

LOCAL NAMES

Filipino (balete); Indonesian (wunut); Thai (sai)

BOTANIC DESCRIPTION

Strangling deciduous tree, without aerial roots, up to 30 m tall and 70 cm in diameter; branching starts 2 m above the ground and twigs are brownish-grey; in shallow soil the lateral roots near the soil surface can spread 4-7 m away from the base of the trunk. Bark whitish-grey, slightly smooth and fissured, flexible and durable, 10-17 mm thick; inner bark whitish, exuding white sap. The blunted spearhead-like bud extends from the node while the leaf is still intact.

Leaves alternate, oblong, ovate-oblong, or elliptical, 9-20 cm x 4-10 cm, with a prominent light green midrib and a light green petiole of 2-5 cm length; leaf margin entire; leaf-blade broadly cuneate or rounded at base, pointed at apex, smooth to hairy, purple when young, light green beneath and dark green above when mature.

Fruit a short-ellipsoid fig, 3-5 cm x 2-2.5 cm, solitary, occasionally in pairs, green when young, gradually turning from yellow to reddish-brown or black when ripe.

Seeds small, hard and numerous.

F. subcordata is subdivided into two varieties by Corner: var. *subcordata*, the typical variety; and var. *malayana* Corner, with large subcylindrical figs 3.5-5 cm x 2-2.5 cm, and elliptical to narrowly obovate, thick leaves, 11-16 cm x 4-7 cm, occurring in Peninsular Malaysia and in northern Borneo.

BIOLOGY

Under natural conditions, reproduction starts when the tree is 5-6 years old. Flowering and fruiting take place during the dry season when the tree sheds its old leaves. The mature fruit falls off when the new season's leaves are fully expanded.



tree (TopTropicals.com)



Rooting system (TopTropicals.com)

ECOLOGY

In Indonesia, *F. subcordata* grows well in dryland and hilly areas.

BIOPHYSICAL LIMITS

Altitude: Up to 800 m; Annual rainfall: 900-2500 mm; Mean daily maximum temperatures: 26-39 deg. C.

Soil types: It tolerates a wide range of soil types, growing well on limestone-based soil and on sloping land of 25 cm soil depth.

DOCUMENTED SPECIES DISTRIBUTION

Native: Indonesia, Nepal, Vietnam

Exotic:



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.

PRODUCTS

Fodder: The foliage of *F. subcordata* is used as a feed supplement during the wet season and as the sole diet during the dry season for ruminants in some dryland farming areas. The young fruit can be fed to ruminants. The leaves contain 1.2-1.8% N, crude fibre 26-30%, N-free extract 42-47%, ash 8-11%, total digestible nutrient 33-35% and massic energy of DM is 10 000-19 000 kJ/kg.

Fuel: The wood is used as fuel for brick and limestone kilns, and the smaller branches are used for household firewood.

Timber: The timber is not hard enough for building houses, making farm implements or woodcarving.

Other products: The mature stem is used for farmyard posts. The bark is used for making string for farm tools.

SERVICES

Shade or shelter: The tree is used as shade for livestock, for storing crop residues, for reclamation of denuded land, for protecting soil on sloping land and as a windbreak.

TREE MANAGEMENT

Plantation: *F. subcordata* can be planted at 5-10 m spacing when used as fence border and at 10 m x 10 m within and between rows spacings when used as windbreak or fodder bank.

Husbandry: When planted as a cutting, it can be lopped 3 years after planting. Complete defoliation can be carried out before the end of the dry season every year, or partial defoliation twice during the wet season and twice during the dry season. For accumulation of in situ fodder, the tree should be lopped 3-4 months before the dry season so that the foliage is well developed during the dry season, otherwise the leaves will shed during the period of flower and seed formation.

The annual fodder and firewood DM yields of a 3-year-old *F. subcordata* range from 12-20 kg and 30-65 kg per tree respectively. As the tree grows older, the annual fodder and firewood DM yields can increase up to 140-225 kg and 240-350 kg per tree respectively. The foliage of a 25-year-old tree can feed one animal of 250 kg live weight for 20-30 days.

Many species can be grown with *F. subcordata* including grasses such as *Cenchrus ciliaris* L., *Panicum maximum* Jacq. and *Urochloa mosambicensis* (Hack.) Dandy; herbaceous legumes such as *Stylosanthes hamata* (L.) Taub., *Stylosanthes scabra* Vogel, and *Centrosema pubescens* Benth.; shrub legumes such as *Leucaena leucocephala* (Lamk) de Wit and *Gliricidia sepium* (Jacq.) Kunth ex Walp. and fodder trees such as *Lanea coromandelica* (Houtt.) Merrill and *Hibiscus tiliaceus* L.

GERMPLASM MANAGEMENT

Weight of a fresh fruit ranges from 10-20 g, and there are 1000-2000 ripe seeds per g.

PESTS AND DISEASES

F. subcordata is generally resistant to diseases and pests. Red ants (*Phagirolepis longipis*) and black ants (*Formica fusa*) living in the foliage cause no ill effect to the host, but may inconvenience the farmer lopping the tree.

FURTHER READING

Backer CA, Bakhuizen van den Brink Jr, RC. 1963-1968. Flora of Java. 3 volumes. Noordhoff, Groningen, the Netherlands. Vol. 1 (1963) 647 pp., Vol. 2 (1965) 641 pp., Vol. 3 (1968) 761 pp.

Corner, EJH. 1965. Check List Of Ficus In Asia And Australasia, With Keys To Identification. Garden's Bulletin, Singapore. 21:1-186.

Nitis IM 1992. Ficus subcordata Blume. In: 't Mannetje, L. & Jones, R.M. (Editors): Plant resources of South-East Asia No 4. Forages. Wageningen: Pudoc-DLC, the Netherlands. pp 129-131.

Panday K. 1982. Fodder trees and tree fodder in Nepal. Swiss Federal Institute of Forestry Research, Birmensdorf, Switzerland. 107pp.

SUGGESTED CITATION

Orwa C, Mutua A , Kindt R , Jamnadass R, Simons A. 2009. Agroforestry Database:a tree reference and selection guide version 4.0 (<http://www.worldagroforestry.org/af/treedb/>)