



Ruapehu/ Rangiwaea



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Made on the New Zealand Plant Conservation Network website – www.nzpcn.org.nz

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Introduction

This book was compiled from information stored on the website of the New Zealand Plant Conservation Network (www.nzpcn.org.nz).

This website was established in 2003 as a repository for information about New Zealand's threatened vascular plants. Since then it has grown into a national database of information about all plants in the New Zealand botanic region including both native and naturalised vascular plants, threatened mosses, liverworts and fungi.

Funding to develop the website was provided by the New Zealand Government's Terrestrial and Freshwater Biodiversity Information System Programme (TFBIS).

The species information used on the website has come from a variety of sources. The indigenous vascular plant text was written largely by Dr Peter de Lange (former Network Vice President). Peter based the descriptions on a wide range of sources including the Flora of NZ Series (Allan 1961, Moore and Edgar 1970 and Webb et al 1987) as well as numerous other taxonomic treatments. For a full bibliography of information sources see the References at the end of this book.

Where no published treatment was available Peter used herbarium specimens and his own knowledge of the flora to prepare species pages. Various other contributors have provided text and additional information to many species pages including botanists such as Mike Thorsen, John Barkla, Cathy Jones, Simon Walls, Nick Singers and many others. The threatened fungi text was written by Eric Mackenzie and Peter Buchanan (Landcare Research).

More than 200 photographers have kindly provided images to illustrate the website and for use in this book especially John Smith-Dodsworth, Jeremy Rolfe, Peter de Lange, Wayne Bennett and Gillian Crowcroft.

The New Zealand Botanic Region

The information on the Network website, from which this book was compiled, is for species that are indigenous to or naturalised within the New Zealand Botanic Region as defined by Allan (1961). The New Zealand botanic region encompasses the Kermadec, Manawatawhi/Three Kings, North, South, Stewart Island/Rakiura, Chatham, Antipodes, Bounties, Snares, Auckland Campbell island/Motu Ihupuku and Macquarie.

About the Network

The Network has more than 800 members worldwide and is New Zealand's largest non-governmental organisation solely devoted to the protection and restoration of New Zealand's indigenous plant life.

The vision of the New Zealand Plant Conservation Network is that '*no indigenous species of plant will become extinct nor be placed at risk of extinction as a result of human action or indifference, and that the rich, diverse and unique plant life of New Zealand will be recognised, cherished and restored*'.

Since it was founded in 2003 the Network has undertaken a range of conservation initiatives in order to achieve its vision.

That work has included:

- Training people in plant conservation
- Publishing plant books, reports and posters
- Raising money for the David Given Threatened Plant Research Trust to pay for plant conservation research scholarships
- Advocacy to raise awareness of the importance of plant life in general and especially New Zealand's status as a Global Centre of Plant Diversity
- Lobbying central and regional government and business to protect indigenous plant life
- Educating people about plant life through the Network website
- Connecting people through the monthly newsletter, the Network conference and the annual general meeting

What is a threatened plant?

The NZ Threatened Plant Committee was formed in 1991 and ever since then it has met at regular intervals to review the status of indigenous vascular plants. It is made up of a small group of botanists that between them have an extensive knowledge of the native plants of New Zealand. This group is chaired by Dr Peter de Lange of the New Zealand Department of Conservation.

This committee applies a set of criteria to each native plant to determine its conservation status. The resulting list of species classified as threatened is published in the NZ Journal of Botany (see for example de Lange et al. 2009). The main threat categories used are: Extinct, Critical, Endangered, Vulnerable, Declining. Other categories used are: Recovering, Relict, Naturally Uncommon, Coloniser, Vagrant and Data Deficient. For vascular plants the threat status used in this book is taken from the 2009 conservation assessment (see de Lange et al 2009).

More recently other committees have been established to review the status of non-vascular plants but their lists are yet to be published.

Anisotome aromatica

Common Name(s):

Aromatic aniseed, kopoti, common aniseed

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 2009 Vol. 11 No. 4 pp. 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1497



Caption: *Anisotome aromatica*
Photographer: Jane Gosden



Caption: *Anisotome aromatica*
Photographer: Jane Gosden

Brachyglottis bidwillii

Common Name(s):

none known

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 2009 Vol. 11 No. 4 pp. 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2286



Caption: Ruahine Range, near Sunrise Hut

Photographer: John Sawyer



Caption: Ruahine Range, near Sunrise Hut

Photographer: John Sawyer

Calluna vulgaris

Common Name(s):

heather

Current Threat Status (2009):

Exotic

Habitat:

Terrestrial. A plant of montane, subalpine and alpine habitats. The plant grows in sites of low - moderate fertility. Plant found in scrub and forest margin, shrubland, tall and short tussockland, herbfields, riverbeds, wetlands, alpine gravel fields, dune slacks and road edges.

Features:

Shrub to c. 50cm tall; stems puberulent or densely hairy at first, becoming glabrous. Lvs 1.5-3.5mm long (including auricles), oblong-ovate or oblong-lanceolate; densely imbricate on non-flowering branches, keeled on abaxial surface, often ciliate, obtuse; auricles proximally directed. Infl. a narrow raceme 2-9-(c.20) cm long, sometimes almost paniculate. Pedicels very short, puberulent. Bracteoles several, similar to lvs, resembling a calyx below fl., obscuring pedicels. Sepals 2-4mm long, ovate-oblong, pink or mauve-pink, shining, +/- scarious. Corolla c. 3/4 length of calyx, deeply lobed, paler than calyx, persistent, scarious. Stamens c. = corolla; anthers>filaments. Style reddish, exerted. Capsules densely hairy, < perianth, subglobose. Seeds 0.5-0.7mm long, strongly reticulate, often aborted. (Webb.et.al.1988)

Flowering:

January, February,
March, April

Fruiting:

late March? - April, but seeds
shed into June or later.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=3606



Caption: *Calluna vulgaris*

Photographer: ARC



Caption: Tongariro National Park.
Feb 2005.

Photographer: Colin Ogle

Celmisia gracilentia

Common Name(s):

common mountain daisy, pekapeka

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 2009 Vol. 11 No. 4 pp. 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1621



Caption: Cass, Canterbury
Photographer: Jane Gosden



Caption: Cass, Canterbury
Photographer: Jane Gosden

Celmisia incana

Common Name(s):

white mountain daisy

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North and South Islands from Te Moehau (Coromandel Peninsula) south to Otago

Habitat:

Montane to alpine in grassland, herbfield, boulderfield, on rock outcrops and tors and other similar rocky places.

Features*:

Stems stout, woody, up to ± 100 mm diameter; branches stout, woody, clad in long-persistent reflexed leaves; living leaves in close rosettes, patent. Lamina 20-40 × 10-15 mm, obovate-oblong, coriaceous; upper surface ± densely clad in appressed white tomentum forming a pellicle; lower surface densely clad in similar but more appressed tomentum, midrib evident to obscured; apex subacute to obtuse, often apiculate; margins very slightly recurved, remotely denticulate, narrowed to very short petiole up to 5 mm wide, or sometimes directly into thin almost glabrous striate sheath c.10-15 × 7-10 mm. Scape slender, up to 120 mm long, often short at flowering stage, densely clad in floccose hairs. Capitula 25-35 mm diameter; involucre bracts linear-subulate, many, 10-15 mm long, floccose on outer surface, glandular near apex. Ray-florets narrow, up to 12 mm long, white; limb gradually widening to apex. Disk-florets funnelform, c.7-8 mm. long, teeth narrow-triangular; anthers usually distinctly but shortly tailed. Achenes 3.0-3.5 mm long, compressed-cylindric; ribs rather obscure, clad in rather stiff ascending hairs. Pappus of white or sordid-white slender, minutely barbellate hairs up to 7-8 mm long.

Flowering:

September - March

Fruiting:

November - May

Threats:

Not Threatened

***Attribution:**

P.J. de Lange (7 April 2009). Description adapted from Allan (1961)

References and further reading:

Allan, H.H. 1961: Flora of New Zealand. Vol. I, Government Printer, Wellington.

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 2009 Vol. 11 No. 4 pp. 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1629



Caption: Ruahine Range, near Sunrise Hut

Photographer: John Sawyer



Caption: Ruahine Range, near Sunrise Hut

Photographer: John Sawyer

Celmisia spectabilis subsp. *spectabilis*

Common Name(s):

common mountain daisy, cotton plant

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North and South Islands: In the North Island from the Raukumara Range; South through the central volcanoes, Kaimanawa Mountains; Kaweka Range; north-west Ruahine Range and Tararua Range. In the South Island present in north-west Nelson and from northern Marlborough south to Rakaia River and Mathias River, Canterbury.

