

Wollemia nobilis, Wollemi Pine

Historical context

This is a “living fossil” and was once present over a wide geographical area including India, Antarctica, New Zealand and southern South America as well as Australia.

All modern conifers date from the Triassic Age around 250 million years ago. This genus also dates from that time and perhaps to the Cretaceous Age, when the dinosaurs disappeared.

This plant is like the *Agathis* conifers (eg Kauri Pine) in the structure of the female cones, and like the *Araucaria bidwillii* (eg the Bunya Bunya Pine) in the leaf form, but it is quite different from these in its pollen, bark, seed shape, cone positioning and the changes from juvenile to adult leaves.

Discovery

In 1994 two small stands of this tree were discovered quite by accident by a NSW National Wildlife Services officer, David Noble, while bushwalking and canyoning in The Blue Mountains. The trees were found on a shelf in a deep gorge, 150km north-west of Sydney in the wild country that is now the Wollemi National Park.

It is one of the rarest of plants in the wild, as there are only 38 mature trees and around 200 seedlings there.

David recognised that he had found a very unusual plant, and this was confirmed by Wyn Jones and Jan Allen, botanists at the Royal Botanic Gardens, Sydney, who realised that this plant represented a new genus.

Characteristics

Trees grow to about 35 m in height, with a trunk girth of about a metre. It prefers acidic soil. Its habit of growth is to coppice, meaning that the original trunk eventually dies, and further trunks grow in circular way from the roots. Thus trees may be extremely old. Indeed, it is estimated that some of the trees in the wild are 500 to 1000 years old, but nobody really knows. The young plants tolerate long periods of low light, the trunks becoming almost dormant until a break in the canopy occurs, perhaps with older, surrounding trees falling. The tree will then shoot up very quickly.

Bark: This is said to be unusual, like “bubbling chocolate”.

Bisexual : The tree carries both male and female cones, both occurring at the tips of branches. The older, lower branches tend to carry the male cones and the younger, higher branches the female cones.



Seeds: Winged.

Leaves: These are broader at the base than the tip. The young leaves are a bright green, and the older leaves are yellow-green. There is no mechanism for shedding old leaves, so like the *Araucaria*, the whole “branch” is shed.

Fungi: Various fungi are associated with the ecology of this plant are also being studied. One of these produces the anti-cancer chemical “taxol” previously only associated with the northern hemisphere tree, the Yew.

Modern Protection and Propagation

The NSW National Parks and Wildlife Service has played a key role in the protection of the wild plants, as their very survival depends on their isolation. They continue to keep in place strategies to protect the stands from people, diseases and fire.

The Royal Botanic Gardens had only a small amount of mature seed, so have made the plant available through cuttings. Initially tissue culture was tried, but unsuccessfully. The Wollemi Pine is now widely available.



Family: Araucariaceae

Genus: Wollemia

Species: Wollemia nobilis

Common name: Wollemi Pine

Origin: NSW

Location in GBG: On the Walnut Lawn of the 19th Century Garden.

Cones: Male cones deliver pollen in Spring.

Female cones release seed about 18 months after pollination.

Meanings of its name: *Wollemia*: Its place of discovery, Wollemi NP;
nobilis: A noble tree and the discoverer David Noble.



This information was developed
by Jenny Dean
Volunteer Guide
Friends of
Geelong Botanic Gardens

www.friendsgbg.org.au
www.geelongaustralia.com.au/gb