



# Rotorua ED Threatened/At Risk, Regionally Uncommon

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Made on the New Zealand Plant Conservation Network website: [www.nzpcn.org.nz](http://www.nzpcn.org.nz)

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## INTRODUCTION

This book was compiled from information stored on the website of the New Zealand Plant Conservation Network ([www.nzpcn.org.nz](http://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-vascular 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 encompasses the Kermadec, Manawatawhi/Three Kings, North, South, Stewart Island/Rakiura, Chatham, Antipodes, Bounties, Snares, Auckland Campbell island/Motu Ihupuku and Macquarie.

## ABOUT THE NETWORK

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

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

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

That work has included:

- Training people in plant conservation
- Publishing plant books, reports and posters
- Raising money for the David Given Threatened Plant Research Trust to pay for plant conservation research scholarships
- 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 Zealand mosses ([Rolfe et al., 2016](#)) as well as horworts and liverworts ([de Lange et al., 2015](#)).

# Isoetes kirkii

## COMMON NAME

Quillwort

## SYNONYMS

*Isoetes multiangularis* Colenso

## FAMILY

Isoetaceae

## AUTHORITY

*Isoetes kirkii* A. Braun

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Lycophytes (clubmosses, selaginella, quillworts)

## NVS CODE

ISOKIR

## CHROMOSOME NUMBER

2n = 22

## CURRENT CONSERVATION STATUS

2012 | At Risk – Declining | Qualifiers: RR

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

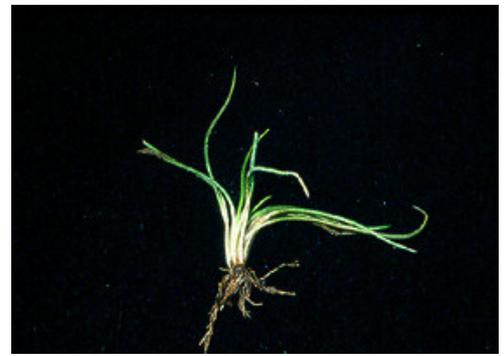
Endemic. New Zealand: North and South Islands from the upper Waikato River (near Whakamaru) and Rotorua Lakes south to Otago and northern Southland. Historically present in Northland at Lake Omapere and along the Wairua River, and in the lower Waikato at lakes Whangape, Waikare and Waahi.

## HABITAT

Lowland and montane, aquatic (rarely subterrestrial) at the bottom of lakes, rivers and streams (rarely growing near shoreline where it may be partially exposed during low water levels). Often forming extensive colonies in fine sediments or coarse sand.

## FEATURES

Aquatic, heterosporous, tufted herb arising from an erect corm. Roots long and stout, dichotomously branched. Leaves mostly sporophyllous, rather brittle, spirally (rarely flabellately) arranged, erect in tufts of up to 30, dark green to yellow-green, usually evenly septate, septae forming air chambers; lamina 30-150(-240) mm long, filiform to linear-filiform, tapered to a finely acute (rarely subacute to obtuse) apex, base swollen, up to 5 mm wide. Leaf appendages ligulate, ligule broadly triangular 0.8-1.2 mm long, located above the sporangium on the adaxial side. Sporangia adaxially located in pockets in leaf bases, large (up to 3 mm long) and conspicuous, broadly oblong, heterosporous, Megaspores white, studded with conspicuous, minute, unequal tubercles; microspores minute, numerous.



Wairakei. Photographer: John Smith-Dodsworth



Wairakei. Photographer: John Smith-Dodsworth

## SIMILAR TAXA

New Zealand Isoetes are in serious need of a thorough revision. As currently circumscribed the two species *I. alpina* and *I. kirkii* significantly overlap in most features except the megaspore surface which in *I. kirkii* is finely though conspicuously tubercled, while it is usually smooth in *I. alpina*. The megaspores of *I. kirkii* are also usually white, whilst those of *I. alpina* are typically grey to greyish white. A potentially distinct form with a taller (up to 240 mm long), finer filiform, flabellately arranged rather than spirally arranged leaves was known from several sites in Northland. This race is included in the above description of *I. kirkii*. It is now believed to be extinct in the wild, though it is known from cultivated material that was rescued from the last known habit. The race may be worth of formal taxonomic recognition (see comments in de Lange & Rolfe 2010). This race is treated as *Isoetes* aff. *kirkii* (CHR 247118A; Lake Omapere) in de Lange et al. 2009.

## FLOWERING

N.A. Spore producing

## FLOWER COLOURS

No flowers

## FRUITING

N.A. Spore producing

## LIFE CYCLE

Spongy megaspores are dispersed by water

## PROPAGATION TECHNIQUE

Easily grown in a fish tank or fish pond planted in a coarse mix of sand and peat. Algal blooms are a problem. Plants are very slow growing

## ETYMOLOGY

**isoetes**: From the Greek *isos* 'equal' and *etas* 'year', referring to the evergreen, unchanging character of the plant (Johnson and Smith, 1986).

**kirkii**: After Thomas Kirk (18 January 1828 - 8 March 1898), a NZ botanist and lecturer in natural sciences and regarded as a leader of botanical enquiry in NZ for over three decades. One of his most significant publications was *Forest flora of NZ* (1889) but he also contributed over 130 papers to the *Transactions and Proceedings of the NZ Institute* and other journals.

## WHERE TO BUY

Not commercially available.

## ATTRIBUTION

Fact sheet including description prepared for NZPCN by P.J. de Lange (7 May 2011)

## REFERENCES AND FURTHER READING

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

de Lange, P.J.; Norton, D.A.; Courtney, S.P.; Heenan, P.B.; Barkla, J.W.; Cameron, E.K.; Hitchmough, R.; Townsend, A.J. 2009: *Threatened and uncommon plants of New Zealand* (2008 revision). *New Zealand Journal of Botany* 47: 61-96.

Johnson, A. T. and Smith, H. A (1986). *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* 11: 285-309

## CITATION

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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/isoetes-kirkii/>

# Huperzia australiana

## SYNONYMS

*Urostachys australianus* (Herter) Herter ex Nessel; *Urostachys cockaynei* Herter ex Nessel; *Lycopodium australianum* Herter; *Lycopodium australianum* (Herter) Allan; *Lycopodium selago* sensu Hook.f.

## FAMILY

Lycopodiaceae

## AUTHORITY

*Huperzia australiana* (Herter) Holub

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

No

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Lycophytes (clubmosses, selaginella, quillworts)

## NVS CODE

HUPAUS

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

Indigenous. New Zealand: North, South, Stewart, Chatham, Auckland, Campbell and Macquarie Islands. Known from the Raukumara Range southwards. Also Australia and Borneo.

## HABITAT

Coastal to alpine (mostly alpine in the main islands of New Zealand but descending to sea level on the Chatham and subantarctic islands) in scrub, herbfield and peat bogs.

