Common Name: FLORIDA LADIES-TRESSES

Scientific Name: *Spiranthes floridana* (Wherry) Cory

Other Commonly Used Names: none

Previously Used Scientific Names: *Spiranthes brevilabris* var. *floridana* (Wherry) Luer, *Spiranthes gracilis* (Bigelow) L.C. Beck var. *floridana* (Wherry) Correll, *Ibidium floridanum* Wherry

Family: Orchidaceae (orchid)

Rarity Ranks: G3G4T1/S1?

State Legal Status: Special Concern

Federal Legal Status: none

Federal Wetland Status: FACW-

Description: Perennial **herb** with an erect stem 8 - 16 inches (20 - 40 cm) tall, with several bracts sheathing the stem. **Leaves** ¾ - 2⅜ inches (2 - 6 cm) long and up to ¾ inch (2 cm) wide, 3 - 5 in number, in a rosette at the base of the stem, oval, yellowish-green, overwintering and present during flowering, but withering soon after. **Flower spike** with a single row of 35 or fewer, yellowish flowers loosely spiraled around the stem, with 8 - 10 flowers per cycle of the spiral (flowers occasionally in a single row on one side of the stalk only); flower stalk with few or no hairs. **Flowers** about ¼ inch (4 - 5 mm) long; 2 petals and 3 sepals are similar in size and shape and curve forward; the **lip petal** curves slightly downward, with a yellow center and a wavy or fringed edge. **Fruit** an oval capsule, about ¼ inch (4 - 5 mm) long, with many tiny seeds.

Similar Species: Several ladies-tresses species produce overwintering leaf rosettes and bloom in late winter or early spring in south Georgia. Florida ladies-tresses is distinguished by its hairless, yellow flowers and hairless flower stalk.

Related Rare Species: See short-lipped ladies-tresses (*Spiranthes brevilabris*) and Great Plains ladies-tresses (*S. magnicamporum*) on this website. Three other species of ladies-tresses are considered rare in Georgia: Eaton's ladies-tresses (*S. eatonii*), northern oval ladies-tresses (*S. ovalis* var. *erostellata*), and long-lipped ladies-tresses (*S. longilabris*).

Habitat: Frequently burned pine savannas and flatwoods; grassy roadsides and cemeteries.

Life History: Short-lipped ladies-tresses produce rosettes of leaves during the winter; the leaves are still visible when flowers open early in the spring, but wither soon after. Ladies-tresses' flowers are pollinated by bumblebees and halictid bees. Self-pollination is discouraged by two sequences of events. First, when a flower opens, a tiny structure at the center of the flower (the column) is pressed against the flower's lip, covering the stigma and leaving only a narrow space into which a bee can insert its tongue in search of nectar. While the stigma is covered, the flower can't be pollinated. As the bee sips nectar, two pollen packets stick to its proboscis. Once the bee exits the flower, carrying with it that flower's pollen packets, the column lifts up, exposing the stigma. The next bee that comes along to sip nectar – possibly carrying pollen packets from another plant – may brush against the exposed stigma and deposit the pollen. Second, in order to discourage the movement of pollen between flowers on the same plant, the flowers in a spike open from the bottom to the top of the spike. Bees always work their way from the bottom to the top of a flower spike as they gather nectar. If they pick up pollen from flowers at the bottom of the spike, flowers on the same spike nearer the top will not yet be open and receiving pollen. Instead, the bee flies to an open flower on another plant, gathers nectar and deposits its pollen load, thus cross-pollinating the flower. If pollinated, the flowers produce small capsules containing many dust-like seeds that are dispersed by the wind. As with all species of orchid, the

seeds of Florida ladies-tresses require the presence of certain species of fungi to germinate and support seedlings.

Survey Recommendations: Surveys are best conducted during flowering (late February–April).

Range: Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, South Carolina, and North Carolina. Plants have been seen recently only in Mississippi and Florida.

Threats: Fire suppression, destruction of habitat by clearing or conversion to pine plantations and fields. Use of herbicides in roadside maintenance.

Georgia Conservation Status: Only one population of this species has been found in Georgia, last seen in 1997 on private land.

Conservation and Management Recommendations: Apply prescribed fires every 2 - 3 years during the growing season; avoid use of herbicides on roadsides and in cemeteries.

Selected References:

Brown, P.M. and S.N. Folsom. 2004. Wild orchids of the southeastern United States. University Press of Florida, Gainesville.

Catling, P.M. 1983. Pollination of northeastern North American *Spiranthes* (Orchidaceae). Canadian Journal of Botany 61(4): 1080–1093.

Flora of North America. 2003. Flora of North America, Vol. 26, Magnoliophyta: Liliidae: Liliales and Orchidales. Oxford University Press, New York.

Luer, C.A. 1975. The native orchids of the United States and Canada, excluding Florida. New York Botanical Garden, New York.

NatureServe. 2007. NatureServe Explorer. Arlington, Virginia. http://www.natureserve.org/explorer

Proctor, M. and P. Yeo. 1972. Pollination of Flowers. Taplinger Publishing Company, New York.

Stewart, S.L. and Kane, M.E. 2006. Conservation status of *Spiranthes floridana* (Orchidaceae), the Florida ladies-tresses.

Stewart, S.L. and M.E. Kane. 2007. Symbiotic seed germination and evidence for mycobiont specificity between two closely-related Florida terrestrial orchids, *Spiranthes brevilabris* and *Spiranthes floridana* (Orchidaceae). In Vitro Cellular & Developmental Biology - Plant (DOI 10.1007/s11627-006-9023-4).

Weakley, A.S. 2008. Flora of the Carolinas, Virginia, Georgia, northern Florida, and surrounding areas. University of North Carolina Herbarium, Chapel Hill. http://www.herbarium.unc.edu/flora.htm

Author of Species Account: Linda G. Chafin

Date Compiled or Updated:
L. Chafin, Aug. 2008: original account
K. Owers, Feb. 2010: added pictures

FLORIDA LADIES-TRESSES

Spiranthes floridana