



St.-John's-Worts— Beauties and Beasts in Florida

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Abstract

Like any group of living things, the St.-John's-wort genus (*Hypericum* L.) has its beauties and beasts, but discerning which is which is not often easy. This paper covers the general characters, odd and beautiful, that make our 29 native *Hypericum* species stand out in a crowd, such as their opposite, punctate leaves, and sunburst-yellow flowers. The focus is on particular species, including the common and rare, the woody and herbaceous, and the showy and inconspicuous. Examples are a spindly endemic species with a public image problem, and a possible new arrival (number 30 in our flora) and the first non-native on our list. The latter species was brought to the United States from Europe for its medicinal value, but it also has the potential to become an invasive plant in Florida, another “beast at the door.”

Introduction

When we're young, we respond intuitively, viscerally, to physical beauty. It seems easy to know what we like and decide what we want. As we grow up, of course, we find that beauty (and life) is more complicated than we supposed (darn it!). We learn lessons such as “Beauty is only skin deep” and “You can't judge a book by its cover” from stories like *Snow White* and *The Beauty and the Beast*. And so it is with St.-John's-worts, a group of plants in which the beauty is not always easily discerned (or the easily observed “beauty” brings with it some unexpected trouble).

The St.-John's-wort genus *Hypericum* L. is a fairly rich group with approximately 370 species occurring in temperate, subtemperate, and tropical montane zones worldwide (Mabberley 1997). The genus is one of about 45 genera in the Clusiaceae, or Mangosteen Family, known to some by its old botanical name Guttiferae.

Over 60 species of *Hypericum* have been brought into cultivation for ornament, and the majority of these (85%) are native to the Old World (Bailey and Bailey 1976).

Species of *Hypericum* are characterized by their simple, opposite, entire leaves and open yellow flowers with many stamens—"sunbursts" of light yellow to gold to yellowish-orange. Some of the cultivars have clearly spectacular blooms; others have at least cheerful blooms or interesting habits. A less obvious characteristic common to St.-John's-worts is the presence of glands that pit or pierce the leaves and sometimes the floral parts. These resin-filled glands, called punctae, are usually clear or translucent. The fruits of *Hypericum* are typically elongated, many-seeded capsules, with more or less pointed tips; the capsules are usually visible as little cones sitting amidst old staminal filaments after the petals drop.

Florida Natives

The Sunshine State is graced with 29 native species of St.-John's-wort. The majority (21 species) are small to medium-sized woody shrubs. Twenty-three species have five petals in each yellow flower; the other six have four petals. Most of our species prefer moist ground, but about eight can be found on dry uplands. All of our species, except one, have glabrous leaves, stems, and flowers. The exception is the inconspicuous annual or biennial herb *Hypericum setosum* L., usually found in moist flatwoods and savannas. Were it not for the telltale flowers, fruits, and punctae, this small hairy plant would not be easily recognized as a St.-John's-wort and overlooked in the field.

In a few of our species, some of the punctae are black and tar-like. Spotted St.-John's-wort *Hypericum punctatum* Lam. provides the best example of this curious feature. The black punctae are scattered along the stems, leaves, sepals, and petals. At first glance, the plants may look as if they were diseased or attacked by fungus, but the black dots are a normal and distinctive characteristic. This five-petaled species ranges across the eastern United States, reaching its southernmost limits in a few northern Florida counties.

The most common Florida species is probably the sandweed *Hypericum fasciculatum* Lam. It prefers wetter soils, often becoming the dominant, waist-high cover of "hypericum bogs." Like a handful of other Florida species, this plant has flowers with five petals that are asymmetrical in placement, giving the appearance of a small pinwheel when viewed face-on. Sandweed leaves are small and quite narrow, with margins strongly curved inward such that the leaves appear needle-like.

Among the dry-ground species is another one with needle-like leaves, *Hypericum reductum* (Svenson) W.P. Adams, the Atlantic St.-John's-wort. This low-growing evergreen shrub frequents well-drained soils, often forming attractive "mounds."

