

# Rainforests

OF AUSTRALIA'S EAST COAST

- Identification
- Evolution
- Reproduction



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## ARALIACEAE

umbrella Tree often starts life as an  
height of more than 30m, whereas  
mostly multi-trunked. Bark is pale  
reddish fruit (a drupe) is held on  
aves feature up to 15 leaflets, which  
egg-shaped) with entire margins,  
. This popular ornamental tree has  
ns.



*sois benthamii*

s are habitats for this beautiful tree  
fluted and buttressed trunks with  
f white to pale yellow flowers are  
a capsule) is softly hairy and up to  
erse a number of flattened brown  
nd leafy stipules at the base of the  
this species. New growth flushes  
red and finally turns dark green.  
ite), which are up to 20cm long,  
toothed margins, hairless, glossy  
5mm long and the strong petiole



### Fig Trees, Genus *Ficus*, Family MORACEAE

The majority of Australia's 40 native fig trees (*Ficus* species) are found in warmer types of rainforests, but are not restricted to these ecosystems, as they also inhabit many drier environments. The diversity of species is highest in tropical and diminishes in subtropical and warm temperate rainforests. Fig trees play a vital role in the ecosystem of rainforests by producing abundant fruit, which is a food source for a wide range of animals. Fruit bats, which frequently visit fruiting fig trees, are essential in the distribution of seed over extensive areas. Birds and bats will also introduce seed of other species and thereby enrich plant diversity beneath and around old fig trees. Some species can reach an age of more than 500 years.

Numerous flowers, contained on the inside of the developing fig, are pollinated by tiny wasps, which enter through a small pore (ostiole) located at the apex. After successful pollination, the fig produced masses of tiny seeds. Common features of fig trees are two sheaths, called stipules, enclosing and protecting the emerging leaf. The Moreton Bay Fig (*Ficus macrophylla*) has the longest at up to 15cm long, whereas stipules of other fig species can be inconspicuous and less than 10mm long. Typically, a sticky sap (latex) exudes when petioles (leaf stalks) are broken, which can be clear, yellowish or milky white and congeals on exposure. Species of this genus range from massive stranglers to small or medium-sized trees without a strangling habit. The Climbing Fig (*Ficus pantoniana*) is an exception as it will scale a host without strangling it. (Maps only display natural distributions.)



## Group 1: Fig trees without a strangling habit

**Hairy Fig *Ficus hispida*** Family MORACEAE

This small fig tree is rarely more than 10m tall and occurs as an understorey species within tropical rainforests. Bark is olive-brown with a finely rough texture, due to small blisters (lenticels) and fine ridges. The edible fig can be borne on the main trunk (cauliflorous), on branches or on young twigs and is supported by a rigid stalk up to 4cm long. The fig changes from green to a yellowish-brown when fully ripe and measures up to 30mm in diameter. Simple leaves with an opposite arrangement are up to 35cm long, elliptic to lance-shaped (lanceolate) or sometimes reverse lance-shaped (oblanceolate) with varied margins from entire to crenate (with rounded teeth), dark green, thin, glossy on top, paler green, glossy beneath with a finely rough texture due to short and stiff (bristle-like) hair. The leaf stalk (petiole) is up to 8cm long and excretes pale yellowish latex when broken. Midrib and the prominent lateral veins are raised on lower leaf surface.

**Red-leaved Fig (Cluster Fig) *Ficus congesta*** Family MORACEAE

This eye-catching fig is a tall shrub or sometimes small tree less than 10m high. Despite its diminutive height, trunks of older specimens are disproportionately larger in diameter and develop substantial buttress roots. It is an evergreen species without a strangling habit and inhabits tropical rainforests. Bark on the trunk is greyish-brown with a finely rough and in some places wrinkled texture. Abundant fruit (figs) are produced on the trunk and along smaller branches. Figs measure up to 20mm across and turn yellow when fully ripe. The very attractive foliage flushes in peach to copper colours, which is a distinguishing feature for this species. Simple leaves with an alternate arrangement are up to 25cm long, elliptic in shape with finely crenate margins, dark green when mature, hairless or sometimes finely hairy, relatively thick and leathery in texture. Stipules reach a length of 2.5cm. The brown petiole (leaf stalk) is up to 6cm long and exudes a milky

