

Florida Bonamia, Our Resilient Scrub Morning Glory Will it Survive?

by Jim Lee, Camp Dresser & McKee Inc.

The pre-Columbian frontier was an arid, dry and elevated ridge in Central Florida. For about twelve thousand years, Florida's indigenous people helped to sustain Florida's unique, diverse habitats and sandy soils, only to be systematically removed from existence — within two centuries after Ponce DeLeon landed in Florida, about 350,000 Indians had vanished. Many of our indigenous plants and animals are also being systematically extinguished. Florida's growing population and tourism industry has accelerated intense development, with a resulting reduction of 60-80% of the Central Florida ridge and elimination of much of the prized scrub and sand pine communities.

The Florida bonamia (*Bonamia grandiflora* (A.Gray) Halliér) is left by chance, and is one of the 19 scrub and high pine species of the 49 endemics in peril. The Florida bonamia is a member of the CONVULVULACEAE family and is a morning glory that occurs in scrub, high pine, and sand pine communities. The plant prefers to

flower in open canopy areas where it flowers profusely. It will flower in canopied areas with fewer flowers during the spring, summer and fall seasons.

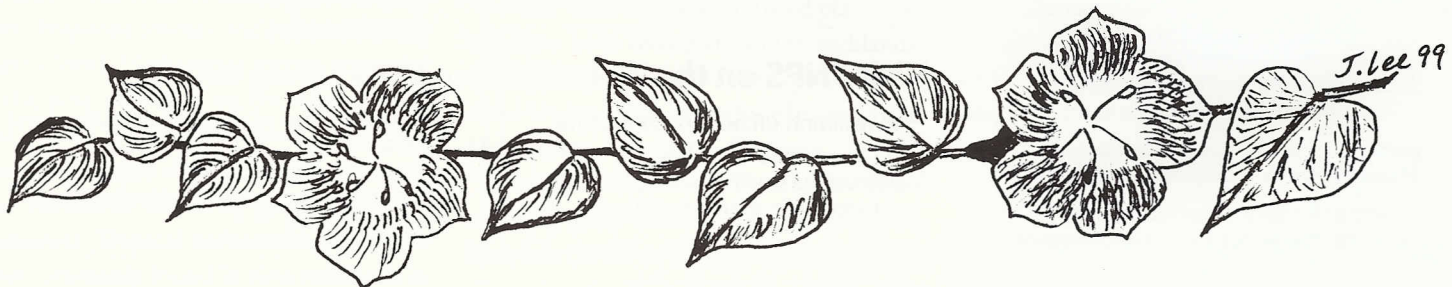
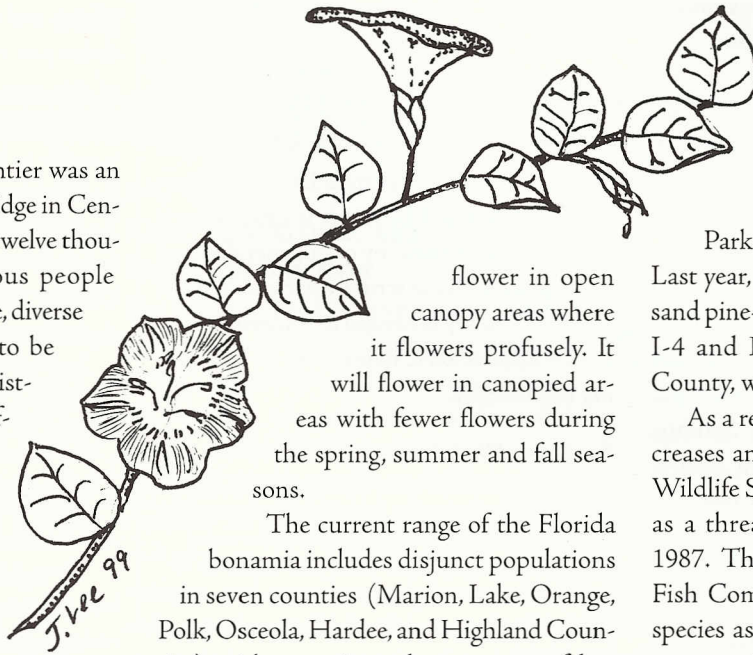
The current range of the Florida bonamia includes disjunct populations in seven counties (Marion, Lake, Orange, Polk, Osceola, Hardee, and Highland Counties), with an estimated occurrence of less than 100 sites, with less than 1,000 plants total (FGFWFC 1989). In the past two decades, two additional sightings have been reported in Charlotte County (D. Darden and I. J. Stout, personal communication) and Hardee County. In the past century, the plant also occurred in Manatee, Sarasota, and Volusia Counties. It is easily found in the Ocala National Forest along the Highway 19 right-of-way, from Lake Kerr past the Pinecastle Bombing Range. A few individuals occur in the Nature Conservancy's Tiger Creek Preserve and some are present at the

City of Orlando's Turkey Lake Park, Lake Cain and Marsha Parks, and Lake Arbuckle State Park.

Last year, I observed one plant located in a sand pine-rosemary community adjacent to I-4 and International Drive in Orange County, where its future lies in jeopardy.

As a result of significant population decreases and habitat loss, the U.S. Fish and Wildlife Service listed the Florida bonamia as a threatened species on November 2, 1987. The Florida Game and Fresh Water Fish Commission (FGFWFC) listed the species as endangered. Many of the plants are on private lands and are subject to development. Even in the Ocala National Forest, the threat of commercial pulpwood harvesting, clear cut activities, and the use of herbicides threatens the bonamia.

The habitat to search for the Florida bonamia is Central Florida scrub. Most scrub on the Atlantic coastal ridge and Florida's west coast scrub habitats do not have the Florida bonamia. Bonamia is resilient to fire because it has the capacity to flower and re-generate profusely after a fire (30 times greater according to Harnett and Richardson 1989). If conditions are right for



germination, the seeds that remain after a fire and seeds left from previous seasons allow the bonamia to germinate and survive.

Dan Ward (1979) and Robert Kral (1983) describe the perennial bonamia as having a 3 foot-long, trailing stem-like vine on sandy ground. The leaves are alternate, sessile or subsessile, with ovate blades 2-3cm long and 2-2.5cm wide. Leaf margins are entire, with petioles short (3mm). Blades are rounded (cordate) at the base, obtuse to acute at the apex. Flowers are axillary and solitary, usually with a three-flowered inflorescence on appressed hairy stalks (1.0-2.5cm long). The corolla is funnel-shaped, pale blue or blue-purple with a white throat. The outer corolla is hairy. There are two styles (4cm long) and five sepals (unequal in two series, margins entire, the backs pale green and covered with appressed silky hairs). The calyx is 2.0-2.5cm long. There are five stamens (5cm long) and long, yellowish anthers (5mm). The plant flowers from May to August in the early morning, closing by early afternoon. The fruit or capsule is broadly ovoid (1.3-1.5cm long) with four valves. Seeds are smooth, pale brown or greenish brown (5-8mm long), and oblong.

Land management strategies are important in the survival of this species because of its restricted habitat which is subject to intense development. Land acquisition, conservation techniques for scrub and sand pine communities, and improving habitat by periodic prescribed burns play an important role in the survival of bonamia. ☀

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