Weeds to remove from the Townbelt

Table of contents

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

Copyright: All images used in this book remain copyright of the named photographer. Any reproduction, retransmission, republication, or other use of all or part of this book is expressly prohibited, unless prior written permission has been granted by the New Zealand Plant Conservation Network (info@nzpcn.org.nz). All other rights reserved.

INTRODUCTION

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

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

Funding to develop the website was provided by the New Zealand Government's Terrestrial and Freshwater Biodiversity Information System Programme (TFBIS). The website is run by a team of volunteers and is continually improving in both the richness of content and the range of functions it offers.

The species information used on the website has come from a variety of sources which are cited at the bottom of a species page.

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

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

THE NEW ZEALAND BOTANIC REGION

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

ABOUT THE NETWORK

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

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

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

That work has included:

- Training people in plant conservation
- Publishing plant books, reports and posters
- Raising money for the David Given Threatened Plant Research Trust to pay for plant conservation research scholarships
- Educating people about plant life through the Network website
- Connecting people through our website, the monthly newsletter, the Network conference and the annual general meeting

WHAT IS A THREATENED PLANT?

The NZ Threatened Plant Committee was formed in 1991 and ever since then it has met at regular intervals to review the status of indigenous vascular plants. It is made up of a team of botanists that between them have an extensive knowledge of the native plants of New Zealand.

This committee applies a set of criteria to each native plant to determine its conservation status. The resulting list of species classified as threatened is published in the NZ Journal of Botany (see for example de Lange et al. 2018). The main threat categories used are: Extinct, Nationally Critical, Nationally Endangered and Nationally Vulnerable, Declining. Other categories used are: Recovering, Relict, Naturally Uncommon, Coloniser, Vagrant and Data Deficient. For vascular plants the threat status used in this book is taken from the 'Conservation status of New Zealand indigenous vascular plants, 2017' by de Lange et al. (2018).

Recently other committees have been established to review the status of non-vascular plants and have produced assessments for New Zeland mosses (Rolfe et al., 2016) as well as horworts and liverworts (de Lange et al., 2015).

Coprosma robusta

COMMON NAME
karamū, glossy karamū

SYNONYMS
?Coprosma coffaeoides Colenso

FAMILY
Rubiaceae

AUTHORITY
Coprosma robusta Raoul

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
COPROB

CHROMOSOME NUMBER
2n = 44

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Large bushy shrub with pairs of glossy leaves which have a small dark-tipped flap on the stem between the leaf bases. Leaves 7-12cm long, with a prominent ridge up the middle underneath and a furrow up the middle above. Fruit red, in tight clusters along twigs.

DISTRIBUTION
Endemic. North and South Islands. Naturalised on the Chatham Islands within a small area between Waitangi and Owenga.

Pistillate flowers. Boulder Hill, western Hutt hills, Lower Hutt. Photographer: Jeremy Rolfe

Pistillate flowers. Boulder Hill, western Hutt hills, Lower Hutt. Photographer: Jeremy Rolfe

HABITAT
Common throughout coastal, lowland and lower montane habitats within shrublands and open sites within forest.

FEATURES
Shrub or small tree up to 6 m tall. Branches numerous, stout, erect to somewhat spreading. Petioles stout, 10-20 mm long. Stipules fused towards base, obtuse, glabrous with one of two prominent, black, glandular denticles. Leaves 70-120 x 30-40-50 mm, leathery, dark green above, paler green beneath, glabrous, elliptic, elliptic-oblong to broad-ovate, acute or obtuse, apex mucronate. Venation reticulated, conspicuous. Male flowers in axillary many-flowered glomerules, corolla conspicuous, lobes triangular, acute, stamens 4-5, prominent. Females in compound clusters on peduncles 10-15 mm. Calyx and corolla much reduced, stigmas prominent. Drupe dark orange (rarely yellow), 8-8 x 4-5 mm, oblong to narrow-ovoid.

SIMILAR TAXA
Easily distinguished from all the other lowland, large-leaved Coprosma spp., by the seemingly entire leaves, which are finely toothed along the margins - this can be felt by dragging a finger tips along the leaf edge. Perhaps closest to Coprosma macrocarpa subsp. minor, with which it freely hybridizes, and from which the more simple leaf venation (not so reticulate), finely toothed leaf margins are useful distinctions.

FLOWERING
(July-) August-September (-November)

FLOWER COLOURS
Green, White

FRUITING
(March-) April-May (-July)

PROPAGATION TECHNIQUE
Very easy from fresh seed. Also easy from semi-hardwood cuttings. Fast growing and inclined to become weedy.

ETYMOLOGY
coprosma: From the Greek kopros ‘dung’ and osme ‘smell’, referring to the foul smell of the species, literally ‘dung smell’
robusta: Sturdy

WHERE TO BUY
Not commonly cultivated but often naturalising from urban indigenous vegetation remnants. Fruit bird dispersed. Heavily fruiting females (which are often apomictic) can be very spectacular.

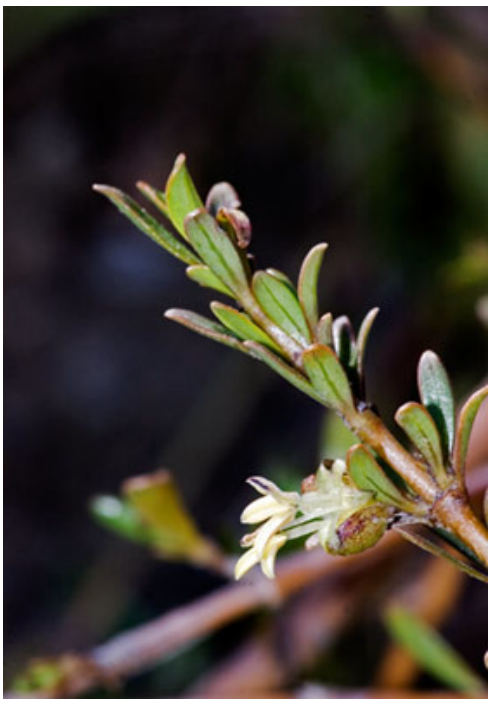
ATTRIBUTION
Fact sheet prepared by Peter J. de Lange (30 August 2004). Description adapted from Allan (1961).

CITATION
Please cite as: de Lange, P.J. (Year at time of access): Coprosma robusta Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/coprosma-robusta/ (Date website was queried)

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/coprosma-robusta/

Coprosma repens

Eastbourne. Photographer: Jeremy Rolfe



Coprosma repens x C. acerosa ("C. x kirkii"). Paekakariki. Oct 2006. Photographer: Jeremy Rolfe

COMMON NAME
taupata, looking glass plant, mirror plant

SYNONYMS
C. retusa Hook.f.; C. baueriana Hook.f.; C. baueri auct. non Endl.; C. stockii Williams, Choice, Stove et Greenh.

FAMILY
Rubiaceae

AUTHORITY
Coprosma repens A.Rich.

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
COPREP

CHROMOSOME NUMBER
2n = 44

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Common low-growing shrub or small tree bearing pairs of green very shiny dark green leaves inhabiting the edge of coastal forests and seaside rocks. Leaves 6-8cm long, leathery, with small pits at junction of veins. Fruit orange.

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

SIMILAR TAXA

A distinctive species easily recognised by the very glossy, dark green, broadly oblong to suborbicular (round) leaves. It is only likely to be confused with C. baueri (a Norfolk Island endemic extremely rarely cultivated in New Zealand) and C. petiolata (a Kermadec endemic rarely cultivated in New Zealand). For distinctions between it and C. petiolata see C. petiolata.

FLOWERING

June - February

FLOWER COLOURS

Green, White

FRUITING

July - June

PROPAGATION TECHNIQUE

Easily grown from fresh seed, semi-hardwood cuttings and layered pieces. Moderately frost-tender. An attractive species which is inclined to self-sow and times become weedy in cultivation. In some places of New Zealand where it is not natural it has become established from garden plantings and it now poses a threat to other indigenous Coprosma populations as well as local coastal vegetation associations.

ETYMOLOGY

coprosma: From the Greek kopros ‘dung’ and osme ‘smell’, referring to the foul smell of the species, literally ‘dung smell’

repens: From Latin repere meaning to creep, means creeping

STATUS OVERSEAS

A serious weed in many countries, e.g., Australia, Norfolk Island, South Africa, U.S.A. (California), Hawaii. Hybrids between this species and the Norfolk Island endemic C. baueri are now frequent on that island, and could possibly be responsible for its ultimate extinction from that island group.

ATTRIBUTION

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

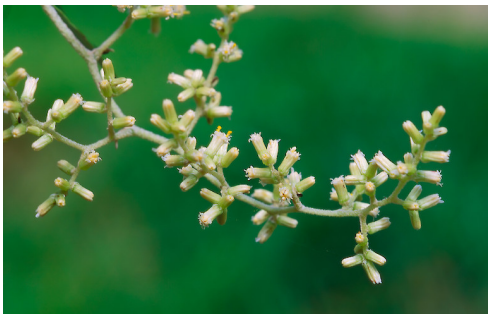
REFERENCES AND FURTHER READING

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

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/coprosma-repens/

Brachyglottis repanda



Wellington. Photographer: Jeremy Rolfe

COMMON NAME
rangiora, bushman’s toilet paper, bushman’s friend

SYNONYMS
Cineraria repanda G.Forst., Senecio georgii Endl. Senecio forsteri Hook.f., Brachyglottis rangiora Buchanan, Brachyglottis rangiora Hort., Brachyglottis repanda var. fragrans D.G.Drury, Brachyglottis repanda J.R.Forst. et G.Forst. var. repanda

FAMILY
Asteraceae

AUTHORITY
Brachyglottis repanda J.R.Forst. et G.Forst.

