

# A Climber's Guide to Native Plant Conservation

## - Port Hills and Banks Peninsula



## Introduction

As any Christchurch climber knows, the Port Hills and Banks Peninsula are a rocky pile of choss created by several ancient volcanoes. Many plants are found only on the Banks Peninsula due to its unique combination of geology and climate. Formerly mostly forested, intentional and unintentional fires over the past 200 years have reduced forest cover to less than 2%. Combine this with ongoing threats, and many of the peninsula's unique plants are at imminent risk of extinction. It's important we recognise the special plants we share the crags with, and do our best to protect and conserve them. Not only do we have an ethical obligation to conserve Aotearoa's deep heritage and history, but failing to respect our surrounding environment could mean losing access to many of our favourite crags.

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## The threats and how you can help

Oblivious climbers can **trample plants**. Yes, you need to belay from a good spot, but if that spot is home to a threatened native groundcover like pygmy button daisy, look around for another safe spot you could stand, or consider climbing a different route. It's not just unintentional trampling that's an issue though. Have you ever heard of someone 'cleaning' or 'gardening' a route? Don't do this. Many of the plants and lichens you remove when doing so may be threatened and near extinction. Even if they are not threatened, you are damaging the natural environment that we rely on for enjoyment in the outdoors. Is your experience on a route worth that?

Many native plants in this area are threatened by **invasive weeds**, which displace native plants and alter habitat characteristics. Weeds include gorse, broom, non-native grasses, and many other plants. If you notice that your socks are full of seeds, remove them before travelling to climb in another location in order to avoid spreading devastating weeds.

**Browsing** by sheep, hares, and rabbits is also a major threat. Make sure to close gates behind you to keep sheep where they belong. This is especially important for the many Banks Peninsula crags that are located on active farms.

## The plants

### Pygmy button daisy (*Leptinella nana*)

#### What it looks like:

Tiny groundcover, with leaves no more than 1.5 cm long at their largest. The leaves are divided into ladder-like lobes and are faintly hairy. Flowers, which may be seen in spring or autumn, are also tiny, and form little yellow spheres.

#### Where it grows:

Found at a total of three sites across New Zealand, one near Porirua, one in Marlborough, and one at Lyttleton Rock on the Port Hills. Grows on damp, sheltered patches of bare ground, such as under the overhangs at Lyttleton Rock.

#### Conservation status:

Classified as Threatened – Nationally Critical. Threats include competition with introduced weeds, loss of forest cover, loss of birds and lizards that would naturally have dispersed its seeds, and trampling by sheep, hikers, and climbers.



### Shrubby toroaro (*Muehlenbeckia astonii*)

#### What it looks like:

A dense shrub growing to about 4 m diameter. Leaves are about 5 mm diameter and distinctively heart-shaped. Flowers are about the same size as leaves, white or green, and 5-petaled. Flowering usually occurs from August to January. Following flowering, you may see fruits. These are fleshy and white, with 5 fleshy spikes surrounding a black seed. Unfortunately, this species is rarely successfully pollinated, so seeing fruits is rare.

#### Where it grows:

Found at only a few locations scattered across New Zealand. One location is near Wairewa (Lake Forsyth) on the Banks Peninsula, the same area that Little River Crag is located.

#### Conservation status:

Threatened – Nationally Endangered. Most remaining individuals are old plants, and seedlings rarely survive in the wild. Thus, rapid decline is likely as the remaining individuals die. Conservation efforts to propagate these plants in nurseries is likely to be essential to prevent extinction of this species. Main threats are competition with invasive weeds, browsing by animals, and trampling.





## Fan-leaved mat daisy (*Raoulia monroi*)

### What it looks like:

A tiny, creeping groundcover. Leaves are about 3 mm long, strap-shaped, and grow in a flat plane from either side of the stem. They are clad in dense white hairs that give the whole plant a fuzzy appearance. Flowerheads are about 5 mm diameter, white and daisy-like. Flowers are frequently seen from October to November.

### Where it grows:

Only found in the South Island. Found on open ground, especially in rocky places. As such, it is often found near the crags where we climb.

### Conservation status:

Classified as Threatened – Nationally Vulnerable. Populations of this species have been declining, and it is suspected that several populations have gone locally extinct. The main threat to this species is competition with taller weeds that shade out this minute groundcover.



