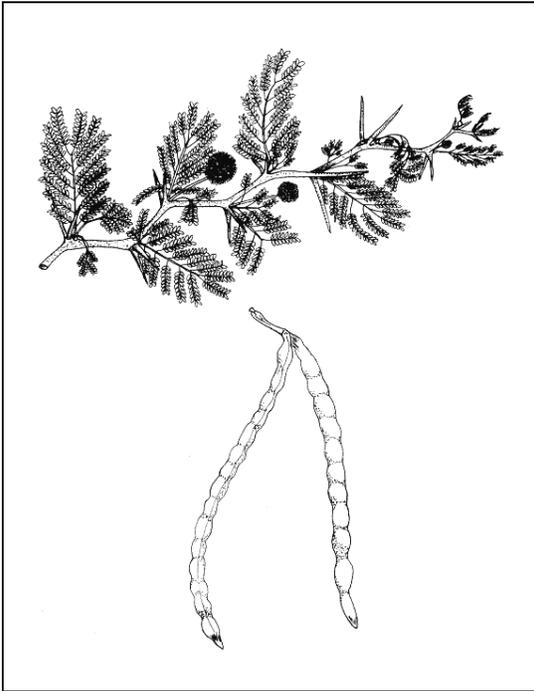


***Acacia tortuosa* (L.) Willd.**
FABACEAE

twisted acacia

Synonyms: *Mimosa tortuosa* L.
PoPONax tortuosa (L.) Raf.
Acacia parvifolia Duss



General Description.—Twisted acacia, also known as acacia-bush, wild-poPONax, sweet-briar, cossie, aromo, cají torcido, and pompons jaunes, is a deciduous shrub or small tree to 6 m in height and 15 cm in trunk diameter. The plant may have single or multiple stems with gray-brown, finely fissured bark and a light brown inner bark with darker streaks. The wood is light brown and hard. The twigs are slender with a zig-zag profile, produce paired, straight spines at the nodes, and have whitish lenticels on the reddish-brown bark. Mature twisted acacia are flat topped and have a thin crown of feathery foliage. The bipinnately compound leaves are 2.5 to 9 cm long with two to eight pairs of pinnae and 10 to 20 pairs of leaflets per pinnae. Solitary or small clusters of heads of tiny, yellow-orange flowers are borne at the leaf axils. Dark brown or black semiwoody, 8- to 14-cm pods (legumes) are straight or slightly curved and somewhat constricted between the seeds. They do not open. The ovoid seeds are brown and hard (Howard 1988, Liogier 1988, Little and others 1974). The chromosome number is $2n = 26$ (Long

and Lakela 1971).

Range.—Twisted acacia is native to Jamaica, Hispaniola, Puerto Rico, the Virgin Islands, the Lesser Antilles, Trinidad, and in South America, Venezuela, Colombia, and Ecuador including the Galápagos Islands (Howard 1988, Instituto Humboldt 2002, Liogier 1988, Little and others 1974). It is endangered in Florida where it may be native or introduced (Little and others 1974, Institute of Systematic Botany 2002). Although several reputable sources list Texas, Mexico, and Central America as being part of the *A. tortuosa* range (e.g., Missouri Botanic Garden 2002, Nature Conservancy 2002), Little and others (1974) and Texas A & M Herbarium (2002) maintain that this western population is in fact *A. schaffneri* (S. Wats.) Herm.

Ecology.—Twisted acacia is intolerant of shade and only moderately competitive. It finds conditions for establishment and growth to reproductive age in disturbed, dry areas. Disturbance since European colonization has been by heavy grazing, fires, excessive timber harvest, and clearing for farming or pasture improvement. One of the most common plants of disturbed areas in Curaçao is twisted acacia (Carambi Foundation 2002). It is found on shell mounds and along roadsides in Southern Florida (Nelson 1996). The species grows in coastal areas of Puerto Rico and its offshore islands in areas that receive from 750 to about 1100 mm of precipitation. The plant colonizes well-drained soils of the full range of textures derived from both sedimentary and igneous rocks. Most of these soils are neutral to mildly alkaline. Twisted acacia is not damaged by mild salt spray. It is usually ignored by cattle and tolerates browsing by goats.

Reproduction.—Twisted acacia flowers intermittently throughout the year (Little and others 1974). Bees and other insects pollinate the flowers (Treguide 2002). A collection of pods from Puerto Rico contained an average of 12.4 seeds/pod and a range of eight to 15 seeds/pod. The air-dried seeds separated from them averaged

0.0440 ± 0.0004 g/seed or 22,700 seeds/kg. These were mechanically scarified (nicked) and incubated on moist blotter paper. Ninety-nine percent germinated between 5 and 21 days after sowing (author's observation). Because of the hard, impermeable seed coat, germination without scarification is low and erratic. Any technique that perforates the seed coat will work. One source (Treeguide 2002) recommends placing the seeds in boiling water, immediately removing the heat source and letting the seeds soak for 24 hours. Germination is epigeal. The seeds are dispersed by herbivores, particularly ruminants that eat the pods. Seedlings often emerge in large numbers, but nearly all are consumed by grazing animals before they have a chance to become woody and thorny.

Growth and Management.—Although acacias can be propagated with cuttings, the use of seeds is recommended (Bonsai Clubs International 2002). No management experience has been published; however, nursery production and field establishment will probably be as easy as it is for other acacias. Control of twisted acacia along with other secondary dry-forest species has been accomplished in several areas in Puerto Rico and the U.S. Virgin Islands by bulldozing. The use of heavy disks might be a better option where removal of woody debris is not required.

Benefits.—Twisted acacia helps protect the soil in its disturbed habitat. It is listed as a nitrogen-fixing species (Winrock International 2002). The seeds are eaten by the threatened yellow-shouldered amazon parrot (*Amazona barbadensis*) in Bonaire and probably other parts of its range (Island Resource Foundation 2002). The species serves as cover for wildlife species. Cattle and other livestock eat the pods while goats and sheep browse the foliage, especially when other forage is scarce. The wood is used to a limited extent for fuel. Twisted acacia plants are used to create bonsai plants (Bonsai Clubs International 2002). The species has been grown and pruned for hedges (Little and others 1974).

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