



# Seaside Plants



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Based on the format produce by J.T. Salmon's book "New Zealand Flowers and Plants in Colour".

# *Apium prostratum* subsp. *prostratum* var. *filiforme*

## Common Name(s):

New Zealand celery

## Current Threat Status (2012):

Not Threatened

## Distribution:

Indigenous. In New Zealand known from the Kermadec, Three Kings, North, South, Stewart and Antipodes Islands. Also in eastern Australia as far north as Brisbane and along the whole coastline of southern Australia and Tasmania

## Habitat:

Coastal and lowland. Very rarely montane. Common on rock ledges, boulder falls, cliff faces, within petrel scrub on damp seepages, in peaty turf, saltmarshes, within estuaries on mud banks, around brackish ponds, and lagoons. Also found in freshwater systems such as around lake and tarn sides, along streams and rivers and in wet hollows occasionally well inland, and sometimes at considerable elevations.

## Features:

Perennial, glabrous, prostrate herb. Stems prostrate, sprawling, often ascending though surrounding vegetation, not rooting at nodes; 0.3-1.2 m long, up to 6 mm diam. Leaves dark green to yellow green, basal ones on long, slender petioles up to 500 mm (usually much less); pinnately 3-foliolate to 1-2-pinnate; segments ovate, obovate to cuneate, deeply incised and toothed; Leaves opposite compound umbels similar though with leaflets divided, elliptic, ovate, obovate or more or less cuneate, primary segments elliptic, ovate, obovate, or more or less cuneate in outline, with overall length 0.5-3x the greatest breadth, ultimate segments to tertiary order 8-74 per leaf. Inflorescences in compound umbels, sessile or pedunculate; peduncle usually present. 2-20 mm x 1-3 mm, usually ebracteate, sometimes one present present, this usually shedding early in umbel maturation. Rays 10-20, 0.4-8 mm long. Petals off-white to cream, with yellow-brown mid vein, ovate 0.75-1.5 x 0.5-1.0 mm, constricted at base, apex acute. Stamens about length of petals, filaments pale yellow to cream; anthers whitre or pale yellow, 0.3-0.4 x 0.3-0.4 mm. Ovary glabrous, stylopodium disciform; style 0.25-0.40 mm. Mericarps (1.5-)2.0-2.7 mm long, ovate to ovate-oblong, apex narrowed to persistent withered calyx teeth and style remnant, base broad and rounded to weakly cordate; ribs prominent, broad, rounded and spongy. Surface dull yellow to pale brown.

## Flowering:

August - March

## Fruiting:

September - July

## Threats:

Not Threatened

## References and further reading:

Johnson, A. T., Smith, H. A. (1972). Plant Names Simplified: Their pronunciation, derivation and meaning. Landsman Bookshop Ltd: Buckenhill, UK.

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=2051](http://nzpcn.org.nz/flora_details.asp?ID=2051)



**Caption:** Kennedy Bay

**Photographer:** Gillian Crowcroft



**Caption:** Meurky Walk

**Photographer:** Melissa Hutchison

# *Avicennia marina* subsp. *australasica*

## Common Name(s):

manawa, mangrove

## Current Threat Status (2012):

Not Threatened

## Distribution:

Indigenous. New Zealand: North Island from Parengarenga Harbour south to Kawhia and Ohiwa Harbours. Australia (Queensland, New South Wales, Victoria), Lord Howe Island. In New Zealand *Avicennia* has been deliberately and extremely irresponsibly naturalised at Tolaga Bay, Mohakatino River, and formerly in the Hutt River and Parapara Inlet (Golden Bay) - where it has since been eradicated.

## Habitat:

Strictly coastal. usually inhabiting tidal river banks and river flats, estuaries and shallow harbour entrances. An important vegetation type and key ecosystem of many northern North Island harbours and estuaries. Generally favoring mud or silt-rich substrates but also found on sand, especially along channels. *Avicennia* flourishes where silt and mud has accumulated and in some harbours, especially those abutting cities it has become a problem species. The increase of *Avicennia* is however a symptom of a more serious issue, that is the impact of increased sedimentation rates within harbours whose catchments have been seriously degraded and/or deforested. It should also be noted that the argument that *Avicennia* ecosystems in New Zealand are as productive as tropical mangal systems has yet to be demonstrated conclusively. In many places *Avicennia* has replaced the demonstrably more important and productive *Zostera* grass beds with potentially serious long-term consequences for our near shore fisheries.

## Features\*:

Small tree or shrub or intertidal zones (usually estuaries and tidal river flats). Growth habit variable, if of tree form then reaching up to 12 m tall with a narrow to broad spreading canopy; if of shrub form then with plants wider than tall up to 2 m tall and 4 m across (usually reduced to a shrub within muddy ground as well as in the southern part of range). Roots spreading bearing numerous, erect pneumatophores. Bark on mature trees grey, furrowed; branches spreading, rather stout but brittle (snapping readily); branchlets ± finely pubescent, glabrate, tomentum greyish-brown, often absent in seedlings. Leaves opposite, coriaceous, on stout, narrowly winged petioles 5-10 mm long; lamina coriaceous, 50-120 × 20-50 mm, elliptic, elliptic-ovate, elliptic-ovate, ovate, oblanceolate to ± rhombic, apex acute to obtuse (rarely mucronate, then with mucro 2-8 mm long, this often caducous), base attenuate, margins entire though often slightly recurved; adaxially dark green, glossy, glabrous, abaxially lighter green to almost glaucescent, surface dull densely clad in caducous scurfy white to buff-coloured tomentum. Inflorescences usually axillary in upper leaf axils (very rarely terminal), in 3-8(-10)-flowered cymes borne on erect 4-angled pubescent peduncles 15-25 mm long. Flowers c.6-7 mm diameter, sessile or subsessile. Calyx deeply 5-lobed; calyx lobes 2.5-3.0 mm long, ovate, weakly keeled or not, adaxially sericeous hairy. Corolla ± rotate, corolla tube 1.0-1.2 mm long; lobes 4, spreading, 2.5-3.2, dark yellow or orange, ovate, adaxially glabrous, abaxially finely sericeous hairy. Stamens 4, inserted in corolla throat. Ovary 1-locular (imperfectly divided into 4); ovules 4; style 2-lobed. Fruit a 1-seeded capsule, 15-30 mm long, yellow-brown to light brown, circular or broadly ovate, ± compressed with an obtuse to subacute apex and rounded base, dehiscing into 2 valves, adaxial valve surface finely clad in short hairs and sessile spherical glands, smooth, coriaceous.

## Flowering:

February - April

## Fruiting:

December - January

## Threats:

Not Threatened

## \*Attribution:

Fact Sheet Prepared for NZPCN by: P.J. de Lange 29 August 2011. Description by P.J. de Lange with fruit characters modified from Webb & Simpson (2001).

## References and further reading:

de Lange, W.P.; de Lange, P.J. 1994: An appraisal of the factors controlling the latitudinal distribution of mangrove (*Avicennia marina* var. *resinifera*) in New Zealand. *Journal of Coastal Research* 10: 539-548.

Webb, C.J.; Simpson, M.J.A. 2011: *Seeds of New Zealand Gymnosperms and Dicotyledons*. Christchurch, Manuka Press.

Morrissey, D., Beard, C., Morrison, M., Craggs, R., Lowe, M. 2007. *The New Zealand mangrove: review of the current state of knowledge*. Auckland Regional Council. ARCTP 325. NIWA Research Project.

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=2064](http://nzpcn.org.nz/flora_details.asp?ID=2064)



**Caption:** Mangrove removal in Waiuku, Auckland region

**Photographer:** John Sawyer



**Caption:** Meola Reef, Westmere, Auckland

**Photographer:** John Sawyer

## *Carex pumila*

### **Common Name(s):**

sand sedge

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Indigenous. New Zealand: North, South and Chatham Islands. Uncommon in parts of the South Island. Also recorded from Australia, Lord Howe Island, Chile, China, Japan and Korea.

### **Habitat:**

Mostly coastal, rarely extending inland. A species of mobile sand dunes, sand flats and dune slacks (swales). Sometimes found fringing the sandy margins of coastal rivers and lagoons. Occasionally found as an urban lawn weed, especially in coastal settlements.

### **Features\*:**

Deep blue-green to glaucous, tufted sedge; tufts coarse, arising from a long, wiry creeping rhizome of c.2 mm diameter Culms mostly buried in sand, 50–300 mm long, terete, smooth, cream or light green, almost entirely enclosed by light brown or cream, occasionally red-brown leaf-sheaths. Leaves > culms, up to 400 mm long, 1.5–0 mm. wide, channelled, rigid, glaucous, curved and tapering to a fine point, margins mostly smooth. Spikes 3–8, ± approximate; terminal spike male, often long-pedunculate, very slender, often with 1–3 very small, occasionally partly female, spikes at the base; remaining spikes female, often male at the top, 10–35 x c.10 mm. Glumes c.½ length of utricles, rarely only slightly < utricles, ovate, acute, red-brown, with broad colourless hyaline margins, midrib very pale brown, thickened, usually produced to a short awn. Utricles 6.0–7.5 x 2.0–3.5 mm, biconvex to subtrigonal, ovoid, light brown, thick, corky, turgid, smooth or faintly nerved, narrowed to a bifid beak, 1.5–2.0 mm long, orifice membranous, crura faintly scabrid at tip. Stigmas 3. Nut 2.5–4.0 x 1.5–2.5 mm., trigonal, obovoid, light brown, shortly mucronate.

### **Flowering:**

October - December

### **Fruiting:**

December - June

### **Threats:**

Not Threatened

### **\*Attribution:**

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.

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=2034](http://nzpcn.org.nz/flora_details.asp?ID=2034)



**Caption:** Te Paki stream, Northland

**Photographer:** John Sawyer



**Caption:** Te Paki stream, Northland

**Photographer:** John Sawyer

## *Chenopodium triandrum*

### **Common Name(s):**

pigweed

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Endemic. Kermadec, Three Kings, North, South Stewart and Chatham Islands

### **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=1829](http://nzpcn.org.nz/flora_details.asp?ID=1829)



**Caption:** Banks Peninsula

**Photographer:** Melissa Hutchison



**Caption:** Pencarrow, Wellington Harbour. Feb 1992.

**Photographer:** Jeremy Rolfe



# *Coprosma petiolata*

## Common Name(s):

taupata

## Current Threat Status (2012):

At Risk - Naturally Uncommon

## Distribution:

Endemic. Kermadec Islands, Raoul Island and most of the adjacent Herald Islets.

## Habitat:

Coastal. On rock stacks, islets, coastal cliffs and associated talus slopes and boulder field, a common and sometimes dominant component of coastal scrub and an understorey shrub in the more exposed dry forests of the island. Also locally common on the exposed slopes of the Raoul Island crater walls.

## Features\*:

Prostrate, spreading or erect shrub or widely spreading tree up to 6 m tall but usually much less; branches with rough dark to light grey bark; branchlets slender, pubescent. Leaves on slender pubescent petioles 5-16 mm long. Stipules short, triangular, pubescent, acute. Lamina coriaceous, light yellow-green in exposed situations with a distinct waxy bloom, or green in shaded sites, glossy, 10-70 × 15-30 mm (70-80 × 45-50 mm in shade plants or juveniles), elliptic-oblong to obovate, obtuse, cuneately narrowed to base; margins recurved in exposed situations otherwise flat, reticulated veins evident below. Male flowers clustered on slender peduncles 5-10 mm long; calyx 0; corolla funnelform, lobes oblong-triangular, acute, more or less = tube. Female usually 3 together on slender pubescent peduncles; calyx-teeth very short; corolla-tube broadly tubular, long, lobes subacute, < tube. Drupe 6-10 × 6-10 mm orange-red, ovoid or subdidymous.

## Flowering:

September - April

## Fruiting:

December - May

## Threats:

An abundant endemic that is listed only because it is an island endemic. On Raoul it occasionally hybridises with *Coprosma acutifolia*.

## \*Attribution:

Description mostly adapted from Allan (1961) However, parts of the description have been modified using fresh specimens collected from Raoul in May 2009.

## 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 11: 285-309

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1726](http://nzpcn.org.nz/flora_details.asp?ID=1726)



**Caption:** Raoul Island, in shade.

**Photographer:** Peter de Lange



**Caption:** Raoul Island, crater rim.

**Photographer:** Peter de Lange

## *Coprosma propinqua* var. *martinii*

### Common Name(s):

mingimingi

### Current Threat Status (2012):

At Risk - Naturally Uncommon

### Distribution:

Endemic. Chatham Islands only

### Threats:

An island endemic, and perhaps one of the few Chatham Island endemics which is still very common on all the main islands. It is considered Range Restricted only by virtue of the small geographic area it occupies

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1729](http://nzpcn.org.nz/flora_details.asp?ID=1729)



**Caption:** Lake Rakeinui, Southern Tablelands, Chatham Islands

**Photographer:** Peter de Lange



**Caption:** A Cultivated plant.  
October

**Photographer:** John Smith-Dodsworth

## *Coprosma propinqua* var. *propinqua*

**Common Name(s):**

mingimingi

**Current Threat Status (2012):**

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=1728](http://nzpcn.org.nz/flora_details.asp?ID=1728)



**Caption:** Waikanae Estuary.  
**Photographer:** Jeremy Rolfe



**Caption:** *Coprosma propinqua*  
var. *propinqua*  
**Photographer:** Wayne Bennett

# *Coprosma repens*

## Common Name(s):

taupata, looking glass plant, mirror plant

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. Three Kings, North and South Islands as far south as Greymouth in the west and Rarangi in the east but now extensively naturalised throughout the South Island, Stewart and Chatham Islands. Also naturalised on Norfolk Island and in Hawaii, in Australia, California and South Africa.

## Habitat:

Coastal (rarely inland: Kaitaia – Awanui River, Huntly Basin and in the Manawatu – especially the upper Rangitikei River). A common species of rock stacks, islets, islands coastal cliffs, talus slopes and boulder field. Also a common component of petrel scrub on northern offshore islands, and in coastal forest where it often forms the main understorey and rarely is co-dominant in the canopy. Frequently associated with other coastal *Coprosma*, especially *C. crassifolia*, *C. macrocarpa* subsp. *macrocarpa* and subsp. *minor*, *C. rhamnoides*, *C. neglecta*, and members of the *C. acerosa* complex. Hybrids between *C. repens* and *C. acerosa* are common and are known as *C. xkirkii*, less frequently hybrids between it and *C. crassifolia* are found (*C. xbuchananii*) and with both *C. rhamnoides* and *C. neglecta*.

## Features\*:

Dioecious (rarely monoecious) shrub or small tree up to 8 m tall, prostrate and widely spreading in exposed sites, shrubb to arborescent in more sheltered situations; branches firm and more or less pliant when young becoming more brittle with age, bark dark to light brown, underbark green; branchlets initially pubescent with short patent hairs, becoming glabrous with age. Leaves on fleshy glabrous, slender to stout petioles 8-16 mm long. Stipule shortly sheathing, margin finely pubescent, otherwise outer surface pubescent, inner more or less glabrous, broad-deltoid, subacute to subtruncate; denticles up to 4 either side of a single large, dark black apical denticle, conspicuous, central one prominent. Lamina thick, subfleshy, coriaceous, 5-90 × 4-60 mm, dark glossy green above, paler and dull below; broad-oblong, elliptic-oblong, broadly ovate-oblong to suborbicular, rounded to truncate, usually apiculate (slightly emarginate to retuse on Three Kings and northern Hauraki Gulf Islands), apiculus caducous, cuneately narrowed to base; margins plane to slightly recurved (very occasionally inrolled). Vein reticulations evident above and especially below. Flowers in compound clusters on branched peduncles. Male flowers 3-20 per cluster; calyx-teeth minute; corolla funnelform, lobes 4-5, acute, about = tube. Female flowers usually 3 per cluster; calyx-teeth short, obtuse; corolla subfunnelform, c.5 mm long, lobes acute or obtuse, < tube; stigmas stout (Perfect flowers occasional (though with pollen often aborted or malformed) through out range but especially common on the northern offshore islands). Drupe orange-red, red (rarely yellow), obovoid often slightly compressed, 8-12 × 8-10 mm

## Flowering:

June - February

## Fruiting:

July - June

## Threats:

Not Threatened

## \*Attribution:

Description based on Allan (1961) though supplemented with additional measurements and observations taken from herbarium specimens and wild plants.

