood or mixed with lime juice or a paste of the root. It is viewed as a specific for ringworm or the itch. It is given internally as an expectorant for coughs. The infusion or decoction of the leaves is given in asthma, hiccup, etc. Given with black pepper the root is considered a specific for snakebite. The bark in infusion or the powdered seeds with honey are given in diabetes. Ointment of the bruised seeds with honey is applied to ringworm and patches of pityriasis and psoriasis. An infusion of the fresh leaves is a useful injection in gonorrhoea in the subacute stage. Administered internally it is good against worms. Externally it is used for washing syphilitic sores. It is dropped into ears invaded by insects. An infusion of the leaves is given in rheumatic and inflammatory fevers. Mixed with sugar it is given in cases of jaundice. A decoction of the whole plant is given to reduce urine and as an expectorant in acute bronchitis (IMM:291).

C. tora, Fetis Cassia, grows in tropical countries. The leaves and the seeds are good in skin diseases. The root rubbed into a paste with lime juice is good for ringworm and the outbreakings in plague. The leaves are given in decoction for children having teething fevers. Boiled in castor oil the leaves are applied to foul ulcers and also used as a poultice to hasten suppuration. Seeds have been used as a substitute for coffee and tea (IMM:292).

C. marilandica, American Senna or Wild Senna or Locust Plant, is the American variety of Senna. It is an effective, mild and less expensive substitute for Senna. It is easy to grow in the garden and very beautiful. It is propagated best at first by seedling but then it self sows and propagates itself.

The southern Negroes applied the leaves of this plant, smeared with grease, as a dressing for sores. The bruised root moistened with water was used by the Cherokees for the same purpose. They also drank a decoction of it for fever and for some diseases typified by black spots on the body and partial paralysis. The Meskwaki Indians soaked the seeds in water until they became mucilaginous and then ate them for sore throat. Houma Indians boiled the roots with wild beans to make a tea for typhoid fever. The plant was universally used as a laxative and was official as such from 1820-2 (Vog:352-3).

This plant was made into herbal preparations by the Shakers who became well known for their herb work.

Colutea arborescens, or Bladder Senna is the wild Senna of Europe and may be employed as Senna. The action is much milder than the true Senna.

There are other varieties and there are plants which are used to adulterate Senna but these are the most important varieties.

CHEMICAL COMPOSITIONS

The principal active constituents of senna are dimeric glycosides whose aglycones are comprised of aloe-emodin and/or A and B, a pair of optical isomers whose aglycones are rhein dianthrone. Sennocides C and D are minor constituents having dimeric aglycones comprised of one molecule of rhein and one molecule of aloe-emodin. Small quantities of monomeric glycosides and free anthroquinones are also present. Senna pods also contain useful, active glycosides. Some of the primary glycosides in the pods have as many as ten sugar molecules attached to a rhein dianthrone nucleus (Tyler:66).

Sennocides A and B are the active constituents which cause the laxative effect in the herb. These are quite effective without the addition of stool softeners. The best combination is the pods with the leaves (Weiner:174).

The active ingredients in Senna are in no way harmful. However, some warn that the use of the tea can result in diarrhea, dehydration and related complications. They say that commercial preparations are safer and more reliable (Tyler:499). If you use the herb wisely, however, we see no problem in employing Senna as a laxative if one is needed.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING SENNA

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Gri
SNH
Weiner
Klo
Tyler
Lewis
Lev:Common
Lev:Nature's
Shi
Tie

Mal
Lust
Vog
Thom
Mills
IMM
Har:Complete

 **SHEPHERD'S PURSE**

CAPSELLA BURSA-PASTORIS;CRUCIFERAE

DESCRIPTION

The plant is green, but somewhat rough with hairs. The main leaves, two to six inches long, are very variable in form, either irregularly pinnatifid or entire and toothed. When not in flower, it may be distinguished by its radiating leaves of which the outer lie close to the earth.

The slender stem, which rises from the crown of the root, from the center of the rosette of radical leaves, is usually sparingly branched. It is smooth, except at the lower part and bears a few, small, oblong leaves, arrow-shaped at the base and above them, numerous small, white inconspicuous flowers which are self-fertilized and followed by wedge-shaped fruit pods, divided by narrow partitions into two cells, which contain numerous oblong yellow seeds. When ripe, the pod separates into two boat shaped valves. The odor of the plant is peculiar and rather unpleasant, though more cress like than pungent. It has an aromatic and biting taste but is less acrid than most of the Cruciferae family (Gri:738).

Once you identify this little plant, you will be able to find it anywhere whether it is growing on poor soil and only attains the height of a couple of inches or whether it grows in good soil and flourishes to two or more feet in height.

GENERAL

Shepherd's purse is one of the most familiar weeds in the world. It is so insignificant in appearance that many people even overlook its presence, yet Grieve considered it one of the most important medicinal plants of its family. Possibly its most familiar use in present day herbal practice is taking it after childbirth to prevent hemorrhaging and indeed the most common historical claims for the plant are as a styptic.

The plant receives its common name from the shape of its seed pods which resemble an old fashioned leather purse which used to be carried by shepherds. It has many other similar names: shepherd's bag, shepherd's scrip, shepherd's sprout. It was also called lady's purse, witches' pouches, pick-pocket and pick-purse. Another name is pepper-and-salt referring to its peppery taste which has made it useful, in times of scarcity, as a seasoning for food. It is similarly used like pepper grass which is dried and ground, to be sprinkled over food like pepper. It's also called rattle pouches, case weed, blindweed, poor-man's parmacettie and sanguinary, referring to its blood stanching capability. In Ireland it is called clappedepouch, a name given in allusion to the begging of lepers who used to stand at crossroads with a bell or clapper, receiving their alms at the end of a long pole.

This plant is considered to be of European origin, although some claim that it came to Europe from Asia. It is found all over the world although early settlers said that it was not found in the New World before the Pilgrims settled here. Like Plantain and other well established American herbs, it followed European settlers wherever they travelled, eventually becoming one of the most common weeds in the country.

In England from earliest times it was used as an astringent in diarrhea, especially employed in veterinary use to check purgings in calves. Later its effectiveness came to be doubted, so much so that it has hardly been tested in modern times and modern writers rather discredit its use.

However, it's hard to gainsay the accumulation of historical evidence which is remarkably consistent. In Gerard's 1597 herbal the plant is said to "stay bleeding in any part of the body, whether the juice or the decoction thereof be drunk, or whether it be used poultice-wise, or in bath or any other way else". Culpepper said too that it would help any bleeding whether caused by inward or outward wounds. It would help with spitting or voiding blood in saliva or urine. It would even, he claimed, stop the periods of women. He also said that you could bind the herb to the wrists or soles of the feet to cure jaundice and drop the juice in the ears to "heal the pains, noise and matterings thereof". A good ointment could be made of it for any wounds whatsoever (Cul:171).

The French gypsies would bathe wounds with a strong brew of the whole herb and then plug it with clean cobwebs, according to herbalist Levy, who claims she cannot define a clean cobweb but can report success with the technique! (Lev:Common:134).

In China the seed pods are eaten as food by many of the poor people, even to the point of being cultivated. The Chinese characters represent the meaning "protecting life plant" because it is said to drive away mosquitos and other nocturnal insects. The root and leaves are used medicinally, acting upon the liver and stomach. The ashes of the leaves are used in bleeding and in the treatment of sore eyes. The fruits, or seed pods, are said to act the same way even to "clearing the vision" if used over a long period of time. The flowers are said to destroy certain parasitic worms and to control dysentery (Shi:92).

SUPER STYPTIC

Far and away the most claimed use of the plant is to stop bleeding. During World War I, when other anti-bleeding plants could not be obtained, a decoction of the Shepherd's Purse was effectively used to stanch the bleeding of wounds. It has specifically recommended for mild intestinal hemorrhage or gastric hemorrhage resulting from ulcers (Ell:354). It has been used to check profuse menstruation especially when the flow is colorless and too long or too frequent (Folk:274). It is good for bleeding piles and for any form of internal bleeding, such as from the lungs, colon, kidneys and bladder (San:177). As mentioned above it is excellent to check excessive bleeding after childbirth, many women preferring a tincture of the herb taken frequently, internally, until the bleeding diminishes.

The herb has been administered for blood in the urine which can be caused by a lesion of the urinary tract, contamination during menstruation, the expulsion of lochia after childbirth, prostate disease, tumors, poisoning and toxemia (Weiner:175). The herb has also been useful where uric acid or insoluble phosphates or carbonates produce irritation of the urinary tract (Ell:354).

Aside from its application in bleeding the herb has a rather wide variety of uses. It is a first rate remedy in catarrhal conditions of the bladder and ureters and also in ulcerated conditions of the bladder including abscess. It is especially indicated when there is white mucus matter voided with the urine (Gri:739). It will often work as a diuretic when the urine flow is for some reason limited. When the urethra is irritated and scalding urine results it can quickly relieve the problem. "Indeed the whole pelvic viscera is charged with new vigour, either directly or indirectly" (Luc:Common:180). Mixed with agrimony, lady's slipper, corn silk, oak bark and licorice root it is said to stop bedwetting. It can be mixed with yarrow and agrimony for the same purpose (*Ibid*: 180).

The herb has often been used to remedy indigestion possibly because of its tonic hotness. It has indeed been used as a general tonic thus attesting to the importance of including it as a culinary herb.

Extracts of the plant have been laboratory proven to prevent duodenal ulcer formation induced by stress in rats, and to show definite anti-inflammatory activity under a variety of test conditions in animals. Extracts have also shown "significant anti-tumor activity against several experimental tumor systems in laboratory animals", although the extracts do not inhibit the growth of bacteria as other herbs do, such as garlic and cayenne (Weiner: 175).

The herb has been used to treat non-malignant tumors in women, as well as an external rub for rheumatic joints (Ell: 354).

Shepherd's purse acts to constrict the blood vessels and thus can raise blood pressure but it has also been said to regularize blood pressure and heart action whether the pressure is too high or

too low (Lust:355).

It is sometimes used as an antiscorbutic although some laboratory analyses have revealed rather low quantities of Vitamin C. It may be, however, that through transformation in the digestive tract the combinations of materials in the plant might help prevent scurvy.

It is said to contain significant amounts of Vitamin K which can help promote blood clotting which is an interesting possibility considering its widespread styptic use.

It is sometimes used to promote uterine contractions during labor and can promote bowel movements in the same way (Lust:355).

It is good to give in fevers and in dropsy. The fresh juice on cotton (and we can assume the tincture as well) has been used to stop nosebleed.

POT HERB

Although some disdain the peppery flavor of Shepherd's Purse, it is an excellent source of nutrition for man and animals. The plant has been used as a substitute for spinach and is very good when blanched. It has a good flavor of cabbage which makes it a nice addition to fresh salads (Moulton:296).

The plants and seeds are well liked by small birds and some could collect it to supply bird feeding stations. It is a healthful addition to the wild birdseed diet. Poultry seek it eagerly, and people who must raise chickens in confinement would do well to pull handfuls of this herb, as well as of wild lettuce, comfrey, plantain, purslane and other succulent wild greens, to give to their poultry in cages. You will be amazed at how eagerly the chickens devour this wild food and how the quality of their eggs vastly improves with this simple addition to their diet. To let your chickens run free and find the greens themselves is of course a better alternative.

When cows overfeed on the herb, however, it is said that their milk takes on an unpleasant flavor.

HISTORICAL USES

Used for hemorrhaging, as a styptic, as a seasoning, for diarrhea, food, for your liver, stomach, sore eyes, dysentery, piles, used after childbirth to control bleeding, as a diuretic, for bedwetting, indigestion, ulcers, tumors, blood pressure, scurvy and to promote uterine contractions in childbirth.

CHEMICAL COMPOSITION

Extensive laboratory work has evidently not been done on this plant. It contains a volatile oil and various other constituents, including an alkaloid known as bursine.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING SHEPHERD'S PURSE

None of the combinations contain Shepherd's Purse, although it is sold in tincture form.

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Hut
Mills
Luc:Common
Ell
Weiner
Bar
Lev:Common
Cul
Coon
Moulton
Herbalist Almanac
Har:Eat
Felk
Coon:Using
Lev:Herbal
Klo
Shi
Buch
Meyer
San
Lust
Rose



SCUTELLARIA LATERIFLORA; LABIATAE

DESCRIPTION

This indigenous plant is a perennial, with a stem erect, much branched, quadrangular, smooth and one or two feet high. The leaves are ovate, acute, dentate, subcordate upon the stem opposite

and supported upon long petioles. The flowers are small, pale blue, and disposed in long, lateral, one-sided, leafy racemes. The plant grows in wet shaded places in the United States and Canada.

The dried tops are about 50 centimeters long, smooth; the stem quadrangular, branched; leaves opposite, petiolate, about five centimeters in length, ovate-lanceolate or ovate-oblong, serrate; flowers about six millimeters in length, in axillary one-sided racemes, with a pale blue corolla and bilabiate calyx, closed in fruit, the upper lip helmet-shaped. The odor is slight and the taste slightly bitter (Weiner:172).

GENERAL

Dr. Christopher said that Skullcap is one of nature's best nervine agents. It is included in his Relax-Eze Tea as the specific ingredient to rebuild the motor nerves. It is extremely effective yet so mild that it can be given to a little child. He said that it is as stimulating to the nerves as quinine but lacks the harmful side and after effects. It is especially calming where nervousness results from worry, conflict, disturbances of digestion and circulation, etc.

In reference to the herb's action upon the spinal cord, at the base of the Skull, the medulla oblongata houses the motor nerve. Skullcap is wonderful in any disorder of the spinal cord or the motor nerve. When this nerve is congested messages cannot reach the rest of the body. Skullcap can correct this, Dr. Christopher taught. Because the herpes virus is seated in the spinal cord, the herb is being used in cold sore remedies formulated by Dr. Christopher's graduate students.

MAD-DOG SKULLCAP

This species is the American Scutellaria, also called Virginian Skullcap. It is related to the English species, having similar medicinal properties.

Dr. Vandesveer in 1772 is reputed to have first introduced this plant into the medical world. He claimed that it was curative and prophylactic in canine rabies, reporting 1400 cases. Millspaugh drily comments that this is rather a lot of cases to come to one physician (Mills:470), but also mentions that his son after him claimed to have cured forty cases more in three years. From this use comes one of its common names, Mad-Dog Skullcap. The antihidrotic properties seemed to be actually slight and so many people railed against this use, even many who never tried it themselves. It fell into disrepute when it was adopted by quacks who promoted it by advertising. A Dr. White, however, assured Rafinesque that the plant preserved him from rabies after he was bitten by a dog from whose bite others died. Rafinesque stated his full belief in the prophylactic powers of the plant, adding in his classic work that laymen and physicians claim that the plant never fails to ward off or cure the disease. Veterinary surgeons added their support to this use of the herb. Since it is a member of the Mint family, others of which have been claimed to be antihidrotic, they "should at least be considered under these circumstances", that is, having been used by the aborigines of various countries for specific uses", as native medication is always the result of long and more or less successful experiment" (Ibid.).

As late as 1844, a Dr. H.B. Skinner was calling this herb "a sovereign remedy for the hydrophobia or canine madness" (Vog:353). However, his colleague, a Dr. Clapp, reported that few if any physicians had any confidence in its prophylactic powers, although he felt that from its bitterness it might be found useful as a tonic.

The Cherokee Indians combined Skullcap with three other herbs to promote menstruation. It was drunk for diarrhea and with other herbs in a decoction for breast pains and in purification following violation of certain menstrual taboos. One variety was used by the Flambeau Ojibwas as a heart medicine. Another variety was used by the Keskwakis for flux (Ibid.).

The generic name is from the Latin *scutella*, a little dish. The name is given because of the form of the calyx, which is bell-shaped, lipped and peculiarly shaped. Common names include blue scullcap, pimpernel, helmet flower, mad-dog scullcap, mad dogweed, madweed, mad dog, hood wort, hooded willow herb, side-flowering scullcap, Quaker's bonnet, American scullcap, blue pimpernel, Pimpernelle (in German), marajes (in Spanish) and toque (in French).

ONE OF THE BEST NERVINES

"This herb, because of its action thorough the cerebrospinal centers, is a most valuable remedy, controlling nervous irritation, calming hysterical excitement...In restlessness and excitement with insomnia, following prolonged application to business, long sickness or physical exhaustion, it is most useful" (Luc:Herbal:25).

It is especially useful in cases of restlessness. It gently helps quiet people who are easily excited, such as children who are highly excitable and adults with a natural tendency toward hysteria. For people who often explode because of nervous exhaustion or stress, Skullcap provides a soothing and quieting relief as it builds the nerves and helps the brain send messages to the rest of the body more efficiently. It is called a food for the nerves, strengthening and supporting them as it gives immediate relief of all chronic and acute diseases stemming from nervous affections and debility (Tie:115). It is high in calcium, potassium and magnesium, which may account for its remarkable effect on the nervous system.

The herb is especially used often combined with others for insomnia. It brings a natural and restful sleep where other herbs may fail. Dr. Christopher often told the story of the high school teacher who couldn't sleep more than twenty or thirty minutes at a time. The family was ready to commit her to an asylum and she was nearly ready to go. Her students couldn't put up with her explosions either. The husband called Dr. Christopher for help and he prepared his Relax-Eze Tea for her, which contains Skullcap in combination with other nervine herbs. She began to feel drowsy and went to bed. Dr. Christopher didn't wait at the home, but left. The next morning the man called Dr. Christopher, sure that he had doped his wife with narcotics, as she had slept the whole night through. The Doctor assured him that he had only given her herbs, mild enough to give a little baby. The Skullcap and other herbs works remarkably on a distraught system.

Lucas reports the case of a gentleman who was otherwise in good health but was continually suffering nervous debility and insomnia. Treatment by other doctors had not helped him at all. He was encouraged to try natural medicine and was given a combination of an ounce of Skullcap, an ounce of hops, and a half ounce of gentian root. He took this as an infusion and within a week he was sleeping well. At the end of two months he was fully recovered. Lucas mentions that Skullcap, catnip and peppermint work the same way for many people (Luc:Herbal:25). It is said to give natural sleep to morphine addicts, especially when combined with catnip, lime blossom and hops (Lev:Common:134).

It is sometimes used to help addicts of various substances overcome their withdrawal symptoms. It is used in cases of delirium tremens to quiet the person and induce sleep.

It has been used in weaning people from barbiturate addiction as well as in lessening withdrawals from Valium and meprobamate abuse, avoiding some of the latter state convulsions and frenzies. In combination with white ginseng it is effective in treating delirium tremens of alcoholism. For chronic nervous or stress problems it is almost essential to completely stop using sugar (Moore:147).

In addition to its nerve building properties Skullcap is also an antispasmodic. It stops the shaking of St. Vitus' dance, palsy, convulsions, fits and even epilepsy, which is often a result of nervous exhaustion. It will help a person who has chronic twitching of the muscles or eye blinking. In cases of trembling due to shock it will quiet the nervous system and relieve the symptoms. In cases of convulsions, hysteria or epilepsy, it is wise to administer the nervine and other herbal aids as an injection or small herbal enema. We have seen babies who were screaming from being overtired or teething settle down almost immediately with nervine tea thus administered.

It can treat the motor symptoms of Sydenham's Chorea and will sometimes allay some of the pain in the earlier stages of multiple sclerosis.

Moore suggests that a physician might try supplanting diphenylhydantoin (Dilantin) with a fresh tincture or tea of Skullcap in cases of idiopathic epilepsy without demonstrable lesions, particularly when therapy has been based on a single childhood seizure or there have been obvious improvements in EEG readings. This would not help much, he said, if previous therapy has combined Dilantin and barbiturates (Moore:147).

As we mentioned above, the herb has been used frequently in the past to treat the bites of mad dogs. Almost every herbal mentions this use, although many discount it. We are inclined to trust the reports of empirical application from native peoples and others have who have used the herb successfully. It can be taken by the teacupful of infusion, sweetened, every hour until the symptoms subside. It is also used for poisonous insect and snake bites.

It is often taken to relieve fevers and colds especially when such ailments result in irritability and

wakefulness. It is given to lessen undue sexual desire. Combined with golden seal and cayenne, it is excellent for heart weakness. Herbalists recommend it to relieve hypertension and neuralgia. People often take it to reduce aches and pains resulting from sickness or overwork.

The Thomsonians used it to treat delirium tremens, St. Vitus' dance, convulsions, tremors, lockjaw and the pain from teething in babies.

The Doctrine of Signatures suggests that the shape of the flower is a "little cap for the head", helping to cure headaches and "noises and ailments of the skull" (Har:Complete:163).

Dr. Christopher quoted Deschauer on the nerves. "The nerves are like a network of electrical wires in a city. Here electricity or power is carried to every home and factory to supply light and to run machinery, street cars, etc. Small wires are used where little power is in demand, while heavy loads are carried over cables. The proper wire is important. If a wire is too light or too fragile for the current, it might give way and we would have a breakdown in the electrical system". Skullcap will strengthen our "wires" and help them to carry the load they are assigned. However, it works slowly over a period of time, so do not expect lasting results immediately.

HISTORICAL USES

Used to rebuild motor nerves, for spinal cord disorders, herpes, canine rabies, heart medicine, flux, nervous irritation, restlessness, insomnia, epilepsy, fits and convulsions, for St. Vitus' dance, pain of multiple sclerosis, to treat symptoms of Sydenham's Chorea, for fevers and colds, to lessen sexual desire, for hypertension, neuralgia, aches and pains.

CULTIVATION, COLLECTION, PREPARATION

This perennial is well worth cultivating in the herb garden. Dr. Christopher taught that it is fine to take capsules or tablets of herbs but that the ideal way is to cultivate the herbs in your own garden or to gather them from the wild, and dry and preserve them yourself. Skullcap is a member of the mint family although it does not share the mints aggravating habit of taking over the plot. It is a little fussy, however, preferring damp and shady areas. It is sometimes found growing in masses along rivers or by ponds and streams but it is not a prolific and common herb.

The whole herb, excluding the roots, is gathered as needed. As in flowering herbs, it should be gathered just before the blooms burst open in summertime. Dry it in a warm, airy place and store carefully in airtight containers.

It is prepared in infusion, although it may be made into tinctures or extracts.

RELATED PLANTS

S. galericulata is the common British species. It is also called Helmet Flower and Hood wort. It is

used similarly to S. Lateriflora.

S. minor, the lesser Skullcap, is smaller than the other species but it is used similarly.

S. integrifolia is occasionally employed in place of the usual Skullcap.

S. pilosa is a hairy version of the plant and it too contains similar medicinal properties.

Brunella or Prunella vulgaris, also called Heal-all or Self-heal, is a perennial which is used similarly to Skullcap.

CHEMICAL COMPOSITION

The chief active principle in Skullcap is scutellarin, a crystalline, bitter principle or glucoside, occurring in flat, yellow needles, soluble in alcohol or ether. The high percentage of ash is principally composed of phosphates of calcium, potassium and magnesium, together with sulfates of the same metals.

The chemicals in this herb are harmless and may be taken in large quantities without ill effect. If taken in high concentrations, however, it could produce wakefulness such as is produced by coffee or tea, so be sure to take it in the infusion and with prudence. Many people think that if a certain amount is good then more must be better. Consistency is more important than large amounts taken at one time.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING SKULLCAP

Relax-Eze Tea contains Skullcap. A young boy with epilepsy was taken to Dr. Christopher, as his well-to-do parents had exhausted the medical profession's ability to treat the boy. With this formula he was made better and able to join his age mates in school without difficulty.

B F & C, the bone, flesh and cartilage combination, contains Skullcap

B & B tincture contains Skullcap.

Antsp, the antispasmodic tincture features Skullcap.

Ant-Plg, the anti-plague formula contains Skullcap.

CSR contains Skullcap.

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SKUNK CABBAGE

SYMPLOCARPUS FOETIDUS; ARACEAE

DESCRIPTION

The Skunk Cabbage is a very curious plant, the only one of the genus to which it belongs. The root is perennial, large, abrupt and furnished with numerous fleshy fibers which penetrate to the depth of two feet or more. The spathe, which appears before the leaves, is ovate, acuminate, obliquely depressed at the apex, auriculated at the base, folded inward at the edges and of a brownish-purple color, varied with spots of red, yellow and green. Within the spathe, the flowers, which resemble it in color, are placed in great numbers upon a globose, peduncled spadix, for which they form a compact covering. After the spathe has decayed, the spadix continues to grow, and when the fruit is mature, has attained a size exceeding by several folds its original dimensions. The different parts of the flower, with the exception of the anthers, augment in like proportion. At the base of each style is a roundish seed, immersed in the spadix, about the size of a pea, and speckled with purple and yellow. The leaves, which rise from the ground after the flowers, are numerous and crowded, oblong, cordate, acute, smooth, strongly veined, and attached to the root by long petioles, which are hollowed in front, and furnished with colored sheathing stipules. At the beginning of May, when the leaves are fully developed, they are very large, being from 1 to 2

feet in length, and from nine inches to one foot in breadth.

This plant is indigenous, growing abundantly in meadows, swamps and other wet places throughout the whole northern and middle sections of this country. The flowers appear in March and April and in the lower latitudes often as early as February. The fruit is usually quite ripe and the leaves decayed by August. The plant is very conspicuous from its abundance and from the magnitude of its leaves. All parts of it have a disagreeable fetid odor, thought to resemble that of the offensive animal for which it is named. This odor resides in an extremely volatile principle, which is rapidly dissipated by heat and diminished by desiccation. The root is the part usually employed in medicine. It should be collected in autumn, or early in spring and dried with care.

The acrimony, however, is dissipated by heat, and is entirely lost in decoction. It is also diminished by time and exposure and the root should not be kept for use longer than a single season (Mills:176).

GENERAL

Dr. Christopher used Skunk cabbage in the antispasmodic tincture, which has been successfully employed in many cases of spasmodic affections. In one particular case, at a herb seminar, a young man was having convulsions. Some of the participants at the seminar were convinced of practicing energy therapy, working with auras, etc. They worked on this young man for over a half hour but he didn't seem to improve, he got worse if anything. Finally, Dr. Christopher gave him a couple of eyedroppersful of antispasmodic tincture and the spasms disappeared immediately. This also works with coughing fits and other spasmodic troubles.

POLECAT ROOT

Skunk cabbage is our only indigenous species of the genus, and is regarded by some as one too many on account of its very offensive and penetrating odor (Mills:680). This plant is most noted for its odor, which is described as being part skunk and part onion. This has given rise to such names as skunk weed, polecat weed, meadow cabbage, fetid hellebore and devil's tobacco. It grows in abundance in moist places of the northern and middle United States.

Native peoples of that area have used the plant medicinally. Winnebago and Dakota Indians used it as an expectorant in asthma. Kwakiutl Indians used the roots or leaves for a poultice on sores and swellings and to draw out splinters and thorns. Menominee Indians also made a poultice for wounds from the powdered root. It was used by that tribe as a remedy for cramps and a seasoner with other medicines. The root hairs alone were used to stop hemorrhage. The Meskwakis used the root hairs or fine rootlets for toothache and the leaf bases for swellings. The Micmac Indians treated headache by tying skunk cabbage in a bundle and smelling it (Vog:354).

This plant was sketched and described by Josselyn but no medicinal powers were attributed to it. Peter Kalm reported that the English called it polecat-root and said that he found the smell so

nauseating that it gave him a headache. Dr. Colden informed Kalm that the root could be used in any case where the root of arum was used, especially against scurvy. Carver wrote that the colonists cured the itch with a lotion made from the roots. Cutler said that Indians taught the white man the uses of this plant. The dried and powdered roots were excellent for asthma, often giving relief when nothing else would help. Dr. Clapp described its properties as antispasmodic, narcotic and emetic in large doses. He reported that it had been used with much success in asthma, colds in aged persons and hysteria. Beach reported its use for obstructed menstruation, worms and rheumatism (*Ibid.*).

The plant was official in the United States Pharmacopeia from 1820 to 1882, listed as an emetic, diuretic, stimulant and narcotic but it is most noted for its antispasmodic properties and is a common ingredient in most herbalists' antispasmodic tincture. Although it is not recognized by the official medical establishment today, it has long been a part of the Eclectic School of healing.

Skunk cabbage is noted for its early spring appearance. Often before the snow has melted, the pointed tips of the Skunk cabbage can be seen protruding from the icy muck, like tightly sealed, fleshy tepees. In order to make this early appearance, these spikes first form late in the summer before, and remain dormant over most of the winter. Sometime in February or March, these little tepees begin to churn with growth activity. This internal activity is furious and generates amazing amounts of heat. It has been recorded that the temperature inside these tips can be 27 degrees F. warmer than the winter air around them. This allows the Skunk cabbage to withstand the winter freezes. As spring approaches, the tepee, which is really called a spathe, swells and its color brightens to a yellow or spotted maroon. Its small, slit-like door opens wide enough to reveal a knobby spadix which is covered by the bright yellow anthers of the blossoms. These form into seeds that are embedded in the spadix (*Ibid.*). The pollen, when mature, falls from the anthers in such large quantities that the cup like base of the spathe is covered to a depth of a line or more. Wallowing about in this fertilizing element may be found numerous carrion beetles attracted by the odor of the plant which undoubtedly misleads them in their search for food. In this way, through their wanderings to and fro, fertilization is produced by their apparently aimless crawling about over the spadix and the base of the spathe. They are prevented from spending valuable time upon the inner walls of the spathe by its varnished smoothness and perplexing curves, which keep them up to their work. Those that visit the interior of a spathe before the pollen is discharged are compelled to remain until the anthers are ripe, for it is not until then that the trap like formation opens sufficiently at the base to permit an easy exit. Much pollen is lost by being devoured by the numerous slugs that crawl into the spathe (Mills:680).

Long after the great summer leaves have died, the spherical spadix can often be found lying in the ooze like a child's long forgotten ball. The tubular cluster of leaves that follow the spadix blossom, if caught early in the year, can be eaten when boiled in several waters. Some wild food collectors consider them tasty but they do have an unpleasant bite because of the calcium oxalate acid crystals they contain. This taste can be somewhat dissipated by exposing them to air and dryness for a long period of time (Elt:110). It might not be an excellent item of diet for everyday but in a survival situation it could be good to know Skunk cabbage.

ANTISPASMODIC

Despite its fetid odor the plant is excellent medicine, the root being the part used. Its most famous use is as a nerve medicine relieving irritation in the nervous system. It has a tendency to promote normal functional activity of the nervous structures (Felk:664). It is said to calm spasms and convulsions and to help relieve hysteria and epilepsy. It is good to take to calm frayed nerves during pregnancy. And it helps with spasmodic contractions during labor and eases the strength of false labor.

Because of its antispasmodic properties it is well known in many cough problems. Foremost in this use is its application in asthma. It can help control the coughing and sneezing in hayfever. Many claim that it is useful in cases of tuberculosis. For people who have chronic dry coughing spells, skunk cabbage can offer relief. It will also clear up a chronic cold, with a cough which will not leave because of mucus accumulations and bronchial problems of all kinds.

It is said to be antirheumatic. The antispasmodic tincture is often applied externally for swellings and rheumatism. An ointment made of the rootstock is also thus used, as well as being applied for ringworm, sores and painful swellings in general.

Skunk cabbage has also been used for pulmonary problems, for dropsy, for the relief of toothache, for breathing difficulty, for mucus congestion and for fever. It is often applied externally for any kind of pain. It is said to relieve the pain quickly.

In the Doctrine of Signatures it is said that the cabbage head, when cut transversely, appears to represent the human thorax. It is therefore a very active expectorant (Har:Complete:168).

WILD CABBAGE

Harris doesn't like the name Skunk Cabbage, he prefers Wild Cabbage. He says, properly prepared the herb is really good food. "Have you ever eaten Wild or Skunk Cabbage? In spite of your smiles and doubts, young Skunk Cabbage leaves are not as malodorous as they may sound. Prepared in a waterless or steam cooker and seasoned with caraway seeds, this vegetable proves to be as edible and nutritious as garden Cabbage". This Harris spoke over his radio program, and he was flooded by phone calls and letters against what he said. Although people have reported supposed Skunk cabbage poisonings, when they are investigated it turns out they ate not Skunk cabbage but Hellebore, which is indeed poisonous. Although the bright-green color is the same, swamp hellebore, Veratrum viride, is distinguished by grossly ribbed leaves and the absence of the spathe (Coon:193). Be sure that you gather only Skunk Cabbage if you are intent on eating it. Many claim that various plant populations have different flavors and that you might have to experiment before finding wild cabbage to your liking. Be sure to boil it in several waters. If you do not do this parboiling the Skunk cabbage may contain enough of the oxalic acid crystals to make you sick (spinach, cranberries, etc., also contain oxalic acid, so it is not a terrible poison).

Be sure to eat some dairy product with your meal of the leaves, especially yogurt or clabbered milk as these neutralize the oxalic acid. The leaves are quite nutritious, containing organic fat, starch, oils and easily assimilated salts of calcium, silica, iron and manganese (Har: Eat: 217). The powdered root thoroughly dried can be used as flour. The complete drying removes the astringent and bitter taste of the herb.

HISTORICAL USES

Used as an anti-spasmodic, as an expectorant in asthma, for sores, swelling, to draw out splinters and thorns, for toothaches, headache, scurvy, "the itch", colds, hysteria, emetic, obstructed menstruation, worms, rheumatism, as a diuretic, stimulant, narcotic, to relieve irritation in nervous system, for hysteria, epilepsy, to calm nerves during pregnancy, for labor contraction, false labor, coughs, hayfever, sneezes and for swelling.

CULTIVATION, COLLECTION, PREPARATION

Skunk cabbage grows in marshes or muck places. It is prolific where it grows. If you can obtain seeds and have the right location and climate, which must be moist, you can probably grow the plant with little difficulty. Most Skunk cabbage that is sold is gathered wild. If you gather the root, dry it crisp dry, until it no longer feels cool to the touch. The stored herb doesn't last too long so it is better to renew your store of the herb every year.

It can be used in decoction or prepared in an extract. By far the most common use of the plant is in the antispasmodic tincture. This is made by macerating scullcap, lobelia, cayenne, valerian root, Skunk cabbage, gum myrrh and black cohosh in alcohol or vinegar for two weeks, shaking several times a day. Strain and bottle. Another recipe is skunk cabbage, black cohosh, lobelia seed and gum myrrh and cayenne. This tincture is excellent for any kind of cramp or spasm or pain.

CHEMICAL COMPOSITIONS

The root has been analyzed, but the principles not thoroughly investigated.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING SKUNK CABBAGE

Antsp, the antispasmodic tincture contains Skunk cabbage.

