



MAGNOLIA Genus Overview

Magnolia is a large and diverse genus named by Linnaeus in honor of French botanist Pierre Magnol. In an evolutionary sense, it is an extremely old group of plants with fossil records dating back about 95 million years. Having evolved before bees and other flying insects, the flowers of magnolias are actually adapted for pollination by beetles that are attracted by sweet substances produced in the flowers. Another primitive trait is evident in their lack of true petals. The large “petals” of Magnolias are actually termed tepals. Also seen in tulips, these are more akin to modified leaves that cannot be visually distinguished from the other lower parts of the flower, or calyx. Magnolias are found across the Northern Hemisphere with disjunct populations in eastern North, Central and South America and the West Indies. The largest concentration of species is found in eastern and southeastern Asia. The genus has been cultivated for centuries and has given us numerous ornamental species, cultivars and hybrids. Most of these are known for their dazzling springtime display of flowers in shades of white, pink and yellow. Recent molecular analysis has lead taxonomists to combine the closely related genera *Michelia* and *Manglietia* with *Magnolia*, thus greatly increasing the number of recognized species. Over 100 examples of *Magnolia* species and cultivars are currently in residence at the UDBG.

1: *Magnolia virginiana*

Sweetbay Magnolia enjoys an extensive natural range, occurring with relative frequency from coastal Long Island, NY and New Jersey to Southern Florida and across the gulf coast to Eastern Texas. Interestingly, the species boasts two disjunct populations in both its extreme northerly and southerly haunts. The northernmost stand is found in a remote swamp just outside Gloucester, Massachusetts and the southernmost population occurs near the coast of Western Cuba. Such a wide distribution accounts for an impressive USDA hardiness designation of Zone 5 to 9. *M. virginiana* is truly a lover of moist soil conditions and is associated with swampy habitats across most of its range. It is therefore one of the very few magnolias that tolerate saturated soil. As an ornamental, however, it is adaptable to a variety of sites and is likewise successful in full sun or considerable shade. Its growth habit is almost always that of an upright, multi-stemmed shrub and most garden specimens mature at about 20-30 feet in height. Its namesake flowers, creamy white and sweetly scented with a distinct lemony fragrance, grace the garden from mid May through early June. Placement near a door, patio or walkway will ensure passersby can enjoy its wonderful aroma. Sweetbay Magnolia is represented by two main botanical varieties in the nursery trade. *M. virginiana* var. *virginiana* is the northerly form that drops all its foliage cleanly each fall. It also tends to exhibit a more rounded, wider-spreading growth habit. On the other hand, *M. virginiana* var. *australis* is more southerly in distribution, upright in habit and exhibits reliably evergreen foliage. Plants in the Deep South are fully evergreen while those in the Mid-Atlantic and Northeast show various degrees of leaf retention. The popular cultivars ‘Henry

Hicks' and 'Jim Wilson' (Moonglow®) are considered forms of var. *australis*. Sweetbay Magnolia reigns as one of our most beautiful and beloved native ornamentals.

2: *Magnolia figo* (formerly *Michelia figo*)

Recent taxonomic shuffling within the Magnolia family has led to the incorporation of the genus *Michelia* into the genus *Magnolia*. Though only considered a true magnolia in the last few years, the so-called Banana Shrub has thrived at the UDBG for decades. Our largest specimen (92-83*1) is quite at home in the southern courtyard on the east side of Townsend Hall and fills the area with the distinct scent of banana oil in late spring. The individual flowers are creamy white and somewhat reminiscent of our native Sweetbay (*M. virginiana*) as they open, but measure only 1 ½ inches wide. They occasionally show burgundy to purplish coloration and a few cultivars such as 'Port Wine' and 'Purple Queen' have been selected for this trait. Interestingly, the flowers are borne in the leaf axils, not at the ends of branches like other magnolias. When not in flower, an excellent identifying characteristic of this species are the buds, which are covered with rusty brown hairs (pubescence) as they mature. The leathery, dark green leaves measure 2-4 inches long and up to 2 inches wide. Most of the foliage is held through the winter, and placement in a protected site is encouraged to minimize damage from cold, drying winds. Though many references note a mature size of 10 feet, the Townsend courtyard specimen has reached a height of 12 feet tall and 6 feet wide in just over 20 years. Therefore, an estimated mature height in the range of 15-20 feet may be more appropriate. This Chinese native is rarely seen in Mid-Atlantic landscapes, and deserves serious consideration by any Magnolia enthusiast.

