

Maungawhakamana 1 February 2020

Angela Simpson

On 1 February 2020, a group of eight visited Maungawhakamana in the Tarawera River valley. Maungawhakamana is a distinct sharp-pointed peak to the northeast of Mt Tarawera. It is visible from Kawerau township and became dauntingly larger as we approached the parking area at the base of the maunga. The track to the summit of Maungawhakamana was previously botanised by Rotorua Botanical Society in 1987 (Clarkson and Beadel 1987) but the main aim of our trip this year was to visit the population of *Pimelea tomentosa* (Threatened Nationally Vulnerable) present alongside the track on the lower slopes.

The track up Maungawhakamana rises steadily from the northern side of the Tarawera River. Our group soon got underway recording our findings alongside steep banks in the first gully before the set of stairs. The forest was predominantly regenerating kanuka with occasional emergent rewarewa. The understorey varied from sparse to denser in places and included mingimingi, mapou, kiokio, kowaowao, turutu, *Coprosma lucida*, rangiora, and scattered tree ferns (wheki, mamaku, and ponga). *Gaultheria oppositifolia* were noted growing on the edge of a few steep landslips. Early-on we spotted a patch of epiphytic *Drymoanthus adversus* on a rewarewa tree and large mingimingi shrub. As

Pimelea tomentosa is a small shrub from the family Thymelaeaceae, which includes plants such as *Daphne* spp. and *Kelleria* spp. *Pimelea tomentosa* often has long thin branches, with brown-red bark and prominent leaf scars (de Lange 2020). The leaves (15-25 mm long) are soft green, lance-shaped and hairy – particularly underneath. The tubular white flowers are also hairy and develop into fleshy black fruits. *Pimelea tomentosa* favours seral habitats, with infertile soils, including track margins and is known from a few other locations in the Bay of Plenty.



we looked further, many more were spotted on other trees along the walk. Most of these had good displays of fruit – “like bunches of bananas!”

After a scramble up the narrow scoria track and onto the ridge, the canopy opened in places and it was not long before the first *Pimelea tomentosa* were spotted. To our delight there were also flowering and fruiting plants (see Plates 1 and 2). At this site *Pimelea tomentosa* grow alongside the track for about 5 metres either side, over about a 300 metres distance (at 240-280 metres altitude). More than two hundred plants are present, of a range of heights including seedlings (Plate 5), to the tallest individual located on this trip which reached about 1.9-2 metres tall (see Plate 3). The habitat is dominated by kanuka with scattered emergent rewarewa and a few kamahi. *Pimelea tomentosa* seemed to be more common in areas along the ridge where there are canopy gaps (often formed by tree falls), and a ground cover of moss and leaf litter on top of the scoria. Associated species included mingimingi, *Gaultheria antipoda*, *Pomaderis amoena*, mapou, heketara (*Olearia rani*), *Morelotia affinis*, *Earina autumnalis*, and *Libertia grandiflora*. Similar understorey species as listed earlier were also present. Browse was noticed on a few *Astelia solandri* and nikau seedlings –likely sign of wallabies and/pigs. But the *Pimelea tomentosa* were certainly unimpaired. Perhaps, similar to some *Daphne* species, this species has some level of irritant or toxicity to mammals...?

A well-deserved lunch break was enjoyed in the dappled sunlight at the end of the ridge. Piwakawaka (fantails), copper butterfly, little blue butterfly, and German wasp were observed nearby.

We started up the steeper slope towards the summit. And up it goes! Zig-zagging through the kanuka forest which has established since the 1886 eruption of Mt Tarawera (Clarkson and Beadel 1987) we started to encounter more frequent kamahi and a few pukatea. To our surprise, a second population of *Pimelea tomentosa* was found at 402 metres altitude. Though we did not spend long searching here as we wanted to continue upwards, at least four plants were counted. At about 460 metres altitude, the canopy transitioned into kamahi forest (c.15-20 metres tall) with scattered large trees of pohutukawa × Northern rata hybrids, and occasional hīnau and mangeao (see Plate 4). At about 680 metres altitude the canopy of kamahi reduced to about 8 metres tall, with local tawheowheo and *Griselinia lucida* present. Other submontane species typical of damp forest became present including *Blechnum vulcanicum*, *Notogrammitis heterophylla*, and *Notogrammitis billardiarei*.



Plate 1. A cluster of flowers on the end of a branch of *Pimelea tomentosa*.
Photo: Bryce McQuillan.