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 **SLIPPERY ELM**

ULMUS FULVA; URTICACEAE

DESCRIPTION

This native forest tree is found from Quebec to North Dakota, south to Florida and Texas. It is a lofty tree, fifty or sixty feet in height, with a trunk fifteen or twenty inches in diameter. The bark of the trunk is brown, that of the branches rough and whitish. The leaves are petiolate, oblong-ovate, acuminate, nearly pubescent and very rough on both sides. The buds, a fortnight before their development are covered with a dense russet down. The flowers, which are apetalous, appear before their leaves, are sessile and in clusters at the extremities of the young shoots. The clusters of flowers are surrounded by scales which are downy like the buds. The calyx is also downy. The stamens are five, short and of a pale rose color. The fruit is a membranaceous capsule or samara, enclosing in the middle one round seed, destitute of fringe.

The tree is indigenous, most abundant west of the Allegheny Mountains. It flourishes in open, elevated situations and requires a firm dry soil. From the White Elm it is distinguished by its rough branches, its larger, thicker and rougher leaves, its downy buds and the character of its flower and seeds. Its period of flowering is in April (Weiner: 176-7).

The bark met with in commerce is in flat pieces, consisting of the fiber only, the corky layer being removed before drying and usually several feet long and four or six inches broad. It is about one-eighth inch thick, is externally of a very light cinnamon color or pale brownish-white, smooth, occasionally with small fragments of the corky layer adhering and upon the inner surface grayish-white, finely ridged longitudinally and usually more or less woolly from some detached

bast-fibers. The bark breaks or rather tears readily in a longitudinal direction, the fragments adhering together with the wavy bast-fibers. It breaks with some difficulty in a transverse direction with a fibrous and mealy fracture and when cut transversely the bast fibers are seen arranged in tangential rows, imbedded in a loose parenchyma and dissected by numerous fine medullary rays, giving to the transverse section a delicately checkered appearance. The bark has a slight but distinct odor, resembling that of fenugreek and a mucilaginous, insipid taste. It is also met with as a coarse and somewhat fine and uniform powder, both having a light, fawn color.

GENERAL

When Dr. Christopher was practicing in Salt Lake City, he received a telephone call from the next town over in Idaho come for a house call. It came from an extremely wealthy man, a rancher. When Dr. Christopher arrived at the house, right in the middle of the living room was a hospital bed and in the bed was a little eight-year-old boy, who said, "Hi, Doc!" He said that he felt fine but he had been in the hospital for months each year because he could not assimilate food. He had come to a point now where he had bed sores all down his spine and his right hip joint was sticking out of his flesh. He was in constant pain but he said he just felt fine. It made Dr. Christopher feel ashamed of complaining of any aches and pains he had in the face of that kind of courage. He had asked the people to have boiling water reading for him and he mixed up a cup of Slippery Elm gruel. The child was pretty hungry. He couldn't even hold water down so he was just a little skeleton. Dr. Christopher sat there and fed him a half teaspoon of the Slippery Elm bark tea and he swallowed it down, he didn't throw it up. He smacked his little lips and said, "That's good". The doctor started giving him more but he could only give him a half teaspoon every few minutes because he was so dehydrated and was malnourished. He told the father how to make the gruel and to give it to the boy as food the next few days.

The doctor rolled over the child to examine the spine and saw the bones sticking right out of the hip. He took the Slippery Elm and made it into a heavy paste to put over the spine, all the way down, wherever there were bedsores. When they came to the hip where the hole was he just took the Slippery Elm bark paste and filled up the hole, just made it as close to the size of his buttocks as they could. Then he put wet hot towels over the Slippery Elm down the spine and over the hip to keep it moist.

This child had been sent home from the hospital to die but with the Slippery Elm treatment within weeks he was back to normal weight and his flesh was restored. He looked like a perfect specimen of health but he lacked energy. Nothing the doctor gave him would give the child strength. Someone suggested that their herbal treatments might be in contradiction to the Lord's will concerning this boy. The parents, with the boys permission, decided to administer to him and dedicate him to the Lord. This was done and as soon as the Amen was said the little boy looked up and smiled. He then said, "Goodbye, Daddy; goodbye, Doc," and he was gone, with a smile on his face.

Anyone, from small infants to adults who rejects food or liquid and cannot hold it down can use

Slippery Elm tea, gruel or porridge, Dr. Christopher taught and it will stay down. It gives good nourishment to the sick or the well.

Dr. Christopher employed Slippery Elm in his vaginal bolus formula. In fact, acting upon the research of former herbalists who used the herb in this way, his formula began as simply Slippery Elm and water, made into a thick paste and inserted into the vagina. However, over the years, other herbs were added to enhance the activity of the treatment. These boluses are meant to draw out the toxins and poisons in the female system and make the malfunctioning area healthy so that cysts, tumors and cancerous conditions will not have waste materials to grow and feed upon. The bolus spreads its herbal influence from the vagina (or bowel, as it can be used like a suppository) throughout the entire urinary and genital organs. Coconut butter is melted down so that it can be mixed with the herbs and the herbal powder is mixed with it. This is equal parts of Slippery Elm, Squaw Vine, Yellow Dock, Comfrey root, Marshmallow root, Chickweed herb, Golden Seal root and Mullein leaves all in powder form. The herbs mixed with the coconut oil and melted are rolled between the hands until they form a pencil-like bolus approximately the size of the middle finger and about inch-long pieces. Cool and harden in a refrigerator. You may make up some in advance if you like. Insert them in the vagina or rectum as needed. It is necessary to wear a sanitary napkin to hold it in place. It is inserted before retiring and left in all night, six nights a week. The coconut butter melts at body temperature leaving the herbs in the area. These are easy to wash out with a douche the following morning. This douche can be made with the slant board combination which is injected into the vagina with a syringe while the person is on a slant board, head down. This flushes out the bolus used the night before and strengthens and feeds the area itself.

Although this routine may sound like a lot of trouble if women are suffering from female troubles it can be a godsend.

Hundreds of women have written letters to the Christopher's detailing their healing. One woman, for example, lived in a nearby town to where Dr. Christopher was practicing. She suffered real agony with each menstrual period for ten years and dreaded to see the cycle approach because she knew she would be down in bed with pain for five to seven days. During these ten years she had traveled to specialists in female diseases from coast to coast and had spent over ten thousand dollars in fees and for remedies but nothing had helped her. One day a friend told her about Dr. Christopher's formulas. She tried them and in about ninety days she was having no pain, no flooding and was on a normal cycle for the first time in her life. She was a happy woman now! She was amazed that she had lived about twelve miles from where she could have found the formulas but never knew they were there! Dr. Christopher maintained that many female problems can clear up by using the female formulas such as herpes simplex, yeast infection, leucorrhea, flooding, cramps, swollen and painful breasts, miscarriages, inability to conceive etc. These all stem from the reproductive organs or systems being in an unhealthy condition.

Dr. Christopher taught that Slippery Elm is one of the most valuable medicines in the world. It will heal rapidly but gently and strengthen the system as it heals.

INDIAN ELM

The inner bark of Slippery Elm was an important food and medicine for the American Indians and by their teaching, for the pioneers. It was made into a poultice for wounds, burns, etc. especially for "green" or purulent wounds. Indians taught the white man the use of the bark not only for poultices but as a medication in fevers and diarrhea. The Indians of the Ozark region used the inner bark in colds and bowel complaints. It was also much used as a cataplasm or emollient in ulcers and swellings. Missouri Valley Indians used a decoction of the inner bark as a laxative and a preservative of meat. They used the wood of American Elm and other species to make mortars and pestles for grinding medicines and perfumes. The Catawbias used the bark for consumption and made a salve for rheumatism by peeling the fresh bark and mixing it with lard and "bear root". The Houmas mixed the bark with Red Oak for a dysentery remedy. The Alabamas boiled the bark in water along with gunpowder for a medicine used in delayed parturition. The Creeks used it for a toothache remedy. The Mohicans steeped the bark for a cough and cold medicine. The Potawatomis chewed on the bark for an application to inflamed eyes. Splinters of the wood were used to lance boils which were then poulticed with usually complete and permanent recovery. The Menominees used a tea of the inner bark for a physician aid the same as a wound poultice. The Pillager Ojibwas used the inner bark for a sore throat medicine. The Meskawkis use it to poultice sore eyes, pounding it, wetting it and combining it with other medicines. The root was boiled for a tea to promote easy childbirth and the root bark was made into an eye lotion. The Penobscots steeped and drank the decoction of the bark for bleeding of the lungs (Vog:289-290).

The Indians used the bark to prevent fatty substances from becoming rancid. This was done by melting the fat of an animal with a piece of the bark and allowing it to remain heated a few minutes, then the fat was strained off. This has also been tested with lard and butter and with the result that rancidity is prevented for a long time.

The pioneers employed the tea as a wash for chapped hands and face. The bark was given powdered and mixed as a beverage, as food for babies, the elderly and those recuperating from illnesses.

The Chippewas used it as a gargle for a sore throat (Dens:342).

Settlers in the areas in which the tree grew soon began to use it for their ailments. In Kentucky the thick mucilage is applied to boils and carbuncles. A poultice from the roots, made with butter or lard, is applied to a felon. To treat poison ivy, the itch, broken bones, appendicitis and swellings, the inner bark was soaked in water and the thick mucilaginous substance applied to the affected area. The mucilage is said to cure the itch and dry up poison ivy blisters. As a laxative and remedy for summer complaint and diarrhea the infusion of the inner bark was drunk or the inner bark of the root was eaten. The thick, mucilaginous infusion was drunk to reduce fever, to ease a sore throat, stomach ulcers and other stomach complaints and to treat coughs including whooping cough. In Georgia the poultice was applied to swellings (Boly:141).

Early American doctor Samuel Stearns considered the bark of Slippery Elm good in various chronic, cutaneous eruptions and the leprosy of the Indians, in suppression of urine, dropsy, inflammation and hard tumors. During the Revolutionary War surgeons used the bark to make poultices for gunshot wounds. This was also used during Antony Wayne's Indian campaign of 1794. A Dr. Porcher considered it good to treat suppression of urine, bladder inflammation, dysentery and diarrhea. Combined with sassafras root and guaiac it was used by him to increase skin transpiration and improve the tone of digestive organs. Dr. Beach reported that the tea was used to procure easy labor. He claimed that the tea "in point of utility, it is of far more value than its weight in gold" (Vog:289).

In addition to its use in wound treatments in the Revolutionary War it was also used as a source of quick energy nutriment for soldiers and often those who had lost their way supported themselves on a jelly made with its bark and that of Sassafras. Indians also used it as a nutritive and subsisted for long periods of time upon it. "When crops failed or long severe winters exhausted food supplies, Indians and pioneers alike were often saved from starvation by the use of Sweet Elm Bark. This emergency source of food had the advantage of being available when all other sources of food had failed. The use of Sweet Elm bark as food spread with the early colonies until the day when the vast forests were converted into farm lands" (Har:Eat:130).

It is recorded that during their bitter winter at Valley Forge, George Washington's soldiers lived through a twelve day period on little more than Slippery Elm porridge. And no one knows how many starving pioneers families scraped through their first winters in this continent thanks to the same survival rations. Back before today's sugar- aden sweets were so widely available small boys would strip off pieces of the inner bark and chew it. This made a sweet flavored, long lasting chewing gum that both satisfied thirst and supplied a certain amount of nourishment. The taste is pleasant and sweet although the slippery texture of the gruel takes a little bit of getting used to. We find it pleasant and the children seem to enjoy it too.

The botanical name refers to the Latin for the tree Ulmus. Common names for the plant include red elm, elm bark, moose elm, Indian elm, rock elm, sweet elm, and American elm.

The American Indians called Slippery Elm oohooska, meaning "it slips".

Slippery Elm bark was official in the United States Pharmacopeia from 1820 until 1936 and was listed in the National Formulary from 1936-1960, a surprisingly late listing.

SUPERIOR DEMULCENT

Dr. Christopher classed Slippery Elm among the demulcent and emollient herbs, soothing substances with much mucilage that soothe tissues and help remove inflammation and mucous wherever they are used. Slippery Elm is particularly useful because its abundant mucilage soothes, disperses inflammation, draws out impurities, heals rapidly and greatly strengthens as it

heals. It is especially good for irritated or inflamed surfaces. One of the foremost uses of the herb is for internal irritation, especially of the digestive tract. As we mentioned above, Slippery Elm is usually retained and digested when no other food or liquid is tolerated. It normalizes bowel functions very quickly either stopping diarrhea or helping bring about a bowel movement. It is one of the mildest of laxatives, however, and can be taken by anyone, children or pregnant women alike, as it is absolutely harmless. If the mucous membrane of the stomach or intestines is irritated Slippery Elm will speedily restore it to its proper function. When babies are teething, their digestion often becomes disrupted. They are hungry but don't want to eat their normal food. We often given them Slippery Elm gruel sweetened with honey and perhaps flavored with a warming herb such as Cinnamon to help their digestion. This seems to nourish them, balance their system and help bring back a normal appetite.

Many recommend beating up an egg with a teaspoonful of the powdered bark, pouring boiling milk over it and sweetening it. Taken three times a day this way or in the form of a mucilage it is said to be wonderful in curing gastritis, gastric catarrh, mucous colitis and enteritis (ShoA:163).

As a healing nutritive it is often considered almost an elixir; "we cannot speak too highly of this remedy, and are confident there is nothing to equal it in the world..." (Tob:52).

If an infant is weaned from the breast Slippery Elm boiled in a pint of new milk is said to be a nourishing diet, "preventing the bowel complaints to which they are subject and rendering them fat and healthy" (Felk:2013).

Slippery Elm is useful because it neutralizes stomach acidity and absorbs foul gases. It aids in the digestion of milk by separation of the casein particles. It assures an easy passages of this and other foods because of its mucilaginous nature, assisting the process of assimilation and elimination. It also acts as a buffer in the irritation and inflammation of the mucous membranes (Luc:Magic:36).

Levy says that she has weaned many young animals, even an owl, on what she terms Nature Gruel. She also gave it to her own children after they were weaned, at about eighteen months. It consists of various ingredients the main one being Slippery Elm. She mixes the gruel with honey and milk and recommends it for children who are having trouble with dysentery, to be given before breast feeding or before meals (Lev:Nature's:41).

Many preparations of Slippery Elm are sold on the market as bland and nutritious foods. In some cases, the powdered bark is added to a base of barley malt and pre-cooked wheat flour. The malted barley helps convert cereal starches into digestible carbohydrates (Luc:Magic:36).

Because coughs are often associated with digestive disruption, particularly of the eliminative tract, Slippery Elm is wonderful in the correcting of coughs. It soothes the mucous membranes directly. Many people make lozenges of the herb mixing it with maple syrup or honey until a stiff paste forms and then chilling it till quite firm and cutting it into pieces. It is a harmless confection thus

to give children and will help "roll down" the mucous out of the system as it soothes the cough. It also reduces the inflammation of the surfaces.

Dr. Shook recommended a Slippery Elm preparation which included quite a few other herbs. He thought that it was an "extraordinary and sensational remedy which should be carefully prepared and always kept on hand by every physician interested in giving prompt relief from pain, spasm, distress and exhaustion in that debilitating affliction, asthma. We sincerely believe that this most merciful and beneficent herb preparation will cure almost any chest trouble including many cases of tuberculosis, the great white plague which kills off countless thousands of our people every year" (ShoA:164). He also said that it would help bronchitis, chronic cough, lung trouble and so forth. It allays all irritation and gives almost instant relief in dyspnea caused by heart disease...and whooping cough (Ibid.). See formulas (Indian Balm Asthma Remedy).

Slippery Elm is often recommended for problems with the genitourinary tract. Many herbalists recommend making vaginal or rectal boluses with the herb itself, making a stiff but pliable mixture with water the size and shape of the middle finger. This is cut into three pieces and placed in the vagina holding in with a tampon. It is left in for two days, removed and washed out with a douche. This is beneficial for inflammation and irritation of the vagina (Sal:189). It is said to be useful for excruciating pain of the testes which accompany the metastasis of mumps, whether of recent or long standing. The bark in this case is used as a poultice. This will help remove the pain quickly (Felk:2013). It is often used as an herbal enema to gently help move old, encrusted feces. Mixed with appropriate herbal remedies such as Male Fern it is good to help with the removal of worms, especially in children, when administered as an enema. It will help with hemorrhoids if applied externally.

Slippery Elm has often been used for external problems. Mixed with an herb tea appropriate to an external problem it provides an excellent herbal poultice bandage for external use, put onto a clean linen or cotton bandage and bound upon the place (Lev:Common:23). It is "excellent applied to sores, wounds, gangrene, burns, tumors and infected areas" (Tie:116). It soothes and draws out the poisons in wounds, even in infection. It has been used "to heal broken bones, mollify hard tumors, retard the shrinking of sinews, bathe burns and sciata and remove discoloration of bruised eyes (Boly:142). Fat skimmed from the surface of a bark decoction was applied to restore hair to bald areas (Ibid.).

The powdered bark, sprinkled on the surface of the body, will prevent and heal excoriations and chafings and allay the itching and heat of erysipelas (Felk:2013). However, it is said to be troublesome when applied as a cataplasm to ulcers of the limbs rendering the ulcer more irritable and difficult to heal and frequently converting a simple sore, which might be cured by astringent or other washes, into an almost intractable ulcer. Much care has been advised in using the herb externally (Ibid.).

Used as an ointment, Slippery Elm sap was used in the Thomsonian medicine during labor as a lubricant for the midwife's hand as she ascertained the presentation of the infant internally. The

Thomsonian system also used a poultice of Slippery Elm, Lobelia and a little soft soap to bring abscesses and boils to a head. These were then lanced and drained (Weiner:177).

Slippery Elm sticks were used in some North American Indian tribes to provoke abortion by inserting them into the cervix. When the bark, in strips or powdered form, comes into contact with water it swells enormously and produces a lubricating effect. Narrow strips of the bark, when soaked in water for a few minutes, become very slippery and pliable. Some pregnant women have attempted to induce abortion by inserting a long strip of the moistened bark into the cervix in order to mechanically disrupt the fetus and terminate pregnancy. This is an extremely dangerous practice, says herbalist Weiner, since many deaths have resulted due to uncontrollable hemorrhaging. Serious infections can also be expected due to the unsanitary conditions which accompany this attempted treatment. In some states the law requires that the bark be broken in pieces no longer than 1.5 inches in length to discourage the use of the bark for attempted abortion (Weiner:178).

As an external application for chest colds, mix equal parts of cornstarch and Slippery Elm powder, along with no more than 10 percent black mustard. Make into a poultice with hot water and spread on a white muslin or flannel and apply to the chest (Bri:244).

For abscesses and boils and gangrenous wounds, "nothing can touch it, either with a mixture of Wormwood or very fine charcoal. Slippery Elm bark will also preserve fatty substances from becoming rancid. If a hollow tooth aches and it is not possible to see a dentist, a pinch of slippery elm powder will ease the pain and arrest decay temporarily although it is in no sense a drug" (Day:158).

One of the most unusual uses of Slippery Elm we have seen recorded was from an old miner who bought the bark in its whole form, consisting of "long sticks looking just like the inner bark of a tree. He then broke the sticks into one-by-one pieces. To these pieces he added ten drops of kerosene and then sucked on the bark during the day in the mine pits to keep the coal dust from adhering to his throat and make it easier to spit out the black dust. He explained that this was an old miner's remedy used by his father in the Polish coal fields before he came to this country. Although sucking on kerosene is definitely a bad idea, on analysis this remedy makes a kind of sense. The kerosene would act as an irritant, causing him to cough and the elm, because of its moistening nature, made the coughing easier, producing the desire effect" (Bri:244).

Dr. Christopher recommended mixing Slippery Elm with brewer's yeast (or baking yeast) and raw milk to make a poultice for sores and gangrenous wounds. It was said to arrest gangrene.

The powdered bark is often recommended for so many problems that it is hard to enumerate them all. In addition to what we have mentioned, it has been used for purulent ophthalmia, chilblains, croup, pneumonia, internal ulcers, calculi, burning urine, skin eruptions of many kinds, poison ivy, and tumors.

In the Doctrine of Signatures, the mucilaginous nature of the bark make it good to treat all catarrhal disturbances and irritations of the bronchial and alimentary systems. It is especially indicated in cough remedies to facilitate the removal of phlegm (Har:Complete:92). It is good to facilitate any kind of removal from the system, as some doctors say that an expectant mother should drink about a half pint of the tea in the last couple of months to facilitate the easy removal of the baby from her body.

HISTORICAL USES

Used for bedsores, dehydration and malnutrition, vaginal problems, rectal problems, wounds, burns, gangrene, fevers, diarrhea, inflamed eyes, ulcers, swelling, consumption, rheumatism, dysentery, toothache, boils and carbuncles, sore throat, bleeding of lungs, chapped hands and face, nourishment for the sickly, poison ivy, broken bones, appendicitis, whooping cough, leprosy, suppressed urine, dropsy, hard tumors, bladder inflammation, to procure easy labor, to accelerate healing, as a laxative, to neutralize stomach acid, to absorb foul gases, for coughs, chest troubles, tuberculosis, the great white plague, dyspnea, urinary tract problems, hemorrhoids, baldness, sciatica, as a lubricant in labor, to provoke abortion, purulent ophthalmia, chilblains, croup, pneumonia, calculi, burning urine, all catarrhal disturbances, bronchial, and to remove phlegm.

FORMULA

Dr. Shook's Indian Balm Asthma Remedy

2 ounces Slippery Elm bark, powdered

1 ounce Horehound

1 ounce garden Thyme

1 ounce Red Clover tops

1 ounce Yerba Santa

1 ounce Lobelia

1 ounce resin weed

1 dram Cayenne

Put all into 2 quarts of distilled water in which is dissolved 1 ounce of potassium phosphate. Stir well and let stand for 2 hours. Boil 30 minutes slowly and well covered. Add 1 1/2 pounds black molasses and 8 ounces glycerine. Bring to a boil and simmer 5 minutes very slowly. Cool and bottle (ShoA:163-4). One dessertspoon for children and one tablespoon for adults each hour until relief is obtained, and then one spoonful three or four times a day is the dosage.

CULTIVATION, COLLECTION, PREPARATION

There are many different suggestions for preparing Slippery Elm. Dr. Christopher always explained that it is a rather unusual herb. You must mix a small amount of water into the powdered herb to make a paste and then you can add warm or hot water to the desired

consistency, flavoring or sweetening it as desired. The powder is mixed with hot water for an external poultice to be applied to all kinds of external problems.

A compound bran poultice is made by mixing with hot vinegar equal parts of wheat bran with Slippery Elm powder. This is excellent "for severe rheumatic and gouty affections, particularly of the joints, synovitis, etc." (Gri:285).

Marshmallow ointment, which is said to be one of the principal ointments employed by herbalists, is made by mixing 3 ounces of Marshmallow leaves, 2 ounces of Slippery Elm powder, 3 ounces of beeswax, 16 ounces of lard. The Marshmallow and Slippery Elm are boiled in 3 pints of water for 15 minutes. This is strained and reduced to half a pint, the lard and wax are melted together by gentle heat and the herbal extract added. Shake constantly till all are thoroughly incorporated and store in a cool place (Gri:285).

You can make "Slippery Elm Delight" by mixing a handful of agar-agar in about 3 cups of water, heating till it's all melted. Add 2 tablespoons of Slippery Elm powder, 4 tablespoons of Chia seeds, 4 tablespoons of Flax seeds, 1 mashed ripe banana, a handful of raisins, Cinnamon and carob powder. Mix all well and let it gel into a pudding in the refrigerator. This should tone up sluggish intestines (Sal:189).

In Ten Talents, the Seventh-day Adventists' superior cookbook, it is suggested that Slippery Elm be added to ice-cream recipes for smoothness and creaminess. Here is one of the excellent recipes:

In a blender, blend till smooth:

1 cup cashews
3 cups water
1 teaspoon Slippery Elm powder
1/2 cup raw honey
1-2 tablespoons soy milk powder
1 tablespoon vanilla
1/4 teaspoon salt.

When smooth, add slowly 1/3 cup coconut or soy oil. Blend well and freeze. Whip again and return to freezer. Serve before it gets too hard. Carob powder or fresh fruit may be added (Hurd:126).

Slippery Elm has also, surprisingly, been used as a cosmetic. The Complete Book of Natural Cosmetics suggests a Slippery-Elm Gelee, made by cooking over boiling water 1 tablespoon Slippery Elm in 3 tablespoons water or papaya juice. This is simmered for thirty minutes and filtered through an old nylon stocking. It is used on the skin as a mask or to moisturize the skin or "set" the makeup. However, one of our friends used the gelee on her legs to moisturize and

found them stained a pleasant brown, not exactly what she expected. This gelee is added to other ingredients to make an all-purpose body lotion.

Mix:

1 egg yolk
2 tablespoons sesame oil
2 tablespoons honey
1/4 cup plus 1 tablespoon fresh whole milk
2 tablespoons Slippery Elm gelee

Mix it all together and warm if necessary to incorporate all ingredients. You can perfume it if you like, gently (Traven:112).

You can make a healthy confection that is also good for the bowels by grinding dried fruits and nuts together, sweetening with honey and adding Slippery Elm to help bind it. Mix equal amounts of carob powder and Slippery Elm and coat each ball that you roll in your hands. Refrigerate if desired. This is delicious and a great substitute for other candies.

The inner bark, which has had the other bark carefully scraped off, is the part used. Most people do not grow Slippery Elm for their home use, as the ten-year-old trees are considered minimally mature for use. Also the Elm only grows in certain parts of the United States as you saw in the Description. It will not flourish everywhere. The bark is collected in spring from the bole and larger branches and dried. Large quantities are collected especially in the lower part of the state of Michigan. As the wood has no commercial value the tree is fully stripped and consequently dies (Gri:284). We consider this a shame and wonder if wild collectors might take less of each tree (usually the large roots can be collected) and preserve the tree above as perhaps a small amount taken from each tree might not kill the entire specimen. The bark is allowed to air dry and packaged. For most home use it is too difficult to powder Slippery Elm. We have tried it with no great success. It is better and easier to purchase the powdered Slippery Elm as it is not very expensive to do so. The herb retains its quality very well in storage.

RELATED PLANTS

Ulmus alata, the Winged Elm grows in the southern United States where it is also Wahoo. The wood is fine grained and the bark, which on the branches has prominent corky wings, is used for making ropes.

Ulmus Campestris, the Siberian Elm is used in China along with many other species of Elm. The inner bark is used in medicine, dried and ground into a meal. This is used for many other purposes other than medicinally, such as the manufacture of incense sticks. A kind of paste was formerly made of it and in times of great scarcity the ground bark, leaves and membranous fruit are all used as food. Demulcent, lenitive, diuretic and antifebrile properties are attributed to it. It is applied with oil and vinegar to various parasitic and porriginous eruptions. Poultices are made

of it in caked breast, abscesses and swellings. It is used in diarrhea and bladder difficulties. The leaves are used as a sort of pot herb and are said to be antilithic and counter poisonous. The decoction is applied to wine nose and also in the treatment of bilious difficulties. The flowers are used in the nervous affections of children and their fevers. The kernels of the seeds are made into a porridge and eaten and are said to promote sleep, to control menstrual discharges and to be anthelmintic. A fungus growing on the Elm tree is said to be edible but with no special medicinal properties (Shi:448).

The European officinal Elm is probably a native of western Asia and eastern Europe, but is now naturalized or cultivated throughout the greater portions of Asia, Europe and Northern Africa. It has likewise been introduced in some parts of New England. Its leaves are only about 2 1/2 inches long, oval or obovate and acute or somewhat pointed. The flowers are mostly pentamerous and the samara is roundish-obovate, smooth and has the seed placed near the apical notch. The European Black Elm, Ulmus effusa, which has larger ovate or elliptical leaves and roundish-elliptic ciliate fruits, likewise furnish some elm bark.

Fremontia Californica, or Californian Slippery Elm, has bark with similar properties but is not related botanically.

CHEMICAL COMPOSITIONS

The principal constituent of the bark is the mucilage which is very similar to that found in flaxseed. Starch, calcium oxalate and acid sodium phosphate are also present.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING SLIPPERY ELM

ULC, the ulcer combination, contains Slippery Elm.

VB, the vaginal bolus, contains Slippery Elm.

CC contains Slippery Elm.

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Gri
Coon
Luc
SNH
Hut
Mills
Weiner
Shi
Tie

Luc:Herbal
Mal
Luc:Nature's
Day
Lev
Har:Complete
Har:Eat
Neb
Dens
Bri
Boly
Rose:Herbs
Vog
Sal
Traven
Hurd
ShoA
Tob
Felk
Luc:Magic
Lev:Common
Lev:Nature's



MENTHA SPICATA; LABIATAE

DESCRIPTION

Spearmint is the most common cultivated and wild mint. The leaves are round, finely toothed and distinctly wrinkled, growing in pairs on square stems. The stems reach an average height of two feet, are bright green, and are topped in late summer by spikes of lavender or purple flowers. All parts of the plant have the characteristic Spearmint smell. As Moore says, "a dozen or so hybrids having gone feral, the resultant mix can be called 'Spearmint' as they have crossbred without consideration of taxonomy and have retained the basic smell. Much like purebred cats mating and eventually becoming tabbies again" (Moore:148).

GENERAL

If you have found wild mint growing around your ditchbanks or farm, chances are you have found Spearmint. Most people call this herb peppermint, and indeed it can be used as peppermint is, although Spearmint is much milder in action. But Spearmint has a delightful flavor all its own, and deserves a place of honor among the mints. You can tell the difference between peppermint and Spearmint by chewing a leaf. When you draw in a breath, the peppermint has a decidedly cooling effect in the mouth, while the Spearmint does not. You will eventually come to know the peculiarly Spearmint taste for itself.

Spearmint is not native to this country or even to Europe, but is said to be a native of the Mediterranean nations. It was introduced into Britain by the Romans, who used it extensively. This is the variety of mint, or a descendant of the variety, which is mentioned in the Bible. It is the common mint which is grown in almost every garden. For the Greek and Roman legends about mints, please see the chapter on peppermint.

Pliny wrote, "The smell of mint does stir up the mind and taste to a greedy desire of meat. Dioscorides spoke of mint as "an enemy to generation by overthickening seed...and being applied to the secret part of a woman before the act, it hindreth conception". Ovid represented the hospitality of Baucis and Philemon scouring their table with this mint before laying upon it the food intended for their divine guests (Gri:533). It was popular as a strewing herb, releasing its fragrance as people trod upon it, a welcome scent indeed with the hot climate and stuffiness of the houses in the Mediterranean area. Gerard quoted Pliny as saying, "It will not suffer milk to curdle in the stomach and therefore it is put in milk that is drunk, lest those that drink thereof should be strangled". Greek and Roman students used it during study sessions, as it was said to strengthen the memory.

The early Persians and Arabs used this mint as a flavoring for their drinks. That's where the word "julep" first comes from. The American mint julep is said to be unsurpassed by anything else in the world. Charles Dickens wrote, "the bowls of mint juleps they make in these latitudes are refreshments never to be thought of afterwards in summer, by those who would preserve contented minds". Another British visitor described them, "It would, I truly believe, be utterly impossible for the art of man to administer anything so likely to restore them from the overwhelming effects of heat and fatigue, as a large glass filled to the brim with the fragrant leaves of nerve restoring mint, as many solid lumps of delicately pellucid, crystal-looking ice, as it can conveniently contain, a proper proportion of fine white sugar (not beetroot), and then--I would whisper it gently, if I knew how--a whole wineglass full of whisky poured upon it, to find its insinuating way among the crystal rocks, and the verdant leaves, till by gentle degrees, a beverage is produced that must create a delicious sensation of coolness, under a tropical sun, and a revival of strength, where strength seemed gone for ever" (Mrs. Frances Trollope, The Old World and the New, 1849).

Spearmint is mentioned in all the early medieval lists of plants. It was very early grown in English gardens, and Chaucer refers to "a little path of mintes full and fenill greene". In early English herbals, mints were recommended as "friendly to the weak stomach and powerful against all

nervous crudities". Turner's Herball called it Spere Mynte. Gerard wrote extensively about the herb. "The smell rejoiceth the heart of man, for which cause they used to strew it in chambers and places of recreation, pleasure and repose where feasts and banquets are made". He also said, "Applied, (the juice) is very profitable to the stomach, and against the poison of venomous creatures. It easeth all manner of breakings out, sores, scabs; and healeth the cheeks of the buttocks. Mixed in vinegar, it stayeth bleeding, is good to repress the milk in women's breasts, and for such as have swollen, sagging, or great breasts. Mixed with salt and applied, it helps the biting of a mad dog. With mead and honeyed water, it eases the pain of the ears; and being rubbed thereupon, takes away the roughness of the tongue" (Keller:255). He also said that the tea would help digestion, help a cold liver, strengthen the body, stomach vomiting and hiccups, and stop "the gnawing of the heart". It would serve as a gargle for bad breath and sore gums and mouth.

Parkinson mentioned that mints are sometimes used to scent the bath water and employed as a restorative, such as smelling salts. In Athens, he wrote, where every part of the body was perfumed with a different scent, mint was especially designated to the arms.

Gerard further wrote that "It is good against watering eyes and all manner of breakings out on to the head and sores...They lay it on the stinging of wasps and bees with good success".

Banckes, who wrote in 1525, said that putting spearmint powder into a person's food would make him well to defy his meat (Keller:255).

Culpepper wrote extensively about Spearmint; he gave nearly forty distinct maladies which the herb would cure. "To stay hiccough, vomiting or to allay choler take two or three branches of Spearmint in the Juice of four Pomegranates", he advised. "Being smelled into, it is comfortable for the head and memory, and a decoction when used as a gargle, cures the mouth and gums, when sore. It is most useful to wash children's heads when they are inclined to sores, and...mixed with vinegar, is an excellent wash to get rid of the scurf. Rose leaves and mint, heated and applied outwardly, cause rest and sleep". He further said, "Taken after a meal, it helpeth those that are splentic. Taken in Wine, it helpeth women in sore travail of childbearing, is good against gravel and stone in the kidneys, and the strangury; but too much taken, burneth the blood thin and turneth it unto choler".

In England during the fourteenth century, mint was used for whitening the teeth and its distilled oil is still used to flavor toothpastes and in America to flavor candy and chewing gum. As early as 1890, many Europeans believed that every American chewed Spearmint gum through every waking hour.

It is thought that Spearmint was introduced by the Pilgrim Fathers when they landed in America, as it is mentioned among many other plants brought from England in a list given by John Josselyn. It has become so well established, however, that it is thought by most people to be a wild mint. "In the north pasture, the title 'pasture' by courtesy only now, a pool of mint rises each spring, a

lavender pond filled with bees, great bumblebees, small yellow bees, and the brown furry bees like winged mice. It is filled with the humming of the bees and the spicy smell of the mint leaves (leaves rich, green convoluted as seashells) and the pool widens in to a wider pool of white pansy violets, like a foam at the far edges...This is the view from the woodchuck's den above the draw" (Josephine W. Johnson, The Inland Island, 1969).

The generic name mentha refers to the myth we retell in the article on peppermint. Some have thought that the jealous Proserpine must rejoice every time her rival is chopped fine with a kitchen knife and made into a sauce! The specific name spicata refers to the shape of the leaves; it is also called viridis. Other names for the plant are Garden mint, mackerel mint, our lady's mint, green mint, spire mint, sage of Bethlehem, fish mint, menthe de notre dame, yerba santa, or yerba buena, (this is the name by which it is known in Mexico, every self-respecting household has its planting for minor ailments), lamb mint, brown mint, peamint, etc.