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## Jersey fern (*Anogramma leptophylla*)

### What it looks like:

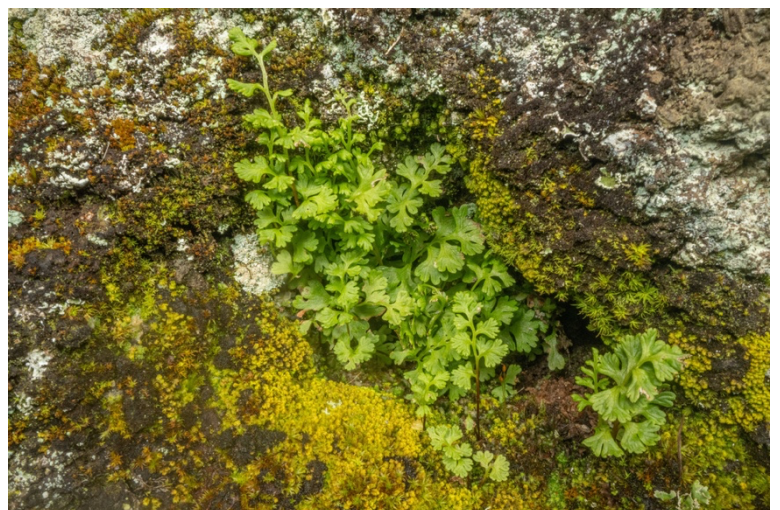
Little tufted fern. This fern dries out in late summer, becoming brown and twiggy, and appearing dead. It spends winter dormant, not growing but not dying either. Then in spring it greens up again and grows as a cute and delicate green tuft.

### Where it grows:

Found on both the North and South Island, mostly east of the main divide. Although found in many locations, it is never common. The Port Hills is one of its largest populations. Mostly found on rock faces and overhangs, as well as steep clay banks.

### Conservation status:

Classified as Threatened – Nationally Vulnerable. Although probably naturally uncommon, this species has been further threatened by invasion of weeds and removal of other native vegetation from its habitats.





## New Zealand geranium (*Geranium retrorsum*)

### What it looks like:

Low-growing, fleshy herb, with leaves divided into hand-like fans. Stems are greenish, and covered in short hairs pressed against the stem. Flowers are small and white, but have the same open and flat appearance as other geranium flowers. Flowers may be seen from September to March.



### Where it grows:

Found on both the North and South Island at low elevations up to about 400 m. Found in tussock grasslands and around rocky bluffs.

### Conservation status:

Classified as Threatened – Nationally Vulnerable.

Rabbits and hares will dig up these plants to eat the taproot, which is thick and turnip-like. Invasive weeds such as gorse and broom also pose a major threat.

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## Speargrass (*Aciphylla subflabellata*)

### What it looks like:

A rosette of narrow, dagger-like leaves with extremely pointy tips, forming a clump of 20-50 cm diameter. Flowers from December to February, with a spiky flower stalk up to about a metre long. Several other related species, also commonly referred to as speargrass or spaniard, grow in the region. *Aciphylla subflabellata* can be distinguished from most similar species by its narrower leaves, around 3 mm wide.

### Where it grows:

Found in the South Island, east of the main divide only, mostly in subalpine habitat amongst tussocks. This species is scattered across the Port Hills and Banks Peninsula.

### Conservation status:

Classified as At Risk – Declining. Has a broader range, but occurs sparsely throughout its range. Threatened by animal browsing, invasive weeds, and other habitat modification.





## Sun Hebe (*Veronica lavaudiana*)

### What it looks like:

A small shrub with fleshy green leaves that grow in pairs up the stems. Leaves have red, toothed edges. White or pinkish flowers grow in large clusters, extended on stalks above the plant. Flowers from October to November.

### Where it grows:

Only found on the Banks Peninsula. Prefers to grow on sunny, exposed rock outcrops: many of the same places we love to climb.

### Conservation status:

Classified as At Risk – Declining. This species is especially vulnerable due to its limited geographic range. Like many of the plants in this booklet, its main threat is introduced weeds, particularly gorse.



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## Banks Peninsula aniseed (*Gingidia enysii* var. *peninsulare*)

### What it looks like:

A very fleshy plant, related to vaguely carrot-like. Its leaves have a central stalk with small leaflets coming off this stalk in pairs. Each leaflet is fan-shaped with a sharply toothed edge. Variable in colour, ranging from green to quite purple. Flowers from October to January. Flowers form dense, umbrella-like white clusters, a feature which is characteristic of carrots and other related plants.

### Where it grows:

This variety is only found on the Banks Peninsula. Almost always found on outcrops of volcanic rock, including some favourite Banks Peninsula crags.

### Conservation status:

Classified as At Risk – Naturally Uncommon. Although this variety does not appear to be in decline, it is extremely vulnerable to extinction because it is found at only a handful of sites, all within the Banks Peninsula.