Habitat:

Alpine and subalpine grassland and herbfield rocky sites

Features*:

Woody-based herb forming mats or cushions 0.2-1.0 m diameter; with branchlets arising from a usually hidden simple or multicipital stock. Living leaves in rosettes at the tips of branchlets, the whole forming a cushion or mat. Leaf sheaths densely imbricate and compacted, forming a pseudostem. Leaf lamina 30-180 × 3-30 mm, (ratio of length to width 3.7-11); coriaceous, usually lanceolate-oblong to narrowly ovate; upper surface shining and sulcate: lower surface densely covered in soft felted pale buff to brown tomentum, midrib distinct; tip acute; margins entire and recurved, occasionally minutely toothed, with the lamina base distinctly angled; sheath green to deep purple. Petiole thin with evident veins. Scape densely clad in floccose white hairs, stout, up to 300 mm long, bracteate, monocephalous. Corolla of disc florets mostly glabrous, rarely hairy. Ray florets 40-100, ligulate, white. Disc florets 60-200, 5-9 mm long, funneliform: tube glabrous or with scattered uniseriate or biseriate hairs. Achene fusiform cylindric, grooved, 1.5-6.5 mm long, usually glabrous. Pappus hairs 5-9 mm long, barbellate.

Flowering:

October - February

Fruiting:

November - May

Threats:

Not Threatened

*Attribution:

Description based on Given (1984)

References and further reading:

Given, D.R. 1984: A taxonomic revision of *Celmisia* subgenus *Pelliculatae* section *Petiolatae* (Compositae—Astereae). *New Zealand Journal of Botany* 22: 139-158.

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1646



Caption: Rangipo, Tongariro National Park

Photographer: Peter de Lange



Caption: Craigieburn Skifield, Canterbury

Photographer: Jesse Bythell

Chiloglottis cornuta

Common Name(s):

bird orchid, ant orchid

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. In New Zealand recorded from North, South, Stewart, Chatham, Antipodes, Campbell and Auckland Islands. Present also in Australia where it is known from New South Wales, Victoria and Tasmania

Habitat:

Widespread in usually moist, partially shaded situations in lowland to montane (up to 1000 m a.s.l.) indigenous forest or shrubland, rarely fringing wetlands or found growing within mires and peat bogs. Rarely subalpine to alpine. Often found in plantation forestry, especially under pines where it may on occasion grow intermixed with *Simpliglottis valida* (D.L.Jones) Szlach.

Features*:

Terrestrial, glabrous herbs. Tubers ovoid. Plant at flowering 40-100 mm tall, at fruit up to 300 mm tall, the mature fruiting capsule held well above the floral bract. Stem erect, fleshy. Leaves 2(-3), usually closely spaced together, otherwise spreading, fleshy, petiolate, petioles short (5-10 mm long); lamina 30-100 x 10-30 mm, green, oblong, oblong-lanceolate to elliptic; apex acute to subacute, base cuneate to attenuate. Flowers 1(-2), erect, usually wedged between or just above leaves. Floral bract with long cylindrical sheath; bract attached well below ovary, the intervening portion elongating as fruit ripens; lamina equal in length or greater than ovary, green, sometimes larger, giving the appearance of a third leaf. Perianth 15 mm tall, green, more or less fleshy. Sepals shortly tailed (caudate); dorsal sepal ovate-lanceolate; lateral sepals much narrower, more or less channelled. Petals slightly shorter again, ovate-lanceolate, erect to spreading. Labellum broadly to narrowly triangular, on irritable short claw; margins entire, calli dark green to reddish, more or less globose, with a mainly median/central distribution, two of the calli often forming inturned auricles near the base. Column elongate, erect, almost as long as lip, the foot ending in a transverse thickening; wing narrow to level of stigma, from there wider and extending almost to anther apex in a broad, usually incurved lobe. Anther terminal, apiculate, prominent, discoid, pollinia coherent, finely granular. Stigma prominent, discoid, rostellum small, median.

Flowering:

September - May

Fruiting:

October - July

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared by P.J. de Lange (10 April 2007). Description adapted from Moore and Edgar (1970).

References and further reading:

Jones, D.L.; Clements, M.A. 2005: Miscellaneous Nomenclatural Notes and Changes in Australian, New Guinea and New Zealand Orchidaceae. *The Orchadian* 15: 33-42.

Miller J.T.; Clements, M.A. 2014: Molecular phylogenetic analyses of Drakaeinae: Diurideae (Orchidaceae) based on DNA sequences of the internal transcribed spacer region. *Australian Systematic Botany* 27: 3-22.

Moore, L.B.; Edgar, E. 1970: Flora of New Zealand. Vol. II. Government Printer, Wellington.

Szlachekto, D.L. 2001: Genera et Species Orchidacearum 1. *Polish Botanical Journal* 46: 11-26.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2260



Caption: Mature seed capsule. Kaitoke Ridge Track, Kaitoke Regional Park.

Photographer: Jeremy Rolfe



Caption: Simpliglottis

Photographer: Nick Singers

Cordyline indivisa

Common Name(s):

broad-leaved cabbage tree, mountain cabbage tree, toi

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. In the North Island known south of Kohukohunui (Hunua) and Te Moehau (Coromandel Peninsula) but only really common from the Raukumara Ranges and northern portion of the Central Volcanic Plateau southwards. In the South Island widespread and common along the north and western portions of the island, more local in the drier eastern regions.

Habitat:

A feature of montane forests and subalpine shrublands (where it usually grows within gullies and at valley heads). Extending into lowland situations where physical geography allows for a cooler climate. The characteristic cabbage tree of the wetter, montane forests of the West Coast of the South Island.

Features:

Stout tree up to 8 m tall. Trunk up 0.4-0.8 m diam. Stems massive, usually unbranched or sparingly so. Leaves 1-2 x 0.1-0.15(-0.3) m, blue-green above, glaucous below, broadly sword-shaped, drooping with age, narrowed above base to a short petiole, midrib stout, broad and conspicuous, often tinged red, orange red or golden. Inflorescence a panicle arising from base of growing points under leaves. Peduncle stout, fleshy, short and more or less hidden in foliage. Panicle 0.6-1.6 x 0.3 m, very compact, with only first order branching from stout central axis. Basal bracts broad. Racemes 100-200 mm long, 20 mm diam. Flowers somewhat fleshy, faintly fragrant, crowded on axes. Pedicels obvious, 2-3(-5) mm long. Perianth 7-8 mm long, tepals fused for most of length, strongly recurved. Stamens more or less equal to tepal length. Stigma narrow-capitate. Fruit 6 mm dim., globose bluish to dark blue. Seeds 2 mm long, black, shining, 2 sides flat and one convex.

Flowering:

(November-) December-January

Fruiting:

January-May

Threats:

Not Threatened. However, some northerly populations have been decimated by goats, and it is presumed extinct on Te Moehau as a result of goat and livestock browse. The sudden death of some specimens in cultivation and in the wild has been attributed to Sudden Decline but it is still not clear if this species really does survive from this syndrome.

References and further reading:

de Lange, P.J. 2001. *Cordyline indivisa* in the Hamilton basin. Auckland Botanical Society Journal, 56: 66

Greene, B. 2000. Mountain cabbage tree *Cordyline indivisa* in the Hunua Ranges. Auckland Botanical Society Journal, 55: 9

Green, B., McClure, B. 2002. Mountain cabbage tree *Cordyline indivisa* in the Hunua Ranges. Auckland Botanical Society Journal, 57: 59

McCraith, S., Carlaw, G. 2001. Mountain cabbage tree *Cordyline indivisa* in the Hunua Ranges. Auckland Botanical Society Journal, 56: 20-21

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1746



Caption: Ruahine Range

Photographer: John Sawyer



Caption: Ruahine Range

Photographer: John Sawyer

Dracophyllum recurvum

Common Name(s):

curled leaved neinei

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North Island (Central Volcanic Plateau and adjacent mountains with an isolated occurrence in the Raukumara Range)

Habitat:

Montane to alpine. Common in open ground on mountain slopes, ridgelines, cliff faces or on plateau within subalpine shrubland, fellfield, grassland, herbfield or tussockland

Features*:

