

LEGAL STATUS:

State: ENDANGERED

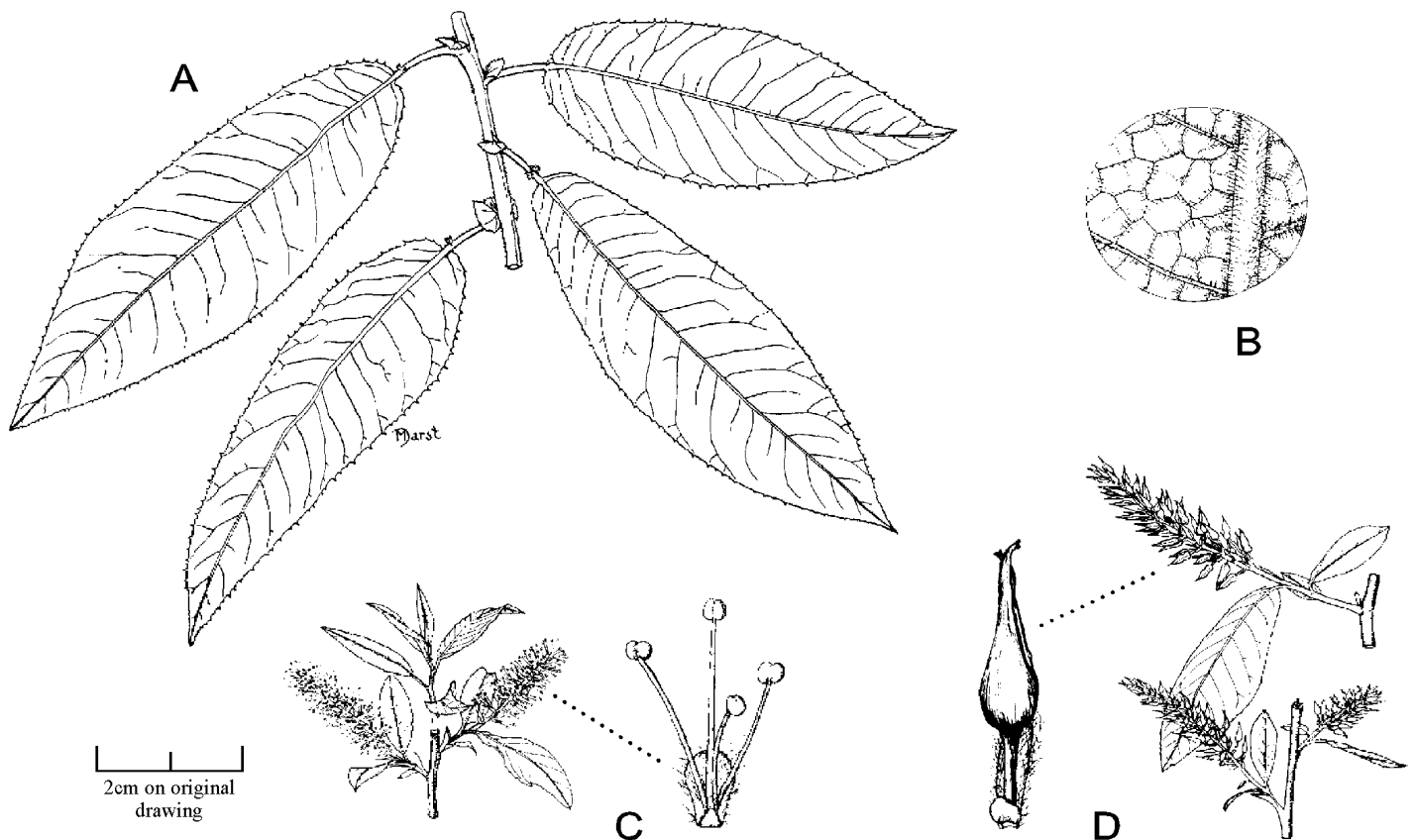
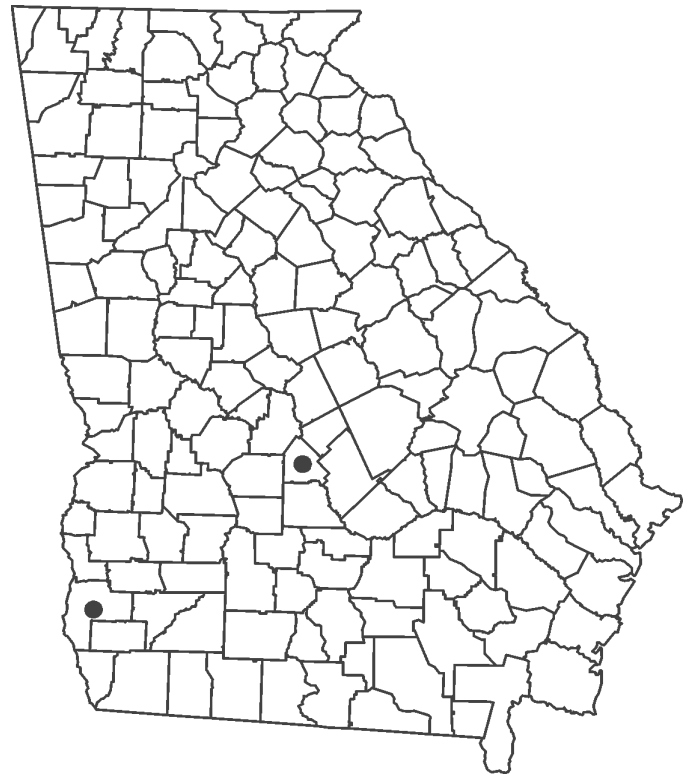
Federal: CANDIDATE

SYNONYMY:*Salix astatulana* Murrill & E. J. Palmer*Salix chapmanii* Small

RANGE: Northern Florida and southwestern and southcentral Georgia. Recorded from two counties in Georgia (see map).