THE GENTLE SPEARMINT

Spearmint is thought of as being pretty much equal to peppermint in its medicinal applications and its properties are similar, although it is much milder than its harsher relative. It is "useful in all minor ailments, including colds, flu, fevers, indigestion, gas, cramps and spasms" (Tie:116). Menthol, which is the diaphoretic principle in mints, is only present in small quantities in Spearmint, the primary active ingredient being carvone, a substance also found in dill and caraway seeds (Moore:148). Moore asserts that "the main value of Spearmint is its almost complete lack of toxicity and the ability of even the sickest person to tolerate the tea. Its very feebleness makes it so useful...In traditional New Mexican and Hispanic usage, Yerba Buena is the only liquid given to a birthing mother, considered helpful as a mild uterine astringent and aiding in postpartum contractions" (Ibid.).

Dr. Christopher taught that it was an excellent remedy to use for morning sickness in pregnancy, either alone or in a formula. (See formulas)

Grieve considers the mildness of the herb important for children's maladies. The taste is more pleasant and less strong than that of peppermint. "A distilled water of spearmint will relieve hiccough and flatulence as well as the giddiness of indigestion. For infantile trouble generally, the sweetened infusion is an excellent remedy and is also a pleasant beverage in fevers, inflammatory diseases, etc...It is considered a specific in allaying nausea and vomiting and will relieve the pain of colic" (Gri:536).

It is said to relieve bladder stones and blocked urine and for inflammation of the kidneys and bladder (Beth:141). It is used as an application and injection for hemorrhoids. In homeopathy, the tincture prepared from the fresh plant in flower helps in strangury, gravel and as a local application for piles (Gri:536).

Spearmint is considered to be a soothing adjunct to purgative medicines.

Dr. Christopher included this in his nose ointment. Just smelling the Spearmint and peppermint would help clear up asthma, running nose and irritated mucous membranes. It is amazing what a smell will do for health!

CULINARY USES

Spearmint is mostly used as a culinary herb. If you happen to find wild plants, don't be discouraged if you aren't pleased with the taste of your find. If you search further, you should be able to find a mint to please your palate and you can take a start of it to plant in your garden.

Very finely chopped mint mixed with sweetened vinegar greatly aids the digestion. This mint sauce is served with lamb whose fatty nature makes it difficult of digestion and with peas and other legumes sometimes difficult to digest. The volatile oil stimulates the digestive system and prevents septic changes within the intestines.

You can finely chop the mint and use it to season steamed new potatoes or split-pea soup. In Europe, especially in Germany, the powdered, dried mint is often used at the table for dusting upon pea and bean purees, as well as on gravies (Gri:536). We have enjoyed dinner with a British family who served a usual meat gravy and another flavored with mint picked fresh from the garden. It is a lovely sauce.

You can make Mint Jelly with Spearmint. Steep mint leaves in apple jelly for an easy recipe or use the recipe given in our chapter on peppermint.

Mint vinegar is made by steeping the leaves of clean, fresh mint in apple cider vinegar for fourteen days then straining off the scented vinegar. This can be bottled in tall, thin bottles, putting in a perfect sprig of mint, and giving for the holidays.

HISTORICAL USES

Used to strengthen memory, for reviving strength, as a refreshment, for sores, scabs, skin eruptions, to repress mother's milk, for swollen sagging or great breasts, as a digestive aid, for vomiting, hiccups, bad breath, sore gums and mouth, as a restorative (i.e. smelling salts), to allay cholera, to comfort head and memory, prevent gravel and stones, for colds, flu, fever, indigestion, gas, cramps and spasms, for pregnancy, colic, bladder stones, blocked urine, hemorrhoids and asthma.

FORMULA

Dr. Christopher's Morning Sickness Remedy
1/2 ounces Spearmint

2 drams cloves
2 drams cinnamon
2 drams turkey rhubarb

Mix together, infuse in 1 pint of boiling water, cover 20 minutes, strain, sweeten, and drink.

We have used this combination, and we think it is fairly effective, more so if the prospective mother is in the habit of drinking red raspberry leaf tea before conception, as the fragarine in this drink will help strengthen the female organs against morning sickness and will cleanse the mother's system generally.

CULTIVATION, COLLECTION, PREPARATION

It is very easy to cultivate Spearmint; sometimes it seems so easy that you regret putting in the plant, when it begins to take over your entire herb garden and lawn besides! A moist situation, such as under a dripping water tap, is excellent, but spearmint will grow in almost any soil when once started. You can lighten heavy soils with well-rotted compost or leaf mold. It likes partial shade. Every piece you plant will start a new growth and if you are trying to eliminate the plant from unwanted places, you will find it difficult to eradicate every little root piece. Some people recommend growing it in containers, though we have never gone to this trouble. We just put in the root pieces, often with a bit of stem and leaf attached, of some variety we have found that pleases us with its scent. We keep it moist and it spreads throughout the herb garden. If we are cultivating some other herb that is delicate, we try to plant it away from the marauding Spearmint. It has never completely choked out our other growth, although it does tend to invade everywhere and has no respect for surrounding lawns, etc.

You can force mint during the wintertime for fresh, young growth throughout the cold season. If you have a market for tender Spearmint during the winter, you could make a tidy addition to your income this way, as it is very easy to grow in a greenhouse environment.

To make a Mint Punch, pick a quart of fresh mint leaves, then wash and dry them by shaking them in a clean kitchen towel. Put them into a large jug and mash them with a wooden spoon till soft; cover with boiling water and infuse for ten minutes. Strain, cool, then set on ice till required. Add two cups of chilled grape juice and strained lemon juice to taste. Sweeten as desired and add a quart of ginger ale. Serve with cracked ice (Gri:536).

A good winter drink in place of the usual mulled cider is made by mixing equal parts of strong spearmint tea and apple cider. This needs no sweetening, but is nice with a touch of cinnamon. It should be served quite warm though not hot enough to scald.

You can make a good mint cookie by mixing finely chopped spearmint leaves with a shortbread recipe. This is a delightful treat for children especially if you do not oversweeten the dough.

Mint is sometimes used in perfumery and soap making. You can make an interesting face gel by making a strong infusion of Spearmint tea, and then using a cup of the tea to gel with 1 teaspoon of granulated tapioca. Simmer until the tapioca swells and begins to dissolve. Then strain through an old clean nylon stocking and allow to cool and set up to a gel (Traven:54). This is pleasantly astringent and cooling on the face. It is transparent so it won't show while it's doing good for the skin.

Spearmint is said to repel ants and mice. It is good in camping to keep these pests away from your tent.

For medicinal use gather the mint as the flowerbuds have formed but not bloomed. Then the medicine is concentrated in the leaves and hasn't dissipated from the flower. Dry in a warm, airy place, being sure not to allow the herb to dry in direct sunlight. When it is completely dry, strip it from the stems and crumble to fit into your storage containers. Use it all winter long in tea and to flavor other teas.

When you prepare Spearmint tea, be sure not to let the mixture boil. Pour boiling water upon the herb and remove from the heat. Let it steep, covered, so as to prevent the volatile oils from escaping. It is particularly good sweetened. Our standard winter concoction is Spearmint, comfrey and possibly red raspberry leaf tea.

RELATED PLANTS

There are so many varieties of mint that it is nearly impossible to discuss them. Peppermint is the most famous medicinal sister to Spearmint. We have smelled a delicious garden mint called Doublemint and Pineapple Mint and Apple Mint are equally mouthwatering. If you decide to grow a diversified mint garden, herb salesmen can probably supply you with interesting rootstock.

CHEMICAL COMPOSITION

Oil of Spearmint contains carvone, limonene, phellandrine and esters. The chief constituent is carvone.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING SPEARMINT

AT-GS, the anti-flatulence formula, contains Spearmint.

The Nose Ointment contains Spearmint.

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 **SQUAW VINE**

MITCHELLA REPENS; RUBIACEAE

DESCRIPTION

There are two Mitchella species, the other being Japanese. Ours is M. repens, a small glabrous trailing evergreen herb forming appressed mats of indefinite size; leaves petioled, opposite, ovate to orbicular, rounded to cordate at base, obtuse at apex, shining, pinnately veined and sometimes variegated with whitish lines, 15-25 millimeters long, stipules triangular subulate; peduncle short, terminal, bearing 2 flowers at its summit; flowers fragrant, white, often tinged with purple, in pairs with their ovaries united, occasionally 3- to 6-merous, always dimorphous, all flowers of some individuals have exerted stamens and included stigmas, all flowers of other individuals with included stamens and exerted style; calyx 4-toothed, corolla tube about 13 millimeters long, densely bearded inside, surpassing the oblong spreading lobes; style 1, stigmas 4, linear; drupes edible, 4-6 millimeters in diameter, bright red or rarely white, overwintering, crowned the calyx teeth of the two flowers, with 4 small seedlike bony nutlets to each flower. On dry or moist knolls in woods in east Texas, May-July; from Florida to Texas, north to eastern Canada, Ontario, and Minnesota (Weiner:180-1).

GENERAL

This plant is an ingredient in Dr. Christopher's Prenatal Tea Combination. We have known many women who have used this combination in the last five or six weeks before parturition with wonderful results. It seems to strengthen the uterine area and prepare the muscles for giving birth. When a baby is due and there are no other complications this combination can often help bring about good contractions, although if the baby is not yet due it will not start false labor. One mother, because she was in her forties and having her first child, was thought to be a high risk patient. The doctor was dubious about having a normal presentation much less about having the child naturally. But the mother was committed to a normal, natural birth and took good care of

herself throughout the pregnancy, exercising, eating properly, and taking red raspberry leaf tea throughout. During the last five weeks she took the Prenatal combination. Her labor was relatively short and her birth easy. She is confident that the combination helped this come about.

PARTRIDGE BERRY

Some American Indians today dislike the name Squaw Vine. They point out that the words squaw and papoose are vulgar appellations given by the early French settlers in America. It is a pity that such a useful herb must be saddled with a potentially unpleasant name.

White investigators found Indians reluctant to give details about the use of this remedy. Speck, an early researcher, just wrote of the use of this plant by the Penobscots: "somewhat non-specific, to be steeped". The Menominees informed Smith that the steeped leaves make a tea for insomnia. Skinner claimed in 1844 that a tea of the plant gives much relief to women in labor. Dr. Clapp wrote that it was said to be a mild diuretic and a tea made from it was formerly used in dropsy.

Dr. Claus said that this plant was employed by the American Indians as a parturient.

It is a peculiarly American herb as no use of it is reported by the ancients and it is rarely mentioned or used by foreign practitioners.

The two blossoms are so united at the base that it takes both of them to make one berry. The poet Isaac Basset Choate wrote:

Made glad with springtime fancies pearly white,
Two tender blossoms on a single stem
In their sweet coral fruitage close unite
As round bead cut from a garnet red.

This plant is found from Nova Scotia to Minnesota, south to Florida and Texas. It is especially common in pine forests. The bright red berries are edible and hang on the vines all winter. In fact, the plant with its evergreen leaves is most conspicuous in winter if the ground is free from snow. The small berries are never numerous enough to gathered in quantity but woods rambblers like to nibble on them during walks. They are food for the wild birds especially in winter and early spring when they often have trouble to find enough to eat. John Burroughs in one his poems, wrote:

Mitchella with her floral twins,
Crimson fruit that partridge wins.

Herbalist Harris, however says, "Let us not collect the fruits of this herb for any reason other than to obtain a specimen or two for the herbarium. It is quickly being exterminated by those who search the woods thoroughly for Christmas greenery. The Partridge Berry and the delicate

Pipissewa with its striped leaves are too freely gathered" (Har:Eat:181). That he should link these two herbs is especially interesting because they are sometimes considered similar in action. "Perhaps that marvelous bird of the woods whose name was given to this plant", wrote R.C. Potter, "will not forget the vandalism that took from him his Winter's food". The plant is mountain born and mountain bred. Originating in the slopes of the Andes mountains where over 100 species occur, it has spread to us and now faces extinction for its efforts" (*Ibid.*).

Other names for the plant include checkerberry, winter clover, deerberry, partridge vine, hive vine, one berry, twinberry and squawberry.

The herb was official in the National Formulary from 1926-47.

PARTURIENT

By far and away the most extensive use of this herb is to assist in pregnancy and childbirth. Combined with red raspberry leaf tea, it is an excellent way to strengthen the uterus during pregnancy and facilitate, according to Kloss, "a wonderfully easy delivery" (Klo:316). It is especially useful taken several weeks before the baby is due.

All aspects of the birth, including the labor, delivery and afterbirth, were said to be facilitated by this herb. It was sometimes taken with or substituted by Pipissewa, which was thought to have similar properties.

Experimentally, Weiner states, Squaw Vine fluid extract has been tested for uterine stimulant activity against guinea pig pregnant and nonpregnant uterine tissue but this was without effect. "Thus, most likely the claims are unfounded. The Plant contains tannins, which probably account for its beneficial effects as a local astringent. We have found not experimental basis for the use of Squaw Vine as a diuretic" (Weiner:181).

Other herbalists, however, assert that it is wonderful used in pregnancy as well as other female troubles. It helps clear up discharges and increases the menstrual flow. It is used to prevent miscarriages. The Eclectics recommended it for uterine derangements, as in amenorrhea, some forms of dysmenorrhea, menorrhagia, chronic congestion of the uterus, enfeebled uterine nervous system, etc. (Felk:1274).

The berries are highly recommended to treat sore nipples. The crushed berries are added to tincture of myrrh for a highly potent cure (Cly:113). Another method is to make a strong decoction of two ounces of the herb, fresh if possible, with a pint of water, then strain and add as much good cream as there is liquid of the decoction. Boil the whole down to the consistence of a soft salve and when cool, anoint the nipple with it every time the child is removed from the breast (Felk:1274). Olive oil is sometimes substituted for the cream.

The herb is said to control unpleasant nervous reflexes during pregnancy and that is one of the

important reasons many women use it throughout gestation. It stimulates lactation and aids in normal recovery after confinement. It should be used throughout the entire period of nursing, according to one herbalist. For pregnancy and nursing, it is most conveniently taken in capsules or tablets, although the tincture is preferable for most other uses (Cly:112).

The Indians used this herb for dropsy and diarrhea. It is recommended for dropsy, suppression of urine and diarrhea by the Eclectics. The berries especially are used in cases of diarrhea. It was formerly drunk to cure insomnia. It has been used to help treat bladder infections.

The infusion in equal parts with red raspberry has been used to treat sore eyes, especially in infants.

CULTIVATION, COLLECTION, PREPARATION

We have never seen any cultural directions for this wilding. It grows in dry mountainous places as well as in swampy areas. We suppose that with normal cultural care it could be grown in the home herb garden.

If you collect the leaves without harming the rest of plant you can preserve this perennial year after year. Only take a small amount, never more than one third of the plant's growth. Dry it in a warm, airy place. The fresh leaves are said to be preferable to the dried so it could be best prepared in tincture or extract form to preserve the height of its qualities.

HISTORICAL USES

It strengthens the uterine area, used for insomnia, to help in childbirth labor, as a mild diuretic, a parturient, local astringent, to prevent miscarriage, for amenorrhea, dysmenorrhea, menorrhagia, chronic congestion, sore nipples, nervous reflexes, dropsy, diarrhea and for sore eyes.

CHEMICAL COMPOSITION

This herb has not been extensively studied. It contains saponins (soap-like constituents) and tannins.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING SQUAW VINE

Nu Fem, the female regenerative combination, contains Squaw Vine.

Changease, the combination to help with change of life, contains Squaw Vine.

The Pre-Natal Tea features Squaw vine.

The V.B., the vaginal bolus combination, features Squaw vine.

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STILLINGIA SYLVATICA; EUPHORBIACEAE

DESCRIPTION

This herbaceous perennial grows to a height from 1 to 3 feet. The stems are clustered, glabrous, upright and umbellately branched. The juice is milky, exuded from the root when it is broken. The root is thick and ligneous, extensively creeping. The leaves are alternate, crowded, almost sessile, varying in form from ovate and obovate to oblong and lanceolate, all thick and fleshy and acute at the tip. The margin is crenate serrulate, with a gland in each serrature, the stipules minute and setaceous. The flower is a dense, terminal monoecious spike, the blossoms destitute of petals or disk-glands. The sterile flowers appear in dense clusters of five to ten, arranged about the spike for nearly its whole extent, each cluster in the axil of a deltoid, scarious-margined, acute bract and laterally enclosed by two peculiar scutellate glands attached to the rachis by their centers. The calyx is cup-shaped, membranaceous, with a two-cleft margin, the divisions imbricated in the bud. The stamens, two, are greatly exerted; the filaments filiform, attached for nearly half their length below. The anthers erect, two-lobed, adnate and extrorse. The fertile flowers are few, situated at the base of the spike in the axils of bracts similar to those of the sterile flowers. The calyx is three-lobed, the style thick, articulated blow and the stigmas, three, are single and diverging. The fruit is a roundish, roughish capsule, composed of three one-celled, one-seeded, two-valved carpets. The seeds are globose roughish and carunculate (Mills:603).

GENERAL

Stillingia is another of our peculiarly American plants although there is a tropical Chinese tree that shares the generic name. It is called after Dr. B. Stillingfleet and grows in the pine barrens of the American South. For many years before its introduction into medicine by Dr. T. Y. Symons it was used by the laity in the South as an emetic, cathartic and alterative and it was and is still considered an "absolute specific" in syphilis entirely superseding the use of mercury (Mills:602). It was used empirically in cutaneous diseases and as an ingredient of various blood purifiers used commonly by the people of the South. A once popular remedy, "Wayne's Panacea", was asserted by Rafinesque to depend for its qualities upon Stillingia which Dr. John King of the Eclectic School was said to have most positively controverted. Peter Smith, the "Indian Herb Doctor", did not mention Stillingia in his Dispensatory while Rafinesque does mention it in passing in his Medical Equivalents. This tells us that the plant came into general attention of the medical profession by reason of the uses made of it by the settlers about the date of the first edition of King's American Dispensatory, 1852. Since that period until the early 1860's it was a conspicuous constituent of the popular American blood purifiers and in the form of compound syrup of Stillingia, was used alike in empirical medicine and by the medical profession (Lloyd's Bulletin #18, 1911:83).

It was also used in domestic medicine as a purgative and alterative and for related skin diseases.

Swanton said that the Creek Indians mashed Stillingia roots and boiled them, and a woman who had just borne a child drank the liquid and was bathed in it. A woman suffering from irregular periods bathed in this liquid with devil's shoestring added (Vog:362).

It was also used as an expectorant in pulmonary disorders, as a purgative in liver troubles and as an adjunct to sarsaparilla in blood cleansing formulas .

The plant is found growing in sandy soils from Maryland to the Gulf of Mexico and in Mississippi and Louisiana flowering from April to July.

It was official in the United States Pharmacopeia from 1831-1926 and in the National Formulary from 1926-1947, another native herb of long standing. As Millspaugh wrote, "It is believed to be possessed of valuable properties and greater attention should be paid to it by those living in the country where it is easily obtained" (Mills:603).

Common names for the plant include Queen's Delight, Queen's Root, Silver Leaf, Yaw Root, Sapium Sylvaticum, marcory and cockup-hat.

AN EXCELLENT ALTERATIVE

This herb is classed among the alteratives herbs that help cleanse the blood and whole body without overloading it with toxins.

It is one of those herbs that must be taken with care, however, because in large doses *Stillingia* causes vomiting and purges, producing in many instances a peculiar disagreeable burning sensation in the stomach or other portions of the digestive system, accompanied with more or less prostration of the system. The root, when chewed and the juice swallowed, causes heat in the mouth and throat and along the esophagus, increased salivation and burning as described, however, it loses these qualities by drying; the herb is most active when fresh and is said to lose the potency of its medicine if not used fresh.

In smaller doses it is an alterative exerting an influence over the secretory and lymphatic functions "which is unsurpassed by few if any other of the known alteratives" (Felk:1837). It is a most powerful glandular stimulant especially when combined with sarsaparilla (Hut:319).

The herb is used in all the various forms of primary and secondary syphilitic affections in which it appears to have a most definite effect for healing. There is some disagreement about its actual effect in syphilis probably because in earlier years it was somewhat overrated, that poor preparations have been employed and that the proper preparations of the herb have not been followed. When the herb is correctly prepared and administered the results are said to be as good as those obtained from any of the antisyphilitics (Felk:1837). It should be used in those syphilitic conditions where the tissues are feeble and "tardily removed and renewed, the mucous membranes are predominantly affected and the skin secondarily and the mucous surfaces are tumid, red, glistening and the secretion is scanty." The tincture which should be extracted by alcohol or the fluid extract are the preferable modes of administration, usually 1/2 fluid dram of the tincture or 1 to 20 drops of the fluid extract are given three times a day.

This preparation is also good for skin diseases. Scrofula and other cutaneous affections stemming from improper liver function respond to the disease. It has been mixed with sarsaparilla, guaiac and sassafras also for this use. Another blood purifying combination which is good for skin diseases is *Stillingia*, burdock, yellow dock, blue flag and pipsissewa (Hut:319).

Some question even its efficacy in these preparations claiming that the other herbs effect the difference. Dr. King of the Eclectics, however, that wonderful promoter of native American medicines, was convinced that *Stillingia* was an important blood cleanser and antisyphilitic and that it was really effective as claimed.

Small pieces of the fresh root, chewed occasionally throughout the day, have said to effectively and permanently cure laryngitis and bronchitis. It is good for an ordinary sore throat used the same way. It is "one of the most important of laryngeal remedies, not only relieving irritation of that important organ but proving beneficial in irritative disorders of the fauces, trachea and bronchia. It is therefore an important cough remedy and we have observed the irritative winter cough of years' standing promptly cured with small doses of specific *Stillingia*" (Felk:1837).

For croup, 1 drop of the oil on the tongue three or four times daily has been found successful for severe attacks (Gri:664). This oil is also a good external rub, being very stimulating, but is

generally considered too acrid for internal use.

Stillingia is said to be good for improving the lymphatic functions and aiding in the process of making good blood and digestion. It may be taken without harm for a continued period. It helps clear the liver of toxins and improve its functions. Some consider that it is good for syphilitic cases that have been treated with mercury, to get rid of the undesirable side effects of the mercury.

There is some difference of opinion in the proper form of taking the plant. Lust suggests that you use only the dried rootstock as "the acrid constituents of the fresh plant can cause irritation and symptoms of poisoning" (Lust:369). Some herbalists claim that the dried root contains more concentrated medicine than the fresh but most agree that the fresh contains the more active medicinal constituents. "It must be fresh or recent material to be of any therapeutic value and undoubtedly many of the failures to obtain good result in the use of Stillingia are due to the fact that preparations from old and worthless material have been employed" (Felk:1837).

It has also been used for painful menstruation and leucorrhea.

HISTORICAL USES

Used as a blood purifier, emetic, for syphilis, as a purgative, for pulmonary disorders, liver troubles, glandular stimulant, laryngitis, for tracheal and bronchial problems, croup, mercury poisoning, painful menstruation and leucorrhea.

CULTIVATION, COLLECTION, PREPARATION

The root of Stillingia is collected in the fall. We have never seen any cultural directions for growing it although it is likely that rootstock could be obtained from wild plant collectors and nurtured in the herb garden or herbarium. The root should be made into a tincture or extract after being thoroughly cleaned and crushed, soon after its collection.

RELATED PLANTS

Stillingia sebifera is a Chinese tree also cultivated in the tropics. Its seeds are imbedded in a vegetable fat known as Chinese tallow which is obtained by expressing the bruised fruits previously freed from the kernels. It is composed mostly of palmitin. An oil is also yielded from the seeds themselves (Felk:1838).

CHEMICAL COMPOSITION

Stillingine is the main active constituent, "an amorphous powder, entirely volatilizing by heat, whose sulphate exists as fine scale-like crystals" (Mills:603).

The root also contains tannin, gum, starch, volatile oil with a strong, disagreeable odor, an acrid oil and an acid resin (Felk:1836).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING STILLINGIA

The Red Clover Combination, Dr. Christopher's wonderful formula for cleansing and purifying the bloodstream, contains Stillingia.

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TURKEY RHUBARB

RHEUM PALMATUM; POLYGONACEAE

DESCRIPTION

The leaves of the Turkey Rhubarb are palmate and somewhat rough. The root is thick, of an oval shape, sending off long, tapering branches. Externally it is brown, internally a deeply yellow color. The stem is erect, round, hollow, jointed, branched towards the top, from six to ten feet high. This species is distinguished from our familiar garden Rhubarb by its much larger size, the shape of its leaves, with their oblong, sharpish segments, and the graceful looseness of its little panicles of greenish-white flowers. The first buds which appear in spring are yellow, not red (Gri:676).

When the root is dried, the pieces may show the hole pierced for drying. They have a firm texture, non-shrunken appearance and a bright yellow surface showing white reticulations. These reticulations are due to the fusiform or lozenge shaped cut ends of the closely arranged medullary rays (which are reddish-brown) seen against the white background of the phloem parenchyma. The appearance of the transverse surface varies according to the depth of peeling, which may extend into the radiate wood or even into the pith. The best Rhubarb breaks with a marbled or "nutmeg" fracture. This gives the bright yellow powder favored by buyers. Particular attention is

paid by the buyer not only to the color of the fracture but also to the absence of signs of decay or insect attack. Dr. Christopher said that a person can develop a sensitivity to the quality of Rhubarb and become able to judge by appearance and aroma whether it is good quality or not.

GENERAL

Dr. Christopher included Turkey Rhubarb in his Lower Bowel Formula, which cleanses and tones the whole eliminatory tract. Along with other herbalists, Dr. Christopher taught that many of our ailments are due to faulty elimination, and that many of us store in our bodies quantities of old fecal matter which keeps feeding poisons back into the system. Often overweight people are amazed to see their bulk reduce, even though they eat as much as they like of the mucusless diet, when the old matter is cleansed from the system. We have heard of women especially with chronic "pot bellies" who are delighted to see them reduced when the accumulation in the transverse colon is eliminated. Often a chronic cough results from bowel blockage, as well as aches and pains in many parts of the body. Turkey Rhubarb is a mild laxative--so mild that it can be used for tiny babies, because it gives smooth, easy bowel movements with no cramping. It does not produce an "after-constipation" as many laxatives do. It is very interesting that in small doses, it helps stop cases of diarrhea as well, because of its astringent action.

HERB FROM THE RIVER RHA

Rhubarb is mentioned in a Chinese herbal dated about 2700 B.C. Trading caravans are known to have passed from Shensi westward to Bokhara as early as 114 B.C., from where the drug might have reached Europe either by way of the Black Sea or down the Indus to the ancient port of Barbarike.

Dioscorides and Pliny both knew the herb. They called it Rha which is the ancient name for the Volga River. It is generally regarded as a species of Rheum, possibly R. rhaponticum, grown east of the Black Sea. Scribonius Largus and Celsus in the first century A.D. call it Radix pontic or Rha ponticum (Pontus Exusinus being the ancient name for the Black Sea). It has therefore been suggested that the rhubarb imported via the Black Sea would be called Rha-Ponticum and that coming via Barbarike would be known as Rha-barbarum, which would account for the names rhapontic and rhubarb. Rhapontic rhubarb is said, however, to have been astringent but not purgative. The Arabians supply us with the earliest account of cathartic Rhubarb. However, it was known well in China as a purgative from time immemorial.

Medicinal Rhubarb became known as Russian, Turkish and Chinese Rhubarb, depending on which country through which it reached the market from its native land of China. The drug sold as Turkey or Persian Rhubarb, which came from the East via Persia to the Levant ports in the eleventh and twelfth centuries was of Chinese origin and much preferred. Marco Polo, who lived in China for about thirteen years (having lived 1250-1323), mentioned the abundance of Rhubarb in the ancient kingdom of Tanqut, which corresponds roughly to the modern province of Kan-su.

This Levant Rhubarb gradually disappeared from the trade and in 1640 the drug principally used in England was shipped directly from China or by way of India and was known as Chinese, Canton, or East Indian Rhubarb. The name "Turkey rhubarb", however, was applied in England to the drug imported through Russia. From 1653 Chinese Rhubarb was imported into Russia by a more northerly route than hitherto, passing through Urga on the north of the Gobi desert and through Siberia to Moscow. From 1687-1762 the Russian Government held a virtual monopoly of the trade and by rejecting all Rhubarb which was not of the highest quality, the Moscow drug gained a deservedly high reputation. Canton, however, offered an easier outlet for the drug and freeing of the other Chinese ports in 1860 rapidly led to the abandonment of the Russian route and to the export of less carefully prepared Rhubarb.

In 1732 Boerhaave, a celebrated Dutch physician, procured from a Tartarian Rhubarb merchant the seeds of the plant which produced the roots he annually sold, and which were admitted at St. Petersburg to be the real Rhubarb. These seeds produced two distinct species, *R. rhaponticum*, our garden Rhubarb, and *R. palmatum*, Turkey Rhubarb.

Northern China and Tibet still supply the major supply of Rhubarb although it is grown everywhere to some degree. The English and European grown drug is said to be inferior in its medicinal qualities. Grieve speculates that perhaps the Western grown Rhubarb is harvested too young or prepared less carefully than the Eastern kind. "It is said that the odour of the best samples is so delicate that the assistants in the wholesale drug houses are not permitted to touch it without gloves" (Gri:676).

We have already discussed the origin of the generic name. *Palmatum* refers to the large spreading leaves. Of the other varieties that are sometimes used medicinally, *emodi* refers to the emodin content of the root, and *webbianum* refers to an Indian taxonomist (Tyler:63).

This herb was formerly sold in large amounts, being cited even by the medical profession in earlier times as being very efficacious as a cathartic and for other uses. It has been accepted as a household remedy in syrups and tincture forms the world over. "It is a gift of empiricism to the medical profession" (Lloyds Bulletin, 1911).

Other common names for the plant include East Indian Rhubarb, China Rhubarb, Rhei Rizoma, etc.

APERIENT

Turkey Rhubarb is one of the mildest and most gentle of the laxative herbs.

It increases the circulation of the glands of the intestinal canal and increases peristalsis by stimulating the muscular layer of the bowel. It is highly esteemed as a laxative for children and infants because it is so mild. It has a tonic and astringent after effect and so is valuable to heal the body of diarrhea due to irritating matter in the bowel. After it removes the irritating matter, the

after astringent properties check the diarrhea and it tones up the tissue and corrects any atonic indigestion.

Turkey Rhubarb is especially recommended in convalescence from exhausting diseases. The entire intestinal canal is cleansed, including the duodenum or small intestine. The gentle action of this herb makes it especially desirable in cases of persons bothered with hemorrhoids. The astringent effect may be avoided by taking a teaspoonful of olive oil at night (Kadans:173).

In smaller doses, the herb acts as an astringent to check diarrhea which some herbalists consider is just another form of constipation, wherein only the liquid matter is eliminated from the bowel and the solids remain inside.

In quite small doses, the herb acts as a stomachic, good to treat atonic dyspepsia, to assist digestion and create a healthy action of the digestive organs, when they are in a condition of torpor and debility (Gri:677). When chewed, it acts to stimulate the saliva.

Because of this tonic action, it will help relieve a headache, which is often caused by some blockage or malfunction in the digestive tract. It will reduce distended stomach in children and help overcome anemia. It will reduce biliousness and is an excellent liver tonic. Since it stains the urine and milk yellow, sometimes even staining the perspiration yellow, it was thought early on to be a liver healing herb, but it was found to be so quite independent of its purgative action.

A cathartic action is produced by the herb being applied locally to ulcers, a moist or abraded skin area, or in poultices to the abdomen. This again testifies to the marvelous absorptive capacity of the skin, reminding us never to apply inorganic or chemical substances to the skin, as the body quickly absorbs everything that touches the skin.

Dr. Shook quoted a note from The Chemist and Druggist, March 31, 1923. This was an orthodox medical journal of the time. Dr. R. W. Burkitt, resident physician of Nairobi, British East Africa, wrote that "acute bacillary dysentery has been treated in that colony exclusively with powdered rhubarb for several years. The dose to be given is thirty grains every two or three hours until the Rhubarb appears in the stools. After a few doses the stools become less frequent. Hemorrhage ceases, and straining and other symptoms of acute general poisoning which characterize the disease rapidly disappear...I know of no remedy in medicine which has such a magical effect. No one who has ever used rhubarb would dream of using anything else. I hope others will try it in this dreadful tropical scourge" (ShoA:225).

Rhubarb is considered a very Yin tonic in Chinese medicine, useful in treating most Yang conditions especially toxic blood conditions from excessive intake of meat and other Yang foods (Tie:112). A combination of Turkey Rhubarb and Chinese herbs is often given for stagnant blood, inflammation and suppuration within the lower body, especially in the lower abdomen. It is also effective for those whose vitality is good but who have a tendency toward constipation. It can be used, the Chinese say, for appendicitis, myoma of the uterus, difficult menstruation,

ovaritis and pyelitis (Hsu:57).

The Chinese name for the plant means "yellow efficacy" or "Captain-general", both referring to the high esteem in which it is held as a drug. The purgative properties are not made so much of by the Chinese as they are in the west. It is regarded more as a general eliminant and tonic to the digestive tract. Epurative properties are also much ascribed to it. It is recommended in diseases of women especially those attended by congestion of the pelvic organs. It is also used in malarial fevers and the fevers of children (Shi:374-5).

In Europe the tincture is sometimes added to wines and aperitifs to stimulate appetite and digestion (Lust:378). The leaf stalks are often chewed on raw or stewed and sweetened and eaten, both as a nutritive and a mild bowel stimulant. However, NEVER eat the leaf blades of this or Garden or any other Rhubarb, as they contain enough oxalic acid to cause poisoning (Ibid.). Pregnant and nursing mothers should avoid taking the herb at all.

HISTORICAL USES

Used as a mild and gentle laxative, as a purgative, for intestinal cleansing, for headache, skin ulcers, toxic blood conditions, for stagnant blood, inflammation and suppuration within lower body, for appendicitis, myoma of the uterus, difficult menstruation, ovaritis, pyelitis and malarial fevers.

CULTIVATION, COLLECTION, PREPARATION

The Turkey Rhubarb grows remarkably fast. Between April and July, one six year old plant was observed to grow 11 feet four inches. In one day it was observed to grow 3 inches and over 4 inches in one night. Many of its leaves were 5 feet long. The root, taken up in October, weighed 36 pounds when cleaned, washed, and deprived of its small fibers (Gri:676).

Rhubarb needs an ample water supply, good soil and a fair amount of sunshine. The soil should be treated with well rotted manure (Kadans:172).

The root, which attains a large bulbous size, is scraped to remove its bark and halved longitudinally when mature. It is then cut into transverse pieces and strung on cords to dry in the sun, the drying afterwards being completed by stove heat. It is sometimes dried in attics, under eaves, etc., this process taking about one year.