**Creek Sandpaper Fig *Ficus coronata*** Family MORACEAE

Stream banks are the preferred habitat for this small tree, which rarely reaches a height of more than 10m but develops a wide spreading canopy. The extensive root system of older trees is capable of stabilising embankments and preventing erosion. The hairy fig is up to 25mm long and purple to nearly black when fully ripe. After removing the hairy skin, the taste of the fig can be sweet and palatable. Branches touching the ground have the ability to root and develop new upright coppice shoots. Simple leaves (mature) with alternate arrangement are up to 12cm long, oblong to ovate (egg-shaped) with finely toothed (sometimes entire) margins, hairy on their lower surface and very sandpaper-like in texture. A clear sap exudes when a leaf stalk is broken. Stipules are up to 12mm long. The natural distribution of this non-strangling fig is extensive and includes all types of rainforests. Its close relative, the Sandpaper Fig (*Ficus fraseri*), differs in that leaves are not as thick, rough and deeply lobed on immature trees.



### Common Red Stem Fig *Ficus variegata* Family MORACEAE

Tropical rainforests are habitats favoured by this non-strangling and medium-sized fig. Older trees will develop a substantial buttress root system. The common name refers to the conspicuous red stalk that supports the smooth skinned and beautifully marked fig. Stalks are up to 5cm long and the depressed globe-shaped fig reaches a diameter of 30mm. Simple leaves with an alternate arrangement are up to 25cm long, ovate in shape with entire margins, hairless, dark green, glossy on top, paler yellowish-green beneath, strong and papery in texture. The leaf base shape is typically cordate (heart-shaped). The leaf stalk exudes milky latex when broken.



### Rusty Fig *Ficus rubiginosa* (Port Jackson Fig, Rock Fig) Family MORACEAE

The Rusty Fig is up to 25m tall and develops a wide spreading canopy. The rounded fig is up to 20mm across, grows in pairs and will turn orange-red when fully ripe. Simple leaves with an alternate arrangement are up to 11cm long, ovate to broad elliptic in shape with entire margins, dark green and glossy on top, pale green to rusty brown hairy beneath, thick and leathery in texture. The strong leaf stalk exudes a milky sap when broken. Stipules are up to 5cm long. This species prefers rocky terrain and inhabits warm temperate to tropical rainforests and many drier environments.



### Group 2: Fig trees with a strangling habit

#### Moreton Bay Fig (Black Fig) *Ficus macrophylla* Family MORACEAE

Subtropical rainforests are the natural habitat for this massive and long-lived tree. It has a strangling habit, often starting life on a host tree, and prefers to grow in proximity to watercourses. A height of up to 30m is normal, whereas the canopy might stretch for more than 50m. Older specimens feature large coalescent trunks with impressive above-ground buttress roots. Figs are up to 30mm long, emerge paired in leaf axils and turn purplish-black, speckled with white dots, when fully ripe. The alternately arranged simple leaves are up to 25cm long, broadly oblong or ovate in shape with entire margins, often brownish on their underside (but not hairy), thick and leathery in texture. The strong leaf stalks are up to 10cm long and ooze sticky white sap when broken. The conspicuous stipules are up to 15cm long. Diversity of tree species growing under and close to Moreton Bay Figs can be immense, but seed germination of very tall rainforest trees is inhibited.



#### Strangler Fig (Watkin's Fig) *Ficus watkinsiana* Family MORACEAE

This magnificent large fig tree possesses a strong strangling habit and uses other tall rainforest tree species as a host. After germinating high up in a tree, fine aerial roots will grow downwards until they reach the ground. Over decades, these roots expand and slowly strangle the host, which dies and decays, leaving a hollow centre. The fig turns very dark purple to nearly black and is marked by paler raised spots at full maturity. It is egg-shaped, up to 40mm long and 25mm in diameter. A prominent nipple-like protrusion is visible at the apex. Simple leaves with an alternate arrangement are up to 20cm long, elliptic or lance-shaped (lanceolate) with entire margins, dark green, glossy on top, paler green beneath, smooth, thick and leathery in texture. Leaves stalks are up to 7cm long and exude a milky sap when broken. Stipules are up to 6cm long. The natural distribution of the Strangler Fig includes warm temperate, subtropical and tropical rainforests. (Images top of next page)



