

Acer barbatum Michx. Florida Maple

Aceraceae Maple family

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Florida maple (*Acer barbatum*), also called southern sugar maple and hammock maple (8), is a minor, mostly understory species. Specific information about many features of this species is lacking, but it is similar in most respects to sugar maple (*A. saccharum*). Champion-sized trees have been found in Alabama and South Carolina measuring 86 and 71 cm (34 and 28 in) in d.b.h.; 34 and 38 m (110 and 126 ft) in height (4).

Habitat

Native Range

The range of Florida maple (fig. 1) is discontinuous in the Piedmont and Coastal Plain from southeastern Virginia southwest across North and South Carolina and Georgia, into the Florida Panhandle. The range continues west across Alabama, Mississippi,

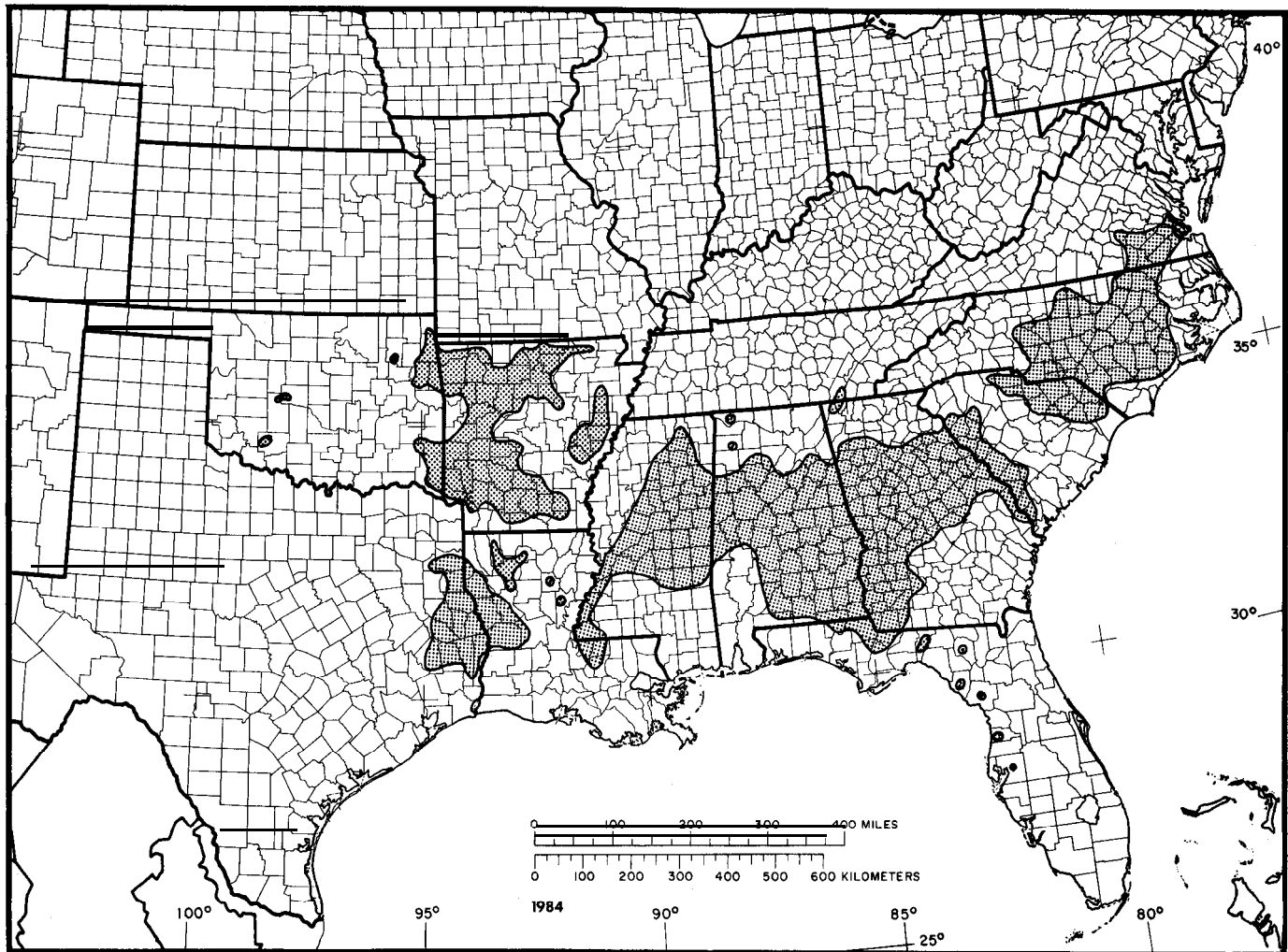


Figure 1—The native range of Florida maple.

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Louisiana, into eastern Texas, and north across Arkansas into eastern Oklahoma. The species is also found in isolated spots halfway down the Gulf Coast of the Florida peninsula and at one location in central Oklahoma (8).

Climate

Across the range of Florida maple, average annual rainfall varies from about 1120 to 1630 mm (44 to 64 in). Precipitation is well distributed, with the driest months averaging no less than 50 mm (2 in). January normal daily temperatures across the species' range vary from 11° to 18° C (52° to 64° F) maximum, and from -2° to 7° C (28° to 45° F) minimum. July normal highs are 29° to 33° C (84° to 91° F), and lows are 21° to 24° C (70° to 75° F). The average frost-free season is approximately 200 to 270 days (11).