## Banks Peninsula button daisy (*Leptinella minor*)

### What it looks like:

Similar to the pygmy button daisy (see above), the Banks Peninsula button daisy forms a creeping groundcover with divided leaves. The Banks Peninsula button daisy differs in having larger leaves (up to 5 cm long), and more numerous and narrower lobes to the leaves. Flowers can be found at most times of year (except midwinter), and are white.



### Where it grows:

This species was once found across the Canterbury plains, but has now become restricted to the Banks Peninsula. Usually grows on rock outcrops or rocky soils, and prefers open, unforested sites.

### Conservation status:

Considered naturally uncommon, but there is clear evidence that its distribution has declined over the past few decades. Can be quite common in the places it is found, but not found in many places. The main threats to this species are likely introduced weeds, and agricultural and urban development.

## Māhoe (*Melicytus ramiflorus*)

### What it looks like:

A small tree that grows up to 15 m tall. Often has a much-branched trunk, with smooth, pale brown bark. Leaves are bright green, shaped like a pointy oval, and roughly 4 cm wide and 10 cm long. Coarse teeth line the margins of the leaves. These trees flower from November to February, but flowers are often overlooked. The flowers grow in clusters, but are tiny, green, and lack any conspicuous colours. You are more likely to notice clusters of fruit, which may be seen from November to March, and turn a dark purple colour when ripe.

### Where it grows:

Common throughout New Zealand in forests at low elevations. You may see this species as scattered individuals at some of the more open crags, or as a component of the forest at crags like Lyttleton Rock.



### Conservation status:

Not threatened, but an important species to value and prevent its decline. This tree forms a large part of the Port Hills and Banks Peninsula forests and provides food for many native birds, lizards, and insects.



## Prostrate kōwhai (*Sophora prostrata*)

### What it looks like:

Leaves, flowers, and seedpods all look similar to the kōwhai trees you're probably familiar with. The most obvious difference between this species and other species of kōwhai is the growth form. Whilst the other species grow into small trees, this species grows as a dense, shrub, up to about 2 m diameter. From a distance, appears as a bright green hummock amongst the tussocks.

### Where it grows:

Found throughout the eastern South Island. Hummocks of prostrate kōwhai are common around many of the more open Port Hills and Banks Peninsula crags, such as Rapaki Rock.

### Conservation status:

Not threatened, but that doesn't mean not important! May play a key role in providing pockets of shade and moisture in areas without forest cover. The flowers and fruit of these shrubs also provide food for native insects, birds, and lizards.



## Scrambling pōhuehue (*Muehlenbeckia complexa*)

### What it looks like:

A scrambling vine that creeps often grows tangled and twisted over other shrubs. This species has round green leaves about 5 mm in diameter. Flowers are even smaller than leaves and grow in tight little clusters. The related *Muehlenbeckia australis* has a similar growth form but much larger leaves. *Muehlenbeckia axillaris* is another common species, which differs in its smaller size and groundcover form. *Muehlenbeckia astonii* differs by having heart-shaped leaves and forming more of a shrub than a vine.

### Where it grows:

Found throughout New Zealand. Grows in a broad variety of habitats. On the Port Hills and Banks Peninsula, you'll often see it in the scrubby grassland that now covers most of the Peninsula.

### Conservation status:

Not threatened, and widely distributed. It is an important plant to conserve for its structural role in vegetation, and for its provision of edible fruits for native animals.





## Lichens, mosses, and algae

Although small and often overlooked, these are perhaps the plants which climbers have the greatest and most direct impact upon. They tend to be the only things that grow on the sheer surfaces of the crags we wish to climb. Many threatened lichens, mosses, and algae are known to grow on the crags of the Port Hills. Many more are likely to be there, but yet to be found, as these groups are tragically under-researched.

Lichens are typically considered fungi, not plants. In reality, they are a close relationship between a fungus, an alga, and usually several species of bacteria.

Mosses are a group of plants that lack the sophisticated water-conducting system present in larger plants. This limits their growth, and they often grow on rocks or trees to make up for their diminutive height.

Algae are another group of plants which lack this water-conducting system. Most algae are aquatic, however a few live on land and look a bit like mosses. For example, that red stuff all over the rocks at crags like Lyttleton Rock is an alga called *Trentepohlia*.

I've heard too many climbers refer to these little plants as 'dirt', and complain about routes being 'dirty'. That attitude needs to change. You can help protect these little plants by not cleaning routes excessively. Recognise that the 'dirt' is actually a community of tiny and special plants. Accept their presence as part of the experience of the route. If you think you can't climb a route without significantly damaging the plant or lichen community on the rock, consider finding a different rock.



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## Want to know more?

Check out the New Zealand Plant Conservation Network website: <https://www.nzpcn.org.nz>, for heaps more info about New Zealand plants.

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