3: *Magnolia yuyuanensis*

Magnolia yuyuanensis, known as the Yunnan Wood Lotus or Tree Lotus, is an obscure species native to southeastern China. Having been classified under the genus *Manglietia* in the past, recent DNA sequencing has cemented its status as a true Magnolia. This handsome evergreen has been growing at the J.C. Raulston Arboretum (JCRA) in Raleigh, NC for many years and has recently become available in commerce. Somewhat reminiscent of our native Sweetbay Magnolia (*M. virginiana*), the narrow-oblong leaves emerge reddish bronze and mature to a glossy medium green. The white flowers suggest further kinship with *M. virginiana* in their pale, cup-shaped appearance, but feature eye-catching red stamens. The 25-year-old specimen at the JCRA indicates that *M. yuyuanensis* develops into a slender upright plant of about 20-25 tall and 8-10 feet wide. Our young plant at the UDBG (11-64*1) resides in the northern protected courtyard of Townsend Hall due to an initial uncertainty about hardiness. So far it has exhibited impressive vigor and should be hardy down to about 0° F or slightly colder. The captivating Tree Lotus has the potential to become a coveted landscape plant with further promotion. It also holds significant promise as a useful breeding partner with compatible *Magnolia* species and cultivars.

4: *Magnolia macrophylla* subspecies *dealbata*

The Cloudforest Magnolia (*M. macrophylla* subsp. *dealbata*) is the rarest of the UDBG's collection of North American magnolias. Considered a Mexican cousin of the American Bigleaf Magnolia (*M. macrophylla*), the species is endangered in its natural range and represented in few other botanical gardens. As a result of habitat destruction from agriculture and timber harvesting, *M. macrophylla* subsp. *dealbata* now exists only as a few disjunct stands in the mountains of

Hidalgo, Oaxaca and Veracruz. Those familiar with the enormous leaves of Bigleaf Magnolia will instantly recognize this species as a close relative. The foliage is quite tropical in appearance and each leaf averages 18-24 inches long. The tree boasts massive white flowers in late spring that can measure a stunning 15 inches wide and emit a pleasant fragrance. In another case illustrating the active role of botanic gardens in conserving rare plants, seeds from our specimens (97-71*1 and 97-71*2) have been shared with the nursery industry to foster a greater presence in horticultural commerce. Questions regarding exact cold hardiness have existed for many years, but our plants have handled Zone 7 conditions with aplomb. Further testing in other areas may indicate tolerance of even lower temperatures. *M. macrophylla* subsp. *dealbata* can attain heights of 150 feet in southern Mexico, but should only be expected to grow up to 30-40 feet under Mid-Atlantic cultivation. Our accessions of this rare magnolia can be observed on the southern side of Worrihow Hall.

5: *Magnolia grandiflora*

Few plants symbolize the romance of Southern landscapes as well as *Magnolia grandiflora*. The aptly-named Southern Magnolia is found from the Eastern Carolinas through most of the Gulf Coast to Eastern Texas. It has long been revered for its handsome evergreen foliage and large fragrant flowers appearing during early summer. This magnolia is a plant that southern gardeners love and most northern gardeners would love to be able to grow. Considered cold hardy to Zone 6 (possibly 5 if sited in a protected area), there are two main limiting factors in more northerly gardens: First, as with many broadleaf evergreens, cold, dry (desiccating) winds can rob plants of critical moisture during the winter months. Second, *M. grandiflora* is not built to sustain heavy ice or snow loads. This fabulous tree is known for many fine attributes, but flexibility is not one of them. Thankfully, many selections have been made for cold hardiness and endurance in the face of frozen precipitation. ‘Edith Bogue’ has enjoyed that exact reputation for decades. Originating as a particularly tough specimen in the Montclair, NJ garden of Ms. E.A. Bogue, the cultivar has become a benchmark for all *M. grandiflora* cultivated in the Mid-Atlantic. Its glossy, dark green foliage and dense habit is particularly evident in the fine specimen (Accession # 89-100*1) on the south side of Worrihow Hall. Although the species can attain colossal dimensions of 60-80 feet tall in the Deep South, plants in more northerly climes mature in the range of 30-50 feet over many years.

Works Cited

Dirr, Michael. (1975). *Manual of Woody Landscape Plants* (6th ed). Champaign, IL: Stipes Publishing LLC.

Del Tredici, Peter. 1981. “*Magnolia virginiana* in Massachusetts.” *Arnoldia*. 41(2): 36-49.

Gutierrez, Liliana and Andrew P. Vovides. 1997. “An in situ study of *Magnolia dealbata* Zucc. in Veracruz State: an endangered endemic tree of Mexico.” *Biodiversity & Conservation*. 6, 89-97.

**Please reference *Magnolia* Featured Selections Map pdf
for locations of these magnolias at UDBG.**