Ficus religiosa

L.

Moraceae

LOCAL NAMES
Bengali (asvattha); English (wisdom tree,sacred ficus,peepal,bodhi tree); Hindi (pipal); Malay (avasai,arasu); Spanish (higuillo,álamo); Tamil (drasi,avasi)

BOTANIC DESCRIPTION
Ficus religiosa is an evergreen or deciduous tree, 20 m tall and 1.5-2 m dbh, irregularly-shaped, with wide-spreading branches and without aerial roots from the branches. The trunk is regularly shaped, often with low buttresses. Bark is grey with brownish specks, smooth, exfoliating in irregular rounded flakes.

Leaves alternate, spirally arranged and broadly ovate, glossy, coriaceous (leathery), dark green leaves, 10-18 by 7.5-10 cm, with unusual tail-like tips, pink when young, stipulate, base-cordate. Petioles is slender and 7.5-10 cm long. Galls on leaves.

Flowers axillary sessile, unisexual.

Figs in pairs, rounded, flat-topped green, to 1.5 cm across, axillary, sessile, smooth, ripening to purple with red dots, basal bracts 3 and broad.

The specific epithet ‘religiosa’ alludes to the religious significance attached to this tree. The prince Siddhartha is said to have sat and meditated under this tree and there found enlightment from which time he became a Buddha. The tree is therefore sacred to Buddhists and is planted beside temples

BIOLOGY
F. religiosa flowers in February and fruits in May to June. New leaves appear in April in India. Each species of Ficus has an associated species of agaonid wasp (Hymenoptera: Chalcoidea: Agaonidae) but pollinator wasp for the native F. aurea, Pegoscapus jimenezi (Grandi), has been found intruding into syconia of F. septica and F. religiosa. The pollinator wasp for F. religiosa is Blastophaga quadraticeps.

Various birds are potential dispersal agents of F. religiosa seeds including mynah birds (Acridotheres tristis tristis), blue faced doves (Geopelia striata), lace necked doves (Streptopelia chinensis), Japanese white-eye (Zosterops japonicus), Northern cardinals (Cardinalis cardinalis), and house sparrows (Passer domesticus). Other animals such as bats, pigs, rodents, parrots, and monkeys also disperse the fruits.

When seeds are dropped on other trees, they germinate. The seedlings rely on the host plant only for anchorage as F. religiosa does not parasitize on other plants. They derive their nutrition from the air and rainfall, until the roots reach the ground.

Habit at MCC Kahului,
Maui, Hawaii (Forest and Kim Starr)

Habit at MCC Kahului,
Maui, Hawaii (Forest and Kim Starr)

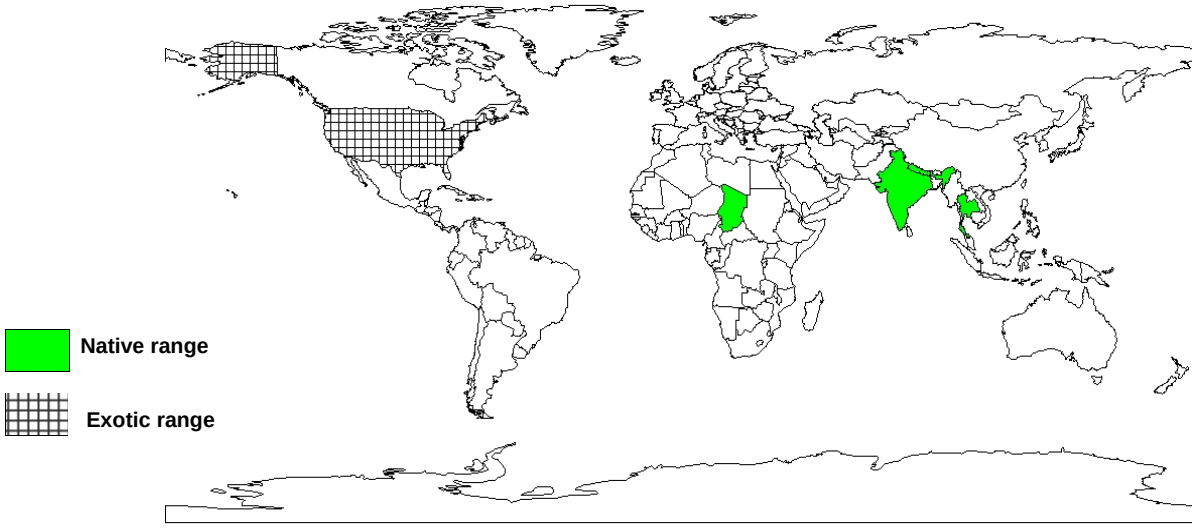
Leaf and fruit at MCC Kahului,
Maui, Hawaii (Forest and Kim Starr)

ECOLOGY
It is found scattered in forests, where it propagates as an epiphyte on other trees especially widely found in uplands and plane area.

BIOPHYSICAL LIMITS
Altitude: up to 1520 m
Mean annual temperature: 16-35ºC
Mean annual rainfall: 500-5000 mm
Soil type: It grows on a wide variety of soils but prefer deep, alluvial sandy loam with good drainage. It is also found on shallow soils including rock crevices.

DOCUMENTED SPECIES DISTRIBUTION

Native: Chad, India, Nepal, Thailand
Exotic: Israel, US



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: Figs are consumed as famine food during periods of food

Fodder: Its leaves are lopped as fodder for elephants, camels, goats and cattle; having about 10-14% crude protein. Silage prepared from the tree is palatable and digestible.

Fuel: It is used as firewood.

Timber: Its wood is greyish-white, moderately hard, and heavy, weighing 480-640 kg/m3. It is moderately durable under cover and quite durable under water. It is little used but is occasionally converted into packing cases, cheap boarding, yokes, spoons and bowls.

Latex or rubber: Bird-lime can be prepared from its milky juice.

Tannin or dyestuff: Its bark is used in tanning.

Medicine: The ripe fruit is cooling and relieves foul taste, thirst, biliousness, diseases of blood and heart; it is a laxative and helps digestion. It is used for medicinal purposes, such as toothaches. Dried fruit cure asthma; seeds are useful in urinary discharge; young bark is an astringent.

SERVICES
Ornamental: This tree is occasionally planted for amenity purposes, especially in landscaping due to its aesthetic shape and form.
Intercropping: Its large size, wide crown and spreading branches limits it's agroforestry potential for intercropping with crops , or as a hedgerow planting.

Other services: The species is mostly planted near Buddhist temples as it is referred to as sacred in India. Hindus associate the tree with fertility in women. It is also an important host to lac insects.

TREE MANAGEMENT
When managed under vigorous lopping and pollarding, a large crop of fodder is obtained, while controlling excessive crop competition. Protection from livestock browsing and fire is necessary when the trees are young.

GERMPLASM MANAGEMENT
Ripe fruits are collected, rubbed and washed to get clean seed, which are then sun-dried before storage in airtight containers. Dry figs (fruit) weigh 460 per kg.

FURTHER READNG

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SUGGESTED CITATION

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