

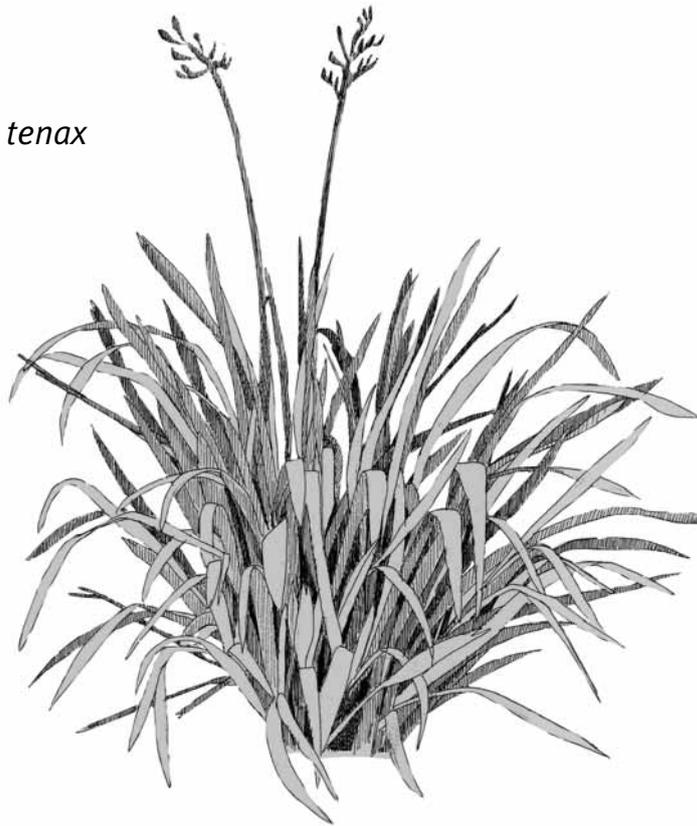
# Tiritiri Matangi native plants and their uses



# Flax

*Phormium tenax*

Harekeke



## What does it look like?

There are many different species of flax, ranging from plants with stiff upright leaves to soft floppy ones, and long bendy ones to short finer ones. Flax or harakeke bushes look like giant clumps of very wide-leaved grass, with tall spikes of orange or yellow flowers in spring, which turn to dry brown stalks (claddys) with dark brown seed heads in late summer.

## What can be found living on it?

Snails and insects such as flax plant-hoppers, flax weevil, scale insects and caterpillars of the flax-windower and flax-notcher all find excellent hiding places in flax. Bees collect the pollen. Bats and geckos were once important pollinators as they sipped from the flowers. Kiwi and little blue penguins will burrow into the bottom leaves and roots for protection during the day. Tui, bellbird, stitchbird and many other birds sip the copious amounts of nectar produced by the flower spikes in spring, and kakariki eat the new growth and, later in the season, the seeds.

## Has it a use for humans?

Flax was the most valuable of all plants in pre-European New Zealand.

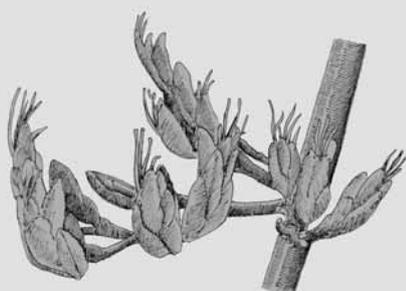
It was used as the main component in making clothes, including piupiu, cloaks, raincloaks, sandals, belts and hair bands.

In building, it served instead of nails to help hold buildings together and, when treated and woven, it provided mats and bedding. It was also used to decorate the interiors of buildings.

It provided material to enable the carrying of garden produce and seafood etc from place to place (in kete), and to make nets, lines, snares and traps to catch birds and fish.

It was an important component in making rope ladders to climb trees to set traps for birds in the canopy.

Not only was harakeke valued for the above uses, it could also be used both internally and externally to treat wounds and illnesses. The leaves were used to bind splints for broken bones. When beaten and heated, the leaf or root could be applied to boils. Treated flax leaves, or muka, was used to wipe open wounds, and fine strands were used to sew flesh-wounds closed. Boiled roots could be used as an antiseptic. The slimy gum at the bottom of a freshly-cut leaf was good for burns, or to cure ringworm. Internal uses included using the gum as a laxative and to ease tooth ache, and boiled flax root was used as an aid to abortion. When steamed and infused, the lower part of the leaf produced a gum, which could be used to ease rheumatic pains. To treat bruises, flax could be infused with kohukohu and matatou. It could even be used to help alleviate flatulence, when the juice from the root was mixed with the oil of the kohia/native passionfruit berry.