Its young stems are usually distinctly reddish and its flowers are small but showy, each with five petals in a star shape, blooming from spring to fall as most hypericums do. It has been recommended for cultivation (Suncoast Native Plant Society 1997).

Less likely to be promoted strictly for ornamental value is the little pinweed *Hypericum gentianoides* (L.) Britton et al., also found on sandy uplands. Its many, small, ascending branches with few visible leaves suggest a green whisk brush stuck upright in the sand. The leaves are tiny and scale-like; the small flowers have five petals and are not pinwheel-like. Although it is perhaps one of the lesser lights in the firmament of hypericum beauty, it is an important colonizer in our dry habitats.

Inner Beauties

No matter their outer appearance, our St.-John's-worts offer a significant inner beauty through their contribution to global biodiversity. Among Florida St.-John's-worts are five endemics, species occurring in this state and nowhere else. These five rare species, ranging in size from small herb to small tree, are found in different habitats. Two are restricted to Central Florida Ridge country, along or near the Lake Wales Ridge, and three are found in parts of the Florida Panhandle.

The scrub St.-John's-wort *Hypericum cumulicola* (Small) W.P. Adams is known only from Polk and Highlands counties and is federally-listed as endangered. With its small stature (1-2 ft tall), green wiry stems, tiny sparse leaves, and scattered, little pinwheel flowers, this plant seems unlikely to draw effusive attention for its looks. It has to be admired, though, for its adaptation to a tough environment. It makes its home on the extremely dry, wind-deposited sands of rosemary "balds" that dot the southern Lake Wales Ridge.

Edison's St.-John's-wort *Hypericum edisonianum* (Small) W.P. Adams & N. Robson, state-listed as endangered, is a small shrub found only in wet depressions of the Lake Wales Ridge region in Highlands, Glades, and Desoto counties. It has some engaging features like showy flowers, a colony-forming habit, dark-green flat leaves with a whitish bloom on their upper surfaces, and dark, smooth bark. It seems, however, to have particular moisture requirements, being especially fond of the edges of ephemeral ponds. Some populations are now suffering from an unknown pathogen.

In the central and western Panhandle is the wand-like, small shrub called by some Florida sands St.-John's-wort *Hypericum exile* W.P. Adams. It's endemic to six counties but turns up only occasionally in pine savannas and flatwoods. The leaves on the slender main stem and short upper branches are needle-like, often occurring in small bundles (fascicles). The five-petaled flowers have a pinwheel

appearance. This is another species easily overlooked in the field.

Endemic to most of the Panhandle, Chapman's St.-John's-wort *Hypericum chapmanii* W.P. Adams is found in scattered locations at the edges of titi and cypress swamps, bogs, and flatwoods. It's our only hypericum likely to reach small-tree stature and it's the only one with thick, spongy gray bark that looks pinkish beneath. The bark is reminiscent of the thick, spongy bark of the hated invasive exotic, melaleuca (*Melaleuca quinquenervia* (Cav.) S.T. Blake).

Also found in the Panhandle, in portions of Bay and Washington counties, is *Hypericum lissophloeus* W.P. Adams, a species state-listed as endangered. Besides having lovely five-petaled flowers, its bark is smooth and silvery, a distinction giving it the common name smooth-barked St.-John's-wort.

This species grows around the margins of three dozen or so karst ponds, or sink-hole ponds, that dot a region of xeric uplands, including remnant sandhills and scrub. The waters of these ponds are naturally clear and often bluish from a direct connection to the Floridan Aquifer. This small region serves as a major recharge area for the aquifer which supplies much of the state with drinking water. As a shoreline stabilizer, this species shapes a pond margin habitat suitable for a whole community of rare native plants such as the state-listed endangered endemic *Xyris longisejala* Kral, commonly known as karst pond xyris or Kral's yellow-eyed grass. In fact, 10 species of rare plants are associated with this hypericum, along with nine species of rare animals.

