

## Miniature gardens

Explore the microscopic world of the rainforest. Most people think of rainforest leaves as bare glossy surfaces. However, rainforest leaves are often mottled with grey or pale green blotches. Use a magnifying glass and have a closer look and you will discover miniature gardens on almost every leaf in the rainforest.

## What are epiphylls?

The tiny plants growing on the upper surface of living leaves are known as epiphylls (epi = upon; phyll = leaf). They include a diverse group of non-flowering plants. Among these lichens are the most abundant, but mosses, leafy liverworts, and algae are also very common.



*Typical rainforest leaf with the upper surface colonised by lichens, mosses, leafy liverworts, and algae.*

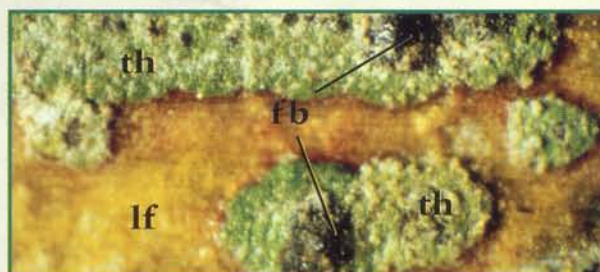
## A characteristic feature in rainforests

Epiphylls grow on evergreen leaves in the constantly humid and warm environment of tropical rainforests worldwide. Most epiphylls receive their nutrients from the air and the rain, and they are generally considered harmless to their host. Leaves in the rainforest understorey may harbour a vast number of epiphylls. Often, more than 20 species can be counted on a single leaf.

This guide describes some of the more common epiphylls found in the tropical rainforests of North Queensland.

## Lichens

Lichens are a partnership between a fungus and an alga. They do not have leaves, stems, or roots. Instead they have a plant body called a thallus which in leaf-living lichens usually is crust-like. Leaf-living lichens are identified by the characteristics of the thallus and fruit bodies (reproductive organs).



Magnified X 20

*Strigula elegans* grows underneath the cuticle (outer skin of the leaf) and is partly parasitic, using nutrients from its host leaf. The black fruit bodies immersed in the bright green thallus make it easy to recognise. th = thallus, fb = fruit body, lf = leaf surface.



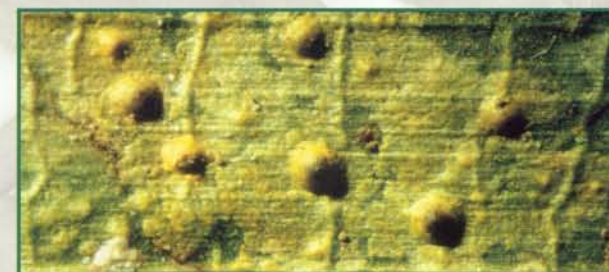
Magnified X 25

*Mazosia melanophthalma* has a warty thallus with fruit bodies that look like blobs of tar.



Magnified X 25

*Calenia graphidea* has flesh-coloured fruit bodies resembling cornflakes immersed in a greyish-green crusted thallus.



Magnified X 20

*Porina epiphylla* is the most common lichen species on leaves. It is easily recognised by its pale green thallus and distinct volcano-shaped fruit bodies.



Magnified X 25

*Tricharia urceolata* has a thin greyish thallus bearing pale orange cup-shaped fruit bodies and stiff black hairs.