## FEATURES

Terrestrial, stiffly erect tufted plants producing 1 to many branches from near base. branches rigid, erect (rarely decumbent), undivided or branched 1-3×, 60-400 mm long, producing bulbils at intervals. Sterile leaves and sporophylls similarly densely spirally arranged, erect, imbricate, thick, ovate to lanceolate, acute 4-9 mm long, 1.0-1.5 mm wide, green to yellowish green, or tinged orange; margins entire or with few, obscure teeth at apex. Sporophylls scattered, not restricted to defined zones. Sporangia c.1 mm long, 1.5 mm wide, obscured by sporophylls; sporangia often partially replaced by bulbils. Description adapted from Chinnock (1998) and Brownsey & Smith-Dodsworth (2000).

## SIMILAR TAXA

Easily distinguished from all other New Zealand members of the Lycopodiaceae by the scarcely differentiated sterile leaves and fertile sporophylls, as well as the unique presence of bulbils. Sterile terrestrial forms of *Huperzia varia* growing in peat bogs are impossible to distinguish from sterile *H. australiana*.



*Huperzia australiana*, Takitimu Mountains.  
Photographer: John Barkla



Upper Hollyford. Photographer: John Smith-Dodsworth

## FLOWERING

N.A.

## FLOWER COLOURS

No flowers

## FRUITING

N.A.

## LIFE CYCLE

Minute spores are wind dispersed (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Difficult - should be left in the wild

## ETYMOLOGY

**huperzia**: Named after Johann Peter Huperz (1771-1816), an early 19th century German botanist and specialist in ferns

**australiana**: From the Latin australis meaning southern

## WHERE TO BUY

Not commercially available.

## ATTRIBUTION

Fact Sheet Prepared for NZPCN by P.J. de Lange 16 March 2011. Description adapted from Chinnock (1998) and Brownsey & Smith-Dodsworth (2000).

## REFERENCES AND FURTHER READING

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

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

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

## CITATION

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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/huperzia-australiana/>

# Gastrodia minor

## COMMON NAME

Gastrodia

## SYNONYMS

None

## FAMILY

Orchidaceae

## AUTHORITY

*Gastrodia minor* Petrie

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Orchids

## CHROMOSOME NUMBER

$2n = 40$

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

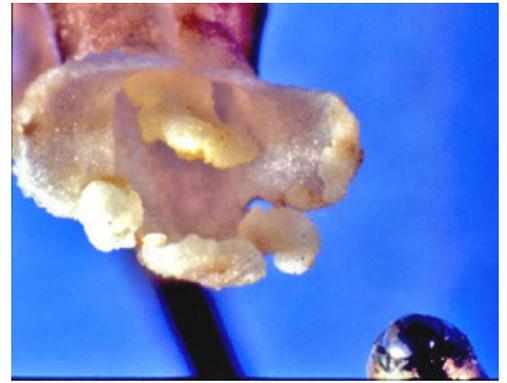
2004 | Not Threatened

## DISTRIBUTION

Endemic. North, South and Stewart Islands

## HABITAT

Lowland to montane (up to 1200 m a.s.l.). Usually in shrubland, often dominated by kahikatoa (*Leptospermum scoparium* J.R.Forst. et G.Forst.) or members of the manuka (*Kunzea ericoides* (A.Rich.) Joy Thoms.) complex. Also commonly seen within pine plantations and growing amongst Spanish heather (*Erica lusitanica* Ruldophi).



Close-up of flower. Photographer: Eric Scanlen



Flower open from Iwitahi, 9/1/1997.  
Photographer: Eric Scanlen

## FEATURES

Terrestrial, saprophytic, deciduous, fleshy, perennial herb lacking chlorophyll. Rhizome mycorrhizal, tuberous, rather swollen, short-lived, extensively branched, individual sections up to 40 x 10 mm, dull pale brown to brownish-black, sparsely clad in chartaceous scales, especially toward the active apex. Plant at flowering up to 300 mm tall. Stem 1.5-2 mm diameter, dark brown to brown-black, slender, rather brittle when fresh. Scale leaves chartaceous, few, small and widely spaced. Flowers up to 10, brownish-black, usually cleistogamous, unscented, erect to spreading, tubular, sparsely tuberculate toward base, tubercules paler in colour. Perianth 6-10 x 2-4 mm, lobes slightly thickened toward margins. Lateral sepals fused slightly above the gibbous base otherwise with their margins lying close together. Labellum 2.5-4 x 1.0-2.0 mm, white, narrow-oblong, membranous, not irritable, completely enclosed within floral tube (apex just visible in the open flowers) and mostly fused to it, thickened distally, margins narrow, slightly undulose, bearing two long median, cristate, pinkish white calli, apex yellow. Column very short, wing a minute, erect, process; anther terminal, erect and bending forwards, short, ellipsoid, operculate, filament scarcely pleated at the back, pollen breaking into angular granules; stigma basal, immediately below anther, ellipsoid, hollow; rostellum flap-like, positioned under anther.

## SIMILAR TAXA

Easily distinguished from the other New Zealand *Gastrodia* species by its much smaller size (upto 300 mm long), and fewer flowered (< 10), much narrower, smaller, mostly blackish-brown, tubular flowers that scarcely open (if at all). The perianth lobes are internally white, and the labellum distinctly yellow-tipped.

## FLOWERING

November - March

## FLOWER COLOURS

Black, Brown

## FRUITING

January - April

## LIFE CYCLE

Minute seeds are wind dispersed (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

A saprophytic species which should not be removed from the wild. Difficult to grow.

## ETYMOLOGY

**gastrodia**: Belly tooth (flower centre)

**minor**: Smaller

## WHERE TO BUY

Not commercially available

## ATTRIBUTION

Description adapted from Moore and Edgar (1970)

## REFERENCES AND FURTHER READING

NZPCN Key to *Gastrodia* prepared by Jeremy Rolfe (pdf, 1.2Mb)

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 11: 285-309

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/gastrodia-minor/>

# Euchiton limosus

## SYNONYMS

Gnaphalium limosum D.G.Drury, Euchiton limosus (D.G.Drury) Anderb. (nom. illegit.)

## FAMILY

Asteraceae

## AUTHORITY

Euchiton limosus (D.G.Drury) Holub

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

No

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledonous composites

## NVS CODE

EUCLIM

## CHROMOSOME NUMBER

2n = 28

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## LIFE CYCLE

Pappate cypselae are dispersed by wind and water (Thorsen et al., 2009).

## ETYMOLOGY

**euchiton:** From the Greek eu (good) and chiton (tunic or covering)

**limosus:** Growing in mud

## 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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/euchiton-limosus/>



Plant on track with patch of *Prunella vulgaris* behind. Photographer: Jeremy Rolfe



Piha, April. Photographer: John Smith-Dodsworth

# Epilobium melanocaulon

## COMMON NAME

Willowherb

## FAMILY

Onagraceae

## AUTHORITY

*Epilobium melanocaulon* Hook.f.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

## NVS CODE

EPIMEL

## CHROMOSOME NUMBER

$2n = 36$

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

Endemic. New Zealand: North and South Islands from Rotorua and Lake Waipapa (Waikato River Hydroelectric dam) south.

## HABITAT

lowland to alpine. Usually riparian, in open braided river and gravelly river beds and watercourses. Also on moraines, scree slopes, and in gravel on lake margins. Rarely in urban areas, often found in the eastern South Island growing along railway tracks.



