

Ficus lyrata

Fiddle leaf fig

Moraceae

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January, 2003

OVERVIEW

Ficus lyrata, the fiddle leaf fig, is cultivated in Hawai'i. It is a medium size tree with an attractive shape and large green fiddle-shaped leaves. The tree is grown singly as a specimen or shade tree or in groups in parking lots, along roads, and in parks. Currently, *F. lyrata* does not set viable seed in Hawai'i due to the absence of its associated pollinator wasp. The pollinator wasp should not be introduced to prevent this species from spreading into areas beyond where they are planted.

TAXONOMY

Family: Moraceae (Mulberry family)

Latin name: *Ficus lyrata* Warb. (Bailey and Bailey 1976).

Synonyms: *F. pandurata* Hort. Sander, not Hance (Bailey and Bailey 1976).

Common names: Fiddle leaf fig (Neal 1948, Bailey and Bailey 1976), banjo fig (Brickell and Zuk 1997).

Taxonomic notes: The genus *Ficus* is made up of about 1,000 species from pantropical and subtropical origins (Wagner et al. 1999). Plants in the genus are all woody, ranging from trees and shrubs to climbers (Neal 1948).

Nomenclature: The common name, fiddle leaf fig, refers to the fiddle like shape of the leaf (Dehgan 1998).

Related species in Hawai'i: In Hawai'i, about 60 other species of *Ficus* are cultivated (Wagner et al. 1999).

DESCRIPTION

"Evergreen tree; upright; irregular growth; coarse texture. Can reach a height of 40 feet with an equal spread, but usually is smaller; medium growth rate. Solitary trunks with rough, scaling bark; no aerial roots, surface roots, or buttresses. Leaves simple; alternate; fiddle-shaped in outline, to 14 in long; apical half is largest; prominent venation; undulate margins; dark green. Flowers minute; borne inside small, green receptacles; solitary or in pairs. Syconiums; sessile; fleshy; 1.25 in wide; greenish with white dots." (Dehgan 1998).

BIOLOGY & ECOLOGY

Cultivation: This tree is useful in landscaping as a specimen or shade tree. It is valued for its smaller stature, making it useful when other banyans are too large. It is also grown indoors in cooler climates (Dehgan 1998). In cultivation, it can be a nuisance when large leaves and fruit litter the ground (Whistler 2000).

Invasiveness: Without the associated pollinator wasp in Hawai'i, this species does not reproduce and is only known from cultivated plants. The only reference to this species being invasive elsewhere in the world is in Rod Randall's (2002) global compendium of weeds as naturalized / introduced for Western Australia.

Pollination: 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: Chalcoidea: 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.

Propagation: Propagate from air layers; cuttings root, but tend to be more difficult than with other species of *Ficus* (Dehgan 1998).

Dispersal: Plants are initially spread by humans who grow the plant for ornament. Other species of *Ficus* that do have wasps present are spread by fruit eating birds. Various birds observed by the authors foraging and roosting in other *Ficus* trees on Maui include mynah birds (*Acridotheres tristis tristis*), blue faced doves (*Geopelia striata*), lace necked doves (*Streptopelia chinensis*), Japanese white-eye (*Zosterops japonicus*), and house sparrows (*Passer domesticus*), though there are probably more. Other animals, such as bats, pigs, rodents, parrots, and monkeys may be capable of spreading fruit.

Pests and Diseases: Brickell and Zuk (1997) report the following pests and diseases of *Ficus* spp.: mealybugs, scale insects, spider mites, root knot nematodes, and thrips occur under most environmental conditions, fungal and bacterial leaf spots, crown gall, twig dieback, and Southern blight.

DISTRIBUTION

Native range: *F. lyrata* is native to tropical western and central Africa (Brickell and Zuk 1997) in the following countries: Benin; Cameroon; Cote D'Ivoire; Gabon; Liberia; Nigeria; Sierra Leone; and Togo (GRIN 2002). These areas are typically warm and wet with temperatures ranging from over 68 F (20 C) in January to over 86 F (30 C) in July and average annual rainfall ranging from over 40 - 60 in (100 - 150 cm) to over 80 in (200 cm) (Hammond 1986).

Global distribution: *F. lyrata* grows in a wide range of soils in full sun or partial shade (Dehgan 1998). In the United States, it can only be grown outdoors in Florida, it can be grown indoors in colder climates. The following locations are listed from the Missouri Botanical Garden specimen database (2002): USA, Missouri, Saint Louis City, 160 m (525 ft), 38.36N 90.15W; El Salvador, San Salvador, 650-850 m (2,133-2,789 ft) 13.47N 89.11W; Nicaragua, Managua, 100-220 m (328-722 ft), 12.05N 86.5W; Columbia, Valle del Cauca, 100 m (328 ft); and Cameroon, Southwest, Korup National Park, 200 m (656 ft), 5.17N 09.05E.

State of Hawai'i distribution: Cultivated on probably all the main Hawai'ian Islands.

Island of Maui distribution: On Maui, occasionally cultivated from sea level to about 3,000 ft (914 m). It is more common in Lahaina, Kihei, and Kahului, than in Makawao, Paia, and Kula.

CONTROL METHODS

Physical control: Smaller *F. lyrata* trees can be dug up.

Chemical control: "Fig trees are particularly sensitive to triclopyr herbicides as a basal or cut-stump treatment. Trees found growing on concrete or rock structures should be treated with herbicide while young to avoid costly structural damage. Use extreme caution when applying herbicide to figs growing as epiphytes to ensure that the poison does not contact the host tree. When exotic figs germinate high in the branches of large trees in natural forest communities, it may be extraordinarily difficult to get close enough to the fig to treat it." (Hammer 1996).

Biological control: Nadel et al. (1991) report several pests that could be looked at for biological control potential including various ants which were seen carrying off pollinator wasps from *Ficus* fruits, Hymenoptera and mites that may be parasites of the pollinator wasps, and staphylinids which were seen entering *Ficus* fruits and eating the pollinator wasps. Dehgan (1998) report that scales tend to be a problem.

Cultural control: The pollinator wasps should be prevented from entering Hawai'i in order to prevent spread of *F. lyrata*. Other native or non-harmful non-native trees could be planted.

Noxious weed acts: None.

MANAGEMENT RECOMMENDATIONS

Ficus lyrata currently does not spread in Hawai'i. This species is cultivated elsewhere around the world with little evidence of it becoming invasive. Though *F. lyrata* is not likely to become invasive in Hawai'i, if the wasp were introduced, it would have more potential to spread. *Ficus* wasps should be prohibited from entry to Hawai'i to prevent future spread of *Ficus* species.

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