When the root pieces are thoroughly dried, they should be stored in carefully closed containers as they are subject to insect infestation.

The herb can be prepared in cold infusion, in simple infusion, in syrup, or in pills, which can be made by mixing the powder with a binding constituent, such as slippery elm and water. It is frequently taken in capsules. For a very strong effect you may add some ginger root powder. It

is also given in tincture with alcohol as the menstruum.

RELATED PLANTS

R. rhaponticum, the English Rhubarb, is similar in action to Turkey or Chinese Rhubarb, though milder. It is also called Garden Rhubarb, Bastard Rhubarb, Sweet Round-leaved Dock. In about 1777, Hayward, an apothecary of Banbury in Oxfordshire, England, began to cultivate this plant raised from seeds sent from Russia and produced a drug of excellent quality, which use to be sold as the genuine Rhubarb, by men dressed up as Turks. R. palmatum is not grown for medicine in England as it is too difficult to cultivate in that climate.

The leaves are sometimes used in the fabrication of fictitious cigars and tobacco.

A decoction of the seeds is supposed to ease pains in the stomach and increase appetite. A strong decoction of the root has been used as a wash for scrofulous sores.

If a portion of the root is infused in water and when strained a few grains of salt of tartar be added, a very beautiful red tincture results, which might prove valuable for the purpose of a dye (Gri:679).

R. emodi is the species most used in India. It is good for simple diarrhea but not for constipation or any condition where a reliable aperient is required. It is not used for inflammatory or febrile cases, although it seldom acts as an irritant. It is good for atonic dyspepsia. It is suited for the ailments of children and aged persons best and is very commonly used in India. It is one of the everyday nursery remedies there. Combined with ginger it will work as a cathartic when the bowels are sluggish. Some persons chew the root. It is mixed with other botanicals for irritation of the bowels, common among children when teething and in chronic dysentery, duodenal catarrh or catarrh of the biliary ducts with jaundice and certain skin diseases. For the errors in the diet of children or for the diarrhea set up by undigested food, it is given combined with sodium bicarbonate or magnesia. It should never be eaten by those who have a tendency to gout, rheumatism, epilepsy or any uric acid disease, owing to the oxalic acid it contains (IMM:1057-8).

Rumex alpinus, or Monk's Rhubarb, is used similarly to Turkey Rhubarb, but is not so strong.

Perezia adnata, a plant of Central Mexico, has a root which is used as a laxative. It is a drastic purgative.

CHEMICAL COMPOSITION

Turkey Rhubarb is said to have a very complex chemical composition. Only very skilled analysis could reveal the principles for its action, and no one as yet has thoroughly satisfied this criterion. Dr. Christopher said that the Merck index indicates that what has been discovered is simply overwhelming. The two chemicals which are said to cause the major action of the herb are

binalate of potassium and rhubarbrin. The cathartic action is said to be mainly due to anthraquinone, both with and without a carboxyl group, also to anthrones or dianthrones of chrusophanol, or emodin, or aloe-emodin, or physeion. Heterodianthrones derived from two different anthrone molecules also contribute to the action.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING TURKEY RHUBARB

Fen LB contains Turkey Rhubarb.

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SNH
HHHC



VALERIAN

VALERIANA OFFICINALIS; VALERIANACEAE

DESCRIPTION

Valerian is native to Europe and Northern Asia, although it is sometimes found in most temperate parts of the world. It grows in the Sierra Nevadas and in the major ranges of Arizona, Nevada, Utah and New Mexico, flourishing only in moist gorges, stream embankments and crevices. It is

found from 7,000 feet and higher (Moore:158).

The roots of the plant tend to merge into a short, conical root-stock or erect rhizome, the development of which often proceeds for several years before a flowering stem is sent up, but slender horizontal branches which terminate in buds are given off earlier, and from these buds proceed aerial shoots or stolons, which produce fresh plants where they take root. Only one stem arises from the root, which attains a height of three or four feet. It is round, but grooved and hollow, more or less hairy, especially near the base. It terminates in two or more pairs of flowering stems, each pair being placed at right angles to those above and below it. The lower flowering stems lengthen so as to place their flowers nearly or often quite on a level with the flowers borne by the upper branches, forming a broad and flattened cluster at the summit, called a cyme. The leaves are arranged in pairs and are united at their bases. Each leaf is made up of a series of lance-shaped segments, more or less opposite to one another on each side of the leaf, which is pinnate. The leaflets vary very much in number, from six to ten pairs as a rule, and vary also in breadth, being broad when few in number and narrower when more numerous; they are usually two to three inches long. The margins are indented by a few coarsely-cut teeth. The upper surface is strongly veined, the under surface is paler and frequently more or less covered with short, soft hairs. The leaves on the stem are attached by short, broad sheaths, the radical leaves larger and the margins more toothed.

The flowers are in blooms from June to September. They are small, tinged with pink and flesh color, with a somewhat peculiar, but not exactly unpleasant smell. The corolla is tubular and from the midst of its lobes rise the stamens, only three in number, though there are five lobes to the corolla. The limb of the calyx is remarkable for being at first inrolled and afterwards expanding in the form of a feathery pappus, which aids in the dissemination of the fruit. The fruit is a capsule containing one oblong compressed seed. Apart from the flowers, the whole plant has a fetid smell, much accentuated when bruised (Gri:825).

GENERAL

Dr. Christopher classified this herb among the nervines, those herbs that stimulate and heal the nerves. He said that we usually bring on our nervous problems ourselves because the sheaths of the nerves have been worn or eaten away by the calcium having been leached off with the sugars that we take so much in beverages, candies, pastries and from the many breads that turn to sugar in the body. When the sheaths are thus worn off the nerves lose their energy and their power. It can be so bad that we wind up in the asylum. Dr. Christopher said that when we find ourselves becoming nervous wrecks, we wonder why the Lord has done this to us! The nerves become so frayed that they become like uninsulated electric wires, finally shorting out and that is what causes our nervous problems. When there is a stressful argument, our nerves cannot take the load and give out. Dr. Christopher said that we have to feed the nerves. They are usually robbed of the foods that they need. Dr. Christopher's Relax-Eze formula was a specific herbal food to rebuild the nerves. He said that it doesn't taste too bad, either. Some English people came into his shop and bought so much nerve tea that Dr. Christopher said, "You buy such a lot of nerve tea. You

seem such quiet folks!" He replied, "Oh, we like it better than Lipton's". The Doctor said that it was surely better for them, especially since black tea deranges the nerves.

Dr. Christopher said that good diet and the herbal nervines are not the only ways you can improve the nerves. He mentioned that the synthetic fabrics that we wear are of a molecular vibration that is out of harmony with the human vibration and that wearing synthetics causes nervousness. We have seen people who switched their wearing apparel from synthetics to cottons, silks, linens and wools and so on. In a large measure their nervousness ceased, especially when they started to eat a healing diet of fruits, vegetables, nuts, grains and seeds. Little children especially need to have these natural fabrics close to their skins so that they can grow up balanced. We discussed this problem with a couple who were chemists. They confirmed that each substance in the world does have a specific vibration and that some are compatible with each other while others are not.

Dr. Christopher also said that our bodies collect excessive static vibration. Our bodies receive electricity through the top of the head where we used to have soft spots when we were babies. This electricity is essential to our bodies but it must be fresh and free flowing, coming through the top of the head, down the spine, through the body and is grounded out into the earth. When we do not let the electricity out and be grounded into the earth, it becomes static and toxic and builds up so much that new electricity can't come in. We can't sleep and we become hard to live with. Each day, therefore, we need to spend some time out on the lawn or the ground to get rid of this static electricity in the body. There was an elderly man who was having a lot of trouble sleeping. His insomnia got so bad that he became very difficult to be around. His son knew this principle of walking on the earth to discharge unwanted energy and tried to convince his father to do so, but his father said that no one was going to get him to take off his shoes in public and walk on the lawn barefooted! However, one day, the son said, "Dad, I have something I must talk to you about". He sat the old man down, quickly took off his shoes and whisked him outside. They walked around the lawn a few times, talking and then the old man said that he was feeling tired. He went in the house and went to bed--and slept all night! We have noticed that native peoples who walk without shoes or who wear leather soles that let the energy through are much less nervous than those of us who wear synthetic or rubber soles. We spend a good deal of the summer without shoes and although it may not look as proper or civilized as wearing the plastic sandals that are the style now, we feel much less nervous and very harmonious during this time.

Dr. Christopher said that Valerian root is almost a pure nervine. His wife says that it is her preferred herb to take when she has some difficulty going to sleep. It is also powerfully antispasmodic, soothing, quieting and calming.

PHU!

The name of Valerian has been a source of some disagreement. It is sometimes thought to be derived from the Latin valeo, which means "I am well". It is also thought to come from the Latin valere, to be strong, in Latin. It's also been suggested that the name was given because this plant was first found in the Roman province belonging to the Valerius clan, so-called because of their

strength, which brings us back again to *valere*, to be strong. It is said by some authors to be called after Valerius, who first used it in medicine. The word *Valeriana* is not found in the classical authors. It is first mentioned thus only in the ninth or tenth centuries. During that time and long afterwards it was used as synonymous with *Phu* or *Fu*; *Fu, id est Valeriana* is the way it is described in the ancient medical works of that period. The *Phu* or *Fu* is said to be an expression of disgust at the smell of the dried root, which reminds some people of dirty old socks or underarm odor. In the medical school of Salerno, Saladinus of Ascoli in about 1450 directs that during the month of August, the *radices fu, id est Valerianae* should be gathered. It was also called *Amantilla*, a name by which it was known in the fourteenth century. A curious recipe of that period runs like this: "Men who begin to fight and when you wish to stop them, give to them the juice of *Amantilla id est Valeriana* and peace will be made immediately" (Gri:826).

Theriacara, *Marinella*, *Genicularis* and *Terdina* are other old names by which Valerian has formerly been known. In Chaucer and other old writers, it is sometimes called "Setwall" or "Setewale," the derivation of which is uncertain. Medieval herbalists also called it "capon's tail", which has been explained as a reference to its spreading head of whitish flowers.

It has also been called All-heal because of its medicinal uses, English Valerian, German Valerian, fragrant Valerian, cat's Valerian (because cats love it even more than catnip. If there is a bruised or disturbed plant in your garden, it won't last long if cats are nearby), vandal root, and just common Valerian.

This herb was known anciently by Dioscorides and Galen, who extolled it as an aromatic and diuretic. It is related to the plant referred to in the Bible, spikenard or nard, which was used as a favorite perfume of the ladies of Rome, but their tastes in perfume must have been quite different from those of the present day. It was the *Perfume* during the Middle Ages in Europe, a heavy, almost overwhelming scent, which was perhaps very necessary in the bathless old days in dank castles. It is still used as a perfume in the Orient today. "In this connection we will add that we have known Valerian to be a constituent of a perfume very popular with some ladies but exceedingly unpleasant to some other people" (Lloyd's Bulletin, 1911:89). At a distance, it's a tempting scent, somewhat like vanilla, but if you get close and smell it or bring home a bouquet, the scent is overwhelming, almost fetid.

According to herbalist Nebelkopf, "Valerian root has the strangest smell of all the plants I have encountered. The first time I sniffed Valerian root, at the insistence of (a colleague), I was immediately impressed with an intense feeling of *deja vu*. The herb smelled very familiar, as if it struck a long lost chord in my nervous system. I searched my collective unconscious and an image of drinking Valerian in an ancient ritual in the lost continent of Atlantis came to mind. I was convinced that Valerian root had a potent effect on the nervous system" (Neb:84).

People have differing reactions to the smell of the herb. Fresh, it smells like a cross between rich dirt and tobacco, Moore says, but dried, it has the precise smell of dirty socks (Moore:158). A friend of Nebelkopf's said that the smell reminded him of the corner drug store when he was a kid, and to get it away from him! It reminds some people of patchouli oil, and it reminded a

three-year old of Peppermint, chocolate and onions. It has been compared to rotten feet, moldy mattresses, dirty underwear and "funky armpits" (Neb:85). Nebelkopf suggests that one's reaction to the smell of the herb can actually be important. Anyone contemplating its use should sniff it first. Some react to it with revulsion and disgust. These people should not use it because the vibrations of the plant and the person are not harmonious. But some people say something like, "My, this smells familiar, but I just can't place it". This reaction entails a mild exotic attraction and a strong sense of familiarity with the herb, even though it might be the first time that the person has ever come in contact with it. In this case, Valerian can be quite potent as a nerve tonic and in its relaxing effects (Ibid.).

Gerard wrote that "no broths, pottage or physical meats are worth any thing (among the poore people of Northene England) if Setwall were not at an end: whereupon some woman Poet or other hath made these verses:

They that will have their heale,
Must put Setwall in their keale"
(Wood:128-9).

Gerard also said that it was thought to be excellent for croup and other such problems and also good for treating bruises.

Culpepper in 1649 wrote that the herb brought longevity and comfort, saying that it us under the influence of Mercury and therefore is warming. He said, "The root boiled with liquorice, raisins and aniseed is good for those troubled with cough. Also, it is of special value against the plague, the decoction thereof being drunk and the root smelled. The green herb being bruised and applied to the head taketh away pain and pricking thereof" (Gri:828).

During the Middle Ages the roots were laid among the clothes as a sachet. It was also known to attract rats as its fetid odor is very appealing to them. The legend is that the Pied Piper of Hamelin carried Valerian roots in his pockets when he led the rats into the river.

Historically, Valerian has been thought to bring sleep even where opium has failed. One former addict claims that Valerian root is second only to opium in its sedative effects (Neb:83). Oliver Wendell Holmes wrote, "Valerian, calmer of hysteric squirms", and at the opening curtain of Chekhov's, *The Anniversary*, an aged bank clerk rushes on stages, shouting, "Send someone to the chemist's for three pennyworth of Valerian drops...I am utterly worn out. I feel ill all over". Valerian was one of the seventy-two ingredients (including mashed vipers) that Mithradates brewed up for his famous antidote against poison--a recipe he researched year after year with poisoned slaves as his guinea pigs.

During World War I in Europe, Valerian was given to civilian men and woman under bombardment and suffering nervous strain from the air raids. Mixed with other herbs, a single dose, or repeated according to the need, proved "wonderfully efficacious, preventing or minimizing serious results" (Gri:828).

In large doses, however, the herb can cause headache, mental agitation, delusions and extreme restlessness. Hitler was reported to have been a Valerian addict (Elt:86).

We tend to think that only modern man has need of nervines or tranquilizers; "it is all too tempting to observe the preset frequency of tranquilizer use as indicative of the doomed, exhausted population finally crushed by machine civilization. Sure the pace and noise of present life create tension in biological man but what do you make of this curious entry, recorded in agricultural 1831, by Samuel Thomson, a practicing botanic family physician: 'This powder (Valerian) is the best nervine known. I have made great use of it, and have always found it to produce the most beneficial effects, in all cases of nervous affection and in hysterical symptoms; in fact, it would be difficult to get along with my practice in many cases without this important article'. Apparently, even then, nervousness was a complaint all too frequently brought before the attention of healers" (Weiner:195).

STRONG NERVINE

Valerian has been used since ancient times for relief of nervous problems. The ancient Incas often employed Valerian leaves mixed with seaweed as a massage therapy, especially for the back (Vog:177). It calms and sedates whether the digress is due to emotional stress or to physical pain.

It is used to calm hysteria, not that it cures it but it is a valuable palliative to avert or mitigate hysterical spasms provoked by some accidental cause. This is especially the case for females of weak constitution and excitable temperament and who are exhausted by care and anxiety. It prevents hysterical attacks which weakened and hypersensitive women and girls are liable to and which consist in an excessive susceptibility to impressions, and in the power of converting into real sensations the suggestions of a disordered fancy, whereby countless subjective perceptions and various disordered actions of the lungs, heart, stomach, etc., arise (Philips, 1879). In mild cases of mental derangement, especially when caused by nervous shock of strain, in nervous atony, simulating paralysis, it is excellent. It is good when there is congestion of blood in the brain or not enough blood in the brain--whenever there is irregular distribution of the blood--causes causing symptoms of vertigo, a sense of rush of blood to the head, fainting, confusion of sight and hearing, etc. These symptoms often occur associated with the menopause and Valerian is the remedy to alleviate them. Anyone suffering from hypochondria can benefit from taking the herb as it abates the excitement of the circulation, calms nervousness, removes wakefulness, promotes sleep and induces sensations of quiet and comfort. Sadness is removed, and the hypochondriac state of mind generally abates (Ibid.).

The herb is helpful in nervous fevers, having the symptoms of hypersensitivity, uncertain movements, rapid respiration, sleeplessness, restlessness, fidgets, anxiety and a profuse flow of urine.

It has been used as an anti-convulsant in epilepsy from the time of Galen down to the present day. Fabius Colonna thought that he had cured himself from this disorder by using the powdered root, when many other medicines reputed trustworthy had failed. Scopoli related a case in his *Flora Carniolica* of supposed epilepsy resulting from fright, which had been cured by Valerian. Marchiant, in *Histoire de l'Academie Royal des Sciences*, 1706, mentioned several instances of the same kind. It is probable that some have mistaken the epileptiform convulsions which occur in hysteria for true epilepsy. Convulsions can sometimes be caused by worms, and these often resemble epilepsy. Valerian, being anti-parasitic, might consequently remove convulsions that were related to worms. Most people consider Valerian not curative but palliative, so that the cure of epilepsy might not result from using the herb. It is no doubt relieved, however, by the use of Valerian especially since Dr. Christopher described epilepsy as nerve derangement or disintegration due to stress and extreme eating habits and sometimes sexual excess. Valerian can feed the nerves and help them regain their elasticity and functions. Although this might not totally cure the epilepsy it can substantially contribute to healing. St. Vitus Dance is often treated the same way. It is said that the American Indians believed that if epileptic fits will not yield to this herb, they are incurable (Lev:Common:145).

"A son of Mr. Hoyer's of Shelby, Niagara County, twelve years old, was subject to fits terribly, being in a fit sometimes for two hours. Dr. Failing, next town, obtained a remedy in Canada, which cured the boy in six months". The remedy was as follows: Put as much Valerian root and the castor or wart from a horse's leg, which is to be cleaned and cut into small pieces, as will be digested in a pint of whisky. The dose is a tablespoonful a day, until the cure is effected (D. Magner, *The New System*, 1883).

The herb is quieting for people under nervous strain. It calms the patient and brings about a feeling of quiet and good feeling. It is especially good for headaches of a nervous origin and for those headaches which follow profuse or painful menstruation. It is relaxing in cases of premenstrual tension. It is good for people who suffer from hysterical indigestion often the food in the system causing toxicity and agitation, especially for women who are often under stress as they serve and eat their meals. These headaches are often accompanied by a temporary or frontal headache, irritation and distended abdomen as the food ferments in the system without being digested. The flatulent distention comes on without notice and subsides quite as suddenly, after causing quite a bit of discomfort. This is commonly treated with Valerian and effectively so.

The herb has often been prescribed in cases of insomnia. It calms nervousness, abates the excitement of the circulation, removes wakefulness, promotes sleep and induces sensations of quietness and comfort. When combined with scullcap, the herb is excellent for insomniacs, who should take about a teacupful three times a day, one always before retiring. Larger doses before retiring usually have the opposite effect (Day:186). It is good for children and infants who are restless in illness, such as with measles or scarlet fever. It brings rest and sleep, which are important for healing such cases.

The herb is said to be good for infantile convulsions. It has been used for hyperactivity in

children. Petkov and others in Bulgaria recently demonstrated that an extract of the root has central nervous system sedative effects and the ability to steady an arrhythmic heart in lab animals. Cavazzuti in Italy demonstrated that a mixture of Valerian, Passion flower, camomile, hawthorn, sucrose and orange essence was effective in treating children "one to twelve-year-olds with psychomotor agitation and nonadaptation disorders". Using the double blind method, which is rarely applied in evaluating herbs, this mixture displayed genuine effects in treating hyperactivity and insomnia (Weiner:196).

The herb has a beneficial effect on the heart and on blood pressure. One man felt "jittery and woozy" taking his blood pressure medicine and asked an herbal practitioner for something to help him. He didn't say that he was going to stop taking his medicine but a few weeks later, he said that he had been to his doctor, and that his blood pressure was down to normal. He didn't have the nerve to tell the doctor that he had stopped taking the medicine and was drinking a tea composed mostly of Valerian and hawthorne. Valerian helped a retired Army captain with a long standing heart condition who had taken all kinds of medication. After taking Valerian he reported that nothing had helped him more than the herb (Bri:238).

Valerian is said to be useful in the treatment of delirium tremens. It is of increasing use in the rehabilitation of drug addicts. A former drug addict says that it's a good sedative. "Even if drinkin' a cup of Valerian tea don't do nuthin", he says, "it ain't hurtin' you either. You ain't slammin' heroin into your arm, so it's got to be good" (Neb:84). The root plays an important role in the somewhat arduous process of rehabilitation for many an addict. Often it serves as a substitute for Valium (whose chemical makeup it closely resembles) to help an addict sleep easily and relax. Addicts rehabilitating in San Diego make a mixture of Valerian root, spearmint and camomile in equal parts. The other two herbs, which also assist in the relaxing process, help mask the smell of Valerian. Other herbs can be added or substituted. One osteopath and consulting herbalist recommends an herbal tea of Valerian root, spearmint, camomile, hops, scullcap and lobelia, "guaranteed to numb you, if it doesn't knock you out!" (Ibid.).

The herb has been used as an eyewash to strengthen the eyesight especially when the vision is weakened by want of energy in the optic nerve (Gri:828).

Oil of Valerian is employed to a considerable extent in Europe as a popular remedy for cholera, in the form of cholera drops.

It has been used for painful menstruation and taken hot is said to bring on suppressed menstruation.

It is said to greatly relieve ringing in the ears, a decoction being drunk perseveringly for this problem.

Stimulating the nervous system, Valerian is very useful in combination with guaiacum in strumous enlargement of glandular structures.

Although the herb definitely acts as a sedative, it can sometimes have a stimulating effect on certain individuals. This is because the essential oil of Valerian was not transformed by the body's own enzymes into Valerianic acid, the calming principle. It will have a stimulating effect until that enzymatic process occurs (Tie:119).

The herb can be taken for chronic constipation, particularly if this is due to nervousness.

Externally, the expressed oil in solution with alcohol is an excellent massage for paralyzed limbs, cramped limbs, swollen joints, swollen arteries and veins. The ancient Aztecs used the herb as a massage oil. Since it acts directly upon the nervous system through the spine, it is an excellent oil for massage.

The herb acts as a tonic in the system to eliminate acne and pimples.

In the Doctrine of Signatures the short root stalk with many fine meshed merging roots and rootlets were said to resemble the brain structure. The crevices and rocky walls of gardens and damp woods, which are its preferred growing sites, show that often painful or habitual dysuria or constipation is brought on by a serious agitation or breakdown in the nervous system (Harris:185).

VALERIAN IN THE GARDEN

As mentioned above, cats adore Valerian. You can add some dried root to the pillow on which your cat sleeps, and he will show everlasting love for the pillow. They can smell the herb if it is crushed, even at a long distance. They are seen rolling themselves on the plant and are heard mewling and purring in the most extraordinary manner. After a while they are seized with spasms and convulsions and at last expire in a kind of voluptuous frenzy.

In a border in the garden, Valerian helps most vegetables. It stimulates the phosphorus activity in its own vicinity. It attracts earthworms. The influence of the plant can be enhanced by making a spray of the juice. "It is a particular joy for the earthworms and they are attracted by it. The Valerian spray is repeated once a month during the summer and it encourages the general health and resistance of the plants. It can be sprayed on the soil, also on all plants at whatever stage, whereas caution is necessary with some other sprays" (Phil:92).

Some of the Valerians are used in the Orient as perfumes. The plant is also much valued as an ornamental in the garden.

HISTORICAL USES

Used as a nervine, anti-spasmodic, to protect against the plague, head pain, to bring on sleep, as a sedative, to calm hysterias, for nervous strain, stress, mental derangement, irregular distribution of

blood to the brain, menopause symptoms, sadness, restlessness, anxiety, profuse flow of urine, epilepsy, infantile convulsions, to lower blood pressure, heart condition, drug addiction, menstrual pains, suppressed menstruation, ringing in ears, cholera, swollen joints, swollen arteries and veins, cramped limbs, paralyzed limbs and acne.

CULTIVATION, COLLECTION, PREPARATION

Valerian makes a handsome border plant in the herb garden. The seeds do not germinate very easily, and most gardeners are better off starting the plant from divisions rather than seeds. If no older plant is available, the plant will have to be purchased. In many areas, commercial cultivation is from wild plants collected in local woods and transplanted to prepared land. Preference is given in collecting root offsets to daughter plants and young flowering plants, which develop towards the close of summer at the end of slender runner given off by the perennial rhizomes of old plants. These are set one foot apart on rows, two or three feet apart. The soil is first treated with farmyard manure (well rotted), and after planting it is usually given liquid manure, as well as water from time to time. The soil is said to need manuring to produce a good crop. It must be kept well weeded.

Valerian has a peculiar habit of growing out of a crown, a short, conical root stock. The crown may develop several years before the sleeve and flower stalks develop. When dug up, the crown may be transplanted and used to start individual plants. This should be done in March or April, as soon as the crown appears (Hyl:613).

The plants very easily overcrowd themselves, so you should occasionally divide them to ensure good growth. At least every three years, the whole plant should be divided and the plants redug, planted in rows at least one foot apart. The plants are spaced one foot apart in the row as well.

The root is dug in the autumn. Sometimes the flowering tops are cut off as they appear, thus leaving the strength of the plant to go into the root. Many of the young plants do not flower in the first year but produce a luxuriant crop of leaves and yield rhizome of good quality in the autumn.

The roots should be washed thoroughly to remove all stones and debris. They are dried whole, at a somewhat high temperature, about 120 degrees F. The roots should be brittle and warm, not cool, to the touch. If they're rubber like, they should be dried further until they snap when bent.

While the dried, unground herb is presently available in most herb stores and very popular, the powdered root is much stronger. However users of these, herbalist Weiner says, are experiencing only a trace or a remnant of the effects of the fresh root which is far more potent. The esters in the root are unstable and are lost during the drying process. For this reason the drug's effects vary considerably, so much that the physicians largely abandoned it by the end of the nineteenth century. Weiner says that a far more potent action can be obtained by using the juice of the fresh root, in dosages of 1 to 3 tablespoonfuls. In Europe, the tincture of Valerian is widely available

and a very popular natural tranquilizer. Weiner suggests only using fresh material (Weiner:196-7).

When preparing the herb, it must never be boiled. You can low heat it for fifteen to thirty minutes in hot water, but never allow the root to come to the boil or the medicinal properties are lost. It is often taken in tincture form, sometimes in combination with other ingredients, such as wild lettuce which is excellent for insomnia and to quiet restless, cranky children.

The taste of the herb is surprisingly not as strong as the smell, so if prepared in tea, especially if combined with one of the mints or other aromatic herbs, it is not as disagreeable as it first seems.

One herb gatherer describes harvesting Valerian in eastern Maine one summer. A friend and he found a meadow full of the herb near the coast and decided that they would spend a day seriously digging it. The meadow had a thick turf which had to be cut through with a shovel. The herbalist could roll back the layer of sod, pull it apart, and extract the Valerian which were tangled in among the other roots. It was hard work, and they broke one shovel but by the time the day was over they had a shopping bag nearly full of roots. When they got home, they spent another half day to wash and sort them. Several days later, after the roots were completely dry, he weighed them and found that they had gathered a little more than three pounds, worth about six dollars on the wholesale market. That meant that his friend and he earned three dollars each for a day-and-a-half's work! He comments that he must be in this business for love rather than money (Elt:87). If you grow or gather the root wild, however, you get compensation worth far more than money. Dr. Christopher recommended that people produce their own herbs in their own gardens, so that they could be assured of quality articles and be sure of obtaining the herb no matter what conditions the stores were in.

"Whenever, in driving about, I see a particularly fine plant in a dooryard, I make friends with its owner, and later suggest that if she (it is usually a 'she') will give me a small root of this or that, I will bring her some plants or bulbs from my garden, of a kind which she has not. So we are both equally benefitted. In this way I was once given a plant of Valerian, which has a tall, beautiful white flower with a most delicious odor like vanilla. It bloomed for three weeks in late May and early June. From this one plant there are now in the garden a number of large clumps several feet in diameter, and I have given away certainly fifty roots. Valerian is a small white flower in good sized cluster on long stems, seen nowadays only in old fashioned gardens. I am told it cannot be bought of horticulturists" (Helena Rutherford Ely, A Woman's Hardy Garden, 1907).

RELATED PLANTS

Valerian is often fraudulently adulterated with other species, which are smaller and of much feebler odor and not possessive of such active properties. V. dioica, for example, the Marsh Valerian is often used thus. This is a native of Great Britain found in wet meadows and bogs, but rather scarce. It is a smaller plant than the official Valerian, its stem only growing 6 to 18 inches high. The leaves are very variable, the lower ones generally entire, oval but broader at the base,

the upper ones cut into pairs of leaflets, and the flowers dioecious, the male flowers being arranged rather loosely, and the female flowers, which are smaller and darker, being in more compact heads.

The roots of V. Phu are also frequently mingled with those of the official plant in the imported drug. This species is a native of Southern Europe and Western Asia, often grown in gardens for its decorative golden foliage, being easy of culture. Its rhizome is sometimes known as V. Radix Majoris. It has a feeble Valerian like odor and taste.

In Germany various Buttercup roots are a dangerous adulterant of Valerian. They may be readily detected by their lack of the peculiar Valerian odor. The Valerian in the markets of Paris is often largely adulterated with the roots of Scabious. The roots of Geum urbanum, or Avena are also found in imported Valerian. Both varieties may acquire the smell of the Valerian root on contact in the parcels.

Cypripedium pubescens, or American Valerian, is really the plant called Lady's Slipper. It is a gentle nervous stimulant and weak antispasmodic, less powerful than Valerian.

V. Wallichii is the Indian Valerian. It is indigenous to India, being found in the temperate Himalayan region. It is used in tinctures, though more used as a perfume than a medicine. It is largely employed in preparations for the hair and the dried rhizome is used in incense.

Nardus spica celtica is the rhizome of Valeriana celtica, a native of the Alps. It is thin, about 3 inches long, and possesses the strong odor and taste of Valerian.

Nard indica or true spikenard is obtained from Nardostachys, also called Valeriana jatamansi. It is indigenous to India.

Patrinia scabiosaefolia, known in Japan as kesso, resembles Valerian in appearance, odor, and taste, but has a short rhizome, not over 1/3 inch.

TOXICITY

Few cases of toxic doses of Valerian have been reported. If the herb is taken over a long period of time, it is said to result in melancholy and depression. A large dose may cause a sense of heat and weight in the abdomen, burping and even vomiting, colic and diarrhea. It also may cause some excitement of the pulse, general warmth, and either perspiration or diuresis. In somewhat smaller doses it is generally positive in action, although sometimes it may bring a sense of embarrassment in the head, with heaviness and pain. In states of morbid nervous excitement without fever, when thorough exhaustion the pulse has become small and frequent, Valerian lessens its frequency and increases its force and volume.

CHEMICAL COMPOSITION

Valerian yields about 0.5-1.0 percent of volatile oil. This contains esters (bornyl isovalerianate, bornyl acetate, bornyl formate), alcohols, terpenes and a sesquiterpene alcohol (valerionol). The development of the odor on drying, sometimes laughingly called the Dirty Sock Factor (Moore:158), is due to the hydrolysis of the esters and the production of free isovalerianic acid .

Valerian also contains alkaloids.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING VALERIAN

Relax-Eze Tea , used for anti-stress, contains Valerian.

Wild Lettuce & Valerian formula contains Valerian.

Antsp, the Antispasmodic formula contains Valerian.

AR-1, the arthritis formula contains Valerian.

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Mal
Klo
Phil
Weiner
Thom
Day
Neb
Lev:Common
Mil

Twi
SNH
Lev
Wood
Philips
Harris

 **WATERCRESS**

NASTURTIUM OFFICINALE; CRUCIFERAE

DESCRIPTION

Watercress is a hardy perennial found in abundance near springs and open running watercourses of a creeping habit with smooth, shining, brownish-green, pinnatifid leaves and ovate, heart-shaped leaflets, the terminal one being larger than the rest. Flowers are small and white, produced towards the extremity of the branches in a sort of terminal panicle (Gri:845).

GENERAL

Watercress has been used since ancient times as a food and as a health remedy. Endymion the shepherd of Greek mythology said that "Cresses grow best where no man can see them." Xenophon extolled the use of the plant to the Persians and to his native Grecians, to feed it to children in order to grow "firm, healthy bodies". The herb was also thought to sharpen the intellect: "Eat Watercresses often to have a sharp and ready wit," the ancient saying went. In The Clouds, Aristophanes wrote, "The earth would draw their essence to herself; the same too is the case with Watercress. Thought draws the essence into Watercress."

Roman herbalist Pliny wrote that Watercress had many medicinal uses, including neutralizing scorpion's venom and driving away serpents. However, Dioscorides writing in about the same time said that the seeds of this plant were bad for the digestive system and the stomach, harmed the spleen and killed the unborn child. He did teach, however, that it would repel internal parasites and acted as a potent aphrodisiac. Pliny did not consider the herb aphrodisiac, however, saying that it had the opposite effect. It has always been thought to bring strength. The Egyptian Pharaohs served freshly squeezed Watercress juice to their slaves each morning and afternoon in order to increase their productivity (Keller:354).

The herb has long been prized by the Mohammedans in India but only in relatively recent times has it been used in Europe and England. There it is greatly valued for its health giving properties

but here in the United States it is quite underrated and rarely used.

In the eleventh century Lord Bacon urged the English people to use the herb but he got little response. He said, "Watercress is friendly to life." Much later, Rabelais wrote in *Gargantua and Pantagruel* (1532) that the Lentkeeper ate "so much Watercress that if he sobbed, it was penny-packages of Watercress." In 1525, Richard Banckes recommended the herb to cleanse the system and provoke urine. A contemporary of his, Dodoens, considered it good against bladder, blood, or skin disorders, hardening of the arteries and gravel.

Gerard wrote, "Being chopped and boyled in the Brothe of flesh and drunk, it doth cure young maidens of the green sickness, bringeth down the Terms, and send into their face accustomed lively color lost by the stopping of their menstrea" (Keller:357). He also said that it was known as the Cuckoo flower because it becomes green when the cuckoo begins to sing pleasant notes.

