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Palmetto



Meadows for Home Landscapes • Urban Trees • Native Passionflowers



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The purpose of the Florida Native Plant Society

is to preserve, conserve and restore the native plants and native plant communities of Florida.

Official definition of native plant:

For most purposes, the phrase Florida native plant refers to those species occurring within the state boundaries prior to European contact, according to the best available scientific and historical documentation. More specifically, it includes those species understood as indigenous, occurring in natural associations in habitats that existed prior to significant human impacts and alterations of the landscape.

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Features

4 Meadows for Home Landscapes: More Than Just Wildflowers

The zeal to use native wildflowers to create pollinator gardens falls far short of meeting the maximum value that a pollinator garden is capable of providing. Learn how adding native grasses increases the diversity of plants and pollinators. *Article and photos by Craig Huegel.*

8 Rethinking Florida's Urban Trees

Florida's natural tree populations have been vastly reduced as more and more people have settled here. In suburban communities new trees have been planted at much lower densities than the original populations. In urban areas, tree density is even lower, but urban trees provide a number of important benefits. *Article and photos by Ginny Stibolt.*

12 The Native Passionflowers of Florida

There are six native members of the genus *Passiflora* in Florida. Two of the most common species are popular among gardeners because of their availability, but especially because they serve as larval host plants for a variety of butterflies. *Article and photos by Roger L. Hammer.*

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Editorial Content

We welcome articles on native plant species and related conservation topics, as well as high-quality botanical illustrations and photographs. Contact the editor for guidelines, deadlines and other information.

ON THE COVER: *Passiflora pallens*. This endangered passionflower is found in Broward, Miami-Dade, Collier, and mainland Monroe Counties in Florida. It grows along forest margins and in canopy gaps. Photo by Roger L. Hammer.



A nighttime communal roost of zebra longwing butterflies in the author's yard.

The Native Passionflowers of Florida

Article and photos by Roger L. Hammer

Few flowers are as beautiful and captivating as those in the genus *Passiflora* – the passionflowers – and they have even found a place in Christian theology. In 1609, a monastic scholar named Jacomo Bosio was writing his treatise on the Cross of Calvary (the wooden cross where Jesus was crucified), when Emmanuel de Villegas, an Augustan friar born in Mexico, arrived in Rome with drawings of a passionflower. These enchanting flowers were unknown to Europeans at the time, and Bosio became so enchanted with this Neotropical flower that he decided to include it in his writings because he believed it represented the period of Christ's suffering on the cross during crucifixion, referred to as the Passion. Hence the name passionflower.

Bosio concluded that the tendrils symbolized the whips, the filaments depicted the crown of thorns, and the five sepals and five petals represented the ten faithful apostles (minus Judas and Peter who betrayed Jesus). The five anthers stood for the five wounds received by Jesus, with the three stigmas being the nails. Spanish descendants in the Caribbean still call passionflowers *flor de las cinco heridas*, or “flower of the five wounds.”



Left to right: Two widely cultivated passionflower species, *Passiflora incarnata* and *Passiflora suberosa*.



This page, clockwise from top left: *Passiflora multiflora*, *Passiflora sexflora*, *Passiflora lutea* and *Passiflora pallens*.

The larvae of many heliconid butterflies feed exclusively on passionflowers, so some *Passiflora* species have developed ways to thwart being eaten. Some species have evolved to produce toxins that will kill butterfly larvae, while others use varying leaf shapes to avoid being detected by female butterflies. Others produce extrafloral nectar glands that attract ants, and these in turn will attack butterfly eggs and larvae. Yet another ingenious ploy is deceit. Female butterflies will bypass plants that already have butterfly eggs on them, so some passionflower species produce tiny bumps, spots, or glands that look identical to butterfly eggs, causing female butterflies to look elsewhere to lay their eggs.

There are currently about 500 accepted species of *Passiflora* that are distributed mostly in the Neotropics, with additional named varieties and naturally-occurring hybrids. *Passiflora edulis* and *Passiflora flavicarpa* have even gained worldwide notoriety because they are widely grown for their nutritious fruits, which are used primarily to make delicious passionfruit juice. The fruits have many health benefits, including being high in antioxidants.

There are six native members of the genus *Passiflora* in Florida. Two of the most common species are popular among gardeners because they are available at nurseries that specialize in native plants and because they serve as larval host plants for the zebra longwing (Florida's official state butterfly), the Gulf fritillary, and the variegated fritillary, plus the Julia heliconian in the southernmost Florida counties. Larvae of the variegated fritillary will also feed on plants in other genera, namely species of *Linum* (flax), *Portulaca* (purslane), and *Viola* (violets).