### Deciduous Fig (Superb Fig) *Ficus henneana* Family MORACEAE

Under the right conditions, the Deciduous Fig can develop into a massive tree up to 35m tall. The preferred habitats of this strangling fig are moist environments, such as rainforests and the banks of permanent watercourses. This species is semi-deciduous and rarely sheds all of its leaves. Simple leaves with an alternate arrangement are up to 12cm long, ovate to broadly reverse lance-shaped (oblanceolate) or sometimes elliptic with entire margins, hairless and leathery in texture. Stipules are only up to 1cm long. White sap exudes when a leaf stalk (petiole) is broken. A distinct joint between the lamina (leaf blade) and the leaf stalk is visible.



### Small-fruited Fig (Curtain Fig) *Ficus microcarpa* Family MORACEAE

This striking fig produces an abundance of aerial roots which after reaching the ground thicken and support the spreading crown. Within tropical rainforests, this species can be more than 25m high with a large canopy and a maze of vertical roots. It is considerably smaller in drier locations. Simple leaves with an alternate arrangement are up to 10cm long, mostly obovate (reverse egg-shaped) with entire margins, hairless, glossy dark green on top, fairly thick and leathery in texture. Stipules enclosing the growing bud are up to 2cm long. The leaf stalk is strong but only up to 2cm long and exudes white sap when broken.



### White Fig (Mountain Fig) *Ficus virens* Family MORACEAE

The White Fig can be a huge tree more than 30m tall with a wide spreading crown and enormous far-reaching buttress roots. It has a strong strangling habit and overgrows tall trees within subtropical and tropical rainforests. Simple leaves with an alternate arrangement are up to 15cm long, oblong or more elliptic in shape with entire margins, mid-green on top, lighter green beneath, smooth and leathery in texture. Stipules are only up to 15mm long. Petioles (leaf stalks) are up to 6cm long and excrete a sticky white milky sap when broken. Two variations are recognised: *Fvirens* var. *sublanceolata* and *Fvirens* var. *virens*.



**Small-leaved Fig *Ficus obliqua*** Family MORACEAE

Older specimens of this large strangling fig can be more than 30m tall and develop expansive buttress roots. At only 10mm in diameter, the fruit is relatively small and turns from yellow to orange when fully ripe. Simple leaves with an alternate arrangement are up to 8cm long, broadly elliptic or obovate (reverse egg-shaped) with entire margins, smooth, firm and thin leathery in texture. The yellowish leaf stalk is up to 3cm long, rigid and flattened on the upper side. Stipules are 3–4cm long. Only a small amount of sap will exude when a leaf stalk is broken.

**Weeping Fig (Benjamin Fig) *Ficus benjamina*** Family MORACEAE

Within tropical rainforests, this species can be a large tree more than 30m tall, which develops a spreading crown and extensive buttress roots. Figs are orange, red or dark purple at maturity and reach up to 12mm in diameter. They are globose (globe-shaped) and attached without a stalk (sessile). Simple leaves with an alternate arrangement are up to 12cm long, elliptic to broadly lanceolate (lance-shaped) with entire margins, glossy dark green on top, smooth and rather thin. Stipules are up to 2cm long. White latex (sap) will exude when a leaf stalk is broken. This species is one of the most cultivated fig trees in the world.

**Figwood *Ficus virgata*** Family MORACEAE

The Figwood is able to reach a height of 25m and may develop sizeable buttress roots. The bark on the trunk is grey and marked by horizontal ridges. Small figs are borne along younger branches and develop solitarily or in pairs. They are less than 10mm in diameter, rounded in shape and dark orange or brown when fully ripe. Simple leaves with an alternate arrangement are up to 20cm long, elliptic or broadly lance-shaped with entire margins, dark green, glossy on top and leathery in texture. Stipules are up to 2.5cm long. A small amount of watery sap is excreted from broken leaf stalks.