## References and further reading:

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

Dawson, J.W. 1961. *Coprosma*. The Spike (or Victoria University College Review). Victoria University of Wellington Student's Association.

Gordon, H.D. 1959. Sex ratio in *Coprosma repens* (rubiaceae). Wellington Botanical Society Bulletin, 31: 11

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=1730](http://nzpcn.org.nz/flora_details.asp?ID=1730)



**Caption:** Awhitu Peninsula, Auckland region

**Photographer:** John Sawyer



**Caption:** Coprosma repens

**Photographer:** Wayne Bennett

## *Cotula coronopifolia*

### **Common Name(s):**

bachelor's button, yellow buttons, waterbuttons

### **Current Threat Status (2012):**

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=2304](http://nzpcn.org.nz/flora_details.asp?ID=2304)



**Caption:** *Cotula coronopifolia*

**Photographer:** Wayne Bennett



**Caption:** North Otago

**Photographer:** John Barkla

## *Craspedia uniflora* var. *maritima*

**Common Name(s):**

woollyhead

**Current Threat Status (2012):**

At Risk - Declining

**Threats:**

Not Threatened

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1770](http://nzpcn.org.nz/flora_details.asp?ID=1770)



**Caption:** In cultivation. Mar 2007.

**Photographer:** Jeremy Rolfe



**Caption:** In cultivation. Mar 2007.

**Photographer:** Jeremy Rolfe

## *Disphyma australe subsp. australe*

### Common Name(s):

horokaka, native ice plant, New Zealand ice plant

### Current Threat Status (2012):

Not Threatened

### Distribution:

Endemic. New Zealand: Three Kings, North, South, Stewart and Chatham Islands

### Habitat:

Coastal (rarely inland). Mostly on cliff faces, rock stacks, and boulder/cobble beaches, more rarely in saltmarsh and estuaries. Often in petrel scrub on offshore islands, and extending into coastal forest around petrel burrows. Occasionally on limestone or sandstone cliffs in lowland forest (Western Waikato).

### Features\*:

Trailing, succulent herb. Stem terete, glabrous. Short shoots prostrate, rooting freely at nodes. Leaves 3-angled, linear-lanceolate to oblong, acute, often mucronate, tapering to connate base, 6-40 × 4-9 mm; margins entire, smooth, very rarely with a few papillae towards the distal end of the keel. Flowers 20-40 mm diameter. Sepal keel entire, smooth. Petals uniformly white to deep pink, in 3-5 rows, 10-30 mm long. Stamens 4-6 mm long; inner filaments hairy at base. Stigmas (5)-6-8-(10). Capsule valves 5-10, with parallel or ± divergent expanding keels; placental tubercle rounded or o. Seeds brown, obovoid, rugose, c. 1 mm long.

### Flowering:

Present throughout the year

### Fruiting:

Present throughout the year

### Threats:

Not Threatened

### \*Attribution:

Description modified from: Webb, C. J.; Sykes, W. R.; Garnock-Jones, P. J. 1988: Flora of New Zealand. Vol. IV. Naturalised Pteridophytes, Gymnosperms, Dicotyledons. 4. Christchurch, New Zealand, Botany Division, D.S.I.R. Forms natural intergeneric hybrids with both *Carpobrotus chilensis* and *C. edulis*.

### 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=1796](http://nzpcn.org.nz/flora_details.asp?ID=1796)



**Caption:** Dunedin  
**Photographer:** John Barkla



**Caption:** Awhitu Peninsula (west coast), Auckland region  
**Photographer:** John Sawyer

# *Ficinia spiralis*

## Common Name(s):

pingao, golden sand sedge, pikao

## Current Threat Status (2012):

At Risk - Declining

## Distribution:

Endemic. New Zealand: North, South, Stewart and Chatham Islands.

## Habitat:

Coastal sand dune systems. It favours sloping and more or less unstable surfaces, growing mostly on the front face of active dunes but also on the rear face and rear dunes, provided that there is wind-blown sand. It can also grow on the top of sand hills. It is effective at trapping sand.

## Features\*:

Stout, yellow-green when fresh, golden when dry, shortly creeping plants with stiff culms and very harsh leaves. Rhizome lignaceous, 10–15 mm diameter, shortly creeping, covered by red-brown to brown, fibrous strands left from decaying leaf-sheaths. Culms numerous, 0.3–1.2 m tall, 2–4 mm diameter, erect, obtusely trigonous, very leafy at the base. Leaves numerous, ± = culms, 2–5 mm. wide, stiffly erect or weakly curved, coriaceous, linear, concavo-convex or ± channelled, margins and keel sharply denticulate, narrowed to a long, trigonous tip; sheaths submembranous, much broader than leaves, with numerous, red-brown veins. Inflorescence, paniculate 70–300 mm long, each panicle composed of c.12 confluent clusters of sessile spikelets, each cluster subtended by a rigid leaf-like bract adnate to the axis and broadening at base to an open sheath, lower bracts much exceeding inflorescence. Spikelets 4–5 mm. long, dark red-brown. Glumes coriaceous, rigid, broadly ovate, obtuse, distinctly nerved, finely mucronulate, the lower ones ± keeled. Nut 2.5–4.0 x 2.0–2.5 mm, broadly obovoid, concavo-convex, compressed, obtuse, dark brown, smooth and shining.

## Flowering:

Spring and early summer

## Fruiting:

Late summer

## Threats:

Competition from marram grass (*Ammophila arenaria*), dune stabilisation and compaction, harvesting, trampling, vehicle traffic and browsing animals. Because this species is wind-pollinated, individuals of small, isolated populations may not receive pollen during flowering, and therefore there will be no seed production. Browsing and trampling by sheep and horses; browsing of seedlings by possums; seed destruction by rodents; fire and insensitive harvesting.

## \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (6 August 2006). Description adapted from Moore & Edgar (1970).

## References and further reading:

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

Muasya, A.M.; de Lange, P.J. 2010: *Ficinia spiralis* (Cyperaceae) a new genus and combination for *Desmoschoenus spiralis*. *New Zealand Journal of Botany* 48: 31-39.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=164](http://nzpcn.org.nz/flora_details.asp?ID=164)



**Caption:** Kaingaroa, Chatham Island. Jun 2013.

**Photographer:** Jeremy Rolfe



**Caption:** Mangawhai Wildlife Reserve, north of Auckland

**Photographer:** John Sawyer



# *Fuchsia procumbens*

## Common Name(s):

creeping fuchsia, climbing or trailing fuchsia

## Current Threat Status (2012):

At Risk - Naturally Uncommon

## Distribution:

Endemic. North Island from the Ninety Mile Beach and Perpendicular Point south to Maunganui Bluff in the west and Kennedy Bay (Coromandel Peninsula) in the east. It is known as a naturalised plant on Kapiti Island.

## Habitat:

A strictly coastal species. *F. procumbens* has been collected from cobble/gravel beaches, coastal cliff faces, coastal scrub and grassland, dune slacks and swales, and from the margins of saltmarshes (in places where it would be inundated during spring tides). It is quite tolerant of naturalised grasses and may be found growing amongst dense swards of kikuyu grass (*Pennisetum clandestinum* Chiov.).

## Features:

Subdioecious, lianoid, creeping, glabrescent, prostrate shrub forming large scrambling masses. Stems woody, pliant, slender 3-6 mm diameter, up to 2 m long; branchlets even more slender. Petioles filiform, 15-30 mm long, glabrous or sparsely hairy. Leaves 5-20 x 5-20 mm, suborbicular to broad-ovate, membranous, glabrous to glabrate, sinuate, subserrulate; base subcordate; apex obtuse or rounded. Flowers solitary, erect, pedicels erect, 5-8 mm long, slender. Flora tube 6-12 mm long, golden yellow, tubular-campanulate. Sepals 5-8 mm, lanceolate or narrow-lanceolate, purplish at apices, sharply reflexed. Petals absent. Filaments 2-4 mm, slender, purple. Style 8-16 mm, > staminodes in female flowers, almost = to stamens in perfect flowers; stigma capitate to 4-lobed. Berry 15-25 x 5-10 mm, ovoid-oblong to obovoid, crimson to magenta often with a waxy bloom.

## Flowering:

September - May

## Fruiting:

November - July

## Threats:

At various times regarded as seriously threatened, partly because some populations comprise only the single sex-type. However, comprehensive surveys throughout this species range have discovered new populations and confirmed the persistence of the majority of the older sites. Indeed its range has hardly contracted, and it would seem that the distribution of sex-types is natural. Because the species is so tolerant of environmental disturbance and weeds it is now regarded as biologically sparse. However, some populations have been eliminated recently by coastal development for holiday homes. If this trend continues then this species will probably qualify for a higher level of threat in the not to distant future.

## References and further reading:

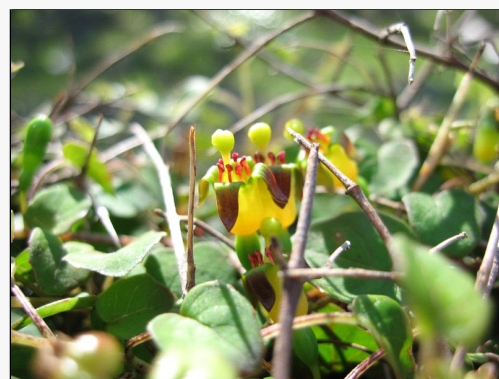
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=258](http://nzpcn.org.nz/flora_details.asp?ID=258)



**Caption:** Great Barrier Island  
**Photographer:** Rebecca Stanley



**Caption:** Great Barrier Island  
**Photographer:** Rebecca Stanley

# *Melicytus crassifolius*

## Common Name(s):

Thick-leaved mahoe

## Current Threat Status (2012):

At Risk - Declining

## Distribution:

Endemic. North and South Islands. In the North present from Cape Turnagain and Paekakariki south to Cape Palliser and Te Rawhiti, also on the smaller near shore islands as well as Kapiti and Mana Islands. In the S. Island in the Marlborough Sounds east and south to about Kaikoura (exact limits unclear).

## Habitat:

Coastal to lowland (0-300 m a.s.l.). Usually coastal in open grey scrub, on talus and alluvial terraces, cobble beaches, cliff faces, and in coarse stable sand dunes (especially swales). Inland it may be found in open grassland, amongst kanuka stands (*Kunzea ericoides* (A.Rich.) Joy Thoms s.l.) and along river flats.

## Features:

Dioecious, stout, heavily branched, very bushy and leafy, spreading shrub up to 2 x 2 m (usually much less). Trunk 1-4 arising from ground, up to 100 mm d.b.h., bark orange-green to green, grey to grey-white in exposed situations, finely lenticellate. Branches numerous at first erect to suberect, soon spreading often decurved and touching the ground; branchlets more or less intertwined, filiramate, weakly divaricate; puberulent becoming glabrous, stout, flexuous tapering toward apex, not spinous at tips. Petioles 2-4 mm long, yellow-green to green, fleshy to fleshy-coriaceous. Leaves solitary on young rapidly growing branchlets, otherwise in dense fascicles, often on short shorts; lamina 5-20 x 3-70 mm, dark green, narrowly obovate-oblong, spatulate to elliptic, apex obtuse or retuse, cuneately narrowed to base; margins more or less revolute, usually entire very rarely with 1-2 assymetric lobes, somewhat thicker than the rest of lamina. Flowers c.3 mm diameter, solitary or in 2-3-flowered fascicles; yellow-green. Pedicels bracteate, curved to recurved, rarely straight 1.5-2 mm long. Sepals green, suborbicular, with fimbriate margins; petals 5, c. 3 mm long, pale green to lemon-yellow, narrow-oblong, recurving from apex to base. Anthers 5, subsessile, fused at base and joined by a fine 5-partite membrane, divisions more or less triangular; nectariferous scales broad. Style bifid. Fruit a berry 3.5 mm, fleshy white or greenish-white, often with a faint glaucous bloom, broadly cylindrical to subglobose; seeds (1-)2, ovate to ovate-elliptic.

## Flowering:

August - January

## Fruiting:

October - May

## Threats:

Heavily browsed by cattle, horses, sheep, possums, rabbits and hares wherever accessible. Otherwise reasonably common though often sparsely distributed over large parts of its range. Recruitment is often lacking in populations accessible to browsing animals.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=283](http://nzpcn.org.nz/flora_details.asp?ID=283)



**Caption:** Palliser Bay.

**Photographer:** Jeremy Rolfe



**Caption:** Palliser Bay.

**Photographer:** Jeremy Rolfe

# *Metrosideros excelsa*

## Common Name(s):

Pohutukawa, New Zealand Christmas tree

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. New Zealand: Three Kings Islands and North Island from North Cape to about Pukearuhe, (northern Taranaki) in the west and near Mahia Peninsula (in the east). However, exact southern limit is difficult to ascertain as it has been widely planted and there is evidence that old time Maori cultivated the tree in some southerly areas. Found inland around the Rotorua Lakes and at Lake Taupo - though these occurrences could stem from Maori plantings (though the association of other normally coastal species around these lakes argues against this). Now widely planted throughout the rest of New Zealand (especially around Nelson, the Marlborough Sounds, the Kaikoura Coast and on the west coast to about Hokitika).

## Habitat:

Coastal forest and on occasion inland around lake margins. Also in the far north occasionally an associate of kauri forest. In some northerly locations it forms forest type in its own right - this forest is dominated by pohutukawa, other associates often include tawapou (*Pouteria costata*), kohekohe (*Dysoxylum spectabile*), puriri (*Vitex lucens*), karaka (*Corynocarpus laevigatus*), and on rodent-free offshore islands the frequent presence of coastal maire (*Nestegis apetala*), and milk tree (*Streblus banksii*) suggests these species too may once have been important in mainland examples of pohutukawa forest.

## Features\*:

Tree up to 20 m tall with canopy spread of 10-50m. Specimens typically multi-trunked from base, trunks up to 2 m diameter, branches spreading, and often arching, sometimes looping over ground, and/or bearing "brooms" of aerial adventitious roots. Branchlets numerous, twiggy and long-persistent. Bark firm, persistent and difficult to detach, often deeply furrowed, grey to grey-brown, somewhat corky. Young branchlets tomentose, being covered in fine, deciduous, greyish-white hairs. Leaves of all but water shoots leathery, 25-120 × 25-60 mm, elliptic, oblong, rarely lanceolate, apex acute or obtuse, dark olive-green, undersides thickly clad in white tomentum, adaxial surface at first distinctly tomentose but hairs shedding with leaf maturation. Flowers borne on stout, tomentose pedicels crimson, orange, pink, yellow (or very rarely white). Hypanthium obconic, calyx lobes triangular (deltoid).

## Flowering:

(August-) November-December (-March)

## Fruiting:

(January-) March-April (-May)

## Threats:

Like all New Zealand tree *Metrosideros*, pohutukawa is most at risk from possum (*Trichosurus vulpecula*) browse. These can seriously damage and even kill trees. Often where their browsing occurs within sites of unrestricted stock and vehicle access, pohutukawa forest is in danger of becoming locally extinct. It does remain common over large parts of its range, a situation being greatly improved by the efforts of people encouraged by the national coordination of Project Crimson - a non profit organisation set up to protect, enhance and/or establish pohutukawa forest, as well as promote the species use, and its conservation.

## \*Attribution:

Fact sheet prepared for NZPCN by: P.J. de Lange (4 January 2004). Description adapted from Allan (1961).

