



**Native Plants  
in  
Waipahihi Botanical  
Reserve**

*Old Podocarp Species - Totara, Matai and Rimu*  
Cover Drawing by Graham Parminter

# **Native Plants**

## **in the Waipahihi Botanical Reserve**

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# INTRODUCTION

## **Waipahihi Botanical Reserve, Taupō**

### ***A New Forest Garden Created from Scratch by Volunteers and Still Evolving***

In 1966 the 35-hectare Waipahihi Botanical Reserve was established, with the first volunteer working day taking place on 1 October of that year. It was decided to set up a group of volunteers to develop and maintain the Reserve with contractors being used for large tree pruning and earth works.

One of the key roles that botanical reserves play in plant conservation is in the providing the opportunity for people to interact with nature in an urban environment.

The Waipahihi Botanical Reserve is a combination of introduced and native plant species with a series of walking tracks designed around themes, for example, *Flax Grove*, *Tree Fern Alley* and *The Floral Walk*. At the same time there are areas of specialist plantings of kauri, flax, hebe and rātā. The fruit and flowers in the Reserve provide a valuable food source for many native species of birds.

Picnic tables and seats are provided throughout the Reserve and there are areas which offer wonderful views of Lake Taupo and the surrounding district.

The species described in this booklet are *some* of the native plants that are found in the Waipahihi Botanical Reserve gardens.

## **NOTE**

Not all plants have a common name of European origin but most plants have a botanical name and, where they exist, all three names (European, Māori and botanical) are shown.

# Native Plant Species

## Native Conifers

There are twenty species of conifers found only in New Zealand, of which the following are found in the Reserve.

### **Black Pine (Mataī)**

*Prumnopitys taxifolia*

The black pine grows *up to* 25 metres in height with a trunk up to 2 meter in diameter. Every seed is covered with a soft edible pulp and are dispersed by the New Zealand wood pigeon (kererū), which eats the 'berries' and passes the seeds in its droppings. The species is fairly common in native forests of the North Island with good examples found in Pureora and Whirinaki Forest Parks.



### **Brown Pine (Miro)**

*Prumnopitys ferruginea*

The brown pine is a forest tree preferring to live in shady damp sites where it can grow up to 25 metres in height. Between March- June it produces fleshy, large bright red seeds which are a favourite food of kākā and wood pigeons (kererū). The wood pigeons often gorged themselves on so many seeds that they could barely fly. These seeds are an important food source for forest birds during winter months.



## Red Pine (Rimu)

*Dacrydium cupressinum*

The rimu is one of our most ancient trees with very similar fossil pollen grains being traced back 70 million years. It grows up to 50 metres in height and is dioecious; with male and female cones on separate trees. The seeds take 15 months to mature after pollination and are dispersed by birds in their droppings.



## Hall's Totara (Tōtara-kiri-kōtukutuku)

*Podocarpus laetus*

Only found in New Zealand, Hall's Totara grows to up to 20 metres in height and is easily identified by its papery, thin, freely flaking reddish-grey bark. The leaves are yellow-green, green, or brownish-green, erect, leathery and almost prickly. Seeds ripen May to June and germinate in the following late spring and summer. The seeds are eaten and dispersed by tui, bellbirds (korimako) and kererū. *P. totara* can be distinguished from *P. laetus* by its thicker bark and narrower leaves.



## Kauri

*Agathis australis*

The kauri is one of NZ's best-known trees and is also one of the world's largest. A single tree will produce both male and female seed cones which will be pollinated by the same or another tree's pollen. The Reserve has excellent samples of young kauri up to "ricker" stage; that is between 30 and 50 years of age. Kauri dieback is a major problem and as of yet it hasn't affected the trees in the Reserve. A dedicated Kauri Grove is found in the south east corner, near the Kōwhai Grove.



## **Broadleaf**

Broadleaf trees distinguish flowering trees from conifers of which the following are found in the Reserve.

### **Cabbage Tree (Ti)**

*Cordyline australis*

Growing up to 20 meters in height, the palm-like tree has long leaves up to a metre in length. Flowers (November to December) are white, with small and prolific panicles (a loose cluster of flowers) that are very sweet scented.



