

Ficus macrophylla

Moreton Bay Fig

The dark spreading crowns of Moreton Bay Fig Trees are a glorious feature of many Sydney parklands, for example Mrs Macquaries Chair, Hyde Park, the Domain and Moore Park. In their native habitat, these handsome trees can be found in eastern Australia, from south-eastern Queensland to Wollongong in southern NSW. Moreton Bay Figs, and many other fig species, can start life as seed that germinates in the branches of another tree, sending roots down to the ground. These roots and the trunk then thicken, enveloping the original host and eventually killing it. Figs with this growth habit are often referred to as *banyans* although in Australia we usually call them *strangler figs*.



The fruit is edible, but not very palatable. However, they are particularly interesting and both structure and reproductive strategies are complex! Unlike most flowers with which we are familiar, fig flowers, both male and female, are extremely small and are produced on the INSIDE of the fruit which is technically referred to as a **synconium**. The flowers are pollinated by tiny fig wasps (*Pleistodontes froggatti*), with which the fig trees share an obligate mutual relationship. The figs depend on wasps for pollination, and the wasps can reproduce only in the female flowers. It had been thought that each fig species was pollinated by one specific wasp species but recent molecular studies have shown that some fig wasp species have been known to cheat, so the story isn't quite as straight



forward as originally envisaged. Pollination works like this:

1. **Female** wasps enter the fig and lay eggs in maturing **female** flowers.
2. The eggs hatch, producing **both male and female** wasps, and these mate.
3. By this time, the **male flowers** have begun to mature.
4. The young **females** collect the pollen from the **male** flowers.
5. The young **females** then leave the fig, and fly off to find another fig where they can lay their eggs, and in the process, transfer **pollen** to another batch of young **female** flowers!



You would think that with such a specific pollinator, Moreton Bay Figs planted elsewhere in the world, would have a hard time producing viable seeds. However, the wasp was deliberately introduced to Hawaii in 1921 and is believed to have arrived in New Zealand about 1993, apparently by long distance dispersal. Moreton Bay Figs have become quite a problem in both countries, as they are extremely vigorous and lack natural

enemies.

Don't forget, edible figs are pollinated by wasps too! So next time you enjoy a juicy, luscious fig, just remember you will also be eating your fill of tiny fig wasps as well! Perhaps the extra protein enhances the taste!

Wikipedia: https://en.wikipedia.org/wiki/Ficus_macrophylla

PlantNET (The NSW Plant Information Network System). Royal Botanic Gardens and Domain Trust, Sydney]

<http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Ficus~macrophylla>

accessed 25 April 2016

Distribution map modified from: Australian Native Plant Society, Australia: <http://anpsa.org.au/f-mac.html>

Wasp Image: Wikipedia - Forest and Kim Starr:

https://commons.wikimedia.org/wiki/File:Pleistodontes_frogatti.jpg

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Fruits of the Moreton Bay Fig. Fig wasps enter through a tiny opening at the end of the fig called an **ostiole**.

A relatively young Moreton Bay Fig tree by the pathway leading from the Central Courtyard to Building E11A.

As trees age, they produce massive buttressing roots.





A typical strangler fig - a young tree with strangling roots just starting to develop into buttresses.