## References and further reading:

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

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=975](http://nzpcn.org.nz/flora_details.asp?ID=975)



**Caption:** Wellington

**Photographer:** John Sawyer



**Caption:** *Metrosideros excelsa*

**Photographer:** Wayne Bennett

# *Metrosideros kermadecensis*

## Common Name(s):

Kermadec pohutukawa

## Current Threat Status (2012):

At Risk - Naturally Uncommon

## Distribution:

Endemic. Kermadec Islands: Raoul, North and South Meyer Islands, Herald Islets (Napier, Nugent and Dayrell)

## Habitat:

The dominant canopy tree on Raoul Island where it is found from the coastline to the highest peaks. Forms the main tree of both dry and wet forest types. It was supposedly also present on Macauley Island although there are no herbarium specimens known to substantiate this claim.

## Features\*:

Multitrunked (rarely single) tree up to 20 m tall usually with a broadly spreading, domed canopy; trunk up to 3 m diameter, if more than one usually much smaller; trunk surface often covered in adventitious roots. Bark mostly firm, tessellated to platy, grey, grey-brown or whitish, often covered in sparse to dense growths of lichens, liverworts and mosses. Branches erect to spreading, sometimes scrambling across forest floor in which case often rooting freely where touching the ground. Branchlets terete, numerous toward branch ends. Young branchlets, leaf undersides, inflorescence-axes, hypanthia, and sepals densely clad in tomentum, tomentum initially white, maturing dirty grey. Petioles 5-7 mm long, terete to subterete, very coriaceous; lamina 20-50 × 10-30 mm, dull dark green above with appressed, greyish indumentum along the midrib, sometimes extending along the upper surface of the base of the leaf, orbicular, suborbicular, broadly ovate- to elliptic-oblong, apex obtuse to retuse, base obtuse to cuneately-narrowed, coriaceous, margins weakly to strongly recurved. Inflorescence complex, comprising 2 or more terminal compound corymbiform cymes each bearing numerous flowers; pedicels rigidly stout, 8-12 mm long. Hypanthium obconic to turbinate, sepals coriaceous to subcoriaceous, deltoid to triangular, gland-tipped; petals caducous, fleshy, scarlet, crimson to pink, 2.2-3.2 × 2.0-3.0, orbicular, suborbicular to oblong, glabrescent. Stamens numerous, filaments crimson, 10-23 mm long; anthers versatile, yellow, 1.0 × 0.2-0.4 mm. Nectarial disc initially green at anthesis, maturing red or red-green. Ovary 3-locular, adnate to hypanthium; capsules long-persistent, woody, 3-valved, 6.0-7.2 mm long, receptacle distinctly exerted, outer surface and inner sepals and hypanthial rim covered in appressed white to greyish-white tomentum. Seeds numerous, 2.5-4.5 mm long, yellow to pale orange, very narrowly elliptic to linear, 2-4-angled, body often twisted, laterally compressed, apex curved or hooked.

## Flowering:

Throughout the year

## Fruiting:

Throughout the year

## Threats:

Not Threatened. It is listed as Range Restricted because it is an island endemic which globally occupies such a small area. This is the dominant tree on Raoul Island and it is also prominent on the nearby Meyer Islands and Napier, Dayrell and Nugent in the Herald Islets.

## \*Attribution:

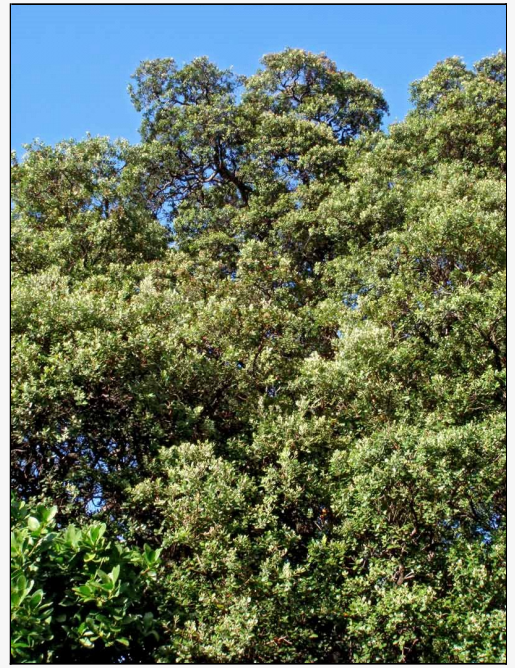
Fact sheet prepared for NZPCN by P.J. de Lange (8 June 2009). Description adapted from Allan (1961) supplemented with data obtained from herbarium specimens, fresh material and observations made on Raoul Island.

## References and further reading:

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

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=586](http://nzpcn.org.nz/flora_details.asp?ID=586)



**Caption:** Raoul Island.

**Photographer:** Peter de Lange



**Caption:** Raoul Island. Spent capsules.

**Photographer:** Peter de Lange

## *Muehlenbeckia australis*

### **Common Name(s):**

Pohuehue, large-leaved muehlenbeckia

### **Current Threat Status (2012):**

Not Threatened

### **Threats:**

Not Threatened

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=990](http://nzpcn.org.nz/flora_details.asp?ID=990)



**Caption:** Fruit. Stokes Valley, Lower Hutt. Apr 2013.

**Photographer:** Jeremy Rolfe



**Caption:** Fruit. Stokes Valley, Lower Hutt. Apr 2013.

**Photographer:** Jeremy Rolfe

## *Muehlenbeckia axillaris*

### **Common Name(s):**

creeping pohuehue, creeping muehlenbeckia

### **Current Threat Status (2012):**

Not Threatened

### **Threats:**

Not Threatened

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2204](http://nzpcn.org.nz/flora_details.asp?ID=2204)



**Caption:** Muehlenbeckia axillaris,  
Mt Cook

**Photographer:** John Barkla



**Caption:** Lake Wakatipu

**Photographer:** John Sawyer

## *Muehlenbeckia complexa* var. *complexa*

### Common Name(s):

Small-leaved pohuehue, scrub pohuehue, wire vine

### Current Threat Status (2012):

Not Threatened

### Threats:

Not Threatened

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=991](http://nzpcn.org.nz/flora_details.asp?ID=991)



**Caption:** *Scandia geniculata* flowers and foliage through *Muehlenbeckia*. Birdlings Flat, Canterbury.

**Photographer:** Jesse Bythell



**Caption:** Habitat, Birdlings Flat, Canterbury

**Photographer:** Jesse Bythell

# *Muehlenbeckia ephedroides*

## Common Name(s):

Leafless pohuehue, leafless muehlenbeckia, Twigs

## Current Threat Status (2012):

At Risk - Declining

## Distribution:

Endemic. North and South Islands. In the North Island mainly eastern from Lake Taupo (Acacia Bay) and the northern Hawkes Bay south to Wellington and Cape Palliser. In the South Island eastern from Marlborough to Southland.

## Habitat:

Coastal to subalpine (0-1200 m a.s.l.). A species of river flats, beaches, sand spits, alluvial fans, outwash gravels and river terraces, also found in grey scrub. Favouring open, dry, free draining but fertile sites, usually on gravel and sandy soils, in habitats naturally free from other taller plants. Sometimes found on gravel roads.

## Features:

Gynodioecious, sprawling to prostrate, grey-green, grey to grey-black shrub forming dense, untidy mats up to 1.5 m or more diameter. Stems much branched, final branches c.1 mm diameter, flexuous, striate, puberulent, grey to grey-black or grey-green. Leaves 5-25 mm long, dark to grey-green, narrow-linear, glabrous to glabrate, margins revolute, ascending, distant, spaced along constricted nodes, often sparse, deciduous, sometimes absent; ochreae 1-2 mm long, chartaceous, truncate. Inflorescence a few-flowered fascicle or raceme; pedicels 1-1.5 mm, pale, bracteate, slender. Flowers with pistillate on separate plants, and staminate and perfect on the same plant; if mainly male then raceme often lax, if female then fascicle dense, mixed male and perfect racemes more or less intermediate. tepals 3-3.5 mm long, united about halfway, lobes narrow-triangular, white, greenish or pale yellow-green; stigmas frimbriate. Fruit 3 x 1.5 mm, trigonous, ovoid, lustrous black, tepals becoming swollen, white and succulent, or rarely chartaceous and dry.

## Flowering:

November - June

## Fruiting:

November - June

## Threats:

Most abundant within the north eastern South Island. It is highly threatened in the North Island and appears to be extinct around Lake Taupo. Small populations persist in the Hawkes Bay, southern Wairarapa and south Wellington coastline. In the South Island it appears to have suffered little obvious decline but it is rarely common. In some areas its past presence can be determined by hybrid swarms that exist between it and other New Zealand *Muehlenbeckia* species.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=287](http://nzpcn.org.nz/flora_details.asp?ID=287)



**Caption:** Female flowers. In cult. ex Pencarrow.

**Photographer:** Jeremy Rolfe



**Caption:** Fruit. In cult. ex Pencarrow.

**Photographer:** Jeremy Rolfe



## *Phormium cookianum* subsp. *cookianum*

### Common Name(s):

Mountain flax, wharariki

### Current Threat Status (2012):

Not Threatened

### Distribution:

Endemic. Scarce in North Island where only known from high alpine situations in the Tararua Ranges, and possible elsewhere within the central axial ranges. Common in the South Island, in subalpine/alpine situations.

### Habitat:

Strictly confined to subalpine, alpine situations.

### Features:

Stout liliaceous herb, 0.6-1(-2) m tall. Leaves numerous, arising from fan-like bases. Individual leaves "paddle-shaped", erect, stiff, rarely decurved or pendulous 0.6-1(-1.5) x 20-80 mm, glaucous. Lamina margin, entire, somewhat thickened and distinctly pigmented by a dark, rather broad often encircling band 3-5 mm wide. Inflorescence (0.8-)1(-2) m tall, somewhat woody and fleshy when fresh, long persistent, drying charcoal grey or black, with the fibrous interior becoming progressively more exposed. Peduncle 20-30 mm diam., inclined, dark red-green, glabrous. Flowers 25-40 mm long, tubular, dull pink or yellow; tips of inner tepals markedly recurved. Ovary erect. Capsules 100-120 mm long, dark green, trigonous in cross-section, pendulous, tapering toward tip, twisted, initially fleshy becoming papery with age, long persistent. Seeds 8-10 x 4-5 mm, black, elliptic, flat and plate-like, margins frilled or twisted.

### Flowering:

(September-) October-  
November (-January)

### Fruiting:

(November-) December  
(-March)

### Threats:

Not Threatened

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1110](http://nzpcn.org.nz/flora_details.asp?ID=1110)



**Caption:** Swampy Summit,  
Dunedin

**Photographer:** John Barkla



**Caption:** Hollyford Valley,  
Fiordland

**Photographer:** John Sawyer

## *Pimelea prostrata* subsp. *prostrata*

### Common Name(s):

pinatoro, New Zealand daphne, Strathmore weed

### Current Threat Status (2012):

Not Threatened

### Distribution:

Endemic. North Island: South Auckland, Taranaki, Gisborne, Hawke's Bay, eastern Wairarapa, and near Wellington. South Island: Marlborough, Nelson, Westland, Canterbury, Otago, Southland

### Habitat:

Coastal to montane. In open sites, such as coastal gravel, sand dunes, and mudstone cliffs; on ultramafic rock, mudstone, sandstone, marble, limestone, gravel river floodplains; vegetated places, in open scrub, low grassland, Schoenus marsh, Sphagnum bog, around tarn margins.

### Features\*:

A small shrub; stems prostrate, often thin and flexible, creeping on open areas or in low vegetation, pendent on banks, cliffs, up to 300 mm long. Stems may be partially buried on sandy substrates; adventitious roots may develop on these, or on stems in moist habitats. Branching sympodial and lateral. Branchlets uniformly yellowish-brown to brown, usually smooth but sometimes muricate, glabrous except in leaf axils and on receptacles, or sparsely to moderately clad in short, silky hair. Internodes 1–4 mm long. Older stems grey-brown to dark grey. Node buttresses light to medium brown, occupying part or all of the internode; occasionally prominent on leafless branches. Leaves close (exposed or drier sites) or distant (shaded sites), patent, on short red petioles. Lamina glaucous, often red-margined, usually 3–6 × 1.5–4 mm, thin, elliptic to broad-elliptic, flat, tip obtuse. Inflorescences 5–8-flowered, terminal on branchlets. Involucral bracts to 5.6 × 4.2 mm. Flowers relatively sparsely hairy outside, inside hairless, on very short pedicels (0.2 mm). Female tube 2.5 mm long, ovary portion red, 2 mm; calyx lobes 1.2 × 1.2 mm; h tube 4.8 mm long, ovary portion 2 mm; calyx lobes 2 × 1.5 mm. Ovary moderately hairy at summit. Fruits broad ovoid to globose, fleshy, white, opaque 4.2 × 2.8 mm. Seeds narrow-ovoid 2.5 × 1.5 mm, crest very thin.

### Flowering:

September - May

### Fruiting:

October - July

### Threats:

Not Threatened

### \*Attribution:

Description from: Burrows (2008).

### References and further reading:

Burrows, C.J. 2009: Genus *Pimelea* (Thymelaeaceae) in New Zealand 2. The endemic *Pimelea prostrata* and *Pimelea urvilliana* species complexes. *New Zealand Journal of Botany* 47: 163–229

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1125](http://nzpcn.org.nz/flora_details.asp?ID=1125)



**Caption:** *Pimelea prostrata*  
**Photographer:** John Barkla



**Caption:** Baring Head  
**Photographer:** John Sawyer

## *Pimelea prostrata* subsp. *seismica*

### Common Name(s):

pinatoro

### Current Threat Status (2012):

Not Threatened

### Distribution:

Endemic. North Island: North Cape and near Cape Reinga, scattered along the west coast of the North Island to Auckland, Wellington. South Island: North-west to as far south as Cape Foulwind.

### Habitat:

Coastal to slightly inland. In open sites on grassy slopes and in shrublands or dunes, on cliffs or rock outcrops.

### Features\*:

A small to medium-sized, much-branched, prostrate, sometimes decumbent, low shrub. Main stems to 40 cm long, stout, flexible or stiff. Young stems brown, moderately or very hairy. Branching is both sympodial and lateral and the laterals are few to numerous, long, usually flexible and moderately thick. Internodes 1–5 mm long. Older stems glabrous and grey-brown to dark-brown. Node buttresses usually short (0.3 mm) lunate, brown. More elongate node buttresses may occur on the same plants. They are not prominent on leafless stems. Leaves ascendant, then patent to deflexed, on short (0.3–0.5 mm) red petioles. Lamina ovate, elliptic or often oblong, 4–8 × 2.2–3.2 mm, light green, glaucous, acute or sometimes obtuse, flat or slightly adaxially concave, margins slightly upturned, midvein evident abaxially. Inflorescences terminal on branchlets, 4–6-flowered. Involucral bracts 4, smaller than, or similar in size to adjacent leaves (5 × 3 mm). Flowers white, moderately hairy outside; inside hairless. Female tube 3.5 mm long, ovary portion 3 mm, calyx lobes 1.3 × 0.9 mm; Perfect flower tube 4 mm long, ovary portion 3 mm, calyx lobes 2 × 1 mm. Ovary has sparse hair on summit and to about two-thirds of the way down. Fruits oblate, white, opaque 5.4 × 4 mm. Seeds broad ovoid 2.2 × 1.6 mm.

### Flowering:

October - January

### Fruiting:

December - May

### Threats:

Unknown. Burrows (2009) implies it is severely threatened but without any backing evidence. In future threat listings subsp. *seismica* would probably be assigned Data Deficient.

### \*Attribution:

Description from: Burrows (2009).