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
BRAREP

CHROMOSOME NUMBER
2n = 60

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Common large shrub or sometimes small tree with very large (5-15cm) thin mottled leaves with jagged edges and white underneath. New growth covered in tawny or white fuzz. Flowers small, white or cream, clustered into large conspicuous sprays.

Stokes Valley, Lower Hutt. Photographer: Jeremy Rolfe

DISTRIBUTION
Endemic. North Island throughout. South Island - north west Nelson to just south of Greymouth in the west, and near Kekerengu in the east. Naturalised on Banks Peninsula, Otago Peninsula, and on Stewart Island at Oban.

HABITAT
Common in coastal, lowland and lower montane shrubland and open forest. Often a pioneer species.

FEATURES
Shrub to small tree up to 6 m or more tall. Trunk one or more arising from ground, covered in somewhat corky bark. Branches stout, spreading, rather brittle, initially densely clad in fine white to buff tomentum becoming glabrescent with age. Petiole stout, grooved, 80-100 mm long. Leaves leathery, 50-250(-300) X 50-20(-30) mm, dark green to pale green above, undersides clad in fine, appressed vivid white hairs, broad- to ovate-oblong, obtuse to subacute, obliquely cordate to truncate at base, margins distantly dentately lobed to sinuate. Inflorescence a much branched panicle. Capitula 5 mm diam., numerous, without ligules (discoid). Involucral bracts 3 mm long, narrow-oblong to narrow spathulate, margins scarious except at base. Florets 10-12, yellow. Seeds (cypsela) narrowly oblong-elliptic to oblong elliptic, 1-1.8 mm long, ribs 6, rounded, broad. Pappus 2-3 mm, buff-yellow, scabrid.

SIMILAR TAXA
This shrub is unlikely to be confused with any other indigenous plant, except its close relative the Three Kings endemic B. arborescens. That species differs from B. repanda by its thick corky bark, smaller, saddle-shaped leaves, smaller, less branched panicles, darker sulphur yellow florets, oblong seeds 2-2.3 mm with 12-13 ribs, and longer pappus ((2.5-) 3.5-4.5 mm)).

FLOWERING
(July-) August-October (-November)

FLOWER COLOURS
Cream, White

FRUITING
(October-) November-December (-January)

LIFE CYCLE
Pappate achenes are dispersed by wind (Thorsen et al., 2009).

PROPAGATION TECHNIQUE
Very easy from fresh seed and from semi-hardwood or hardwood cuttings. Fast growing but inclined to be short-lived. benefits from a hard prune after flowering.

ETYMOLOGY
brachyglottis: Name comes from the Greek words brachus meaning “short” and glottis meaning “the vocal apparatus of the larynx”
repanda: Means irregularly undulating or scalloped (describing leaf margins)

WHERE TO BUY
Commonly grown and offered by many commericial nurseries and native plant specialist growers. Several variegated forms are now available, as is a purple-leaved cultivar cv. purpurea said to have come from a wild plant on the banks of the Wanganui River.

CULTURAL USE/IMPORTANCE
The large leaves with their white, finely hairy undersides have served a dual purpose for many, as they make excellent toilet paper, and also can be written upon (with a ballpoint pen), thus allowing one to send rather novel letters.

ATTRIBUTION
Fact sheet prepared by P.J. de Lange for NZPCN (1 June 2013)

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

CITATION
Please cite as: de Lange, P.J. (Year at time of access): Brachyglottis repanda Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.
https://www.nzpcn.org.nz/flora/species/brachyglottis-repanda/ (Date website was queried)

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/brachyglottis-repanda/

Solanum laciniatum

Solanum laciniatum. Photographer: John Smith-Dodsworth

Harold Pierce Reserve, W Waitangi, Chatham Island. Photographer: Gillian Crowcroft

COMMON NAME
poroporo, bullibulli

SYNONYMS
Solanum laciniatum f. novozelandicum Herasim.

FAMILY
Solanaceae

AUTHORITY
Solanum laciniatum Aiton

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
No

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
SOLLAC

CHROMOSOME NUMBER
2n = 92

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Fleshy shrub to 4 m tall bearing dark green thin wide leaves that are divided into 1-3 large sharp lobes and with large, purplish, ruffled flowers that have a projecting yellow centre. Leaves 10-80 cm long by 4-6 cm wide. Flowers dished, up to 50 mm wide. Fruit yellow or orange, 23-30mm long. POISONOUS.

DISTRIBUTION
Indigenous. North, South, Stewart and Chatham Islands. Widespread from the Hauraki Gulf Islands and Auckland south. In the northern part of its range actively spreading northwards caused it would seem through establishment through bird dispersal of fruit from garden plantings. Also present in south eastern Australia and Tasmania. Naturalised in parts of China and Russia.

HABITAT
Coastal to montane (0-400 m a.s.l.). usually in disturbed successional habitats, in shrublands, gullies, alongside riversides, on forested margins and in reverting pasture. Often appears following fires. A common urban weed in many parts of the country.

FEATURES

Erect to spreading, glabrous, soft-wooded shrub up to 4 x 3 m. Stems initially somewhat fleshy, purple-green, dark green to dark purple coloured, maturing with fine, firm, grey chartaceous bark, rather brittle. Leaves in stout petioles up to 50 mm long; lamina 100-800 x 40-60 mm, sometimes even larger, very dark green to purple-green, entire or pinnatisect, (then with 1-4(-6) pairs of lobes almost cut to midrib) on the same plant; lobes up to 50 x 20 mm, lanceolate to linear-lanceolate, or more or less elliptic; base decurrent on petiole; apex obtuse to acuminate. Flowers in 2-10-many-flowered cymes, peduncles up to 20 mm long at anthesis, decurved, slender but robust; pedicels pendent at fruiting. Calyx 5-8 mm long, accrescent; lobes broadly ovate-triangular, mucronate, much < tube. Corolla 50 mm diameter, rotate, violet or white, lobes very broad, margins frilled or ruffled, apices emarginate. Anthers 3-4 mm long. Berry 23-30 mm long, yellow or orange when ripe, fleshy, ovoid, ellipsoid, pendent, stone cells obvious and frequent similar in shape to seeds. Seeds 2.2-2.5 mm diameter, obovoid though somewhat asymmetric.

SIMILAR TAXA

Often confused with the now much less common S. aviculare G.Forst., which, in its typical state, has narrower leaves which are less frequently pinnatifid, usually much narrower. Flowers 10-40 mm diameter with campanulate-rotate flowers with narrower acute tipped lobes, not distinctly frilled (ruffled), smaller seeds (1-2 mm cf 2-3 mm) and a different chromosome number (2n = 46 cf 2n = 92). S. lacinatum differs from S. aviculare f. latifolium (G.T.S.Baylis) G.T.S.Baylis by its broader, wider lobes with frilled/ruffled margins and an emarginate apex, and by the chromosome number (2n = 92 cf 2n = 46).

FLOWERING

Throughout the year

FLOWER COLOURS

Violet/Purple, White

FRUITING

Throughout the year

PROPAGATION TECHNIQUE

Easily grown from fresh seed and semi-hardwood cuttings. Tolerant of heavy shade and full sun, and dry or wet soils and cold tolerant. Extremely fast-growing and can become invasive. It should also be noted that, as with all poroporo, the green fruits are extremely toxic.

ETYMOLOGY

solanum: Derivation uncertain - possibly from the Latin word sol, meaning “sun,” referring to its status as a plant of the sun. Another possibility is that the root was solare, meaning “to soothe,” or solamen, meaning “a comfort,” which would refer to the soothing effects of the plant upon ingestion.

CULTURAL USE/IMPORTANCE

because the fruits of this species and S. aviculare G.Forst. var. aviculare yield important steroid precursors, both are widely and commericially grown, especially in eastern Europe, Russia and China.

POISONOUS PLANT

As with Solanum aviculare var. aviculare, the yellow or green berries are poisonous but when ripe (orange) they lose much of their toxicity. The symptoms are often delayed up to 6-12 hours and may include a fever, sweating, nausea and abdominal pain. Click on this link for more information about Poisonous native plants.

ATTRIBUTION

Fact Sheet prepared for the NZPCN by P.J. de Lange 12 May 2006. Description by P.J. de Lange with some elements based on Allan (1961) and Webb et al. (1988).

REFERENCES AND FURTHER READING

Allan, H.H. 1961: Flora of New Zealand. Vol. I. Government Printer, Wellington.
Webb CJ, Sykes WR, Garnock-Jones PJ 1988. Flora of New Zealand. Vol. IV. Botany Division, DSIR, Christchurch.