Many-stemmed shrublet 0.1–0.9 m tall. Branches spreading, decumbent to prostrate and much-branched. Bark on old branches grey to dark grey, smooth, young stems reddish brown. Leaves spreading to mostly recurved, glaucous to light green. Lamina sheath 4.0–6.0 × 3.0–6.5 mm, striate, tapering to truncate and margin membranous, ciliate or only the top half ciliate; lamina 15–40 × 1–2 mm, linear to linear-triangular, adaxial surface rugose to scabrid, abaxial surface glabrous, slightly striated; margin serrulate with 90–120 teeth per 10 mm; apex thickened, obtuse and triquetrous. Inflorescence a terminal spike on lateral branchlets; over-topping leaves, erect, dense, 12–25 mm long, oblong. Flowers 5–8, sessile; inflorescence bracts over-topping flowers, light green to glaucous, 10.0–17.0 × 1.2–1.7 mm, ovate-lanceolate at base, surfaces rugose; margins serrulate; flower bract over-topping flowers, 6.5–9.0 × 4.0–4.5 mm, ovate, surfaces glabrous with a tuft of scabrid hairs at apex on adaxial surface; margins ciliate. Sepals 4.8–6.0 × 1.5–2.0 mm, lanceolate to ovate-lanceolate, equaling corolla tube, with the top half pubescent on adaxial surface; margins ciliate. Corolla white to occasionally light pink; corolla tube 4.0–4.5 × 1.7–2.0 mm, narrowly-campanulate, widened at mouth; corolla lobes reflexed, 1.3–1.7 × 1.4–1.5 mm, ovate-triangular to triangular, shorter than corolla tube; apex acute; adaxial surface papillate. Stamens inserted in middle of the corolla tube, filaments 0.19–0.2 mm long; anthers included, 0.8–1.2 mm long, oblong, initially pink turning light yellow. Ovary 1.5–2.0 × 1.9–2.0 mm, obovate; apex round; nectary scales 0.6–0.7 × 0.5–0.6 mm, rectangular, apices irregularly toothed; style included, 1.5–2.0 mm long, glabrous; stigma capitate. Fruit 3.0–4.0 × 2.8–3.0 mm, light brown, broadly obovoid, apex round, glabrous. Seeds 0.8–0.9 mm, yellowish brown, ovoid, testa slightly reticulate.

Flowering:

December - April

Fruiting:

February - May

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (16 April 2012). Description adapted from Venter (2009)

References and further reading:

Venter, S. 2009: A taxonomic revision of the genus *Dracophyllum* Labill. (Ericaceae). Unpublished Phd Thesis, Victoria University of Wellington, Wellington.

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1814



Caption: Ruahine Range

Photographer: John Sawyer



Caption: Tongariro, December

Photographer: John Smith-Dodsworth

Dracophyllum strictum

Common Name(s):

totorowhiti

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North Island (From Thames and East Cape South), also known from Tuhua (Mayor Island). Most commonly found within the ignimbrite country of the Central Volcanic Plateau.

Habitat:

Coastal to subalpine. Usually on siliceous rocks such as rhyolite, andesite and ignimbrite, sometimes found on sandstones and calcareous mudstone. Usually favouring well-lighted, sparsely vegetated sites, or within *Machaerina sinclairii* around seepages, sometimes colonising open riverbanks or open shrubland

Features*:

A shrub to small tree, 0.5–3.0 m tall. Branches. Bark on old branches dark brown, finely fissured, young stems yellowish brown. Leaves dimorphic; juvenile leaves spirally arranged along branches, spreading, lamina sheath light green, glaucous to light brown, 14–20 × 9–16 mm, tapering and margin minutely ciliate in upper half; lamina coriaceous, glaucous to light green, broadly linear–triangular, 100–140 × 7–10 mm; surfaces glabrous, margins serrulate with 40–50 teeth per 10 mm; apex acute; adult leaves crowded at tips of branches, spreading; lamina sheath glaucous to light brown, 7–15 × 6–14 mm, coriaceous, striate, tapering to rounded; margin membranous and minutely ciliate; adult lamina coriaceous, glaucous to light green, lighter coloured below, linear–triangular to lanceolate, 47–75 × 5–8 mm, surfaces glabrous, slightly striated; margins serrulate with 40–50 teeth per 10 mm; apex thickened, acute. Inflorescence over topping the leaves, erect, dense, 50–100 mm long, pyramidal and sparingly branched; rachis and pedicels hirsute; inflorescence axis light green, 1.5–1.7 mm in diameter; basal inflorescence branch 0.5–1.0 mm long, widely spreading; inflorescence bracts caducous, over topping flowers, whitish at base, pink–tipped to wholly pink, broadly ovate at base, 7.5–18.0 × 6.0–8.5 mm; adaxial surfaces with minute scabrid hairs; abaxial surfaces glabrous, margins ciliate. Flowers 15–60, in groups of 5–10 at base of inflorescence; bracteoles persistent, recaulescent with one bracteole situated just below the perianth and the other in the middle of the pedicel, shorter than flower, linear, 3–4 × 0.3–0.6 mm, glabrous; pedicels green to reddish brown, straight, 0.6–2.0 mm long, pubescent. Sepals green to rose–coloured, ovate to broadly ovate, 1.7–3.0 × 1.3–1.5, shorter than the corolla tube, striate, surfaces glabrous; margins ciliate. Corolla white to light pink; corolla tube narrowly campanulate, widened at mouth, 3.5–6.0 × 1.5–2.0 mm; corolla lobes reflexed, ovate–triangular to triangular, shorter than corolla tube, 1.5–2.5 × 1.5–2.2 mm, inflexed for the entire length, apices subacute; adaxial surface papillate. Stamens inserted on corolla tube in upper third, filaments 0.5–1.3 mm long; anthers included, oblong, deep yellow and 0.7–0.8 mm long. Ovary obovate, 1–2 mm long and wide, glabrous, apex round; nectary scales rectangular, 0.8–1.0 × 0.4–0.5 mm, apices subacute; style included, 1.5–2.0 mm long, glabrous; stigma capitate. Fruit light brown to reddish brown, 1.8–2.0 × 1.7–2.0 mm, depressed–globose, apex round, glabrous. Seeds yellowish brown, ovoid, 0.6–0.7 mm long, testa slightly reticulate.

Flowering:

October - May

Fruiting:

Throughout the year

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (29 March 2012). Description adapted from Venter (2009)

References and further reading:

Venter, S. 2009: A taxonomic revision of the genus *Dracophyllum* Labill. (Ericaceae). Unpublished Phd Thesis, Victoria University of Wellington, Wellington.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1819



Caption: In cultivation ex Waihaha. May 2011.

Photographer: Jeremy Rolfe



Caption: Kawerau. Jul 2008.

Photographer: Matt Renner

Epacris alpina

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North and South Islands from montane areas south of the Central Volcanic Plateau.

Threats:

Not Threatened

References and further reading:

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1833



Caption: Mt Ruapehu, January

Photographer: John Smith-Dodsworth



Caption: Mt Ruapehu, January

Photographer: John Smith-Dodsworth

Euphrasia cuneata

Common Name(s):

North Island eyebright

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1876



Caption: Mount Taranaki
(yellowish leaves and flowers).

Photographer: Jeremy Rolfe



Caption: Mount Taranaki.

Photographer: Jeremy Rolfe

Fuscospora cliffortioides

Common Name(s):

Mountain beech

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South Islands. Common from the Central Volcanic Plateau and adjacent main axial ranges of the North Island south.

Habitat:

Montane forest and subalpine forest and scrub. Often forming a dense, almost monospecific forest especially along the main North Island axial ranges and along the drier, eastern side of the South Island.

Flowering:

November - January

Fruiting:

February - April

Threats:

Not Threatened

References and further reading:

Heenan, P.B.; Smitsen, R.D. 2013: Revised circumscription of *Nothofagus* and recognition of the segregate genera *Fuscospora*, *Lophozonia*, and *Trisyngyne* (Nothofagaceae). *Phytotaxa* 146: 1-31.
<http://dx.doi.org/10.11646/phytotaxa.146.1.1>

Molloy, B.P.J.; de Lange, P.J.; Clarkson, B.D. 1999: *Coprosma pedicellata* (Rubiaceae), a new species from New Zealand. *New Zealand Journal of Botany* 37: 383-397.

Skipworth, J.P. 1981. Mountain beech mortality in the West Ruapehu forests. *Wellington Botanical Society Bulletin* 41: 26-34

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1037



Caption: Mountain beech

Photographer: DoC



Caption: Foliage

Photographer: DoC

Gleichenia alpina

Common Name(s):

alpine tangle fern

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: North and South Islands. Exact distribution still unclear but plants matching *G. alpina* are known from the Central Volcanic Plateau, Takaka, and Denniston Plateau, and plants sharing the same haplotype as limited sampling of Tasmanian *G. alpina* are known from Mt Somers (Perrie et al. 2007). Currently the status of *G. alpina* in New Zealand requires further study as some reduced forms of *G. dicarpa* can be easily confused with it.