A contemporary of Gerard, Langham, had a great deal to say about Watercress. "To know whether a wounded man shall dye or not, let him drinke Red Wine, then eat a Penneyweight of the Seed of Water Cresse & do so 3 days. If he staunch not, he may not live." He said that it was good to rub on the tongue--the juice--to restore lost speech, or the seeds held under the tongue would do the same. One suffering with dropsy, he said, should eat three crops of Watercress to take away the swelling, by which he means three bunches a day, but a person should not drink after this dose. For hemorrhoids, he said, you could apply balls of Watercress, after it was boiled and dried, as hot as it could be borne, for nine days running. He said that cows that eat the herb give very good milk. The seeds of Watercress, Langham wrote, were good for coughs and colds, eaten with the best honey. But he warned the seed is not good for pregnant women as it can provoke an early labor. A dead fetus, though could be expelled by taking the crushed seeds in wine. The seeds in white wine would stop gonorrhoea and impotency. In fact, he said, "the seeds provoke venury and lust" (Keller:357). Langham also prescribed some beauty treatments with Watercress. "The Bruised Leaves or the Juice applyed morne & even, taketh away spots, freckles & wrinckles of the face. Haire not to fall, anoint with the Juice. It driveth away life of the head, being washt with it" (*Ibid.*).

Not many years after, The Englishman's Doctor included some verses about Watercress (1608):

To tell of Cresses vertues long it were,
But diverse patients unto that are debter;
It helps the teeth, it gives to bad men haire,
With hony mixt, it Ringworme kills and Tetter.

Take Sage and Primrose, Lavender and Cresses,
With Walworth that doth grow twixt lime & stone
For he that of these Herbes the Juice expresses,
And mix with Powder of a Castor-stone
May breed their ease whom plasy much oppresses,

Or if this breed not helpe, then looke for none.

Culpepper recommended Watercress pottage to cleanse the blood in spring and "consume the gross humour Winter hath left behind; those that would live in health may use it if they please, if they will not I cannot help it. If any fancy not the pottage, they may eat the herbs as a salad" (Hat:95). He said that it was good for scurvy, to break stones, warm a cold stomach, restore a lost appetite and digestion.

As food, the herb also reaches back into history. During the seventh century B.C., Spartan athletes, who were famous for their dedication to superb health and sports, relaxed each day after they had completed their exercises in the outdoor arenas which were the first gymnasiums. Their coaches gave them heavily buttered, open faced yogurt sandwiches topped with a bunch of Watercress so the athletes would remain in top condition. In the days of Marco Polo (1254-1324) when only the very wealthy could afford the new seasonings he brought from China, peasants, who were never ill, seasoned most of their food with the pungent Watercress. In England today, Watercress soup and sandwiches are considered important to good health (Keller:359). You may even remember, from your childhood, that A.A. Milne's character Roo was given Watercress sandwiches by his mother, Kanga.

On the American continent, Coronado, during his explorations found Watercress growing near the Gila River in Arizona. In 1806 Lewis and Clark reported it in the land which is now Oregon. It was used medicinally by the native Indians there (Herb, Jan. 1978:31). In Mexico, the raw herb was crushed and added to water, then sweetened. It was steeped a few hours and strained and given, when thirsty, to people with weak lungs or tuberculosis. Spanish speaking New Mexicans use it as a treatment for kidney and heart troubles. For an inflamed liver, mouth or larynx, native Mexicans drink the crushed leaves with water. The cooked leaves are mashed with olive oil and bound as a poultice over any painful place. The fresh plant is used by the same people in the treatment of constipation.

The generic name means "a convulsed nose" referring to its pungency.

In Africa, people believe Watercress will cause temporary sterility, but they also consider it an aphrodisiac. They use it to treat head colds and lung problems, such as asthma (Herb, op. cit.).

TONIC WATERCRESS

Watercress, like other plants which have a pungent taste, is celebrated as a blood purifier and has been used in the springtime to eliminate the toxins accumulated in the winter. It increases the appetite, frees up the bowels and causes a freer flow of urine. It is strongly alkaline and therefore treats acidity of the blood and relieves symptoms related to overacidity. It is said to help clear up acne as it cleanses the blood and relieves arthritis and rheumatism. It is relative high in vitamin C and was extensively used to prevent scurvy in the last century. If you do not have a source of Vitamin C in your diet or vitamin pills in some stressful situation, Watercress could be a valuable

supply. For 100 grams of plant material, it contains 79 milligrams of Vitamin C.

Used with carrots and spinach it is said to be very helpful in treating low blood pressure and anemia (Herb, opt cit.). It is used as a diuretic, causing an increased flow of urine and helping thus to cleanse the system. It has been used as a stomachic. It nourishes the pituitary gland and strengthens the heart. Because it is rich in iron and iodine, it stimulates glandular activity (Lust:390). Limited loss of hair caused by a fungus can be remedied by an application of the juice (Ibid.). It is prescribed because of its high sulphur content, for eczema, while its unusual Vitamin A content makes it particularly good for night blindness (Coon:148). Children with weak bones and soft teeth should eat it for the quantities of lime it contains, while diabetics will want to eat it because of its low carbohydrate content and its iron in greater quantity than spinach (Ibid.).

Because it is an excellent blood cleanser, it is used in scrofula in children and applied as a poultice to eczematous eruptions. In fact, because of its potency in vitamins and minerals, and because it cleanses the system, it is a good disease preventative, taken daily. Herbalist Levy says that one should "eat as much Watercress as can be obtained, raw, in the daily salad. There is no better salad herb available to man. An old name for Watercress was 'Poor man's bread.' When wheaten bread could not be afforded there was always Watercress" (Lev:Common:150). It contains three times the amount of Vitamin E as lettuce and therefore has been considered good to improve stamina (Hut:293).

In the Doctrine of Signatures, the fact that it grows in water and it is most succulent indicates that the plant has strongly diuretic properties. It is also good for near anemic blood and a good remedy in most blood and skin disorders (Har:Complete:188-9).

Watercress thrives in cold, clear water where it forms dense masses along the edges of slow moving streams. It anchors its white, thread-like roots to the bottom of stream beds. If you have a stream on your property, start plants by placing seeds thinly in pots filled with a mixture of earth, some ground limestone and sifted wood humus. In its native habitat, Watercress thrives on bits of leaf mold that become entangled in its mesh of roots and stems after being sifted over the sands and stones of the creek bed. It prefers water that issues from limestone, since it thrives on calcium. Keep seedlings wet at all times and be sure the window sill tray, or other container, is set in a cool, only partially sun lit spot. As soon as the plants are large enough to handle, set them out in a convenient place along the banks of the stream in April or May (RodE:1102).

If you do not have a stream, the herb can be grown in pots as long as the soil mixture is kept wet. Therefore the pots must be set in a tray of water. You can also plant it outdoors, in a miniature sunken garden, for example, in pots placed in a sunken bird bath or some other container sunk in the ground (the water stays cooler that way). The water should be changed often (Ibid.).

Plants can be obtained by rooting sprigs from a bunch. Sprigs will sprout in a glass of water, provided the water is changed daily (Ibid.).

When collecting the Watercress be sure that you gather only the Cress, since the poisonous water hemlocks, which somewhat resemble the carrot plant, often grow nearby. The Watercress usually sways and floats on top of the water and is quite easily distinguishable from plants. When harvesting, do not pull up the whole plant, but pinch or snip off the greens at the water's surface. In this way, there will be plenty for future use (Herb, op. cit., p. 32).

It used to be said that Watercress would only grow in pure, clean, water but we have seen it growing in streams that were quite polluted. It is said to carry Salmonella and it will absorb pollution wherever it grows. Unless the Cress is to be cooked, one can't always be sure that the Watercress is safe. You can soak the thoroughly washed leaves and tender shoots in a halazone solution. Use two tablets to a quart of water and let stand for a half hour. It is wise to soak store bought Watercress in the same way (Ibid.).

Many people who are accustomed to purchasing Watercress in bunches at the grocery store may not recognize it growing. One author saw quantities of the herb floating in a stream nearby a city where it was offered in quantities for sale in the vegetable markets.

Harris, who often conducts herb field trips once came across "two swarthy looking men who were gathering several basketfuls of Watercress. The surprise came not because we had something in common, i.e. utilizing common herbs for food value, but because of what one of the Cress pickers said: 'Most Americans don't know how to live because they don't know what is good for them to eat. For as long as I remember, Watercress has been included in each and every one of our meals. 'And, he added, pointing to the other whom I had mistakenly called his brother, 'this is my father.' (The father's youthful appearance, I later discovered, was due to eating such native greens as Watercress and dandelion and native nuts instead of meats.)" (Har: Eat:238).

You can gather and dry the leaves for sprinkling on winter fare but by far the best way of using the herb is raw and in a salad. You can mince it and add it to soups or vegetables just before serving. Thinly slice whole grain bread, butter it well and spread it thickly with Watercress leaves for the classic sandwich. It is said to be, by far, best tasting and best for you eaten raw.

If you wish to cook it you can prepare and serve it exactly as you do spinach. English Watercress Soup is made by washing a bunch of Watercress, including stems, chopping finely, and cooking lightly in 2 tablespoons of butter for a couple of minutes. Pour on 3 cups of boiling water or stock, and simmer for 8-10 minutes. Season with salt and pepper to taste. Beat the yolk of a raw egg, and off the heat, stir into the soup. Garnish with 2-3 tablespoons of cream and serve (Froud:82). Cream of Watercress Soup is made by making a creamed potato soup and adding a pound of minced Watercress. Cook until done. We always enjoy a dinner of "Shtampot": cook red skinned potatoes that are cut into chunks but not peeled, until done. Add a bunch of minced Watercress and steam briefly. Drain, if necessary, and mash and season like potatoes. With grated cheese atop, it is almost a meal in itself.

You can soak the minced leaves in milk for medicinal use or make a standard infusion to sweeten

and take as needed. The juice can be expressed and taken internally or used on the skin. The dried leaves can be made into an infusion in the wintertime.

Tierra recommends a formula to supply easily assimilated minerals that includes Watercress. Combine equal parts of Parsley root and leaf, yellow dock, nettles, irish moss, horsetail grass, comfrey root, kelp, and Watercress. Slowly simmer in a quart of water until the volume of liquid is reduced by half. Strain, keep the liquid, and cover the herbs with water once more. Simmer for ten minutes. Strain and again combined the two liquids. Cook down until reduced by half. Add an equal amount of blackstrap molasses; this can be taken by the tablespoonful three or four times a day (Tie:61).

HISTORICAL USES

Used to sharpen wit, to neutralize scorpions venom, for intestinal parasites, as an aphrodisiac or the opposite effect, for bladder, blood and skin disorders, for hardening of the arteries, gravel, green sickness, to bring on menses, to restore lost speech, dropsy, hemorrhoids, coughs, colds, gonorrhoea, impotence, spots, freckles and wrinkles, as a blood cleanser, for scurvy, stones, digestion, kidney and heart trouble, tuberculosis, weak lungs, inflamed liver, asthma, to increase the appetite, to free up the bowels, for a free flow of urine, night blindness, hair loss due to fungus and for eczema.

CHEMICAL COMPOSITION

Here is a breakdown of Watercress' impressive content: For every 100 grams of plant material:

water	93-3%
calories	19
protein	2.2 grams
fat	.3 grams
fiber	.7 grams
ash	1.2 grams
calcium	151 milligrams
phosphorus	54 milligrams
iron	1.7 milligrams
sodium	52 milligrams
potassium	282 milligrams
Vitamin A	4,900 international units
thiamine	.08 milligrams
riboflavin	.16 milligrams
niacin	.9 milligrams
vitamin C	79 milligrams

It also contains traces of magnesium, chlorine and sulphur.

RECENT FINDINGS

The infection *F. hepatica* occurs in cattle and other animals but only rarely in human beings. In Corozal, Puerto Rico, cattle were found, in investigations at slaughterhouses, to be infected with the disease but there was a paucity of information about infection in humans. Twelve adults were tested for infestation, and eleven of them had it, all of whom had been eating locally produced Watercress. Another was found to have the infestation, a four-year-old child whom the parents said did not eat Watercress ("Human Fascioliasis in Corozal, Puerto Rico, Journal of Parasitology, Vol. 68:2, 1982, pages 297-99).

The clinical, laboratory and scintigraphic findings in four cases of human fascioliasis were described. Acute onset of fever, abdominal pain and weight loss were reported. Eosinophilia and alteration in liver function are frequent. Most people who get this disease are reported to have eaten Watercress on which the eggs of the pest grows ("Radionuclide Imaging of the Liver in Human Fascioliasis," Nuclear Medicine Services, Veteran Administration Medical and Regional Office Center, San Juan Puerto Rico, August 1984, Vol. 9, No. 8, pages 450-3).

Fascioliasis was reported in a 60 year old widow who ate wild Watercress. There were necrotic tracts on the surface of the liver left by the invasion of numerous flukes. Symptoms resolved twelve weeks after presentation ("Evolution of Fascioliasis After Eating Wild Watercress," Australia and New Zealand Journal, October, 1982, Volume 12, No. 5, pages 525-7).

In France, there was also an infestation of human fascioliasis which were traced to Watercress and other plants which grew in pastures inhabited by cattle, which are highly infested with the flukes ("Epidemiological Data on Human Distomatosis in the Limousin Region of France," Ann. Parasitology Hum. Comp. July-Aug. 1980, Volume 55:4, pages 393-405).

DR. CHRISTOPHER'S FORMULAS CONTAINING WATERCRESS

Kelp-T-Comb, which is a superior mineral supplement, contains Watercress.

The Garlic, Rosehips & Parsley combination which is good for resisting and overcoming minor ailments such as colds and flu contains Watercress.

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WHITE POPLAR

POPULUS TREMULOIDES; SALICACEAE

DESCRIPTION

This tree attains the height of twenty to fifty feet, with a diameter of eight to twelve inches. It is covered with a smooth, greenish-white bark, except on the trunks of very old trees. The leaves are orbicular-cordate, abruptly acuminate, dentate, serrate, smooth on both sides, pubescent at the margins, dark green, three-nerved, two to two and one half inches long, and one and one-fourth as wide, on long, slender and laterally compressed petioles, which accounts for the continual agitation of the leaves by the slightest breeze. The aments are plumed with silken hairs, and are about two inches long and pendulous, appearing in April, long before the leaves. The scales are cut into three or four deep, linear divisions, and fringed with long hairs.

GENERAL

Populus Tremulus

The aspen knows its place
And will not encroach upon imperatives
Of pine above or oak below.

You see them in the hollows
Of high north slopes,
With trunks that bend downhill
Then curve toward the sky,
And thus record in shape
Adversity of snowslide

And instinct for verticality.

The bark is startling white
And leaves a powder on the hand,
But twigs that die
Are black in odd relief.

The wood is light and weak--
It quickly rots
And burns with little heat.

The small round leaves
Are pale green in spring
And never very dense.
They tremble in no apparent breeze
And finally fall like golden
Coins upon the early snow.

They have no seeds but spread
Through roots beneath the ground.
And meekness is a virtue
Within their groves of grace.

-John Sterling Harris, Barbed Wire, 1974

Who is not familiar with the lovely quaking aspen that grows in the upper reaches of the Rocky Mountains? Throughout its growing season its tremulous, quaking leaves stir at the slightest wind and in the fall, its golden "coins" blow into heaps below. It is wonderful to know that this familiar and beautiful tree has an important medicinal use. Dr. Christopher, when listing his ten most important herbs, included it in the tonic category.

The American Indians used this herb. The Crees used the inner bark, called by them Metooos, for food in the early spring considering it also a gentle laxative and remedy for coughs. A settler in the region said that he had eaten pounds of it without ill effects. It is very tender and sweet, according to him and has a pleasant flavor (Mills:650).

Henry David Thoreau, while on a canoe trip in the Maine woods, reported that "our Indian said that he was a doctor and could tell me some medicinal use for every plant I could show him. I immediately tried him. He said that the inner bark of the aspen was good for sore eyes and so with various other plants, proving himself as good as his word...He lamented that the present generation of Indians "had lost a good deal" (Vog:112).

The leaves and young shoots are gathered in Sweden and kept for sheep fodder in winter, a practice as old as time the of the Romans. In Kamchatka the inner bark is used for making into

bread in times of great scarcity (Mills:650).

Various other poplars are used medicinally which we will treat below. It is good to know, however, that the "quakies" that inhabit our mountain lands can be used for healing. Other common names for White Poplar are American aspen, quiver leaf, trembling tree, trembling poplar, aspen poplar, abbey, abbey tree, abele tree, abelable, arbeal, arbell, white asp, great aspen, Dutch beech, Dutch arbel, white bark.

UNIVERSAL TONIC

Dr. Christopher said that this herb holds a high position in herbal medicine as a universal tonic, given freely whenever a tonic is needed. It is probably one of the best tonics for old age or when a person is constitutionally weak from disease. It is said to be superior to Peruvian bark and organic quinine for it is often tolerated in a weakened stomach when Peruvian bark is not.

Lucas related the story of its use in convalescence when the appetite is deficient. "My brother, some years ago, had a severe spell of continued fever. After the fever broke, his convalescence was very slow. He had no appetite, and was swarthy, weak, and melancholy; the smell of victuals was that of disgust rather than pleasure. Our family physician, and a good one, gave him tonics, but without the desired effect. I chanced to be home at the time, and my mother being alarmed about his condition, asked me if I could recommend anything in our line of practice that would be good for him, give him an appetite and build him up. I recommended equal parts of the inner barks of poplar and dogwood and sarsaparilla root, cut up fine and put in a quart bottle until it was half full, then add whisky till full, and take a large tablespoonful, or a common swallow, before each meal. She did so, he took it, and in four weeks gained 15 pounds. It immediately increased his appetite, strengthened his nerves, and restored his complexion to its natural color (Luc:65).

Moore's recipe for "bitters" that will improve the appetite and eliminate indigestion and feverishness is simple: steep an ounce of the dried bark of White Poplar, with one-fourth ounce of licorice root and a teaspoon of cloves in a fifth of brandy. After a month the bitters can be "sipped on" for the above ailments. "Through no fault of the herbs, excess "sipping" can lead to undesirable side effects" (Moore:133).

One of the foremost uses of this tree is as an aspirin substitute. The inner bark but especially the buds are "rich in chemical substances having actions similar to aspirin, such as salicin and mixtures of phenolic acids" (Weiner:158). Salicin is readily hydrolyzed to saligenin, which has some use in medicine as an analgesic. Following ingestion, salicin is probably decomposed to salicylic acid (Tyler:104). This has been synthesized into the main ingredient for aspirin and other pain relieving preparations. That is why the White Poplar is sometimes used in rheumatic complaints, even applied on the skin, although there is no proof in the scientific world that the skin can absorb enough of the pain relieving constituent to prove effective. The herb is excellent in fevers, particularly intermittent fevers. It is said to be safer than quinine. "There are few indigenous

tonics superior to it in a certain class of cases, especially intermittents" (Mills:650).

The bark works to heal the urinary system as it has a decided affinity for the genitourinary tract. It is thought to aid the recuperative powers of the kidney when undergoing granular degeneration. In tenesmic vesical irritation and in tenesmus after urination it is decidedly effective (Folk:1538)

In homeopathy a tincture prepared from the fresh leaves or the inner bark is used to treat inflammation of the urethra and bladder in pregnant women.

When there is headache related to poor digestion--and many, many headaches are so related--the herb is very good to relieve it. It is good for the slight nausea that often accompanies this complaint. The palliative effect of the salicin is good for pain in general, although it is not as strong or immediate as aspirin, its tonic effects are much more healing. Both White Poplar and white or black willow contain this natural pain relieving constituent.

Levy suggests a remedy for weak eyes. Take some of the young, moist buds of the White Poplar tree before they open. Fill with warmed honey and press over the eyes, holding them there for five minutes if possible. This strengthens all the eye tissues (Lev:Common:166).

The tree has other external uses. You can use the tea for washing inflammations, cuts, scratches, wounds and burns. You can make an oil by filling a jar with olive oil or sweet almond oil and place in a warm place for a week: either in sand in the hot sun or in a warming oven. The strained oil can be used as is or a small amount of beeswax can be added over a low heat until melted and then stored in a wide-mouthed jar for use as a salve (Moore:133). You can also use lard as the base and when it cools it will be an ointment.

The salicylic acid inherent in the bark and buds can be used in the form of lotions and in the treatment of various skin diseases, especially chronic eczema, in which its actions are primarily keratolytic and secondarily antibacterial and fungicidal (Tyler:151).

The remedy is used "in all cases of faintness, hysteria, neuralgia, diabetes, hay fever, cholera and infants diarrhea (Hut:225). It helps restore the acid balance in the system and relieves congestion of the liver. It is good for lumbricoid worms (Folk:1538). It is said to be good for gonorrhea. Some have suggested its used in uterine congestions and prostatic hypertrophies (Folk:1538). The herb has a variety of applications,...those who have watched it effects closely consider it diuretic, diaphoretic and a general depurant" (Mills:650).

WOOD

The wood is not preferred for making fires, as it does not last long and puts out relatively little heat. It has been used as a carving wood instead of basswood.

HISTORICAL USES

Used as a gentle laxative, remedy for coughs, sore eyes, food, as a universal tonic, tonic for old age, to increase appetite, strengthen nerves, restores complexion, eliminate indigestion, as an aspirin substitute, heal urinary system, for inflammation of the urethra and bladder, for headaches, to strengthen eye tissues, for cuts, scratches, wounds and burns, for chronic eczema, faintness, hysteria, diabetes, hayfever, cholera, infant diarrhea, bruises, swelling and gout.

FORMULA

Dr. Christopher suggested a debility tonic:

5 parts White Poplar bark
1 part barberry bark
1 part balmony bark
1/2 part golden seal
1/2 part cloves
1/2 part cayenne
8 parts loaf sugar

This should be mixed well and put, 1 tablespoon of the compound with four ounces of the loaf sugar into 1 quart of boiling water, steeped until cool, strained and taken by the wineglassful three times a day before meals.

CULTIVATION, COLLECTION, PREPARATION

Many people grow this tree in their yards from nursery stock, although in the majority it grows wild. It grows relatively fast and makes a beautiful addition to the yard. It requires no unusual care other than being sure that it is adequately watered.

The inner bark is the part used and one should be very careful in gathering it not to damage the tree. Some have suggested digging below the surface and collecting the inner bark from the large roots. The outer bark is scraped away and the inner bark cut out. It is dried in pieces and can be made into infusion, decoction, or tincture. It can also be powdered and taken in capsules or made into pills.

The buds are gathered before blooming, but they do not yield their medicine to water as well as to some other menstruum, such as oil, alcohol or vinegar. They are often made into a tincture or an ointment.

RELATED PLANTS

Several species besides *P. tremens* have been employed in medicine and probably most of them depend upon salicin and populin for their virtues. Among those employed are *Populus nigra*, or European black poplar, *P. alba*, silver-leaf poplar, etc.

P. balsamifera is called Balsam poplar and also Tacamahac, or Tacamahacca poplar. It is found in Canada, in the northern part of the United States and in Siberia. The balsamic juice is collected in Canada in shells and sent to Europe, under the name of tacamaha. This is used for the same purposes as the turpentine and other balsams. It was applied as a liniment for the treatment of rheumatism. In tincture for it has been given for chest complaints and in the treatment of inflammation of the kidneys (Weiner:158).

P. candicans, or Balm of Gilead are similar to the above. A tincture has been beneficially employed in affections of the chest, stomach and kidneys and in rheumatism and scurvy. With lard or oil they form an useful external application in bruises, swellings, wounds, some skin diseases, rheumatic pains, etc. They prevent rancidity in ointments. The bark is tonic and cathartic and has been used in gout. The tincture has been used for colds and pains in the chest. The extract is useful in debility, intermittent fever, rheumatism, etc. (Felk:1539)

CHEMICAL COMPOSITION

The glucosides, popilins and salicin are constituents common to the barks of nearly all species of Populus. They are similar in action to aspirin.

Please note that this herb is notably nontoxic. Some have experienced a marked diuretic effect and slight purging with the herb but it is generally thought of as quite mild herb. Therefore it is a perfect substitute for pain relief--along with white willow--instead of aspirin.

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 **WHITE POND LILY**

NYMPHAEA ODORATA; NYMPHAEACEAE

DESCRIPTION

White Pond Lily has a blackish, large, fleshy perennial rhizome, growing in mud, where the water is up to ten feet in depth. It is often as thick as a man's arm, sending up leaves and flowers to the surface. The petioles are long, somewhat semi-circular, perforated throughout by long tubes or air-vessels which serve to float them. The leaves are floating, orbicular, sometimes almost kidney-shaped, peltate, cordate cleft at the base quite to the insertion of the petiole, lobes on each side prolonged into an acute point, entire, reddish, with prominent veins beneath, dark shining-green above, five or six inches in diameter. The flowers are large, white or rose-colored, beautiful and fragrant (Felk:1318).

The flowers form one of the most typical illustrations of plant metamorphosis; the petals are but colored sepals, the stamens but anther-tipped petals, the stigmas but changed stamens, and all gradually merging into each other in easily distinguishable states. The sepals are four, elliptical, scaphoid, nearly free, persistent, bright green on the outer surface, greenish-white internally. The petals are numerous arranged imbricately upon the fleshy ovary, the outer rows large, the inner smaller, all obtuse. The stamens are indefinite, arranged like the petals upon the surface of the ovary about the center of the flower. The filaments of the outer rows are petaloid, the inner more or less ligulate, the anthers with adnate, introrse cells. The ovary is a large, globular, depressed, eighteen to twenty-four celled. The ovules are anatropous, borne upon the sides of the ovary, none being upon the ventral suture. There is no style. The fruit is a depressed, globular, fleshy body, retaining the stigma and marked plainly by the scars of the fallen petals and stamens, decaying and allowing the escape of the seeds in the fall. The seeds are oblong, stipitate, shorter than the enveloping sac-like false coat; the embryo is situated in the albumen, close to the hilum; the radicle is very minute; cotyledons large and thick, enveloping a well-formed plumule (Mills:66-7).

GENERAL

White Pond Lily is one of our most beautiful northern flowers. It grows in still flowing streams or deep, flowing ponds and lakes. Not all members of this family have white flowers but the White variety is the one most used for medicine. They are an interesting spiritual symbol, the plant rising from the muck of the water to blossom into a lovely, pure white flower. The American species is said to exceed the European in beauty and fragrance.

Anciently Dioscorides wrote that the root, being dried and drunk with wine helps calculi and dysentery and relieves an irritated spleen. The root was also taken for stomach and bladder

troubles. The root could also be taken for "lecherous dreams" as it would allay these. It would "work a faintness of ye privity for a few days, if one drank it continually and the seed also being drank doth ye same." This seems to be the source of the famous claim that the herb is an anaphrodisiac. As we will discuss below, it is seriously regarded so by many while others dismiss the idea completely.

This herb is one of those empirical remedies that has been passed down from generation to generation. The American Indians used it for scrofula as well as the other problems we will list below (Vog:126). The Indian women much esteemed the roots as an internal remedy and injection or wash for "the worst forms of leucorrhea", its properties being due to astringency (Mills:67).

The plant grows throughout approximately all the eastern half the United States, north into southern Canada from Newfoundland to Manitoba. We have seen it, however, in quiet lakes in southern California, so the transplant must flourish when conditions are right.

The generic name is said to refer to the fact that the plants like to grow in water, resembling water nymphs. Some also suggest that the anaphrodisiac properties of the herb have suggested the name as nymphs are pure. The specific name refers to the aroma of the plant, which is very important in identifying it, as when you are gathering it you must not confuse it with N. tuberosa, a plant of the same family with tuberous roots and a nearly odorless flower. This species is poisonous.

Other common names include water lily, sweet-scented water lily, water nymph, water cabbage, large white water lily, cow cabbage, fragrant pond lily and cow lily.

EXCELLENT ASTRINGENT

Dr. Christopher classified White Pond Lily among the astringents but it is a special one because its mucilage has a very soothing effect to the mucous membrane lining and is toning to the tissues. This combination helps the herb to soothe as well as tone and heal inflamed tissues. It is therefore much used in ulcerated conditions.

Dr. Shook considered the plant's root very effective for boils, tumors, scrofulous ulcers, ulcers in the mouth and throat and inflammation of the skin and mucous membranes. He especially recommended it for all cases of ulceration, inside and outside, whether they be called abscess, tumor, infection or cancer (ShoA: 329). To make poultices the fresh root and leaves are thoroughly washed and cleaned. Then they are put through a mincer, heated in the oven, on a plate or dish, placed in some gauze or muslin and applied. Change as often as necessary (Ibid.). You can also make a poultice by mixing a strong tea of the herb with the desired ingredients, such as golden seal or slippery elm to treat the problem. The tea is also used as a gargle for ulcers in the throat and mouth. An ointment was prepared with the juice of the plant to stimulate the scalp when the hair tends to fall out. A strong, hot tea can be made into a fomentation for swellings, ulcers, etc., changing whenever the application cools (Thom:227). The leaves, fresh, can also be

bound onto irritated surfaces.

The herb has a strong reputation for healing in women's problems. It is said to act with extreme promptness in cases of ongoing leucorrhoea, where there is chronic inflammation of the womb or abrasion of the vagina (Hut:368). A woman had been suffering with uterine cancer for a long time. An Indian decoction woman told her to take the decoction internally and douche with it and the condition was cleared up entirely.

It has also been used for other problems with the genitourinary tract. Taken internally it has been said to help clear up the effects of gonorrhoea. It is good to take for irritation of the prostate gland. The herb relieves kidney troubles, catarrh of the bladder and acts as a mild diuretic, somewhat useful in cases of dropsy (Klo:326).

It was used historically to depress the sexual function. The rhizome was used, superstitiously as an anaphrodisiac to suppress sexual excitement and spermatorrhea. The plant was nicknamed "the destroyer of pleasure" because of its powers as a "love-killer."

This concept likely originated with the romantic notion of purity of the flower rising from the muck, more than any true folkloric belief in such abilities..."To depress the sexual function, seek out a White Water Lily and meditate on its purity," is the ironic comment of herbalist Weiner (Weiner:198).

The herb is sometimes used to stop diarrhea or dysentery. It is used internally for these bowel complaints, being especially suited for using on infants with these problems (Lev:Common:162).

The plant was also used for diseases of the lungs, especially bronchitis, when combined with wild cherry.

As a lotion, the decoction heals sore and helps keep the skin nice and smooth (Lust:393). The lotion can also be applied to sore, tired legs and to any sores generally. Sore eyes and canker sores have benefitted from being bathed frequently in a brew of the herb. Be sure to make it with distilled water for this purpose. You can also snuff the decoction into the nose if an astringent healing effect is needed there.

The powdered root can be dusted onto irritated surface especially useful in diaper rash or when the female organs have become irritated. The herb is not known to be toxic, although large doses result in dry throat, painful swallowing, pain in the digestive tract, with loose evacuations, venereal excitement and involuntary passage of the urine (Mills:68).

The Water Lily has been cultivated in China from remote antiquity. Its seeds are used as food. The seeds--indeed, all parts of the plant--are used in medicine and are considered to be tonic, astringent and deobstruent in their action. They are recommended for polyuria, spermatorrhea and gonorrhoea (Shi:170). In India, *N. odorata* is not used as much as *N. lotus*, which we discuss

below.

This herb is especially commended for any cases of ulceration, as it cleans out pus and removes sloughing of ulcers remarkably. It drives out the poisonous scrofulous or even syphilitic matter in a marvelous way (ShoA:329).

DYE

In addition to the sale of its flowers, and its cultivation in home garden pools for its beauty and fragrance, the roots have been used for dyeing fabrics deep brown, the cloth thus dyed retaining its color admirably (Mills:68).

HISTORICAL USES

Used to help calculi, dysentery, irritated spleen, stomach and bladder troubles, as an anaphrodisiac, for scrofula, leucorrhea, to sooth the mucous membranes, to tone the tissue, to heal inflamed tissues, good for boils, tumors, scrofulous ulcers, cancer, inflammation of the womb, for abrasion of the vagina, for uterine cancer, irritation of prostate gland, kidney troubles, catarrh of the bladder, as a mild diuretic, for dropsy, to depress sexual functions, for disease of the lungs, to heal sores, for sore eyes, cankers, diaper rash, irritated female organs and to clean out pus.

CULTIVATION, COLLECTION, PREPARATION

This plant grows in the mud under still ponds or slow rivers and streams. Its root sends up leaves and flowers to the surface. It can be taken from the wild and placed in the home pond, although much of the root gathered is collected from the wild.

The roots should be collected during the fall when the plant is more dry and the waters of the ponds and lakes have subsided somewhat.

The root is collected, carefully cleaned, sliced and dried. It becomes light, spongy and friable when dried. It can also be powdered.

A half-teaspoon of the powdered root in honey water or milk has often been prescribed as the dose, but the infusion or slow heated decoction is often preferable. The powdered herb can be moistened for use as a poultice, especially when mixed with ground flaxseed or slippery elm powder. The root is sometimes made into tincture or extract.

RELATED PLANTS

N. alba is the European version of this plant. It is used similarly to N. odorata.

N. cyanea is the East-Indian blue water lily. The flowers are employed as astringent and refrigerant. N. edulis is used in Bengal and the East Indies as food and medicine.

N. lotus is prized in India as demulcent, diuretic and nutrient. The flowers are refrigerant and used for cough, bile problems, vomiting, giddiness, worms and burning of the skin. The filaments of the plants are used in bodily burning, bleeding piles and painful menstruation. The seeds are used in diabetes. The root stock is eaten after boiling and mixing with milk and sugar. A decoction of the flowers is given as a cardiac tonic for heart palpitation (IMM:859-860).

Nuphar advena is the yellow pond lily, also called spatter dock, frog-lily, cow-lily, etc. It is sometimes substituted for White Pond Lily.

Nuphar luteum is employed in spermatorrhea and to arrest nocturnal emissions, as well as to give tone and increased power to the sexual organs. It is used for digestive disorders with morning diarrhea and in chronic diarrhea. It is applied locally for uterine disease. The strong tincture is given only by a fraction of the drop every three or four hours (Felk:1319).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING WHITE POND LILY

DRI, the healer of the urinary tract, contains White Pond Lily.

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 **WILD CARROT**

DAUCUS CAROTA;UMBELLIFERAE

DESCRIPTION

The root is small and spindle-shaped, whitish, slender, and hard, with a strong aromatic smell and an acid, disagreeable taste, very different to the cultivated carrot. It penetrates some distances into the ground, having only a few lateral rootlets.

The stems are erect and branched, generally about two feet high, tough and furrowed. Both stems and leaves are more or less clothed with stout, coarse hairs. The leaves are very finely divided, the lowest leaves considerably larger than the upper; their arrangement on the stem is alternate, and all the leaves embrace the stem with the sheathing base, which is so characteristic of this group of plants. The blossoms are densely clustered together in terminal umbels, or flattened heads, in which the flower-bearing stalks of the head all arise from one point, in rays, like the ribs of an umbrella, each ray again dividing in the case of the carrot, in alike manner to form a secondary umbel, or umbellule of white flowers, the outer ones of which are irregular and larger than the others. It is in bloom from June to August, but often continues flowering longer. The flowers are small, but from their whiteness and number, they form a conspicuous head, nearly flat while in bloom, or slightly convex, but as the seeds ripen, the umbels contract, the outer rays, which are to begin with one to two inches long, lengthening and curving inward, so that the head forms a hollow cup. The fruit is slightly flattened, with numerous bristles arranged in five rows. The ring of finely-divided and leaf-like bracts at the point of where the umbel springs is a noticeable feature (Gri:165).