CITATION

Please cite as: de Lange, P.J. (Year at time of access): Solanum laciniatum Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/solanum-laciniatum/ (Date website was queried)

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/solanum-laciniatum/

Acer pseudoplatanus

Upper Hutt. Photographer: Jeremy Rolfe

Sycamore. Photographer: John Barkla

COMMON NAME
sycamore

FAMILY
Sapindaceae

AUTHORITY
Acer pseudoplatanus L.

FLORA CATEGORY
Vascular – Exotic

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
ACEPSE

HABITAT
Terrestrial. Coastal and lowland plant on sites with high fertility. Grows in a wide range of open forest and scrub types with moderately high light levels.

FEATURES
Large monoecious, deciduous tree to 20 m high with smooth grey bark. Large 5-lobed leaves up to 20 cm long on slender reddish petioles up to 15 cm long. Small green flowers in dense clusters. Seeds 0.5-1 cm long with distinctive wings up to 4 cm long.

SIMILAR TAXA
A number of exotic maple species are cultivated in NZ. All Acer species have the distinctive winged seeds but the combination of 5-lobed leaves (not compound) and the smooth trunk separate Acer pseudoplatanus from most other species.

FLOWERING
October, November

FLOWER COLOURS
Green

FRUITING
late summer-early autumn (Timmins & MacKenzie 1995).

LIFE CYCLE
Perennial. Species is deciduous (Porteus 1993; Timmins & MacKenzie 1995). Seeds germinate synchronously in spring; seed dormancy is broken by chilling (5 degrees Celsius for 6 weeks); seed bank is termed “transient” which probably means that the seeds don’t last more than a year (Buddenhagen, C. pers. comm.). Plants are monoecious so some selfing may occur. Seeds produced annually, in bunches up to 40; probably greater than 10,000 seeds per tree. Seed bank transient. Seed dispersed by gravity and by wind (up to 100 metres)

YEAR NATURALISED
1880

ORIGIN
Central and Southern Europe

REASON FOR INTRODUCTION
Ornamental

ETYMOLOGY

acer: Thought to be derived from the Latin acer ‘hard’ or ‘sharp’, the wood once having been used for writing tablets

TOLERANCES

Highly tolerant to shade (although growth in the shade is slow) and moderately tolerant to drought. Fairly resistant to frost. Resprouting from stumps occurs after any physical damage.

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/acer-pseudoplatanus/

Berberis darwinii

COMMON NAME
Darwin's barberry

FAMILY
Berberidaceae

AUTHORITY
Berberis darwinii Hook.

FLORA CATEGORY
Vascular – Exotic

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
BERDAR

HABITAT
Terrestrial. A lowland plant. Plant occurs in sites with low-moderate fertility. Plant found in low forest, scrub, forest margins and shrublands. Plant found in remnant forest stands, scrub, along forest and plantation margins, roadsides in Chile (Webb, Sykes and Garnock-Jones 1988). Plant found in forest margins, secon-growth bush, scrub, plantations and roadsides.

FEATURES
Spiny evergreen shrub up to about 4m tall. The leaves are a dark glossy green and are stiff up to 3.5 by 1.5 cm with 3-5 spiny points. Spines beneath each leaf are palmate with 5 points. Flowers are orange-yellow held in a raceme and the berries are dark purple to black with a bluish white waxy bloom.

SIMILAR TAXA
Can be distinguished from other Berberis species in New Zealand by the 5-partite spines beneath the leaves.

FLOWERING
July, August, September, October, November, December, January, February

FLOWER COLOURS
Orange, Yellow

FRUITING
November-February

LIFE CYCLE
Perennial. Seeds germinate in September and the plant regenerates from root suckers, layers and crown. Can reproduce both sexually and asexually (Keller, 1983). Soil bank does not survive beyond the first season (Atkinson 1997). Seed is produced at approximately 15 000/m squared ground projection. Seeds are not viable after the first season and are dispersed by vertebrates; birds and possums.

YEAR NATURALISED
1946

Immature fruit. Stokes Valley, Lower Hutt. Photographer: Jeremy Rolfe

Stokes Valley, Lower Hutt. Photographer: Jeremy Rolfe

ORIGIN
South Chile, Argentina

REASON FOR INTRODUCTION
Ornamental.

CONTROL TECHNIQUES
Disposal Method - replant bare sites to minimise seeding. Preferred Control - cut stem and apply vigilant as per the label. Can be done all year round. Alternative Control - stump swab: Escort label rates or Tordon Brush Killer, 10%.

TOLERANCES
The plant has a high tolerance of shade (McQueen 1993), drought and frost and is only slightly tolerant of poor drainage. After physical damage and grazing resprouting occurs from all parts.

ETYMOLOGY
berberis: From the Arabic name berberys

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/berberis-darwinii/

Sorbus aucuparia subsp. aucuparia

Sorbus aucuparia. Photographer: John Smith-Dodsworth

Close up of Sorbus aucuparia fruit. Photographer: John Smith-Dodsworth

COMMON NAME
rowan

FAMILY
Rosaceae

AUTHORITY
Sorbus aucuparia L. subsp. aucuparia

FLORA CATEGORY
Vascular – Exotic

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

HABITAT
Terrestrial.

FEATURES
Tree up to 8m high, usu. with an erect trunk and spreading branches; young shoots pilose, sometimes densely so, but soon becoming glabrate. Buds large; outer scales glabrous, purplish, inner scales densely covered with white hairs towards apex. Leaves imparpinnate with up to 8 pairs of leaflets; petiole 20~35mm long, green or brown to purplish, pilose, but hairs deciduous, sometimes with stalked glands; leaflets narrowly oblong or oblong-elliptic, sometimes lanceolate-elliptic, 30~50 x 8~20mm, obtuse to acute, mostly sessile, deep green and glabrous or finely hairy above, paler and finely to densely pilose below, serrate along whole length or sometimes in upper 2/3 only; leaflets of juvenile plants and suckering shoots narrowly elliptic to elliptic-ovate, deeply and jaggedly toothed; stipules generally deciduous, small, acuminate. Infl. drooping, up to approx. 120 mm across; pedicels and branchlets white-villous, becoming glabrate by fruiting. Sepal lobes broadly triangular, .6~1.3mm diam., generally orbicular with abbreviated claw, white. Fruit depressed-globose, sometimes oblong-obovoid, 5~10mm diam., deep orange to scarlet, sometimes crimson, glossy. (-Webb et. al., 1988)

SIMILAR TAXA
Tree up to 8m high with erect trunk and spreading branches; 8 pairs of leaflets serrate along whole length or upper 2/3; white petals; deep orange to scarlet, glossy fruit (Webb et al., 1988).

FLOWERING
October, November

FLOWER COLOURS
White

FRUITING
January to April

YEAR NATURALISED
1904

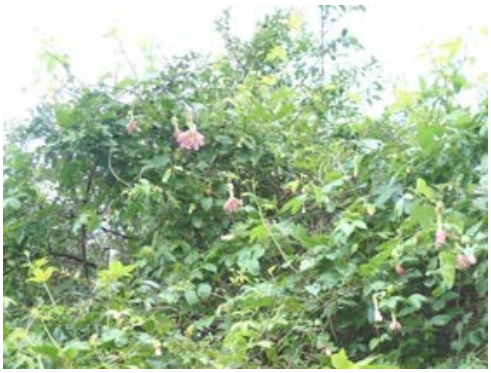
ORIGIN
Eurasia

Reason For Introduction
Ornamental
Life Cycle Comments
Perennial.

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/sorbus-aucuparia-subsp-aucuparia/

Passiflora mixta

Passiflora mixta. Photographer: John Smith-Dodsworth



Passiflora mixta. Photographer: John Smith-Dodsworth

COMMON NAME
banana passionfruit

FAMILY
Passifloraceae

AUTHORITY
Passiflora mixta L.f.

FLORA CATEGORY
Vascular – Exotic

STRUCTURAL CLASS
Lianes & Related Trailing Plants - Dicotyledons

NVS CODE
PASMIX

HABITAT
Likely to invade forest margins and shrubland, particularly in warmer areas.

FEATURES
Vigorous vine. Leaves 3-lobed, up to 10 cm long, pubescent below and almost hairless above. Flowers salmon-pink, and held out on an angle, hypanthium/Sepal ratio 1.6-2.6, hypanthium moderately to densely pubescent. Fruit orange-yellow, oblong and containing sweet orange pulp with black seeds.

SIMILAR TAXA
The flowers on this species are held out on an angle, rather than drooping down in most other banana passionfruits. The Hypanthium is moderately to densely hairy, in all other species it is glabrous.

FLOWER COLOURS
Violet/Purple, White

YEAR NATURALISED
1970

ORIGIN
Ecuador

ETYMOLOGY
passiflora: Passionflower

Reason For Introduction
Ornamental
Reproduction
Reproduces by seed and probably vegetatively through stem layering.
Dispersal
Birds eat fruit and disperse seed.
Tolerances
Intolerant of heavy frost. Prefers high light and fertility.