### References and further reading:

Burrows, C.J. 2009. Genus *Pimelea* (Thymelaeaceae) in New Zealand 2. The endemic *Pimelea prostrata* and *Pimelea urvilliana* species complexes. *New Zealand Journal of Botany*, 2009, Vol. 47: 163–229

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2386](http://nzpcn.org.nz/flora_details.asp?ID=2386)



**Caption:** Moa Point, Wellington.  
Jan 2007.

**Photographer:** Jeremy Rolfe



**Caption:** Moa Point, Wellington.  
Jan 2007.

**Photographer:** Jeremy Rolfe

## *Pimelea prostrata* subsp. *thermalis*

### Common Name(s):

pinatoro

### Current Threat Status (2012):

Data Deficient

### Distribution:

Endemic. North Island: North Auckland and South Auckland, including Waikato, King Country, Hauraki Plains, Bay of Plenty; Rotorua (thermal region), northern part of the Volcanic Plateau; Hawke's Bay, mainly inland, sometimes near the coast.

### Habitat:

Coastal to montane. Gumlands, thermal deposits, old volcanic deposits, short grassland, shrubland.

### Features\*:

A moderately large, much-branched shrub with prostrate habit. Main stems to 600 mm long, dark brown, stout and stiff or flexible. The primary lateral branches are usually long and flexible or sometimes straight and stiff. They usually bear abundant, short, secondary, very leafy laterals. Young branchlets are clad, sparsely, in short hair. Internodes 2–5 mm long, shorter on laterals. Older stems glabrous, dark brown to grey-brown. Node buttresses dark brown, extending the length of the internode, not prominent on leafless stems. Leaves ascendant then patent, on very short (0.1–0.2 mm), often dark red petioles, or sessile. Lamina narrow-elliptic or elliptic to oblong or ovate, 5–8 × 2–3 mm, medium to dull green, sometimes glaucous, slightly keeled, acute. Midvein evident abaxially, sometimes red. Leaves on secondary lateral branchlets relatively small. Inflorescences terminal on branchlets, 4–6-flowered. Involucral bracts 4, smaller than, the same size as, or larger than adjacent ordinary leaves (6.0 × 2.5 mm). Flowers white, moderately hairy outside; inside hairless. Female tube 2.2 mm long, ovary portion 2 mm, calyx lobes 1.0 × 0.8 mm; hermaphrodite tube 4 mm long, ovary portion 1.8 mm, calyx lobes 2 × 1 mm. Ovary sparsely hairy at summit. Fruits ovoid, white, opaque 5 × 3 mm. Seeds 2.7 × 1.5 mm.

### Flowering:

September - May

### Fruiting:

October - July

### Threats:

Burrows (2009) states that this subspecies was formerly widespread in North and South Auckland but that it has declined from these areas and that it would require management to stop further losses. However, hard data to substantiate these claims was not presented, as such this subspecies would probably merit listing as Data Deficient (simply as a precautionary measure) until further information is made available.

### \*Attribution:

Description from: Burrows (2009)

### References and further reading:

Burrows, C.J. 2009: Genus *Pimelea* (Thymelaeaceae) in New Zealand 2. The endemic *Pimelea prostrata* and *Pimelea urvilliana* species complexes. *New Zealand Journal of Botany* 47: 163–229.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2388](http://nzpcn.org.nz/flora_details.asp?ID=2388)



**Caption:** Rangipo Desert.

**Photographer:** Jeremy Rolfe

## *Pimelea prostrata* subsp. *ventosa*

### **Common Name(s):**

pinatoro

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Endemic. South Island: southeastern Otago, south coast of Southland and islands in Foveaux Strait and South-western Fiordland.

### **Habitat:**

Coastal, on rock outcrops, cliffs, sand dunes.

### **Features\*:**

A small to medium-sized, sparsely branched, prostrate shrub with main stems to 300 mm long. Branching both sympodial and lateral but the former is more common. Internodes 1–3 mm long, with a sparse to moderately dense cover of fine but stiff hair. Node buttresses dark brown, short (0.3 mm or sometimes to 0.6 mm), lunate, moderately conspicuous on leafless stems. The internodes of young stems are covered by a brown pellicle which fragments as they grow, leaving a muricate patterning. Leaves ascendant, imbricate, or more distant, on short (0.8–1.0 mm) red petioles. Lamina broad elliptic to ovate, 4.5–10 × 2.3–4 mm, light green, glaucous, slightly fleshy, adaxially concave or very slightly keeled, margins thickened, often red, upturned; midvein obscure abaxially, obtuse, base cuneate. Inflorescences terminal, 4–6-flowered. Involucral bracts 4, larger than adjacent leaves (5 × 7 mm). Receptacle very hairy. Flowers white, very hairy outside; inside hairless. Female tube 2.5 mm long, ovary portion 2 mm, calyx lobes 1.5 × 1 mm; hermaphrodite tube 4.2 mm long, ovary portion very wrinkled, 2 mm, calyx lobes 3 × 2 mm. Ovary with a tuft of short hair at summit and fewer hairs down to the base. Fruits ovoid to globose, fleshy, white, opaque, 4.9 × 3.0 mm. Seeds ovoid, 3.2 × 1.8 mm.

### **Flowering:**

October - May

### **Fruiting:**

November - July

### **Threats:**

Burrows (2009) is vague about details. The implication is that this subspecies is secure in Fiordland but that it needs better survey to ascertain its status elsewhere. Based on those statements *Pimelea prostrata* subsp. *ventosa* would probably be listed as Data Deficient.

### **\*Attribution:**

Description from Burrows (2009).

### **References and further reading:**

Burrows, C.J. 2009: Genus *Pimelea* (Thymelaeaceae) in New Zealand 2. The endemic *Pimelea prostrata* and *Pimelea urvilliana* species complexes. *New Zealand Journal of Botany* 47: 163–229.

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2389](http://nzpcn.org.nz/flora_details.asp?ID=2389)

## *Pimelea prostrata* subsp. *vulcanica*

### Common Name(s):

pinatoro

### Current Threat Status (2012):

Data Deficient

### Distribution:

Endemic. North Island: South Auckland and Taupo district hills (abundant on the summit of Mt Tarawera, slopes of the central North Island volcanoes, and on plains of the Volcanic Plateau, and south of Murupara); scattered on Huiarau, Kaimanawa, and north-west Ruahine Ranges.

### Habitat:

Short grassland, shrubland with open grassy areas and sometimes on margins of fine volcanic ejecta patches (scoria, lapillii) and alluvium, colluvium derived from such debris; also on soils derived from tephra, on bared areas in grassland and open scrubland.

### Features\*:

A small to moderately large, much-branched shrub with prostrate habit. Main stems to 600 mm long, grey-brown, relatively thin and flexible, except near the base. Branching is mainly lateral, with long, thin, flexible branchlets; secondary branchlets on these are short. Young branchlets are only sparsely hairy. Internodes 0.5–4.0 mm long. Older stems glabrous, grey-brown. Node buttresses brown, elongate, usually the whole length of the internode, with a strip of fine, short hairs between them, not very prominent on leafless stems. Leaves ascendant and imbricate; patent on laxer branchlets, on very short (0.1–0.3 mm) red petioles. Lamina narrow elliptic, 4–6 × 1.2–2 mm, glabrous, usually glaucous, medium green or sometimes yellowish-green, often red-margined, slightly keeled, acute. Mid-vein evident abaxially, sometimes reddish. Leaves on the very short lateral branchlets are relatively small. Inflorescences terminal on branchlets, 2–7-flowered. Involucral bracts 4, similar in size to adjacent leaves. Flowers white, moderately hairy outside; inside hairless or sparsely hairy in upper tube and ovary portion. Female tube 2.8 mm long, ovary portion 2.2 mm, calyx lobes 1.7 × 1.1 mm; hermaphrodite tube 4 mm long, ovary portion 1.5 mm, calyx lobes 2 × 1.4 mm. Ovary with sparse hairs at summit and about one-quarter of the way down. Fruits ovoid, fleshy, white, opaque, 4 × 2.5 mm. Seeds narrow-ovoid, 3 × 1.3 mm, thin crest.

### Flowering:

September - May

### Fruiting:

October - July

### Threats:

Burrows (2009) describes this subspecies as plentiful though he discusses threats which include heather (*Calluna vulgaris*) lodgepole pine (*Pinus contorta*) and succession to taller vegetation. It probably warrants a precautionary listing of Data Deficient.

### \*Attribution:

Description from Burrows (2009).

### References and further reading:

Burrows, C.J. 2009: Genus *Pimelea* (Thymelaeaceae) in New Zealand 2. The endemic *Pimelea prostrata* and *Pimelea urvilliana* species complexes. *New Zealand Journal of Botany* 47: 163–229.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2387](http://nzpcn.org.nz/flora_details.asp?ID=2387)



**Caption:** Rangipo Desert.

**Photographer:** Jeremy Rolfe

## *Pimelea urvilleana* subsp. *urvilleana*

### Common Name(s):

pinatoro

### Current Threat Status (2012):

Data Deficient

### Distribution:

Endemic. North Island: Te Pahi (North Cape), Karikari Peninsula, Cavalli Islands, Whangaroa Harbour, Bay of Islands, Helena Bay. Alderman Islands, Taranaki, Egmont Coast. South Island: Tasman Bay (Astrolabe Passage), Marlborough Sounds.

### Habitat:

Coastal. Rock outcrops, cliffs, sometimes in scrub.

### Features\*:

A small to medium-sized prostrate shrub; stems moderately stout but flexible, up to 300 mm long. Branching notably sympodial with some laterals. Branchlets densely covered by matted white hair. Internodes 1–3 mm long. Older stems slightly hairy, grey-brown. Node buttresses smooth, black, lunate, masked by hair on young stems. Leaves decussate but usually distichously arranged, ascendant on youngest branchlets, patent later. Lamina 3–6 × 2–3 mm, thick, narrow-elliptic to ovate, flat or slightly keeled. Tip usually obtuse. Stomata abundant adaxially, none or rare abaxially. Abaxial surface glistens. Inflorescences 5–7-flowered compact, receptacles very hairy. Involucral bracts 4, similar in size to adjacent leaves. Plants gynodioecious. Flowers small, white, outside very hairy, inside sparsely hairy in upper tube. Calyx lobes opening in salverform fashion or ascendant. Female tube 1.8 mm long, ovary portion wrinkled, 1.5 mm, calyx lobes 1.2 × 1 mm. hermaphrodite tube 3.8 mm long, ovary portion 2.5 mm, calyx lobes 2 × 1.5 mm. Anther dehiscence semi-latrorse. Ovary with a tuft of long hair on summit. Fruits white, fleshy, opaque 5 × 3.5 mm. Seeds broad ovoid 3 × 1.8 mm.

### Flowering:

Unknown. Burrows (2009) states: Summer

### Fruiting:

Unknown.

### Threats:

See notes

### \*Attribution:

Fact sheet prepared by P.J. de Lange (17 October 2009). Description adapted from Burrows (2009).

### References and further reading:

Burrows, C.J. 2009. Genus *Pimelea* (Thymelaeaceae) in New Zealand 2. The endemic *Pimelea prostrata* and *Pimelea urvilliana* species complexes. *New Zealand Journal of Botany* 47: 163–229.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1129](http://nzpcn.org.nz/flora_details.asp?ID=1129)



**Caption:** Little Bay, Coromandel  
**Photographer:** John Smith-Dodsworth



**Caption:** Surville Cliffs. Nov 2010.  
**Photographer:** Jeremy Rolfe

# *Pyrrosia eleagnifolia*

**Common Name(s):**

leather-leaf fern, Pyrrosia

**Current Threat Status (2012):**

Not Threatened

**Distribution:**

Endemic. Kermadec, Three Kings, North, South, Stewart and Chatham Islands.

**Habitat:**

Coastal to montane. Common as an epiphyte on both indigenous and exotic trees and shrubs, also on rocks, cliffs faces and in urban areas on buildings, walls, bridges and fence posts.

**Features\*:**

Epiphytic or rupestral rhizomatous fern. Rhizomes long-creeping, often densely interwoven, young portions densely invested in red-brown to fawn coloured scales. Stipes reduced to phyllopodia borne in intervals along rhizome. Fronds coriaceous, fleshy to almost succulent, undivided, 30-200 × 5-20(-30) mm; adaxially yellow-green to dark green (rarely glaucescent), glabrescent, initially sparsely covered in long straight to somewhat flexuous pale-yellow to translucent caducous hairs; abaxially densely covered in fawn or white-coloured stellate hairs, aside from midrib, veins not evident on either surface; lamina variable; sterile examples broadly ovate, rhomboidal, suborbicular, to elliptic (very rarely linear); fertile linear, linear-lanceolate to suborbicular. Sori without indusia, ovoid, ellipsoid to rounded, in 2-3(-4) irregular rows (rarely more) either side of midrib and set away from frond margins. Spores yellow.

**Flowering:**

N.A.

**Fruiting:**

N.A.

**Threats:**

Not Threatened

**\*Attribution:**

Fact sheet prepared for NZPCN by P.J. de Lange 9 April 2011.  
Description by P.J. de Lange.

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2235](http://nzpcn.org.nz/flora_details.asp?ID=2235)



**Photographer:** Rebecca Stanley



**Caption:** Rangaika, Chatham Island. June 2013.

**Photographer:** Jeremy Rolfe



## *Samolus repens* var. *repens*

### **Common Name(s):**

Sea primrose, shore pimpernel, water pimpernel

### **Current Threat Status (2012):**

Not Threatened

### **Threats:**

Not Threatened

### **References and further reading:**

Angiosperm Phylogeny Group 2009. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG III. *Botanical Journal of the Linnean Society* 161: 105-121

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1280](http://nzpcn.org.nz/flora_details.asp?ID=1280)



**Caption:** Cape Kidnappers

**Photographer:** John Sawyer



**Caption:** Hingaia, Auckland

**Photographer:** John Sawyer

## *Samolus repens* var. *strictus*

### **Common Name(s):**

sea primrose, shore pimpernel, water pimpernel

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Indigenous. In New Zealand known only from the north-eastern portion of the northern North Island, where it is mainly found on offshore islands. Also on Norfolk Island and probably in Australia.

### **Threats:**

Not Threatened

### **References and further reading:**

Angiosperm Phylogeny Group 2009. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG III. *Botanical Journal of the Linnean Society* 161: 105-121

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2246](http://nzpcn.org.nz/flora_details.asp?ID=2246)



**Caption:** Aorangi Island

**Photographer:** Gillian Crowcroft



**Caption:** Aorangi Island

**Photographer:** Gillian Crowcroft

# *Schoenoplectus pungens*

## Common Name(s):

three-square

## Current Threat Status (2012):

Not Threatened

## Distribution:

Indigenous. North, South and Chatham Islands. In the North Island found from West Auckland and Coromandel south, often scattered and apparently absent from Taranaki, extending inland along the Waikato River. In the South Island scattered and uncommon in Westland and Fiordland - found inland at Pareora Gorge (Canterbury) and Central Otago. Common on Chatham Island. Widespread in western Europe, America and Australia.

## Habitat:

Coastal to montane (up to 400 m a.s.l.). Usually not far from the sea in saltmarshes, brackish swamps and estuaries. Also more rarely found inland around freshwater lakes and ponds, and in damp saline slacks. Also recorded from waters draining geothermal sites along the Waikato River.

## Features\*:

Summer-green perennial. Rhizome 2-8 mm diameter, woody, with membranous, chartaceous scales at the nodes and numerous reddish fibrous roots. Culms 0.15-1.8 m, 1-6 mm diameter, pale glaucous-grey to dark green, triquetrous, with concave sides, smooth, soft, bearing 1-2 very thin, membranous sheaths at the base. Leaves 1-4, < culm, 1-3 mm wide, linear, channelled, becoming triangular with margins sparingly scabrid towards the obtuse apex, adaxial surface membranous with obvious internal septa; sheaths long, closed, largely membranous. Inflorescence apparently lateral, of 1-4 unequal, closely compacted, sessile, spikelets; subtending bract 20-60 mm long, similar to stem and continuous with it, scabrid towards apex. Spikelets 6-11 x 3-5 mm, ovate, elliptic, dark purple-brown. Glumes broadly ovate, smooth, membranous, margins fimbriate, emarginate, midrib prolonged, mucronate, <, equal to or rarely slightly > small, round teeth of glume apex. Hypogynous bristles 2-6, < nut, retrorsely scabrid, red-brown. Stamens 3. Style-branches 3. Nut 3 x 2 mm, obovoid, plano-convex to subtrigonal, prominently apiculate, smooth, grey-brown.