### **Lancewood (Horoeka )**

*Pseudopanax crassifolius*

The lancewood is unique in that during its juvenile stage (between 15 and 20 years) it has lance-like leaves up to a metre in length. As the tree gets older the leaves become wider and shorter and lose their serrated edge. The tree also begins to branch and produce a bushy top eventually forming a typical treetop.



### **Lemonwood (Tarata)**

*Pittosporum eugenioides*

Growing up to 12 metres in height, it is conical when young but becomes more rounded in shape when it matures. Its leaves are mottled yellow-green with curly edges and have a strong lemony smell when crushed. In spring it has clusters of highly fragrant attractive yellow-cream flowers followed by distinctive black seed capsules.



## Five Finger (Whauwhaupaku)

*Pseudopanax arboreus*

The leaves are composed of 5-7 leaflets radiating on short stalks from a central stem. It flowers early June producing large clusters of tiny flowers. The flowers are followed by small purplish berries that provide an important winter food source for tui, bellbirds and silvereyes. Small insects are also attracted to the flowers and are sought by whiteheads.



## Southern Rātā

*Metrosideros umbellata*

Southern rātā grow from a seed in the ground to up to 15 metres or more in height. The flowers are bright red with flowering taking place between December and February. However, some years are better than others (known as 'mast years') with seeding being prolific every 4-6 years. Native birds such as the tui and bellbird all benefit from rata trees in the forest. Kākā could be tempted to come to the Reserve for rātā or kauri seeds.



## Northern Rātā

*Metrosideros robusta*

This is a tall forest tree growing up to 30 metres in height. It starts life as an epiphyte in the crown of a mature tree from where it sends down roots, and the host tree is eventually encircled and strangled. The Northern rata flowers are bright red to dark-crimson, producing lots of nectar which is very popular with birds and insects.



## Kōwhai

The easily recognised golden yellow kōwhai flowers can be seen late August onwards. The wood pigeon (kererū), bellbird (korimako) and tui feast on the small leaflets and flowers with the seasonal nectar food source being important for them.



There are approximately 45 species of *Sophora* worldwide. Eight species of kōwhai are now recognised in New Zealand in the genus *Sophora*. All are endemic to New Zealand.

- *S. chathamica*,
- *S. fulvida*,
- *S. godleyi*,
- *S. longicarinata*,
- *S. prostrata*,
- *S. microphylla*,
- *S. molloyi* and
- *S. tetraptera*



A number of the species can be found in the Kōwhai Grove in the south east corner.

## New Zealand Honeysuckle (Rewarewa)

*Knightia excelsa*

The rewarewa is a tall canopy tree growing up to 30 metres in height. It flowers from September to December with the flowers being small, red and pink in colour. A very distinct tree with no close relatives or “look-alikes” within the indigenous, naturalised, or exotic cultivated flora of New Zealand. Easily recognised by the dark red, “bottle brush” like cluster of flowers, and by the leathery, broad, dark green, serrated leaves.



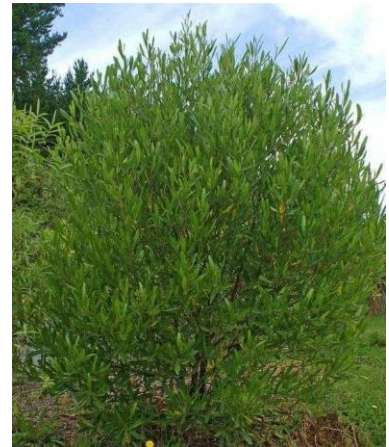
## **Shrubs or Small Trees**

Shrubs are up to about 3 metres in height, while small trees are classed as between 3 and 15 metres in height. Often small-leaved juvenile stages of trees are growing alongside shrubs, making identification difficult.

### **Hop Bush (Akeake)**

*Dodonaea viscosa*

The green akeake grows up to 10 metres in height. It is easily recognised by its distinctive bright green, long thin wavy leaves, flaking bark and its papery winged seed capsules. The flowers are white and daisy-like with flowering taking place from spring through to summer, followed by fluffy seed heads.



### **Purple-leaved Hop Bush (Akeake)**

*Dodonaea viscosa 'Purpurea'*

This is a cultivar of akeake that is a rapidly growing evergreen shrub, reaching 4 metres in height. The leaves of this variety being purple or burgundy in colour.



