There was a time in the not too distant past when plant preparations were just about the only medicines available to most people. Until the turn of this century, the pharmaceutical industry as we know it did not exist. Physicians, especially pioneer and country doctors, often had no choice but to rely on hand-mixed poultices, infusions, and tinctures to treat ailments. These were concocted directly from roots, barks, leaves, and other products of the field and forest. Knowing how to use plants could mean the difference between life and death.

In no period was this more true than during the Civil War, when the Yankee blockade halted supplies of food and medicine to the South. Shortages brought to light the merits of several native species. For example, dogwood (Cornus florida) and magnolia (Magnolia grandiflora) were used as quinine substitutes to treat malaria. Leaves of the yaupon holly (Ilex vomitoria) were boiled into a strong medicine that the Creek and Cherokee called “black drink.” The brew was taken in purification ceremonies, and used as a diuretic for kidney disease and gout. Yaupon leaves contain a considerable amount of caffeine, and southerners, deprived of their staples during the war, dried the leaves, made an infusion weaker than the “black drink,” and sipped it as a tea substitute. WARNING: Ilex berries are toxic; they can cause nausea...
and vomiting, especially in children. Magnolia bark, cones, and seeds were brewed into a liquid that was given for rheumatism and colds, and added to bath water as a treatment for itching and skin rashes. Dogwood bark, chewed or taken in a tea, was also advised to help backache, headache, measles, and laryngitis (with tea used as a gargle). In 1817, botanist W.P.C. Barton documented that young dogwood branches, stripped of their bark, were employed by dentists for cleaning the teeth, to “render them extremely white.”

The use of Florida plant species in healing originates in Native American traditions. A great body of expertise regarding herbs, flowers, trees, and shrubs was passed among generations of medicine men and women, but very little of it was ever recorded. Historical accounts indicate pioneers and settlers alike had great respect for the Native American knowledge of therapeutic plants, and adopted many of their remedies. Meantime, today science has learned that while some of these plant cures are of little use, and others are even toxic, many Native plant preparations gave rise to major medicines.

The drug storax comes from the sweet gum tree (Liquidambar styraciflua), a native to moist Florida woods along waterways. Storax used to be marketed as an ointment for hemorrhoids, scalp ringworm, and other parasitic skin afflictions, and as an ingredient in Compound Tincture Benzoin. Storax extract has also been included as a flavoring for soft drinks, candy, and chewing gum. It is made from the fragrant balsam secreted from under the sweet gum’s bark. The Choctaw made a poultice from the roots, as a dressing for cuts and wounds. The leaves, rich in tannin, were chewed to curb diarrhea and relieve sore throat. A tea made from sweet gum bark was taken for diarrhea and dysentery. And sweet gum balsam was considered a remedy for the annoying itch and irritation caused by mosquito and chigger bites.

Witch hazel (Hamamelis virginiana), a lowlands plant of North Florida, comes from the same botanical family as sweet gum. Witch hazel bark today provides an extract used in astringent lotions to treat bruises and sprains, and an ingredient in shaving cream. The Creek drank a tea brewed from the leaf as a medicine for coughs and asthma. They rubbed a boiled solution of the bark on their legs to keep them limber, chewed the bark to freshen their mouths, prepared a topical treatment for irritated eyes, and mixed a liniment for aching backs.

The rhizome of the Mayapple (Podophyllum peltatum), native to Appalachia and extreme Northwest Florida, was once used by Cherokee and other tribes to treat tumors and warts. In the 1970s, cancer researchers isolated a compound from the plant, and called it etoposide. Today, etoposide is used in chemotherapy treatments. (WARNING: The fresh Podophyllum plant contains a poison and was regarded as a suicide drug among the Indians.)

One of the most useful Florida native plants is the wax myrtle (Myrica cerifera). The Choctaw, Seminole, and Houma tribes boiled decoctions of leaves and sometimes also stems and drank them to treat fever, stomach pain, and to cure an infection of worms. A tea was made from wax myrtle roots and used as a gargle for inflamed tonsils and sore gums. Among the Seminole, wood ashes placed on the tongue were believed to cleanse the body. The most well-known application of wax myrtle is as the scent for bayberry candles, for which the berries are boiled and their wax scooped out of the caldron. Bayberry was also an ingredient in lye-making, and was reportedly used occasionally as a tobacco substitute.

Sweet bay (Persea borbonia) is one of the important Seminole spiritual and medicinal plants. Its leaves were burned in funeral ceremonies and religious rites, out of the belief that the smoke prevented the soul of the deceased from returning home. Sweet bay was also employed for an amazing array of ailments. Infusions of the leaves were taken for fever, chills, headache, constipation, eye disease, sun sickness, diarrhea, dizziness, stiff neck, and stomach pain. A concoction of boiled leaves was rubbed on the body to relieve painful joints. A charm containing sweet bay was given to children to quell their fear of nightmares. And the leaves, fresh or dried, were used to flavor soups, meats, and stews.

