

Bursera simaruba

gumbo-limbo, almácigo

LOCAL NAMES

English (gum tree, turpentine tree, Mexican white beach, incense tree, West Indian birch); French (bois d'encens, chiboue, chique, gommier blanc); Spanish (gumo-limbo, almácigo, desnudo, indio desnudo, Indo Desnudo, chacaj chaca-jjote, jiñocuave, almácigo blanco); Trade name (almácigo, gumbo-limbo)

BOTANIC DESCRIPTION

Bursera simaruba is medium-sized, deciduous tree, 18-30 m tall, with a relatively thick trunk and a diameter at breast height of 60-80 cm. It has large, spreading, crooked branches and thin foliage. This aromatic tree is easily recognized by the smooth, reddish-brown or copper-coloured bark, which peels off in papery flakes and exposes the greenish-brown layer beneath.

Leaves compound, arranged in a spiral, 15-30 cm long, with 7-13 leaflets, each of which is 4.5-9 cm long and 2-4 cm wide. Leaflets are bright or dark green, ovate-lanceolate and oblong with an acuminate apex and an asymmetric base.

Flower clusters are terminal and lateral, branched and narrow; flowers are on slender, usually short stalks; male and female flowers are mostly on different trees, but some flowers are bisexual; 5 calyx -toothed; petals 5; stamens 10; pistils with a 3-celled ovary; short style; stigma 3-lobed.

The drupelike fruit is diamond shaped, slightly 3 angled, pointed at both ends, dark pink, splitting into 3 parts, with usually 1 whitish, 3-angled seed.

BIOLOGY

May be either dioecious or monoecious. In Mexico, insects, especially honeybees, pollinate it. Mammals and birds disperse the seeds.

(L.) Sarg.

Burseraceae



fruits (David Lee, Professor and Chairperson, Department of Biological Sciences, Florida International Unive)



flowers (David Lee, Professor and Chairperson, Department of Biological Sciences, Florida International Unive)



habit (David Lee, Professor and Chairperson, Department of Biological Sciences, Florida International Unive)

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ECOLOGY

Generally found in dry forests, but sometimes in wetter forests; common in advanced secondary growth.

BIOPHYSICAL LIMITS

Altitude: 0-1000 m, Mean annual temperature: 18-25 deg. C, Mean annual rainfall: 800-3000 mm

Soil type: Grows on diverse soils, for example Lithosols, Vertisols and Oxisols.

DOCUMENTED SPECIES DISTRIBUTION

Native: Belize, Colombia, Cuba, Dominican Republic, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Puerto Rico, United States of America

Exotic: Costa Rica



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

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PRODUCTS

Fodder: Branches are cut for cattle fodder.

Fuel: When thoroughly dry, the wood is used as firewood or charcoal.

Timber: Used for veneer, as plywood for interior use, in rustic furniture, for rough boxes and crates, as handles for tools, as soles for sandals, for match sticks and toothpicks, to build cabinets, to make decorative articles.

Gum or resin: *B. simaruba* yields a balsam resin known as American elemi, cachibok or gomart. The resin is concentrated, dried and used in South America as incense in churches.

SERVICES

Shade or shelter: Planted as a shade tree on streets and beaches.

Ornamental: Because of the attractive coloured bark, the tree is planted as an ornamental in dry soils of southern Florida, where it is native.

Boundary or barrier or support: Used as living fence to delimit pastures, with stakes 1-3 m long and 10-15 cm thick, and spaced 3 m apart or more.

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TREE MANAGEMENT

There is not much literature available concerning forest management of *B. simaruba*. In Mexico, *B. simaruba* is not managed and is cut down when reaching a d.b.h. of 40 cm or bigger, if it has a straight stem.

As *B. simaruba* regenerates rapidly under natural conditions, plantations from seed are virtually unknown.

GERMPLASM MANAGEMENT

Seed storage behaviour is orthodox. Seeds remain viable for 10 months.

PESTS AND DISEASES

The aromatic resin of *B. simaruba* is a natural insect repellent, and no pests or diseases are reported for this species (NAS, 1983). In Costa Rica, white-faced monkeys eat young branch tips in May when the leaves are starting to grow, which can cause extensive damage, although the tree contains volatile terpenes which could help to protect it against subsequent defoliation.

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FURTHER READING

Burns RM, Mosquera MS and Whitmore JL (eds.). 1998. Useful trees of the tropical region of North America. North American Forestry Commission Publication Number 3. North American Forestry Commission.

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MacMillan HF et al. 1991. Tropical planting and gardening. Malayan Nature Society.

National Academy of Sciences. 1983. Firewood crops. Shrub and tree species for energy production. Vol. 2. National Academy Press. Washington DC.

Villanueva Avalos JF, Sanchez Rodriguez R, Carrete Carreon FO, Mena Hernandez L. 1996. Establishment of different tree species for live fences on the Nayarit coast. pp. 64-70.

SUGGESTED CITATION

Orwa C, A Mutua, Kindt R, Jamnadass R, S Anthony. 2009 Agroforestry Database: a tree reference and selection guide version 4.0 (<http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp>)