Lake Te Anau, Fiordland. Photographer: John Barkla



Hawkdun range, February. Photographer: John Smith-Dodsworth

## FEATURES

Much-branched, stoutly tap-rooted, erect, perennial herb forming shrublets 0.1-0.3 m tall. Branches arising from the base (rarely above). Stems purple-black, maroon (sometimes green), with dense strigulose lines decurrent from the margins of the petioles. Leaves sessile to subsessile, mostly opposite towards base, alternate in or near inflorescence, dark dull green, purple-black or maroon, midvein scarcely visible to prominently so, lateral veins not evident, 1-3 on each side of midrib; petioles if present 1-2 mm long; lamina 3-12(-20) x 1-4(-6) mm, narrowly elliptic to elliptic, apex acute (often apiculate), base attenuate, margins remotely, coarsely serrate, teeth 2-4 on each side. Inflorescence erect. Flowers erect. Ovaries 6-14 mm long, glabrous, green to purple-black, sessile or on pedicels 2 mm long. Floral tube 0.2-0.6 x 1.0-1.4 mm, glabrous. Sepals not keeled, 2-8-4.5 x 0.9-1.1 mm. Petals 5.0-6.5 x 2.3-3.0 mm, white, flushed pink after pollination, the notch 0.5-1.0 mm deep. Anthers 0.4-0.5 x 0.25-0.3 mm, yellow; filaments of the longer stamens 1.5-2.3 mm long, those of shorter ones 0.8-1.5 mm long, the anthers of the longer stamens shedding pollen directly on the stigma at anthesis. Style 2.1-2.6 mm high, white; stigma 0.8-1.9 mm x 0.45-0.9 mm, short-clavate, surrounded by the anthers of the longer stamens at anthesis. Capsules 18-38 mm long, brown, glabrous, sessile or on pedicels up to 9 mm long. Seeds 0.9-1.1 mm long, purple-brown, orange or orange-brown usually tinged purple, obovate, finely reticulate-mamillate; coma 4.0-6.5 mm long, white, caducous.

## SIMILAR TAXA

*Epilobium melanocaulon* is unlikely to be confused with any other *Epilobium* in New Zealand, indigenous or otherwise. The densely branched, erect, shrubby growth habit, and purple-black stems; coarsely toothed, dark green, purple-black or maroon leaves and dark brown capsules are diagnostic of this species.

## FLOWERING

December - April

## FLOWER COLOURS

Violet/Purple, White

## FRUITING

February - June

## LIFE CYCLE

Minute papitate seeds are wind dispersed (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

An attractive species well suited to a rocky garden situation. Excellent as a pot plant for terrace situation. Inclined to be short-lived so best grown from fresh seed or cuttings and treated as an annual. In good conditions will self-establish but not inclined to be weedy like many other epilobia.

## ETYMOLOGY

**epilobium:** From the Greek *epi-* 'upon' and *lobos* 'a pod', the flowers appearing to be growing on the seed pod.

**melanocaulon:** Black stemmed

## ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange (28 October 2012). Description adapted from Raven & Raven (1976) and Webb & Simpson (2001).

## REFERENCES AND FURTHER READING

Raven, P.H.; Raven, T.E. 1976: The genus *Epilobium* in Australasia. New Zealand DSIR Bulletin 216. Wellington, Government Printer.

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

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

## CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Epilobium melanocaulon* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.

<https://www.nzpcn.org.nz/flora/species/epilobium-melanocaulon/> (Date website was queried)

**MORE INFORMATION**

<https://www.nzpcn.org.nz/flora/species/epilobium-melanocaulon/>

# Epilobium glabellum

## COMMON NAME

Willowherb

## FAMILY

Onagraceae

## AUTHORITY

Epilobium glabellum G.Forst.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

## NVS CODE

EPIGLA

## CHROMOSOME NUMBER

2n = 36

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## FLOWER COLOURS

White

## LIFE CYCLE

Minute pappate seeds are wind dispersed (Thorsen et al., 2009).

## ETYMOLOGY

**epilobium**: From the Greek epi- 'upon' and lobos 'a pod', the flowers appearing to be growing on the seed pod.

**glabellum**: Hairless

## 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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/epilobium-glabellum/>



Mount Burns, Fiordland. Photographer: Jesse Bythell



Mount Taranaki, near summit. Photographer: Colin Ogle

# Crassula sinclairii

## COMMON NAME

Sinclair's stonecrop

## SYNONYMS

*Tillaea sinclairii* Hook.f., *T. novae-zelandiae* var. *obtusa* Kirk, *T. novae-zelandiae* Petrie

## FAMILY

Crassulaceae

## AUTHORITY

*Crassula sinclairii* (Hook.f.) A.P.Druce et D.R.Given

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

## NVS CODE

CRASIN

## CHROMOSOME NUMBER

2n = 30, 56

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

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

## HABITAT

Coastal to alpine, Aquatic in slow flowing rivers, creeks, ponds, tarns and lakes, and also in brackish lagoons, and waterways. Usually in places where it is submerged for most of the year.

## FEATURES

Perennial herb forming small to large extensive finely filamentous thread-like mats; stems almost prostrate except for slightly ascending tips, freely rooting at nodes, much-branched. Leaves connate at base, 0.5-2.0 × 0.2-0.5 mm, c.0.2 mm thick, lanceolate-oblong, lanceolate-elliptic or oblanceolate, flattened above, strongly convex below; apex acute. Flowers solitary in leaf axils, star-like, 4-merous, sweetly fragrant, 2.5-3.5 mm diameter; pedicels 0.5-3.0 mm long, elongating little at fruiting. Calyx lobes 0.4-0.6 × c.4 mm, broadly ovate, obtuse or subacute. Petals 1.0-1.8 × 0.5-0.9 mm, broadly ovate or triangular-ovate, white, often flushed pink, obtuse, much > calyx. Scales c.0.5 mm long, oblong-cuneate or oblanceolate. Follicles smooth. Seed 0.30-0.45 mm long.

## FLOWERING

October - March



*Crassula sinclairii* in flower, east side L Wairarapa. Photographer: Colin Ogle



Falls Dam Central Otago. Photographer: John Barkla

## FLOWER COLOURS

Red/Pink, White

## FRUITING

November - June

## LIFE CYCLE

Minute follicles are dispersed by wind and water and possibly also by attachment (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Easily grown from rooted pieces but difficult to maintain and not especially attractive.

## ETYMOLOGY

**crassula**: From the Latin crassus 'thick', meaning 'rather thick'

**sinclairii**: After Sinclair (c. 1796–1861). Colonial Secretary and naturalist.

## WHERE TO BUY

Not commercially available

## ATTRIBUTION

Description modified from Webb et al. (1988)

## REFERENCES AND FURTHER READING

Webb, C.J.; Sykes, W.R.; Garnock-Jones, P.J. 1988: Flora of New Zealand. Vol. IV. DSIR Botany Division, Christchurch.