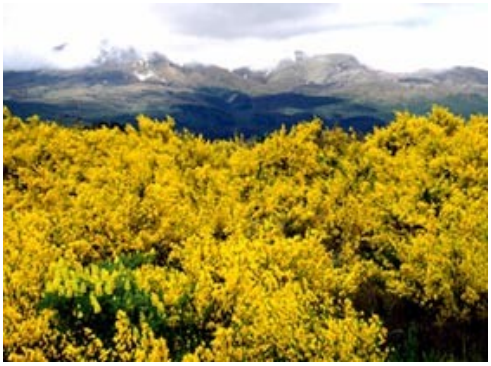
REFERENCES AND FURTHER READING
Heenan, PB; Sykes, WR 2003. *Passiflora* (Passifloraceae) in New Zealand: a revised key with notes on distribution. *NZ J Botany 41:* 217-221. DOI: 10.1080/0028825X.2003.9512842

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/passiflora-mixta/

Cytisus scoparius

Stokes Valley, Lower Hutt. Photographer: Jeremy Rolfe



Rotoaira. Dec 1992. Photographer: Colin Ogle

COMMON NAME
wild broom

FAMILY
Fabaceae

AUTHORITY
Cytisus scoparius (L.) Link

FLORA CATEGORY
Vascular – Exotic

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
CYTSCO

HABITAT
Terrestrial. A plant of lowland and montane habitats. Plant occurs in sites with low-moderate-high fertility. The plant normally grows in areas of high rainfall, on acid soils but never on chalks. Plant grows in shrubland, tall tussockland, short tussockland, cliff, bluff and riverbed communities (Timmins & MacKenzie 1995). The plant grows in disturbed lowland and montane habits such as pasture, waste ground, riverbeds and poorly grazed areas.

FEATURES
Much-branched deciduous shrub up to 2m high; twigs glabrous, but sericeous when young, green, more or less 5-angled. Leaves variable, usually glabrous above and sericeous below, and 3-foliolate and petiolate when mature or on older twigs; leaves of younger twigs often 1~2 foliolate and subsessile; young leaves often sericeous above and below but sometimes glabrous; leaflets apetiollate, elliptic to obovate, usually acute, sometimes emarginate, 4~16mm long; terminal leaflet > lateral leaflets. Flowers usually solitary, rarely paired, axillary; pedicels 5~13mm long. Calyx glabrous, bilabiate, about quarter the length of corolla; upper and lower lips entire or shallowly toothed. Corolla usually golden yellow, rarely partly red or tinged mauve, 16~25mm long. Pod black, oblong, many seeded, 15~60mm long with hairy margins; seeds brown or greenish-brown, ellipsoid, compressed, about 3mm long. (-Webb et. al., 1988)

SIMILAR TAXA
An erect shrub up to c. 2-4m tall, with green, switch-like stems longitudinally ridged and angled (Wilson & Galloway 1993). The shrub is much-branched (Porteus 1993). Leaves are sparse mostly narrow and simple. The flowers are generally bright yellow and 2.5cm in length The pod is black when ripe and produces and explodes loudly on warm days, scattering the seed. The plant is perennial and has a stout taproot.

FLOWERING
September, Ocrtober, November, December

FLOWER COLOURS
Red/Pink, Yellow

FRUITING
December-January, later in cooler areas (Timmins & MacKenzie 1995).

YEAR NATURALISED
1872

ORIGIN
Eurasia

ETYMOLOGY

cytisus: From the Greek kytisos 'trefoil', referring to the shape of the leaves of many species

Reason For Introduction

Ornamental

Life Cycle Comments

Perennial. Seeds germinate readily, under a variety of conditions, in both autumn and spring. Seedlings develop slowly during the first year and plants do not flower until at least 2 years old. Plants are thought to live for 10-15 years. Plants found that were >20 years old (Hayes, 1998). The deeper the seed is buried the longer it appears to survive (Hayes, 1997). After 13 years about 2/3 of seed buried 15cm was intact but only 1/3 of seed buried at 3cm. Nearly all the seed remaining after 13 years was viable (Research by H. Harman and P. Syrett in Hayes, 1997).

Reproduction

Seeds.

Seed

Seeds prolifically. The pod produces 9 seeds/pod and usually in excess of 2 000 pods/bush and forms a substantial seed bank. Seeds persist in seed bank (Atkinson 1997).

Dispersal

Seed is dispersed by the plants explosive pod (Timmins & MacKenzie 1995) on hot days. The seeds can be spread by gravel, mud, animals, agricultural produce, machinery, people, tracks and railroads, roads and water. Small plants (0.5 m, 2 years old) flung seeds up to 1.5m away (Hayes, 1997)

Tolerances

The plant is tolerant to drought and shade and highly tolerant to frost. The plant is intolerant to poor drainage. Physical damage to the plant results in resprouting, if not severe, although fire will kill plants. Heavy grazing will kill the plant, resprouting will occur after light grazing. Seedlings tolerate a wide range of soil conditions. Young plants can tolerate a wide range of light intensity and survive even in 90% shade. The plant is tolerant of dry, stoney conditions and has the ability to spread rapidly in the absence of grazing. Leaves are unpalatable. The plant tolerates a wide range of soil conditions.

Poisonous plant:

The seeds of this broom species are poisonous. This is especially true if the seed are crushed or chewed before being swallowed.

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/cytisus-scoparius/

Ulex europaeus

Stokes Valley, Lower Hutt. Photographer: Jeremy Rolfe

Stokes Valley, Lower Hutt. Photographer: Jeremy Rolfe

COMMON NAME
gorse

FAMILY
Fabaceae

AUTHORITY
Ulex europaeus L.

FLORA CATEGORY
Vascular – Exotic

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
ULEEUR

HABITAT
Terrestrial. A plant of coastal and lowland habitats. The plant occurs in sites with low - low/modertate fertility. It is common in disturbed areas and can tolerate a wide range of conditions and soil types allowing it to establish in most areas. It is more abundant in waste places, riverbeds and poorer land than it is in developed and fertile land. It occurs in scrub and forest margin, shrubland, fernland and riverbed communities and grassland, shrubland, forest margins, coastal habitats and waste places. It occurs in rough foothills and less-intensively farmed areas and is often abundant in disturbed lowland and lower montane places. It is a plant that often aggressively invades rough pasture.

FEATURES
Shrub up to 2m high; main stems erect or spreading, densely branched in younger parts but eventually bare at base; young twigs and spines somewhat glaucous; hairs usu. grey. Leaves of seedlings not spinous but with 3 hairy leaflets; spines branched; terminal and lateral spines rigid, deeply furrowed, 15~30mm long; secondary spines subtending lateral up to 12mm long. Flowers solitary; bracteoles acute to rounded, 1.5~3mm wide. Calyx greenish-yellow, about 2/3~3/4 length of corolla, with generally patent hairs; calyx teeth connivent. Corolla clear yellow or golden yellow, 13~20mm long; wings > keel. Pod villous, turning dark brown to black, 13~25mm long; seeds smooth and rounded, brown or greenish-brown, shiny, few per pod. (Webb et. al., 1988).

SIMILAR TAXA
A densely branched shrub with sharp spines, eventually bare at the base. The plant is up to 4 metres high and the leaves are very prickly. The stems and branchlets are green to brown in colour. The flowers are yellow and pea-like. The seeds occur in furry pods, are 13-25mm long and contain smooth, rounded, brown or greenish brown seeds. The pod explodes loudly on warm days. The pods are green that turn dark brown to black.

FLOWERING
(January) May, June, July, August, September, October, November (December)

FLOWER COLOURS
Yellow

LIFE CYCLE
Perennial. The flowers are monoecious. Seeds germinate in spring or autumn or spring to mid-summer. Reproduces vegetatively. Seed is produced at a rate of 500 - 1 000/m sq/annum and can remain viable for up to 100 years but significant amounts do not last beyond 30 years. Seeds germinate best at temperatures of 15 to 19 degrees celcius (Parsons and Cuthbertson, 2001). Seed is dispersed by an explosive mechanism and gravity. Seed pods disperse seed up to 6 metres from the parent plant. Machinery assists seed dispersal. Some seed is carried by water and shingle and by gravel, soil and birds.

YEAR NATURALISED
1867

ORIGIN
Western Europe

REASON FOR INTRODUCTION
Ornamental

TOLERANCES
The plant is tolerant to frost and drought; intolerant to shade and slightly tolerant of poor drainage.

NOTES ON REGENERATION
It resprouts from sub-epidermal and axillary buds after grazing. It resprouts from a well-developed lignotuber and seed dormancy is broken by fire. Burning gorse provides an ideal seed bed. The plant needs full light to grow well and cannot regenerate under its own shade (Wilson & Galloway 1993). It requires low to medium soil fertility (Atkinson 1997).

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/ulex-europaeus/

Medicago arborea

COMMON NAME
tree medick

FAMILY
Fabaceae

AUTHORITY
Medicago arborea L.

FLORA CATEGORY
Vascular – Exotic

STRUCTURAL CLASS
Herbs - Dicotyledons other than Composites

FLOWER COLOURS
Yellow

YEAR NATURALISED
1958

ORIGIN
Canary Is, S. Europe to Asia Minor

ETYMOLOGY
medicago: Derived indirectly from the Persian name Media (an Iranian kingdom in existence from late second millennium BC to the first millennium BC), whence alfalfa allegedly originates.
arborea: From the Latin arbor ‘tree’, meaning tree-like

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/medicago-arborea/

Chamaecytisus palmensis

COMMON NAME
tree lucerne

FAMILY
Fabaceae

AUTHORITY
Chamaecytisus palmensis (Christ) F.A.Bisby & K.W.Nicholls

FLORA CATEGORY
Vascular – Exotic

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
CHAPAL

HABITAT
Terrestrial. Dry places, river beds, coastal sites, hillsides.

