

LOCAL NAMES

English (vada tree, East Indian fig tree, banyan tree, Indian banyan tree);
Hindi (peddamarri, al, bahupada, vada, vatam, ala, bargad, vad, bar)

BOTANIC DESCRIPTION

Ficus benghalensis is a very large (wide spreading), fast growing, evergreen tree growing to a height in excess of 30 m and known to reach more than 180 m in diameter with a forest of secondary trunks and many aerial roots supporting heavy lateral branches. Like other figs, banyan fig often begins life as an epiphyte, growing on other trees (especially palms) until it sends its own roots into the ground, often encircling its host, and eventually displacing the host tree.

Leaves broadly ovate, obtuse, the base cordate; lamina 10-30 cm long, 7-20 cm wide, very coriaceous, puberulous beneath; petiole 1.5-7 cm long, 5 mm wide, puberulous; stipules thick, 1-1.5 cm long and wide, puberulous.

Figs paired, sessile, puberulous, depressed-globular, 1.5-2 cm diam., maturing orange to red; ostiole broadly unbonate, enclosed by 3 flat apical bracts; basal bracts 3, foliaceous, obtuse, 3-7 mm long, 10-5 mm wide, puberulous.

Male flowers pedicellate; tepals 2 or 3. Female flowers sessile; tepals 3 or 4. Gall flowers pedicellate; tepals 3 or 4.

BIOLOGY

The fruit (syconium or fig) and reproduction systems of species in the genus *Ficus* are unique. Each species of *Ficus* has an associated species of agaonid wasp (Hymenoptera: Chalcidoidea: Agaonidae). *Ficus* species can only be pollinated by their associated agaonid wasps and in turn, the wasps can only lay eggs within their associated *Ficus* fruit. For successful pollination and reproduction of *Ficus* species to occur, its associated pollinator wasp must be present. Conversely, for successful reproduction of agaonid wasps to occur, their associated *Ficus* species must be present. The pollinator wasp for *F. benghalensis* is *Eupristina masoni* Saunders.



Tree at Kahului, Maui, Hawaii (Forest & Kim Starr)



Fruits at Kahului, Maui, Hawaii (Forest & Kim Starr)



Roots at Kahului, Maui, Hawaii (Forest & Kim Starr)

ECOLOGY

Banyan tree occurs naturally in monsoon and rain forests.

BIOPHYSICAL LIMITS

Altitude: From low altitudes to 610 m

Temperature: above 23°C, does not like draughts. Houseplants should be kept at 38-48°C in the summer and above 23°C in winter

Soil type: tolerant of most soil conditions, but for an indoor plant it prefers a soil that is well drained but kept moderately moist.

DOCUMENTED SPECIES DISTRIBUTION

Native: China, India, Malaysia, Myanmar, Thailand

Exotic: American Samoa, Australia, Fiji, French Polynesia, Guam, Kiribati, Northern Mariana Islands



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

Food: In India, the edible leaves are used as plates. Fruits are used to prepare Sherbet traditionally.

Medicine: It is astringent to bowels; useful in treatment of biliousness, ulcers, erysipelas, vomiting, vaginal complaints, fever, inflammations, leprosy. According to Unani system of medicine, its latex is aphrodisiac, tonic, vulnerary, maturant, lessens inflammations; useful in piles, nose-diseases, gonorrhea etc. The aerial root is styptic, useful in syphilis, biliousness, dysentery, inflammation of liver etc.

Timber: can be used for well-curbs, furniture etc.

Fodder: Leaf (Crude protein 9.63%) lopped for fodder.

Other product: It is suitable for paper pulp.

SERVICES

Ornamental: The plant is grown for ornament purposes, makes good indoor bosnai. This Ficus is a meeting place for people peddling their wares and is well publicized as an attraction to tourists in the island of Maui. It is often planted around temples and is considered sacred by both Hindus and Buddhists.

Forage & shelter: Various birds have been observed to be foraging and roosting on *F. benghalensis* trees. Such birds in Maui include mynah birds (*Acridotheres tristis tristis*), blue faced doves (*Geopelia striata*), lace necked doves (*Streptopelia chinensis*), and house sparrows (*Passer domesticus*).

Erosion control: It is also planted for soil conservation and reforestation.

TREE MANAGEMENT

Ficus are suitable for most styles of bonsai, but are especially suitable for styles, which make use of their property of extensive rooting, such as air-root and root-over-rock styles. Leaf pruning can be used to reduce leaf size. Ficus can be wired, but become quite stiff when lignified, and thus are best wired while the shoots are a bit green.

Repotting should be done every 2-3 years, although at times yearly. The best time is before a new growth spurt, especially in spring, but it can literally be repotted any time of year if reasonable after-care is given. Roots can easily be pruned by half.

When fig trees germinate on and grow as epiphytes on other desirable trees, concrete structures, and fenceposts or as lithophytes on rock walls, stone or concrete buildings, and in cracks on bridges and turnpike overpasses that may be on steep dangerous terrain, the unwanted Ficus should be carefully and successfully killed while preserving the host. Without control, the host tree or structure is in danger of destruction through strangulation.

Though it is a good shade tree, it is unsuitable for the urban landscape due to its immense size and extensive root system.

GERMPLASM MANAGEMENT

The seeds exhibit orthodox seed storage behaviour. They can maintain viability for 2 years in open storage at room temperature.

PESTS AND DISEASES

The following pests and diseases have been reported to be associated with Ficus species: mealybugs, scale insects, spider mites, root knot nematodes, eelworm, black fly and thrips occur under most environmental conditions, anthracnose fungus and bacterial leaf spots, crown gall, twig dieback, and Southern blight.

FURTHER READING

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SUGGESTED CITATION

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