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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/crassula-sinclairii/>

# Craspedia minor

## COMMON NAME

Small craspedia, Woollyhead

## FAMILY

Asteraceae

## AUTHORITY

*Craspedia minor* (Hook.f.) Allan

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledonous composites

## NVS CODE

CRAMIN

## CHROMOSOME NUMBER

2n = 22

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## FLOWER COLOURS

White

## LIFE CYCLE

Pappate cypselae are dispersed by wind (Thorsen et al., 2009).

## ETYMOLOGY

**craspedia**: Thick-stemmed

**minor**: Smaller

## 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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/craspedia-minor/>



Waiohine Gorge, Tararua Forest Park. Dec 2007. Photographer: Jeremy Rolfe



Waiohine Gorge, Tararua Forest Park. Dec 2007. Photographer: Jeremy Rolfe

# Cheilanthes sieberi subsp. sieberi

## COMMON NAME

Rock fern

## SYNONYMS

*Cheilanthes humilis* (G. Forst.) P.S. Green; *Cheilanthes tenuifolia* sensu Allan (1961)

## FAMILY

Pteridaceae

## AUTHORITY

*Cheilanthes sieberi* Kunze subsp. *sieberi*

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

No

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Ferns

## NVS CODE

CHESIE

## CHROMOSOME NUMBER

2n = 174

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

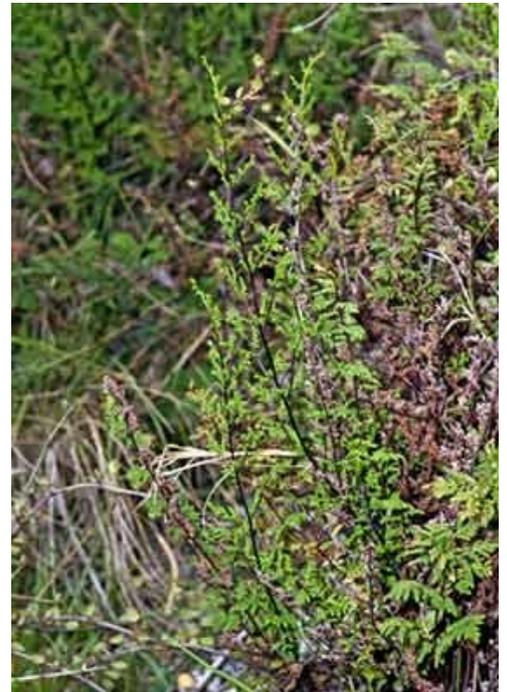
Indigenous. New Zealand: Three Kings, North, South Islands. Also Australia and New Caledonia

## HABITAT

Coastal to montane in dry, rocky habitats with only sparse or no vegetation cover. Often found growing with *Pellaea calidurupium*. More common in the drier eastern parts of the country.

## FEATURES

Terrestrial or rupestral fern. Fronds up to 350 × 35 mm; stipe and rachis dark brown or red-brown, glabrous or with sparse to moderately dense hairs (to 10 cells, often twisted and glandular), densest at stipe-rachis-rachilla junction, with some scales. Lamina linear-lanceolate or ovate, 3-pinnate at base, 2-pinnate for most of length; larger pinnae triangular-ovate; pinnules lanceolate ovate or elliptic; margins deeply incised, inrolled; adaxially glabrous, abaxially glabrous rarely with a few, sparse hairs. Spores spherical, verrucose, with varying amounts of globular, branched or reticulate deposits; either black, ridged, 49-73 microns diameter and 16 per sporangium, or brown, trilete, 36-52 microns diameter, and 32 per sporangium.



Lake Kohangatera, Wellington. Oct 2008.  
Photographer: Jeremy Rolfe



Lake Kohangatera, Wellington. Oct 2008.  
Photographer: Jeremy Rolfe

### **SIMILAR TAXA**

Distinguished from *Cheilanthes distans* with which it often grows by the the glabrous (or nearly glabrous) primary pinnae

### **FLOWERING**

N.A. - spore producing

### **FLOWER COLOURS**

No flowers

### **FRUITING**

N.A. - spore producing

### **LIFE CYCLE**

Minute spores are wind dispersed (Thorsen et al., 2009).

### **PROPAGATION TECHNIQUE**

Easily grown in a dry sunny site. An excellent pot plant. In ideal conditions it soon self establishes.

### **ETYMOLOGY**

**cheilanthos:** From the Greek kheilos 'lip' and anthos 'flower', referring to the indusium

### **ATTRIBUTION**

Fact sheet prepared for NZPCN by P.J. de Lange (Updated 3 May 2011). Description adapted from Chambers & Farrant (1998).

### **REFERENCES AND FURTHER READING**

Chambers, T.C.; Farrant, P.A. 1998: *Cheilanthes*. *Flora of Australia* 48: 271-286.

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

### **CITATION**

Please cite as: de Lange, P.J. (Year at time of access): *Cheilanthes sieberi* subsp. *sieberi* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.

<https://www.nzpcn.org.nz/flora/species/cheilanthos-sieberi-subsp-sieberi/> (Date website was queried)

### **MORE INFORMATION**

<https://www.nzpcn.org.nz/flora/species/cheilanthos-sieberi-subsp-sieberi/>

# Cheilanthes distans

## COMMON NAME

Woolly cloak fern, woolly rock fern

## SYNONYMS

*Notholaena distans* R.Br.

## FAMILY

Pteridaceae

## AUTHORITY

*Cheilanthes distans* (R.Br.) Mett.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

No

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Ferns

## NVS CODE

CHEDIS

## CHROMOSOME NUMBER

2n = 116

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

Indigenous. Kermadec Islands: Macauley Island. New Zealand: Three Kings, North and South Islands. Also Australia and New Caledonia (mainly easterly from Te Pahi south to Banks Peninsula).

## HABITAT

Coastal to montane in dry, rocky habitats with only sparse or no vegetation cover. Often found growing with *Asplenium flabellifolium*, *Cheilanthes sieberi* subsp. *sieberi* and *Pellaea calidurupium*. More common in the drier eastern parts of the country.

## FEATURES

Rupestral (rarely terrestrial) fern. Fronds up to 350 × 30 mm; stipe red-brown or dark brown, with moderately dense to dense covering of brown scales and some hairs' rachis densely covered in scales. Lamina linear, 2-pinnate or 2-pinnatifid at base and for most of length; large pinnae triangular-ovate; pinnules oblong- elliptic; margins entire or lobed; adaxially sparsely to moderately densely covered with slender, white hairs and occasional caducous scales, very rarely glabrous; abaxially sparsely to densely covered in scales and sparse white hairs. Spores spherical. granulose and ridged, with echinate ornamentation, 43-79 microns diameter, 16 per sporangium.



Kennedy Bay, October. Photographer: John Smith-Dodsworth



Mangatoetoe Stream, Aorangi Forest Park. Photographer: Jeremy Rolfe

### SIMILAR TAXA

Distinguished from *Cheilanthes sieberi* subsp. *sieberi* with which it often grows by the the stipes, rachises and primary pinnae being copiously covered in scales and hairs rather than glabrous (or nearly so).