FEATURES
Large shrub or small tree to about 5 m tall. Leaves three-foliate, each leaflet up to 40 mm long, finely downy when young but becoming glabrous at full size. White flowers produced in profusion in clusters of 3-8. Seed pod up to 60 mm long, tomentose but more or less glabrous when mature containing many shiny black seeds each about 5mm long.

SIMILAR TAXA
Several other Chamaecytisus species are cultivated in NZ. The most similar is C. proliferus but this species has villous leaf undersides. C. purpureus has pink flowers, and C. supinus has yellow flowers.

FLOWERING
May, June, July, August, September, October

FLOWER COLOURS
White

LIFE CYCLE
Reproduces by seed, many thousands of tiny seeds are produced. Dispersed by water and moving gravel.

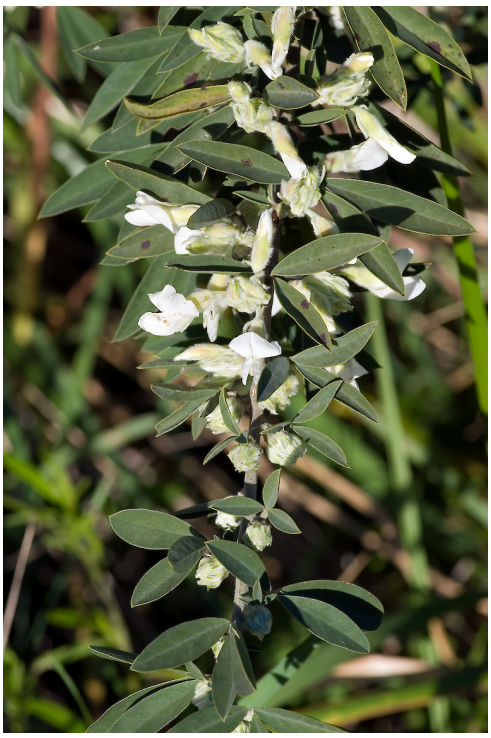
YEAR NATURALISED
1919

ORIGIN
La Plama, Canary Is

REASON FOR INTRODUCTION
Agricultural

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/chamaecytisus-palmensis/

Hutt River Trail north of Stokes Valley, Lower Hutt. Photographer: Jeremy Rolfe



Hutt River Trail north of Stokes Valley, Lower Hutt. Photographer: Jeremy Rolfe

Glossary

abaxial	Facing away from the stem of a plant (especially denoting the lower surface of a leaf).
acerose	Narrow with a sharp stiff point.
achene	A simple, dry, one–seeded (one–celled) fruit.
acicular	Needle-shaped.
acidic	Having a low pH, opposite of basic or alkaline.
acroscopic	Pointing towards, or on the side of, the apex.
acuminate	Gradually tapered to a point. Sharply pointed.
acute	Pointed or sharp, tapering to a point with straight sides.
adnate	Fusion of unlike parts, e.g. stamens fused to petals.
adventive	A plant that grows in the wild in New Zealand but which was introduced to the country by humans.
agglutinated	Stuck together.
allelopath	An organism that releases compounds that are toxic to other species.
allelopathy	The release by an organism of compounds that are toxic to other species.
alternate	Attached singly at each node but changing from one side of a stem to the other.
alveolate	Honeycombed with ridged partitions.
amplexicaul	Clasping or surrounding the stem.
anamorph	Asexual fruiting stage, usually of an ascomycete fungus.
anastomosing	Rejoining after branching, as in some leaf veins.
annual	A plant that completes its complete life cycle within the space of a year.
annual evergreen	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.
annulus	Line of thickened cells that governs the release of spores from a sporangium.
anterior	Towards the front.
anther	The pollen-bearing portion of the stamen.
antheridium	Male reproductive organ formed on the prothallus of a fern.
anthesis	Flowering period from when the bud opens
apex	Tip; the point furthest from the point of attachment.
apices	Plural of apex. Tip, the point furthest from the point of attachment.
apiculate	Bearing a short slender and flexible point.
apiculus	A small, slender point.
apomixis	A form of reproduction whereby seed is formed without the usual mode of sexual fusion.
appressed	Pressed against another organ or surface.
aquatic	Growing, or living in, or frequenting water. Applied to plants and animals and their habitats. Opposite of terrestrial (land living).
archegonium	Female reproductive organ of a fern formed on the prothallus.
arcuate	Curved into an arch.
aril	An often fleshy appendage on the outside of a seed.
artificial thinning	Selectively removing vegetation to create gaps to facilitate natural invasion of native plants, or to plant later successional plants.
ascending	Growing obliquely upward.
asexual	Vegetative reproduction, lacking sexual involvement by sperm or egg cells.
attenuate	Narrowing gradually.
auricle	A small, ear-shaped appendage.
auriculate	Bearing a small, ear-shaped appendage.
autogamous	Self-fertilising flowers.
autotrophic	Of or relating to organisms (as green plants) that can make complex organic nutritive compounds from simple inorganic sources by photosynthesis.
awn	A stiff or bristle like projection often from the tip or back of an organ.

axil	The upper angle between the leaf and the stem.
axis	The longitudinal supporting structure around which organs are borne, e.g., a stem bearing leaves.
barbellate	Barbed, having or covered with protective barbs or quills or spines or thorns or setae.
basal	At the base.
basiscopic	Pointing towards the base.
beak	A prominent extension of an organ.
bifid	Deeply split into two lobes.
bifurcate	Divided into two.
biosecurity	Preventing, eradicating, controlling and managing risks posed by pests and diseases.
biotic	Pertaining to the living parts of the environment.
bipinnate	With each primary pinna divided to the midrib into a secondary pinna.
biserrate	Doubly serrate.
blade	The flattened part of a leaf.
blunt	Not pointed at the ends.
bog	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.
bottleneck	A genetic term; refers to the fact that in smaller populations there could be lower genetic variability.
brachyblasts	Short shoots.
bract	A reduced leaf or leaf-like structure at the base of a flower.
bracteate	Bearing bracts: leaves or leaf-like structure reduced at the base of a flower.
bracteolate	With small bracts.
bracteole	A small bract.
bracteoles	Bracts directly below the flower.
brevideciduous	Brief (1 month or less) loss of most leaves from the canopy just before flowering or during flushing of a new cohort of leaves.
bryophyte	Plant group including mosses, liverworts and hornworts.
bryophytes	Plant group including mosses, liverworts and hornworts.
bulbil	A bud produced vegetatively on the stem or frond that is capable of breaking of and growing into a new plant.
bullate	With rounded projections covering the surface as if blistered.
caespitose	Growing in dense tufts.
calli	Circular, warty, stalked thickenings commonly found on the lip (labellum) of the orchid (plural of callus).
callose	Hardened or thickened.
callus	Stalked thickening on the lip (labellum) of an orchid.
calyx	The group of sepals, or outer floral leaves, of a flower.
campanulate	Bell-shaped.
canaliculate	With longitudinal channels or grooves.
canopy	The uppermost cover formed by the branches and leaves of trees or the spread of bushes,shrubs and ground covers.
canopy closure	Stage where canopies of shrub and tree species meet.
canopy manipulation	Selectively removing vegetation to create gaps to facilitate natural invasion of native plants, or to plant later successional plants.
capillary	Hair-like.
capitula	Plural of capitulum: A dense head-like inflorescence of many flowers as occurs in most Asteraceae (daisies).
capitulum	A dense head-like inflorescence of many flowers as occurs in most Asteraceae (daisies).
capsule	A dry fruit formed from two or more fused carpels that splits open when ripe.
carbon sinks	Carbon locked away, or sequestered e.g. by trees.
carpel	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.