Plate 2. A cluster of three dark fruit of *Pimelea tomentosa*. Photo: Angela Simpson.



Plate 3. The tallest individual *Pimelea tomentosa* observed on this trip (line indicates top of *Pimelea tomentosa*). Photo: Angela Simpson.



Plate 4. Canopy of the large pohutukawa × Northern rata hybrid tree. Leaves of these hybrids have the notch in leaf tip similar to Northern rata, but are less tomentose than pohutukawa.
Photo: Angela Simpson.

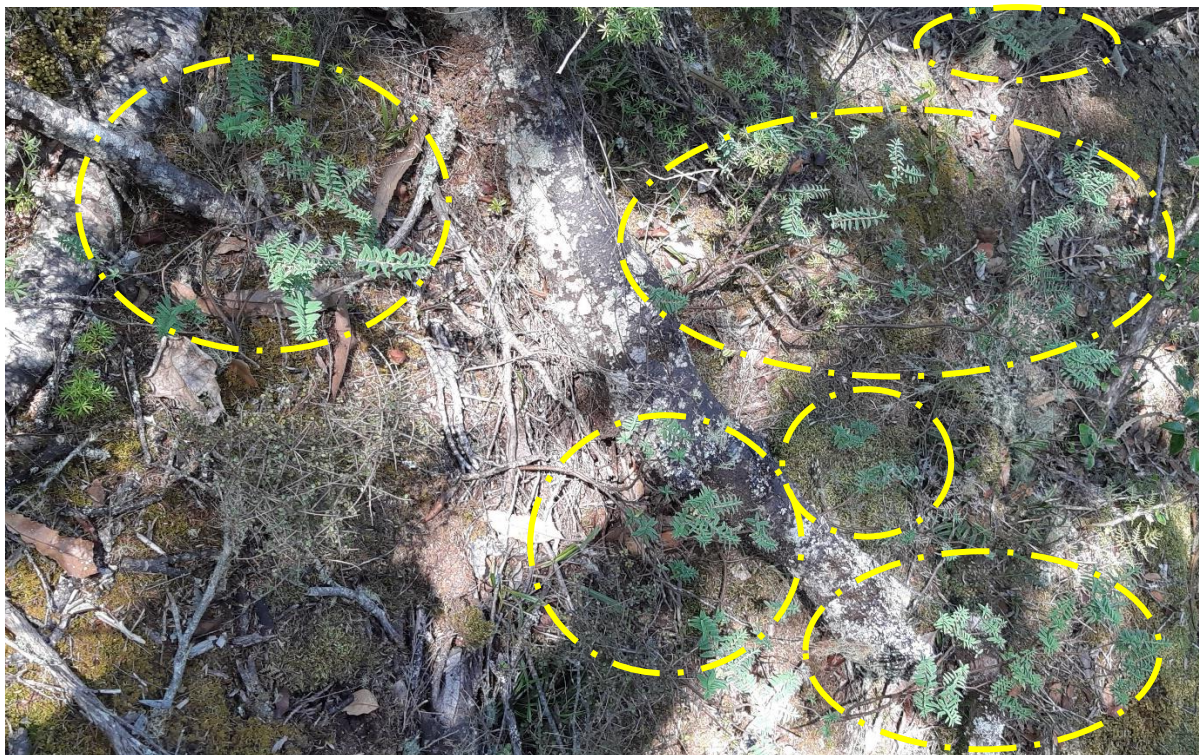


Plate 5. Six *Pimelea tomentosa* plants (each circle is one individual). Photo: Angela Simpson.



Plate 6. Some of our group standing next to one of the Hall's totara, just beyond the summit of Maungawhakamana. Photo: Kerry Jones.

For the group that made it to the summit, the change in vegetation just beyond the peak was more rewarding than the limited view through the canopy towards the craters of Mt Tarawera. In comparison to the 1987 trip report, the shrubland surrounding the trig certainly seems to have grown in height! The forest canopy on the slopes facing away from Mt Tarawera, included tawari, tawa, white maire, tarata and several huge Hall's totara (Plate 6). At least two live Hall's totara were observed within our short (c.200 metre) walk from the trig. These would have survived the Mt Tarawera 1886 eruption (Clarkson and Beadel 1987). Some of the others had severe crown damage or were dead standing trunk relicts of the past. There was a dense understorey of crown ferns and abundant epiphytes indicative of the cloud cover which probably is common at the summit altitude of 728 metres. Though some of us may have been tempted to investigate the route though to SH30, that was best saved for another day, and we returned via the same steep track down to the parking area alongside the Tarawera River (at about 120 metres).