ILLUSTRATION: (A) twig, with mature leaves, 0.8x; (B) leaf, underside, showing hairy veins, 30x; (C) male catkins on twig, 0.5x, with detail of single flower, 7x; (D) female catkins on twig, 0.5x and 0.8x, with detail of single flower, 7x. Source: Godfrey (1988), drawn by Melanie Darst and used with permission.

DESCRIPTION: Deciduous, small tree. This is a spindly tree to 6 m tall with reddish-brown to green, brittle twigs. The leaves are alternate, 5-15 cm long, 2-5 cm wide, oblong to elliptic, and the margins have tiny, knob-tipped teeth (use 10x lens). The undersides of the leaves are strongly veined and grayish-white, with sparse, short, stiff,



persistent hairs (especially on veins). The leaf bases are rounded to heart-shaped (cordate); the leaf tips taper to a short point. The leafstalks (petioles) are 13-20 mm long. Male and female flowers are produced on different plants (dioecious), and appear before the leaves fully expand. The flowers lack petals and are in oblong, dense racemes known as "catkins" (named for their resemblance to a cat's tail). The male catkins are 4.0-5.5 cm long; the individual flowers each have 3-7 stamens, and are subtended by tawny, softly hairy bracts, which are 2.4-3.6 mm long. The female catkins are 5.0-7.5 cm long; the individual flowers each have a single, stalked pistil and are subtended by similar bracts. The fruit is a narrowly ovoid, shiny, reddish-brown capsule, 6-7 mm long, containing about four seeds covered with silky hairs. **Flowering period:** mid-February to early April; **fruiting period:** April to May. **Best search time:** during fruiting, since a combination of habit, leaf and fruit characters are needed for positive identification.

HABITAT: Found along marshy shores of spring-fed, woodland streams or in openings of boggy woods.

SPECIAL IDENTIFICATION FEATURES: Florida willow somewhat resembles Carolina willow (*Salix caroliniana*) and, to a lesser degree, black willow (*S. nigra*). Characters of growth habit, mature leaves, and fruits differentiate the species. Carolina willow is a sturdy, medium-sized tree (often over 10 m tall) with the largest leaves narrowly lanceolate, 1.0-3.0 cm wide, and the undersides bluish-white; the capsules are 4-6 mm long, long-stalked (2-5 mm), and have 12-16 seeds. Black willow is a large tree (to 30 m) with the largest leaves narrowly lanceolate, 0.7-2.0 cm wide, and the undersides pale green; the capsules are 3-4 mm long, short-stalked (0.5-1.5 mm), and have 12-18 seeds. In contrast, Florida willow is a spindly, small tree (rarely to 6 m tall) with the largest leaves elliptic to oblong, 2.0-5.0 cm wide, the undersides grayish-white; the capsules are 6-7 mm long, long-stalked (3-6 mm), and have up to four seeds.

MANAGEMENT RECOMMENDATIONS: Avoid drainage of site. Hand thinning of shading trees in its vicinity, if done carefully, may be beneficial to this species.

REMARKS: Alvan Chapman was the first to collect this species, sometime prior to 1860, from the vicinity of Marianna, Florida (Jackson County). Roland Harper discovered the first Georgia population in 1902, near Hawkinsville, Pulaski County. He found it again in 1938, this time in Early County, near Cedar Springs. In 1947 Robert Thorne discovered two additional populations in Early County, near Hilton. Florida willow was last collected in Georgia in 1948. Anyone rediscovering it should contact the Georgia Natural Heritage Program!

This species is considered to be "primitive." It appears most closely related to certain Asian species of *Salix*, based on its having at most only four seeds per capsule (Argus, 1986). *Salix floridana* is rare throughout its range and has sustained significant habitat loss due to draining of its habitat and conversion to agricultural land or pine plantation.

SELECTED REFERENCES

- Argus, G. W. 1986. The genus *Salix* (Salicaceae) in the southeastern United States. Systematic Botany Monographs Number 9. 170 pp.
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- Duncan, W. H. and M. B. Duncan. 1988. Trees of the Southeastern United States. University of Georgia Press, Athens. 322 pp.
- Godfrey, R. K. 1988. Trees, Shrubs, and Woody Vines of Northern Florida and Adjacent Georgia and Alabama. University of Georgia Press, Athens. 734 pp.
- Harper, R. M. 1904. Explorations in the Coastal Plain of Georgia during the season of 1902. Bulletin of the Torrey Botanical Club 31:9-27.
- Small, J. K. 1933. Manual of the Southeastern Flora. 1972 Reprint Edition. Hafner Publishing Company, New York. 1554 pp.