

Native Tree Sheet:

ORANGE MANJACK

Cordia rickseckeri

Borage Family (BORAGINACEAE)

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Common Names

Orange Manjack (U.S. Virgin Islands), San Bartolomé (Puerto Rico).

Description

A medium-sized, partially deciduous tree reaching over 40 feet in height. The canopy is dark green and composed of relatively large leaves with a pronounced orange mid-vein. The bark is dark gray, thick and fissured. Alternate, simple leaves are stiff and up to 9 inches long and 4 inches wide. Tiny, stiff hairs make the upper surface of the leaves feel quite rough. Their bright orange venation with pronounced mid-vein makes the canopy showy. Bright orange flowers are tubular and grow in clusters from leafless twigs. This tree is sometimes mistaken for the closely related geiger tree (*C. sebestana*), which does not have orange leaf veins.

Distribution and Ecology

Orange manjack is an uncommon tree, found only in Puerto Rico and the Virgin Islands. Within the region it is abundant, normally found at lower elevations and coastal areas in both wet and dry sites. It is a classic example of a Caribbean dry forest tree. It has excellent resistance to drought, salt and wind. The flowers are visited by humming birds while bats eat the fruit and disperse seeds.

Flowering and Fruiting

Showy orange tubular flowers are produced in panicles or branched clusters on leafless branches throughout the year. The fruit is an inch-long, pear-shaped drupe with a thick flesh, becoming whitish, fragrant and sweet at maturity. The light, semi-porous stone at the center of the fruit contains one to four seeds. The fruit weigh approximately 0.18 oz (5g) each and average 87 per pound (193/kg).



Figure 2. Orange Manjack leaf, flower and fruit (Illustration from Little et al)



Figure 1. Large orange manjack leaf with distinct midvein. Inset is a panicle of tube-shaped, orange flowers.

Seed Collection and Processing

Ripe, white fruit can be collected in bunches, directly from the tree or freshly fallen fruit can be collected from the ground. Fallen fruit dry and turn brown quickly and the seeds appear to lose viability within 45 days. The fresh fruit flesh is easily removed from the stone, which quickly turns black when exposed to air. The stones contain 1-4 seeds with 2 or 3 being most common. There is an average of 240 seeds per pound (530/kg).

Seed Treatments and Germination

Cleaned stones, free of fruit material, can be grown in potting soil in trays or direct seeded in small pots. There is no need to break the stone and remove the seeds. Germination begins between 15 and 40 days. The majority of seeds will germinate within 30 days of each other while a few may continue for months. Several germination trials at UVI-AES averaged 1.16 seedlings per stone without any treatment. The germination rate increased to



Figure 3. The pit or stone at the center of the fruit contain from 1-4 separate embryos. This photo shows the common occurrence of two seeds

1.40 when the seeds were soaked in water for 24 hours. The cotyledons are distinctly thin and wrinkled with pronounced orange venation.

Greenhouse Management

The hardy seedlings can be transplanted to pots quickly and are easily acclimated to full sun. With ample sun and water, seedlings grow rapidly but can be slowed temporarily by withholding water and shading them. The fast growing seedlings are likely to grow roots into the ground if the pots are not turned regularly.

Outplanting and Growth

Growth is rapid both in the greenhouse and in the field. UVI-AES establishment trials indicate these plants grow very suddenly when water is available. Plants without any supplemental water averaged 6.3 inches (16 cm) of growth per month and grew to a height of 16 feet (4.89 m) during the first 30 months. Growth decreases sharply during dry periods and plants drop most of their leaves during extreme drought. Few native trees are faster growing or more resistant to dry conditions, especially considering its large leaf surface area.

Landscape Uses

Orange Manjack is a decorative tree, suited to planting singly or in groups. Its orange flower clusters and leaf venation enhance its beauty. Rapid growth and relatively small size mean it can be used create a large hedge or screen rather quickly in all but the windiest sites. This is an attractive, native alternative for roadside plantings in the dry east end and requires less maintenance and pruning than the commonly used, non-native neem tree.



Figure 4. (top) Cleaned stone ready for planting and the early development stages of orange manjack seedlings.

Figure 5. Seedlings in trays indicate the multiple seeds per stone and the cotyledons are thick with colored orange veins.

Traditional Uses

The fruit is reported to be edible but not palatable. The hard wood was reportedly used in cabinetry, but large trunks are not encountered in the Virgin Islands today.

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Additional Reading

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Little, E.J, Woodbury, R.O. and Wadsworth, F.H. 1974. *Common Trees of Puerto Rico and the Virgin Islands, Second Volume*. Agriculture Handbook No. 449 U.S. Department of Agriculture, Forest Service. Washington, D.C. 1024 p.

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