Acknowledgements

Les Russell (Hancock Forest Management) provided access permissions which we were fortunate to receive due to the extended dry period over the summer.

References

- de Lange P.J. (2020): *Pimelea tomentosa* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.
<https://www.nzpcn.org.nz/flora/species/pimelea-tomentosa/> (1 June 2020)
Clarkson B. and S. Beadel 1987: Maungawhakamana Field Trip: 23 August 1987. *Rotorua Botanical Society Newsletter* 12: 14-17.

~~~~~ **Maungawhakamana track species list**

Graeme Jane and Gael Donaghy

Compiled from observations by:

BD Clarkson & SM Beadel with RBS (23-08-1987); G Jane & G Donaghy (4-11-90; 15-5-05);
and RBS (1-2-20). **Map: BE38 Grid Ref: 1913560 5773610**

Key: x = Clarkson & Beadel

β = additions from 2020 and other visits

* = naturalised species

Psilopsids, Lycopods & Quillworts

x *Lycopodium volubile*

waewae-koukou; climbing clubmoss

x *Phlegmariurus varius*

hanging clubmoss; iwituna

Ferns

x	<i>Adiantum cunninghamii</i>	maiden hair fern
x	<i>Adiantum hispidulum</i>	rosy maidenhair fern
x	<i>Asplenium bulbiferum</i>	hen-and-chickens fern; moku
x	<i>Asplenium bulbiferum</i> x <i>A. flaccidum</i>	
x	<i>Asplenium bulbiferum</i> x <i>A. hookerianum</i>	
x	<i>Asplenium flaccidum</i>	hanging spleenwort; makawe
x	<i>Asplenium gracillimum</i>	
x	<i>Asplenium hookerianum</i> var. <i>hookerianum</i>	lacy spleenwort
x	<i>Asplenium oblongifolium</i>	shining spleenwort
x	<i>Asplenium polyodon</i>	sickle spleenwort; petako
x	<i>Blechnum chambersii</i>	nini; lance fern
x	<i>Blechnum deltoides</i>	
x	<i>Blechnum discolor</i>	crown fern; piupiu; petipeti
x	<i>Blechnum filiforme</i>	Climbing hard fern; thread fern
x	<i>Blechnum fluviale</i>	kiwakiwa; kiwikiwi
x	<i>Blechnum novae-zelandiae</i>	kiokio
x	<i>Blechnum parrisiae</i>	pukupuku; rasp fern
x	<i>Botrychium bifforme</i>	fine-leaved parsley fern
x	<i>Cyathea cunninghamii</i>	slender tree fern; gully tree fern
x	<i>Cyathea dealbata</i>	ponga; silver fern
x	<i>Cyathea medullaris</i>	mamaku; korau; black tree fern
x	<i>Cyathea smithii</i>	soft-leaved tree fern; katote
x	<i>Dicksonia fibrosa</i>	wheki-ponga; kuripaka
x	<i>Dicksonia squarrosa</i>	wheki; harsh tree fern
x	<i>Diplazium australe</i>	
x	<i>Histiopteris incisa</i>	water fern
x	<i>Hymenophyllum demissum</i>	piripiri; irirangi
x	<i>Hymenophyllum dilatatum</i>	lop-sided filmy fern
x	<i>Hymenophyllum multifidum</i>	
x	<i>Hymenophyllum nephrophyllum</i>	kidney fern; raurenga
x	<i>Hymenophyllum rarum</i>	wire-stemmed filmy fern
x	<i>Hymenophyllum sanguinolentum</i>	blood-scented filmy fern
x	<i>Hymenophyllum scabrum</i>	coarse-haired filmy fern
x	<i>Hypolepis ambigua</i>	
β	<i>Hypolepis lactea</i>	
x	<i>Hypolepis rufobarbata</i>	sticky pig fern
x	<i>Lastreopsis glabella</i>	felted fern
x	<i>Lastreopsis hispida</i>	hairy fern, hairy legs
x	<i>Lastreopsis microsora</i> ssp. <i>pentangularis</i>	
x	<i>Leptolepia novae-zelandiae</i>	lacey fern
x	<i>Leptopteris hymenophylloides</i>	single crepe fern; heruheru
x	<i>Microsorium pustulatum</i> ssp. <i>pustulatum</i>	hound's tongue; kowaowao