Habitat:

Lowland to alpine. In peat bogs, on the margins of tarns and in poor drained fell field

Features*:

Rhizome 0.8-2.0 diameter, at first with scattered appressed dark brown rounded prominently ciliate scales. Fronds of 1-8 tiers of branches, 100-220(-420) mm long, rarely more than 0.6 m wide, at first completely covered with red-brown scales, glabrescent; lower tiers often branched 1-3×. Stipes clustered along rhizomes, 40-420 mm long, initially bearing dark brown scales with long white matted ciliate margins, glabrescent, smooth; rachis and undersurfaces of upper branches with persistent, red-brown scales with paler ciliate margins, completely obscuring undersurface of pinnules. Pinnules with brown hairs along costae on upper side, with dense reddish scales at first completely obscuring the undersurface; ultimate segments 0.7-1.0 mm long, 0.6-1.1 mm wide, round, obtuse, strongly convex above, puched below; undersurface usually white. Sori of 2 sporangia.

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

*Attribution:

Fact Sheet Prepared for NZPCN by: P.J. de Lange 15 March 2011. Description adapted from Chinnock & Bell (1998).

References and further reading:

Chinnock, R.J.; Bell, G.H. 1998: Gleicheniaceae. Flora of Australia 48: 148-162.

de Lange, P.J.; Rolfe, J.R. 2010: New Zealand Indigenous Vascular Plant Checklist. Wellington, New Zealand Plant Conservation Network. 164pp.

Perrie, L.R.; Bayly, M.J.; Lehnebach, C.A.; Brownsey, P.J. 2007: Molecular phylogenetics and molecular dating of the New Zealand Gleicheniaceae. *Brittonia* 56: 129-141.

Perrie, L.R.; Shephard, L.D.; Brownsey, P.J. 2012: *Gleichenia inclusisora*, a new and uncommon tangle fern from New Zealand. *New Zealand Journal of Botany* 50: 401-410.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=6670



Caption: Ohakune Mountain Road, Tongariro

Photographer: Nick Singers



Caption: Ohakune Mountain Road, Tongariro

Photographer: Nick Singers

Lepidothamnus laxifolius

Common Name(s):

Pygmy pine

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=906



Caption: Tongariro National Park.
Photographer: © John Braggins



Caption: Caples Valley
Photographer: John Barkla

Leptopteris superba

Common Name(s):

Heruheru, Crape fern, Prince of Wales feathers

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North, South and Stewart Islands from Waipoua Forest south but scarce north of Auckland.

Habitat:

Widespread in dense forest though it is mainly found in montane forest in the northern part of its range. It is especially luxuriant in areas of high rainfall reaching its greatest densities on the West Coast of the South Island

Features*:

Trunks up to 1 m tall. Stipes 15-80 mm long, pale brown, woolly hairy, with ear-like lobes at base. Frond delicate, membranous, translucent, laminae elliptic, tapering equally to base and apex, 3-pinnate, 0.25-0.1m long, 80-250 mm wide, dark emerald green, woolly hairy, veins free. Primary pinnae in 35-60 pairs, crowded, basal ones 5-10 mm long, ultimate segments linear, sticking up at 90 degrees to plane of frond. Sporangia scattered on underside of pinnae (not in discrete sori), though tending to be more abundant toward frond centre. Description modified from Brownsey & Smith-Dodsworth 2000.

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 10 March 2011.
Description modified from Brownsey & Smith-Dodsworth 2000.

References and further reading:

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=922



Caption: Tutoko Valley, Fiordland

Photographer: Jesse Bythell



Caption: Rimutaka Forest Park.
Aug 2012.

Photographer: Jeremy Rolfe

Leptospermum scoparium var. *scoparium*

Common Name(s):

manuka, tea tree, kahikatoa

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous to New Zealand and Australia. Most Australian forms of *L. scoparium* do not match the range seen in New Zealand. However, plants from Tasmania are very similar to, if not identical with some South Island forms, differing mainly by their wider leaf base, and longer, more pungent leaf apex. Manuka was also collected once from Rarotonga by Thomas Cheeseman in the 1800s. It has not been found there since, and is assumed to have been a failed introduction. Further study using DNA sequencing is underway to resolve the status of *L. scoparium* forms both here and in Australia.

Habitat:

Abundant from coastal situations to low alpine habitats.

Features*:

Decumbent shrub, subshrub, shrub, or small tree up to 5 m in height and in decumbent forms 2-4 m across. Bark light grey to charcoal grey, peeling in long papery flakes, these curling with age. Wood red. Branches numerous erect, spreading or decumbent, arising from base, sometimes sprouting adventitious roots and/or layering on contact with soil. Young branches, young leaves and flower buds densely to sparingly clad in long silky, white hairs. Leaves leathery, pale to dark green, glabrescent to glabrous, linear-filiform, narrowly lanceolate, lanceolate, oblanceolate, to elliptic or obovate (5-)10-15(-20) x 1-2-5(-8) mm, invariably apex drawn out into a long stiff, pungent point, midrib usually distinct sometimes obscure, leaf margin finely crenate, veins simple, scarcely branched. Flowers solitary in leaf axils, (8-)10-20(-25) mm diam. Receptacle dark red, crimson or pink. Petals white, sometimes flushed pink or dark red. Stamens numerous.

Flowering:

Throughout the year

Fruiting:

The capsules are long persistent so invariably mature plants always possess at least some capsules.

Threats:

Not threatened, though some stands are at risk from clearance for farmland or through felling for firewood.

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 1 February 2004. Description by P.J. de Lange.

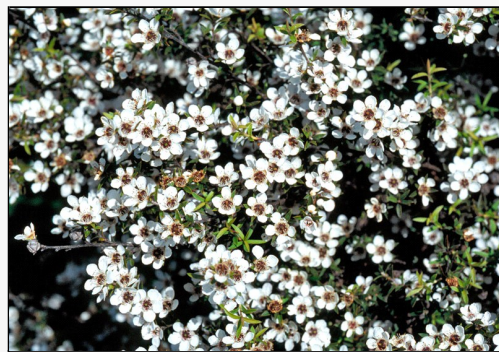
References and further reading:

Gardner, R. 2002. Notes towards an excursion Flora .Manuka *Leptospermum scoparium* myrtaceae. Auckland Botanical Society Journal, 57: 147-149

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2302



Photographer: © John Braggins



Caption: Flowers of *Leptospermum scoparium* var. *scoparium*

Photographer: Wayne Bennett

Lycopodium scariosum

Common Name(s):

Creeping clubmoss

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: North, South, Stewart, Chatham, Antipodes, Campbell, and Auckland Islands (from near Mangamuka south but scarce in Northland). Also Australia, Philippines, Borneo and New Guinea.

Habitat:

Coastal to subalpine (mostly montane in the northern North island). A species of open habitats such as mossy roadside banks, stream banks, shrubland, and peaty ground (rarely restiad bog).

Features*:

Main stems prostrate, creeping to 1 m or more long, with scattered appressed scale-like leaves. Branchlets spreading to ascending (up to 0.5 m tall), dorsiventral, much-branched. Sterile leaves dimorphic, yellowish-green; upper leaves in 2 alternating rows flattened in 1 plane, firm to rigid, decurrent, 3-5 mm long, 1.0-1.5 mm wide ovate to lanceolate often falcate; leaves of undersurface in 2 rows, up to 0.2 mm long, scale-like, with translucent membranous obtuse usually dilated tips. Strobili erect, terminal, 10-50 mm long, orange-brown, mostly solitary, rarely paired. Sporophylls imbricate, subpeltate, ovate-sagittate, stramineous, with translucent membranous tips. Description adapted from Chinnock (1998) and Brownsey & Smith-Dodsworth (2000).

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 20 March 2011. Description adapted from Chinnock (1998) and Brownsey & Smith-Dodsworth (2000).

References and further reading:

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

Chinnock, R.J. 1998: Lycopodiaceae. Flora of Australia 48: 66-85.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=963



Caption: Mount Climie, Upper Hutt. Feb 2013.

Photographer: Jeremy Rolfe



Caption: Stokes Valley, Lower Hutt. Mar 2013.