## Be careful!

**With any plants, don't ever try to eat any part of them unless you are very sure they are safe. Maori knew far more about them than we do and even then they made some tragic mistakes.**

### **Where is flax found?**

Throughout New Zealand, especially in damp or swampy areas, but it is very adaptable and different species will grow anywhere from sea level to the mountains.

### **Reference:**

'Flax – The Enduring Fibre' in 'New Zealand Geographic' No. 42, 1999.

# Karo

*Pittosporum crassifolium*

Turpentine tree



Karo is one of more than 20 pittosporums in New Zealand, and probably the most common and well-known. Many karo were planted on Tiritiri Matangi as shelter plants. They grow quickly and are able to cope with strong salty winds. They are most obvious as shrubs, but can grow up to nine metres high.

## What does it look like?

Probably the best place to study karo bushes is in the area just past the high seat between Wattle and Little Wattle Valleys – just before the lighthouse comes into view. Their leaves are thick and leathery on top, with white-grey, felt-like undersides, which protect them from drying out in the salty winds.

Flowers are red to dark-red, and have a lovely strong perfume, especially at night. Like all trees, karo flower more profusely in some years than in others. When flowers finish, lumpy three or four sectioned capsules containing sticky black seeds appear and can usually be easily seen on the smaller bushes.

## What can be found living on it?

Kokako like the taller karo trees, but really any creatures which like fruits or nectar can be seen on and near the karo trees.

## **Has it a use for humans?**

Lots of people plant karo in their gardens when they want native trees which will attract birds, look nice and produce a lovely scent. Also, karo planted close together makes a good hedge and shelter.

## **Where is it found?**

Karo occurs naturally from North Cape to Poverty Bay, and was a mainly coastal plant. But because karo is now being cultivated and sold from plant nurseries it can be found all over New Zealand.

### **References:**

'Dawn Chorus', 59, p5.

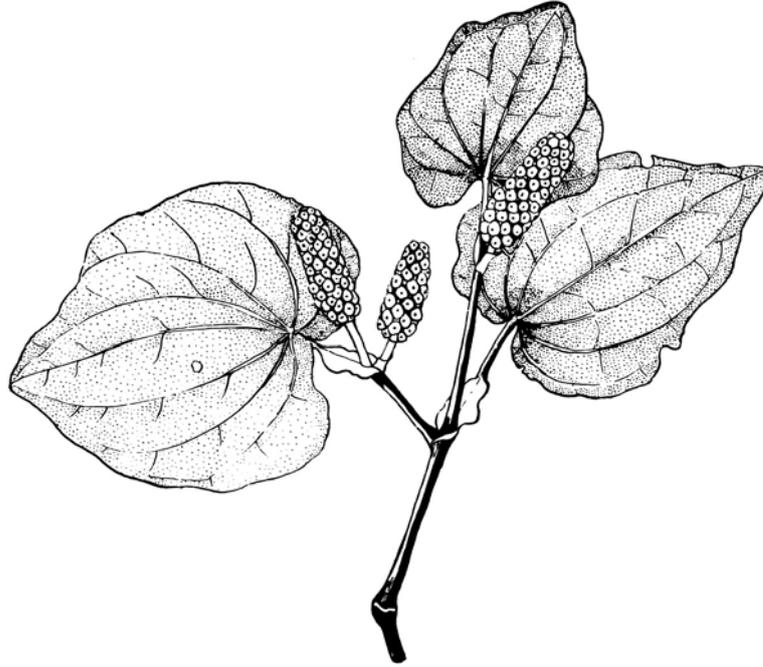
Salmon, J.T. 'Native New Zealand Flowering Plants' Auckland: Reed 1991.

Salmon, J.T. 'The Native Trees of New Zealand' Wellington: Reed 1980.

# Kawakawa

*Macropiper excelsum*

Pepper tree



This common shrub is one that many people comment on because of the unusual shape of its fruit and its leaves, and the fact that the leaves are almost always covered in holes.

## What does it look like?

Kawakawa are tall shrubs which have large dark-green, heart-shaped leaves, which give out a peppery smell if they are crushed. The plant's stems have bumps like elbow joints and are purplish-black. The spiky fruits are at first green, but turn yellow as they ripen and then look like miniature corn cobs.

## What can be found living on it?

The holes covering most of the kawakawa leaves are made by the caterpillar of a native moth. The fruits appear almost year-round and are appreciated by kereru, bellbird and tui. Kokako are often seen eating the leaves as well as the fruits.

## Has it a use for humans?

The root, fruit, bark and leaves are all useful to people. An extract from the root can be used to treat urinary problems, and the leaves and bark for

treating cuts, stomach aches and toothache. Leaf pulp can be used to ease the pain of rheumatics and to treat bad bruises. Burning leaves helps to keep mosquitos away, and wet leaves placed on the ground near crops act as an insecticide.