### FLOWERING

N.A. - spore producing

### FLOWER COLOURS

No flowers

### FRUITING

N.A. - spore producing

### LIFE CYCLE

Minute spores are wind dispersed (Thorsen et al., 2009).

### PROPAGATION TECHNIQUE

Easily grown in a dry sunny site. An excellent pot plant. In ideal conditions it soon self establishes.

### ETYMOLOGY

**cheilanthes**: From the Greek kheilos 'lip' and anthos 'flower', referring to the indusium

**distans**: Distant (widely spaced female flowers)

### ATTRIBUTION

Fact Sheet Prepared for NZPCN by P.J. de Lange (Updated 3 May 2011). Adapted from Chambers & Farrant (1998)

### REFERENCES AND FURTHER READING

Chambers, T.C.; Farrant, P.A. 1998: *Cheilanthes*. *Flora of Australia* 48: 271-286.

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

### CITATION

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

### MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/cheilanthes-distans/>

# Carex lambertiana

## COMMON NAME

Forest sedge

## SYNONYMS

*Carex dissita* Boott var. *lambertiana* (Boott) Cheeseman

## FAMILY

Cyperaceae

## AUTHORITY

*Carex lambertiana* Boott

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Sedges

## NVS CODE

CARLAM

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

Endemic. New Zealand: North and South Islands. In the North Island abundant from Te Paki to about the southern Waikato, otherwise uncommon. In the South Island known from Nelson, Marlborough and northern Canterbury.

## HABITAT

Coastal to montane. Usually in relatively open but shaded sites within tall forest or in riparian forest along riversides and on river terraces. Sometimes establishes in parks within urban areas

## FEATURES

Tufts robust, leafy, 0.6–1.0 m tall. Culms 1–2 mm diameter, trigonous, smooth; basal sheaths dark grey-brown or purple-black. Leaves  $\pm$  = culms, 3–6 mm wide, double-folded, bright green or yellow-green, margins finely scabrid. Spikes 5–8; terminal 1(–3) spikes male; remaining spikes female, often male at the base, 15–50  $\times$  5–7 mm, cylindrical, uppermost spikes approximate and sessile, lower spikes more distant, erect, on short, stiff peduncles. Glumes (excluding awn)  $\pm$  = utricles, ovate, pinkish brown to chestnut-brown, membranous, hyaline margins often very broad, tip deeply emarginate, the light green or brown midrib produced to a scabrid awn. Utricles 2.5–3.5  $\times$  c.1.5 mm, biconvex, obovoid, turgid, usually dark brown to almost purple-black throughout with distinct, paler brown nerves, shining; beak slightly < 1 mm long, bifid, with very divergent crura, margins and orifice scabrid. Stigmas 3. Nut c.1.5 mm long, trigonous, light to dark brown, surface minutely pitted.



*Carex lambertiana*. Photographer: Bec Stanley



Gordon Park Scenic Reserve, Wanganui. Dec 2006. Photographer: Colin Ogle

## SIMILAR TAXA

*Carex lambertiana* often grows with *C. dissita* Sol. ex Boott, *C. ochrosaccus* (Cheeseman) Hamlin, and *C. solandri* Boott. Of these species it is most similar to *C. dissita* from which it differs by the stouter, more robust habit, larger spikelets usually erect, shortly pedunculate spikelets bearing more numerous flowers and utricles; obovoid rather than ovoid utricles, and glumes which have deeply emarginate apices. From *C. ochrosaccus* with which it often grows, it differs by the longer, darker brown to almost purple black utricles and by the glumes which have deeply emarginate tips. *Carex lambertiana* could also be confused with *C. solandri* from which it is easily distinguished by the usually short rather than long pedunculate, erect rather than pendulous, spikelets

## FLOWERING

September - December

## FRUITING

Throughout the year

## PROPAGATION TECHNIQUE

Easily grown from fresh seed and by the division of established plants. A far superior species to the widely cultivated *C. dissita*, which deserves to be more widely grown. It does best in partial shade, within a rich, free draining soil. This species occasionally naturalises in urban areas.

## ETYMOLOGY

**carex:** Latin name for a species of sedge, now applied to the whole group.

## ATTRIBUTION

Fact Sheet prepared by P.J. de Lange (31 August 2006): Description adapted from Moore and Edgar (1970) - see also de Lange et al. (2010).

## REFERENCES AND FURTHER READING

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

## CITATION

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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/carex-lambertiana/>

# Celmisia gracilenta

## COMMON NAME

Common mountain daisy, pekapeka

## FAMILY

Asteraceae

## AUTHORITY

*Celmisia gracilenta* Hook.f.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledonous composites

## NVS CODE

CELGRA

## CHROMOSOME NUMBER

2n = 108

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## FLOWER COLOURS

White, Yellow

## LIFE CYCLE

Pappate cypselae are dispersed by wind (Thorsen et al., 2009).

## ETYMOLOGY

**celmisia:** Apparently named after Kelmis, one of Idaean Dactyls, a group of skilled mythical beings associated with the Mother Goddess Rhea in Greek mythology. Kelmis, whose name means 'casting', was a blacksmith and childhood friend of Zeus, son of Rhea and later king of the gods. In Ovid's 'Metamorphoses', Kelmis is described as offending Zeus who turned him into adamant so he was as hard as a tempered blade

**gracilenta:** Slender

## 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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/celmisia-gracilenta/>



*Celmisia gracilenta*. Photographer: Nick Singers



Desert Road. Nov 2008. Photographer: Jeremy Rolfe

# Callitriche petriei subsp. petriei

## COMMON NAME

Petrie's starwort

## SYNONYMS

None

## FAMILY

Plantaginaceae

## AUTHORITY

Callitriche petriei R.Mason subsp. petriei

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

## CHROMOSOME NUMBER

2n = 20

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

Endemic. North and South Islands. Scarce north of Auckland.

## HABITAT

Coastal to alpine in damp muddy ground, lake, pond and tarn turf, in damp temporary pools, puddles and soaks within forest and scrub. Sometimes found permanently submerged.

## FEATURES

Diminutive, dioecious to subdioecious, widely creeping perennial with weakly ascending to erect branches 30-100 mm long. Leaves 1.1-5 mm long, bright green to yellow green, spatulate to orbicular, the larger leaves often with short side veins arising from the midrib, and with two lateral veins. Flowers solitary, alternate on either side of stem, ebracteate. Fruit an more or less elliptic mericarp, laterally compressed, 0.6-0.7 x 0.7-0.9 mm, dull grey-brown or orange-yellow, lobes not rounded, keeled or winged.

## SIMILAR TAXA

Differs from *C. petriei* subsp. *chathamensis* by its dioecious rather than monoecious habit, smaller leaves (1.1-5 cf 2.5-8 mm), smaller fruit (0.6-0.7 x 0.7-0.9 cf. 0.6-0.9 x 0.7-1.1 mm), and restriction to the North and South Islands of New Zealand.