Photographer: Jeremy Rolfe

Olearia nummulariifolia

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

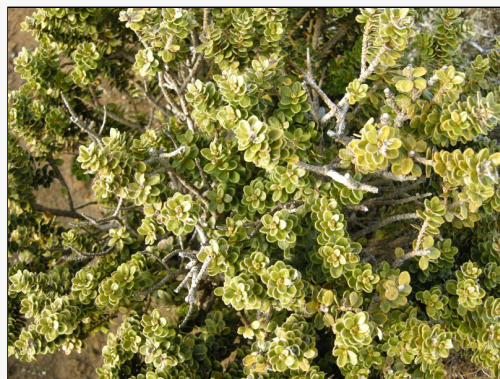
For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1055



Caption: Ruahine Range, near Sunrise Hut

Photographer: John Sawyer



Caption: Ruahine Range, near Sunrise Hut

Photographer: John Sawyer

Ourisia vulcanica

Common Name(s):

Mountain Foxglove

Current Threat Status (2012):

Naturally Uncommon

Distribution:

Endemic. North Island, Central Volanic Plateau

Habitat:

Mostly alpine in shaded sites, on rocky ground, near streams, in herbfield or amongst tussock.

Features*:

Perennial herbs 60-170 mm tall, with erect inflorescences and flat to ascending leaves; stems 2.6-5.8 mm diameter; internodes 3.6-7.3 mm long, scarcely discernible because of tight clustering of leaves, glabrous. Leaves tightly tufted at terminus of stem or in subrosettes or opposite; petiole 3.0-22.0 x 0.7-5.2 mm, sparsely to densely eglandular villous on the margins only; lamina 6.9-26.8 x 4.7-20.1 mm, narrowly to broadly ovate, apex subacute, bases cuneate, margin regularly crenate, upper surface glabrescent, hairs sparse, eglandular, on proximal margins, undersides punctate. Inflorescence racemose, 66-177 mm long, bracteate, with 1-4 flowering nodes per inflorescence, 2-3 bracts and 1-3 flowers per node and c.1-8 flowers per raceme; peduncle 0.7-2.0 mm diameter, eglandular pilose. Floral bracts 9.4-19.4 x 3.4-9.4 mm, becoming smaller toward apex, sessile, narrowly lanceolate to narrowly ovate, rarely ovate, in proximal bracts margin with a few irregular, round teeth on the distal third to half of lamina, in distal bracts margin subentire to entire, glabrous or pilose on margins only, hairs eglandular, 0.4-0.8 mm long. Flowers 12.6-15.9 x 9.2-16.6 mm; pedicel 5.9-25.4 mm long, sparsely to densely pilose, hairs up to 1.1 mm long, eglandular, rarely mixed with short, glandular hairs near calyx base. Calyx 5.6-8.6 x 5.7-8.2 mm, irregular, externally glabrous or with isolated eglandular hairs to 0.7 mm long near base only, internally glabrous, margin ciliate, with isolated to densely distributed eglandular hairs to 0.7 mm long; anterior calyx lobes 5.1-7.6 x 1.6-2.9 mm, posterior calyx lobes 2.6-4.5 x 1.4-2.4 mm, 3 posterior calyx lobes divided 1/4-1/2 of length, 2 anterior lobes divided almost to base, lanceolate to narrowly ovate, elliptic, slightly tapering to a rounded or sometimes subtruncate apex bearing a hydathode, undersides 3-veined. Corolla 11.7-15.6 x 16.4-19.9 mm when flat, bilabiate, tubular-funnelform, white, sometimes flushed red, glabrous or externally bearing isolated, eglandular hairs near base of corolla lobes; tube 5.4-9.4 x 5.3-7.6 mm at apex, 2.3-2.7 mm wide at base, not constricted near base, yellow inside with 3 lines of hairs extending to the corolla lobes and forming a ring around the corolla tube mouth; anterior corolla lobes 5.1-8.2 x 3.8-6.1 mm at widest point, 2.4-3.6 mm wide at base, posterior lobes 4.0-6.2 x 3.6-5.7 mm wide at widest point, 3.1-3.8 mm wide at base, widely spreading, obovate-spathulate, obcordate, apex plane or slightly emarginate. Stamens 4, didynamous; comprising two long stamens 8.2-11.5 mm long, exserted, or rarely only reaching tube opening, and two short stamens 6.5-9.9 mm long, reaching tube opening or exserted; anthers 0.7-1.2 x 0.8-1.4, reniform to horseshoe-shaped; staminode c.0.5 mm long inserted 0.3 mm above base of corolla, or absent, Style 6.0-7.4 mm long, straight, exserted; stigma 0.4-0.9 mm diameter, emarginate; ovary 2.5-4.0 x 1.6-2.0 mm, c.4.2 mm diameter, glabrous. Capsule 5.6 x 4.2 mm, glabrous with loculicidal dehiscence; fruiting pedicels 22.5-29.8 mm long. Seeds 0.7-0.9 x 0.3-0.5 mm.

Flowering:

October - May

Fruiting:

December - May

Threats:

Not Threatened

***Attribution:**

Description based on Meudt (2006).

References and further reading:

Meudt, H.M. 2006: Monograph of *Ourisia* (Plantaginaceae), Systematic Botany Monographs 77.188pp.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1080



Caption: Flower of *Ourisia vulcanica*, Tongariro National Park
Photographer: Rob Cole



Caption: Flower of *Ourisia vulcanica*, Tongariro National Park
Photographer: Rob Cole

Peraxilla tetrapetala

Common Name(s):

Red mistletoe, pikirangi, pirita, roeroe, pirinoa

Current Threat Status (2012):

At Risk - Declining

Distribution:

North and South Island, but less common in the North Island.

Habitat:

Coastal to montane. A hemiparasite whose main hosts are mountain beech (*N. solandri* var. *cliffortioides*), black beech (*Nothofagus solandri* var. *solandri*), red beech (*N. fusca*), and silver beech (*N. menziesii*). However, it has been recorded as a parasite on a further 17 species (2 exotic) including puriri (*Vitex lucens*) and pohutukawa (*Metrosideros excelsa*).

Features:

A shrub that can grow up to 2 m across. It usually parasitises close to the trunk of its host. It has characteristic small raised blisters or lesions on small, usually rhombic leaves. The flowers are solitary or 2-4 together and are bright red (up to 40 mm long). The ripe fruit is fleshy and green. Veins on the leaves are hardly evident and only the midrib is conspicuous. Leaf tips are never notched. Host trees are typically beech or *Quintinia*.

Flowering:

October to January

Fruiting:

April to June

Threats:

A wide variety of threats are now acknowledged as working in unison to cause the national decline of this and allied leafy mistletoes species. The most obvious threat seems to be brush tailed possums (*Trichosurus vulpecula*), which heavily browse mistletoes, to such an extent that they are held as the primary cause for the loss of the beech mistletoes from large parts of the countries beech forest.

References and further reading:

Simpson, M.J.A. 1976. *Elytranthe* in the vicinity of Nelson Lakes National Park. Wellington Botanical Society Bulletin, 39: 39-40

Urlich, S., Hopkins, C.J., Thompson, T. 2007. The survival of *Peraxilla* mistletoes in the Tararua Range. Wellington Botanical Society Bulletin, 50: 37-47

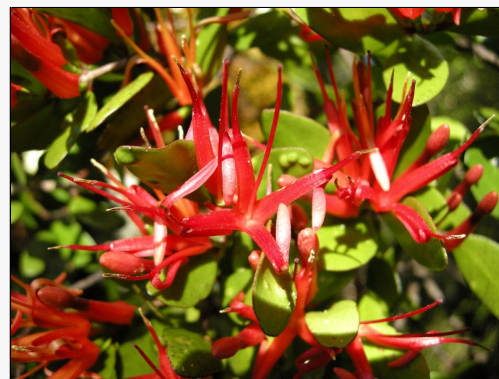
For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=192



Caption: Fruit. Ahuriri Valley, Otago

Photographer: John Barkla



Caption: Whakapapa, Tongariro National Park

Photographer: John Sawyer

Phyllocladus toatoa

Common Name(s):

Toatoa

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North Island from about Awakino (in the west) and Lake Waikaremoana (in the east) north to Ahipara and Mangonui. There is an outlier population in the northern Kaimanawa Range. Somewhat uncommon and often absent over large parts of this range.

Habitat:

Found from sea level to c.1000 m a.s.l. Toatoa is generally associated with relatively infertile soils on exposed ridges, around bog margins, and on other poorly drained land.