## Flowering:

October - January

## Fruiting:

January - June

## Threats:

Not Threatened

## \*Attribution:

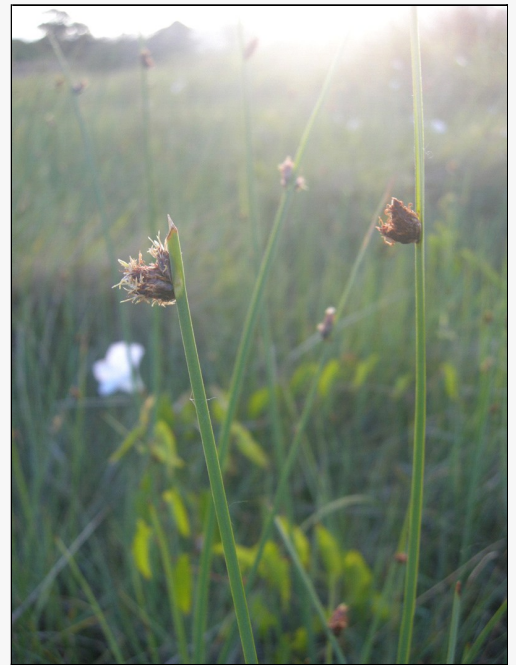
Description adapted from Moore and Edgar (1970).

## 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=2251](http://nzpcn.org.nz/flora_details.asp?ID=2251)



**Caption:** Te Wherowhero Lagoon  
**Photographer:** John Sawyer



**Caption:** Te Wherowhero Lagoon  
**Photographer:** John Sawyer

# *Selliera radicans*

## Common Name(s):

Selliera, remuremu, bonking grass

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. New Zealand: Three Kings, North, South, Stewart and Chatham Islands.

## Habitat:

Coastal to alpine. In permanently to seasonally damp, open sites and depressions such as in sand swales, on cliff tops and on talus slopes below these, in coastal turf, in the marginal turf of lake and ponds, in salt pans. Mostly coastal but also recorded from well inland in the South Island and parts of the Central North Island (such as along the shores of Lake Taupo)

## Features\*:

Perennial, ± succulent creeping herb forming matted patches up to 1 m or more in diameter. Stems and branches, 1-4 mm diameter, white or yellowish, procumbent (rarely with tips ascendant) held near at or just below substrate surface, widely spreading, rooting at nodes yellowish. Leaves, 1-4 borne in a fascicles along stem, alternate, appressed to ground or ascending, coriaceous, (± succulent (fleshy)), dark green to yellow-green, glabrous, glossy; petioles 4-40 mm long, slender flattened; lamina 3-50 × 1-10 mm, very variable ranging from orbicular, rhomboid through narrowly spathulate, obovate-spathulate, linear-spathulate to linear, base attenuate to truncate, apex obtuse, subacute to acute. Inflorescences single, arising in leaf axils, borne on stout fleshy, bracteate peduncles 4-45 mm, bracts 1.0-2.6 × 0.7-1.3 mm, broadly to narrowly lanceolate, falcate, green, erect; pedicels 1-24 mm long; bracts 0.8-1.0 × 0.6-0.9 mm, subulate-attenuate. Flowers 1-2. Calyx persistent, calyx lobes 1.2-1.6 × 0.7-1.2 mm, linear to narrow-triangular, green, distally flushed red, apex subacute to acute; corolla 4-11 × 8-16 mm; petals 5 fused in proximal part, inner surface white to pale blue, outer white, pinkish-white to pale red; petal segments 3-8 × 1.5-2.4 mm, lanceolate to narrow-oblong, falcate, acute to acuminate. Ovary 1.4-1.9 mm, green, glabrous. Style purple-red, stigma glabrous, orange brown. Stamens 3, orange-brown. Fruit 3.0-6.1 × 2.1-10.0 mm, obovoid to ovoid, truncate, green. Seeds 1.0-1.8 mm long, broadly ovate, broadly elliptic to almost circular, biconvex, pale orange yellow to pale brown, winged, wing 0.1-0.3 mm wide, margin irregular, wrinkled, translucent.

## Flowering:

August - April

## Fruiting:

October - June

## Threats:

Not Threatened

## \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 28 June 2012. Description from herbarium material and fresh plants except for the seed description which is modified from Webb & Simpson (2001).

## References and further reading:

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

Duguid, F. 1985. *Selliera radicans* with regular corolla. Wellington Botanical Society Bulletin, 42: 84

Webb, C.J.; Simpson, M.J.A. 2001: Seeds of New Zealand gymnosperms and dicotyledons. Christchurch, The Caxton Press. 428 p.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2255](http://nzpcn.org.nz/flora_details.asp?ID=2255)



**Caption:** Tiwai Peninsula, Southland

**Photographer:** Jesse Bythell



**Caption:** Long Point, Catlins

**Photographer:** John Barkla

## *Senecio lautus subsp. esperensis*

### Common Name(s):

L Esperance Rock groundsel

### Current Threat Status (2012):

Threatened - Nationally Critical

### Distribution:

Endemic. Kermadec Island group, known only from the summit slopes and crater of L Esperance Rock.

### Habitat:

The summit of L Esperance Rock (also known as French Rock), where it only grows in volcanic tuff and guano deposits.

### Features\*:

Annual glabrous, succulent herb up to 1.2 m tall. Stem simple, occasionally branched, erect. Leaves initially petiolate toward stem base becoming sessile then auriculate, ultimately stem clasping toward stem apex; lamina up to 230 × 40mm, glossy dark green above, paler and dull beneath, succulent, oblong-spathulate, irregularly serrate to lobulate with teeth to 5mm long but never deeply pinnatifid. Inflorescence terminal with 1 or more branches. Capitula 10–12, usually widely spaced in a loose head. Involucral bracts 8–9(-13), pale green to dark green, 5–7mm long, margins scarios, apex acute. Ray florets 8–10, ligules 1.6–3.25mm long, yellow, somewhat revolute. Disc florets 4mm long. Cypselas 2.5mm long, dark brown, cylindrical, shallowly ribbed, with sparse hairs in grooves

### Flowering:

September - October  
(depending on local conditions)

### Fruiting:

September to December  
(depending on local conditions)

### Threats:

The only known habitat is a nature reserve and is very remote from main shipping routes so the rock is rarely visited. For emergency purposes the summit of the island is used as a fuel dump for rescue helicopters. Ironically there is where the *Senecio* mainly grows. In May 2011 a visit to L'Esperance by Department of Conservation staff found the *Senecio* to be locally common, they also found no sign of the helicopter platform or fuel dump - these appeared to have been washed away by Cyclone Bune which struck the Kermadec islands in March 2011.. *S. lautus subsp. esperensis* although a naturally uncommon, narrow range endemic, still qualifies as Nationally Critical because of its small area of occupancy.

### \*Attribution:

Fact Sheet prepared by P.J. de Lange 11 November 2008. Description based on Sykes (1971) but updated in 2011 by P.J. de Lange from notes made in the field supplemented from observations made on cultivated material.

### References and further reading:

de Lange in: de Lange, P.J.; Heenan, P.B.; Norton, D.A.; Rolfe, J.R.; Sawyer, J.W.D. 2010: Threatened Plants of New Zealand. Canterbury University Press, Christchurch.

Sykes, W. R. 1971: *Senecio lautus* in the Kermadec Islands. *New Zealand Journal of Botany* 9: 533–38.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=680](http://nzpcn.org.nz/flora_details.asp?ID=680)



**Caption:** Seedling in scoria, L'Esperance Rock, Kermadec Islands. May 2011.

**Photographer:** Peter de Lange



**Caption:** Seedling beside land crab burrow, L'Esperance Rock, Kermadec Islands. May 2011.

**Photographer:** Peter de Lange

## *Senecio lautus subsp. lautus*

### **Common Name(s):**

Shore groundsel, variable groundsel

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Probably endemic. There is still some doubt as to whether *S. lautus* is in Australia or not

### **Threats:**

Not Threatened

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1296](http://nzpcn.org.nz/flora_details.asp?ID=1296)



**Caption:** Kapiti Island.

**Photographer:** Jeremy Rolfe



**Caption:** Te Whakaru, Chatham Island

**Photographer:** John Sawyer

# *Senecio sterquilinus*

## Common Name(s):

Guano groundsel

## Current Threat Status (2012):

At Risk - Relict

## Distribution:

Endemic. North, South and Chatham Islands. Known from Stack H (Mokohinau islands group), Hawkes Bay (extinct), Matiu/Somes, Makaro/Ward, Brothers and Stephens islands in the Cook Strait. Also on the West Coast from Cape Foulwind south to Point Elizabeth. Around Wellington Harbour this species is occasionally seen at Petone Beach and Evans Bay. On the Chatham Islands it has been recently (2006) collected from the Forty Fours, Sisters and Western Reef

## Habitat:

A strictly coastal species usually found growing in the vicinity of sea bird nesting grounds or seal haul outs. Often found growing out of thick guano deposits on sparsely vegetated rock stacks dominated by sea birds.

## Features\*:

Annual to short-lived perennial, subsucculent, fleshy to succulent herb, forming densely branched, somewhat sprawling plants up to 0.6 x 0.6 m. Basal stem woody, purple-red or purple, glabrous, rest of stem purple, purple-green or green, sparsely covered with cobwebby hairs. Leaves fleshy, subsucculent to succulent, sparsely to moderately cobweb-hairy, especially on the undersides, often more densely so on emergent leaves, becoming glabrate to glabrous, cuneately narrowed to seed, amplexicaul, 30-200 x 10-80 mm, dark green and glossy above, paler green or purple-green below, elliptic to ovate or rhomboid, usually pinnately lobed to pinnatisect with very broad pinnately lobed or deeply toothed segments, rarely crenate to entire. Upper most leaves similar but smaller, usually less divided, base shortly and broadly cuneate, amplexicaul. Supplementary bracts and calycular bracteoles 9-30, 1.5-8 mm long. Involucral bracts 13-21, glabrescent to glabrous, 6-12 mm long. Ray florests 13-28; ligules dark yellow, closely spaced or overlapping, 3-10 mm long. Disc yellow 10-25 mm diameter. Cypsela 2.5-3.0 mm long, dark brown, dark purple-brown to black-brown, narrowly oblong to narrowly oblong-elliptic, scarcely narrowed at apex, base cuneate; ribs broad and rounded; grooves narrow to u-shaped; hairs retrorse in 4-10 rows filling grooves, often obscuring ribs as well. Pappus 5-6 mm long, white, caducous.

## Flowering:

July - June

## Fruiting:

July - June

## Threats:

A vulnerable herb of very restricted and probably relict distribution. Abundant at most of its known localities and seemingly dependant on sea bird guano to thrive. This makes it very vulnerable to any decline in nesting/roosting sea birds.

## \*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 1 November 2008. Description based on Webb et al. (1988) supplemented by observations obtained from fresh specimens and herbarium material

## References and further reading:

Webb CJ, Sykes WR, Garnock-Jones PJ 1988. Flora of New Zealand. Vol. IV. Botany Division, DSIR, Christchurch

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=684](http://nzpcn.org.nz/flora_details.asp?ID=684)



**Caption:** Western reef

**Photographer:** Peter de Lange



**Caption:** Western Reef

**Photographer:** Peter de Lange

# *Thyridia repens*

## Common Name(s):

Native musk, Maori musk, Native monkey flower

## Current Threat Status (2012):

At Risk - Naturally Uncommon

## Distribution:

Indigenous. New Zealand: North and South Islands. Also Australia

## Habitat:

Strictly coastal. Usually at the back of salt marshes and estuaries, in permanently damp or soggy, saline mud or silt soils in locations that are periodically flooded during high, spring or King tides. Sometimes in dune swales. Intolerant of much competition from taller plants or faster growing mat-forming species.

## Features\*:

Mat-forming, succulent, perennial herb. All parts glabrous. Stems dark green to red-green, prostrate, sometimes ascending at apices, rooting at nodes. Leaves sessile, amplexicaul, c. 2-8 x 1-6 mm, dark green, brown-green to reddish-green, broadly ovate-oblong, entire, punctuate, somewhat succulent. Flowers on short, ascending branches, solitary in leaf axils; pedicels 2-8 mm long, dark green to pinkish-green. Calyx 2-7 mm long, < corolla tube, broadly funneliform; apex truncate, minutely toothed. Corolla 10-15 mm long, distinctly 2-lipped. light purple, mauve, lilac or white, red-spotted with yellow open throat; lower lip bearded; lobes shallow, broader than long. Capsule 6.5 mm long, broadly cylindrical.

## Flowering:

September - February

## Fruiting:

November - May

## Threats:

A widespread, naturally uncommon, biologically sparse species. It is most uncommon in the northern North Island becoming progressively more abundant south of the Waikato, although it is still often absent over large parts of the country. In some parts of its range, particularly metropolitan Auckland, populations have been lost through road realignments (where they cross salt marshes e.g., the upper Waitemata Harbour) or through land reclamation. The spread of the aggressive salt grasses (*Spartina* spp.) and *Carex divisa*. is also a risk in some parts of its range. Nevertheless, these range contractions are insufficient nationally to justify an upgrade to one of the three threat categories.

## \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 8 August 2004. Description adapted from Allan (1961).

## References and further reading:

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

Barker, W.R.; Nesom, G.L.; Beardsley, P.M.; Fraga, N.S. 2012: A taxonomic conspectus of Phrymaceae: A narrowed circumscriptions for *Mimulus*, new and resurrected genera, and new names and combinations. *Phytoneuron* 1-60.

Gardner, R. 1988. *Mimulus repens*. *Auckland Botanical Society Journal*, 43: 67

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=286](http://nzpcn.org.nz/flora_details.asp?ID=286)



**Caption:** Hoopers Inlet, Otago Peninsula

**Photographer:** John Barkla



**Caption:** Tiwai Peninsula, Southland (flowers)

**Photographer:** Jesse Bythell



## Definitions of botanical terms

A glossary has been provided below with definitions for many of the botanical terms used in the species descriptions.