x	<i>Notogrammitis billardiarei</i>	common strap fern

x	<i>Notogrammitis heterophylla</i>	
x	<i>Notogrammitis patagonica</i>	
x	<i>Paesia scaberula</i>	scented fern; matata; ring fern
x	<i>Pellaea rotundifolia</i>	tarawera; button fern
x	<i>Polystichum wawranum</i>	common shield fern; pikopiko
x	<i>Pteridium esculentum</i>	bracken; rauaruhe
x	<i>Pteris macilenta</i>	sweet fern
β	<i>Pteris saxatilis</i>	
x	<i>Pteris tremula</i>	turawera
x	<i>Pyrrosia elaeagnifolia</i>	leather-leaf fern
β	<i>Rumohra adiantiformis</i>	butcher's fern
x	<i>Tmesipteris elongata</i>	
x	<i>Tmesipteris lanceolata</i>	
x	<i>Tmesipteris tannensis</i>	chain fern; fork fern

Gymnosperm trees and shrubs

x	<i>Dacrycarpus dacrydioides</i>	kahikatea, white pine
x	<i>Dacrydium cupressinum</i>	rimu, red pine
x	<i>Phyllocladus trichomanoides</i>	tanekaha; celery pine
x	* <i>Pinus radiata</i>	Monterey pine; radiata
x	<i>Podocarpus laetus</i>	Hall's totara; thin bark totara
β	<i>Podocarpus totara</i> var. <i>totara</i>	totara
x	<i>Prumnopitys ferruginea</i>	miro; brown pine
x	<i>Prumnopitys taxifolia</i>	matai; black pine
x	* <i>Pseudotsuga menziesii</i> var. <i>menzesii</i>	Douglas-fir

Dicotyledonous trees and shrubs

x	<i>Alectryon excelsus</i> ssp. <i>excelsus</i>	titoki
x	<i>Alseuosmia macrophylla</i>	toropapa; shrubby honeysuckle
x	<i>Aristotelia serrata</i>	wineberry; makomako
x	<i>Beilschmiedia tawa</i>	tawa
x	<i>Brachyglottis repanda</i>	rangiora; bushmans friend
x	* <i>Buddleja davidii</i>	summer lilac; buddleia
x	<i>Carpodetus serratus</i>	putaputaweta; marbleleaf
x	<i>Coprosma cunninghamii</i> X(hybrid)	
x	<i>Coprosma grandifolia</i>	raurekau; kanono; mamono
x	<i>Coprosma lucida</i>	karamu; shining karamu
x	<i>Coprosma rhamnoides</i>	thorny coprosma
x	<i>Coprosma robusta</i>	karamu
x	<i>Coriaria arborea</i> var. <i>arborea</i>	tree tutu
x	<i>Dracophyllum subulatum</i>	monoao
x	<i>Elaeocarpus dentatus</i> var. <i>dentatus</i>	hinau
x	* <i>Erica lusitanica</i>	Spanish heath
x	<i>Fuchsia excorticata</i>	fuchsia; kotukutuku

x	<i>Gaultheria antipoda</i>	snowberry; tawiniwini
x	<i>Gaultheria antipoda</i> x <i>G. paniculata</i>	
x	<i>Gaultheria oppositifolia</i>	niniwa
x	<i>Gaultheria oppositifolia</i> x <i>G. paniculata</i>	
x	<i>Geniostoma ligustrifolium</i> var. <i>ligustrifolium</i>	hangehange; privet
x	* <i>Genista monspessulana</i>	Montpellier broom
x	<i>Griselinia littoralis</i>	broadleaf; kapuka
x	<i>Griselinia lucida</i>	puka
x	* <i>Hakea sericea</i>	needlebrush
x	<i>Hebe stricta</i> var. <i>stricta</i>	koromiko
x	<i>Hedycarya arborea</i>	pigeonwood; porokaiwhiri
x	<i>Helichrysum lanceolatum</i>	niniaio
x	* <i>Hypericum androsaemum</i>	tutsan
x	<i>Ixerba brexioides</i>	tawari
x	<i>Knightia excelsa</i>	rewarewa; NZ honeysuckle
x	<i>Kunzea robusta</i>	kanuka
x	<i>Laurelia novae-zelandiae</i>	pukatea
x	<i>Leptecophylla juniperina</i> ssp. <i>juniperina</i>	
x	<i>Leptospermum scoparium</i> var. <i>scoparium</i>	manuka; red teatree
x	<i>Leucopogon fasciculatus</i>	mingimingi; kaikaitau
x	<i>Leucopogon fraseri</i>	patotara
