

Five Plants Essential to the Indians and Early Settlers of Florida

by JOHN C. GIFFORD

THE following five plants served the Indian and early settler well. Although they may have been superseded, I doubt if they have ever been excelled: *Koonti*, a starch; *Black-drink* or *Florida-maté*, a beverage; *Seminole-pumpkin*, a vegetable; *Guava*, a fruit; *Georgia-fever-bark* or *Florida-quinine*, a medicine. All five of these plants have held an important place in the lives of the people of the Southeastern United States. All are apparently native to Florida or the near-by West Indian Islands.

Koonti or comptie is a cycad of the genus *Zamia* with four species in Florida, according to Small. The common kind, in the southern end of the state is *Zamia Floridana*. According to Professor Charles Joseph Chamberlain of the University of Chicago in his book on "The Living Cycads," "starch is very abundant in the underground portions of the plant, and it is often used for food. The stem is pounded to a pulp and washed in a straining-cloth to remove a poison which is found in most cycads. During the Civil War several soldiers died from eating the root before the poison had been washed out; but the meal, when properly prepared, makes a fairly palatable cake or pudding. Some species in Cuba are being used for the manufacture of starch, but *Zamia* does not grow fast enough to give it much commercial importance."

Whenever an old settler needed cash he would manufacture a barrel of koonti starch. It was shipped by way of Key West and was finally converted into arrow-root biscuits. The pine trees were blazed for koonti tasks and it was common to see Negroes, Indians and Whites all busy together digging koonti. Here and there koonti mills developed in the pine woods. The red water from the washings is poisonous to domestic animals and the refuse, when it commences to decay, contaminates the air with a genuine stink. It is a very valuable fertilizer. Just as pioneers in other sections depended on palm-cabbage and alligators' tails, the pine woods settler, while clearing his land, fed on koonti starch and

gopher turtles. The seeds resemble large grains of corn and are called "koonti-corn." When eaten by turkeys or other animals, they are said to cause death, although some say the crow is an exception. The leaves, resembling miniature palm fronds, were shipped north for decoration on Palm Sundays. Specimens of the cones of this plant are in demand in northern institutions for study because the pollen grains develop spermatozoa which wiggle about at a lively rate.¹

Among the piles of koonti roots I once found what I thought were bacterioid nodules. This may account for the richness in nitrogen of the refuse and is probably one of the reasons why the plant never grows in low or damp places. It is never seriously injured by forest fires, sprouting quickly from the root if the leaves are killed. It is bothered only by the koonti-fly which seems immune to the poison in its leaves. It is one of the left-overs of past ages, living only in small patches here and there throughout the world. As with several things in common use today, some Indians were probably poisoned before a safe process of manufacture was developed; however, this knowledge was absorbed by the early settler. When we plant any common cultivated thing we are profiting by the work of many people through many years.

Koonti starch was the basis of sofki-pot, which was usually kept constantly simmering, until superseded by grits. Corn-grits replaced koonti and corn liquor the black-drink or Florida maté, called yaupon by the Indians.

Florida maté: In an old book on the "Trees of America" by D. J. Browne, published in 1857, there is an interesting description of yaupon, *Ilex vomitoria*, the emetic-holly. He relates that in Italy the tree is known as "Appalachina" and to the French as "Houx apalachine." In northeastern America it is referred to as cassene, cassena and cassioberry-bush, but among the southern Indians as yaupon or yapon.

In the "Traits of the Aborigines" is the following:

"The firm cassene endures the wrecking storm
And changeful season,—by tradition styl'd—
The boon of heaven, and around Hygeia's fane
Wreaths a bright garland, when her priestesses,
Clad in their meek and unpretending skill,
It's aid demand."

1. This subject was studied by Dr. H. J. Webber in Bul. No. 2, 1901, U.S., Dept. of Agriculture, entitled "Spermatogenesis and Fecundation of *Zamia*."

The *Ilex vomitoria* is an elegant evergreen tree or shrub, usually growing to a height of twelve or fifteen feet in its natural habitat, and somewhat higher in a state of cultivation. The flowers which put forth in June, are whitish, and are succeeded by smooth, red berries, ripe in October, they, like most of the common-holly, remain upon the branches during the winter. The emetic-holly is found in moist shady places, from Virginia to the Floridas, and was introduced into Britain in 1770.