Despite its many qualities of outer and inner beauty, this St.-John's-wort has a real image problem. It's most well-known locally as just that "ol' pond cedar," but it's also been labeled a "garbage" plant, an "unkempt-looking" plant, and just part of that "trash" vegetation that clutters the view of the pond. Thus, it is being hacked down willy-nilly under the increased pressure of residential development around the karst ponds in recent years. On some ponds, the whole shoreline plant community has been removed in the process of beach-making and general lot-clearing. Nearly every known population of the species has been affected by this general disregard. A few state and federal agencies are now pulling together an educational campaign to address the lack of understanding of native shorelines with the hope of revealing, and thus preserving, the beauty of this species and its associates.

Further descriptions, plus illustrations and photographs of St.-John's-worts native to Florida can be found in Godfrey and Wooten (1981), Taylor (1982), Bell and Taylor (1982), Nelson (1996), and Tobe et al. (1998).

A "Beast at the Door"?

St.-John's-wort is a name that has recently gained widespread recognition, primar-

ily because of a common European species, *Hypericum perforatum* L., the source of the extract that has been hailed as an effective, less expensive herbal remedy for the treatment of mild and moderate depression. This species is an erect, multi-branched perennial with oblongish leaves and black or purplish-black and translucent punctae. The dark punctae are found along the stem, leaf margins, and petals—they dot or “perforate” the petal edges, adding to the showiness of the star-shaped flowers. The punctae of this and other hypericums are considered the sites of the biologically active compound hypericin.

As an herbal remedy, the perforate St.-John’s-wort has a long and colorful history in its home range. The ancient Greeks used it to ward off evil spirits; the genus name *Hypericum* is Greek for “over the apparition.” Later, in medieval Europe, the plant came to have many medicinal uses and sprigs of it were thought to protect against evil witchcraft. Church officials also took up its use for exorcisms. Ancient Romans tied it to the summer season, throwing it into bonfires celebrating the summer solstice. Like many hypericums, *H. perforatum* begins blooming near the summer solstice (June 21) and near the date designated as the birthday of St. John the Baptist (June 24), hence the common name St.-John’s-wort or St. John’s plant.

In the United States, this European species has a history longer than many Floridians may realize. It has gone by other names for most of this century: klamath weed, Willamette Valley weed, goat weed. It has, in fact, been a major exotic weed problem in rangelands, pastures, meadows, and roadsides of the western states and has spread across much of the country. It occurs most often in drier soils, even rocky ones, but can also be found in moist ground. By the 1950s, it had infested over 2.5 million acres of rangeland in western America (Crompton et al. 1988). Since then, two “beautiful” leaf-feeding beetles (*Chrysolina* spp.) have been successful biocontrol agents, greatly reducing infestations in major parts of the plant’s North American range (McKnight 1993).

An intriguing aspect of this plant’s history as a weed is its recognition as mildly poisonous (Kingsbury 1964). Besides displacing native forage, it often causes sickness among animals grazing on it. The compound hypericin is a photosensitizing pigment which can be a beautiful asset for a green plant, enhancing its ability to use sunlight for making food. However, photosensitivity can have quite unwelcome effects on light-skinned animals out in the sun every day, causing maddening skin eruptions, appetite loss, and even convulsions in severe cases.

Has *H. perforatum* reached Florida in some form besides pills? No, at least not yet. We’re one of just seven states in the country not reporting it naturalized - Alabama is the only other southeastern state without it (Fig. 1). A newspaper report earlier this year, describing how St.-John’s-wort escaped cultivation at a wholesale nursery near Gainesville, is being investigated. The plants found persisting from abandoned cultivation were not *H. perforatum*, but they were found to be non-native

- Tobe, J.D., K.C. Burks, R.W. Cantrell, and others. 1998. *Florida Wetland Plants: An Identification Manual*. Tallahassee: Florida Department of Environmental Protection.
- Suncoast Native Plant Society. 1997. *The Right Plants for Dry Places*. St. Petersburg, Fla.: Great Outdoors Publishing.

