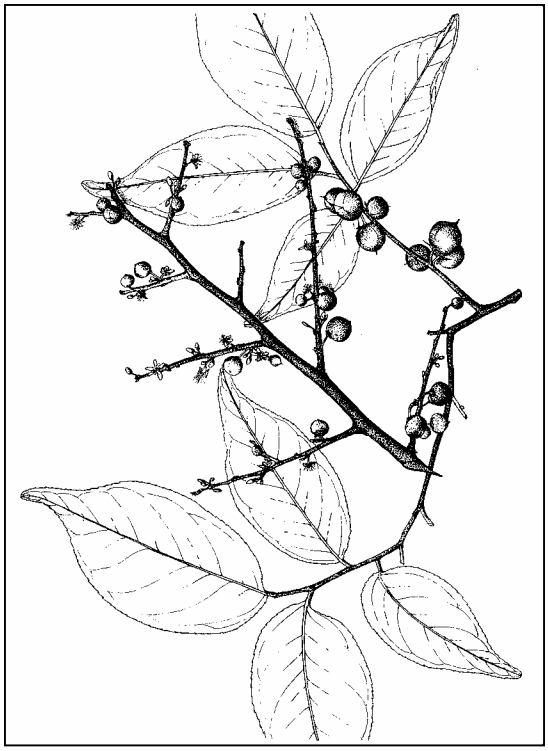
***Casearia decandra* Jacq.** tostado
FLACOURTIACEAE

Synonyms: *Casearia parvifolia* Jacq.
Casearia parvifolia Will.
Casearia albicaulis Risby
Samyda lancifolia Sessé & Moç.



General Description.—Tostado (a name used in Puerto Rico) is also known by wild honey-tree, wild-cherry, pipewood, biscuitwood, jumbie-apple, palo blanco, caracolillo, cerezo, corcho blanco, cotorrerillo, duro-duro, guía mansa, machacomo, tapaculo, limoncaspi, bois jaune, coco-ravet, jaune d'oeuf, and fortuga caspi. It is a shrub or small tree usually 2 to 6 m in height and 2 to 8 cm in diameter at breast height (d.b.h.). Tostado is supported by a strong taproot, somewhat finer lateral roots, and abundant near-surface fine roots. The roots are stiff and ivory-colored. The species usually has a single stem, unless disturbed, and smooth gray bark. The stemwood is moderately hard and moderately heavy. The branches and twigs are numerous, slender, and form a relatively dense crown. The alternate leaves have petioles 2 to 5 mm long, elliptic blades 3 to 9 cm long, with a finely saw-toothed margin. The small white, cream, or greenish-white flowers are born in nearly sessile clusters at the defoliate leaf nodes. The globose fruits are capsules about 8 to 10 mm in diameter, opening on three valves. The fruits are ripe when they turn from greenish-white to cream with a salmon-colored blush or light brown. The fleshy part of the fruit is orange to red. There are one to four, 4- to 5-mm seeds per fruit, depending on fruit size (Howard 1989, Liogier 1994, Little and Wadsworth 1964).

Range.—The native range of tostado covers the islands of the West Indies from Hispaniola south and extends from Honduras through Panama and into South America as far south as Paraguay, Bolivia, and Northern Argentina (Howard 1989, Liogier 1994, Little and Wadsworth 1964).

Ecology.—Tostado grows on well-drained soils ranging from coastal sands to upland clays, and on soils derived from sedimentary (including limestone), igneous, and metamorphic rocks. Annual precipitation in habitat in Puerto Rico ranges from about 900 mm to about 2200 mm. The species grows to altitudes of at least 1,120 m in Brazil (Silva and others 2002). In Bolivia it occurs from 230 to 650 m in elevation (Killeen and others 1993), and in Puerto Rico, it grows from near sea level to over 600 m. Tostado is moderately intolerant of shade. It grows in disturbed areas, forest openings, very rocky sites, and the understories of lower density forests. In southern Brazil, it occurs in the third canopy layer of *Araucaria* forests (Silva and others 2002), and in Bolivia in Amazon forests and savanna woodlands (Killeen and others 1993). In Venezuela, the species functions as a gap-filling species in bush island savannas (San José and others 1991).

Reproduction.—Tostado flowers and fruits irregularly throughout the year in Puerto Rico (Little and Wadsworth 1964), only a minority of plants being in flower or fruit at any time. It is reported to flower from August to October in

Bolivia (Killeen and others 1993). Plants 1 m or more in height in partial or full sunlight bear fruits. Shrubs and small trees bear from hundreds to thousands of fruits each year. A collection of fruits from Puerto Rico weighed an average of 0.340 $\pm$ 0.031 g/fruit. They are extremely variable (CV = 69.9 percent), even within the same plant. Seeds separated from the above collection weighed (air-dried) an average of 0.0406 $\pm$ 0.0005 g/seed or 24,600 seeds/kg. Without pre-treatment, these seeds were sown on commercial potting mix and 91 percent germinated 7 days later (author's observation). Tostado sprouts when cut or burned.

Growth and Management.—Although tostado is usually a shrub, if it survives several decades in fertile sites with sufficient sunlight, it may occasionally become a tree 12 to 18 m in height (Howard 1989, Liogier 1994). Weaver (1990) reported an average 5-year annual diameter increment of only 0.05 cm for plants 4 to 9 cm d.b.h. in St. John, U.S. Virgin Islands. The air-dried specific gravity of stemwood was measured at 0.630 $\pm$ 0.031. The above-ground average carbon content was measured at 0.508. Total above-ground dry weight in plants up to 5 cm d.b.h. can be estimated by the model: Wt = $34.356(D^2S)$, where Wt is weight in grams, D is diameter in cm at 30 cm above the ground-line, S is total stem length in meters, and adjusted r-squared equals 0.977 (Francis 2000).

Benefits.—The stems of tostado are sometimes used as fuel and fenceposts. This is an important honey plant. The small fruits are edible, but almost tasteless according to Little and Wadsworth (1964). However, the author found them sweet and pleasantly flavored. The species furnishes food and cover for wildlife, contributes to biodiversity, and helps stabilize the soil.

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