### Glossary

Term	Definition
<b>Abaxial</b>	Facing away from the stem of a plant (especially denoting the lower surface of a leaf).
<b>Acerose</b>	Narrow with a sharp stiff point.
<b>Achene</b>	A simple, dry, one-seeded (one-celled) fruit
<b>Acicular</b>	Needle-shaped.
<b>Acidic</b>	Having a low pH, opposite of basic or alkaline.
<b>Acroscopic</b>	Pointing towards, or on the side of, the apex
<b>Acuminate</b>	Gradually tapered to a point. Sharply pointed.
<b>Acute</b>	Pointed or sharp, tapering to a point with straight sides.
<b>Adnate</b>	Fusion of unlike parts, e.g. stamens fused to petals.
<b>Adventive</b>	A plant that grows in the wild in New Zealand but which was introduced to the country by humans.
<b>Agglutinated</b>	Stuck together.
<b>Allelopath</b>	An organism that releases compounds that are toxic to other species.
<b>Allelopathy</b>	The release by an organism of compounds that are toxic to other species.
<b>Alternate</b>	Attached singly at each node but changing from one side of a stem to the other.
<b>Alveolate</b>	Honeycombed with ridged partitions.
<b>Amplexicaul</b>	clasping or surrounding the stem
<b>Anamorph</b>	Asexual fruiting stage, usually of an ascomycete fungus.
<b>Anastomosing</b>	Rejoining after branching, as in some leaf veins.
<b>Annual</b>	A plant that completes its complete life cycle within the space of a year
<b>Annual evergreen</b>	Plants that lose their over-wintering leaves rapidly in the first half of the growing season. Annual evergreens never present a leafless appearance, but are closer in a functional sense to a deciduous plant than they are to multi-annual evergreens.
<b>Annulus</b>	Line of thickened cells that governs the release of spores from a sporangium
<b>Anterior</b>	Towards the front.
<b>Anther</b>	The pollen-bearing portion of the stamen.
<b>Antheridium</b>	Male reproductive organ formed on the prothallus of a fern
<b>Anthesis</b>	When the flower is fully developed and functioning. The time of pollination or bloom.
<b>Apex</b>	Tip; the point furthest from the point of attachment.
<b>Apices</b>	Plural of apex. Tip, the point furthest from the point of attachment
<b>Apiculate</b>	Bearing a short slender and flexible point.
<b>Apiculus</b>	A small, slender point.
<b>Apomixis</b>	A form of reproduction whereby seed is formed without the usual mode of sexual fusion
<b>Appressed</b>	Pressed against another organ or surface.
<b>Aquatic</b>	Growing, or living in, or frequenting water. Applied to plants and animals and their habitats. Opposite of terrestrial (land living).
<b>Archegonium</b>	Female reproductive organ of a fern formed on the prothallus
<b>Arcuate</b>	Curved into an arch.
<b>Aril</b>	An often fleshy appendage on the outside of a seed.
<b>Artificial thinning</b>	Selectively removing vegetation to create gaps to facilitate natural invasion of native plants, or to plant later successional plants.
<b>Ascending</b>	Growing obliquely upward.
<b>Asexual</b>	Vegetative reproduction, lacking sexual involvement by sperm or egg cells
<b>Attenuate</b>	Narrowing gradually
<b>Auricle</b>	A small, ear-shaped appendage.
<b>Auriculate</b>	Bearing a small, ear-shaped appendage.
<b>Autogamous</b>	Self-fertilising flowers.
<b>Autotrophic</b>	Of or relating to organisms (as green plants) that can make complex organic nutritive compounds from simple inorganic sources by photosynthesis
<b>awn</b>	A stiff or bristle like projection often from the tip or back of an organ
<b>Axil</b>	The upper angle between the leaf and the stem.
<b>Axis</b>	The longitudinal supporting structure around which organs are borne, e.g., a stem bearing leaves.
<b>Barbellate</b>	Barbed, having or covered with protective barbs or quills or spines or thorns or setae
<b>Basal</b>	At the base.
<b>Basisopic</b>	Pointing towards the base
<b>Beak</b>	A prominent extension of an organ
<b>Bifid</b>	Deeply split into two lobes.
<b>Bifurcate</b>	Divided into two.

Term	Definition
<b>Biosecurity</b>	Preventing, eradicating, controlling and managing risks posed by pests and diseases.
<b>Biotic</b>	Pertaining to the living parts of the environment
<b>Bipinnate</b>	With each primary pinna divided to the midrib into a secondary pinna
<b>Biserrate</b>	Doubly serrate.
<b>Blade</b>	The flattened part of a leaf.
<b>Blunt</b>	Not pointed at the ends
<b>Bog</b>	A quagmire covered with specialised plants including sphagnum moss, grasses, sedges, rushes, sundews, umbrella ferns and other plants; has wet, spongy ground, a marsh-plant community on wet, very acid peat. Fed only by rainfall.
<b>Bottleneck</b>	A genetic term; refers to the fact that in smaller populations there could be lower genetic variability
<b>Brachyblasts</b>	Short shoots
<b>Bract</b>	A reduced leaf or leaf-like structure at the base of a flower.
<b>Bracteate</b>	Bearing bracts: leaves or leaf-like structure reduced at the base of a flower.
<b>Bracteolate</b>	With small bracts.
<b>Bracteole</b>	A small bract.
<b>Bracteoles</b>	Bracts directly below the flower
<b>Brevideciduous</b>	Brief (1 month or less) loss of most leaves from the canopy just before flowering or during flushing of a new cohort of leaves.
<b>Bryophyte</b>	Plant group including mosses, liverworts and hornworts
<b>Bryophytes</b>	Plant group including mosses, liverworts and hornworts
<b>Bulbil</b>	A bud produced vegetatively on the stem or frond that is capable of breaking off and growing into a new plant
<b>Bullate</b>	With rounded projections covering the surface as if blistered
<b>Caespitose</b>	Growing in dense tufts
<b>Calli</b>	Circular, warty, stalked thickenings commonly found on the lip (labellum) of the orchid (plural of callus).
<b>Callose</b>	Hardened or thickened.
<b>Callus</b>	Stalked thickening on the lip (labellum) of an orchid.
<b>Calyx</b>	The group of sepals, or outer floral leaves, of a flower
<b>Campanulate</b>	Bell-shaped.
<b>Canaliculate</b>	With longitudinal channels or grooves.
<b>Canopy</b>	The uppermost cover formed by the branches and leaves of trees or the spread of bushes, shrubs and ground covers.
<b>Canopy closure</b>	Stage where canopies of shrub and tree species meet.
<b>Canopy manipulation</b>	Selectively removing vegetation to create gaps to facilitate natural invasion of native plants, or to plant later successional plants.
<b>Capillary</b>	Hair-like
<b>Capitula</b>	Plural of capitulum: A dense head-like inflorescence of many flowers as occurs in most Asteraceae (daisies)
<b>Capitulum</b>	A dense head-like inflorescence of many flowers as occurs in most Asteraceae (daisies)
<b>Capsule</b>	A dry fruit formed from two or more fused carpels that splits open when ripe.
<b>Carbon sinks</b>	Carbon locked away, or sequestered e.g. by trees
<b>Carpel</b>	One unit of the female part of a flower that consists of a basal seed-bearing ovary joined to a receptive stigma by a stalk-like style.
<b>Cauda</b>	Tail-like appendage. (pl. caudae; adj. caudate)
<b>Caudex</b>	The axis of a woody plant, esp. a palm or tree fern, comprising the stem and root.
<b>Cauline</b>	Belonging to the stem, as in cauline leaves emerging from the stem.
<b>Cerise</b>	Bright or deep red.
<b>Chartaceous</b>	Having a papery texture.
<b>Chlorophyll</b>	The green pigment of plants.
<b>Chlorotic</b>	Lacking chlorophyll, therefore yellowish, suffering from chlorosis.
<b>Cilia</b>	Short small hair-like structures on a cell or microorganism
<b>Ciliate</b>	With small hairs (cilia).
<b>Ciliolate</b>	Diminutive of ciliate, i.e., having very small hairs
<b>Cladode</b>	Flattened stem with the function of a leaf
<b>Cladodes</b>	Usually flattened, photosynthetically active branches, these may be leaf-like (e.g., Phyllocladus) or branch-like (e.g., Carmichaelia)
<b>Clavate</b>	Club-shaped, gradually widening towards apex.
<b>Cleft</b>	Having indentations that extend about halfway to the center, as in certain leaves.
<b>Cleistogamous</b>	Flowers that self-fertilise without opening.
<b>Coherent</b>	Sticking together of like parts.
<b>Column</b>	Stamen and stigmas fused to form a single organ.

<b>Term</b>	<b>Definition</b>
<b>Columnar</b>	Shaped like a column
<b>Composite</b>	many small flowers tightly packed together e.g., daisy flowers.
<b>Compound</b>	Composed of several similar parts (cf simple)
<b>Concave</b>	Curved inward.
<b>Concolorous</b>	Of the same colour.
<b>Conical</b>	Cone-shaped.
<b>Connate</b>	Fusion of like parts.
<b>Conspecific</b>	Individuals of the same species.
<b>Cordate</b>	Heart-shaped with the notch at the base.
<b>Coriaceous</b>	Leather-like; thick, tough, and somewhat rigid.
<b>Corolla</b>	The whorl of petals of a flower.
<b>Corymb</b>	Modified raceme where stalks of lower flowers are elongated to same level as the upper flowers.
<b>Cosmopolitan</b>	A species or other taxonomic group that is distributed widely throughout the world.
<b>Costa</b>	The midrib
<b>Crenate</b>	With rounded teeth (bluntly toothed) along the margin.
<b>Crisped</b>	Margin tightly wavy or crinkled, curled or wavy.
<b>Cristate</b>	With a crest.
<b>Crown</b>	The growing point of an upright rhizome or trunk. This usually produces a tuft or ring of fronds.
<b>Crura</b>	The two small projections at the mouth of a utricle in Carex
<b>Cucullate</b>	Hood-shaped.
<b>Culm</b>	The erect stem of a grass.
<b>Cuneate</b>	Wedge-shaped.
<b>Cupular</b>	Cup-shaped.
<b>Cuttings</b>	Stems and/or leaves taken from plants for propagation
<b>Cyathium</b>	A cup-like structure that surrounds the inflorescence in Euphorbia
<b>Cyme</b>	Inflorescence at the terminus of a branch and where new flowering branches emerge laterally below the flower.
<b>Cytorace</b>	Populations (or infraspecific taxa) that differ in chromosome number or chromosome morphology, e.g., <i>Nematoceras trilobum</i> agg. has two cytoraces, a diploid and a tetraploid (in which the chromosomes are doubled).
<b>Cytotype</b>	Populations (or infraspecific taxa) that differ in chromosome number or chromosome morphology, e.g., <i>Nematoceras trilobum</i> agg. has two cytotypes, a diploid and a tetraploid (in which the chromosomes are doubled).
<b>Deciduous</b>	Marked leaflessness in winter, and greater than 90% leaves lost by beginning of spring flush.
<b>Decrescent</b>	Diminishing.
<b>Decumbent</b>	With a prostrate or curved base and an erect or ascending tip.
<b>Decurrent</b>	Attached by a broadened base.
<b>Decurved</b>	Curved downward.
<b>Deflexed</b>	Bent abruptly downward.
<b>Dehiscence</b>	The time of opening at maturity to release the contents, e.g., a capsule releasing the seeds.
<b>Dehiscent</b>	Splitting open at maturity to release contents (of a fruit).
<b>Deltoid</b>	Shaped broadly like an equilateral triangle.
<b>Dentate</b>	Toothed along the margin with the teeth pointing outward, not forward.
<b>Denticles</b>	minute teeth
<b>Denticulate</b>	having a very finely toothed margin
<b>Dichotomous</b>	Divided into two equal branches.
<b>Digitiform</b>	Finger-like.
<b>Dioecious</b>	Having male and female flowers on separate plants of the same species.
<b>Diploid</b>	With two complete sets of chromosomes in each cell.
<b>Disarticulating</b>	Separating at a joint.
<b>Discoid</b>	Disc-shaped.
<b>Disjunct</b>	A species or other taxonomic group that occupies areas that are widely separated and scattered and therefore have a discontinuous distribution.
<b>Distal</b>	Toward the apex, away from the point of attachment (cf. proximal).
<b>Distichous</b>	In two rows on opposite sides of the axis.
<b>Divaricating</b>	Branching at a very wide angle with stiff intertwined stems.
<b>Domatia</b>	small structures on the lower surface of a leaf in some woody dicotyledons, located in the axils of the primary veins and usually consisting of depressions partly enclosed by leaf tissue or hairs.

<b>Term</b>	<b>Definition</b>
<b>Dorsal</b>	Of the back or outer surface relative to the axis. (cf. ventral)
<b>Drupe</b>	A stone fruit, the seed enclosed in a bony covering (endocarp) which is surrounded by a + fleshy layer (mesocarp)
<b>Early successional species</b>	Plants which are able to colonise an open area after disturbance but which are often temporary and are replaced by taller plants in time and shaded out.
<b>Echinate</b>	having sharply pointed spines or bristles.
<b>Ecological district</b>	A characteristic landscape and biological community defined in the PNA (Protected Natural Area) programme.
<b>Ecological restoration</b>	Attempt to reinstate original (pre-disturbance) state of a habitat, plant community or ecosystem.
<b>Ecosourced</b>	Plants sourced from seed collected from similar naturally growing plants in the area of the planting site.
<b>Ecosourcing</b>	Using native plants grown from locally grown seeds. Eco-sourced plants help to preserve the ecological distinctiveness of an area, and ecosourced plants fare better and are adapted to survive in the local conditions.
<b>Eglandular</b>	Without glands.
<b>Elaiosome</b>	Fleshy, oil-rich structure attached to seed that attracts ants which act as dispersers.
<b>Ellipsoid</b>	Elliptic in long section and circular in cross-section.
<b>Elliptic</b>	Broadest at the middle
<b>Emarginate</b>	With a notch at the apex.
<b>Emarginated</b>	Having a shallow notch at the tip, as in some petals and leaves.
<b>Emergent</b>	In an aquatic sense - wetland herbs that are rooted in the substrate below water level, but carry leaves and stems above the water level e.g. rushes and raupo. Found on the shallow margins of lakes, ponds and waterways. In a forest sense - tree that is appearing above the surrounding canopy.
<b>Emergent marginals</b>	An aquatic plant having most of its structure above water. Other aquatic plants are submerged or floating.
<b>Endemic</b>	Unique or confined to a place or region, found naturally nowhere else.
<b>Endophyte</b>	An endosymbiont (usually a bacterium or fungus) that lives within a plant for at least part of its life without causing any apparent disease.
<b>Endophytes</b>	Endosymbionts (usually bacteria or fungi) that live within plants for at least part of their lives without causing any apparent disease.
<b>Endosperm</b>	The nutritive tissue of a seed, consisting of carbohydrates, proteins, and lipids.
<b>Enrichment planting</b>	Returning to a revegetation site and creating gaps, or filling existing gaps, with different plants of plants, usually later successional plants which may not have survived being planted in the first phases of the project.
<b>Ensiform</b>	Sword shaped
<b>Entire</b>	Smooth. Without teeth, notches or divisions.
<b>Entomophilous</b>	Pollinated by insects.
<b>Epicalyx</b>	Calyx-like structure outside, but close to, the true calyx.
<b>Epigeal</b>	Growing on or close to the ground or emerging from the ground after germination (often used for cotyledons).
<b>Epiphyte</b>	A plant that grows upon another plant but is not parasitic and does not draw nourishment from it.
<b>Epiphytic</b>	Growing upon another plant but not parasitic and not drawing nourishment it
<b>Erose</b>	Irregularly toothed, as if gnawed.
<b>Estuarine</b>	Pertaining to the meeting of freshwater and seawater wetlands.
<b>Ethnobotany</b>	The study of people's classification, management and use of plants.
<b>Eusporangia</b>	Sporangia that arise from groups of epidermal cells
<b>Evanescent</b>	Lasting a very short time or running a short distance.
<b>Ex situ</b>	Away from the place of natural occurrence.
<b>Ex-situ</b>	Maintenance of plants as live specimens or propagules in cultivation as insurance against the loss of wild populations and as source for material for translocation.
<b>Excurrent</b>	Having the axis prolonged to form an undivided main stem or trunk (as in conifers).
<b>Extravaginal</b>	Outside an enclosing sheath
<b>Falcate</b>	Hooked or curved like a sickle.
<b>Fastigate</b>	Branches erect and close to central axis.
<b>Fen</b>	A type of wet land that accumulates peat deposits. Fens are less acidic than bogs, deriving most of their water from groundwater rich in calcium and magnesium.
<b>Ferruginous</b>	Rust-like (a colour term)
<b>Fertile frond</b>	Fronds that bear sporangia.
<b>Filamentous</b>	Resembling a filament.
<b>Filiform</b>	Thread like, resembling a filament.
<b>Filiramulate</b>	Branching at a very wide angle with stiff intertwined stems.
<b>Fimbriae</b>	Plural of fimbria: Fringe. A fimbria is composed of many fimbriae (individual hair-like structures).
<b>fimbriate</b>	With fringes.
<b>Flabellate</b>	Fan shaped.
<b>Flaccid</b>	Limp, not rigid, flabby.
<b>Flange</b>	A projecting rim.

