



Scientific: *Maytenus phyllanthoides*

Synonym: *Tricerna phyllanthoides*

Botanical Family: *Celastraceae*

Common Names: mangle dulce, Florida mayten, sweet mangrove.

Botanical Characteristics:

The mangle dulce is a long-lived desert adapted evergreen shrub (or small tree) growing 0.7 m – 4 m (6-12 feet) tall and 3 – 4 m (9-15 feet) wide (2, 3, 6, 11). Evergreen, woody, broadleaf perennial shrub, slow to initially establish in the landscape, but growth rate later increases with age and water availability, sprawling and mounding when mature, heights ranging from 4- to 10-feet tall with typically greater spread (5) It has light grey bark at maturity with young stems having a reddish brown color and puberulent (3, 11) It is unarmed, and highly branched (4). The medium green colored leaves

are somewhat succulent, leathery, stiff, elliptic to obovate and 2-4cm (1-2 inches) long. (3, 5, 11). Leaf base is cuneate or rounded and margins are entire to remotely serrulate, the apex is obtuse to rounded and sometimes mucronate (11). While leaves are nearly sessile, short petioles at the leaf bases have a reddish tint (5). The leaves, along with the dense branching give this shrub a medium-fine texture overall (5). Somewhat inconspicuous flowers are creamy white to yellow-green with a reddish calyx, 1.5 cm (3/4 of an inch wide appearing in spring summer and winter from April through November (3). Young fruits are green, oblong, capsules that ripen to a tan color, and open to reveal a seed covered in a bright, red fleshy aril that is 8-13 mm long by 4-6 mm wide (3, 5).

Natural History:

The mangle dulce is native to Mexico and Texas and has been distributed throughout Mexico, Southeastern Florida, Texas, Cuba and the Caribbean Bahamas (6, WCVP) to Bahía Magdalena, Bahía de los Angeles south, and on the Gulf of California islands (2, 3). While this species resembles a mangrove and, is commonly called “sweet mangrove” and, while actually does occur on saline soils near the coast, it does not grow in the water as true mangroves do (8). Mangle dulce forms thickets from runner-like branches which root at the nodes on mounds of clay or sand around the coastal prairies and marshes, often on saline soil on the South Texas coast, Florida, Baja, California and into Mexico. Its native habitats include hammocks, dunes, edges of mangrove forests, coastal prairies, marshes, clay or sand-clay mounds, and often saline sites. With distance from the water, or on saline soils inland, its growth is usually more stunted (3).

Cultivation:

Mangle dulce is propagated using semi-hardwood cuttings, but occasionally by seed (5). It has high tolerance to heat and to cold being assigned an USDA hardiness rating of 9-11 and a Sunset rating of 12, 13, 20-24 (2, 5, 7). It suffers some tip die back at temperatures below -9C (15F) (7). Growth is best in full sun as partial shade results in a sparse and somewhat etiolated, open growth habit (2, 5, 7). It is tolerant to a variety of soil types, including sandy, clay, and loamy soils (7). It can also tolerate soil pH that ranges from acidic to slightly alkaline (7). It is also very tolerant of soil salinity, and salty to brackish water and poorly drained sites (2, 5). The plant requires low to moderate amounts of water with low water most of the year in the southwestern US, and more regular irrigation in the hottest months (2, 5, 7). Its form is naturally rounded, so pruning for shape is not needed. Further, if placed so that it has space to achieve its full, mature size, pruning will also not be needed to control spread (5). The mangle dulce is not known to be susceptible to any pests or diseases (5).

Ethnobotany

The densely branched habit of the plant supports wildlife by providing refuge to whitetail deer (*ma'aso*; *Odocoileus virginianus* subsp. *sinaloense*) (8). Celastraceae species have a long tradition of use in folk medicine and agriculture and intensive research in modern times have resulted in the isolation of a large number of secondary metabolites with a wide range of bioactivity (9). In Mayo Ethnobotany (8), it reports the leaves of this plant are used medicinally - when mixed with petroleum jelly, and applied to sores that will not heal, healing is reported (8). Others report chewing on leaves alleviates stomach problems (8). Leaves have been used as remedies for toothache and scurvy (4, 8). A 2014 study showed this plant contains lyoniresinol the which has been demonstrated as an antitrichomonal agent (which are antiprotozoal agents that act on trichomonas parasites) (10). The leaves of the plant are used as a forage for goats and the branches, which readily break off, make good firewood. The gum is used as a substitute for gutta percha (a gum derived from *Palaquium gutta* tree in the Sapotaceae family) to bind splints for broken limbs, to fill golf balls and for use as an insulating material (4). In landscapes, mangle dulce is used as a border, foundation planting, hedge

or screen when planted in mass and it is also useful for erosion control (7). In oasis or xeric landscapes, it serves as a good filler shrub that provides a brighter medium green to the more typical grey-green plants in southwest landscapes (5). It is very popular in native plant gardens in Florida and Texas but underutilized and less often grown in nurseries in the southwest. An Arizona nursery promotes the plant for use in large containers though, given its tolerance to many environmental conditions prevalent in Arizona, perhaps it deserves more attention in the landscapes throughout the southwest (2, 4).

Resources:

1. Jones, Warren D, and Charles M Sacamano. *Landscape Plants for Dry Regions: More Than 600 Species from around the World*. Fisher Books, 2000.
2. Mt States Wholesale Nursery mswn.com
3. Ocean Oasis Field Guide <https://www.sdnhm.org/oceanoasis/fieldguide/mayt-phy.html>
4. Texas A&M <https://aggie-hort.tamu.edu/ornamentals/nativeshrubs/maytenusphyllan.htm>
5. ASU <https://www.public.asu.edu/~camartin/plants/Plant%20html%20files/maytenusphyllanthoide s.html>
6. Ladybird Johnson https://www.wildflower.org/plants/result.php?id_plant=MAPH
7. Horticipia <https://www.horticipia.info/Plants/011/mayphy000.html>
8. Mayo Ethnobotany <https://academic.oup.com/california-scholarship-online/book/19452/chapter/178097079>
9. Bassocchi et al. (2017) https://www.researchgate.net/publication/313579008_Bioactive_diterpenoids_from_Celastraceae_species
10. Moo-Puc et al. (2014) https://www.researchgate.net/publication/273255594_Isolation_and_antitrichomonal_activity_of_the_chemical_constituents_of_the_leaves_of_Maytenus_phyllanthoides_Benth_Celastraceae
11. World Flora Online <https://www.worldfloraonline.org/taxon/wfo-0000453546;jsessionid=9E0AE2873CA0AE904C1762279A088359#D>