QUEEN ANNE'S LACE

Queen Anne, Queen Anne, has washed her lace
(She chose a summer's day)
And hung it in a grassy place
To whiten, if it may.

Queen Anne, Queen Anne, has left it there,
And slept the dewy night;
Then waked, to find the sunshine fair,
And all the meadow bright.

Queen Anne, Queen Anne, is dead and gone
(She died a summer's day),
But left her lace to whiten on

Each weed entangled way!
(Mary Leslie Newton, Childcraft: 124).

Wild Carrot, or Queen Anne's Lace, is one of those prolific weeds that we often struggle to remove from our gardens but which should be preserved for its medicinal qualities. This Wild Carrot is the ancestor of our cultivated carrot and some varieties of garden carrots, if left to go to seed for the second year, will revert back to Wild Carrots the next season. Seeds of this species have been found on neolithic and bronze age village sites in Switzerland and Sweden.

The name carrot is Celtic and means red of color; daucus is from the Greek dais, to burn, signifying the pungent and stimulating qualities of the Wild Carrot. Other interesting common names for the plant include Bird's Nest and Bees' Nest, as the graceful fern-like leaves and clusters of seed vessels closely resemble them.

The Wild Carrot was in ancient times much valued for its medicinal properties, which are said to be superior to the cultivated carrots' properties. However; both could be usefully employed in every home. Dioscorides said that used internally or as a "pessum" would bring obstructed menses. It was good for dropsy and pleurisy, and for "bitings and strokes of venomous beasts. They say also that they which take it before hand shall take no wrong of wilde beasts." It helps promote conception and the root helps promote urine. The garden carrot, he noticed, works to the same purposes, only more weakly.

Other old Greek and Latin herbalist speak highly of its properties and it is said to have been brought to England during the reign of Queen Elizabeth by the Flemings, from Holland, where it had long been cultivated. However, some insist that it occupied England and America and virtually every other place where it grows so prolifically long before the landing of explorers.

Culpepper said, "Wild Carrot belongs to Mercury, and therefore breaketh wind, and removeth stitches in the sides, provoketh urine and women's courses, and helpeth to break and expel the stones."

The blossom from which the nickname Queen Anne's Lace originates occurs in the second year, after which the plant dies, being a perennial. The blossom is a symmetrical umbel consisting of many white florets with one single purple or maroon colored floret in the center. Sometimes this central is called the Queen, as she is surrounded by her lace. Another story tells that the maroon floret commemorates the drop of blood spilt when Queen Anne pricked her finger as she was sewing lace. As the blossom fades and the seeds begin to ripen, the head forms a hollow cup which gives it the appearance and name of bird's nest (Elt:74).

Wild Carrot grows prolifically in meadows, fields and roadsides. It resembles poison hemlock, which is very similar in appearance, the Wild Carrot possessing hairs all over the plant which distinguish it between the poison plant. "Confusion between Wild Carrot and poison hemlock has been the last mistake of many enthusiastic wild food foragers," says one herbalist (Elt:74).

Though the spindly root cannot compare with the succulent garden carrots we enjoy, this plant has a distinctive scent that is much the same and a similar though paler orange color.

Dr. Christopher often said that the cultivated carrot was an important medicinal herb, quite so much as many of the others. He told the story of a farming community whose main crop was carrots. Because of an unusually early winter this community was not able to ship out its crop and had to live on mostly carrots, instead of the usual store fare that they were used to. They ate carrots fried, baked, boiled, souped, raw and every other way that you can imagine. At the end of the winter, they were surprised to realize that they had hardly needed a doctor the whole time. When it was possible to obtain the store food again, however, the local doctors resumed their usual activities, as illness followed right with the unhealthy diet.

Dr. Christopher told of the time his niece had found a sick horse that had been consigned to the glue factory. She took an instant liking to that horse, despite its desperate condition and bought it for \$500. She came to Dr. Christopher to see what he could recommend. He said to feed it alfalfa and carrots and to apply carrot poultices to its rotten wounds on the legs. The girl did so and in time the horse was completely healed and became so strong and beautiful that it won many contests. Although she used common carrots for these poultices, Wild Carrots could have been just as efficaciously employed.

The American Indians used this herb. Western Indians employed it as a tonic. Crow Indians used one species of Wild Carrot for many healing and ceremonial purposes (Vog:375).

Wild Carrot was official in the United States Pharmacopeia from 1820-1882, listed as a diuretic, stimulant and menstrual excitant.

BLADDER HERB

Dr. Christopher said that Wild Carrot is specific for problems in the urinary passages or the bladder. It should be used for gravel, stricture or any obstructions therein. It will often cure, he said, when all other means have failed.

"Some physicians believe that the bruised seeds steeped (not boiled) are effective in kidney diseases, dropsy, inflammation of the bladder and in gravel" (Hut:300).

HISTORICAL USES

Used for dropsy, pleurisy, bites and strokes from venomous beasts, to promote urine, for a food, for urinary passages, bladder inflammation, gravel, stricture, to provoke urine, expel stone, for kidney diseases, strangury, cancerous malignant ulcers, old sores, abscesses, flatulence, gouty disposition, hiccups, chronic coughs, obstructions of the viscera, jaundice and to flavor beer and liquors.

FORMULA

The following preparation has been recommended for dropsy:

1 1/2 ounces Wild Carrot

1 1/2 ounces Hair Cap Moss

1 ounce crushed watermelon seeds.

These are simmered in three pints of water twenty minutes. Strain and give two tablespoonfuls every two hours and use the vapor bath two or three times a week as the case dictates (Mast:Lesson 8 page 7).

The herb is sometimes given to relieve strangury (painful, suppressed urine) which results from sexual excess (Felk:452). For cystitis or inflammation of the bladder, the herb was mixed with equal parts uva ursi, juniper berries, tansy, licorice root or juice, buchu and a lesser of cayenne. The first five herbs, including the Wild Carrot, are simmered slowly for twenty minutes in one quart of water. It is strained hot over the cayenne and buchu.

The herb is also used to relieve itching in several diseases of the skin. It has been used as a poultice to cancerous, malignant and indolent ulcers, relieving the pain, correcting the fetor, lessening the discharge and altering the morbid condition of the parts (Felk:452). It can be successfully applied to fresh or old sores, ulcers, abscesses and carbuncles. Usually the root is dug, pulverized and applied as a poultice, binding on with cotton bandages and changing whenever it dries out. "Do not continue the raw carrot after full vital action in the part has come about. Use other healing methods then" (Mast:Lesson 8, page 7).

A strong Wild Carrot tea is said to be good against flatulence and for a "gouty disposition" (Gri:165).

The seeds are also good for flatulence, accompanied by gas pain, hiccough, chronic coughs, etc. They are "excellent in obstructions of the viscera, in jaundice, for which they were formerly considered a specific, and in the beginnings of dropsies, and are also of services as an emmenagogue" (Gri:165).

They have been used to give a good flavor to beer and other brewed liquors.

FOOD AND DRINK

If it is found in rich soil, the root is sweet and "most palatable" located in sandy, hard soil, it is small and hard. It can be steamed or cooked in a little water and cut into inch lengths, added to a soup or stew. The seeds season food and can substitute for anise or caraway seeds (Har:Eat:102).

However, many collectors insist that this plant is not very palatable. We think that if there were a famine situation, it could be a valuable plant to remember.

CULTIVATION, COLLECTION, PREPARATION

Because the plant is so rampant almost everywhere in the United States and elsewhere, it is quite absurd to think of cultivating it, unless your area should somehow not have any growing. It grows from seeds, like the other members of its family and is very easily (perhaps, to some, too easily) grown. Since the plant is so very common, you can use it whenever you need it during the season without worrying about exhausting the supply. The medicinal factors are strongest just before the many flowers burst into bloom. You can dig the plant, wash the root, and cut it into pieces to dry. Some people include the leaves, as they also contain medicine. The root pieces should be crisp dry before storing in a cool, dry, air tight place. They keep their medicinal qualities quite well.

The herb is usually prepared in an infusion, although a decoction and tincture could also be made.

CHEMICAL COMPOSITION

The root contains carotene, which is Pro-Vitamin A and in modern times has been found to be very important in fighting infections. It contains pectose which may be converted into pectin. It also contains vitamins and minerals.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING WILD CARROT

The common cultivated carrot is a member of this family, as are the parsnip, parsley, and other plants with similar seed patterns.

No combinations contain this herb.

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WILD LETTUCE

LACTUCA SCARIOLA; COMPOSITAE

DESCRIPTION

This glabrous, glaucescent biennial grows to a height of from 4 to 9 feet. The stem is erect, very leafy to the top, and copiously supplied with milky juice. The leaves are alternate, mostly sinuate, pinnatifid below, lanceolate and entire above, all partly clasping by a sagittate base, and pale beneath; midrib is naked, or rarely with a few sparse bristles. The margins are entire or sparingly dentate, especially near the base, the terminal lobe elongated. The inflorescence is in a terminal, narrow, elongated leafless panicle, the flower heads being 12- to 20-flowered, the flowers pale yellow, all perfect, with an involucre a half-inch or less high, irregularly calyculate, and slightly imbricated in two rows. The corolla is ligulate in all the flowers, the tube hairy, the ligules obscurely, if at all, notched at the apex. The receptacle is naked. The achenes are blackish, broadly oval, flat, wingless, rather longer than the beak, obscurely scabrous-rugulose, and lightly one-nerved in the middle of each face. The beak is filiform, abrupt at the base, and expanded at the apex; the pappus is of soft, silvery white hairs, on the dilated apex of the beak (Mills:374)

GENERAL

Wild Lettuce has been in the public eye in recent times because it is used as "lettuce opium". Its slightly narcotic effect has been a matter of debate, and its dried resin has been used as an adulterant or substitute for opium.

This is an ancient plant. Varieties of lettuce have been eaten time out of mind to induce drowsiness. Dioscorides considered it a pot herb with medicinal qualities. He taught that it would relieve dropsy and bring about suppressed menstruation. It would relieve pain and induce sleep and prevent poisoning if a person were bitten by scorpions. The seeds he thought would reduce sexual desire and erotic dreams. The juice would work the same, only weaker. The milky juice was extracted and evaporated much as opium was. The ancients felt that the plant was particularly adapted to allay wakefulness produced by overstimulation of the mind.

Among the American Indians, the Menominees rubbed the milky juice of the fresh plant (the Canadian variety) on poison ivy eruptions. The Flambeau Ojibwas made a tea of *L. spicata* to ease lactation in women with caked breasts. The Potawatomis would not reveal their use for this plant, but they always displayed a modest reticence to discuss female remedies. The Meskwakis brewed a tea from *L. scariola*, prickly lettuce, which was given to recover after childbirth and to stimulate milk for the newborn. White settlers used the milky juice from this plant for a soporific and sedative and gave it in syrup to babies for certain infant diseases (Vog:378).

Dr. Coxe of Philadelphia was the first to call the attention of the medical profession to this substance as a substitute for commercial opium. Considering the ancient claims for the plant, he experimented with making opium from the plant and in 1799 published "Lettuce Opium"

discussing the extracted juice which is called lactucarium. This substance was therefore introduced through empirical channels, although especially in Europe it was sometimes used in the medical profession.

Lactucarium was official in the United States Pharmacopeia from 1820-1926, another herb of long standing.

Other names for the plant include strong-scented lettuce, prickly lettuce, green endive, lettuce opium, etc.

SEDATIVE

Wild lettuce has been used for nervousness and as a sedative. It was considered milder than opium but just as "dreamy" (Mil:60). It resembles a feeble opium which does not upset the digestive system, being used as a sedative and narcotic. However, some say that anyone with ulcers or any other kind of stomach disorder should not use this or any other form of lettuce, as the lettuce opium will coat the stomach wall and reduce digestion processes (Mil:62). The juice possess very mild pain allaying and calmative effects. It has also been used to relieve constipation, intestinal disorders such as engorgements, and other gastric upsets (Weiner:117). It is said to increase the flow of milk in a nursing mother. It will repress sex dreams if applied to the testicles with a little camphor (Rose:Herbs:76). In homeopathy, a tincture extracted from the whole fresh plant is used in the treatment of impotence. This is an interesting contradiction in uses! It is sometimes dissolved in wine to be taken for pain.

"Dr. Collins stated that twenty-three out of twenty-four cases of dropsy were cured by taking doses of 18 grains to 3 drachms of extract in twenty-four hours. It is used in Germany for this complaint but combined with more active drugs" (Gri:477). It is also thought to be mildly diaphoretic and diuretic, easing colic, inducing sleep and allaying cough.

Water distilled from the plant is used in France as a mild sedative. The fresh leaves boiled in water are sometimes applied externally. In the Doctrine of Signatures, the prickles on the lower part of the stem are an indication of pain when one is eliminating the hardened catarrhal secretions or exudations (the second signature) from the bronchial system. The hardened gum is part of the popular cough formula, Compound Syrup Cocillana, in which its sedative properties help to allay cough irritations (Har:Complete:120).

In China varieties of *Lactuca* are commonly used. Common table lettuce is also considered medicinal, but the wild lettuce is used to preserve youth and vitality. The expressed juice is "much regarded as an application to boils, abscesses and carbuncles, and if put upon warts will cause them to drop off. It is also used in snake bite and bleeding piles. The root is prescribed in fluxes and hematuria. The flowers and seeds are used as an antifebrile and quieting remedy, and in jaundice" (Shi:230).

In India, lactucarium is used in nervousness and palpitation of the heart. The seeds in powder are used for fevers, inflammations, coughs, bronchitis, asthma and pertussis. The seeds in decoction are used in insomnia and wakefulness due to mental overwork, in rheumatism, insanity, spermatorrhoea, etc. The lactucarium is also used for the above complaints. A poultice is soothing for painful ulcers. For delirium, the plant is combined with coriander and catechu, mixed with vinegar and inhaled. For insomnia, the seeds are combined with equal parts of poppy seeds and sugar to taste. This is soaked and eaten as a confection. Combined with hot water, it is given to cure certain forms of indigestion and liver complaints (IMM:720-1).

The plant is not considered toxic even by the medical profession. The only poisoning cases involve cattle, who developed pulmonary emphysema, severe dyspnea and weakness after eating the immature plants. Postmortem findings showed destruction of lung tissue. Only the immature plants are considered toxic. Since the animals ate large amounts, it is "very unlikely that one would be poisoned by eating a small amount of the natural plant" (Spoerke:177).

DEBATED USES

Many people consider Wild Lettuce quite inedible, the present author included, although it can be included in the daily green drink if blended well. Others, however, consider it a "very good potherb". It is used in several changes of water to remove the milk and slight bitter taste, unless this is desired. Do not overcook. You can add a little bacon or other fat meat, if this is eaten. Some add a little vinegar. When the plant is a few inches high, it may be cut for salad, according to some. Country people are said to gather it regularly. It is believed that the cultivated lettuce was developed from this species. The young leaves are very tender and for that reason it makes a good salad plant. It can be chopped into small pieces and added to the daily salad or mixed with chopped onion and served with French dressing. The tender shoots can be stripped of their leaves and steamed or included in vegetable soups.

Chickens really love this plant and as it is rich in iron and vitamins and minerals, it can be added to their diet. Our children often pick Wild Lettuce and other wild greens to toss into the chicken coop, where they are devoured greedily. Horses and goats will eat it, too, though not as eagerly.

Of most debate is the use of the plant as a legal narcotic. It is considered a mild narcotic and analgesic, producing low aliphoid activity rather than deep sleep, a state which encourages rapid eye movement and dreams. It is especially recommended for smoking prior to sleep to induce vivid dreams, which should then be recorded. Primitive peoples have long believed that these dream states contain more information about reality than the waking state and they often discuss the nights dreams each morning as they sit at breakfast (Mil:61).

This interest in Wild Lettuce as a legal intoxicant was revived during the last decade, "when experimenters, searching the literature for legal intoxicants, encountered some uncritical statements concerning its purported physiologic activity. The placebo effect and a considerable amount of wishful thinking prompted various authors of drug abuse books to advocate the

smoking of wild lettuce. Fulton has provided a more accurate estimate of the lack of virtues of the drug. 'Modern medicine considers its sleep-producing qualities a superstition, its therapeutic action doubtful or nil' (Tyler:500). "Perhaps just the title 'lettuce opium' is enough to give it activity" suggests another writer (Spoerke:177). Albeit everyone agrees that Wild Lettuce is mild, perhaps this mildness is the factor that cause some to deny its activity. "...if you had the facilities to compress a carload of lettuce, discarding the water, of which it is ninety per cent, and ate what was left, you'd have a super hallucinogen," says herbalist Rose (Rose:Herbs:76). Since empirical use indicates that the lettuce opium has some effect, it must be considered to at least allay pain and promote sleep.

HISTORICAL USES

Used for dropsy, suppressed menstruation, to relieve pain, to induce sleep, for scorpion bites, to reduce sexual desire, for poison ivy, for lactation, childbirth recovery, to stimulate mother's milk, for some infant diseases, for nervousness, as a sedative, for constipation, intestinal disorders, gastric upsets, colic, impotence, coughs, catarrh, to preserve youth and vitality, for boils, carbuncles, abscesses, warts, snake bites, bleeding piles, fluxes, hematuria, jaundice, fevers, inflammation, bronchitis, asthma, pertussis, rheumatism, insanity, spermatorrhoea and for ulcers.

CULTIVATION, COLLECTION, PREPARATION

Wild Lettuce grows wild just about everywhere in the United States and everywhere else in the northern latitudes. It is cultivated in Austria, France, Germany and Scotland. It germinates very readily, just like its proper sister, lettuce and will flourish just like garden lettuce, except that it needs less water. Like many of the prolific wild herbs, it often grows where it is not wanted!

Generally, the plant is wounded during the flowering season when the stems are filled with juice and are "so irritable that they often spontaneously burst, or are ruptured by very slight accidental injuries...place successive small pieces of cotton on the cut stem and throw them into a little water. After a quantity has accumulated, the water holding in solution the contents of the pieces of cotton is evaporated, an extract (is) thus procured. An easier way to collect the latex is by macerating in water the stems and leaves, just after the seeds have matured and before the plant decays. The maceration is to be continued for 24 hours, then the liquid is boiled for 2 hours, and finally evaporated in shallow basins" (Weiner:118).

The American Indians are said to have cut the flower heads off, gathered the sap that drained off, and then let it air dry. This was done repeatedly over a two-week period by cutting just a little bit off the top each time (Mil:60). Some people who wish the narcotic effect just "dry the leaves and roots and smoke them in a large pipe." However, "the general, commercial technique is to heat (not boil) the leaf in water for at least an 8 hour period. Then remove the liquid. Lactucarine goes into the solution with water. A heat lamp is placed over the bowl of liquid and a fan is used to drive the water out of the extraction. The result will be a blackish gum which can be smoked..."(*Ibid.*).

You can also gather the leaves in the usual way, just before the plant flowers and dry them for use in the winter in tea. The plant can be prepared in decoction, for a face wash or other external use or in tinctures or extracts for the immediate relief of pain.

RELATED PLANTS

There are many varieties of lettuce. *L. canadensis* is sometimes used in place of Wild Lettuce *L. heyneana* is used as a substitute for dandelion. *L. virosa* is the common garden lettuce, of which there are many varieties. These are said to possess similar properties to Wild Lettuce, though much milder. Many people report a quieting effect, even sleepiness, from eating common lettuce. Head lettuce is said to be particularly effective, although it is not to be preferred in salad, as it contains fewer vitamins and minerals and also usually is heavily dosed with agricultural chemicals.

Among the Southwest Indians, another plant, the green phase of the tumbleweed also called monkey flower, is known as wild lettuce. The taste is somewhat bitter and like watercress. One would hardly think that the tumbleweed would yield edible greens but in its young state it is evidently palatable and welcome. The scientific name is *Mimulus guttatus* (Nie:123).

CHEMICAL COMPOSITION

All species of *Lactuca* contain to a greater or less degree the bitter compound lactupicine in the flowering stem. There is also calcium, glucoquinones and a volatile oil. The leaves are rich in iron and in Vitamins B1, B2, and Prov-Vitamin A. The active ingredient is identified as lactucarine, which contains two percent lactucin (similar in structure to opium), plus lactucerol (also known as taraxasterol) and lactucic acid (Mil:60).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING WILD LETTUCE

AR-1, the arthritis and rheumatism formula, contains Wild Lettuce.

Lettuce and Valerian, an extract to treat pain, contains Wild Lettuce.

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WOOD BETONY

Stachys betonica, or Betonica officinalis LABIATAE

DESCRIPTION

This herb is classified among Dr. Christopher's nervines. He said that it is excellent for all head and face pains and for any nervous troubles. It can be used as a tonic for general digestive disorders and as a blood-cleanser. Although it was not one of Dr. Christopher's prominent herbs, it is an important ingredient in his Relax-eze Tea, which many people have used successfully to rebuild the nerves.

BISHOP'S WORT

Wood Betony is one of the ancient herbs, prized by the Greeks and Romans as a general panacea. Pliny said that the common name of this plant originated from Vettonica, from the Vettones, a Spanish people who introduced the herb into empirical use, but other authors consider the word a Celtic form of bew, a head, and ton, good, as the herb has always been said to be specific for pains and troubles of the head. Pliny also said that the herb would keep away evil spirits if planted in graveyards, that it could cure almost every ill that flesh is heir to, and that snakes enclosed in a circle of it would lash themselves to death. The Romans had a proverb: "Sell your coat and buy Betony".

When the Roman Legions came through England, they left this herb behind. The Druids and the class of priestly physicians and Myddfai during the sixth century AD, used the herb; it was thus diffused throughout England, being now one of the more common flowers growing in woods, hedgerows and gardens, even its sisters in the Mint family. The Greek family name refers to the mints' flowering habit: Stachys means "a spike".

This herb was called by many common names. Woundwort referred to the common use in England of binding sores with the herb instead of using bandages. All-heal referred to the belief that the herb could cure most any ailment; many herbalists went to great lengths listing the problems the herb would surely cure, and mentioned that there were probably many ailments it could cure that they didn't mention. It was called Bishop's Wort because that it was cultivated in

country churchyards, and is still often found around old churches and ruined abbeys. It was considered a sure charm against "evil spirits, witches, and the forces of darkness," thus affirming this old name. Lousewort refers to an old belief that cattle or sheep feeding on the plant would get lice. This even led to Linnaeus giving the name Pedicularis to this species, which is one of its common variants; the word means "to belong to a louse". It was also called beefsteak plant, because of the beefy-red color in the blossoms. A western betony is called red helmet, while others are called elephant head and Indian warrior, referring to the unusual shape of the blossoms. The fern-like leaves have earned it the name fern leaf. It's also called hedge-nettle, dead-nettle, rough weed, marsh woundwort, clown heal, and panay.

This herb was largely cultivated in the physic gardens of the apothecaries and the monasteries, still found growing among the ruins today. Erasmus said, "those that carried it about them were sanctified by it, being good against fearful visions and for driving away devils and despair." Another old writer, Apelius, said, "It is good whether for the man's soul or for his body. It shields him against visions and dreams, and the wort is very wholesome, and thus thou shalt gather it, in the month of August without the use of iron; and when thou has gathered it, shake the mold till nought of it cleave thereon, and then dry it in the shade very thoroughly, and with its root altogether reduce it to dust; then use it and take of it when thou needest" (Gri:97). It was also the belief that the animals recognized the efficacy of this herb, and that stags, if wounded with an arrow, would search out the plant, eat it, and be cured.

Gerard said that Betony "preserveth the lives and bodies of men from the danger of epidemical diseases. It helpeth those that loathe and cannot digest their food. It is used either dry or green--either the root or the herb--or the flowers, drunk in broth or meat or made into conserve, syrup, water, electuary or powder...It cures the jaundice, falling sickness, palsy, convulsions, gout, dropsy, and head troubles, and the powder; mixed with honey is no less available for all sorts of colds or cough, wheezing, shortness of breath and consumption...the decoction made with mead and pennyroyal is good for putrid agues, and made in wine is good as a vermifuge, and also removes obstructions of the spleen and liver...the decoction with wine gargled in the mouth easeth the toothache...It is a cure for the bites of mad dogs...a dram of the powder taken with a little honey in some vinegar is good for refreshing those that are wearied by travel. It stayeth bleeding at the nose and mouth, and helpeth those that spit blood, and is good for those that have a rupture and are bruised. The green herb bruised, or the juice, applied to any inward hurt or outward wound in body or head, will quickly heal and close it up. It will draw forth any broken bone or splinter, thorn or other thing that has gotten into the flesh, also healeth old sores or ulcers or boils. The root is displeasing both to taste and whereas the leaves and flowers by their sweet and spicy taste, comfort both in meat and medicine" (Gri:99). This gives an idea of the wide variety of applications the herb was formerly believed to have had. Robert Turner, writing a little after Gerard's time, also lists many ailments that the herb will heal, commenting, "More than all this have been proved of Betony".

Parkinson wrote that it would hinder drunkenness, being taken beforehand and would expel it afterward (Tob:47).

Culpepper wrote that Antonius Mus, physician to Augustus Caesar, valued the plant in at least forty-seven diseases; Culpepper comments drily, "It was not the practice of Caesar to keep fools about him". Mus wrote a book devoted entirely to the medicinal uses of the herb, commenting that "it preserves the liver and bodies of men from the dangers of epidemic diseases...it helps those who loath and cannot digest their meat, those that have weak stomach and sour belchings". Culpepper commented, "It is a very precious herb, that is certain, and Turner in 1687 wrote that it would be a miracle to tell of how much success he had had with the herb, not only in curing insomnia, but in helping every kind of pain in the head. In 1666 in Medicina Britannica, we read, "I have known the most obstinate headaches cured by daily breakfasting for a month or six weeks on a decoction of Betony made with new milk and strained". In modern times, however, this seems like a rather long time to endure a headache during treatment!

The dried leaves at one time formed an ingredient in Rowley's British Herb Snuff, which was at one time quite famous for headaches.

The flowers of this plant are considered beautiful but somewhat strange-looking. "We have seen in the snapdragon family how many of its members have various expressive faces, resembling animals quite as much as often pansies take on the look of old men and women. The turtleheads are like tortoises; the monkey-flower tells its own story, and here, moreover, is the Wood Betony rearing its slender corolla as the head of a walrus and even with two miniature projections in imitations of his tusks. Most often the upper lip of the flower is purple and the under one pale red, but also they occur in yellow. . . It is ever a strange-looking plant" (Alice Lounsberry, A Guide to the Wild Flowers, 1899).

Betony is still used today among many, although some seem to have no time for it, saying that it has "no verified value. It does not appear in the United States Pharmacopeia, nor in the National Formulary...The example of this plant should serve to warn the reader that while many herbs have known medicinal values, others have only reputed ones...Gather and dry the tops in midsummer and take an infusion--if you think it will do any good" (Coon:190).

These are interesting contrasts in the belief in Wood Betony!

HEADACHE HERB

As you have undoubtedly noticed, the most frequent application of this herb is for headache. "In medical practice, I have found many patients suffering from nervous tension who get irritable and excited and complain of head pains of a purely functional nature. They also sleep badly, sometimes complaining of dreams. For this symptomatic picture I strongly recommend wood betony...I have found it highly successful and can be used in domestic medicine" (Luc:183-4). It is useful in hysteria, palpitations, pain in the head and face, neuralgia, and all nervous affections (Gri:98). It was used for watery eyes and earaches. "A snuff made of equal parts of Wood Betony and marjoram, with a pinch of eyebright, is said to cure the most stubborn headaches" (Tie:121).

In addition to this use for headache, the herb helps with obstructions of the liver and spleen.

The herb may be smoked as tobacco, combined with eyebright and Coltsfoot, for relieving headache. This is significant because often headaches result from "liverishness" or indigestion. Kloss said that it would open obstructions in the liver and spleen and was more effective than quinine. He claimed that it would clear jaundice from the system (Kloss:331). It would assist in digestion generally and aid assimilation.

The herb has been used for a number of miscellaneous ills. It has been recommended for colds and flu, to relieve coughs and wheezing. It has been thought to be a specific for hay fever: "We now come to the perennial question of hay fever. We blame all kinds of things for this condition, from dry dust-raising winds and airborne pollen to haycutting. No doubt these aggravate nasal congestion and allergic rhinitis. Local irritation can be considerably reduced by internal treatment. Catarrhs is sometimes an accompanying condition. For these insufferable burdens simple infusions of Yarrow, Euphrasia or Eyebright can work wonders. Try the following:

"Wood Betony four drachm Fluid Extract; Yarrow eight drachm Fluid Extract; Euphrasia six drachm Fluid Extract; Tincture Capsicum ten drops...
Three teaspoonfuls in a wineglassful of water" (Luc:184).

The herb has also been used as an alterative in rheumatism, scrofula and other blood impurities. It has been given for many nervous problems, including general irritability, as well as more serious ones, including spasms, palsy and convulsions (Malstrom:106). It has been extolled, in strong decoction as an expeller of worms in the system. It is supposed to remove stitches and pains in the back and side. It subdues the stomach. It can help a hangover. It relieves the griping pain of colic and helps with indigestion generally, toning the stomach. Dr. Christopher even included a formula in his School for Natural Healing for the relief of paralysis, including Wood Betony and quite a number of other herbs.

TEA

Wood Betony has long been used as a substitute for table tea. It is said to have all the good aspects of tea without the bad, and resembles tea enough in flavor to make a good substitute. This will help prevent headaches, instead of bringing them on, as some other teas do. The fresh leaves have been used to dye wool a pleasant yellow, and the herb is a good addition to the herb garden, quite apart from its medicinal value, as it is beautiful.

CULTIVATION, COLLECTION, PREPARATION

Wood Betony is a perennial, and is usually propagated by cuttings or root cuttings. Wild plants do not transplant well, however, as they have a symbiotic association with underground fungi that envelope the roots and supply the plant with nutrients absorbed in the soil. By careful starting indoors, the herb can be propagated from seed.

The whole herb is collected in mid-summer, usually from wild plants, just before the flowers bloom. The roots are not collected, as they are said to have a disagreeable odor and a nauseating effect. The plant should only be collected after the dew has dried on a sunny day. Cut off the stem shortly above the root, and remove all discolored or insect-eaten leaves. You can dry them tied in bundles of no more than six stems, or spread them on screens to dry. Dry as quickly as possible, in partial sun if desired, but not allowing them to become moldy or to lose their color. When completely dry, the leaves should be stored in air-tight containers, as they quickly rehydrate if allowed in contact with moisture.

They are most often used in infusion or decoction, although tincture or extract can be made if desired.

DESCRIPTION

Wood Betony comes up year after year from a thick, woody root. The stems rise to a height of from one to two feet, and are slender, square and furrowed. They bear at wide intervals a few pairs of oblong, stalkless leaves, two to three inches long, and about 3/4 to 1 inch broad, with roughly indented margins; in other plants of this group, the pairs of leaves arise on alternate sides of the stem. The majority of the leaves, however spring from the root and these are larger, on long stalks and of a drawn-out, heart shape. All the leaves are rough to the touch and are also fringed with short, fine hairs; their whole surface is dotted with glands containing a bitter, aromatic oil.

At the top of the stem are the two-lipped flowers of a very rich purplish-red, arranged in dense rings or whorls, which together form short spikes. Then there is a break and a piece of bare stem, with two or four oblong, stalkless leaves and then more flowers. The whole forms an interrupted spike, a characteristic peculiarity by which Wood Betony is known from all other Labiatae flowers. The cup or calyx of each flower is crowned by five sharp points, each representing a sepal. The corolla is a long tube ending in two lips, the upper lip slightly arched, the lower one flat, of three equal lobes. The four stamens lie in two pairs within the arch of the upper lip, one pair longer than the other, and shed their pollen on to the back of bee visitors who come to drink the honey in at the tube, and thus unconsciously effect the fertilization of the next flower they visit, by carrying to it this pollen that has been dusted upon them. After fertilization, four brown, smooth three-cornered nutlets are developed. The flowers are in bloom during July and August (Gri:98).

CHEMICAL COMPOSITION

This is a notably safe herb, with no toxic effects ever attributed to it.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING WOOD BETONY

Relaxeze-Tea Contains Wood Betony.

RELATED PLANTS

The plants of Pedicularis in the family of Scrophulariaceae grow wild in the Western United States. It is related to the snapdragons. Moore explains that it is not related at all the Stachys betonica, although the two herbs are used similarly, this one being an effective sedative for children and tranquilizer for adults, particularly in hyperactive states that results from a generally frenzied day. It quiets tensions and anxieties. It also acts to stimulate sweating and will help reduce a fever. It is good for minor injuries, with mild astringent and antiseptic properties. "Large quantities may cause a befuddled lethargy and interference with motor control, particularly in the legs...a moderate overdose causes only short term discomfort of minor consequence" (Moore:35-6).

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WORMWOOD

ARTEMISIA ABSINTHIUM; COMPOSITAE

DESCRIPTION

The root is perennial, and from it arise branched, firm, leafy stems, sometimes almost woody at the base. The flowering stem is 2 to 2 1/2 feet high and whitish, being closely covered with fine, silky hairs. The leaves, which are also whitish on both sides from the same reason, are about 3 inches long by 1 1/2 inches broad, cut into deeply and repeatedly, the segments being narrow and blunt. The leaf-stalks are slightly winged at the margin. The small, nearly globular flower-heads

are arranged in an erect, leafy panicle, the leaves on the flower stalks being reduced to three or even one linear segment, and the little flowers themselves being pendulous and of a greenish-yellow tint. The ripe fruits are not crowned by a tuft of hairs as in the majority of the Compositae family. The leaves and flowers are very bitter, with a characteristic odor, resembling that of thujone. The root has a warm and aromatic taste (Gri:859).

GENERAL

Wormwood is one of the oldest medicinal plants known. It is of Biblical reputation, being the highest symbol of bitterness, which suggested something poisonous or at least extremely unpleasant. It is usually spoken of with gall as symbolic of bitter calamity and sorrow, a most emphatic and unmistakable metaphor (Mold:48). When people are wicked, the prophets foretell that they will be fed with Wormwood and given gall to drink (as in Jeremiah 23:15). The Biblical phrase, "he hath made me drunken with Wormwood" (Lamentations 3:15), refers to the inebriating aspects of the herb. A drink called absinthe is made from this species, of which thousands of gallons were formerly consumed annually but which has proven so destructive to health that it is banned in many countries. The habitual use of the drink brings on a stupor and gradual diminishing of the intellectual faculties, ending in delirium and even death--another powerful spiritual symbol. The star which fell from heaven and made the waters bitter was called by the Greek word for Wormwood, Apsinthos, and C. S. Lewis uses this name for one of his demons in The Screwtape Letters.