Soils and Topography

Florida maple grows on fertile, moist but well-drained soils on stream terraces, in coves, and on adjacent bluffs and ridgetops. It usually grows best on soils underlain by calcareous material such as limestone or marl. It also grows well on the Florida hammocks. Soils commonly are found in the orders Inceptisols, Entisols, and Ultisols.

Associated Forest Cover

Florida maple has not been included as an associate in any of the published descriptions of forest cover types. It is often ranked as a major component of the understory stand, however (1). Associated overstory species include sweetgum (*Liquidambar styraciflua*), willow oak (*Quercus phellos*), cherrybark oak (*Q. falcata* var. *pagodifolia*), winged elm (*Ulmus alata*), red maple (*Acer rubrum*), yellow-poplar (*Liriodendron tulipifera*), ash (*Fraxinus* spp.), water oak (*Quercus nigra*), and sugarberry (*Celtis laevigata*).

Understory associates include American elm (*Ulmus americana*), dogwood (*Cornus florida*), possumhaw (*Ilex decidua*), winged elm, American hornbeam (*Carpinus caroliniana*), eastern redcedar (*Juniperus virginiana*), red mulberry (*Morus rubra*), northern red oak (*Quercus rubra*), pignut hickory (*Carya glabra*), and white ash (*Fraxinus americana*).

In Florida, associates are basswood (*Tilia caroliniana*), sweetgum, cabbage palmetto (*Sabal palmetto*), water oak, willow, southern red oak (*Quercus falcata* var. *falcata*), and loblolly pine

(*Pinus taeda*). Spruce pine (*P. glabra*) is an associate in Alabama (6).

Life History

Reproduction and Early Growth

Flowering and Fruiting—Florida maple is polygamo-dioecious. Flowers are small and are borne on long, puberulent pedicels in yellowish-green corymbs (12). They appear as small clusters at the ends of branches and mature in the early spring, before or with the leaves (3,13), usually in late March and April, about 2 weeks before sugar maple in the same vicinity.

The fruit is a winged, green to reddish, double samara, smaller than that of sugar maple, and matures in early summer. There are no seed test records



Figure 2—Florida maple in Florida Caverns State Park in northwest Florida.

for Florida maple on file at the National Tree Seed Laboratory at Macon, GA (5).

Seed Production and Dissemination-Florida maple has not been managed as a commercial timber species and no published reports of seed production, dissemination, or experience in forest or nursery regeneration are available. The method of propagating Florida maple from seed is similar to that for sugar maple (12). Germination is epigeal (10). Reproduction of Florida maple has been described as erratic and scattered, occurring singly and in small groups (9).

Seedling Development-No information available.

Vegetative Reproduction-No information available.

Sapling and Pole Stages to Maturity

Growth and Yield-Because Florida maple (fig. 2) is primarily an understory tree, it is usually smaller and more spreading than sugar maple. A bottomland forest near Durham, NC, contained 23.5 percent Florida maple stems in the understory and 1.4 percent in the overstory (1). Recent inventories by the Southeastern Forest Experiment Station (2) show that in the five southeastern States, Virginia, North Carolina, South Carolina, Georgia, and Florida, 91 percent of the Florida maple trees on commercial forest land are smaller than 13 cm (5 in) in d.b.h., and only 1 percent are 28 cm (11 in) in d.b.h. and larger. Total inventory of commercial Florida maple trees 13 cm (5 in) d.b.h. and larger in the 5-State area is 1,702,000 m³ (60,134,000 ft³) and of this volume 60 percent is in Georgia and Florida. Florida maple has a "medium" growth rate, meaning that dominant and codominant trees on better sites average 5 to 8 cm (2 to 3 in) of diameter growth over a 10-year period (9). A composite of reports indicates that a mature Florida maple in the overstory may average 61 cm (24 in) in d.b.h. and 12.2 to 18.3 m (40 to 60 ft) in total height.

Rooting Habit-No information available.

Reaction to Competition-Florida maple is tolerant of shade (9). There are no reports of how Florida maple responds to release or other silvicultural treatments.

Damaging Agents-Florida maple suffers no special damage problems (9), and perhaps it can be as-

sumed that generally the same insects and diseases that attack sugar maple also attack Florida maple, because the two species are so similar (10).

Special Uses

Although Florida maple is not managed as a commercial species, it is used with associated commercial species for pulpwood, sawtimber, and veneer stock. It is included in the hard maple group and better trees may be used for furniture, flooring, paneling, and shoe lasts (12), although its scarcity, small size, and poor form limit it to occasional use for factory and box lumber (9). It has found considerable use in urban forestry as an ornamental or shade tree. Florida maple is a limited source of maple syrup.

Genetics

There has been considerable confusion in the classification of Florida maple as a species distinct from sugar maple, and in the field, Florida maple is probably often confused with other maples (9).

Florida maple has been variously recognized among authorities as southern sugar maple (*Acer floridanum*) and as a sugar maple variety (*Acer saccharum* var. *floridanum*). However, the distinction between (northern) sugar maple and Florida maple is based on the latter's smaller leaves with short, acute lobes, smaller samaras, and a more whitish bark (12). Numerous intergrades between the two species have been found in east Texas and in the zone from Maryland south to northern Florida (although Maryland is not included in the range of *A. barbatum*). It appears that genes of both taxa are present in this intermediate population from Maryland to Florida and limited gene exchange is still occurring where one or the other taxon comes in contact with the intermediates (7).

The literature contains no specific information about Florida maple hybrids, but in view of its close association with sugar maple, and the intergrades between the two species already mentioned, it is not unlikely that hybridization between the two species may occur.

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