The fruits have a pleasant sweet taste, although the tiny hard seeds, if chewed, can overpower the taste. Tea can be made from kawakawa leaves, and in recent years, a brewer has been adding kawakawa leaves to beer to give it a very refreshing taste.

## Be careful!

**With any plants, don't ever try to eat or use any part of them unless you are very sure they are safe. Maori knew far more about them than we do and even then they made some tragic mistakes.**

## Where is it found?

Kawakawa are frost-tender, and are found all over the North Island and the upper half of the South Island.

## Did you know?

**Our kawakawa is endemic, but it has relatives in Asia (the plant peppercorns grow on) and Polynesia (the plant which is used to make the famous drink, kava).**

### References:

Salmon, J.T. 'Native New Zealand Flowering Plants' Auckland: Reed 1991.

Salmon, J.,T. 'The Native Trees of New Zealand' Wellington: Reed 1980.

Crowe, Andrew. 'A Field Guide to the Native Edible Plants of New Zealand' Auckland: Penguin (1981), 2004.

New Zealand Journal of Ecology, 1998, Vol 22 No 2, pp173-180.

# Kohekohe

*Dysoxylum spectabile*



Although the kohekohe is one of Tiritiri Matangi's main canopy trees, quite tall and wide, it is hardly noticed except when it is blossoming and when its fruits are ripe. There are some big kohekohe in the forest that the Kawerau Track threads through, and now that there are no kiore to eat the seeds, hundreds of seedling kohekohe trees can be seen all along the trackside.

## What does it look like?

Kohekohe are spectacular trees when their huge sprays of small waxy greenish-white flowers are produced between March and June. In April to September, the flowers turn into clusters of grape-sized fruit, which take about 15 months to ripen.

In some years when there has been poor fruiting, usually due to strong winds blowing away the flowers before fruit is set, they are not so noticeable after flowering. But in good fruiting years, some trees are covered in bunches of 'grapes' (seed capsules), which are especially easy to see from the Kawerau Track. The flowers and fruits grow directly out of the trunk.

The leaves of kohekohe trees are quite large, glossy and crinkly, and are dark green above and a paler yellow-green underneath. The trunk of the tree is quite smooth and often has lichens growing on it.

## What can be found living on it?

Birds really love the nectar and the fruit, as do tree-living geckos. When the fruit is ripe, there is much noisy competition between tui and kokako high up in the kohekohe trees along the Kawerau Track. Sometimes a whole family of kokako has been seen being chased from a good fruiting tree by a tui, which obviously felt the fruit belonged to it. As the fruit is eaten, the dark-green casings and sometimes the inner-orange coverings can be seen lying on, and beside, the boardwalks, where they have been discarded by the birds.

## Has it a use for humans?

Kohekohe wood is tough and was used to make furniture and fence posts. Also, the bark has been used for brewing a kind of beer!

## Where is it found?

Kohekohe trees used to be found in really big numbers in coastal forests from North Cape to Nelson, but people chopped and burned many of them, and possums found their fruit especially delicious and also caused a lot of destruction.



## Did you know?

Trees which grow their flowers and fruit straight out of their trunks are called 'cauliferous' trees.

### References:

Salmon, J.T. 'Native New Zealand Flowering Plants' Auckland: Reed 1991.

Salmon, J.T. 'The Native Trees of New Zealand' Wellington: Reed 1980.

'Dawn Chorus' 58, p9.

Crowe, Andrew. 'A Field Guide to the Native Edible Plants of New Zealand' Auckland: Penguin (1981), 2004.

# Koromiko

*Hebe stricta*

Veronica



This shrub is found at the edges of the bushy areas all over the island. Probably the easiest ones to see when visiting Tiritiri Matangi are those near the gateway to the Visitor Centre/Lighthouse area at the end of your walk. At the edges of the long grass to the right (across the lawn from the rangers' house) are more examples, but they are also found almost everywhere.

## What does it look like?

Koromiko are willowy, quite tall hebe. They have many slender branches and willow-like leaves. Their flowers are on long stalks and are usually pale-mauve/white in colour.

## Has it a use for humans?

Koromiko are rapid shade producers, so were very useful for early planting on the island.

The wood of koromiko gives off a lot of heat when it is burned.

Maori found koromiko so valuable a medicine that they always kept leaves stored in gourds for later use. Various parts of the plant were used to relieve stomach aches, headaches, ulcers, sores and dysentery. In fact, the young leaf tips were sent to New Zealand soldiers overseas during the second world war, to treat their dysentery and reports show they were most effective.

## Where is it found?

Varieties of koromiko are found throughout New Zealand, from sea level to well up in the mountains.