## FLOWERING

November - January



In cultivation ex Taranaki. Oct 2007.  
Photographer: Jeremy Rolfe



In cultivation ex Taranaki. Oct 2007.  
Photographer: Jeremy Rolfe

## FRUITING

January - February

## LIFE CYCLE

Mericarps possibly by water and attachment (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Easily grown from rooted pieces and fresh seed, A delicate plant that is unlikely to be widely cultivated.

## ETYMOLOGY

**callitriche:** From the Greek kalli 'beautiful' and thrix 'hair', referring to the beautiful stems

**petriei:** Named after Donald Petrie (1846 -1925), Scottish born Otago botanist

## 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): *Callitriche petriei* subsp. *petriei* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.

<https://www.nzpcn.org.nz/flora/species/callitriche-petriei-subsp-petriei/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/callitriche-petriei-subsp-petriei/>

# Callitriche muelleri

## COMMON NAME

Mueller's starwort

## SYNONYMS

*Callitriche macropteryx* Hegelm., *Callitriche microphylla* Colenso

## FAMILY

Plantaginaceae

## AUTHORITY

*Callitriche muelleri* Sond.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

## NVS CODE

CALMUE

## CHROMOSOME NUMBER

2n = 10

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

Indigenous. In New Zealand known from the Kermadec, Three Kings, North, South, Stewart and Chatham Islands. Also in Australia.

## HABITAT

Coastal to montane in damp, muddy ground or in shallow seasonal pools, along lake and stream sides. Often in dense forest.

## FEATURES

Short-lived perennial to annual herb forming matted patches. Stems filiform, much-branched, up to 200 mm long when submerged usually much less above water. Leaves on filiform petioles up to 3 mm long; lamina 2-5 x 1-5 mm, bright green, rhomboid to suborbicular, membranous, apex acute, cuneately narrowed to base, margins usually with 1-2 prominent teeth. Flowers in axils, with male and females together or solitary; shortly pedunculate, ebracteate; stamens and styles very short. mericarp obovate, laterally compressed, 1.0-1.3 mm long; surfaces dull, reticulate or with a raised central part in each cell, body red-brown, dark red-brown or dark brown or light brown to grey-brown, with a pale orange-yellow to light orange-yellow wing.



Coromandel, November. Photographer: John Smith-Dodsworth



*Callitriche muelleri*, Auckland Zoo (wild).  
Photographer: Peter de Lange

### **SIMILAR TAXA**

Not easily confused with other indigenous and naturalised species of *Callitriche*. The rhomboidal toothed leaves in particular readily distinguishes this species from the others.

### **FLOWERING**

October - December

### **FRUITING**

November - March

### **LIFE CYCLE**

Mericarps possibly by water and attachment (Thorsen et al., 2009).

### **PROPAGATION TECHNIQUE**

Easily ground from rooted pieces and seed. Can become invasive but makes a pleasant ground cover in shaded, poorly drained soils.

### **ETYMOLOGY**

**callitriche**: From the Greek *kalli* 'beautiful' and *thrix* 'hair', referring to the beautiful stems

**muelleri**: Named after Baron Ferdinand von Mueller, 19th century German/Australian botanist and founder of the National Herbarium of Victoria

### **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): *Callitriche muelleri* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/callitriche-muelleri/> (Date website was queried)

### **MORE INFORMATION**

<https://www.nzpcn.org.nz/flora/species/callitriche-muelleri/>

# Botrychium biforme

## COMMON NAME

Fine-leaved parsley fern

## SYNONYMS

*Botrychium australe* var. *millefolium* (Milde) Prantl; *Botrychium cicutarium* var. *dissectum* Hook.f.; *Botrychium ternatum* var. *dissectum* G.M.Thomson; *Botrychium dissectum* sensu J.B.Armstr.; *Sceptridium biforme* (Colenso) Lyon;

## FAMILY

Ophioglossaceae

## AUTHORITY

*Botrychium biforme* Colenso

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Ferns

## NVS CODE

BOTBIF

## CHROMOSOME NUMBER

2n = 90

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## DISTRIBUTION

Endemic. North and South Islands, from Mt Pirongia south often sporadic but can be locally common

## HABITAT

Lowland to alpine. Preferring open ground, short and tall tussock grassland, forest clearings, shrubland, river flats, frost flats, reverting pasture and seasonally flooded ground. It is often found in deeply shaded sites within tall forest, or under dense thickets of grey scrub or frost flat vegetation.

## FEATURES

Stout, fleshy reddish green (bronze) to green plants. Roots thick, fleshy, not ridged or contracted. Sterile laminae 1(-2) stalked, broadly ovate or 5-angled, divided 5-8 times, 30-250 x 30-150 mm, ultimate segments acute, 0.05-0.1 mm wide. Fertile laminae 1(-2) borne on a narrower but longer stalk, fertile portion shorter and narrower than sterile laminae, divided 3-5-times, bearing numerous, spherical, yellow-brown sporangia up to c.10 mm diam.



*Botrychium biforme*. Photographer: John Smith-Dodsworth



Otakaha Stream, Palliser Bay. Mar 2008. Photographer: Jeremy Rolfe

## SIMILAR TAXA

*Botrychium australe* R.Br. from which *B. biforme* differs by the absence of ridged, contractile roots, and by the more finely divided sterile fronds whose ultimate segments are 0.1-1 mm wide. *B. biforme* may be found growing intermixed with *B. australe*.

## FLOWERING

Not applicable - spore producing

## FLOWER COLOURS

No flowers

## FRUITING

Not applicable - spore producing

## LIFE CYCLE

Minute spores are wind dispersed (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Difficult. Should not be removed from the wild

## THREATS

Not Threatened - however often local and sporadic in its occurrences. This species seems more tolerant of heavily shaded situations and forested habitats than *B. australe*, and there does not appear to be any suggestion of a decline happening within any part of its range.

## ETYMOLOGY

**botrychium:** Bunch of grapes; from the Greek botrus; grape like spore clusters

**biforme:** Two forms or shapes of leaves, from the Latin bi and formis

## ATTRIBUTION

Fact Sheet by P.J. de Lange 6 June 2005. Description from Brownsey & Smith-Dodsworth (2000).

## REFERENCES AND FURTHER READING

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand ferns and allied plants. David Bateman Ltd, Auckland

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

## CITATION

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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/botrychium-biforme/>

# Androstoma empetrifolium

## SYNONYMS

*Cyathodes empetrifolia* (Hook.f.) Hook.f., *Styphelia taxifolia* Sleumer, *Styphelia androstoma* F.Muell. (nom. illegit.), *Styphelia hookeri* F.Muell. (nom. illegit.)

## FAMILY

Ericaceae

## AUTHORITY

*Androstoma empetrifolium* Hook.f.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

## NVS CODE

ANDEMP

## CHROMOSOME NUMBER

2n = 24

## CURRENT CONSERVATION STATUS

2012 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2009 | Not Threatened

2004 | Not Threatened

## BRIEF DESCRIPTION

Low-growing sprawling reddish shrub. Leaves spreading, small, curved, appearing blunt, reddish or dark green above (somewhat pubescent), undersides 3-veined (veins parallel), white, pubescent. Flower small, white, tubular, single or in small clusters. Fruit fleshy, white, pink or red, ovoid

## DISTRIBUTION

Endemic. North, South, Stewart, Chatham, Auckland and Campbell islands, from Te Moehau and Mt Pirongia south.