<b>Term</b>	<b>Definition</b>
<b>Flexuose</b>	With curves or bends.
<b>Floccose</b>	Having tufts of soft woolly hairs
<b>Floret</b>	A small flower, usually one of a cluster - the head of a daisy for example.
<b>Foliaceous</b>	Leaf-like.
<b>Foliate</b>	Having leaflets.
<b>Founder effect</b>	When a small number of plants (and therefore their genes) from a larger population are selected some genetic information is lost.
<b>Fronid</b>	A leaf, the complete leaf of a fern including the stipe and lamina
<b>Fulvous</b>	Orange–yellow.
<b>Funneliform</b>	Funnel-shaped.
<b>Fusiform</b>	Broadest near the middle and tapering toward both ends.
<b>Galea</b>	Helmet- or hood-shaped.
<b>Galeate</b>	Shaped like a helmet or hood.
<b>Gametophyte</b>	A plant that produces sperm and egg cells and in which sexual reproduction takes place - in ferns this is known as the prothallus
<b>Gene pool</b>	The mixture of all genes and gene variations of a group or population.
<b>Genetic diversity</b>	The variety of genes in a plants or populations.
<b>Genetic variation</b>	Differences displayed by individuals within a plant which may be favoured or eliminated by selection.
<b>geniculate</b>	abruptly bent
<b>Genus</b>	A taxonomic rank of closely related forms that is further subdivided in to species (plural = genera). In a scientific name (e.g., <i>Sicyos australis</i> ), the first word is the genus, the second the species.
<b>Gibbous</b>	Swollen or enlarged on one side, as in a gibbous moon.
<b>Glabrescent</b>	Lacking hair or a similar growth or tending to become hairless
<b>Glabrous</b>	Without or devoid of hairs, smooth.
<b>Gland</b>	A structure that secretes a sticky or oily substance.
<b>Glandular</b>	A structure that secretes a sticky or oily substance.
<b>Glaucous</b>	Covered with a fine, waxy, removable powder that imparts a white or bluish cast to the surface.
<b>Gley</b>	A soil prone to seasonal inundation.
<b>Globose</b>	Globe-shaped.
<b>Glume</b>	One of two bracts at the base of a grass spikelet.
<b>Groundwater</b>	Groundwater is the water beneath the surface that can be collected with wells, tunnels, or drainage galleries, or that flows naturally to the earth's surface via seeps or springs. Groundwater is the water that is pumped by wells and flows out through springs.
<b>Gymnosperm</b>	Plants in the class Gymnospermae that have seeds which are not enclosed in an ovary.
<b>Gynodioecious</b>	A species population containing plants that produce bisexual (perfect) flowers, and plants that produce only female (pistillate) flowers.
<b>Gynoeceium</b>	The female reproductive organs of a flower; the pistil or pistils considered as a group. Means literally "womans house" i.e., the overall structure that contains the female sex organs
<b>Hastate</b>	Spear like. Shaped like an arrowhead, but with basal lobes pointing outward rather than downward.
<b>Haustorium</b>	The absorbing organ of a parasite or hemiparasite
<b>Hemi–parasite</b>	Obtains water and nutrients from the roots of other plants but also manufactures food through photosynthesis.
<b>Hemi–parasitic</b>	Obtaining water and nutrients from the roots of other plants then manufacturing food through photosynthesis.
<b>Herbarium</b>	The place where collections of dried/pressed plants are kept.
<b>Hermaphrodite</b>	Having both male and female sexual characteristics and organs.
<b>Heteroblastic</b>	Exhibiting differences in leaf shapes or forms in juvenile and adult phases of the plant.
<b>Heteroblasty</b>	The state of being heteroblastic (i.e., exhibiting differences in leaf shapes or forms in juvenile and adult phases of the plant).
<b>Hirsute</b>	Hairy.
<b>Hyaline</b>	Membranous, thin and translucent.
<b>Hybrid</b>	An individual that is the offspring of a cross between two different varieties or species.
<b>Hybridise</b>	Breeding with a member of a different plant or type.
<b>Hydrophyte</b>	A plant species adapted to growing in or on water or in wet situations. Aquatic or semi-aquatic.
<b>Hymenium</b>	The fertile, spore–bearing layer of a fruitbody.
<b>Hypanthium</b>	A ring–like, cup–shaped, or tubular structure of a flower on which the sepals, petals, and stamens are borne.
<b>Imbricate</b>	Overlapping.
<b>imbricating</b>	Overlapping.
<b>Imparipinnate</b>	Odd–pinnate, a leaf shape; pinnate with a single leaflet at the apex.
<b>In-situ</b>	On site conservation relating to the maintenance of plants in the wild.
<b>Inbreeding</b>	Genetic similarity in offspring of closely related individuals.

Term	Definition
<b>Incoherent</b>	Not sticking together.
<b>Incursion</b>	Entrance of a pest into an area where it is not present
<b>Indumentum</b>	A covering of fine hairs (or sometimes scales)
<b>Indusia</b>	Plural of indusium, a membrane covering a sorus of a fern
<b>Indusium</b>	A thin tissue that covers the sorus in many ferns. Plural: indusia.
<b>Inflorescence</b>	The arrangement of flowers on the stem. A flower head.
<b>Infundibuliform</b>	Funnel-like.
<b>Interkeel</b>	The space between the keel and the leaf blade
<b>Internode</b>	The part of an axis between two nodes; the section of the stem between leaves.
<b>Internodes</b>	Part of a stem between two nodes.
<b>Intramarginal</b>	Within or near the margin.
<b>Involucral bracts</b>	The scales surrounding the flower head or capitula.
<b>Involucre</b>	A group of bracts surrounding a flower head.
<b>Involute</b>	With margins rolled inward toward the upper side.
<b>Irritable</b>	Responding to touch.
<b>Jugate</b>	Paired.
<b>Juvenile</b>	A plant of non-reproducing size.
<b>Keel</b>	A prominent or obvious longitudinal ridge (as in a boat).
<b>Labellar</b>	Pertaining to the labellum: a lip; in orchid flowers referring to the middle petal which usually differs in size, shape or ornamentation from the two lateral petals.
<b>Labellum</b>	A lip; in orchid flowers referring to the highly modified middle petal which usually differs in size, shape or ornamentation from the two lateral petals.
<b>Lacinia</b>	A jagged lobe.
<b>Laciniae</b>	Jagged lobes.
<b>Laciniate</b>	Cut into narrow, irregular lobes or segments.
<b>Lacustrine</b>	Of or having to do with a lake, of, relating to, or formed in lakes, growing or living in lakes.
<b>Lamina</b>	The expanded flattened portion or blade of a leaf, fern frond or petal.
<b>Lanceolate</b>	Lance-shaped; of a leaf several times longer than wide with greatest width about one third from the base, tapering gradually to apex and more rapidly to base
<b>Lateral</b>	On or at the side.
<b>Lax</b>	With parts open and spreading, not compact.
<b>Laxly</b>	With parts open and spreading, not compact
<b>Leaflet</b>	One section of a compound leaf.
<b>Lemma</b>	The lower of two bracts enclosing the flower in grasses.
<b>Lenticillate</b>	Bark that is covered in fine lenticles (breathing pores)
<b>Ligulate</b>	Strap-like, tongue-shaped
<b>Ligule</b>	The membrane between the leaf and the stem of a grass; the "petal" of a ray floret in a composite inflorescence
<b>Linear</b>	Long and narrow with more or less parallel sides.
<b>Littoral</b>	Occurring at the border of land and sea (or lake). On or pertaining to the shore. The shallow sunlit waters near the shore to the depth at which rooted plants stop growing.
<b>Lobe</b>	A recognisable, but not separated, rounded division or segment of a leaf or pinna. Used to describe ferns and leaves in <i>Cotula</i> and <i>Leptinella</i> .
<b>Lobed</b>	Part of a leaf (or other organ), often rounded, formed by incisions to about halfway to the midrib.
<b>Lobule</b>	A small lobe or sub-division of a lobe
<b>Lustrous</b>	Glossy, shiny.
<b>Lycophytes</b>	Seedless vascular plants that belong to the phylum Lycophyta (characterised by microphylls -primitive leaves found in ancient plants).
<b>Lyrate</b>	Pinnatifid or pinnatisect terminal lobe much larger than lower lobes.
<b>Maculate</b>	Blotched or spotted.
<b>Mangrove</b>	Coastal wetland dominated by Manawa or mangrove <i>Avicennia marina</i> var. <i>resiifera</i> . Northern New Zealand only, salt marsh replaces it further south.
<b>Margin</b>	The edge or border of a leaf
<b>Marine</b>	Pertaining to the sea and saltwater systems.
<b>Marsh</b>	A tract of wet land principally inhabited by partially-submerged herbaceous vegetation. Has fewer woody plants than swamplier habitats.
<b>Mealy</b>	Dry, powdery, crumbly.
<b>Median</b>	In the middle.
<b>Membranous</b>	Very thin, like a membrane.
<b>Mid-lobe</b>	The middle part into which a leaf is divided.
<b>Midrib</b>	The central or principal vein of a leaf or pinna of a fern.
<b>Mire</b>	Synonymous with any peat-accumulating wetland. Term covers bogs and peaty swamps, fens, carr, moor, muskeg and peatland. Term excludes marsh which is non-peat forming.

Term	Definition
<b>Molecular techniques</b>	Where proteins and genes are used to investigate plant relationships
<b>Monitoring</b>	Recording of quantitative data over time to document changes in condition or state of species or ecosystems.
<b>Monoecious</b>	Having male and female flowers on the same plant of the same species.
<b>Montane</b>	Land between 300 and 800 metres above sea level.
<b>Mucronate</b>	Tipped with a short, sharp, point.
<b>Mucronulate</b>	Having a very small mucro; diminutive of mucronate.
<b>Multi-annual evergreen</b>	Overlapping annual cohorts of leaves always present.
<b>Multifid</b>	Cleft into many lobes or segments
<b>Multiseptate</b>	With many septa.
<b>Mycorrhiza</b>	A symbiotic relationship between a fungus and a plant.
<b>Mycorrhizal associations</b>	Symbiotic association between fungi and plant roots which assists plant health by allowing increased ability for uptake of nutrients and promote plant growth.
<b>Napiform</b>	A long swollen but tapering root – like a parsnip, or carrot.
<b>Native</b>	Naturally occurring in New Zealand (i.e., not introduced accidentally or deliberately by humans).
<b>naturalised</b>	Referring to plants that have escaped from cultivation (including gardens or forest plantations) and can now reproduce in the wild (without human assistance)
<b>Nectary</b>	Organ that produces nectar.
<b>Nerve</b>	Prominent vein or rib.
<b>Nerves</b>	Strands of conducting and usually strengthening tissue in a leaves or similar structures
<b>Net veins</b>	Veins that repeatedly divide and re-unite.
<b>Net venation</b>	Feather-like or hand-like venation on a leaf.
<b>Nival</b>	Growing at high altitudes. From Latin: nivalis, snowy etc. from nix, nivis, snow.
<b>Node</b>	The point at which leaves, branches or roots arise on a stem.
<b>Ob-</b>	Prefix meaning inverted, in reverse direction.
<b>Obcordate</b>	Heart shaped with the notch at the apex.
<b>Oblanceolate</b>	Tapering and widest towards the apex or inversely lanceolate.
<b>Oblique</b>	Slanting; of a leaf, larger on one side of the midrib than the other, in other words asymmetrical.
<b>Oblong</b>	Rectangular.
<b>Obovate</b>	Roughly elliptical or reverse egg shaped and widest near the apex (i.e., the terminal half broader than the basal half).
<b>Obtuse</b>	Blunt or rounded at the apex, with the sides meeting at an angle greater than 90°.
<b>Operculate</b>	With a small lid.
<b>Opposite</b>	A pair of organs attached at nodes in pairs on either side of a stem or axis.
<b>Orbicular</b>	Almost or approximately circular.
<b>Outbreeding depression</b>	A reduction in vigor of offspring from distant parents. It can occur when a locally adapted population is moved and mixed with plants adapted to different conditions.
<b>Outer canopy deciduous</b>	Marked reduction in leaf number in the outer canopy in exposed high light environments over winter.
<b>Oval</b>	Planar, shaped like a flattened circle, symmetrical about both the long and the short axis; about twice as long as broad, tapering equally both to the tip and the base. Synonymous with elliptical.
<b>Ovary</b>	Part of a flower containing the ovules and later the seeds.
<b>Ovate</b>	Egg-shaped and widest at base.
<b>Ovoid</b>	Oval; egg-shaped, with rounded base and apex.
<b>Pakihi</b>	A term which in its strict sense refers to open clears within forest dominated by low scrub and rushes. However, more usually used to refer natural and induced wetlands and their associated shrublands. A vernacular most frequently used in the West Coast for impoverished soils and their associated peats, left after forest has been cleared
<b>Palea</b>	The small upper bract enclosing the flower of a grass
<b>Palmately</b>	Radiating from a point, as fingers radiating from the palm of a hand.
<b>Palmatifid</b>	Deeply divided into several lobes arising from more or less the same level.
<b>Palmatisect</b>	Intermediate between palmate and palmatifid, i.e. the segments are not fully separated at the base; often more or less digitate.
<b>Palustrine</b>	Pertaining to wet or marshy habitats. Term covers mires and marshes
<b>Pandurate</b>	Fiddle-shaped.
<b>Panicle</b>	Highly branched (multiple raceme).
<b>Papilla</b>	A short rounded projection.
<b>Papillae</b>	A soft, fleshy projection, usually small and nipple-like.
<b>Papillate</b>	With short rounded projections.
<b>Papillose</b>	Warty, with short rounded projections or gland-dotted
<b>Parallel venation</b>	Veins are parallel along leaf.