### Be careful!

**With any plants, don't ever try to eat any part of them unless you are very sure they are safe. Maori knew far more about them than we do and even then they made some tragic mistakes.**



### Did you know?

**Hebes are the largest genus of shrubs in New Zealand.**

#### References:

Salmon, J.T. 'Native New Zealand Flowering Plants' Auckland: Reed 1991.

[www.aotearoa.co.nz](http://www.aotearoa.co.nz)

[www.tiritirimatangi.org.nz/Flora](http://www.tiritirimatangi.org.nz/Flora)

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

# Kowhai

*Sophora microphylla*



There have been many kowhai trees planted on Tiritiri Matangi Island. At the time they were planted there was considerable debate as to whether or not they should be allowed on the island, because it is not known for sure that kowhai were there originally. However, early in springtime when they are in flower and full of birdsong it is hard to think their existence should ever be questioned.

The kowhai seed for Tiritiri Matangi was sourced from Rangitoto Island and Shakespear Regional Park.

## What does it look like?

Many people think the kowhai is New Zealand's most beautiful tree. It usually grows into a small spreading tree up to 12 metres high and has delicate, feathery light-green leaves. In early spring it is usually absolutely covered in five centimetre long yellow flowers. After flowering, kowhai trees have long seed pods, which gradually change from green to brown as they ripen. Inside the seed pods, the seeds are very hard small yellow seeds, which need to be scored in order to germinate.

## What can be found living on it?

When the trees are in flower, they are a favourite meeting place of tui, korimako and hihi. With their fine curved bills and specially adapted tongues, these birds reach right down deep into the base of the flowers where the nectar is found, and come out with the fronts of their heads covered in bright yellow pollen.

## Has it a use for humans?

Kowhai wood is very tough and durable.

Early Maori used kowhai for medicinal purposes, making poultices to place over wounds and infusing a mixture of kowhai and manuka bark to treat stomach pains, bruises and broken limbs. Ringworm was treated by rubbing in the ashes of burnt kowhai. However, kowhai, especially the seeds, contain a poison and so should not be experimented with.



## Be careful!

**Kowhai are very dangerous!! Do not put any part into your mouth. In fact, with any plants, don't ever try to eat or use any part of them unless you are very sure they are safe. Maori knew far more about them than we do and even then they made some tragic mistakes.**

## Where is it found?

*Sophora tetraptera* is the North Island kowhai and was originally found along streamsides and lowland forest edges, but is such a popular tree that people now grow it everywhere. Its flowers are a golden yellow. There are other species of kowhai, and one of them, *Sophora microphylla*, grows naturally all over New Zealand, the Chatham Islands and even Chile. If you see a shrubby kowhai that has wiry, interlacing branches and not many leaves, that will be a juvenile *Sophora microphylla*, not a *Sophora tetraptera*, which doesn't have a juvenile form.

### References:

Salmon, J.T. 'Native New Zealand Flowering Plants' Auckland: Reed 1991.

Salmon, J.T. 'The Native Trees of New Zealand' Wellington: Reed 1980.

Crowe, Andrew. 'A Field Guide to the Native Edible Plants of New Zealand' Auckland: Penguin (1981), 2004.

'Kowhai', Peter de Lange with Peter Heenan, in 'New Zealand Geographic' No 79, 2006.

# Mahoe

*Melicytus ramiflorus*

Whiteywood



This is one of the most common trees to be found on Tiritiri Matangi Island, and is especially obvious along the Wattle Valley Track.

## What does it look like?

Mahoe is a small tree with a smooth, whitish trunk covered in patches of fine white lichen. Mahoe grows quite quickly, and its branches start quite close to the ground. Young leaves are bright green and their edges are serrated.

Mahoe trees mainly flower in November / December but sometimes on Tiritiri Matangi they also flower in April / May, and the masses of little creamy flowers give out a lovely scent. When the flowers finish, they develop into little green berries, which then ripen into a bright purple colour by January to March.

## What can be found living on it?

Tree weta can often be found in mahoe trees because it is a favourite food of theirs.

Birds love the fruit, and on Tiritiri Matangi, visitors can often see kokako, bellbirds, saddlebacks and tui when the trees are flowering or fruiting.

These birds also join robins in looking for insects in nooks and crannies in the bark and under the dead leaves beneath the trees.

## **Has it a use for humans?**

The branches are too brittle and the rest of the wood is too soft to be much use, but old time Maori sometimes used a sharply-pointed piece of kaikomako on a flat piece of mahoe to create a channel full of fine dust, which when rubbed vigorously, would start to smoke and then could be fanned into a flame.

## **Where else is it found?**

Mahoe is a very common tree and can be found in forests all over New Zealand. It grows quickly and so is good for creating shade for other trees to develop under.

### **References:**

Salmon, J.T. 'The Native Trees of New Zealand. Wellington: Reed, 1980.  
'Dawn Chorus' Bulletin 61, May 2005, p11.