

One of the things still fresh in my memory — apart from wondering if alligators really were dangerous — was the odor I detected the first time I waded thigh-deep into the Fakahatchee Strand in 1970. Large, green herbs in a pond gave off the scent of licorice and mint as I walked through them. All who have waded through swamps in Florida will have come across spots where there are acres of lizard's tail (*Saururus cernuus*). Even if they do not notice the rich green heart-shaped leaves, or the stems reaching waist high, most people, like me, note the plants. Once the stems and leaves are bruised by your passing, they release a pleasant spicy fragrance that demands your attention. Yet, the species remained unknown to Europeans until British botanist Leonard Plukenet published the first illustration in 1696 under the name *Serpentaria repens, floribus stamineis spicatis*. That was fully 200 years after Europeans arrived in the Americas.

Even then, professor of economic botany Peter Kalm did not mention the species from his visit to New England and nearby Canada in the 1740s (Kalm 1972). Nor did that inveterate explorer of wetlands William Bartram remark on the plants in his book of travels through the southeast in the 1760s (Harper 1958). Why this prominent wetland plant was so late in becoming known to Old World biologists remains something of a mystery. Given the sacred uses of *Saururus* among the indigenous groups, it is tempting to speculate that these people withheld information on what was considered a holy plant. In 1739 Dutch botanist Jan Fredrik Gronovius named the genus *Saururus* (sauros = lizard, oura = tail), based on a specimen that country clerk and amateur botanist John Clayton had sent from Virginia. If Gronovius had ever seen the living plants, he surely would have called it something else. Only dead, brown, dried specimens are reminiscent of the namesake. Living plants have startling, if not spectacular, white flower stalks in the spring wetlands that contrast strongly with the dark green

of the foliage. Linnaeus, who retained Gronovius' name for the plants, also gave *Saururus* the species name *cernuus* (nodding), to note a trait of the flower cluster.

In English the dominant common name has been lizard(s)-tail since about 1753. Other English names include water-dragon, swamp lily, black sarsparilla, and breastweed. There is some evidence that the last four are more recently applied. Spanish speakers call it *yerba mansa* (tame herb). The scientific name has simply been translated to create common names for German as *Molcheschwanz* (*molch* = salamander, *schwanz* = tail), and French, *saururé penché* (*saururé* = lizard, *penché* = nodding) or *queue de lézard*. However, there are indigenous American names for the plants, including *ishuna ignone* in Choctaw, *cyihiliswa* in Creek, and *yahkakyikci* in Mikasuki (widow or widower medicine).

Foliage and roots of *Saururus* were widely used by the Americans. For example, we know the Cherokee of the Carolinas, the Ojibwa of Minnesota, the Choctaw of Louisiana and the Seminoles of Florida all used the plants. On the other hand, it is not among the species enumerated as used by the people of the entire Missouri River region.

The Choctaw and other Americans used the plants in poultices for wounds, for inflamed breasts, and inflammations in general. Treatment of skin problems was the most widespread use recorded, including treatment of spider bites. Tea was made of the whole plant for illness associated with fever and aching, rheumatism, and stomach ailments. Generally, the medicine from *Saururus* was considered good for pleurisy (inflammation of the plura or sacs around the lungs), rheumatism, as an emetic, an antispasmodic, an astringent, a sedative, an emollient, and as a mild tranquilizer.

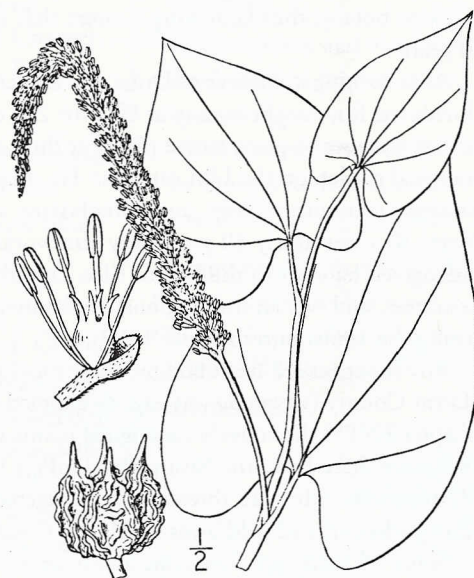
In the 1790s French botanist André Michaux, living in Charleston, South Carolina, wrote that usage was common among residents. Furthermore, he recorded that, "*Saururus cernuus* is known as a very good remedy for sores and inflammations, the

Saururus cernuus

Herbs with erect stems to 1 m or slightly taller, arising from creeping rhizomes. Leaves 8-16 cm long, ovate to ovate-lanceolate, cordate at the base, acuminate at the apex, with long petioles, aromatic. Inflorescences composed of many flowers in spike-like racemes 1-2 dm (decimeter) long, nodding at the tips. Flowers white, with small bracts, no petals or sepals, 6 stamens and usually 4 carpels. Fruits of 3-4 indehiscent carpels fused at their base, wrinkled at maturity.

Lizard's tail grows from eastern Canada to Minnesota and south through eastern Kansas, Oklahoma, and Texas. The other Asian relatives are *Gymnotheca*, with two species in southwestern China, and *Houttuynia cordata* native to Japan, Nepal and Java. All have similar uses in their homelands.