cauda	Tail-like appendage. (pl. caudae; adj. caudate).
caudex	The axis of a woody plant, esp. a palm or tree fern, comprising the stem and root.
cauline	Belonging to the stem, as in cauline leaves emerging from the stem.
cerise	Bright or deep red.
chartaceous	Having a papery texture.
chlorophyll	The green pigment of plants.
chlorotic	Lacking chlorophyll, therefore yellowish, suffering from chlorosis.
cilia	Short small hair–like structures on a cell or microorganism.
ciliate	With small hairs (cilia).
ciliolate	Diminutive of ciliate, i.e., having very small hairs.
cladode	Flattened stem with the function of a leaf.
cladodes	Usually flattened, photosynthetically active branches, these may be leaf–like (e.g., Phyllocladus) or branch–like (e.g., Carmichaelia).
clavate	Club-shaped, gradually widening towards apex.
cleft	Having indentations that extend about halfway to the center, as in certain leaves.
cleistogamous	Flowers that self-fertilise without opening.
coherent	Sticking together of like parts.
column	Stamen and stigmas fused to form a single organ.
columnar	Shaped like a column.
composite	Many small flowers tightly packed together e.g., daisy flowers.
compound	Composed of several similar parts (cf simple).
concave	Curved inward.
concolorous	Of the same colour.
conical	Cone-shaped.
connate	Fusion of like parts.
conspecific	Individuals of the same species.
cordate	Heart-shaped with the notch at the base.
coriaceous	Leather–like; thick, tough, and somewhat rigid.
corolla	The whorl of petals of a flower.
corymb	Modified raceme where stalks of lower flowers are elongated to same level as the upper flowers.
cosmopolitan	A species or other taxonomic group that is distributed widely throughout the world.
costa	The midrib.
crenate	With rounded teeth (bluntly toothed) along the margin.
crisped	Margin tightly wavy or crinkled, curled or wavy.
cristate	With a crest.
crown	The growing point of an upright rhizome or trunk. This usually produces a tuft or ring of fronds.
crura	The two small projections at the mouth of a utricle in Carex.
cucullate	Hood-shaped.
culm	The erect stem of a grass.
cuneate	Wedge-shaped.
cupular	Cup-shaped.
cuttings	Stems and/or leaves taken from plants for propagation.
cyathium	A cup-like structure that surrounds the inflorescence in Euphorbia.
cyme	Inflorescence at the terminus of a branch and where new flowering branches emerge laterally below the flower.
cytorace	Populations (or infraspecific taxa) that differ in chromosome number or chromosome morphology, e.g., Nematoceras trilobum agg. has two cytoraces, a diploid and a tetraploid (in which the chromosomes are doubled).
cytotype	Populations (or infraspecific taxa) that differ in chromosome number or chromosome morphology, e.g., Nematoceras trilobum agg. has two cytotypes, a diploid and a tetraploid (in which the chromosomes are doubled).
deciduous	Marked leaflessness in winter, and greater than 90% leaves lost by beginning of spring flush.

decrescent	Diminishing.
decumbent	With a prostrate or curved base and an erect or ascending tip.
decurrent	Attached by a broadened base.
decurved	Curved downward.
deflexed	Bent abruptly downward.
dehiscence	The time of opening at maturity to release the contents, e.g., a capsule releasing the seeds.
dehiscent	Splitting open at maturity to release contents (of a fruit).
deltoid	Shaped broadly like an equilateral triangle.
dentate	Toothed along the margin with the teeth pointing outward, not forward.
denticles	Minute teeth.
denticulate	Having a very finely toothed margin.
dichotomous	Divided into two equal branches.
digitiform	Finger-like.
dioecious	Having male and female flowers on separate plants of the same species.
diploid	With two complete sets of chromosomes in each cell.
disarticulating	Separating at a joint.
discoid	Disc-shaped.
disjunct	A species or other taxonomic group that occupies areas that are widely separated and scattered and therefore have a discontinuous distribution.
distal	Toward the apex, away from the point of attachment (cf. proximal).
distichous	In two rows on opposite sides of the axis.
divaricating	Branching at a very wide angle with stiff intertwined stems.
domatia	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.
dorsal	Of the back or outer surface relative to the axis. (cf. ventral).
drupe	A stone fruit, the seed enclosed in a bony covering (endocarp) which is surrounded by a + fleshy layer (mesocarp).
early successional species	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.
echinate	Having sharply pointed spines or bristles.
ecological district	A characteristic landscape and biological community defined in the PNA (Protected Natural Area) programme.
ecological restoration	Attempt to reinstate original (pre-disturbance) state of a habitat, plant community or ecosystem.
ecosourced	Plants sourced from seed collected from similar naturally growing plants in the area of the planting site.
ecosourcing	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.
eglandular	Without glands.
elaiosome	Fleshy, oil-rich structure attached to seed that attracts ants which act as dispersers.
ellipsoid	Elliptic in long section and circular in cross-section.
elliptic	Broadest at the middle.
emarginate	With a notch at the apex.
emarginated	Having a shallow notch at the tip, as in some petals and leaves.
emergent	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.
emergent marginals	An aquatic plant having most of its structure above water. Other aquatic plants are submerged or floating.
endemic	Unique or confined to a place or region, found naturally nowhere else.

endophyte	An endosymbiont (usually a bacterium or fungus) that lives within a plant for at least part of its life without causing any apparent disease.
endophytes	Endosymbionts (usually bacteria or fungi) that live within plants for at least part of their lives without causing any apparent disease.
endosperm	The nutritive tissue of a seed, consisting of carbohydrates, proteins, and lipids.
enrichment planting	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.
ensiform	Sword shaped.
entire	Smooth. Without teeth, notches or divisions.
entomophilous	Pollinated by insects.
epicalyx	Calyx–like structure outside, but close to, the true calyx.
epigeal	Growing on or close to the ground or emerging from the ground after germination (often used for cotyledons).
epiphyte	A plant that grows upon another plant but is not parasitic and does not draw nourishment from it.
epiphytic	Growing upon another plant but not parasitic and not drawing nourishment it.
erose	Irregularly toothed, as if gnawed.
estuarine	Pertaining to the meeting of freshwater and seawater wetlands.
ethnobotany	The study of people's classification, management and use of plants.
eusporangia	Sporangia that arise from groups of epidermal cells.
evanescent	Lasting a very short time or running a short distance.
ex situ	Away from the place of natural occurrence.
ex-situ	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.
excurrent	Having the axis prolonged to form an undivided main stem or trunk (as in conifers).
extravaginal	Outside an enclosing sheath.
falcate	Hooked or curved like a sickle.
fastigiate	Branches erect and close to central axis.
fen	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.
ferrugineous	Rust–like (a colour term).
fertile frond	Fronds that bear sporangia.
filamentous	Resembling a filament.
filiform	Thread like, resembling a filament.
filiramulate	Branching at a very wide angle with stiff intertwined stems.
fimbriae	Plural of fimbria: Fringe. A fimbria is composed of many fimbrillae (individual hair-like structures).
fimbriate	With fringes.
flabellate	Fan shaped.
flaccid	Limp, not rigid, flabby.
flange	A projecting rim.
flexuose	With curves or bends.
floccose	Having tufts of soft woolly hairs.
floret	A small flower, usually one of a cluster - the head of a daisy for example.
foliaceous	Leaf-like.
foliolate	Having leaflets.
founder effect	When a small number of plants (and therefore their genes) from a larger population are selected some genetic information is lost.
frond	A leaf, the complete leaf of a fern including the stipe and lamina.
fulvous	Orange–yellow.
funneliform	Funnel-shaped.
fusiform	Broadest near the middle and tapering toward both ends.
galea	Helmet- or hood-shaped.

galeate	Shaped like a helmet or hood.
gametophyte	A plant that produces sperm and egg cells and in which sexual reproduction takes place - in ferns this is known as the prothallus.
gene pool	The mixture of all genes and gene variations of a group or population.
genetic diversity	The variety of genes in a plants or populations.
genetic variation	Differences displayed by individuals within a plant which may be favoured or eliminated by selection.
geniculate	Abrubtly bent.
genus	A taxonomic rank of closely related forms that is further subdivided in to species (plural = genera). In a scientific name (e.g., Sicyos australis), the first word is the genus, the second the species.
gibbous	Swollen or enlarged on one side, as in a gibbous moon.
glabrescent	Lacking hair or a similar growth or tending to become hairless.
glabrous	Without or devoid of hairs, smooth.
gland	A structure that secretes a sticky or oily substance.
glandular	A structure that secretes a sticky or oily substance.
glaucous	Covered with a fine, waxy, removable powder that imparts a white or bluish cast to the surface.
gley	A soil prone to seasonal inundation.
globose	Globe-shaped.
glume	One of two bracts at the base of a grass spikelet.
groundwater	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.
gymnosperm	Plants in the class Gymnospermae that have seeds which are not enclosed in an ovary.
gynodioecious	A species population containing plants that produce bisexual (perfect) flowers, and plants that produce only female (pistillate) flowers.
gynoecium	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.
hastate	Spear like. Shaped like an arrowhead, but with basal lobes pointing outward rather than downward.
haustorium	The absorbing organ of a parasite or hemiparasite.
hemi-parasite	Obtains water and nutrients from the roots of other plants but also manufactures food through photosynthesis.
hemi-parasitic	Obtaining water and nutrients from the roots of other plants then manufacturing food through photosynthesis.
herbarium	The place where collections of dried/pressed plants are kept.
hermaphrodite	Having both male and female sexual characteristics and organs.
heteroblastic	Exhibiting differences in leaf shapes or forms in juvenile and adult phases of the plant.
heteroblasty	The state of being heteroblastic (i.e., exhibiting differences in leaf shapes or forms in juvenile and adult phases of the plant).
hirsute	Hairy.
hyaline	Membranous, thin and translucent.
hybrid	An individual that is the offspring of a cross between two different varieties or species.
hybridise	Breeding with a member of a different plant or type.
hydrophyte	A plant species adapted to growing in or on water or in wet situations. Aquatic or semi-aquatic.
hymenium	The fertile, spore–bearing layer of a fruitbody.
hypanthium	A ring–like, cup–shaped, or tubular structure of a flower on which the sepals, petals, and stamens are borne.
imbricate	Overlapping.
imbricating	Overlapping.
imparipinnate	Odd–pinnate, a leaf shape; pinnate with a single leaflet at the apex.
in-situ	On site conservation relating to the maintenance of plants in the wild.
inbreeding	Genetic similarity in offspring of closely related individuals.