Features*:

Small trees up to 15–25 m tall. Young or exposed plants conical in outline, shaded or enclosed plants with bushy, somewhat rounded, heavy crowns. Stems one or more, erect or leaning, strongly tapered, up to 900 mm diameter, with regular coppice and epicormic shoots. Branches distinctly whorled, robust, suberect, horizontal, or downturned with upturned ends, leaving prominent rounded to elliptic branch scars when shed, and characteristic raised ridges encircling the stems. Outer bark brown, grey-brown, or silvery-brown, at first smooth or lenticellate, persistent, later vertically fissured with prominent rounded or irregular lenticels, occasionally shedding in squarish or rectangular flakes; inner bark dark orange. Roots of mature trees plate-like, pegged, often with low rounded buttresses; mycorrhizal nodules or stub roots simple or branched, epidermal hairs abundant. Strong, erect, epicormic shoots from fallen layered stems. Cotyledons 2, 12–20 x 2–3 mm, submembranous, linear, acute, green above, glaucous beneath, stomata on lower surface only, veins 2, spreading horizontally or drooping, often strongly curved and horseshoelike, persistent. Juvenile leaves of seedlings and epicormic shoots 10–20 or more, 10–15 x 1–2 mm, submembranous, linear and needle-like, acute or obtuse, sometimes falcate, green above, glaucous beneath, stomata on lower surface only, single veined; spreading horizontally or curved downwards, persistent. Seedling phylloclades (flattened branch complex) 15–50 mm long, deeply pinnately lobed, determinate, subtended by juvenile leaves; transition to adult phylloclades gradual or rapid. Adult phylloclades 5–300 mm long, distinctly whorled, simple, or compound and pinnately lobed, determinate or indeterminate, subtended by scale leaves, each phylloclade consisting of 5–14 alternate, distichous, dorsiventral segments 20–80 x 20–40 mm, the segments very leathery, rhombic to flabellate with shallowly or deeply lobed or toothed, thickened, revolute margins, yellow-green, cup-shaped and amphistomatic when young, later flattened, green above, somewhat glaucous beneath, with stomata on lower surface only, subsessile or stalked. Resting buds 5–20 x 3–10 mm, characteristically coated with a white resinous film, consisting of few to many scale leaves, the outermost 0.5–15.0 mm long, subulate, erect, loosely imbricate, at first green with stomata on the lower surface, later reddish, the innermost 10–15 mm long on expansion, linear-obtuse to spatulate, at first green with stomata on the lower surface only, later reddish brown, deflexed and deciduous. Plants unisexual, with inconstant males and females. Male cones 5–20 in terminal whorled clusters, 15–30 x 5–10 mm at the widest point, cylindrical to wedge-shaped, each on a stout bracteate stalk 5–15 mm long; sporophylls many, each with 2 sporangia; pollen monad with 2 small sacci. Female cones distichous on basal regions of phylloclades, or more rarely on phylloclade segments; 0.5–0.8 x 0.5 mm, ovoid to globose, each on a short stout bracteate stalk and consisting of few to many spirally arranged cone bracts; fertile bracts supporting a single, erect, sessile, flask-shaped ovule, arillate at base. Seeds 3–4 x 2.5–3 mm, ovoid to squarish, dorsiventrally compressed, nutlike, dark brown to almost black, protruding when mature, and surrounded at the base by a white, thin fleshy, crenulate or erose aril; micropyle distinct, curved to the ventral side.

Flowering:

October - December

Fruiting:

January - March

Threats:

Not Threatened. Toatoa has a patchy distribution and is often absent over large parts of its potential range. However, where it is present it is often locally common, typically forming dense stands of seemingly even-aged trees.

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 1 August 2004. Description adapted from Molloy (1996).

References and further reading:

Molloy, B.P.J. 1996: A new species name in *Phyllocladus* (Phyllocladaceae) from New Zealand. *New Zealand Journal of Botany* 34: 287–297.

Moorfield, J. C. (2005). Te aka : Maori-English, English-Maori dictionary and index. Pearson Longman: Auckland, New Zealand

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1116



Caption: Awakino Scenic Reserve
Photographer: Bill Clarkson

Podocarpus nivalis

Common Name(s):

Mountain totara, snow totara

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North and South Islands from Mt Hikurangi and Mt Pirongia south.

Habitat:

Montane to alpine (virtually confined to subalpine and alpine areas in the North Island). Common in open tussock grassland, subalpine scrub and herbfield, at the base of active scree, amongst boulderfalls and on cliff faces and razorback ridges. Sometimes extending down into beech (Nothofagus forest) and down into valley heads.

Features*:

Prostrate to suberect, spreading woody shrub forming broadly domed patches up to 1.5 × 3.0 m. Trunk usually indistinct (mostly obscured by branches), slender, solitary (sometimes several arising from base). Branches numerous, spreading with slender trunk, branchlets densely leafy. Leaves bronze-green, dark green, sometimes dark wine-red or bronze-purple, closely spaced, spirally arranged, erect or sub-patent, rigid, coriaceous; lamina 5-15 × 2-4 mm, linear-oblong, ± subulate, obtuse, apex ± apiculate, margins distinctly thickened, midvein prominent. Male strobili axillary, solitary or up to 4 per peduncle; peduncle 3-5 mm long, strobilus 5-15 mm long, apiculus obtuse. Female branchlet axillary, peduncle 3 mm. long, receptacle 2.5-10.0 mm long, red, elliptic-oblong to obovate-oblong, slightly compressed, smooth, swollen (fleshy). Seeds solitary or paired, 3.5-7.0 mm long, green when fresh, ovoid or ellipsoid-ovoid, weakly asymmetric, obtusely pointed.

Flowering:

September - November

Fruiting:

December - June

Threats:

Not Threatened

*Attribution:

Factsheet prepared for NZPCN by P.J. de Lange 4 January 2012. Description adapted from Allan (1961) and Webb & Simpson (2001).

References and further reading:

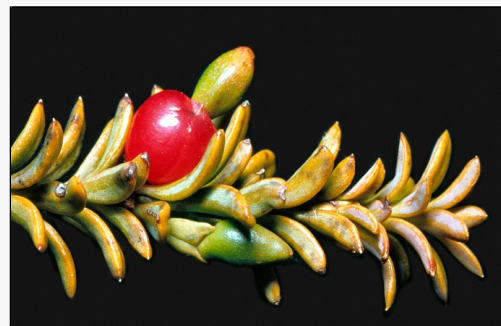
Allan, H.H. 1961: Flora of New Zealand. Vol. I, Wellington, Government Printer.

de Lange, P.J. 1998. Two interesting plant records from Mt. Pirongia western Waikato. *Auckland Botanical Society Journal*, 53: 66-69

Webb, C.J.; Simpson, M.J.A. 2001: Seeds of New Zealand Gymnosperms and Dicotyledons. Christchurch, Manuka Press.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1175



Caption: Mount Ruapehu.

Photographer: © John Braggins



Caption: Podocarpus nivalis

Photographer: Wayne Bennett

Prasophyllum colensoi

Common Name(s):

Leek orchid

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart, Chatham, Antipodes and Auckland Islands

Habitat:

Coastal to alpine in wetlands, gumland and subalpine scrub, successional forest, tussock grassland, herb and fellfield

Features*:

Terrestrial, tuberous, fleshy, glabrous, summer-green, perennial herb up to 300 mm tall when flowering. Tuber shortly ovoid, adjacent to or occasionally up to 10 mm away from previous seasons tuber. Stem erect, more or less smooth, terete, dark green basally tinged with red. Leaf shorter than or overtopping raceme; 100-300 mm long, dark green or reddish green, if dark green with base tinged red, terete, hollow, linear-lanceolate, apex acute. Inflorescence racemose. Raceme 5-20-flowered, flowers evenly spaced, or clumped together and more or less overlapping. Perianth green, yellowish-green, pale yellow, reddish-green to dark red or maroon, colours sometimes intermixed on the same plant. Dorsal sepal 5 mm long, ovate, concave, sometimes recurved; lateral sepals slightly longer, narrower, weakly fused in bud and usually remaining so at least near base, channelled, apex minutely cucullate, shortly apiculate, appearing bidentate. Petals a little shorter, wider, more delicate. Labellum of similar length, narrowed at base and almost sessile, occasionally shortly clawed, ovate, recurved but not abruptly so; margin entire, smooth to undulate; callus extending as an irregularly thickened median band almost to the narrowly subacute apex. Lateral processes of column bilobed, anterior lobe membranous and slightly shorter than anther; posterior lobe much smaller and more or less callus-like. Anther sessile, just overtopped by rostellum. Stigma barely its own height above column-base.

Flowering:

October - March

Fruiting:

January - June

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007.
Description adapted from Moore and Edgar (1970).