Some native cures are surrounded by legend, as is the case with Joe-Pye-weeds (Eupatorium purpureum and E. maculatum; Asteraceae). As the story goes, a tribal healer named Joe Pye cured typhoid fever with these two plants. His success was so well-publicized that Pye toured Europe as a medicine man in a travelling show. Some accounts indicate Pye was not Native American at all, but a shrewd white promoter who exploited the European fascination with New World native culture.

A close botanical relative of Joe-pye-weed is the low-country herb known as boneset (E. perfoliatum). During the mid-1800s, a flu spread through Florida and other parts of the south, causing pain so severe that victims thought their bones were breaking. It came to be known as breakbone fever, and the plant came to be called boneset, since bones seemed to ache less after drinking a tea made
in September, 1996 from injuries suffered in a traffic accident.

Morton's passion for botany began when she met her husband Kendal in 1933. Together, they collaborated on the Collectanea and other projects until his death in the mid-1960s. In a career that spanned over six decades, she authored or co-authored ten books, including the immense volume, *Atlas of Medicinal Plants of Middle America*, which took over 17 years to compile. Other works include — *Wild Plants for Survival in South Florida, Native Trees and Plants for Florida Landscaping, Major Medicinal Plants, and Plants Poisonous to People*.

Julia Morton had little formal academic background. Her university training consisted of a few community college courses in Spanish. Yet, in 1973, in recognition of her great contributions, Florida State University awarded her an honorary doctoral degree, and later named her an outstanding academic woman in Florida. The Miami Herald called her a "five-foot dynamo," who would hike through jungles, across islands, and up mountains to locate and photograph a plant.

Dr. Morton was recognized internationally for her expertise in the area of toxic species. In the 1960s, she was called upon by the United States government to research native plants in Vietnam and Thailand, and participate in the creation of a jungle survival manual for U.S. troops. She also authored documents used in Poison Control Centers and hospital emergency rooms throughout the state.

Dr. Morton was one of the very first scientists to suggest a link between diet and cancer. Working with the National Institute of Health in the 1960s, she identified the cancer-causing potential of chemicals found in bush teas consumed among residents of Curacao, who had unusually high rates of esophageal malignancy.

Dr. Morton was an honorary member of the Florida Native Plant Society. She was a founding member of several other organizations, including the Society for Economic Botany, and the Rare Fruit Council International. She served as president of the Florida State Horticultural Society, on the Board of Trustees of Fairchild Tropical Garden, and was voted into the Florida Agriculture Hall of Fame.

The Julia Morton Memorial Endowment Fund has been established at the University of Miami. For further information, contact the College of Arts and Sciences, Office of the Dean, University of Miami, Coral Gables, Florida 33124.

We thank author Susan Boro Meyers for this tribute to Dr. Morton.

from its leaves. Records indicate *E. perfoliatum* was also employed in a 1798 outbreak of the yellow fever, and during the Civil War, when Confederate physicians used it with some success to treat malaria in the absence of quinine. There appears to be some scientific basis for boneseed’s therapeutic reputation. In the 1980s, German chemists isolated certain compounds from *E. perfoliatum* that seem to stimulate cells of the human immune system. However, the plant was also found to contain certain other constituents which can be toxic to the liver.

Another Florida native that has been tested in the modern science lab is the Maypop, also called passionflower (*Passiflora incarnata*) Native Americans made poultices from the leaves, and applied them to bruises and sores. They also used the plant to relieve insomnia and treat muscle spasm. For reasons that are not yet understood, passionflower seems to depress the central nervous system, without any known toxic effects. Today, passionflower extracts and pills are sold in health food stores as dietary supplements, based on the maypop’s traditional use as a sleep aid. Passionflower also has a history among Cuban folk healers, and has recently been incorporated as an anti-anxiety therapy in the practices of Cuban medical doctors. Using the plant instead of the prescription drug is largely a cost-cutting measure, as the continuing poor state of the Cuban economy and the U.S. embargo on selling medicines to Cuba have made many pharmaceutical sedatives and other medications too expensive to purchase.

In Argentina, scientists of the Institute of Cell Biology at the University of Buenos Aires isolated from *Passiflora coerulea* a chemical they named chrysin. Their tests with lab mice indicate that chrysin binds to the so-called central benzodiazipine receptors in the nervous system. These are the receptors that are affected by tranquilizing drugs such as Ativan™, Halcion™, and Valium™. The Argentine data suggested that by being a weak binder for these receptors, chrysin has anxiety-reducing effects without toxicity.