### **Bushman's Friend (Rangiora)**

*Brachyglottis repanda*

It grows up to a height of 7 metres. The large leaves with their white, finely hairy undersides have served a dual purpose for many, as they make excellent toilet paper, and also can be written upon (with a ballpoint pen). Flowering from August to November with fragrant creamy flowers that are abundant on the plant.





## **White Tea tree (Kānuka)**

*Kunzea ericoides*

The kanuka is a very important plant providing invaluable shelter for slower growing species. It is a small tree growing up to 15 metres in height (sometimes up to 30 metres) and flowers prolifically in small white clusters in December. The bark is grey-brown in stringy paper strips.



## **New Zealand Tea Tree (Mānuka/Kahikātoa)**

*Leptospermum scoparium*

Mānuka is a rather variable plant ranging from flat creeping forms and small shrubs to tall trees (up to 10 metres tall). Mānuka is superficially similar to kānuka but with slightly larger sharp-tipped leaves, and the tree itself is smaller when fully grown. As with the kānuka these plants can act as an important tool for re-vegetating bare, eroded slopes and useful in restoration projects. They are not usually eaten by browsing animals like sheep, cattle and goats. The flowers provide an important source of pollen and nectar for native bees, moths, beetles and geckos. Mānuka/kahikātoa pollen, and honey derived from it, contains powerful insecticides and anti-bacterial agents.



## **Tree Ferns**

The leaves of ferns are called fronds and when they are young they are coiled into a tight spiral. This shape, called a 'koru' in Māori, is a popular motif in many New Zealand designs. Ferns can be categorised based on their growth form such as tufted, creeping, climbing, perching and tree ferns. Tree ferns are some of the most distinctive features of New Zealand bush and forests. They range in height from 2 to 20 metres.

### **Silver Fern (Ponga)**

*Cyathea dealbata*

This fern – only found in New Zealand - is easily recognised by the silver-white colour of the under-surface fronds, with the frond stalks being a light greyish green. The fern grows up to a height of 10 metres with mature fronds up to about 4 metres long.



The silver fern or ponga is a national symbol. To Māori, the silver fern denotes strength, stubborn resistance, and enduring power, encapsulated in a natural form of native elegance.

*Mate atu he tetakura, ara mai he tetakura*

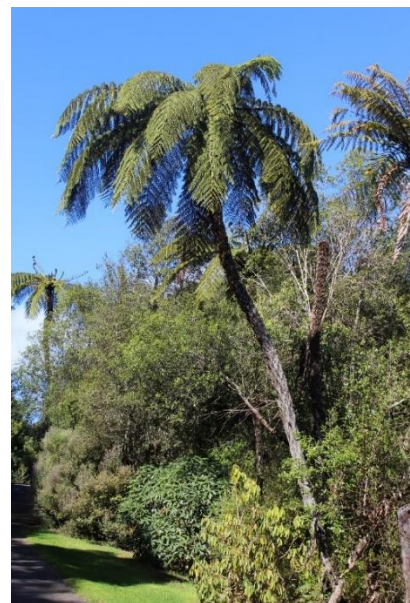
When one fern frond dies, another emerges

There is a long association of the stylised fern symbol with representative sports teams and the military, and more recently with commercial applications.

### **Black Tree Fern (Mamaku)**

*Cyathea medullaris*

This is the tallest tree fern, growing up to 20 metres in height, with fronds being up to 6 metres in length. The black striped fronds are discarded on mature plants leaving a distinctive whitish, spikey, oval scar on the trunk.



## **Flax**

There are two species of *Phormium* found in New Zealand and both are endemic.

### **New Zealand or Common Flax (Harakeke)**

*Phormium tenax*

The leaves of the common flax grow up to 3 metres in length, with the flower stalks growing up to 6 metres in height.

Flowering takes place between November and December with seeds from February to March. The flowers provide food for bellbirds (korimako), geckos and several types of insects.



### **Mountain Flax (Wharariki)**

*Phormium cookianum*

The foliage is typically a lime green in colour, with leaves growing to a height of 1.5 metres. The greenish, yellow or orange flowers are a favourite with bellbirds (korimako) and tui. The flowers are followed by twisted seed pods.



