



Magnolia grandiflora

Magnolia grandiflora, commonly known as the southern magnolia or bull bay, is a tree of the family *Magnoliaceae* native to the southeastern United States, from coastal North Carolina to central Florida, and west to East Texas. Reaching 27.5 m (90 ft) in height, it is a large, striking evergreen tree, with large dark green leaves up to 20 cm (7 ³/₄ in) long and 12 cm (4 ³/₄ in) wide, and large, white, fragrant flowers up to 30 cm (12 in) in diameter.

Although endemic to the lowland subtropical forests on the Gulf and south Atlantic coastal plain, *magnolia grandiflora* is widely cultivated in warmer areas around the world. The timber is hard and heavy, and has been used commercially to make furniture, pallets, and veneer.

Description

Magnolia grandiflora is a medium to large evergreen tree which may grow 120 ft (37 m) tall. It typically has a single stem (or trunk) and a pyramidal shape.

The leaves are simple and broadly ovate, 12–20 cm (4 ³/₄–7 ³/₄ in) long and 6–12 cm (2 ¹/₄–4 ³/₄ in) broad, with smooth margins. They are dark green, stiff and leathery, and often scurfy underneath with yellow-brown pubescence.

The large, showy, lemon citronella-scented flowers are white, up to 30 cm (11 ³/₄ in) across and fragrant, with six to 12 petals with a waxy texture, emerging from the tips of twigs on mature trees in late spring.

Exceptionally large trees have been reported in the far southern United States. The national champion is a specimen in Smith County, Mississippi, that stands an incredible 37 m (121 ft).

Another record includes a 35-m-high specimen from the Chickasawhay District, De Soto National Forest, in Mississippi, which measured 17.75 ft in circumference at breast height, from 1961, and a 30-m-tall tree from Baton Rouge, which reached 18 ft in circumference at breast height.

Taxonomy

Magnolia grandiflora was one of the many species first described by Linnaeus in the 10th edition of his *Systema Naturae* in 1759, basing his description on the earlier notes of Miller. He did not select a type specimen. Its specific epithet is derived from the Latin words *grandis* "big", and *flor-* "flower".

M. grandiflora is most commonly known as southern magnolia, a name derived from its range in the Southern United States.

Distribution and habitat

Southern magnolias are native to the Southeastern United States, from coastal North Carolina south to central Florida, and then west to East Texas. It is found on the edges of bodies of water and swamps, in association with sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), and black tupelo (*Nyssa sylvatica*). In more sheltered habitats, it grows as a large tree, but can be a low shrub when found on coastal dunes. It is killed by summer fires, and is missing from habitats that undergo regular burning.

In Florida, it is found in a number of different ecological areas that are typically shady and have well-draining soils; it is also found in hummocks, along ravines, on slopes, and in wooded floodplains. Despite preferring sites with increased moisture, it does not tolerate inundation. It grows on sand-hills in maritime forests, where it is found growing with live oaks and saw palmetto. In the eastern United States, it has become an escape, and has become naturalized in the tidewater area of Virginia, the Washington, D.C. metropolitan area and locally in other areas outside of its historically natural range.

Ecology

Magnolia grandiflora can produce seed by 10 years of age, although peak seed production is achieved closer to 25 years of age. Around 50% of seeds can germinate, and they are spread by birds and mammals. Squirrels, opossums, quail, and turkey are known to eat the seeds.

Cultivation and uses

The plant collector Mark Catesby, the first in North America, brought *M. grandiflora* to Britain in 1726, where it entered cultivation and overshadowed *M. virginiana*, which had been collected a few years earlier. It had also come to France, the French having collected it in the vicinity of the Mississippi River in Louisiana. It was glowingly described by Philip Miller in his 1731 work *The Gardeners' Dictionary*. One of the earliest people to cultivate it in Europe was Sir John Colliton of Exeter in Devon; scaffolding and tubs surrounded his tree, where gardeners propagated its branches by layering, the daughter plants initially selling for five guineas each (but later falling to half a guinea).

United States cultivation

Magnolia grandiflora is a very popular ornamental tree throughout its native range in the coastal plain of the Gulf/South Atlantic states. Grown for its attractive, shiny green leaves and fragrant flowers, it has a long history in the southern United States. Many large and very old specimens can be found in the subtropical port cities such as Houston, TX; New Orleans, LA; Mobile, Alabama; Jacksonville, FL; Savannah, GA; Charleston, SC; and Wilmington, NC. *M. grandiflora* is the state tree of Mississippi and the state flower of Louisiana.

The species is also cultivated in the warmer parts of the United States; on the East Coast, a small number of specimens can be found growing as far north as coastal areas of New Jersey, Connecticut, and Long Island, NY. On the West Coast, it can be grown as far north as the Seattle area, though cooler summers on the West Coast slow growth compared to the East Coast.

Magnolia grandiflora is also grown in parts of Mexico, Central America, and South America as well as parts of Asia.

It is recommended for seashore plantings in areas that are windy but have little salt spray. The foliage will bronze, blotch, and burn in severe winters at the northern limits of cultivation, especially when grown in full winter sun, but most leaves remain until they are replaced by new foliage in the spring. In climates where the ground freezes, winter sun appears to do more damage than the cold. In the Northern Hemisphere, the south side of the tree will experience more leaf damage than the north side. Two extremes are known, with leaves white underneath and with leaves brown underneath. The brown varieties are claimed to be more cold-hardy than the white varieties, but this does not appear to be proven as yet. Once established, the plants are drought tolerant, and the most drought tolerant of all the *Magnolia* species.

The leaves are heavy and tend to fall year round from the interior of the crown and form a dense cover over the soil surface, and they have been used in decorative floral arrangements. The leaves have a waxy coating that makes them resistant to damage from salt and air pollution.

In the United States, southern magnolia, along with sweetbay (*Magnolia virginiana*) and cucumbertree (*Magnolia acuminata*), is commercially harvested.

Cultivars

Over 50 cultivars have been developed and named in North America and Europe.

Chemistry

M. grandiflora contains phenolic constituents shown to possess significant antimicrobial activity.