The unripe fruit of the wild persimmon (*Diospyros virginiana*) was the source of a gargle for sore throats. Cherokee applied the boiled bark to sores in the mouth or lips, chewed the bark for heartburn relief, and drank an infusion made from the bark for toothache. The fruit was eaten raw, and cooked into puddings. The dried seeds could be ground
and used as “coffee.” The leaves of persimmon are reportedly rich in vitamin C. Persimmon vinegar was brewed by fermenting the ripe fruit with whiskey and water. And there are recipes for persimmon beer. One such concoction was published in 1863 by Francis Porcher, a physician in the service of the Confederate Army, as follows:

“Sweet ripe persimmons, mashed and strained; one bushel. Wheat bran; one half bushel. Mix well together, and bake in loaves of convenient size; break them in a clean barrel, and add twelve gallons of water and two or three ounces of hops. Keep the barrel in a warm room. As soon as fermentation subsides, bottle off the beer, having good long corks, and place the bottles in a low temperature, and it will keep and improve for twelve months.”

The Florida longleaf pine (Pinus palustris) yields turpentine. Today used chiefly in industrial applications, turpentine was once a treatment for colic, gonorrhea, and tapeworm, and a topical mixture was applied to stop bleeding gums and ease the pain of rheumatism. The resin from pine trees was used to treat kidney ailments and tuberculosis. At one time, fiber extracted from the distilled pine oil was a disinfectant surgical and wound dressing.

In drier areas of the state, a brew made from flowers of the prickly pear (Opuntia humifusa and O. stricta), was used by Native Americans to treat headache, eye trouble, and insomnia. Early settlers made a salve from the roots which they believed would help grow hair on balding heads. The fruit of the prickly pear, stripped of its spines and peeled, has a texture like kiwi fruit and is quite tasty. The fruit can also be made into syrup or jelly. In fact, Science News recently reported that Israeli food scientists are experimenting with prickly pear as a food crop.

The cat brier (Smilax bona-nox) is another native with many historical uses in both food and medicine. The tuberous roots, called contichatee, were dried, ground into flour and blended into breads, pancakes, and fritters. Young shoots resemble asparagus stalks, and were eaten raw or cooked. The Choctaw drank a tea made from stems as a general health tonic and pounded the root into a poultice for sore legs and skin ulcers. The Creek thought that cat brier, applied to the skin, could help to keep a person looking and feeling young.

There are numerous other examples, including French mulberry (Callicarpa americana) — the berries were used for colic and dizzy- ness; Devil’s walking cane (Aralia spinosa) — a thorny-stemmed plant regarded at a treatment for rattlesnake bites; and alder (Alnus serrulata) — the bark was used in tribal medicine to ease the pain of childbirth and used by both tribesmen and pioneer physicians to treat syphilis sores, eye infections, and poison ivy rashes.

In today’s world of sophisticated drugs and high-tech medicine, it’s easy to forget that in simpler times, the knowledge of plant life was essential to our comfort and even our survival. Understanding the traditional uses for our trees and wildflowers can help us gain greater appreciation for the environment, and help us realize that Mother Nature is indeed the world’s greatest chemist.

About The Author: Susan Boro Moyers is a health and science journalist, and former news editor for several organizations, including CNN and NBC. She is currently enrolled in the graduate program at the College of Public Health, University of South Florida in Tampa. Her articles have appeared in Florida and national publications, and she has recently published a full-length book, entitled Garlic in Health, History and World Cuisine.

Call for Help in the Battle Against THE ALIEN • cogongrass •

How can we get rid of the alien? Cooperation in the community is really the only long-term approach that will ensure success. The Ocala National Forest is applying for a grant to work cooperatively with the Department of Environmental Protection (Silver River State Park and Office of Greenways and Trails), St. Johns River Water Management District, and Marion County Parks and Recreation to combat the alien across jurisdictional boundaries. The grantor will match contributions of cash, goods, and services on an almost one-to-one ratio. The cooperating agencies will donate equipment, chemicals, and finances.

Eradication efforts cannot be successful over time without the cooperation of private landowners. What will encourage the private landowner — who did not bring the alien onto his property and perhaps does not have the resources to rid himself of it? Part of the answer may be volunteer contributions that count as a service to be matched by the grant. For example, if the private landowner contributes some of the financial burden, volunteers could assist by spraying the alien with herbicide. We will all benefit from joining forces in the war against this invasive alien plant.

To contribute ideas, comments, or to volunteer, please contact Lorraine Miller, Ocala National Forest, 17147 E Hwy 40, Silver Springs, FL 34488-5849; (352) 625-2520.