## Sources of Information

*Bateman Field Guide to Wild New Zealand* by Julian Fitter

Published by David Bateman Ltd, 2010

Waikato Biodiversity Forum Newsletter February 2016 Number 49

NZ Plant Conservation Network

[www.nzpcn.org.nz](http://www.nzpcn.org.nz)

Department of Conservation

[www.doc.govt.nz/nature/](http://www.doc.govt.nz/nature/)

Taranaki Educational Resource: Research, Analysis and Information

Te Papa

[www.tepapa.govt.nz](http://www.tepapa.govt.nz)

## Photograph Credits

Where possible plant species were photographed in the Waipahihi Botanical Reserve.

## **Neville Parminter**

Kauri, Red Pine, Bushman's Friend, NZ Honeysuckle, Mountain Flax, Purple Akeake, Lemonwood, Hall's Totara, Black Tree Fern, Lancewood, Silver Fern

## **Pinterest**

Cabbage Tree, NZ Flax, Hop Bush Akeake, Five Finger

## **Flicker**

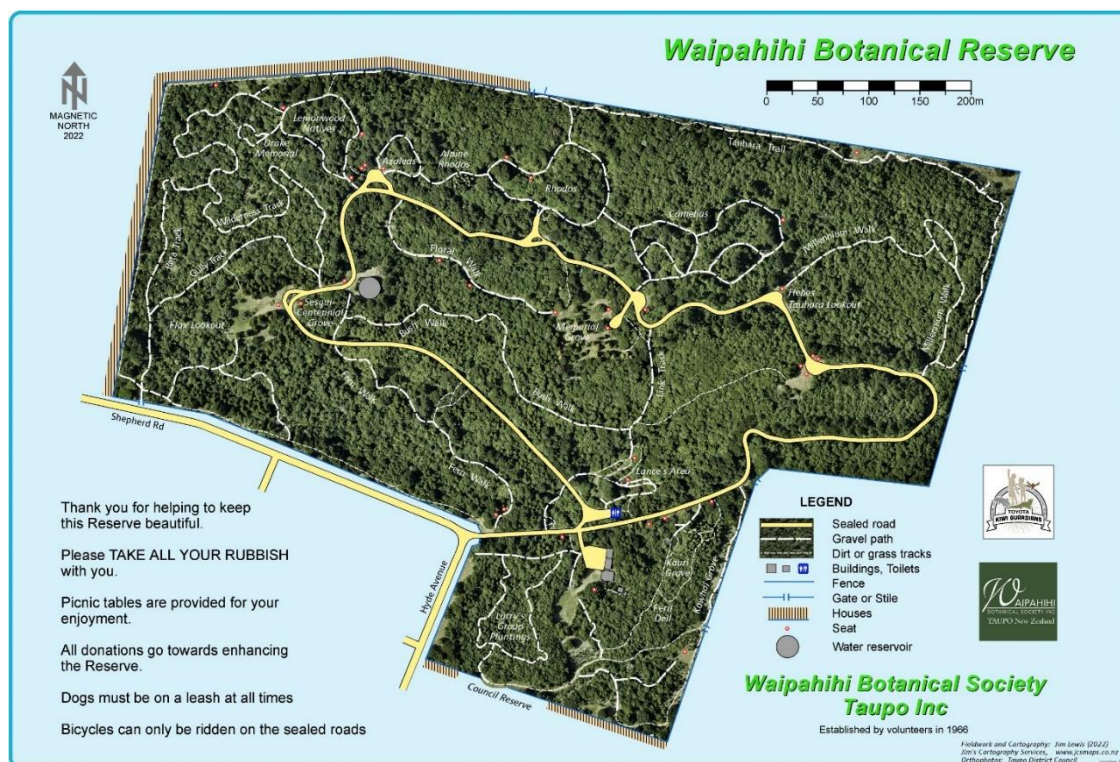
Kowhai, Tea Tree, White Tea Tree

## **Gymnosperm Database**

Black Pine

## **Dept of Conservation**

Northern and Southern Rata flower



*Main entrance at the corner of Hyde Avenue and Shepherd Road, Taupō*

For more information on the Waipahihi Botanical Reserve:

[www.waipahihigardens.nz](http://www.waipahihigardens.nz)