References and further reading:

Moore, L.B.; Edgar, E. 1970: Flora of New Zealand. Vol. II.
Government Printer, Wellington.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1188



Caption: Lammermoor Range
1000m

Photographer: Rowan
Hindmarsh-Walls



Caption: Lammermoor Range
1000m

Photographer: Rowan
Hindmarsh-Walls

Pseudopanax colensoi var. *colensoi*

Common Name(s):

Mountain five-finger, three finger

Current Threat Status (2012):

Not Threatened

Distribution:

Central North Island and Coromandel Range south to Banks Peninsula (and possibly Dunedin) on South Island east coast. Apparently absent from South Island West Coast. Plants with sessile leaflets from the Fiordland-Stewart Island area are often referred to *Pseudopanax colensoi* var. *fiordensis* Wardle

Habitat:

Montane to low alpine forest and scrub

Features*:

Us. dioecious. Small multi-branched tree to 8 m tall, branchlets fleshy brittle. Leaves alternate, leaflets (3-)5(-7), palmate, subsessile or on short petiolules. Petioles 5-20 cm long, sheathing branchlet at base and with small erect stipule. Petiolules absent or short, of terminal leaflet to 0-5-10-(15) mm long, shorter on lateral leaflets, pale green, reddish at base. Leaflets narrow-ovate to broadly elliptic-oblong, cuneately narrowing to petiolule, thinly coriaceous, coarsely serrate-dentate in upper 2/3 - 3/4, acute to obtuse; midrib obvious above and below, lateral veins obscure; darker shiny green above; terminal lamina 5-17 x 2-11 cm, lateral leaflets decreasing in size. Inflorescence a terminal umbel; c. 8 primary rays (branchlets); 10-12 secondary rays; umbellules with 5-10 flowers in each. Calyx truncate or obscurely 5-toothed; flowers c. 5 mm diam.; petals 5, cream or greenish, ovate to triangular, acute; ovary 2-loculed, each containing 1 ovules; style branches 2. Fruit fleshy, 4-6 mm diam., style branches retained on an apical disc, dark purple when ripe. Seeds 2 per fruit, shallowly wrinkled, 2.9-4.3 mm long, rounded.

Flowering:

October-March

Fruiting:

October-March

Threats:

Not Threatened

*Attribution:

Description adapted from Wardle (1968), Allan (1961), Webb and Simpson (2001).

References and further reading:

Allan, H.H. 1961. Flora of NZ, Vol. I. Government Printer, Wellington

Wardle, P. 1968. The taxonomy and distribution of the stipulate species of *Pseudopanax* in New Zealand. NZ J. Botany 6: 226-236

Webb, C.J. & Simpson, M.J.A. 2001. Seeds of NZ gymnosperms and dicotyledons. Manuka Press, Christchurch.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1195



Caption: Southern Tararua Range. Sep 2007.

Photographer: Jeremy Rolfe



Caption: Southern Tararua Range. Sep 2007.

Photographer: Jeremy Rolfe

Pterostylis montana

Common Name(s):

Greenhood

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart and Chatham Islands. Exact distribution unclear as this is a species complex

Habitat:

Lowland to subalpine (up to 1200 m a.s.l.) in a wide range of habitats from dense forest to restiad peat bogs. An extremely variable species which probably comprises several as yet unnamed entities. Until these are teased out the exact ecological preferences of *P. montana* s.s. are difficult to describe.

Features*:

Terrestrial, tuberous, glabrous, spring to summer-green perennial herb, either solitary or forming small patches of 3-10 plants through vegetative extension. Plant at flowering 30-350 mm tall. Stem erect, smooth, dark green, bronze-green to reddish green, internodes << leaves. Leaves up to 6, strongly keeled, with entire margins, size changing from base to top of stem; the largest leaf on stem 140-180 x 10 mm usually smaller, green to yellow-green, lower leaves and leaves of non-flowering plants broadly lanceolate to narrowly elliptic, otherwise linear-lanceolate with acuminate apices, widest near the sessile sheathing base, more or less overtopping the flower. Flower solitary, erect or tipping forwards, small and almost broadly tabular, bronze-green, dark green to yellow green, usually striped with white, cream or pale green toward the back of the galea. Ovary erect. Dorsal sepal 18-30 mm tall, erect then sharply horizontal, apex horizontal, abruptly truncate and usually acute to shortly acuminate; lateral sepals separating from each other early in bud, diverging at a narrow to wide angle, more or less erect, apices acuminate not greatly exceeding galea in mature flower often twisted or recurving forwards. Petals slightly shorter than dorsal sepal, broad right to tip. Labellum basally red or reddish green, apex often distinctly darker; lamina mostly oblong to elongate-oblong, slightly arcuate, broad almost to the constricted, subacute and twisted (usually to the right when viewed from the front); margins deflexed (appearing pinched in) about the almost excurrent midrib. Column as tall as or slightly more than labellum; stigma shortly and broadly oval to cordate, prominent.

Flowering:

September - December

Fruiting:

November - March

Threats:

Not Threatened.

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007: Description adapted from Moore and Edgar (1970).

References and further reading:

Moore, L.B.; Edgar, E. 1970: Flora of New Zealand. Vol. II. Government Printer, Wellington.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1216



Caption: *Pterostylis montana*

Photographer: DoC



Caption: Tararua Forest Park.
Dec 2008.

Photographer: Jeremy Rolfe

Pterostylis patens

Common Name(s):

Tutukiwi, Greenhood

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South and Stewart Islands from about Mt Pirongia south.

Habitat:

Mostly montane to subalpine (up to 1200 m a.s.l.) but extending to lower altitudes in the southern Wairarapa and Rimutaka Ranges. Frequenting beech (*Nothofagaceae*) forest but also found in montane cloud forest, and under subalpine scrub, usually in damp, semi-shaded sites. Often found in thick patches of moss or deep, drifts of leaf litter.

Features*:

Terrestrial, tuberous, glabrous, spring to summer-green perennial herb, forming dense colonies of numerous plants through vegetative extension. Plant at flowering 100-480 mm tall. Stem stiffly erect, smooth, green, dark green to reddish green, internodes very short near base, otherwise shorter than leaves throughout. Leaves 4-6, sessile, stiffly erect, dark green to reddish green with entire margins; in sterile plants lamina of similar size, oblong-elliptic to broadly lanceolate; in flowering plants lamina scarcely changing from base to top of stem; lamina of largest leaves 50-180 x 10-20 mm, broadly lanceolate, lanceolate to linear-lanceolate, prominently and deeply keeled, often with 2-3 laterals on either side of midrib, apex acute, acuminate, base wider than rest of lamina broadening into a long sheathing base; more or less even within base of flower, rarely slightly overtopping flower. Flower solitary, erect, front mostly green finely striped with white, stripes of white widening toward back of galea with green narrowing, with the back often completely. Ovary erect. Dorsal sepal distinctly globose, 40-50 mm tall, erect, distal portion initially horizontal, soon steeply inclined, apex steeply keeled, tapering to a strongly deflexed caudate tip up to 30 mm long; lateral sepals diverging at a narrow angle, caudae of lobes up to 40 mm long, tapered, strongly deflexed down and sometimes meeting behind ovary. Petals much shorter than dorsal sepal with acuminate apices. Labellum elliptic-oblong, scarcely arched, flat in cross-section, narrowing slightly towards tip, bending forward smoothly and symmetrical, protruding from lateral sepals sinus, midrib initially prominent soon evanescent toward the obtuse, emarginate, often cucullate apex. Column as tall as or slightly taller than labellum; stigma ellipsoid, scarcely distinguished from column and rather flat.

Flowering:

November - January

Fruiting:

December - April

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007: Description adapted from Moore and Edgar (1970) and Hatch (2005).

References and further reading:

Moore, L.B.; Edgar, E. 1970: *Flora of New Zealand*. Vol. II. Government Printer, Wellington and St George, I.; Irwin, B.

Hatch, D. 2005: *Field guide to the New Zealand orchids*. New Zealand Native Orchid Group, Wellington.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1218



Caption: Tongariro, December

Photographer: John Smith-Dodsworth



Caption: Tongariro National Park. Dec 2008.

Photographer: Jeremy Rolfe

Raoulia albosericea

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=789



Caption: Turoa, Mount Ruapehu.
Photographer: Jeremy Rolfe



Caption: Rangipo Desert.
Photographer: Jeremy Rolfe

Sticherus cunninghamii

Common Name(s):

Umbrella fern, Waekura, Tapuwae kotuku

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand; North, South, Stewart and Auckland Islands. Widespread and common, though often absent from large parts of the eastern side of the two main islands

Habitat:

Coastal to montane (but mostly coastal only in the wetter western part of the South Island, and in Stewart and Auckland Islands). Usually in forest where it may at times form the dominant ground cover. Also common along shaded stream banks, and in wetter areas a prominent fern along roadside cuttings.