incoherent	Not sticking together.
incursion	Entrance of a pest into an area where it is not present.
indumentum	A covering of fine hairs (or sometimes scales).
indusia	Plural of indusium, a membrane covering a sorus of a fern.
indusium	A thin tissue that covers the sorus in many ferns. Plural: indusia.
inflorescence	The arrangement of flowers on the stem. A flower head.
infundibuliform	Funnel–like.
interkeel	The space between the keel and the leaf blade.
internode	The part of an axis between two nodes; the section of the stem between leaves.
internodes	Part of a stem between two nodes.
intramarginal	Within or near the margin.
involucral bracts	The scales surrounding the flower head or capitula.
involucre	A group of bracts surrounding a flower head.
involute	With margins rolled inward toward the upper side.
irritable	Responding to touch.
jugate	Paired.
juvenile	A plant of non-reproducing size.
keel	A prominent or obvious longitudinal ridge (as in a boat).
labellar	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.
labellum	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.
lacinia	A jagged lobe.
laciniae	Jagged lobes.
laciniate	Cut into narrow, irregular lobes or segments.
lacustrine	Of or having to do with a lake, of, relating to, or formed in lakes, growing or living in lakes.
lamina	The expanded flattened portion or blade of a leaf, fern frond or petal.
lanceolate	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.
lateral	On or at the side.
lax	With parts open and spreading, not compact.
laxly	With parts open and spreading, not compact.
leaflet	One section of a compound leaf.
lemma	The lower of two bracts enclosing the flower in grasses.
lenticillate	Bark that is covered in fine lenticles (breathing pores).
ligulate	Strap–like, tongue–shaped.
ligule	The membrane between the leaf and the stem of a grass; the “petal” of a ray floret in a composite inflorescence.
linear	Long and narrow with more or less parallel sides.
littoral	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.
lobe	A recognisable, but not separated, rounded division or segment of a leaf or pinna. Used to describe ferns and leaves in Cotula and Leptinella.
lobed	Part of a leaf (or other organ), often rounded, formed by incisions to about halfway to the midrib.
lobule	A small lobe or sub-division of a lobe.
lustrous	Glossy, shiny.
lycophytes	Seedless vascular plants that belong to the phylum Lycophyta (characterised by microphylls - primitive leaves found in ancient plants).
lyrate	Pinnatifid or pinnatisect terminal lobe much larger than lower lobes.
maculate	Blotched or spotted.
mangrove	Coastal wetland dominated by Manawa or mangrove Avicennia marina var. resiifera. Northern New Zealand only, salt marsh replaces it further south.

margin	The edge or border of a leaf.
marine	Pertaining to the sea and saltwater systems.
marsh	A tract of wet land principally inhabited by partially-submerged herbaceous vegetation. Has fewer woody plants than swampier habitats.
mealy	Dry, powdery, crumbly.
median	In the middle.
membranous	Very thin, like a membrane.
mid-lobe	The middle part into which a leaf is divided.
midrib	The central or principal vein of a leaf or pinna of a fern.
mire	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.
molecular techniques	Where proteins and genes are used to investigate plant relationships.
monitoring	Recording of quantitative data over time to document changes in condition or state of species or ecosystems.
monoecious	Having male and female flowers on the same plant of the same species.
montane	Land between 300 and 800 metres above sea level.
mucronate	Tipped with a short, sharp, point.
mucronulate	Having a very small mucro; diminutive of mucronate.
multi-annual evergreen	Overlapping annual cohorts of leaves always present.
multifid	Cleft into many lobes or segments.
multiseptate	With many septa.
muricate	Rough with short, hard points like the shell of Murex, a genus of tropical sea snails with elaborately pointed shells.
mycorrhiza	A symbiotic relationship between a fungus and a plant.
mycorrhizal associations	Symbiotic association between fungi and plant roots which assists plant health by allowing increased ability for uptake of nutrients and promote plant growth.
napiform	A long swollen but tapering root – like a parsnip, or carrot.
native	Naturally occurring in New Zealand (i.e., not introduced accidentally or deliberately by humans).
naturalised	Referring to plants that have escaped from cultivation (including gardens or forest plantations) and can now reproduce in the wild (without human assistance).
nectary	Organ that produces nectar.
nerve	Prominent vein or rib.
nerves	Strands of conducting and usually strengthening tissue in a leaves or similar structures.
net veins	Veins that repeatedly divide and re-unite.
net venation	Feather-like or hand-like venation on a leaf.
nival	Growing at high altitudes. From Latin: nivalis, snowy etc. from nix, nivis, snow.
node	The point at which leaves, branches or roots arise on a stem.
ob-	Prefix meaning inverted, in reverse direction.
obcordate	Heart shaped with the notch at the apex.
oblanceolate	Tapering and widest towards the apex or inversely lanceolate.
oblique	Slanting; of a leaf, larger on one side of the midrib than the other, in other words asymmetrical.
oblong	Rectangular.
obovate	Roughly elliptical or reverse egg shaped and widdest near the apex (i.e., the terminal half broader than the basal half).
obtuse	Blunt or rounded at the apex, with the sides meeting at an angle greater than 90°.
operculate	With a small lid.
opposite	A pair of organs attached at nodes in pairs on either side of a stem or axis.
orbicular	Almost or approximately circular.
outbreeding depression	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.

outer canopy deciduous	Marked reduction in leaf number in the outer canopy in exposed high light environments over winter.
oval	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.
ovary	Part of a flower containing the ovules and later the seeds.
ovate	Egg-shaped and widest at base.
ovoid	Oval; egg–shaped, with rounded base and apex.
pakihi	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.
palea	The small upper bract enclosing the flower of a grass.
palea	1. The upper of the two bracts that enclose each floret in a grass spikelet. 2. A small bract at the base of a disc floret in some plants of the composite family. 3. Scales on various parts of ferns (referred to as paleate or paleaceous). From the Latin word for ‘chaff’.
paleae	Plural of palea, from the Latin word for ‘chaff’. 1. The upper of the two bracts that enclose each floret in a grass spikelet. 2. A small bract at the base of a disc floret in some plants of the composite family. 3. Scales on various parts of ferns (referred to as paleate or paleaceous).
palmately	Radiating from a point, as fingers radiating from the palm of a hand.
palmatifid	Deeply divided into several lobes arising from more or less the same level.
palmatisect	Intermediate between palmate and palmatifid, i.e. the segments are not fully separated at the base; often more or less digitate.
palustrine	Pertaining to wet or marshy habitats. Term covers mires and marshes.
pandurate	Fiddle-shaped.
panicle	Highly branched (multiple raceme).
papilla	A short rounded projection.
papillae	A soft, fleshy projection, usually small and nipple–like.
papillate	With short rounded projections.
papillose	Warty, with short rounded projections or gland-dotted.
parallel venation	Veins are parallel along leaf.
parasite	An organism that derives all its nourishment from its host.
patent	Spreading or expanded, e.g., spreading petals.
peat	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_2) to the atmosphere.
pedicel	The stalk of a single flower in an inflorescence or fruit (either in a cluster or existing singularly).
peduncle	The stalk of a solitary flower or the main stalk of an inflorescence or flower cluster.
pedunculate	Describing fruits, which are borne on a stalk (a peduncle).
pellucid	Transparent.
peltate	Shield-like, with the stalk attached well inside the margin.
pendent	Hanging down from its support.
pendulous	Hanging or drooping.
penicillate	With a tuft of hairs at the end, like a brush.
perennial	A plant lasting for three seasons or more.
perianth	A collective term for the calyx (sepals or tepals) and corolla (petals) of the flower, especially when these are indistinguishable.
petal	Part of flower inside the sepals; usually coloured.
petiolate	Having a petiole.

petiole	Leaf stalk.
phloem	The vascular tissue in land plants that is primarily responsible for the distribution of sugars and nutrients manufactured in a shoot.
photopoint	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.
pilose	Bearing long, soft hairs.
pinna	A segment of a divided lamina that is classified as primary, secondary or tertiary according to the degree of dissection of the lamina.
pinnae	Divisions of a pinnate leaf.
pinnate	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.
pinnatifid	Pinnately lobed, cleft more than halfway to the midrib. Not cleft all the way to the rachis.
pinnatisect	Pinnately divided almost to midrib but segments still confluent.
pioneer	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.
pistil	The female reproductive organ of a flower, consisting of an ovary, style, and stigma.
pistillate	A flower with one or more pistils, but no stamens.
plano-convex	Flat on one side, convex on the other.
plumose	Feathery.
podzol	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.
pole	A subcanopy size individual with a long thin trunk and foliage tuft of a potential canopy tree.
pollinia	Compact masses of orchid pollen.
population enhancement	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.
porrect	Extending forward.
procumbent	Lying and flat along the ground but not rooting.
propagate	To reproduce a plant by sexual (i.e., from seed) or asexual (e.g., from cuttings) means.
prostrate	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).
provenance	The place of origin (of a plant that is in cultivation).
proximal	Toward the base or point of attachment (cf. distal).
pseudobulb	Thickened surface stem; usually looking like a bulb.
pseudoterminal	Falsely terminal – as in a bud which appears to occupy a terminal position but does not.
puberulent	Minutely clad in short, soft hairs.
pubescence	Covering of soft, fine hairs.
pubescent	Covered in short, soft hairs.
pungent	Ending in a stiff sharp point.
pustule	Small blister-like elevation.
quadrate	Square, rectangular.
raceme	An unbranched, elongated inflorescence with pedicellate flowers maturing from the bottom upward i.e., flowers attached to the main stem by short stalks.
rachis	The axis of an inflorescence or of a compound leaf.
ray	An outer ring of strap-like florets in the head of Asteraceae (daisy) flowers.
re-introduction	Translocating wild or cultivated individuals to sites where the taxon has been known to occur in the past, but from which it has disappeared.
recurved	Curved backward.
reflexed	Bent back on itself.
reniform	Kidney shaped.
repand	With a slightly wavy margin.
replum	The outer structure of a pod in which the valves have dehisced (persists after the opening of the fruit).