This herb has been known since Greek times as valuable medicine and it was also one of the plants hung outside doors to keep away evil spirits. It was considered so beneficial that Greek goddess Artemis chose this plant for her own. She received such health benefits from the plant that she gave it her own name in place of the former one of "parthenis" (Lev:158). Levy explained that many herbs have been harmed by misuse of extracts derived from them, a view that Dr. Christopher also often expressed. In antiquity Wormwood was chosen as a symbol of health and healers painted it on their doors as a sign to the patients. "I would happily paint wormwood on my door, for it is one of my chosen herbs and I make great use of it in my herbal work. The Provence peasants say of wormwood that if women realized the good that it could do them, they would wear it around their heads as a crown to do honor to this remarkable herb. The great healer Saint John the Baptist habitually wore a girdle woven from wormwood and one of its common names is St. John's Girdle" (Lev:158).

Dioscorides of course did not neglect this herb in his writings. He said that the very best form of it grows wild in the mountains. It "hath a warming, binding digestive facultie, of taking away the cholerick matter sticking to ye stomach". He said that it would relieve inflammation of the stomach and its attendant pain. It would restore appetite and remove hysteria. It would also, Dioscorides wrote, expel suppressed menstruation, used internally and externally. It would help failing eyesight and hearing and sore ears and "pained eyes". It would also tone up a chronically deranged liver. And it would remove the dropsy and heal a "splenicall" person, especially if mixed with figs and other items. He also mentioned the wine called absinthe, saying that it can remove a

fever and generally bring about health. It would keep woolens which were stored in a chest from being eaten by moths and it would keep the lice off the body. If you wished to make ink of the herb it would keep the writings uneaten by mice! However, taken to excess it would harm the stomach and cause headache, Dioscorides warned.

In an early translation of the Herbarium of Apuleius we find, "Of these worts that we name Artemisia, it is said that Diana did find them and delivered their powers and leechdom to Chiron the Centaur, who first from these Worts set forth a leechdom, and he named these worts from the name of Diana, Artemis, that is Artemisias" (Gri:858). The specific name refers to the chemical which makes the characteristic taste and effect to the wine aforementioned. Other names for the plant include Green Ginger, Wermuth, from which came the name of vermouth, an alcoholic drink which in former days featured Wormwood, old woman, which is said to refer to the medicinal value of the herb for women (another related herb, southernwood, is called old man), madderwort, mingwort, and mugwort, although mugwort is another member of the same family. In medieval times, the herb was used in churches and public places as a strewing herb, and some consider its biting perfume delightful (Coon:71).

In early English herbal medicine, Tusser (1577), wrote:

While Wormwood hath seed get a handful or twaine
To save against March, to make flea to refraine:
Where chamber if sweeped and Wormwood is strowne,
What saver is better (if physick be true)
For places infected than Wormwood and Rue?
It is a comfort for hart and the braine,
And therefore to have it is not in vaine (Gri:858).

Wormwood was said to counteract the effects of poisoning by hemlock, toadstools and the biting of the sea dragon. There is an old love charm that recommends combining Wormwood with marigold flowers, marjoram, and thyme. These would be rubbed together when dry, to a powder, sifted through a fine piece of fabric and simmered over a slow fire, adding a small quantity of pure honey and vinegar. The young woman would anoint herself with this when she went to bed, chanting three times the following:

St. Luke, St. Luke, be kind to me,
In dreams let me my true-love see"
And when the maiden dreamed, she would see her husband-to-be.

In 1527 when Benevenuto Cellini, a famous artist of that period, was wounded during a siege of Rome, he was cured by Wormwood. He wrote in his autobiography.

"A cannon shot reached me, which hit the angle of a battlement, and carried off enough of it to be the cause why I sustained no injury. The whole mass struck me in the chest and took my breath

away. I lay stretched upon the ground like a dead man, and could hear what the bystanders were saying. Among them all, Messer Antonio Santacroce lamented greatly exclaiming: 'Alas! Alas! We have lost the best defender that we had!' Attracted by the uproar, one of my comrades ran up; he was called Gianfresco, and was a bandsman, but was far more naturally given to medicine than to music. On the spot he flew off, crying for a stoop of the very best Greek wine. Then he made a tile red hot, and cast upon it a good handful of Wormwood; after which he sprinkled the Greek wine, and when the Wormwood was well soaked, he laid it upon my breast, just where the bruise was visible to all. Such was the virtue of the Wormwood that I immediately regained my scattered faculties" (Luc:187).

Culpepper wrote of the three Wormwoods most in use, two others than A. absinthium which we will discuss below. He considered this common Wormwood the strongest of them all. He also thought that it is good for preventing drunkenness. He quotes that when Saturn met with Venus and found her "drunk as a hog," Saturn said, "What, thou a fortune and be drunk? I'll give thee antipathetical cure. Take my herb Wormwood and thou shalt never get a surfeit by drinking."

In 1772, Dr. John Hill recommended the herb for many uses. A light infusion, he said, would strengthen digestion, correct acidities and supply the place of gall which is often deficient among people of weak digestion. A stronger mixture could be taken, mixed with wine, every hour and a half by the spoonful. Whoever would do this regularly for a week, he claimed, would have no sickness after meals, would feel none of that fullness so frequent from indigestion and would not suffer from gases. He could continue with a much smaller dosage to maintain these good benefits (Gri:860). He further stated that a tincture made of an ounce of Wormwood flowers in a pint of brandy would prevent the increase of gravel and give great relief in gout. "The celebrated Baron Haller has found vast benefit by this, and myself have very happily followed his example" (Ibid).

The American Indians also used this herb. When Maximilian of Wied was on the upper Missouri in 1833, he reported that a Gros Ventre woman, who had cut off one joint of her little finger as a sign of mourning, held the bleeding stump wrapped in a handful of Wormwood leaves. Several species of *Artemisia* have been used by western Indians for a variety of medicinal purposes. The Potawatomis brought species into their area for medicinal use. The foliage and flowers were used as a fumigant to revive a comatose patient, the fumes being directed into the nostrils by a paper cone (Vog:383). The Chippewas used the entire top of the plant boiled as a warm compress for sprains or strained muscles (Dens:362). They also used other varieties of *Artemisia* for hemorrhages, chronic dysentery and in magic. The Indians have long used this species in their sweat baths and saunas. Moistened branches are thrown onto hot rocks or bricks, "the victims grimly inhaling the humid vapors until nearly prostrate" (Moore:162).

The plant was formerly of some importance among the Mexicans, who celebrated the great festival of the Goddess of Salt by a ceremonial dance of women, who wore on their heads garlands of Wormwood (Gri:858).

Roman victors of chariot races were given a draught of the herb for good health and long life.

Among the Egyptians it was regarded as a sacred plant and carried in religious processions. "If it be rubbed over a child's hands before he is twelve weeks old, wormwood will keep moths out of his hair and he will never suffer from heat or cold," went one legend (Mold:49). Magicians and witches used it in secret incantation to bring departed spirits back from the underworld. It some is eaten in the month of May, it is supposed to protect the eater from consumption, poisoning, physical exhaustion, wild beasts and the necessity of paying too many bills! "Made into a cross and put on the roof," says one legend, speaking of one of the sister Artemisias, it "will be blessed by Christ Himself, hence it must not be taken down for a year". A Russian name for it is "herb of forgetfulness" because of a legend mankind lost the power of understanding the speech and uses of plants because of a peasant's failure to comply with an injunction never to mention the name of mugwort, which is one of the Artemisias (Mold:50).

BITTER MEDICINE

Dr. Christopher considered Wormwood one of the very best taeniicide which would kill tapeworms in the body. He recommended a three-day cleanse with Pluto water, taking Wormwood morning and night. On the morning of the fourth day, one teacupful of Senna would purge the dead worms from the body. Dr. Christopher said that next to rue, Wormwood is the most bitter remedy there is, but in addition to its worm killing ability, it also would act as a wonderful stimulative tonic to the digestive system. It is especially useful for atonic or debilitated conditions. It would expel gas from the intestinal tract, he taught, and have an antiseptic effect on the entire system.

Its use as a digestive tonic is indeed one of the foremost applications of Wormwood.

"Wormwood is above all a stomach medicine, being useful for indigestion, gastric pain and lack of appetite, as well as the related problems of heartburn and flatulence" (Lust:409). It should not, however, be taken by nursing mothers as the bitter taste is communicated to the milk, as well as the medicinal principle and it is said to be bad for infants. In addition it would cure even the most stubborn dysentery or chronic diarrhea, as well as constipation.

The tincture is good for indigestion and nausea, especially for people who are travelling.

The herb is often recommended as a liver and bile tonic. "Often melancholy is due to liver inactivity and a small amount of wormwood given daily will decrease the yellowness of the skin, revealing improvement of the gall bladder" (Thom:228).

Many extol the remedy as a women's herb, good for all ailments of the female system including leucorrhea, morning sickness (which we have tried, and found the remedy worse than the nausea!) and threatened miscarriage. "The hot tea has a stimulating effect on uterine circulation and will help in suppressed crampy menstruations, particularly following illness or some emotional or physical trauma" (Moore:162). The powdered, flowering tops made into tea have been given to women to relieve pain during labor.

The herb is often used externally, mostly in the form of an oil, although the fomentation is sometimes used in rheumatism, swelling and sprains. The oil is rubbed on sprains, rheumatism, lumbago, etc. It can also relieve the pains of neuralgia and arthritis but must never be taken internally, as it is a strong poison.

Made into an ointment, it has been applied externally for tonsillitis and quinsy (Wren:329).

Village healers in some parts of the world treat fallen arches with a liniment made of Wormwood steeped in rum. One man was unable to work for over three months because of fallen arches, which no medical doctors could cure with special shoes, massage and other treatments. The village healer had him rub the feet with the liniment, keeping the feet bound with gauze. The man was able to return to work within three weeks and missed no work for the next 20 years of his employment (Luc:186).

Juliette de Bairacli Levy recommends an insect repellent oil consisting of equal parts Wormwood, Rosemary, and Rue. These are infused in olive oil three times and prevent bites even when mosquitos are terrible. She recalls sleeping out of doors without mosquito nets among the tropical groves of Mexico, using only this oil to protect herself and her children, and they rarely got bitten!

It is sometimes recommended as an antispasmodic in epilepsy and in some nervous diseases, as it stimulates the cerebral hemispheres and is a direct stimulant of the cerebral cortex. However, when taken to excess it can produce epileptiform convulsions (Gri:860).

The Doctrine of Signatures states that the small round yellow flowerheads indicate that the herb was intended to remove obstructions of the liver, to give good results in bilious problems and to treat the problem of jaundice and an impaired spleen. The drooping or nodding flower heads were thought to represent a remedy for aches of the head and a general nervine but especially to help against epilepsy. The dry, sandy soil placed the herb in the category of solvents and expellants of gravel or stone in the kidney apparatus (Har:Complete:194).

OTHER USES

Before the common uses of hops in beer, Wormwood was often used to flavor beer with its characteristic bitter flavor. It is well known as an ingredient of absinthe, which is made of green anise, star anise, wormwood, small absinthe, coriander and hyssop. These are distilled and then peppermint, balm, citron peel and licorice root are steeped in the distillate.

If used in the garden, Wormwood will repel black flea beetles and moths. It will protect nearby cabbage plants against the cabbage worm butterfly. A tea sprayed on the ground in fall and spring will discourage slugs. A Wormwood tea bath will chase fleas from dogs and cats. It can also be used as a spray in storerooms where it is said to keep beetles and weevils away from stored grain. The tea may be used on fruit trees and other plants to combat aphids. Do not use too frequently

or it may retard their growth. Wormwood extract will repel flies. But Wormwood plants in the garden retard the growth of almost any plant, so they should be placed carefully (Phil:97-8).

Some people use this herb in rituals, smoked or prepared as a liqueur.

HISTORICAL USES

Used for cholera, digestive problems, stomach inflammation, sore ears, hearing, to restore appetite, for hysteria, failing eyesight, liver, suppressed menstruation, dropsy, hemlock poisoning, sea dragon bites, toadstool poisoning, bruises, to correct acidities, gas, to heal amputated parts, revive comatose patient, for sprains and strained muscles, tapeworms, nausea, morning sickness, as a liver and bile tonic, for leucorrhea, rheumatism, lumbago, arthritis, tonsillitis, quinsy and fallen arches.

CULTIVATION, COLLECTION, PREPARATION

This herb can be started from seed for the herb garden or it can be propagated from root cuttings. It grows from two to four feet tall and prefers a sunny location.

For medicinal use, the plant can be picked anytime that it is needed but for drying it should be gathered just before the blossoms open. Dry in an airy, warm, shady place, never in the sun as the aromatic oils will be lost. The herb reabsorbs moisture very easily, so it should be stored air tight as soon as it is dry.

It is usually made into infusion although can be made into tincture or extract.

RELATED PLANTS

There are many members of the Artemisia family. Common sagebrush is one of these, including the Silver Sage, A. frigida, and Mugwort, A. vulgaris.

A. pontica is called Roman Wormwood, about which Culpepper wrote, "And why Roman seeing it grows familiarly in England? It may be so called, because it is good for a stinking breath which the Romans cannot be very free from, maintaining so many bad houses by authority of his Holiness." This plant grows about the same height as common Wormwood, but has finer leaves and smaller flowers. This is the most delicate though the weakest of the Wormwoods. It is often used in vermouth. It is said to make a good wine for indigestion (Gri:860).

A. maritima, Sea Wormwood, or Old Man, sometimes called Southernwood occurs in salty soils. It is smaller than common Wormwood, with darker colors. It is used as a digestive bitter, in intermittent fever, and in other uses similar to common Wormwood.

TOXICITY

Because of the abuse of the herb in making alcoholic drinks, many have said that Wormwood should never be taken at all. Its toxic response is characterized by trembling, stupor and convulsions, dementia or even death may occur (Tyler:500). It causes frequent and frightful hallucinations, sexual debility and convulsive attacks. After death, the membranes of the brain and spinal cord were also found to be affected.

The oil, particularly, if ingested, causes severe problems and should never be taken internally.

However, if the herb is taken in mild infusion and not used to excess or over a long period of time, it can be of excellent use, particularly in the overcoming of intestinal worms.

CHEMICAL COMPOSITION

The oil of Wormwood contains absinthin, which is a bitter principle; succinic acid, existing in the leaves and fruit of the plant, and potassium chloride, long recognized in healing.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING WORMWOOD

B F & C for injuries, contains Wormwood, available capsule, bulk, ointment and syrup form.

VF, the vermifuge combination, contains Wormwood.

Ant-Plg, the anti-plague formula, contains Wormwood.

AR-1, the arthritis formula, contains Wormwood.

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Mal
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Rose:Herbs
Lev:Common
Lust
Lev
Mold



Achillea millefolium COMPOSITAE

DESCRIPTION

Dr. Christopher said that Yarrow is one of the greatest diaphoretic herbs. It will raise the heat of the body, equalize the circulation and produce perspiration, when taken hot. Dr. Christopher reminded us that the old herbalists stated that "the home without Yarrow will have death therein when the plagues come". Brigham Young, the Mormon Prophet, said that in the last days, people will be blessed who know how to use Yarrow. Dr. Christopher recalled that during the great influenza epidemic of 1918, about twenty million people died the world over, two million being in the United States. He remembered that as a boy people were not allowed to go out in public during the epidemic without wearing surgical masks. If you were found without the mask, you could be arrested. "We have been warned that during the plagues yet to come we will have far worse influenza epidemics than in the past. People will die in such large numbers that these epidemics will fulfill the Biblical prophecies that there would be black crepe on nearly ever door. You can have one of the few homes wherein "death does not visit' if you will see that your family rebuilds their bodies by proper eating, staying on the mucusless diet, and having Yarrow or some other good diaphoretic herbs on had at all times" (Herbalist: 1:6:196). Dr. Christopher taught the standard herbalist's view of fever, that it is a signal of malfunction happening in the body, so one must turn to the cause to get rid of it. If you suppress the fever with aspirin or some other drug, the heart has to work that much harder to pump not only the original toxicity from the body, but also the corpses of the germs. This can damage the heart, the kidneys, the nervous system, the circulatory system--all of the body--and eventually result in rheumatoid arthritis, crippling arthritis, muscular dystrophy, multiple sclerosis, and other similar ailments (Ibid.). When there are toxic materials in the body, germs enter. These live on the dead materials. The body builds a fever for incubation and multiplication of the germs, because the more germs that there are, the

faster toxins are removed from the body. The germs must have moist heat to reproduce quickly. Without a great deal of added moisture, the body dehydrates itself trying to furnish the moisture needed. This can result in a dry fever, which can kill. With a moist fever, however, the fever can go higher and higher, causing more and more germs to consume the toxins in the body. When the body is clean, the germs leave because there are no more toxins left to live on; they will not consume healthy cell structure and cannot hurt the healthy human body. During the fever, liquids must be given to the patient, such as juices, herb teas, and distilled water. Yarrow tea, among the diaphoretics, is especially useful because it raises the temperature naturally, opens the pores for waste to escape, and promotes perspiration. As long as moisture is going into the body and perspiration is occurring, there is little damage that can be done by fevers.

This sweating, or diaphoresis, is essential to healing in such a situation--and in many others--because if the pores of the skin are closed, the bloodstream soon becomes impure, poisoning the whole system. Dr. Christopher taught that no matter where the trouble may be in the body, provided the general circulation is involved, you can dramatically help the situation by diaphoresis. This is why Yarrow is so valuable. He cited that inflammation of the lungs, pleurisy, peritonitis, inflammation in the stomach, spleen, bowels, kidneys, bladder, uterus or brain--everywhere in the body--can be healed by diaphoretic treatment.

One of the most dramatic treatments Dr. Christopher recommended is his Cold Sheet Treatment. Although it is detailed elsewhere, the reader might benefit from a brief rehearsal of the procedure here. He said that when the epidemics come, you will be able to save many lives that would otherwise be lost without this remarkable aid. It can be used safely in any inflammatory disease, on anyone, from newly-born infants to the very aged. Dr. Loretta Foote, formerly Dr. Christopher's staff obstetrician, never lost a full-term baby in all her years of practice, even when they were born with respiratory congestion, or even pneumonia. She used the cold sheet treatment on cases when the babies were only minutes or hours old.

This treatment is commenced by giving the patient an enema, which Dr. Christopher said should only be done in an emergency, such as a high fever. Cold tea, such as catnip, mint, Yarrow, red raspberry, etc., or cold water may be used. A hot enema relaxes the lower bowel and anus area, causing them to expand and quickly void, but the cold will contract the area and retain the liquid until it soaks further into the encrusted and hardened fecal matter to ensure a large evacuation.

After this enema, a small enema called an injection is given. You make the liquid for this by placing in a blender container one to two cups apple cider vinegar and water in equal amounts. Turn the blender on and add several peeled cloves of garlic. Do not make this too thick to go through the neck of the enema syringe. If no blender is available, chop or grate the garlic finely and mix with cool or cold water and apple cider vinegar mixture. Have the patient lie with his buttocks elevated with pillows or padding and inject the garlic tea into the rectum, having the patient hold it in as long as possible (ten to fifteen minutes) before voiding it. Babies can be given the enema and diapered, allowed to toddle or crawl if they wish, or to be held. They usually retain this injection for the required length of time and, interestingly, the garlic aroma appears on

their breath within just a few minutes.

Then place the patient in a hot tub, as hot as possible without scalding the skin. To this hot tub add one ounce of ginger, one ounce of cayenne, and one ounce of dry mustard, all in powdered form. Be sure to coat the mucous membranes of the genitalia with vaseline or some other low-vibration ointment so that the herbs will not cause stinging and pain. Stir the bath well and have the patient sit and sweat. These herbs open the pores of the body to allow oxygen in liquid form to enter and the poisons and toxic materials to be dispersed. While the patient is in the tub, give him one or more cups of hot Yarrow tea, which will cause him to sweat even more. If your patient is a child, you can give camomile tea, which has a more acceptable taste to children. Even a baby bottle of the tea can be given. Although in infections it is preferable not to give the tea sweetened, for children it may be necessary to lightly sweeten the tea, perhaps with sweet herb (Stevia).

The person may eventually tell you that he is tired; you can tell when children get tired as they seem limp. Have him stand up and wrap around him a large, wet sheet taken out of cold water or ice water. Pin it down the side from neck to feet. Squeeze out some of the water before putting on the sheet so it will not trail water as the person is walked or carried to bed. Have the bed prepared with a rubber sheet or plastic sheet over the mattress. Cover this with a dry cotton sheet and lay the patient on the sheet, covered with another cotton sheet, and the then natural-fiber blankets, well-tucked in. Do not use synthetics during any part of this treatment, as they will not allow the toxins to escape. When the patient is tucked into bed, uncover his feet and oil them thoroughly with olive oil. While you do this, you can give a short acupressure treatment all over the foot to help speed the healing. Then apply garlic paste, which has been previously prepared by mincing or mashing several cloves of garlic and mixing them with olive oil to make an ointment. This should be applied a half to three-fourths inch thick all over the soles of the feet and bound lightly with gauze or two-inch strips of old cotton sheets. Pull over this a large white cotton or wool sock, pin the wet sheet over the bottom and let him go to sleep. He will sleep well from the effects of the Yarrow tea. The next morning he will want to get up and be active, because he feels so well from the cleansing.

Take him out of bed and sponge him down with a half-and-half combination of warm apple cider vinegar and distilled water to remove the perspiration on the body. Freshen the bed, put clean pajamas on the person, and have him rest. If he is hungry, do not give heavy foods, but only herb teas, water, or fruit or vegetable juices, having him swish them around in the mouth to mix well with the saliva. The large sheet used in the treatment will likely be stained with various colors, depending on what the patient had taken into his system: black from coal tar (aspirin and other medicines made from tar), yellow from inorganic sulphur (sulfa drugs, cooked eggs, preserved fruits, etc.), green from arsenic in medicine and sprayed foods, red from iodine, purple from potassium permanganate, brown from coffee, chocolate, tobacco, and so on. These toxins accumulated in the body and slowed down healing for years. Although it is too bad to have them in the sheet, they are better there than in the person's body!

After the body is cleansed, you can be sure to maintain health by proper diet, air, water, clothing, exercise and balanced activity.

MILFOIL

Yarrow is one of the ancient herbs. It originated in Europe, but was introduced in the United States and now it is fully naturalized. It grows everywhere freely except in the Southwest, and is particularly common in the Eastern portion the States. In Europe, it has long been valued as an important medicinal herb. Dioscorides said that it will help recent inflamed ulcers, being smeared on green. It was also given for epilepsy, with water and salt.

Yarrow was formerly much esteemed as a wound herb, and its old names of Soldier's Wound Wort and Knight's Milfoil testify to this. It was also called Herba Militaris, all of which suggest that it was used as a ready-to-hand field bandage for battle wounds, "although its value for stanching flows of blood is doubtful," claims one herbalist (Coon:46). Gerard says that it is the same plant with which Achilles stanching bleeding of his soldier, hence the name of the genus, Achillea. Others say that it was discovered by a certain Achilles, Chiron's disciple. Its specific name, millefolium, is derived from the many segments of its foliage, hence also its popular name, Milfoil or Thousand Weed. The common name Yarrow is also a derivative of this characteristic; the Anglo-Saxon gearwe or Dutch yerw are said to mean the same thing. Another popular name for it is Nosebleed, from its property of stanching bleeding of the nose. Another reason given for this name is that the leaf, being rolled up and applied to the nostrils, causes a bleeding from the nose, more or less copious, which will thus afford relief to headaches. Parkinson wrote that "if it be put into the nose, assuredly it will stay the bleeding of it, so it seems to act either way (Gri:864).

This nose-bleeding phenomenon had an interesting application in the east of England, where there is a curious mode of divination with its serrated leaf, with which the inside of the nose is tickled while the following lines are spoken. If the operation causes the nose to bleed, it is a certain omen of success:

Yarroway, Yarroway, bear a white blow,
If my love love me, my nose will bleed now (Gri:864).

An ounce of the herb sewed up in flannel and placed under the pillow before going to bed, having repeated the following words, brought a vision of the future husband or wife:

Thou pretty herb of Venus' tree,
Thy true name it is Yarrow;
Now who my bosom friend must be,
Pray tell me thou me tomorrow.

The herb has also used in divination, being included among the herbs dedicated to the evil one, in former days being sometimes called devil's nettle, devil's playing, bad man's plaything and so on.

It was used for divination in spells; some suggest that it might have been one of the herbs used by the witches in Macbeth.

"Yarrow is a mystical herb and under the influence of Mercury, first practitioner of the healing arts and first wielder of the mythical caduceus, symbol of modern medicine," says Nebelkopf (Nebelkopf:86-7). The stalks of the plant, stripped of their leaves, are used to obtain hexagrams from the I Ching, the ancient Taoist Book of Oracles. Forty-nine sticks are divided into two piles and each of these piles are divided into fours. The remaining stalks add up to form a line of the hexagram. These yarrow stalks are the archetype for the children's game of Chinese pick-up sticks (Ibid.).

The name Old Man's Pepper refers to the astringent quality of the herb and the fact that it has been employed as a snuff. In the seventeenth century, it was also used as an ingredient in salad, although that doesn't correspond to our modern tastes today: the taste of the herb is much too biting and astringent to us.

Linnaeus recommended the bruised herb, fresh as an excellent vulnerary and styptic. It is employed in Norway for the cure of rheumatism, and the fresh leaves chewed are said to cure toothache. In England, the herb has been made into an ointment for wounds, and a tea is taken for melancholy. In Russia, it is used for bleeding, stomach problems, coughs and colds, liver problems, dysentery and nervousness.

The American Indians were extremely aware of this herb, and many tribes had specific uses for it. This brings to question, of course, the claim that our species are all naturalized from Europe. Some say that the western species are different from the European, and other disagree, saying that they are the same species. Since they are alike in medicinal values, it doesn't really matter, but we prefer to think that the plant was distributed everywhere by the Lord for the use of man wherever they are.

One very early report says that Yarrow was used in cuts by the Illinois and Miami tribes. The Paiutes made a tea of Yarrow to be taken internally for weak and disordered stomachs; they also used the herb for headaches, crushing the green leaves and applying externally. The decoction was also used internally for headaches, and as a blood tonic (especially after childbirth), as a cold remedy, a kidney aid, a venereal aid, and externally as a poultice on swellings and sores, eyewash, a wash for fevers, a toothache remedy and a treatment for collar sores on horses. The Ute name for this plant signifies "wound medicine," and they applied it externally on bruises, and used it as a tea in sicknesses of various kinds. It grows freely in the mountains of their territory. The Winnebagos used an infusion of Yarrow to bathe swellings and treat earache; they also sometimes put a wad of the crushed leaves into the ear for earache. The Chickasaws used it as a remedy for cramp in the neck. The Meskwakis boiled it for application externally to any ailing part, and used the leaves and flowers for fevers and flu. They also used the leaves as a poultice for rash in children, and the fresh tops to rub on eczema sores. The Pillager Ojibwas used the florets for ceremonial smoking and as a fumigant to break fever. The flowers were placed on coals and the

fumes were inhaled to break the fever. The Potawatomis used them as a fumigant to ward off evil spirits and to revive a comatose patient. The Flambeau used an external application for poisonous spider bites. The Montagnais used it to break fevers as did the Fox tribe, who also used it as an antirheumatic. The Aleuts used it for stomach and throat pain and as a dermatological aid, especially for nose bleed. The Kwakiutls chewed or soaked the plant and heated it for a poultice to be used on swellings. The Shoshone tribe used the freshly-mashed leaves on swellings and sores; they used the freshly-mashed roots on painful wounds. The decoction was used by the Shoshones against diarrhea and rheumatism, and as a wash for itching, relief of indigestion, colic, and toothache. The Zunis used a burn dressing poultice of Yarrow before fire eating or fire walking, and used the infusion on burns. The Chippewas used a decoction of the leaves, steamed and inhaled for headache, as a stimulant for horses; the decoction was used for skin eruptions. The Gitksans used a decoction of the root as a gargle for sore throat. The Menominees used the dried and powdered leaves for a poultice in swellings and sores, and a poultice of the fresh leaves for rash in children. The Mohegan tribe used the decoction as a liver and kidney aid and as an appetite stimulant. These varied but related uses suggest that Yarrow grew freely throughout America where the tribes lived (early informants insisted that it is a native herb), and that empirical use among the tribes establishes well the efficacy of Yarrow.

The herb was official in the United States Pharmacopeia from 1863-82, used as a tonic, stimulant and emmenagogue. Interestingly, it was formerly brought to weddings to ensure seven years' love.

Other names for the plant include thousand-leaved, thousand seal, dog daisy, knight's milfoil, ladies' mantle, and noble yarrow.

FEVER HERB

Yarrow was one of Dr. Christopher's favorite herbs; he listed it among his Ten Honorable Herbs under the category of diaphoretic. It is widely recommended by many herbalists for feverish diseases. "It is often used by peasants as a substitute for quinine, and it quite as effective and far safer than that drug" (Levy:Common:160). It is sometimes called "Englishman's quinine", and has been thought to be especially effective in cases of chills and fever. There are various preparations of Yarrow which will effect this breaking up of fever. Dr. Christopher said that drinking the hot infusion, alone or in combination with other herbs, such as elder flowers and peppermint. If you wrap the patient's feet in flannel that has been wrung out in apple cider vinegar, keeping this warm with a hot water bottle, you can break up a cold overnight or within 24 hours. You should be sure to keep the bowels open, either using a garlic enema or giving a dose of senna. Once the fever is broken, keeping the bowels open ensures that the patient heals quickly so that toxic accumulations do not keep "feeding" the problem. Another combination that is recommended for breaking fevers mixes a standard infusion of Yarrow with a teaspoon of honey and three drops of Tabasco sauce. The patient should be heavily covered. This will open the pores and cause profuse sweating, thus eliminating toxins and relieving the kidneys of the job of eliminating. You can also use a dash of cayenne or ginger to accent the action of the Yarrow. Dr. Christopher related that his daughter was away at summer camp and caught a severe cold. When he went to

visit her for the weekend, he found her in bed with a high temperature, headache, and the general symptoms of influenza, the body aching and in a most restless condition. He saw a stand of Yarrow growing near the cabin and went to gather a handful. He placed a bunch of the whole plant in a jug and poured over it about one-and-a-half pints of boiling water, covered it for about five minutes, and then poured off a cupful of the warm tea. He gave it to his daughter, who insisted that she would vomit if he made her drink the whole cup. He told her that if the stomach rejected it, the result would be a cleaner stomach for the next dose. She drank the cupful, and he poured off a second cupful of the warm tea to give to her. She got it all down, and in a few minutes was perspiring freely. In half an hour she said she felt better and in the morning she was completely recovered (SNH:217). We have given the tea in influenza when the patient vomited, but afterwards taking more tea got the same healing diaphoretic effect. Especially since flu can last up to a week--sometimes longer--it is amazing to have an herb that can break it up so quickly.

If you give the tea to children during the early stages of eruptive diseases, such as measles, chicken pox, smallpox, etc., the tea will help the disease to break out more quickly and thus shorten the time. Dr. Christopher recommended a mixture of Yarrow, pleurisy root and lady's slipper (or skullcap) for the measles. Anytime there is a fever, no matter what the disease, Yarrow can help break it and bring the disease to a speedier ending.

For chest colds, it is sometimes recommended mixing 1 ounce of Yarrow, 1/2 ounce elder flowers, 1/2 ounce boneset, and 1/4 ounce licorice. These are made into a decoction and taken by the cupful every three or four hours, going on a juice fast for a day. For head colds, equal parts of Yarrow, sage, boneset, and echinacea are made into infusion and taken before meals. For bronchitis, equal parts of Yarrow, mullein and elecampane are made into an infusion, a cupful taken every four hours. For catarrh, which is a mucus condition in the system, Yarrow, angelica and eyebright herb are mixed in equal portions with a pinch of cinnamon. This is made into an infusion, one cupful taken three times daily after each meal. In addition, if mucus-causing foods are removed from the diet, the catarrh is often cured of itself (Luc:Herbal:72-3).

Aside from its use as a febrifuge, Yarrow is known for many other important applications. It is wonderful for eliminating lung congestion, and even for stopping hemorrhage or bleeding from the lungs (Malstrom:107). It is sometimes mixed with comfrey for internal hemorrhage. It is good for various forms of internal bleeding, such as nosebleed, coughing or spitting up blood, rectal hemorrhoidal bleeding, bloody urine, and excessive menstruation (Lust:272).

It is very often recommended for external applications, as it is reputed to act as a styptic, stopping the flow of blood from a wound. "It can be applied directly to wounds to stop bleeding and is used in making a bolus or salve for bleeding piles" (Tie:121). For piles and hemorrhoids, use an enema of the tea after the bowels have been cleansed with a plain water enema. Also inject two tablespoonfuls several times a day, and after each stool. When there is a bad condition of piles and hemorrhoids, take a cleansing and then a Yarrow enema each day. When there is much pain have the water 112 to 155 degrees F. (Kloss:333). Ulcers and soft tumors are said to respond to an application of the ointment. "Animal studies have shown that extracts of Yarrow can reduce

inflammation and that they have a calming effect. Thus, the use of the juice of this plant for the treatment of ulcers and hemorrhoids has a rational basis. Extracts of Yarrow are also known to have antibiotic effects when evaluated in test tubes. Thus, at least for external application, one would expect that a person suffering from boils or other microbial infections of a minor nature would receive beneficial results by the external application of Yarrow preparations (Weiner:206). Yarrow leaves, chewed, are said to sometimes relieve the pain of a toothache.

For earache, apply some of the strong infusion quite hot to the ears, and insert a few drops of the cooler brew. In addition, the crushed leaves, well-warmed, can be placed in each ear (Levy:Common:160). This might be a good remedy to know if you need to treat an earache and are away from herbal supplies.

Yarrow has long been recommended for women's troubles. It relieves cramps and helps control excessive menstrual bleeding when taken as a warm infusion (Tie:121). It is good for controlling leucorrhea, or the whites, by taking internally and by using as a douche, the cool infusion being used. It lessens the discharge in women generally. It is also good for bringing on suppressed menstruation. You can use the warm Yarrow tea as a sitz bath as well.

Yarrow has been long-recommended for dyspepsia and all digestive problems. "The use of decoctions or infusions of Yarrow flowers as a tonic has been studied experimentally in humans, and it has been confirmed that gastric juices are stimulated by the oral ingestion of extracts of this plant. This would lead to a tonic effect with improved digestion of foods. The effect is due to the presence of bitter principles (azulenes, sesquiterpenes) in the flowers" (Weiner:206). In Russia it is recognized for stomach troubles and as an appetizer. It is much used by the Swiss as a bitter tea for use as a stomach cordial or appetite tonic (Luc:Magic:49). It is also thought of as a specific cure for nausea. It is good for strengthening the liver and gall bladder, being especially noted for stimulating the flow of the bile (Lust:272). This is good to know, because many holistic practitioners recommend using a coffee enema for tripping the gall bladder reflex. Putting the poison caffeine into the system through an enema is just as dangerous as taking it internally in coffee; Yarrow would seem a much preferable alternative.