Features*:

Rhizomatous fern. Rhizomes long creeping, copiously covered in scales. Fronds erect, up to 1.4 m high. Stipes 0.2-0.5(-0.8) m long, pale brown, scaly and hairy, scales ciliate, hairs stellate. Rachises in 1-3 tiers, each forking 3-4×, 120-300 mm from the stipe to tip of the longest branch, spreading and drooping in the form of an umbrella, abundantly scaly; apex of each fork terminated by a bud. Pinnae up to 15 × 3 mm, linear, acute, veins free, adaxially green, abaxially glaucous white or white. Sori in one row either side of midrib, set well away from pinna margins, consisting of c.5 aggregated sporangia, indusia absent. Description adapted from Brownsey & Smith-Dodsworth (2000).

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 16 March 2011.
Description adapted from Brownsey & Smith-Dodsworth (2000).

References and further reading:

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1310



Caption: Closeup of underside of frond, Makarora

Photographer: John Barkla



Caption: Underside of frond, Makarora Valley

Photographer: John Barkla

Veronica hookeriana

Common Name(s):

Hooker's speedwell, Hooker's parahebe

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North Island: (Raukumara, Huiarau, Kaimanawa, Maungaharuru)

Habitat:

Subalpine to alpine. In open sites such as screes, fellfield, banks, rock outcrops and lava fields

Features*:

Low subshrub, loose cushion or mat-forming subshrub to 200 mm tall. Stems brown, red-brown or grey. Branches prostrate to ascending. Branchlets brown, red-brown, green or purplish. Vegetative internodes 2-20 mm long. Leaves erecto-patent to reflexed. Lamina lanceolate, oblanceolate, ovate, obovate, oblong, elliptic, orbicular or rhomboid, 3.0-14.0 × 2.5-10.0 mm, upper surface dull green, bronze green or dark green, under surface pale green, dull. Leaf hairs sparse, numerous or absent. Apex subacute, obtuse or rounded. Base cuneate. Margin glabrous, ciliate, glandular-ciliate or pubescent, bluntly crenate to serrate. Marginal teeth or lobes in 1-4 pairs. Petiole 1-3 mm long. Inflorescence racemose, unbranched, 3-15-flowered. Peduncle 15-60 mm long, eglandular-pubescent, glandular-pubescent or mixed. Rachis 10-70 mm long, eglandular-pubescent, glandular-pubescent or mixed. Bracts alternate, obtuse to acute, eglandular-hairy above or ciliate, lanceolate to elliptic or narrowly deltoid. Bract margins entire. Pedicels erecto-patent at anthesis, straight or incurved at fruiting, 3-18 mm long, eglandular-pubescent to glandular-pubescent. Flowers: Calyx 4-lobed, 2-3 mm long; lobes elliptic to ovate, subacute to obtuse, margins entire. Calyx hairs on margins only or on both under and upper surfaces. Corolla pink, violet, or mauve at anthesis. Nectar guides evident, present on posterior and lateral corolla lobes or on all corolla lobes. Colour ring and nectar guides magenta. Corolla throat yellow. Corolla 6-15 mm diameter. Corolla tube 1.0-1.5 × 1.0-1.5 mm wide, shortly hairy inside. Corolla lobes glabrous. Posterior corolla lobe circular, elliptic or rhomboid, usually obtuse or rarely emarginate, 5-7 × 4.6-6.0 mm. Lateral corolla lobes elliptic, obtuse, longitudinally folded around stamens, 4.5-6.5 × 4.5-8.0 mm. Anterior corolla lobe elliptic or oblong or rhomboid, obtuse, 4-6 × 2-4 mm. Stamen filaments white or coloured, 4-6 mm long. Anthers pink, magenta or violet, 1.0-1.2 mm long. Nectarial disc ciliate. Ovary ovoid, globose or ellipsoid, obtuse or emarginate, glabrous or sparsely puberulent, 1.0-1.5 mm long. Style 4.0-5.5 mm long. Capsules weakly flattened, truncate to emarginate, 3-6 × 3-5 mm, glabrous. Septicidal split extending to base. Loculicidal split extending 1/2 way to base. Seeds ellipsoid, obovoid, discoid, pale brown, dark brown or brown, 1.0-3.0 × 0.6-1.3 mm

Flowering:

October - January

Fruiting:

November - May

Threats:

Not Threatened

*Attribution:

Fact Sheet by P.J. de Lange (5 October 2006). Description adapted from Garnock-Jones and Lloyd (2003).

References and further reading:

Garnock-Jones, P.J.; Lloyd, D.G. 2003: A taxonomic revision of *Parahebe* (Plantaginaceae) in New Zealand. *New Zealand Journal of Botany* 42: 181-232

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1092



Caption: Ruapehu

Photographer: Peter de Lange



Caption: Mount Ruapehu. Feb 2012.

Photographer: Jeremy Rolfe

Veronica tetragona subsp. tetragona

Common Name(s):

whipcord Hebe

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Island, Raukumara, Kaimanawa and northern Ruahine Range, and volcanoes of the Central Volcanic Plateau

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2013



Caption: Turoa, Mount Ruapehu.

Photographer: Jeremy Rolfe



Caption: Turoa, Mount Ruapehu.

Photographer: Jeremy Rolfe

Wahlenbergia pygmaea subsp. *pygmaea*

Common Name(s):

North Island harebell

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North Island (main axial ranges from the Huiarau to Tararua Ranges and adjacent Volcanic Peaks (except Mt Taranaki).

Habitat:

Montane to alpine. Common in herbfield, tussock-grassland, on lava fields, and rocks. Usually above the forest line but extending down rivers.

Features*:

Perennial rhizomatous herb with rosulate tufts of leaves at ground level. Leaves bright green, glossy, glabrous or with a few scattered hairs, petiolate; lamina spatulate, 10×3 to 20×5 mm, 2 mm wide. Leaf margins sparsely toothed, usually red-tinged. Flowers usually insect-pollinated, some forms self-fertile; erect or nodding on short upright scapes, 40-100 mm tall, which may be naked or 1-2-bracted. Corolla soft blue, or blue and white; up to 30 mm diameter, up to 18 mm long, broadly campanulate with tube as broad as or broader than long, lobes $c.9 \times 7$ mm, spreading, broadly elliptic-lanceolate, acute. Calyx lobes $c.3.0 \times 1.5$ mm, glabrous, narrow-triangular. Capsule $c.10 \times 6$ mm, glabrous, domed cylindrical to plump barrel-shaped. Seeds ellipsoid, glossy brown.

Flowering:

December – May

Fruiting:

January - May

Threats:

Not Threatened

*Attribution:

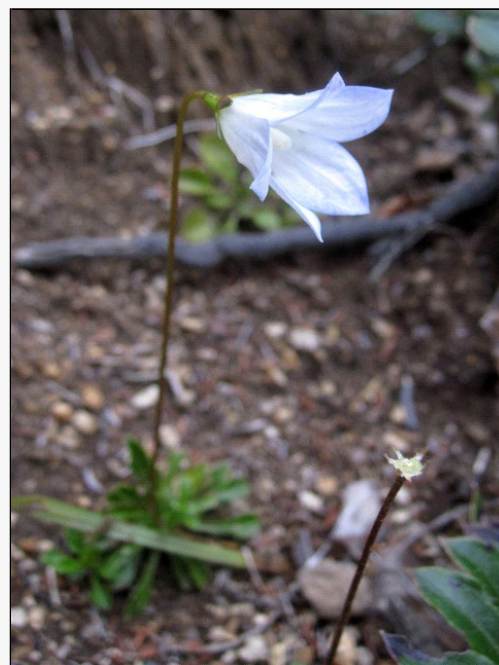
Fact Sheet Prepared by P.J. de Lange 12 June 2007. Description adapted from Petterson (1997).

References and further reading:

Petterson, J.A. 1997: Revision of the genus *Wahlenbergia* (Campanulaceae) in New Zealand. *New Zealand Journal of Botany* 35: 9-54.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1364



Caption: *Wahlenbergia pygmaea* subsp. *pygmaea*

Photographer: Jessie Prebble



Caption: *Wahlenbergia pygmaea* subsp. *pygmaea*

Photographer: Jessie Prebble