restiad	Area dominated by rush-like plants (collectively known as restiads) of the family Restionaceae. Includes Chatham Island and North Island Sporodanthus and oioi (Apodasmia similis).
retrorse	Pointing backward.
retuse	A shallow notch at the rounded or blunt apex of a leaf.
rhizoid	Any of various slender filaments that function as roots in mosses and ferns and fungi.
rhizomatous	With underground creeping stems.
rhizome	An underground stem (usually spreading horizontallly or creeping) or short and erect.
rhombic	Diamond-shaped.
rhomboid	Diomond shaped, nearly rhombic.
riparian	Relating to or living or located on the bank of a natural watercourse (as a river) or sometimes of a lake or a tidewater.
riparian margin	Refers to the edges of streams, rivers,lakes or other waterways.
riparian plants	Refers to plants found growing near the edges of streams, rivers or other waterways.
riparian zone	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”.
riverine	Pertaining to rivers, streams and such like flowing water systems.
rootstock	A short, erect, underground stem.
rosette	A radiating cluster of leaves.
rostellum	In orchids, a modified stigma that prevents self-fertilisation.
rosulate	A dense radiating cluster of leaves.
rugose	Wrinkled.
rugulose	Having small wrinkles.
runcinate	Sharply pinnatifid or cleft, the segments directed downward.
runner	A trailing stem that roots at the nodes.
rupestral	Growing on rocks.
rushes	A group of distinctive wetland plants. They have solid stems (grasses have hollow stems), true rushes Juncus sp. have rounded leaves.
sagittate	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.
salt marsh	A coastal wetland, with specialized salt tolerant plants (halophytes).
sapling	A juvenile tree that has reached the stage of 1 or 2 main stems but is still in the shrub layer.
saprophyte	A plant lacking chlorophyll and living on dead organic matter.
saprophytic	Lacking chlorophyll and living on dead organic matter.
sarcotesta	The fleshy, often highly coloured outer layer of the seed coat in some species, e.g., titoki (Alectryon excelsus).
scabrid	Roughened or rough with delicate and irregular projections.
scale	Any thin, flat, membranous structure.
scape	A leafless flower stem.
schizocarp	A fruit which splits when dry, from the Greek skhizein ‘split’ and karpos ‘fruit’.
schizocarps	Plural of schizocarp, a fruit which splits when dry, from the Greek skhizein ‘split’ and karpos ‘fruit’.
scutiform	Shield-shaped.
sedges	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”.
seedling	A newly germinated plant.
self sustaining	Able to sustain itself, or replace itself, independently of management i.e. regenerate naturally.
self thinning	Natural tree death in a crowded, even-aged forest or shrubland.
semi-deciduous	Partial leaflessness in winter, and greater than 50% leaves lost by the beginning of spring flush.
sepal	Outer part of flower; usually green.
serrate	Sharply toothed with teeth pointing forwards towards apex.
serrulate	Finely serrate, i.e., finely toothed with asymmetrical teeth pointing forward; like the cutting edge of a saw.

sessile	Attached by the base without a stalk or stem.
seta	The stalk of a fruiting moss capsule.
sheath	A portion of an organ that surrounds (at least partly) another organ (e.g., the tubular envelope enclosing the stem in grasses and sedges).
silicles	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).
silique	A capsule, usually 2-celled, with 2 valves falling away from a frame (replum) bearing.
simple	Of one part; undivided (cf compound).
sinuate	With a wavy margin.
sinus	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.
sorus	A cluster of two or more sporangia on the margin or underside of the lamina of a fern, sometimes protected by an indusium.
spathulate	Spatula or spoon-shaped, a rounded blade tapering gradually to the base.
spheroidal	Almost spherical but elliptic in cross section.
spicate	Arranged in a spike.
spike	Flowers attached to main stem without stalks.
spikelet	Collection of individual grass florets borne at the end of the smallest branch of the inflorescence.
sporangia	Plural of sporangium. Structures in which spores are produced.
sporangium	Structure in which spores are produced.
spore	A single-celled reproductive unit similar in function to that of the seed in a flowering plant.
sporophyte	The spore producing plant in ferns that is usually the visible part.
stamen	The male reproductive organ of a flower where pollen is produced. Consists of an anther and its stalk.
stamens	The male, pollen bearing organ of a flower.
standing water	Where water lies above the soil surface for much of the year.
stellate	Irregularly branched or star shaped.
stigma	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.
stipe	The stalk of a frond.
stipitate	Borne on a stipe or stalk.
stipulate	A leaf with stipules.
stipule	A scale-like of leaf-like appendage at the base of a petiole, usually paired.
stolon	A stem which creeps along the ground, or even underground.
stoloniferous	Producing stolons.
stramineous	Chaffy, like straw or straw-colored.
stria	A fine line or groove.
striae	Fine lines or grooves.
striate	Fine longitudinal lines or minute ridges.
style	The elongated part of the flower between the ovary and the stigma.
sub-	A prefix meaning under, somewhat or almost.
subglabrous	Very slightly, but persistently, hairy.
suborbicular	Slightly rounded in outline.
substrate	The surface upon which an orchid grows.
subtended	Immediately beneath, occupying a position immediately beneath a structure, i.e., flower subtended by bract.
subulate	Slender and tapering to a point.
succession	Progressive replacement of one species or plant community type by another in an ecosystem.
successional	Referring to species, plant communities or habitats that tend to be progressively replaced by another.
succulent	Fleshy and juicy.

summer-green	Used in New Zealand to indicate herbs or sub-shrubs that die down to a root stock or rhizomatous network.
supplementary planting	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.
surface water	Water present above the substrate or soil surface.
surveillance	Regular survey for pests inside operational and managed areas e.g. nurseries, standout areas on parks.
survey	Collection of observations on the spatial distribution or presence or absence of species using standardised procedures.
sustainable land management	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.
swamp	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.
symbiote	An organism that has an association with organisms of another species whereby the metabolic dependence of the two associates is mutual.
symbiotic	The relation between two different species of organisms that are interdependent; each gains benefits from the other (see also symbiosis).
sympatric	Occupying the same geographical region.
synangia	Structures made up of fused sporangia.
synonym	A botanical name that also applies to the same taxon.
systematics	The study of taxonomy, phylogenetics, and taxagenetics.
tabular	Shaped like a rectangular tablet.
taxa	Taxonomic groups. Used to refer to a group at any level e.g., genus, species or subspecies.
taxon	A taxonomic group. Used to refer to a group at any level e.g., genus, species or subspecies.
taxonomy	The process or science of classifying, naming, and describing organisms.
tepal	An individual member of the perianth.
terete	Cylindrical and tapering.
terminal	At the tip or apex.
ternatifid	Leaflets In threes,.
tetrad	A group of four.
tomentum	A hairy covering of short closely matted hairs.
translocation	The movement of living organisms from one area to another.
trifid	Divided into three.
trifoliate	Having three leaflets.
trigonous	Three–angled.
tripinnate	With each secondary pinna divided to the midrib into tertiary pinnae.
triquetrous	Triangular in cross section and acutely angled.
truncate	With the apex or base squared at the end as if cut off.
tuberculate	Bearing small swellings.
tubular	Tube-shaped.
turbinate	Top-shaped.
turgid	Distended through internal pressure.
type locality	The place or source where a holotype or type specimen was found for a species.
ultramafic	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.
umbel	Umbrella like; the flower stalks arise from one point at the stem.
undulate	Wavy edged.
undulose	Wavy edged.

unitubular	A tube partioned once – literally one tube (compare – multitubular – many tubes).
utricle	A thin loose cover enveloping some fruits (eg., Carex, Uncinia).
valvate	Opening by valves.
vascular plant	A plant that possesses specialised conducting tissue (xylem and phloem). This includes flowering plants, conifers and ferns but excludes mosses, algae, lichens and liverworts.
velutinous	Thickly covered with delicate hairs; velvety.
ventral	Of the front or inner (adaxial) surface relative to the axis. (cf. dorsal).
vermiform	Worm-shaped.
vernicose	Glossy, literally as if varnished, e.g., Hebe vernicosa has leafs than appear as if varnished.
verrucose	Having small rounded warts.
verticillium	A fungus disease that will cause wilting and death.
villous	Covered with long, soft, fine hairs.
water table	The level at which water stays in a soil profile. The zone of saturation at the highest average depth during the wettest season.
wetland	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 a aquatic or semi-aquatic environment.
whipcord	A shrub in which the leaves are reduced to scales that are close-set and pressed against the stem.
whorl	A ring of branches or leaves arising at the same level around the stem of a plant.
whorled	Aranged in a ring around the stem.