The most widespread native species in Florida is *Passiflora incarnata*, which is vouchered from all but 12 counties on the Florida mainland, but it likely occurs in most of those, too. Common names include purple passionflower, maypop, and apricot vine. It produces fragrant, very showy, purplish flowers that average about 3" wide, and these are followed by round, 2" yellowish-green fruits. It requires a stout fence or arbor and has the propensity to spread aggressively from root suckers in all directions, so plant it where you can mow around the parent plant or you will likely come up with some colorful, and deserving, curse words. It is very cold-tolerant and ranges west into Texas and north to Missouri, Indiana, and Delaware. *Passiflora incarnata* has been hybridized with the tropical American *Passiflora cincinnata* to produce *Passiflora* x 'Incense' with large, intensely-fragrant blossoms.

Another species that is widely cultivated in Florida is *Passiflora suberosa*, although the recent treatment of the Passifloraceae in the *Flora of North America* states that what has been called *Passiflora suberosa* in Florida is actually *Passiflora pallida*. Taxonomists with the *Flora of Florida* disagree because they believe the characteristics used to separate them are minuscule and not consistent (A. Franck, personal communication, March 2020). It has also been suggested that Florida plants should be treated as *Passiflora suberosa* var. *pallida*. Regardless, this passionflower has extremely variable leaf sizes and shapes, and is a preferred host for heliconid butterflies. The bark on mature plants has corky outgrowths, giving rise

to the name corky-stem passionflower (*suberosa* is Latin for "corky"). Unlike most other species, the corky-stem passionflower is rather petite and can be grown on a small trellis or allowed to scramble around on shrubs. The flowers have white sepals (petals are absent), and are about the size of a dime, making them among the smallest in the genus. The filaments are pale yellowish green. Songbirds eat the small, oval, 3/8" fruits that ripen dark purple to black. Outside of Florida it ranges from southern Texas south into South America and through the West Indies, including the Bahamas.

Perhaps the rarest species in Florida is the state-listed endangered *Passiflora multiflora*, which is restricted in Florida to the Upper Florida Keys. The half-inch, clustered flowers have greenish white sepals and white petals, with yellow filaments that are white at the base. This species has unlobed, softly-hairy leaves and it typically grows along the edges of tropical hardwood forests where it climbs on trees and shrubs. It is sometimes cultivated by butterfly enthusiasts in the Florida Keys and on the southern mainland but it appears that it is seldom used as larval food by butterflies. Its range extends into the Bahamas and Greater Antilles.

Another endangered species in Florida is *Passiflora pallens*, with showy white flowers measuring about 2" wide. The filaments are white with purple rings along their length. The leaves are shallowly three-lobed and the oval, 2" fruits are yellow. It is only known in Florida from Broward, Miami-Dade, Collier, and mainland Monroe Counties, where it grows along forest margins and in canopy gaps, despite its misleading name, "pineland passionflower." This species is not a preferred host plant for heliconid butterflies and I have never seen leaf damage from larvae on wild plants, nor on cultivated plants, but it is worth growing just for the pretty flowers. Its range includes Cuba and Hispaniola.

Passiflora sexflora, or goatsfoot, is a state-listed endangered species known in Florida only from mainland Miami-Dade County where it is reported from only five hammocks east of Everglades National Park, and a few hammocks on Long Pine Key within Everglades National Park. The species name refers to six flowers, which was thought to be an identifying characteristic of this species by French botanist Antoine Laurent de Jussieu (1748–1836), who named it in 1805. The common name relates to the shape of the leaves, which are softly hairy with three lobes, but the center lobe is much shorter than the lateral lobes, resembling the hoof of a goat. The flowers have greenish white sepals, white petals, and white filaments with purple bases. The blue-black fruits are oval or ellipsoid and measure about 3/8" wide. It ranges south through the West Indies into tropical America.

Finally, there is *Passiflora lutea*, or yellow passionflower, a cold-hardy herbaceous species with a distribution in Florida from Hernando and Lake Counties north and west through the Florida Panhandle and from Georgia west to Texas and north to Kansas, Missouri, Pennsylvania, and Delaware. It dies to the ground in winter and resprouts from its roots in springtime. It is suitable to grow on a trellis, fence, or