Yarrow has also been recommended in pancreas problems, including Bright's disease and diabetes. It is sometimes given internally for colic and gas pains. It is especially good for diarrhea and dysentery, used internally and given as an injection; infants particularly respond to this treatment. Urinary irritations often respond to the internal use of Yarrow tea.

The tea can be applied to chapped hands or other skin irritations, and it can be rubbed on sore nipples if needed.

In the Doctrine of Signatures, the finely-segmented leaves of this plant and its profuse growth suggested to ancient users to claim that each leaf is equal to a thousand uses. The root stock, which is creeping, indicates its thorough blood-cleansing properties. It contains much of the blood fortifying chemicals such as iron, calcium, potassium, sulfur, and sodium. The silky hairs

on the whole plant indicate external irritations, as we have discussed above. The ointment of the herb has long been prepared in England with other herbs for external applications, and in Scotland it is still highly valued as a skin ointment (Harris:Complete:196).

TOXICITY

Spoerke reports no toxic ingestions of the herb (Spoerke:181). But being from the family Compositae, some persons are allergic to the herb and the tea has caused contact dermatitis, anaphylaxis, and other severe hypersensitivity reactions. Persons allergic to this family of herbs should avoid this as well as other teas prepared from composite flower heads (Tyler:) Overuse of the herb can cause "burning and raw sensations of the membranes with which it comes into contact, considerable pain in the gastric and abdominal regions, with diarrhea and enuresis (Millsbaugh:336).

OTHER USES

For a time the Swedes used Yarrow in lieu of hops in the manufacture of beer and claimed the beer thus brewed to be a greater intoxicant. Combined with camomile, the herb is made into a strong infusion and cooled, good for a hair-rinse, or to be rubbed into the scalp to discourage baldness or falling hair.

The dried flowers are famous for their use in dried-flower arrangements. As mentioned before, the stripped stalks are used in divination.

In the garden, Yarrow increases the aromatic quality of all herbs. In a small proportion, as in a border, it helps most vegetables. It will grow in a narrow bed as it does not mind being trampled. The hay or tea are said to be good for sheep. The plant helps the quality more than the size of neighboring plants, although in one experiment it had an unusual effect upon perennial rye grass. It strikingly cuts down the protein content in the grass, but considerably increases the fiber content therein. But the two herbs mixed together for pasture feed provide 40% more protein than the grass alone, thus recommending the mixture for a high nutritional feed for cows. Yarrow is also good to enrich the compost pile (Phil:98-9). It is sometimes used to flavor homemade liquors.

CULTIVATION, COLLECTION, PREPARATION

You can start Yarrow from seed or by dividing the root clumps of established plants. The decorative varieties are usually available from nurseries, and the white medicinal kind can often be found in mountain regions, dug from the ground and transplanted into the herb garden. Yarrow seed will germinate in the light. Sow it on top of fine soil and keep it moist until it germinates. Start it indoors in March so it will be ready for harvesting in June or July. Although fertilization is of minor importance because of Yarrow's hardiness, annual applications of bonemeal will promote its growth. The plant will produce a more pleasing aroma in light, sandy soils than in heavy, clay ones (Hyl:625).

Cut the flowering plants and chop into pieces, drying rapidly at temperatures from 90 to 100

degrees F. Slower drying may cause darkening of the leaves.

The white medicinal variety is said to excrete a toxin to the soil that eventually will defeat even its own growth. If you need to have the white medicinal variety, you might grow it for a season and then hunt it wild (Hyl:625).

You can prepare an ointment of Yarrow by placing the chopped flowerheads and leaves in olive oil, keeping in a warm oven or sunlight for several days. Strain and press well, heat gently, and then add enough beeswax to harden when cool.

Yarrow stores quite well in a cool, dry, air-tight situation.

DESCRIPTION

This common roadside herb grows to 6 to 20 inches high, from a slender, creeping, perennial root, which, beside a multitude of filiform rootlets, gives off several long, reddish stolons. The stem is simple or nearly so, erect, slightly grooved and roughly hairy. The leaves are alternate; those from the near the root wide-petioled, two to six inches long; those of the stem proper shorter, sessile or nearly so, and all in their general outline more or less lanceolate oblong, twice pinnately-parted, the divisions linear, crowded and three-to-five cleft. The peduncles number three or more; the pedicels are many, forming small, crowded, flat-topped corymbs at the summit of the plant. The flower heads are many-flowered and radiate. The involucre consists of two to three imbricated rows of ovoid-oblong scales, with a prominent midrib and brownish, scarios edges. The rays are four or five, pistillate, with a short, obovate, reflexed limb. The corolla is tubular, the summit slightly inflated, five lobed, the lobes revolute, acute. The stamens are five, inserted upon the tube, and rising slightly above the face of the corolla. The anthers are adnate, without tails at the base. The style is long, upright, slender, rising above the anthers. The stigma is two-cleft, the divisions recurved and fringed at their tips. The receptacle is small, usually flat and chaffy (Millsbaugh:335).

CHEMICAL COMPOSITION

Oil of achillea has a taste similar to the herb itself. Achilleic acid is also attributed its medicinal action. Both the flowers and leaves contain an aromatic volatile oil which is blue in color owing to the presence of chamazulene.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING YARROW

The Desert Herb Combination contains Yarrow.

RELATED PLANTS.

A. lanulosa is considered to be the western species of Yarrow, although it is not easy to discern from European Yarrow.

A. ptarmica, Sneezewort, was early used in medicine. It helps with catarrh, epilepsy, and uterine

problems.

A. tomentosa, the wooly yellow Yarrow, is very rare, and is thought to be imported from Europe.

A. ageratum has tufted, oblong, serrate and clammy leaves and very short ray floret; it is used similarly to Yarrow.

A. nobilis has a stronger taste than common Yarrow.

A. moschata is largely used in Switzerland; it has a strongly aromatic and bitter taste and is used as a bitter.

A. atrata and A. nana are used like the other species.

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YELLOW DOCK

Rumex crispus POLYGONACEAE

DESCRIPTION

Dr. Christopher said that Yellow Dock is considered to be the most medicinal of the dock family. It contains as much as forty percent iron compounds, making it one of the best blood builders in nature; it is obvious why Dr. Christopher included it in his mineral formula. For women who need extra iron during their child-bearing years, Yellow Dock provides a natural and easily accessible source, as it is considered a pernicious weed which infests most of the temperate regions of the world.

It has also been reputed to be a wonderful regulator of the bowels, restoring regularity when other remedies have failed. Lucas reported several interesting cases. One person said that his bowels would sometimes not move for three or four days. He tried laxatives, which caused griping pains, harshness, and the "runs". Finally an acquaintance told him about Yellow dock tea, which is also a Chinese herb remedy. He drank one cup of the hot tea first thing in the morning before breakfast and took three more cups during the day. From the second day on, he had regular bowel movements, just as nature intended, with no griping, looseness or harshness.

Another man who had been constipated for many years, having to resort to laxative or enemas, has good healthy bowel movements so long as he continues to drink the tea.

One gentleman, 72 years old, was troubled with constipation. Although the doctor prescribed various laxatives and pills, they didn't work, so he had to rely mostly on enemas. When they heard about Yellow dock tea, he decided to drink three large cups daily, and on the third day he had a partial bowel movement. He increased the amount of tea, but for several days he still had only partial movements. He began to eat a dish of stewed prunes with sliced ripe banana for breakfast and drank the tea during the day. He had a complete normal bowel movement the following day, surprising the family as well as himself. He found that he could cut down the tea to two cups a day as long as he continued the natural breakfast food, but that the breakfast alone would not continue the good elimination. This combination of tea and fruit has kept him regular now for years.

A woman had such bad constipation that she developed painful piles. Laxatives only irritated this condition. She began drinking Yellow dock tea and had natural, non-griping bowel movements, and within two weeks the piles disappeared (Luc:Secrets:182-3).

CURLY DOCK

The docks have been considered some of our most troublesome weeds, although they are also some of our most beautiful. A large plant may produce 30,000 seeds in a single season, 88% of which germinate, so it is cursed among agriculturalists. The plant is native to Europe and Asia, but was early introduced into America and is now found nearly throughout the United States. It is one of the herbs that Dr. Christopher said we should praise instead of hating, however, as it is a wonderful blessing for those who need to tone the system and cleanse and build the blood.

Yellow dock is among the few introduced plants that were adopted by some of the Indians and used along with native species of Rumex. The Teton Dakotas bound the crushed green leaves of the plants to boils to bring suppuration. The roots, which contain tannin, were used by the Flambeau Ojibwas for closing and healing cuts. The Blackfeet Indians mashed the roots into a pulp and applied it to human sores and swellings and also to their horses for saddle sores. It was used similarly among the Navajos, and was used by the Iriquos as a food.

It was known anciently. Dioscorides recommended the various Docks as pot herbs that would help clear afflicted skin and allay itching. They would assuage the pain of the ears and pain of the teeth. Some used the roots as an amulet, hanging it around the neck. It would help bladder stones, suppressed menstruation, and prevent poisoning after scorpion bite.

Culpepper wrote, "All docks boiled with meat, makes it boil the sooner: Besides Blood-wort (Yellow-dock) is exceeding strengthening to the liver, and procures good blood, being as wholesome a pot herb as any growing in the garden; yet such is the nicety of our times, forsooth, that women will not put it into a pot, because it makes the pottage black; pride and ignorance (a couple of monsters in the creation) preferring nicety before health".

Yellow dock was official in the United States Pharmacopeia from 1863-1905, and in the National Formulary from 1916-36, another herb of very long standing which is now unfortunately omitted from the listings.

BLOOD PURIFIER

Yellow dock along with burdock is noted as a blood purifier, especially helpful in cleansing the related lymphatic system. Because it cleans the blood, it is also excellent for skin disorders. Its reputation as a blood purifier began in the nineteenth century when it was included in various preparations sold for the purpose and especially recommended for eruptive diseases such as scrofula and for skin problems generally. It is said to be effective for the heart and for impurities of the blood. It is recommended for toxic conditions of the blood and glandular system, especially when discharges are experienced, as in running of the ears, ulcerated eyelids, and skin conditions (Hut:315).

There are various combinations recommended for blood purifiers. You can make the simple infusion, allowing to steep for thirty minutes, or you can combine with equal parts of red clover

tops, brigham tea, burdock and figwort, making 2 quarts of tea and reducing it down to one quart. Combine yellow dock burdock, sarsaparilla and echinacea for an excellent blood cleanser, particularly good in treating post-adolescent skin acne or eruptions related to the menstrual cycle. It will help clear up eruptions on oily skin of the neck and back (Tie:166).

So many problems are related to blood impurities that Yellow Dock is said to help in a variety of ways. It is good for liver congestion and poor digestion of fatty foods, particularly meat and dairy products (*Ibid.*). It tones up the gall bladder and increases endurance. Thus it is used in the treatment of jaundice and other liver troubles. It is excellent, as aforementioned, for chronic constipation, and tones up the digestive and eliminative tract generally. The roots are rich in a complex mixture of anthraquinone and anthraquinone glycosides, similar to the types of chemicals found in cascara bark and frangula berries. This produces the laxative effect (Weiner:207).

Many of us do not realize the extent which we are made toxic by arsenic and other chemicals in the environment. Arsenic is used in many industrial preparations, as well as in medicine. If a person is poisoned by arsenic, he can take a special combination recommended by Dr. Shook which includes 1/4 teaspoon powdered lobelia, 1/2 teaspoon mustard powder and 1/2 teaspoon ginger powder. This is made into tea and given until the stomach has been evacuated. If there is some unabsorbed arsenic still in the system, he can take a strong decoction of Yellow dock root and bugleweed herb:

3 ounces yellow dock root, cut
3 ounces bugleweed herb, cut

Put into 1 pint distilled water, boil ten minutes, strain and let stand until cold. This is given from a wineglassful to a teacupful until the whole pint has been consumed. Dr. Shook wrote: "This life giving remedy (in arsenical poisoning) serves two purposes. The iron in yellow dock and the tannic acid in (bugleweed) pick up any soluble arsenic that may be in the stomach or intestines, and immediately convert it into insoluble iron arsenite or arsenate, which cannot be absorbed into the system. The (bugleweed) supports the heart and acts as a sedative to the sympathetic nervous system, thus conserving energy until the danger is past. Consult your doctor. Lay your cards on the table; that is, tell him what you used and why. He will be astonished and you will make a friend out of an enemy. The fact that you called him in exonerates you from all blame, no matter what the consequences might be, while your prompt first aid marks you as a physician who really knows what to do in an emergency" (ShoA:135-6).

When the toxic material builds in the system so much as to cause swelling or tumors, Yellow dock is often recommended. "The root has some keratolytic activity, and is therefore used externally for suppurating ulcers, skin infections, and poorly healed abrasions" (Tie:166). It has formerly been used in cases of cancer, although it is not compatible with modern cancer treatments. It has been used for leprosy and glandular swellings, syphilis, and bleeding of the lungs and bowels. That some of these serious conditions respond to such a common herb is important knowledge in survival situations.

One of the outstanding uses of Yellow dock is for all sorts of skin problems. As we mentioned, it is ideal for acne conditions, as this often stems from impure blood. It is always recommended in ointment form for itching, especially if this is attributed to inner toxicity. It relieves sores, swellings, and scabby eruptions; it has been applied to good effect in impetigo. The root is rich in tannin, which gives a valid scientific basis for its use in skin troubles. You can make a hot fomentation of the strong infusion or decoction for use in swellings. The powdered root has also been used as an excellent dentifrice, especially where the gums are spongy (Millsbaugh:576).

The herb has been used in diphtheria, and also in chronic bronchitis and any conditions affected by the spleen and lymphatic glands.

It is high in iron and useful in treatment anemia. It is good for female weakness when due to iron deficiency. So many women take iron pills and yet their iron-deficiency symptoms are not relieved. This is because the iron is taken into the system in an inassimilable form. Yellow dock has the best form of plant iron, which is organic and assimilable, of any that is available. It should be preferred in any condition that requires additional dietary iron.

In India, the root is used in disorders of the lymphatic and glandular system. It is considered to be important to treat scurvy, also for chronic skin eruptions, indigestion, syphilis, scrofula, liver disorders, and laryngeal irritations. The root is used as a dentifrice. The juice is given to allay toothache. The seeds are used in chronic dysentery and in checking nausea and promoting appetite. Externally the root is used against the poisonous bites of insects and reptiles (IMM:1079).

In China, as aforementioned, the herb is highly valued as a laxative, the dose depending on the individual's needs.

In Russia, the roots are used as an astringent in skin conditions, and also for bleeding diarrhea and tubercular lungs. In Bello-Russia they use a decoction of the flowers for diarrhea, kidney and bladder problems, stomach sickness and a decoction of the root for pain after heavy lifting (Hut:316).

In the Doctrine of Signatures, the leaves and roots, which have a golden color, symbolize liver ailments (Harris:Complete:89).

GREENS

Aside from the decorative use of the dried flower-stalks in dried-flower arrangements--their brownish-red hue is very attractive in many combinations--this herb is mainly used as a Pot-herb. It can be steamed alone or in combination with other herbs, such as dandelion, mustard, etc. Some recommend two changes of water, to eliminate the bitter taste which is caused by oxalic acid. This acid is present in crystals which pierce the digestive tract and cause disorders, even death in some reports. This is virtually eliminated if the herb is parboiled. The leaves have

sometimes been used in the treatment of scurvy, supplying ascorbic acid, but this use is discouraged because of the presence of the oxalic acid. We think that they could add a nice green garnish to soup, acting as a spring tonic when other greens are not readily available. Some cook them with fat pork or bacon. Coon said that to him, this herb was a superior spring green, deemed by his parents to be better than spinach (Coon:177).

DESCRIPTION

Yellow dock is a perennial, reproducing by seeds. The taproot is large, yellow and somewhat branched. The stems are glabrous, erect, single or in groups from the root crown, simple to the inflorescence, up to 1 meter tall. The leaves are simple, mostly basal, glabrous, 15-30 cm. long, lanceolate, the larger leaves rounded to nearly heart-shaped at the base, with wavy curled or crisped margins; upper leaves alternate, the base of the short petiole with a papery sheath surrounding the stem. Inflorescence large with many erect or ascending branches, with few to many linear leaves intermingled. The flowers are small, greenish, becoming reddish-brown at maturity, in dense clusters of ascending racemes in branches at the ends of the stems, on long-slender pedicels 5-10 mm. long. The calyx consists of 6 greenish sepals more or less persistent, the three inner enlarged, heart-shaped and nearly entire, 4-6 mm. wide, and each bearing a rounded plump grain (tubercle). The grains number 3, often unequal, the larger ovoid, very turgid, rounded at both ends, about half as long as the valves. The achene is brown, shiny, triangular, and sharp-edged, about 2 mm. long, surrounded with 3 heart-shaped valves with smooth edges.

CULTIVATION, COLLECTION, PREPARATION

Yellow dock grows profusely in almost any soil, extracting the iron extant there. Some herbalists gently draw attention to its rank appearance and suggest that it doesn't belong in any herb garden. Should you wish to grow it, however, just take a drive in the countryside during the autumn until you discover the characteristic, reddish-brown flower spike. These persist all winter so you are not under pressure to find them. Gather one or two stalks, and keep them over winter in a dry place. When spring comes, sow the desired amount of seeds where you might like to have the dock growing, perhaps as a border. It grows easily. You can collect the root in autumn after flowering. Clean it well, chop it into pieces, and dry in a warm, airy place. When it is dry, store carefully in airtight conditions. The leaves may be collected anytime and dried according to standard procedure.

This herb is usually prepared for internal use by infusion, although the root is infused for a half-hour instead of the usual five to ten minutes. You can powder it and include it in herbal combinations to be taken by capsule.

DR. CHRISTOPHER'S COMBINATIONS CONTAINING YELLOW DOCK

The Yellow Dock Combination, which is a superior mineral supplement, contains Yellow dock.

RELATED PLANTS

R. alpinus is also called Patience dock, herb patience, monk's rhubarb, and passion's dock. It has a gentle laxative action and was formerly considered good for jaundice.

R. obtusifolius is the round-leaved dock, also called common wayside dock and butter dock. This is similar to Yellow dock but is inferior in action. It is so coarse that cattle refuse to touch it. It is a troublesome weed, preferring to grow on good land and leaving the poorer soil. Its broad foliage serves also to lodge the destructive turnip fly. The leaves are applied in England as a country remedy for burns and scalds and are used as a dressing for blisters, serving also as a popular cure for stinging nettle and poison ivy. A tea made from the root was formerly give for boils. This plant is frequently called butter dock, because the cool leaves have often been used in the country for wrapping up butter for the market.

R. acetus is a common plant but handsomer than common dock. It has been used as an astringent for bleeding and fluxes, also for skin diseases.

R. aquaticus is similar to yellow dock. It is a powerful tonic. It is also applied externally for eruptive and scorbutic diseases, ulcers and sores, used for cleansing ulcers in affections the mouth, etc. It has been used as a dentifrice.

R. hydrolapathum, the great water dock, is the greatest of all the docks, frequent on river banks. It is similar in action to R. acetus, but rarer. It is an antiscorbutic, and is also used as a dentifrice. It has been used to brace up loose teeth and spongy gums. It was also used as a stomach remedy. Another species of Rumex to be considered important; Turkish opium comes in flattened masses enveloped in poppy leaves and covered with the reddish-brown, triangular winged from of a species of Rumex, to prevent the cakes adhering to one another (Gri:260).

R. acetosa is the well-known garden sorrel, used as a blood cleanser, a poultice, and a powerful antiscorbutic. It is eaten frequently in Europe.

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Yucca spp. LILIACEAE

DESCRIPTION

Although it is not often mentioned in standard herbal literature because it occurs only in the American Southwest, Yucca is a very important plant, not only to the Indians of the Southwest who utilized it for many different needs, but medicinally, as recent studies reveal that it is becoming an important agent for treating arthritic conditions.

This genus, which is widely available throughout the Southwest, is put to a variety of important uses there. One of the most frequently-noted uses is for soap; the root of the Yucca has a high component of saponin, which has detergent properties, and when pounded and soaked in water, the roots, called amole, form copious suds, which were formerly used for washing hair and clothes, and ritually used in a great number of ceremonies. It is especially valued even today for washing wool. Once when day laborers had out in a hot summer day's work in the desert, they camped by a stream, dirty and greasy. They tried to wash in the stream, but couldn't remove the majority of the dirt. One of them, an Indian, showed his companions how to solve the problem. He dug the roots of the Yucca and prepared them for soap. Soon the whole crew had washed clean and felt wonderful, thanks to the soap in the Yucca.

The Hopis and Tewas at Hano used Yucca suds, which symbolize clouds, at all ceremonies of adoption and name giving. When an infant is named before sunrise on the twentieth day after birth, its head is washed by the paternal grandmother and each member of the father's clan who gives an additional name smears the child's head with suds (Niethammer:29). Among the Northern Yavapais, both the mother and her newborn child were washed with Yucca suds (Ibid.).

Yucca was also used in the wedding ceremonies of the Hopis at Oraibi with both the bride and groom having their hair washed by their respective future mothers-in-law. The hair of a deceased Hopi was washed with Yucca suds and tied up with Yucca fiber. For this reason, it was considered dangerous to dream about the Yucca root or headwashing as it was believed to foretell death (Ibid.).

In the northern Arizona villages of both the Havasupais and Walpais the girl's puberty rites included a bath and a shampoo with Yucca suds. Yavapia and Walapai warrior purified themselves with Yucca baths when returning from battle. Navajo, Ute and Apache scalps, when they were brought to Hano pueblo, were washed before sunrise with the roots (Ibid.).

At Hano, small ceremonial bows of cedar are strung with Yucca and in some male initiation ceremonies there, the novices are beaten with Yucca whips. Neckties of knotted Yucca strips are worn by clowns during some dances (Niethammer:32).

Of the various species, Y. baccata is called banana yucca, blue yucca, Spanish bayonet, and wide-leaf yucca. Y. elata is called soap tree, Our Lord's candle, and narrow leaf yucca. The native name for Y. baccata is datil, while Y. elata is called palmella.

ARTHRITIS HERB

Among the Southwestern Indians, Yucca fibers were used to ease many illnesses. A patient with a cold, rheumatism, or a wound would crush Yucca leaves into fibers. Then he would enter the sweathouse where he induced vomiting to expel the poisons by inhaling large quantities of steam and chewing the leaf fibers (Ibid.).

In recent times the Yucca saponin, which is extracted from the root, has been used to treat arthritis. At the National Arthritis Medical Clinic in Desert Hot Springs, California, many patients have found relief from arthritis symptoms by taking the tablets. The doctors made no therapeutic claims in the tests on the herb, only asking patients to test it to see if it would have any beneficial effects along with other treatments including diet and vitamin therapy.

About 20 percent of the patients, chiefly those with joint pains alone or joint pains and minimal swelling and inflammation, showed complete remission of symptoms. About 30 percent showed improvement and relief of some of their joint pain, stiffness and swelling. About 50 percent said they could not detect any change in their arthritic symptoms from taking Yucca extract but this included many who tried it for only two weeks. The patients most helped seemed to be those who had early symptoms of arthritis or rheumatism in their joints, with pain, stiffness and swelling which had been present for less than one year. Patients with symptoms from one year or longer seemed to have less response. Patients with stiffness alone, enlarged joints and limitation of motion but without much pain and inflammation did not seem to notice any benefit from the product (Let's Live, February, 1975,p.63).

The director of the clinic, Dr. Robert Bingham, said that Yucca works by purifying the intestinal tract, improving the bacterial digestion and absorption of foods with a reduction in the production of inflammatory toxins. These inflammatory toxins from certain types of bacteria are the cause and aggravating agents in certain types of arthritis, particularly those related to and including rheumatoid arthritis. The saponins improve circulation by lubricating the joints, which gives them greater flexibility.

Although the herb has had many industrial uses, which are detailed below, it was first used for health in industrialized society when a few years ago, race-horse owners began using it to limber up their animals before races. Then someone thought if it works on horses, it should also work on humans. Officials of several pharmaceutical companies began using Yucca to treat friends and relatives suffering from arthritis, finding the herb amazingly effective at reducing joint inflammation. Dr. George Michel, a chemist at Truett Laboratories in Azusa, California, says, "We have put a lot of research into Yucca, and have proven that it reduces inflammation, especially that caused by rheumatoid arthritis". But he adds that lack of money is holding back further research and manufacture of Yucca tablets.

Because the extract is classified as only a food supplement by government regulations, it can only be manufactured and distributed by smaller drug companies and sold to health-food stores. If it were reclassified as a drug, doctors would be encouraged to prescribe it. However, because it is not a high-paying drug, the large firms have not been interested in investigating it.

Dr. John W. Yale developed the process by which the saponin is extracted. He began to be fascinated with the idea of these desert plants not only surviving, but actually thriving in a hostile environment; the extreme heat, then extreme cold, no water for long periods of time and then too much from cloudbursts. He found that steroid saponin compounds were in high concentration in many of the desert succulents and also in high concentrations in the desert soil itself. They discovered in studying the Yucca that when its leaves died, they slowly disintegrated into a fine dust which then floated through the air. You could actually stand 100 yards down wind from the plant, have someone shake it, and you would taste the dust as it hit you. It became obvious to Dr. Yale that the Yuccas, and other succulents to a lesser degree, were actually treating large areas of desert around themselves as part of nature's overall survival mechanism. The saponins act as a combination wetting and anti-stress agent, helping the other plants of the desert more effectively utilize water when it's available. The wetting agent helps the plants get as much water from the cloudbursts as they possibly can. In the high desert areas, where most of the water comes in the winter, the compounds act to keep the plants active under stress conditions of temperature. The saponin acted as a general anti-stress agent. Yale began to apply the compound in various industrial and agricultural situations, with very good results. And because of its success in waste treatment, where the saponin helped break down wastes more efficiently and quickly, he began to theorize that since arthritis is theoretically caused by toxic substances in the colon, that these toxins are absorbed into the system and result in allergic responses, perhaps the Yucca plant might work in the body just as it did in the sewage treatment plants.

When it was tried in the arthritis clinic, many patients received dramatic help. A forty-six-year-old woman who had had arthritic pain in her hands and knees for several years took two tablets twice a day for two weeks. The pain was relieved after one week, with no side effects. A 57 year old man had had bursitis for six months in both elbows; he was a tennis player and the pain became severe after playing tennis. He took one tablet per day for three weeks, then a half tablet per day for four months, then one tablet per day thereafter. Within three days he had

a slight reduction in pain. The pain was completely eliminated after 21 days. The pain returned when the Yucca was discontinued for two days, and left within 24 hours when it was resumed. After five months use was stopped, the symptoms did not return for two weeks. There were no side effects. A female who had had arthritis for nine years, with enlarged joints in her hands, which she couldn't close, had to take aspirin every day for the pain. She was 75 years old. She began to take a half tablet twice a day for 70 days. After 30 days, the pain left, and she was able to close both hands except for one finger. The swelling reduced, and she had no side effects. A 75-year-old male had had arthritis for many years, with pain in the joints of the legs, especially the right knee. He took one tablet twice a day in coffee for one month. There was a slow reduction in pain and stiffness. Both gradually returned when the use of Yucca was stopped. However, some people who had had arthritis for many years took two to four tablets a day for months, and received no effects on the arthritis, though no side effects, either. As Moore says, "Arthritis being such an idiosyncratic disorder no single treatment will help more than a percentage of people, but if Yucca tea is effective, it can relieve pain for several days afterward" (Moore:170). In the research reported above, many more people who took Yucca were helped than those who were not (Let's Live, February 1975, page 64).

The herb has also been used as a laxative and in some urethra and prostate troubles.

FIBER AND SAPONINS

Many of the traditional uses for the Yucca plant have been for its fiber. They were used in all phases of Indian life; for sandals, baskets, matting, cordage, fabric, fishing and carrying nets, head rings,(which women used to aid them in balancing pots on their heads) straps, and cradle boards. Loosely woven Yucca formed a base for feather cloth and fur cloth. The fibers were also used in brooms and brushes for hair, paint, dusting, and pot scrubbing. Dolls and a variety of games were fashioned from the leaves (Niethammer:32).

During World War I, Yucca fiber from Texas and New Mexico was used to make 80 million pounds of bagging and burlap, but this manufacture was not continued after the war. During World War II, when jute was again in short supply, a factory was built at Kingman, Arizona, to extract Yucca fiber. The failure of this venture was blamed on poor planning and a lack of information on how to separate the fiber from the other leaf material (Ibid.).

The saponins, as extracted by Dr. Yale, were applied to agricultural crops and discovered to have similar effects as those on the desert plants. The crops absorbed water better and were able to grow more normally under stress conditions, such as a drought. The plants do not grow bigger than normal, but they are able to face stress conditions if they should occur. In California, the saponin compounds have been used with great success on strawberry, carrot, onion, potato, cotton, alfalfa, broccoli, tomato and orange crops, increasing yields from 15 to 25 percent (Let's Live,op cit.).

The saponins were found to accelerate the breakdown of organic wastes by microscopic bacteria, so they were tried out in water disposal plants with great success. The saponins are still being

used in sewage treatment plants in the U.S. and Canada. It is also being used with great success as a cleansing and clarifying agent in swimming pools in such areas as Palm Springs and other areas of the Southwest where the salt content of the water is high.

It drastically cuts down the amount of detergents needed in industrial laundering, but the high cost of the compound has curtailed its use there. The flowers and stems of the palmella variety are eaten by Indians. The large waxy white flowers were picked in the spring and boiled and seasoned. The stem was collected anytime from March to late summer, peeled, and baked. After the stalk had been baked it was dried in the sun. When needed, pieces of the dried stalk were soaked in water and the sweet liquid was strained and drunk. The dried ground flowers were considered a delicacy by the Navajos, who roasted them and used them for thickening soups. The hard capsular fruits of the Y. elata were not eaten. However, the large fleshy fruits of Y. baccata were most relished. They were eaten raw, baked, boiled, dried and ground into meal. The tender central leaves were also cooked in soups, boiled with meat, and used in a variety of ways (Niethammer:30). The Zuni made a social occasion of Yucca fruit preparation. During the day, the women of the house and their friends worked, boiling the fruits and peeling them when they had cooled. The pared fruit was heaped in large bowls. At night the women were joined by male friends and relatives.

Everybody sat on the floor surrounded by the filled bowls and empty ones. The fruits were seeded and chewed, after which the chewed fruit was ejected from the mouth into one of the empty bowls. When the work was finished the hostess served a supper. The next day the chewed fruit was boiled. When it was the right consistency it was cooled and made into pats about three inches in diameter. These were dried on a roof in the sun for about three days, then several dried pats were combined to be formed into long rolls about the size of a rolled section of newspaper. These rolls were further semi-dried on the roof and then stored. The dried fruit was eaten by breaking a piece from the roll and eating it dry, or a section was soaked in water and made into a syrup (Ibid.).

The Apaches gathered the fruits before they were quite ripe and laid them on twigs covered with greens to ripen in the sun; when ripe, the fruit was roasted in hot ashes. The skin turned black and was easily stripped off. The baked pulp was spread on Yucca leaves to dry for two days in the sun. The drying Yucca being adorned with fresh sunflower blossoms to make it attractive (Ibid.).

Papagos ground the seeds of this variety into meal.

In Mexico, the Yucca flower is used. Although when it is boiled plain it might not appeal to everyone, these following recipes from Niethammer's excellent book should please most people. They should be made from flowers from the Y. elata only.

YUCCA FLOWER SOUP

3 cups petals from Yucca elata

2 tablespoons butter

1 tablespoon cornstarch

1 quart half-and-half

salt and pepper and a dash of nutmeg

Use only the petals of the flowers, discarding the bitter centers. Wash and put into saucepan and cover with water. Boil for 15 minutes. Drain and return to pan. Mash and add butter and cornstarch and cook for 2 minutes. Slowly add half-and-half and cook till mixture has thickened. Add seasoning to taste.

YUCCA HASH

2 cups petals of Y. elata

1 tomato

1 onion

3 cloves garlic

1/2 green pepper

1 tablespoon sugar

1/2 cup boiled sliced cholla buds, or 1 small can peas

salt and pepper

Use only the petals of the flowers. Boil in two cups of water for 15 minutes. Drain. Dice the vegetables and simmer in a small saucepan till tender. Add seasonings. Combine the petals, cooked vegetables, cholla buds or peas, and heat thoroughly. Serve on fried tortillas (Niethammer:31).

The fruits of the Y. baccata can be boiled for about a half hour. Drain, cool, peel and seed. Mash pulp, return to pan, and cook till desired consistency for jam. You can sweeten further with a little honey. If you thicken it with a little flour it makes a good filling for turnovers or other pastries. You can dry the cooked pulp for fruit leather, a good quick-energy food on hikes. You can sieve the fruit pulp for syrup. The ripe fruits may also be seeded and sliced and used as a substitute for apples in a pie (Niethammer:32).

CULTIVATION, COLLECTION, PREPARATION

Yucca is easy to grow in the home garden, provided it has full sunlight and good drainage. It can be propagated from root-stock or from the small offsets at the base of the rosette, called hijos by Mexicans. Some varieties bloom, with a tall flower stalk and gorgeous, sweet-scented, many-flowered fragrant bloom, only once in the plant's lifetime, although other varieties bloom every other year. We have grown it in our garden and found it took little care. One little pie left in the ground is said to produce another plant.

Rose describes the propagation of the plant: "The Yucca is like the vanilla in that it is very particular about what pollinates it. Different species of the Yucca moth, Tegeticula, are adapted for pollinating different species of Yucca. The female moth collects pollen from several stamens and then drills a hole through the wall of a Yucca ovary (blossom) and then deposits her eggs among the undeveloped seeds. The moth then carries the collected pollen to the top of the pistil

and forces it down the long hollow style where the pollen grains germinate, thus fertilizing the undeveloped seeds. The relationship between moth and Yucca is absolutely essential since one cannot exist without the other. The young moths eat some but not all of the seeds, thus assuring the sustenance of both. The moth emerges when the Yucca flower opens (they sometimes remain open only one night) and then the female moth gathers pollen from one Yucca flower, flies to another, and repeats the process" (Rose:Herbs:118).

The root can be collected at any time during the year, split in half lengthwise, and dried till crisp and not cool to the touch. If for use for shampoo or soap the outer bark may be left on. The root should only be used after drying.

DESCRIPTION

This plant is easy to recognize. The Yuccas have numerous spiny-tipped elongated leaves that rise in a cluster from a central stem, usually from ground level but in several species from one or more trunks. The long leaves are constantly shedding along the margins but are otherwise only armored at the leaf tips, these barbed tips being painful to touch. Yucca has either a single two- to five-foot flower stalk, upright and conspicuous, or is branched like the California Joshua tree with one flower stalk for each arm. The flowers are lily-like either large and cream-colored with brown flecks or smaller and yellow green. They usually open at night, closing downward in the daylight (Moore:169).

DR. CHRISTOPHER'S COMBINATIONS CONTAINING YUCCA

Yucca AR, the arthritis combination, contains Yucca.

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