It is said that the yaupon was regarded by many of the southern tribes of the American Indians as a holy plant, being used by them during their religious rites and solemn councils, to clear the stomach and the head. It was an annual custom for a chief to give notice to the inhabitants of a town, in the spring, to assemble at the public house, which was previously purified by fire. After they had convened, the chief was first served with a bowl of conch-shell—never before used—of their emetic broth, and next to him were served each individual until at last the women and children. They had a belief that this beverage restored lost appetite, strengthened the stomach and gave them agility and courage in war.

Among some of the tribes it was held in such high esteem that the decoction of its toasted leaves called "black-drink" was forbidden to their women. In North Carolina the inhabitants of the seaside swamps, having no good water to drink, disguise its taste by boiling in it a little yaupon and use it constantly warm as the Chinese do their daily tea.

The U. S. Dept. of Agriculture has experimented with yaupon in both South Carolina and Florida for some time past. This tea has been used by the natives for many years and during the Civil War replaced oriental tea. I understand that Dr. Crawford C. Wilson at Auburndale, Florida, on his "Yaupon Farms" has developed a superior grade of native tea. Like the Paraguay-tea, to which it is very similar, it must be boiled and not steeped. It is more than likely that in many parts of this world without these various teas, irrespective of their exhilarating effects, many would have died of epidemics. Unboiled water is suspicious everywhere in the tropics. It is always best to rely on teas and fruit juices.

Early travellers tell how eagerly the southern Indians in Florida waited for the arrival of the tea leaves from the northern part of the state. In fact, the word "Osceola" is from "asi-yahola." Asi, the plant, and yahola, the long drawn out cry when all were ready to drink. Osceola was the leader of these ceremonies, thence the name. They say that Osceola's real grievance against the whites was due to the fact that

they captured his wife, claiming that she was a run away slave, though she was only part Negro, and they had three children.

Seminole-pumpkin: The seminole word, "chassa-howitska," according to Dr. William A. Read of the University of Louisiana, means "hanging pumpkin," chassi, pumpkins, and witski, hanging loose. This is the name of a river, Chassa-howitska, shown on the Taylor map (1839) and on the Davis map (1856). It is the old Indian name of a river in Citrus County and of a swamp in Hernando County.

The Indians raised this pumpkin by planting it at the butt of a tree which had been deadened. The vines climbed up the tree and onto the branches. It was a curious sight to see an old oak tree laden with hanging pumpkin. The Indian may have had two or three things in mind when he planted his pumpkins this way. It was a sort of vertical rather than horizontal agriculture. The fruit was out of the way of the pigs and cattle. It was a saving in ground space. Being a vine anxious to climb, the fruit would be of better quality away from the dampness of the dank earth.

From the fact that this pumpkin is very different from the ordinary pumpkin, it would seem to me that it has been cultivated for a long time in one place, away from the chance of crossing with other pumpkins. No doubt, the Indian intuitively selected the type best suited to his needs. It has, I think, never been found in the wild state or even running wild in places where it is grown. I have seen pumpkins very much like this growing in the Bahamas and I suspect that it was brought to Florida from the West Indies long ago. The method of growing them on trees is, I think, a Seminole invention.

Now this pumpkin is small, hard, greenish and in general does not look very promising, but it really has the best flavored flesh of any pumpkin I have ever tasted. It is so far superior in flavor to the common run of pumpkins that it should be cultivated and sold, or canned with profit.

About forty years ago I visited an island in the southern part of the Everglades. The Indians there at that time did not appear to be Seminoles. They were more like the descriptions I had read of the aboriginal Calusas. They might have been a remnant of the old Calusas, gradually merging with the Seminoles from the north. The center of this little island was covered with live oaks which had been girdled. The ground underneath was very fertile. Large numbers of pumpkins were hanging from the branches. They had also a kind of dasheen, cassava were

growing under the oak trees and they had a patch of bananas. This led me to believe that they had been in communication with the West Indies, since South Florida at that time was well separated from the rest of the state by miles of mud and unbridged rivers.

Unlike the majority of Seminoles, the group of Indians we visited were inclined to be unfriendly and very difficult to approach. We finally won over the women by giving them some big black cigars. They let us look around and when we were leaving gave each of us a pumpkin. I planted the seeds in my garden and raised fine pumpkins for several years and everybody who ate of these in pies or cooked in various ways, remarked about the fine flavor. This pumpkin was a very important part of the Indian diet, they cut it in strips and dried it to serve in times of dearth.