Term	Definition
<b>Parasite</b>	An organism that derives all its nourishment from its host.
<b>Patent</b>	Spreading or expanded, e.g., spreading petals.
<b>Peat</b>	A mass of partially carbonised plant tissue formed by partial decomposition in water of various plants and especially of mosses of the genus Sphagnum, widely found in many parts of the world, varying in consistency from a turf to a slime used as a fertiliser, as stable litter, as a fuel, and for making charcoal. Partially carbonized vegetable matter saturated with water; can be used as a fuel when dried. A type of soil deriving from dead organic material situated in a wet area, where the reduced amount of [[oxygen available in the wet conditions results in the organic material not decomposing as much as it usually would do so in the presence of more oxygen. Used in growing media. Represents an important carbon sink –drainage of peat releases large amounts of carbon (CO <sub>2</sub> ) to the atmosphere.
<b>Pedicel</b>	The stalk of a single flower in an inflorescence or fruit (either in a cluster or existing singularly).
<b>Peduncle</b>	The stalk of a solitary flower or the main stalk of an inflorescence or flower cluster.
<b>Pedunculate</b>	Describing fruits, which are borne on a stalk (a peduncle).
<b>Pellucid</b>	Transparent.
<b>Peltate</b>	Shield-like, with the stalk attached well inside the margin
<b>Pendent</b>	Hanging down from its support
<b>Pendulous</b>	Hanging or drooping.
<b>Penicillate</b>	With a tuft of hairs at the end, like a brush.
<b>Perennial</b>	A plant lasting for three seasons or more
<b>Perianth</b>	A collective term for the calyx (sepals or tepals) and corolla (petals) of the flower, especially when these are indistinguishable
<b>Petal</b>	Part of flower inside the sepals; usually coloured.
<b>Petiolate</b>	Having a petiole.
<b>Petiole</b>	Leaf stalk.
<b>phloem</b>	The vascular tissue in land plants that is primarily responsible for the distribution of sugars and nutrients manufactured in a shoot.
<b>Photopoint</b>	A monitoring technique where repeat photos are taken of the same scene from the same point over a period of time in order to quantify changes.
<b>Pilose</b>	Bearing long, soft hairs.
<b>Pinna</b>	A segment of a divided lamina that is classified as primary, secondary or tertiary according to the degree of dissection of the lamina.
<b>Pinnae</b>	Divisions of a pinnate leaf
<b>Pinnate</b>	With leaflets arranged regularly in two rows on either side of a stalk as in a feather; the lamina on a fern is divided into separate pinnae
<b>Pinnatifid</b>	Pinnately lobed, cleft more than halfway to the midrib. Not cleft all the way to the rachis.
<b>Pinnatisect</b>	Pinnately divided almost to midrib but segments still confluent.
<b>Pioneer</b>	Plant species are hardy species that should be planted first to establish a good canopy cover that restricts weed growth and promotes natural regeneration. In natural ecosystems these are the first plants to arrive and grow on a site.
<b>Pistil</b>	The female reproductive organ of a flower, consisting of an ovary, style, and stigma.
<b>Pistillate</b>	A flower with one or more pistils, but no stamens.
<b>Plano-convex</b>	Flat on one side, convex on the other.
<b>Plumose</b>	Feathery.
<b>Podzol</b>	Infertile, acidic soil, strongly leached to form a whitish-grey subsoil underlain by a layer enriched in iron, aluminium and organic matter; usually under forest in a wet temperate climate.
<b>Pole</b>	A subcanopy size individual with a long thin trunk and foliage tuft of a potential canopy tree.
<b>Pollinia</b>	Compact masses of orchid pollen.
<b>Population enhancement</b>	Increasing a population for a specific biological purpose, e.g., when a species is already present in an area but extra individuals are added to address a sex imbalance.
<b>Porrect</b>	Extending forward.
<b>Procumbent</b>	Lying and flat along the ground but not rooting
<b>Propagate</b>	To reproduce a plant by sexual (i.e., from seed) or asexual (e.g., from cuttings) means.
<b>Prostrate</b>	A general term for lying flat along the ground. This includes procumbent (that is lying and flat along the ground but not rooting) and decumbent (with a prostrate or curved base and an erect or ascending tip).
<b>Provenance</b>	The place of origin (of a plant that is in cultivation).
<b>Proximal</b>	Toward the base or point of attachment (cf. distal).
<b>Pseudobulb</b>	Thickened surface stem; usually looking like a bulb.
<b>Pseudoterminal</b>	Falsely terminal – as in a bud which appears to occupy a terminal position but does not
<b>Puberulent</b>	Minutely clad in short, soft hairs
<b>Pubescence</b>	Covering of soft, fine hairs
<b>Pubescent</b>	Covered in short, soft hairs.
<b>Pungent</b>	Ending in a stiff sharp point
<b>Pustule</b>	Small blister-like elevation.



Term	Definition
<b>Quadrat</b>	Square, rectangular.
<b>Raceme</b>	An unbranched, elongated inflorescence with pedicellate flowers maturing from the bottom upward i.e., flowers attached to the main stem by short stalks.
<b>Rachis</b>	the axis of an inflorescence or of a compound leaf
<b>Ray</b>	An outer ring of strap-like florets in the head of Asteraceae (daisy) flowers.
<b>Re-introduction</b>	Translocating wild or cultivated individuals to sites where the taxon has been known to occur in the past, but from which it has disappeared.
<b>Recurved</b>	Curved backward.
<b>Reflexed</b>	Bent back on itself
<b>Reniform</b>	Kidney shaped.
<b>Repand</b>	With a slightly wavy margin.
<b>Replum</b>	The outer structure of a pod in which the valves have dehisced (persists after the opening of the fruit)
<b>Restiad</b>	Area dominated by rush-like plants (collectively known as restiads) of the family Restionaceae. Includes Chatham Island and North Island Sporodanthus and oioi ( <i>Apodasmia similis</i> )
<b>Retorse</b>	Pointing backward.
<b>Retuse</b>	A shallow notch at the rounded or blunt apex of a leaf.
<b>Rhizoid</b>	Any of various slender filaments that function as roots in mosses and ferns and fungi.
<b>Rhizomatous</b>	With underground creeping stems.
<b>Rhizome</b>	An underground stem (usually spreading horizontally or creeping) or short and erect.
<b>Rhombic</b>	Diamond-shaped.
<b>Rhomboid</b>	Diamond shaped, nearly rhombic.
<b>Riparian</b>	Relating to or living or located on the bank of a natural watercourse (as a river) or sometimes of a lake or a tidewater.
<b>Riparian margin</b>	Refers to the edges of streams, rivers, lakes or other waterways.
<b>Riparian plants</b>	Refers to plants found growing near the edges of streams, rivers or other waterways.
<b>Riparian zone</b>	A strip of land next to streams, rivers, and lakes where there is a transition from terrestrial (land vegetation) to aquatic (water) vegetation. Also known as "berm".
<b>Riverine</b>	Pertaining to rivers, streams and such like flowing water systems.
<b>Rootstock</b>	A short, erect, underground stem.
<b>Rosette</b>	A radiating cluster of leaves.
<b>Rostellum</b>	In orchids, a modified stigma that prevents self-fertilisation.
<b>Rosulate</b>	A dense radiating cluster of leaves.
<b>Rugose</b>	Wrinkled.
<b>Rugulose</b>	Having small wrinkles.
<b>Runcinate</b>	Sharply pinnatifid or cleft, the segments directed downward.
<b>Runner</b>	A trailing stem that roots at the nodes.
<b>Rupestral</b>	Growing on rocks.
<b>Rushes</b>	A group of distinctive wetland plants. They have solid stems (grasses have hollow stems), true rushes <i>Juncus</i> sp. have rounded leaves.
<b>Sagittate</b>	Shaped like the head of an arrow; narrow and pointed but gradually enlarged at base into two straight lobes directed downwards; may refer only to the base of a leaf with such lobes; cf. hastate.
<b>Salt marsh</b>	A coastal wetland, with specialized salt tolerant plants (halophytes).
<b>Sapling</b>	A juvenile tree that has reached the stage of 1 or 2 main stems but is still in the shrub layer.
<b>Saprophyte</b>	A plant lacking chlorophyll and living on dead organic matter.
<b>Saprophytic</b>	Lacking chlorophyll and living on dead organic matter.
<b>Sarcotesta</b>	The fleshy, often highly coloured outer layer of the seed coat in some species, e.g., titoki ( <i>Alectryon excelsus</i> ).
<b>Scabrid</b>	Roughened or rough with delicate and irregular projections.
<b>Scale</b>	Any thin, flat, membranous structure.
<b>Scape</b>	A leafless flower stem.
<b>Scutiform</b>	Shield-shaped.
<b>Sedges</b>	A group of grass-like or rush-like herbaceous plants belonging to the family Cyperaceae. Many species are found in wetlands some are forest floor plants. Leaves are usually angular. Hence the saying "rushes are round and sedges have edges".
<b>Seedling</b>	A newly germinated plant.
<b>Self sustaining</b>	Able to sustain itself, or replace itself, independently of management i.e. regenerate naturally
<b>Self thinning</b>	Natural tree death in a crowded, even-aged forest or shrubland.
<b>Semi-deciduous</b>	Partial leaflessness in winter, and greater than 50% leaves lost by the beginning of spring flush.
<b>Sepal</b>	Outer part of flower; usually green.
<b>Serrate</b>	Sharply toothed with teeth pointing forwards towards apex.
<b>Serrulate</b>	Finely serrate, i.e., finely toothed with asymmetrical teeth pointing forward; like the cutting edge of a saw.

<b>Term</b>	<b>Definition</b>
<b>Sessile</b>	Attached by the base without a stalk or stem.
<b>Seta</b>	The stalk of a fruiting moss capsule
<b>Sheath</b>	A portion of an organ that surrounds (at least partly) another organ (e.g., the tubular envelope enclosing the stem in grasses and sedges).
<b>Silicles</b>	The flattened usually circular capsule – compared with the narrow, elongated fruit (silique) – containing the seed/seeds. A term used almost exclusively for plants within the cabbage family (Brassicaceae)
<b>Silique</b>	A capsule, usually 2-celled, with 2 valves falling away from a frame (replum) bearing
<b>Simple</b>	Of one part; undivided (cf compound).
<b>Sinuate</b>	With a wavy margin.
<b>Sinus</b>	The space or recess between lobes; in hebes a gap between the margins of two leaves of an opposite pair that may be present in the bud before the pair of leaves separate.
<b>Sorus</b>	A cluster of two or more sporangia on the margin or underside of the lamina of a fern, sometimes protected by an indusium.
<b>Spathulate</b>	Spatula or spoon-shaped, a rounded blade tapering gradually to the base.
<b>Spheroidal</b>	Almost spherical but elliptic in cross section.
<b>Spicate</b>	Arranged in a spike.
<b>Spike</b>	Flowers attached to main stem without stalks.
<b>Spikelet</b>	Collection of individual grass florets borne at the end of the smallest branch of the inflorescence.
<b>Sporangia</b>	Plural of sporangium. Structures in which spores are produced.
<b>Sporangium</b>	Structure in which spores are produced.
<b>Spore</b>	A single-celled reproductive unit similar in function to that of the seed in a flowering plant.
<b>sporophyte</b>	The spore producing plant in ferns that is usually the visible part.
<b>Stamen</b>	The male reproductive organ of a flower where pollen is produced. Consists of an anther and its stalk.
<b>Stamens</b>	The male, pollen bearing organ of a flower.
<b>Standing water</b>	Where water lies above the soil surface for much of the year.
<b>Stellate</b>	Irregularly branched or star shaped.
<b>Stigma</b>	Female part of the flower that is receptive to pollen, usually found at or near the tip (apical end) of the style where deposited pollen enters the pistil.
<b>Stipe</b>	The stalk of a frond.
<b>Stipitate</b>	Borne on a stipe or stalk.
<b>Stipulate</b>	A leaf with stipules.
<b>Stipule</b>	A scale-like of leaf-like appendage at the base of a petiole, usually paired.
<b>Stolon</b>	A stem which creeps along the ground, or even underground.
<b>Stoloniferous</b>	Producing stolons
<b>Stramineous</b>	Chaffy, like straw or straw-colored.
<b>Stria</b>	A fine line or groove.
<b>Striae</b>	Fine lines or grooves.
<b>Striate</b>	Fine longitudinal lines or minute ridges
<b>Style</b>	The elongated part of the flower between the ovary and the stigma.
<b>Sub-</b>	A prefix meaning under, somewhat or almost.
<b>Subglabrous</b>	Very slightly, but persistently, hairy.
<b>Suborbicular</b>	Slightly rounded in outline
<b>Substrate</b>	The surface upon which an orchid grows.
<b>Subtended</b>	Immediately beneath, occupying a position immediately beneath a structure, i.e., flower subtended by bract
<b>Subulate</b>	Slender and tapering to a point.
<b>Succession</b>	Progressive replacement of one species or plant community type by another in an ecosystem.
<b>Successional</b>	Referring to species, plant communities or habitats that tend to be progressively replaced by another.
<b>Succulent</b>	Fleshy and juicy.
<b>Summer-green</b>	Used in New Zealand to indicate herbs or sub-shrubs that die down to a root stock or rhizomatous network.
<b>Supplementary planting</b>	Returning to a revegetation site and creating gaps, or filling existing gaps, with different plants of plants, usually later successional plants which may not have survived being planted in the first phases of the project.
<b>Surface water</b>	Water present above the substrate or soil surface.
<b>Surveillance</b>	Regular survey for pests inside operational and managed areas e.g. nurseries, standout areas on parks.
<b>Survey</b>	Collection of observations on the spatial distribution or presence or absence of species using standardised procedures.
<b>Sustainable Land Management</b>	The use of farming practices which are sustainable both financially and environmentally including management of nutrient runoff, waste disposal or stock effluent, reducing impacts of nutrients on waterways, preventing erosion and soil loss, and protecting native forest and wetland habitats from stock damage.
<b>Swamp</b>	Low land that is seasonally flooded; has more woody plants than a marsh and better drainage than a bog. They are more fertile and less acidic than bogs because inflowing water brings silt, clay and organic matter. Typical swamp plants include raupo, purei and harakeke (flax). Zonation and succession often leads through manuka to kahikatea swamp forest as soil builds up and drainage improves.

<b>Term</b>	<b>Definition</b>
<b>Symbiote</b>	An organism that has an association with organisms of another species whereby the metabolic dependence of the two associates is mutual.
<b>Symbiotic</b>	The relation between two different species of organisms that are interdependent; each gains benefits from the other (see also symbiosis).
<b>Sympatric</b>	Occupying the same geographical region.
<b>Synangia</b>	Structures made up of fused sporangia
<b>Synonym</b>	A botanical name that also applies to the same taxon.
<b>Systematics</b>	The study of taxonomy, phylogenetics, and taxogenetics.
<b>Tabular</b>	Shaped like a rectangular tablet.
<b>Taxa</b>	Taxonomic groups. Used to refer to a group at any level e.g., genus, species or subspecies.
<b>Taxon</b>	A taxonomic group. Used to refer to a group at any level e.g., genus, species or subspecies.
<b>Taxonomy</b>	The process or science of classifying, naming, and describing organisms
<b>Tepal</b>	An individual member of the perianth.
<b>Terete</b>	Cylindrical and tapering.
<b>Terminal</b>	At the tip or apex.
<b>Ternatifid</b>	Leaflets In threes,
<b>Tetrad</b>	A group of four.
<b>Tomentum</b>	A hairy covering of short closely matted hairs.
<b>Translocation</b>	The movement of living organisms from one area to another.
<b>Trifid</b>	Divided into three.
<b>Trifoliolate</b>	Having three leaflets.
<b>Trigonous</b>	Three-angled
<b>Tripinnate</b>	With each secondary pinna divided to the midrib into tertiary pinnae
<b>Triquetrous</b>	Triangular in cross section and acutely angled.
<b>Truncate</b>	With the apex or base squared at the end as if cut off.
<b>Tuberculate</b>	Bearing small swellings.
<b>Tubular</b>	Tube-shaped.
<b>turbinate</b>	Top-shaped.
<b>Turgid</b>	Distended through internal pressure
<b>Type locality</b>	The place or source where a holotype or type specimen was found for a species.
<b>Ultramafic</b>	A type of dark, usually igneous, rock that is chemically dominated by magnesium and iron-rich minerals, the partially metamorphosed form of which is serpentinite.
<b>Umbel</b>	Umbrella like; the flower stalks arise from one point at the stem.
<b>Undulate</b>	Wavy edged.
<b>Undulose</b>	Wavy edged.
<b>Unitubular</b>	A tube partitioned once – literally one tube (compare – multitubular – many tubes)
<b>Utricle</b>	A thin loose cover enveloping some fruits (eg., Carex, Uncinia)
<b>Valvate</b>	Opening by valves.
<b>Vascular plant</b>	A plant that possesses specialised conducting tissue (xylem and phloem). This includes flowering plants, conifers and ferns but excludes mosses, algae, lichens and liverworts.
<b>Velutinous</b>	Thickly covered with delicate hairs; velvety.
<b>Ventral</b>	Of the front or inner (adaxial) surface relative to the axis. (cf. dorsal)
<b>Vermiform</b>	Worm-shaped.
<b>Vernicose</b>	Glossy, literally as if varnished, e.g., Hebe vernicosa has leaves that appear as if varnished
<b>Verrucose</b>	Having small rounded warts.
<b>Verticillium</b>	A fungus disease that will cause wilting and death.
<b>Villous</b>	Covered with long, soft, fine hairs.
<b>Water table</b>	The level at which water stays in a soil profile. The zone of saturation at the highest average depth during the wettest season.
<b>Wetland</b>	A site that regularly has areas of open water for part or all of the year, or has a water table within 10 cm of the surface for at least 3 months of the year. Wetland ecosystems support a range of plant and animal species adapted to an aquatic or semi-aquatic environment.
<b>Whipcord</b>	A shrub in which the leaves are reduced to scales that are close-set and pressed against the stem.
<b>Whorl</b>	A ring of branches or leaves arising at the same level around the stem of a plant.