Members of this family are closely allied with the PIPERACEAE that includes cultivated pepper, and *Piper nigrum* (black & white pepper). Their aromatic foliage is one of the indicators of their relationships.



Photos by the author.

roots being ground or boiled, some wheat flour added, and then used as a poultice. (*Le Saururus cernuus est reconnu très bon remède por meurir les palyes qui viennent à suppuration et en diminuer l'inflammation. On fait bouillir les recines ou les broye, on y ajoute un peu de farine de froment pour en fair un cataplasme*).

Not only is the Florida native medicinal, but members of this small family (SAURURACEAE) are used throughout the world. There is a second species, *Saururus chinensis*, also used in Asia against inflammations and as a sedative. Similarly, the related *Anemopsis* of the southwestern United States and adjacent Mexico has those same uses (Moore 1989, Kay 1996). Like the Florida plants, those in the west are called lizard's tail in English and *yerba mansa* or *yerba el mansa* in Spanish. In addition to the similar uses, that species has an array of names recorded by various people, including the Apache, Ópata, Pima, Mayo, Yaqui, Papai, and Seri.



Top right: western species of lizard's tail, *Anemopsis californica*, from the author's new home in Tucson, Arizona. Below, close-up and habit of our native lizard's tail, *Saururus cernuus*. A fragrant favorite of our wetlands, its delicate white blooms and heart-shaped leaves make lizard's tail a lovely addition to the pond garden or seasonally wet spot in your yard.

It is probably safe to say about *Saururus*, as has been said about *Anemopsis*, that "everybody who has lived where yerba mansa grows has used it as a medicine" (Moore 1989). Widespread usage for poultices on external lesions and its emetic nature make the statement likely.

Possible infection from wounds was a constant problem before the discovery of modern antibiotics. For example, ignorance of ways to fight infections probably caused at least as many deaths during the Civil War as direct battles. Any of the plants that provided even marginal protection from this danger were sought by people throughout the world.

The aristolactam analogues, *cepharanone B* and *sauristolactam*, are not only antiseptic but antitumor (Rao and Rao 1990). In addition, the plants contain the antioxidant *dehydrogeranylgeraniol*, and the sedative *manassantin A* (Rao et al. 1987, Rao and Reddy 1990, Rao et al. 1990, Rajbhandari et al. 2001). Each species (*Anemopsis*, *Houttuynia*, *Saururus*) has its own characteristic essential oil, and these compounds are known to inhibit several types of viruses. Among the viruses inhibited are herpes simplex, influenza, and human immunodeficiency (Childs and Cole 1965, Acharya and Chaubal 1968, Sanvordeker and Chaubal 1969, Tutupalli and Chaubal 1975, Tutupalli et al. 1975, Hayashi et al. 1995). The Asian *Saururus chinensis* also has been shown to fight infections, and provide liver protection because of its diastereomeric lignans, flavonoids, furanoditerpenes, saucernetilignans, and sesquiligans (Xu and Xu 1986, Sung et al. 2000, Ahn et al. 2001, Sung and Kim 2000, Sung et al. 2001, Ma and Ruan 2001, Hwang et al. 2002).

Emetics also were an essential part of the culture of the people living in the southeastern United States, especially those whose languages were allied with Creek (Muskogean language group). There was a custom among all these groups of observing the *poskita* (Creek = to fast). That event is most well known as part of the festivities now called the Green Corn Ceremony. Anthropologist Charles Hudson (1976) has compared this ceremony to the combined festivals of Thanksgiving, New Year's, Yom Kippur, Lent, and Mardi Gras.

The Green Corn Ceremony was the single most important event of the year in all southeastern groups. Essential items for the ceremonies were herbal teas. Several of the teas consumed were mixtures and included emetics. The black drink included *assi* or yaupon (*Ilex vomitoria*), and it became the most famous. Often recorded as an additive to black drink was *hici* or tobacco (*Nicotiana tabacum*). Among the other emetics used in the medicinal drinks were pasa or button snakeroot (*Eryngium yuccifolium*), and *cyihilsua* (lizard's tail). One ritual and ceremonial medicinal tea called *ayickkanahki* (gathered medicine) contained up to 14 different plants.

Although the Muskogean people were accustomed to sharing their black drink and tobacco with visitors to the village square, the Green Corn Ceremony and its drinks were private affairs. Many secrets were kept about the event that have not yet been shared with the non-Muskogean world. Medicines and their preparations were then, as now with surviving practitioners, important knowledge passed only from teacher to apprentice. Surely this accounts for at least some of the uneven reports of *Saururus* use among eastern United States people.

The Green Corn Ceremony was the Muskogean time of renewal when old animosities were forgiven, criminals tried, individuals

purged of evil, and new children named. Ceremonial beverages used by southeastern people during this time played important roles, and *Saururus* is prominent in several of them. In each case, the beverage aided in cleansing and refreshing, before starting again.

We in the United States borrowed part of that custom, reworked it, and use it in an almost unrecognizable modified form. We no longer use lizard's tail in our drink, but the Coca-Cola Company advertised our replacement as the "pause that refreshes." ✨

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