The scientific name of this Indian pumpkin is probably "*Cucurbita moschata*," sometimes called the cushaw squash. The word "cushaw" or "cashaw" is of interest. According to Dr. Wm. Jones, "kasha" is an old Chippewa term for "hard shell." "Ecushaw" or "escushaw" is in the Algonquin language a pumpkin without a neck. The word "squash" is Indian from "askuta-squash," meaning vine-fruit. The word pumpkin, no doubt, comes from the Greek, meaning "melon." This species (*C. moschata*), called the cushaw, is undoubtedly of American origin—probably tropical—and was gradually carried north by the Indians, as were corn, cotton and tobacco.

Billy Bowlegs was mad when surveyors trampled his bananas but he was fighting mad when they shot down his pumpkins. This was the favorite vegetable, always hanging from the tree limbs protected by its hard shell and height above ground. It is often necessary to cut these open with an axe and shell out the inside as we do the coconut.

The Guava: Old writers refer to the guava as the Florida-guava, with fruit comparable in flavor to strawberries. They also say that they can be easily propagated from cuttings, which has not been my experience! When Canova visited Miami in 1858 he found the guava bushes full of delicious fruit, excellent in quality and similar to the most delicious peaches, Guavas and cream, peaches and cream, seem to match in the minds of these early writers. I have wondered if the quality of the guava has actually deteriorated, or if the improvement in other fruits has left it far in the background.

Many people dislike the seeds, but they can be roasted, ground and mixed with the pulp for the manufacture of guava cheese. Guava cheese,

cassava, tortillas, bananas, and coffee is a common breakfast or lunch in Latin America.

Most people dislike the smell of the ripe guavas, but nevertheless many old crackers prefer them to peaches. I doubt if there is a finer jelly fruit in all the world. Fresh fruit will often yield over three times its weight in jelly. I know a northern man who sends to Florida for guavas, not because they are better than apples, but because they produce so much more fine jelly than any other fruit. Many years ago a Captain Simmons and his wife, a physician, came to settle in South Florida. The country was sparsely inhabited and peaceful, and there was practically no sickness. The doctor told me that transportation was so difficult that her patients were dead or well by the time she got to them. There was little doing in real estate, so about the only occupation that they could think of was the manufacture of guava jelly. For years they shipped this jelly to all parts of the world, and people came from miles around to get his guava wine.

This guava factory was located on David Fairchild's place in Coconut Grove.² At times there was a big pile of seeds and refuse by the roadside, and paths led to this factory through the woods from every direction. The jelly was shipped away, but the wine was for local use. I still have some of the jugs made in the mountains of North Carolina and shipped south to hold this guava wine. This is how many of us got our much-needed vitamins. Today guava jelly and guava paste are on sale in the stores of Miami from Hawaii, Mexico and Cuba, and the jelly factories in Florida send away to the West Indies and Mexico for fruit. I have noticed more guava trees around Lake Okeechobee than elsewhere and, although wild, they have excellent fruits for jelly production. Guavas were delivered in those days for between a cent and two cents a pound.

Cattle love guavas. Two young students in the University of Miami who were working their way through college with the help of two cows, soon discovered that they could feed their charges to best advantage on guavas. When the seeds pass through the stomachs of cattle they sprout; and here and there throughout Cuba there are bosquets, or clumps of guavas called guayavables. The pigs also rush for the fruits when they fall, but cattle have the advantage because they can reach higher. I have noticed in Cuba that a cow can hear a guava drop a long ways off.

2. Foundation of the jelly factory, destroyed by the 1926 hurricane, can still be seen on Dr. David Fairchild's place in Coconut Grove.

Many object to the guava tree because they say it harbors bugs. In fact, some of our scientists have dug it up to protect other trees. It is bad when you have to kill the patient to cure the disease. Bugs will move to some other trees when the guavas are all killed. To protect other trees from fruit flies they have cut down many guava trees in spite of the protests of the natives. If grown in clumps in close formation so that lizards and birds and other insect-eating creatures can find a safe home they are no worse than other kinds of trees. That they have spread naturally and have become naturalized throughout Florida and the whole of the West Indies is evidence enough that they can hold their own, and more too, with half a chance. An old sugar plantation is in time abandoned to grass. Soon the guava appears and is spread by cattle. In time it becomes a thicket and finally, a forest. If, as some say, the guava can be reproduced from cuttings, it would be easy to produce improved varieties. It can, I know, be easily done from root suckers. As with the lime, the tendency seems to be to go back to the standard wild fruit. In the West Indies the tree is in such demand for charcoal that it is usually cut before it reaches maturity. It sprouts quickly from the stump, so that when cut it grows in a close, low bush-like form which protects it from the wind, and is in itself an excellent windbreak. The sprouts bear while very young.