## HABITAT

Coastal to alpine (montane to alpine in northern part of range otherwise extending to sea level). A species of open shrubland, tussock grassland, peat bogs and other poorly drained sites, as well as mixed alpine and subalpine herbfield. It is also frequently found on ridgelines on poorly draining, skeletal soils and on rock outcrops.



Te Moehau, March. Photographer: John Smith-Dodsworth



Auckland Islands. Photographer: Jane Gosden

## FEATURES

Prostrate, semi-prostrate (decumbent) sometimes trailing, widely spreading woody shrubs up to 1.0 × 0.2 m. Stems spreading, brown, grey-brown or red-brown; branchlets red-brown, yellow-brown or brown, ribbed, pubescent. Leaves dark green, bronze-green, maroon adaxially, abaxially pubescent, alternate, evenly spaced, ± spreading, erect or reflexed, shedding along branchlets, and absent on main stems; petiolate, petiole erect, ± appressed, 0.5-0.9 mm long, glabrous; lamina linear, 2.3-4.8 × 0.6-1.1 mm, coriaceous, convex (rarely flat); apex obtuse surmounted by a minute callus; margin recurved, glabrous or ciliate; adaxially ± glossy, glabrous or finely pubescent; abaxially pubescent with hairs either confined to interveinal grooves or pubescent overall, striate, veins 3 parallel, conspicuous, abaxially strongly ribbed. Plants hermaphrodite. Inflorescences terminal, 1-3-flowered, terminating in a rudimentary bud. Flowers pendulous, subtended by a single bract and 2 prominently keeled bracteoles, not pedicellate above bracteoles so appearing spicate; pedicel 0.4-1 mm long; bract, bracteoles, and sepals ovate or oblong, obtuse, glabrous or rarely puberulent outside; bract 0.5-0.9 × 0.5 mm, margin ciliate; bracteoles non-imbricate, uniform in size, 0.8-1.5 × 0.7-1 mm, conspicuously striate particularly when dry, margin ciliate; sepals 1.3-1.9 × 0.8-1.1 mm, margin ciliate, bearing stomata on the adaxial surface (with a few present within hair-bearing clefts on the abaxial surface). Corolla tube equal or shorter than calyx, thin, campanulate, 1.1-1.6 mm long, inner portion of tube glabrous; lobes spreading, acute, equalling the tube, 1.0-1.5 mm long, sparsely puberulent to puberulent towards apices. Anthers emarginate, 0.3-0.5 mm long, apically attached by a short thin filament inserted just below sinus of corolla tube; the filaments exerted, 0.3-0.5 mm long. Ovary 3-4-locular, spherical to ovoid, glabrous, 0.5-1.0 × 0.5-0.8 mm wide; style straight, glabrous, 0.5-0.8 mm long; stigma 0.1 mm long exerted. Nectary annular deeply lobed, occasionally comprised of distinct scales, these 0.2-0.4 mm tall, glabrous. Fruit red (occasionally white or pink), 2.0-3.0 × 1.5-2 mm, glabrous. Endocarp 1.6-2.3 × 1.6-2.1 mm, brown, orange to orange-brown, broadly elliptic to ovoid, obscurely 3-angled, often longitudinally ridged, somewhat granular.

## SIMILAR TAXA

None.

## FLOWERING

November - January

## FRUITING

January - August

## LIFE CYCLE

Fleshy drupes are dispersed by frugivory (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Difficult. Should not be removed from the wild

## WHERE TO BUY

Not commercially available.

## TAXONOMIC NOTES

Until recently *Androstoma* had been treated as a monotypic and endemic genus (Hooker 1844; Weiller 1996). In 2005 a further Australian (Tasmania) endemic species that had been variously referred to *Pentachondra*, *Trochocarpa*, *Styphelia* and *Leucopogon*, was transferred to *Androstoma* as *A. verticillata* (Hook.f.) C.J.Quinn (Quinn et al. 2005). *Androstoma empetrifolium* was treated as *Cyathodes empetrifolia* (Hook.f.) Hook.f. by Allan (1961)

## ATTRIBUTION

Fact Sheet prepared for the NZPCN by P.J. de Lange (19 November 2014). Description based on Weiller (1996), Quinn et al (2005), Webb & Simpson (2001) and observations made from fresh and dried specimens

## REFERENCES AND FURTHER READING

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

Hooker, J.D. 1844: *The Botany of the Antarctic Voyage of H.M. Discovery Ships Erebus and Terror in the Years 1839–1843, under the command of Captain Sir James Clark Ross*. London, Reeve, Brothers. 208 p.

Quinn, C. J.; Brown, E. A.; Heslewood, M. M.; Crayn, D. M. 2005: Generic concepts in Styphelieae (Ericaceae): the *Cyathodes* group. *Australian Systematic Botany* 18: 439-454

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.

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

Weiller, C.M. 1996: Reinstatement of the genus *Androstoma* Hook.f. (Epacridaceae). *New Zealand Journal of Botany* 34: 179-185.

## CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Androstoma empetrifolium* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.

<https://www.nzpcn.org.nz/flora/species/androstoma-empetrifolium/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/androstoma-empetrifolium/>

# Eleocharis pusilla

## SYNONYMS

None - though New Zealand plants have at times been referred to the northern hemisphere *Eleocharis acicularis* (L.) Roem. et Schult.

## FAMILY

Cyperaceae

## AUTHORITY

*Eleocharis pusilla* R.Br.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

No

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Sedges

## NVS CODE

ELEPUS

## CHROMOSOME NUMBER

2n = 30

## CURRENT CONSERVATION STATUS

2012 | Not Threatened | Qualifiers: SO

## PREVIOUS CONSERVATION STATUSES

2009 | Data Deficient | Qualifiers: SO

2004 | Not Threatened

## DISTRIBUTION

Indigenous. In New Zealand known from North and South Islands - often uncommon over large parts of its range, and showing a decided preference for clean waterways free from pollution. Present in Australia.

## HABITAT

Usually found on the margins of and submerged within lakes, tarns and slow flowing rivers and streams. When submerged it often grows amongst drifts of quillworts (*Isoetes* spp.) and is rarely fertile. In emergent situations it is easily overlooked because it has inconspicuous flowers and can be mistaken for a small tuft of grass.

## FEATURES

Emergent or aquatic diminutive, sedge forming bright green (when exposed) or dark green to brown-green tufts. Rhizomes 1-3 mm diameter (usually very slender), pale brown. Culms densely tufted, 10-120 mm long, setaceous, < 0.5 mm diameter, bright green (when exposed), dark green to brown green with yellowish transverse bars when submerged; sheaths membranous, more or less hyaline, red-veined, upper most sheaths colourless and inflated below the oblique orifice. Spikelet 2.5-3.0 x c.1 mm, (1-)5-flowered, ovate, sharply acute. Glumes 1.5-2.0 mm long, ovate, obtuse. Hypogynous bristles mostly absent, rarely 2-3 present. Stamens 3, Style 3-fid. Nut c. 1.0 x 0.5 mm, narrowly obovoid, obscurely trigonous, almost white, each face with 3-4 thick, vertical ribs joined by fine transverse bars; the persistent style very small, much constricted at the base.