x	<i>Litsea calicaris</i>	mangeo
x	<i>Melicytus ramiflorus</i> ssp. <i>ramiflorus</i>	mahoe
β	<i>Metrosideros excelsa</i>	pohutukawa
x	<i>Metrosideros excelsa</i> x <i>M. robusta</i>	
x	<i>Metrosideros robusta</i>	northern rata
x	<i>Mida salicifolia</i>	willow-leaved maire
x	<i>Myrsine australis</i>	red matipo; mapou
x	<i>Olearia furfuracea</i>	akepiro
x	<i>Olearia rani</i> var. <i>colorata</i>	heketara
x	<i>Pimelea tomentosa</i>	
x	<i>Piper excelsum</i> ssp. <i>excelsum</i>	kawakawa; pepper tree
β	<i>Pittosporum colensoi</i>	
x	<i>Pittosporum eugenioides</i>	lemonwood; tarata
x	<i>Pittosporum tenuifolium</i>	black matipo; kohuhu
x	<i>Pomaderris amoena</i>	tauhinu
x	<i>Pseudopanax arboreus</i>	five finger; puhou; whaupaku
x	<i>Pseudopanax crassifolius</i>	lancewood; horoeka
x	<i>Quintinia serrata</i>	Westland quintinia; tawheowheo
x	<i>Raukaua edgerleyi</i>	rauakawa
x	* <i>Rosa rubiginosa</i>	sweet briar
x	<i>Schefflera digitata</i>	pate; patae; kotete
x	<i>Solanum aviculare</i> var. <i>aviculare</i>	poroporo
x	<i>Urtica ferox</i>	tree nettle; ongaonga

x *Weinmannia racemosa*

kamahi; towai; tawhero

Dicotyledonous lianes and related trailing plants

x *Clematis cunninghamii*

scented clematis; pokopoko

x *Clematis paniculata*

clematis; puawhananga

x *Metrosideros diffusa*

white climbing rata; akatea

x *Metrosideros fulgens*

scarlet rata; winter rata

x *Metrosideros perforata*

aka; small white rata; torotoro

x *Muehlenbeckia australis*

poheuheu

x *Parsonsia capsularis* var. *capsularis*

small flowered jasmine; akakior

β *Parsonsia heterophylla*

maori jasmine; kaihu; kaiwhiria

x *Rubus cissoides*

bush lawyer; tataramoa

x * *Rubus fruticosus*

blackberry

x *Rubus schmidelioides* var. *schmidelioides*

bush lawyer; tataramoa

Daisy-like herbs

x * *Achillea millefolium*

yarrow

x * *Bellis perennis*

lawn daisy

x * *Cirsium arvense*

Californian thistle

x * *Cirsium vulgare*

Scotch thistle

x * *Crepis capillaris*

hawkesbeard

β * *Erechtites hieraciifolius*

American fireweed

x * *Erigeron sumatrensis*

broad-leaved fleabane

x *Euchiton audax*

x *Euchiton japonicus*

x * *Gamochaeta coarctata*

β * *Hypochaeris radicata*

catsear

x * *Jacobaea vulgaris*

ragwort

x *Lagenophora pumila*

x * *Leucanthemum vulgare*

oxeye daisy

x * *Mycelis muralis*

wall lettuce

x *Pseudognaphalium luteoalbum*

Jersey cudweed

x *Senecio bipinnatisectus*

Australian fireweed

Dicotyledonous herbs other than Daisies

x * *Acaena agnipila*

β *Acaena anserinifolia*

bidibid

x * *Acaena novae-zelandiae*

red bidibid; piripiri

x *Cardamine dolichostyla*

x * *Centaurium erythraea*

centaury

x * *Digitalis purpurea*

foxglove

x *Drosera auriculata*

x * *Echium vulgare*

viper's bugloss; blue borage

x *Epilobium brunnescens* ssp. *minutiflorum*

x *Epilobium nummulariifolium*

creeping willow-herb

x *Epilobium pedunculare*

x	<i>Epilobium pubens</i>	
x	* <i>Euphorbia peplus</i>	milkweed
x	<i>Galium propinquum</i>	
x	<i>Gunnera monoica</i>	solitary gunnera
x	<i>Haloragis erecta</i> ssp. <i>erecta</i>	toatoa