When a guava gets badly infested with bugs I cut it down even with the ground. It quickly produces vigorous shoots and root suckers which soon yield fine fruits again. The guava is one of those fruits, semi-wild, dear to the heart of the native and, like the lime, preferring to grow in thickets rather than in orchard formation.

And now comes the latest and greatest discovery relative to the guava fruit. It is one of the richest of all fruits in vitamins, and in South Africa they gather the fruit, scrape out the seeds, dry it in the sun, then grind it into powder and use it for medicine. The lesson of all this is that we had better stick to the time-tried things. Things that are here, are here because they are fit.

Florida-quinine. Bitter barks have been used for many years in all parts of the tropics for the control of intermittent fevers. For this purpose the plants belonging to the madder family have long been famous. Various forms of malaria constitute our worst tropical diseases, and according to recent reports are actually on the increase. There is general agreement as to the efficiency of quinine, but we must bear in mind that manufacturers will insist that there is no substitute for it, although in

time past it was criminally adulterated by many dealers. Some doctors in self-defense used the crude powdered Peruvian bark. The first powdered quinine was introduced into this country from France about a century ago by Dr. Henry Perrine of Florida fame. In fact, it was poor quinine that had much to do with the passage of the Pure Drugs Law. Quinine has always been scarce in wartime. This same feeling existed during the Civil War in this country when importations from foreign parts were seriously curtailed. My old friend Dr. Charles Mohr, a druggist in Mobile, worked for a long time for suitable native substitutes for imported drugs during the Civil War and for quinine he used the bark of the Georgia-fever-tree. The tree long famous for this purpose was *Pinckneya pubens*, Georgia-bark, fever-bark, maiden's-blushes, or Florida-quinine. The tree was named for Charles C. Pinckney, the revolutionary patriot of South Carolina. Pubens means hairy and it is sometimes referred to as the pubescent Pinckneya. It has showy flowers, white, tinted with red. It is a little tree growing in the swamps, but now very scarce. Professors Coker and Totten in their excellent book on the trees of the Southeastern United States say that "Pinckneya is a close relative of the cinchona tree of South America that furnishes the quinine of commerce and probably contains the same curative element, as its effectiveness in curing malaria has been repeatedly proved."

Years ago at regular intervals the slaves on the plantation were lined up and required to take their dose of fever-bark soaked in rum.

The writer is certain from experience that not only quinine but several other bitter barks are excellent preventatives of malarial of various kinds. The amoebæ that cause them do not flourish in the body of a person saturated with these bitter drugs. I remember in Panama when workers were given tablets of quinine, some of the pills were thrown out of the window where a turkey gobbler picked them up. In time he began to show quinine blindness and was killed and cooked, but his meat was so bitter that no one could eat it. The Dutch have perfected the cultivation of the cinchona tree in the East Indies, and although the tree is of American origin and still plentiful in South America, they have maintained a monopoly of the world's trade in quinine, and have led all of us to believe that their product is the only efficient quinine. Somebody might discover that the Georgia-fever-bark is quite as good, perhaps even better than the South American cinchona.

There is another tree on the Florida Keys belonging to the madder family called princewood (*Exostema caribæum*). The bark of this tree

contains active tonic properties and has been used as a fever fighter by the natives of the Florida Keys for many years. There are several tropical plants which have the specific name "febrifuga," which means fever-chaser. I remember reading in an old book on Africa that the natives would carry a paresis patient into the low lands to contract the fever, then cure the fever with bitter barks. Many things, especially drugs, are not new. They simply masquerade under copyrighted names.

I have seen the natives on the Florida Keys drink the water in which princewood bark has been soaked for a time. Soaked in rum, the bark would be much more efficient. It might be possible to manufacture a famous bitters from this tree. In fact, both the Georgia-fever-bark and princewood should be carefully tested and if of high class as a fever preventer the trees should be cultivated, since the time is coming when they will be exceedingly rare. They are both scarce and very local now. They will completely disappear from Florida unless carefully protected. They have already played an important role in the early history of the Southeastern United States. In fact, everywhere throughout the world there are favorite bitter barks which not only stimulate stomachic activity and pep-up the system in general but apparently produce such a bitterness to human blood that it forms poor pasturage for the low animal forms that cause malarias of various kinds. Mahogany bark tea is often used also.

The Indian has lived on the Western Hemisphere a very long time and must have learned a lot from experience, and experience and experiment come from the same root meaning to "try out." They unquestionably "tried out" many things through the ages, the results of which they passed on either willingly, unwillingly or unknowingly to us newcomers.