

Annona glabra

Family: Annonaceae



A single tree, early July



Early July

Common Names: Pond Apple, Alligator Apple
Synonyms (Discarded Names): *Annona humboldtiana*, *A. humboldtii*, *A. laurifolia*, *A. palustris*
Origin: Florida, the Bahamas, Caribbean, Central and South America, West Africa
U.S.D.A. Zone: 10A-12B (30°F Minimum)
Plant Type: Large shrub to medium-sized tree
Growth Rate: Moderate
Typical Dimensions: 30-40' tall x 10-20' wide
Leaf Persistence: Deciduous, semi-deciduous
Leaf Type: Simple
Flowering Months: Abundant in spring, but can be year-round
Light Requirements: Medium, high
Salt Tolerance: Moderate
Drought Tolerance: Medium
Soil Requirements: Wide
Nutritional Requirements: Low
Environmental Concerns: Low
Major Potential Pests: Fruit rot
Propagation: Seeds
Human Hazards: None
Uses: Mitigation, restoration

Distribution and Ecology

Pond apple (*Annona glabra*) is native from Florida to the Yucatan peninsula and to south Brazil. It appears to have naturally colonized West Africa from seeds transported on water from Tropical America. Manatee County on the west coast and Brevard County on the east represent the northern limit of its distribution in Florida. Pond apple occurs at the margin of sloughs, streams and lakes over a wide area. It flourishes often in the presence of bald cypress trees. The species once formed an almost continuous forest at the southern end of Lake Okeechobee but drainage has destroyed this habitat. Today, the largest populations are in the Everglades and small groupings can be found throughout South Florida. The Tree is a vital component of the Florida Comprehensive Everglades Restoration Plan. Ironically, it has become naturalized and a major weed in northeast Queensland, Australia. It is also a problem in Fiji and Sri Lanka.



Florida Everglades, early September



North Fort Myers, early October

Growth Habit

Pond apple trees typically grow 30 to 40 feet tall and 10 to 20 feet wide. The crown is broad and irregular. Trees usually form a single short trunk. However, quite frequently, clusters of seedlings produce what appears to be tightly-packed multi-stemmed trees. With age, trunks become crooked displaying up-curved branches. In wet sites, older specimens develop enlarged, fluted or buttressed bases, somewhat like bald cypress trees (*Taxodium distichum*).

There is great variation in bark appearance. The youngest trees have light gray bark which may be smooth or scaly. Older trees may retain their gray colored bark but others develop reddish-brown colorations. Bark on older trees are fissured with deep vertical grooves. Wood from the tree is light brown, soft and cork-like. Growth rings are present but indistinct and not necessarily annual. Twigs are spotted with reddish brown, warty, raised projections called lenticels.

Renewal growth is in late spring, usually April in South Florida. First, old leaves become spotted and fall. Afterwards, trees are either briefly deciduous or semi-deciduous. There is a quick exchange of old and new leaves. This process initiates flowering and eventually fruit production.



Buttressed base



Tightly-packed cluster of trees



Gray scaly bark on young tree



Gray fissured bark on mature tree



Reddish-brown bark



Briefly deciduous trees, early April



Same trees, early May

Leaves

The leaves are simple, entire and alternately arranged. Leaf blades are ovate to oblong, commonly 4 to 8 inches long and 2 to 4 inches wide. Leaves on basal suckers are the largest. Leaf blades are tapered at the base and have a short pointed apex. Leathery, glossy, and dark green above, they turn upward to form a v-shape along a prominent midrib. The petioles are short, usually 0.5 to 1.0 inch long. If crushed, the leaves emit a characteristic *Annona* fragrance that can be used to identify the tree in case of potential confusion.



Older dark green leather leaves and newer light green supple leaves

Flowers and Flowering

The flowers appear solitary with an occasional multiple at the base of the new shoots. Perfect flowers are attached to stout stems. There are two whorls of fleshy petals with the three large outer petals enclosing the three smaller inner petals. The petals are distinctly triangular shaped. The outer petals are creamy-white to pale greenish yellow when fresh and from 0.5 to 1 inch long. The inner three petals are narrower, whitish or dull greenish outside, usually blood-red within or spotted with red or wine-color near the base. Flowers begin to emerge in abundance in the spring, but depending on the environment, flowers can be produced year-round. Blooms open at night and emit their fragrance as a lure to entice beetles to enter the center chamber to effect pollination between the stamens and stigmas.



View from the side, mid-May



View from the top, mid-May

Fruits

Fruits are oblong to elliptical-shaped. They are usually 3 to 5 inches long and 2.5 to 3.5 inches in diameter. The surface is slightly outlined, but never elevated or scaly like other fruits in the genus. Indehiscent mature fruits begin falling from trees in late summer. However, most fruits mature in the fall and into winter. They drop from trees while still green or when greenish-yellow. Both fruits and seeds float and remain viable for many months.

Mature fruit have a sweet aroma. The pulp is fleshy, mealy and pithy. The color is yellowish-orange. They are an important wildlife food favored by birds, raccoons, squirrels, turtles and even alligators. Ripe fruits are considered edible but unpalatable to humans. Each fruit frequently has more than 100 caramel-colored, brown or black seeds most about 0.5 inches long. Seeds are not edible and are poisonous. When ripe, the thick stem easily pulls away from the fruit leaving a central cavity.

The generic name, *Annona*, was taken from the Arawak Indian word anor for sweetsop. The sweetsop, *Annona squamosa*, is closely related. The specific name, *glabra*, is from the Latin for smooth and refers to the pond apple fruit.



Immature fruits, late July



Immature oblong fruit,
late August



Immature elliptical fruit,
late August



Mature fruit, late August. This fruit
fell from the tree while still green



Same fruit with partially removed
fruit stem and exposed central
cavity



Seeds

Use and Management

Pond apple is rarely found in the urban landscape. Contrary to popular belief, the tree is probably adaptable to landscape conditions in much the same way that bald cypress and southern red maples are utilized. However, its messy seasonal fruit is the biggest deterrent from popularizing this native species. The tree is most useful in semi-wild acreage with low spots that flood with rainwater and are slow to dry or drain.

It requires minimal to no attention as it tolerates a wide range of soil pH, has a moderate salt tolerance, prefers full sun but it will tolerate considerable shade. Further, pond apples have low nutritional requirements and fertilization is unnecessary. It does not tolerate long term flooding by salt or brackish water. Care should be taken to dispose of fallen fruits to reduce attraction by wildlife. Decomposed fruits produce numerous seedlings, which, if not managed will eventually result in unwanted trees.

One of the most prominent use of the pond apple is as grafting stock for one of its more desirable (in terms of fruit palatability) cousins, such as sweetsop trees. Escaped seedlings have become a major weed in Queensland Australia and other places.

The seeds are not edible. They contain especially potent chemicals that can be used to poison fish. People have been blinded by getting powder from seeds in their eyes. Similarly, seeds and leaves are insecticidal. Leaves placed in hen nests kill lice on the fowl.



Cultivated trees in urban setting



Lawn grown tree



Landscape trees by sidewalk and parking lot

Relatives of *Annona glabra*

Several species of the genus *Annona* have been successfully introduced to the warmest areas of South Florida. Among these are *A. squamosa* (sweetsop or sugar apple), *A. muricata* (soursop) and *A. reticulata* (custard-apple or bullock's heart). Unlike pond apple, the fruits from these three trees are highly prized for their palatability.



Sugar apple



Soursop



Custard apple



Early September



Crooked trunk with upward curving branches



Late October

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