x	<i>Hydrocotyle dissecta</i>	
x	<i>Hydrocotyle heteromeria</i>	wax weed
x	<i>Hydrocotyle microphylla</i>	hydrocotyle
β	<i>Hydrocotyle moschata</i> var. <i>moschata</i>	
x	<i>Lobelia angulata</i>	panakenake
x	* <i>Lotus pedunculatus</i>	lotus major
x	<i>Nertera depressa</i>	common nertera
x	* <i>Oenothera glazioviana</i>	evening primrose
x	* <i>Prunella vulgaris</i>	selfheal
x	<i>Ranunculus reflexus</i>	maruru; hairy buttercup
x	* <i>Rumex acetosella</i>	sheep's sorrel
x	<i>Stellaria parviflora</i>	
x	<i>Urtica sykesii</i>	stinging nettle
β	<i>Wahlenbergia violacea</i>	blue harebell; rimu-roa

Monocotyledonous trees and shrubs

x	<i>Cordyline australis</i>	cabbage tree; ti-kouka
x	<i>Cordyline banksii</i>	forest cabbage tree; ti ngahere
x	<i>Rhopalostylis sapida</i>	nikau

Monocotyledonous lianes

x	<i>Freycinetia banksii</i>	kiekie
x	<i>Ripogonum scandens</i>	supplejack; kareao

Sedges

x	<i>Carex banksiana</i>	
β	<i>Carex forsteri</i>	
x	<i>Carex healyi</i>	
β	<i>Carex imbecilla</i>	
x	<i>Carex solandri</i>	
x	<i>Carex uncinata</i>	watu
x	<i>Gahnia pauciflora</i>	
x	<i>Gahnia setifolia</i>	
x	<i>Morelotia affinis</i>	
x	<i>Schoenus tendo</i>	

Rushes and allied plants

x	<i>Luzula picta</i> var. <i>picta</i>	
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Grasses

x	* <i>Anthoxanthum odoratum</i>	sweet vernal
x	<i>Austroderia fulvida</i>	kakaho; toetoe

x	<i>Deyeuxia avenoides</i>	mountain oatgrass
x	<i>Dichelachne crinita</i>	long-hair plume grass
β	<i>Dichelachne inaequiglumis</i>	short-hair plume grass
x	<i>Echinopogon ovatus</i>	hedgehog grass
x	* <i>Eragrostis brownii</i>	bay grass
x	* <i>Holcus lanatus</i>	Yorkshire fog
x	<i>Lachnagrostis filiformis</i>	tumble grass
x	<i>Microlaena stipoides</i>	forest rice grass
x	<i>Oplismenus hirtellus</i> ssp. <i>imbecillis</i>	oat grass
x	* <i>Paspalum dilatatum</i>	paspalum
x	<i>Poa anceps</i> ssp. <i>anceps</i>	coastal poa
x	* <i>Poa annua</i>	annual poa
x	<i>Rytidosperma clavatum</i>	
x	<i>Rytidosperma gracile</i>	forest fairy grass
x	* <i>Rytidosperma penicillatum</i>	
x	* <i>Setaria pumila</i>	yellow bristle grass
x	* <i>Sporobolus africanus</i>	needle grass; rat's tail

Remaining Monocotyledonous herbs

x	<i>Astelia hastata</i>	kahakaha
β	<i>Astelia microsperma</i>	
x	<i>Astelia solandri</i>	kowharawhara
x	<i>Astelia trinervia</i>	
x	<i>Dianella nigra</i>	blueberry; turutu
x	<i>Libertia grandiflora</i>	

Orchids

x	<i>Acianthus sinclairii</i>	heart-leaf orchid
x	<i>Bulbophyllum pygmaeum</i>	
x	<i>Chiloglottis cornuta</i>	green bird orchid
x	<i>Corybas trilobus</i>	
x	<i>Dendrobium cunninghamii</i>	bamboo orchid
x	<i>Drymoanthus adversus</i>	
x	<i>Earina autumnalis</i>	Easter orchid; raupeka
x	<i>Earina mucronata</i>	spring orchid; peka-a-waka
x	<i>Microtis unifolia</i>	onion orchid
x	<i>Orthoceras novae-zeelandiae</i>	
x	<i>Pterostylis alobula</i>	
x	<i>Pterostylis banksii</i>	tutukiwi
x	<i>Pterostylis graminea</i>	grassy hooded orchid
x	<i>Pterostylis trullifolia</i>	trowel-leaved orchid
x	<i>Thelymitra longifolia</i>	white sun orchid
x	<i>Thelymitra pauciflora</i>	