In cultivation ex tarns near Lake Ohau. Dec 1986. Photographer: Colin Ogle



*Eleocharis pusilla* inflorescence with leaves of *Myriophyllum votschii*. Lake Wairarapa. Photographer: Colin Ogle

## SIMILAR TAXA

Most likely to be confused with *E. gracilis* R.Br. from which it differs by the smaller spikelets (up to 3 mm long) and by the nut which has prominent vertical ribs and fine transverse bars. The culms of this species are often bright green, and distinctly tufted so as to resemble a small grass. In submerged plants the culms often have an obvious yellow transverse patterning on the otherwise dark green to brown-green coloured culms.

## FLOWERING

September - February

## FRUITING

November - April

## LIFE CYCLE

Bristly nuts are dispersed by water and possibly wind and attachment (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Can be tricky to establish. Does best as a submerged aquarium plant where it can be very attractive. Prefers semi-shade and regular immersion in water.

## THREATS

Not Threatened - but not very common in the northern part of its range where it is clear, based on herbarium evidence that it has undergone a large decline. Still abundant in the deeper, cleaner and less polluted lake systems of the North Island. Common in the South Island.

## ETYMOLOGY

**eleocharis:** Charm of the swamp

**pusilla:** Small

## WHERE TO BUY

Not commercially available.

## 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 11: 285-309

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/eleocharis-pusilla/>

# Myriophyllum votschii

## FAMILY

Haloragaceae

## AUTHORITY

Myriophyllum votschii Schindler

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

## NVS CODE

MYRVOT

## CHROMOSOME NUMBER

2n = 14, c.21

## CURRENT CONSERVATION STATUS

2012 | Not Threatened | Qualifiers: Sp

## PREVIOUS CONSERVATION STATUSES

2009 | At Risk – Naturally Uncommon

2004 | Not Threatened

## DISTRIBUTION

Endemic. North, South, Stewart and Chatham Islands

## FEATURES

Dioecious perennial terrestrial herb, stems prostrate (rarely erect, forming tight cushions to 70 mm high), branching freely, rooting at nodes, forming clumps to 100 mm in diameter, glabrous. Leaves all opposite, entire, obovoid, 1.8-3.5 × (0.5-)0.7-1.1 mm, ± planar or slightly concave on upper surface, convex below, spreading or slightly upward-curving, glabrous.. Hydathodes absent. Rarely, in inundated plants, submerged leaves are formed, which are linear, 2.0 × 0.2 mm. Inflorescence a terminal spike with the unisexual flowers borne in the axils of opposite upper leaves indistinguishable from lower (sterile) leaves. Male and female flowers apparently borne on separate plants. Bracteoles linear, 0.5-0.7 × 0.1-0.2 mm. Hydathodes 0. Male flowers 4-merous, sessile, usually in axils of the uppermost pair of leaves only. Sepals 0. Petals 4, green at first, becoming white with a dark reddish spot at tip (rarely, completely dark red), hooded, non-unguiculate, 1.5-1.8 × 0.7-1.0 mm, reflexed at anthesis. Stamens 8; filaments 0.2-0.3 mm long, elongating to 0.8-11.0 mm at anthesis; anthers yellow, oblong, 1.2-1.3 × 0.4 mm, 4-celled, non apiculate or very weakly apiculate. Styles 0. Ovary vestigial. Female flowers 4-merous, sessile, in axils of upper 4-8 pairs of leaves. Sepals, petals and stamens 0. Styles 4, ± sessile, stigmas white, fimbriate, capitate. Ovary green, shortly cylindrical, 0.8 × 0.6-0.8 mm, longitudinally channelled between styles, rounded opposite styles, otherwise smooth. Fruit black, depressed-globular, 0.9-1.0 × 1.1-1.4 mm, suture between mericarps buff coloured; mericarps separating at maturity. Mericarps planar on inner faces, outer face convex, smooth or very weakly punctate, sometimes with a faint median longitudinal ridge.

## FLOWER COLOURS

Green, White



Myriophyllum votschii. Photographer: Lisa Forester



Whatipu, December. Photographer: John Smith-Dodsworth

## PROPAGATION TECHNIQUE

Easily grown from fresh seed and rooted pieces. must be kept moist. An interesting plant for a small pond or fish tank

## ETYMOLOGY

**myriophyllum:** Many leaves

## ATTRIBUTION

Fact Sheet Prepared by P.J. de Lange (1 November 2009). Description based on Orchard (1979)

## REFERENCES AND FURTHER READING

Orchard, A.E. 1979: *Myriophyllum* (Haloragaceae) in Australasia. 1. New Zealand: a revision of the genus and a synopsis of the family. *Brunonia* 2: 247-287.

## CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Myriophyllum votschii* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.

<https://www.nzpcn.org.nz/flora/species/myriophyllum-votschii/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/myriophyllum-votschii/>

# Cyclosorus interruptus

## SYNONYMS

Many including *Pteris interrupta* Willd., *Thelypteris interrupta* (Willd.) Iwatsuki, *Nephrodium propinquum* R.Br., *Nephrodium inaequilaterum* Colenso, *Nephrodium unitum* R.Br., *Cyclosorus gongyloides* (Schkuhr) Link; *Dryopteris gongyloides* var. *glabra* (Mett.) Domin; *Dryopteris gongyloides* sensu Cheeseman

## FAMILY

Thelypteridaceae

## AUTHORITY

*Cyclosorus interruptus* (Willd.) H.Itô

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

No

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Ferns

## NVS CODE

CYCINT

## CHROMOSOME NUMBER

2n = 72

## CURRENT CONSERVATION STATUS

2012 | At Risk – Declining | Qualifiers: SO

## PREVIOUS CONSERVATION STATUSES

2009 | At Risk – Declining | Qualifiers: SO

2004 | Gradual Decline

## DISTRIBUTION

Indigenous: North Island, from Te Pahi to Kawhia Harbour, the Bay of Plenty (including Mayor Island), the Rotorua Lakes to Taupo and near East Cape. Also known from Australia and throughout the tropical and warm-temperate Pacific where it is not threatened.

## HABITAT

A species of geothermal habitats, and frost-free, coastal and lowland wetlands, especially those dominated by raupo (*Typha orientalis*) and swamp millet grass (*Isachne globosa*).

## FEATURES

A creeping fern with harsh, hairless, olive-green fronds to 800 mm long. Frond stalks are slender, up to 600 mm long by 5 mm wide, almost black at the base but becoming brownish. Frond leaflets (pinnae) occur in 9–15 pairs, the basal pair are larger and sickle-shaped with each successive pair becoming shorter. The spores are found in closely packed sori distributed nearer the midrib than the leaflet edge.



*Cyclosorus interruptus* at Tokerau Beach, Karikari Peninsula. Photographer: Bill Campbell



A photo by R.J. Stanley (2003).

## SIMILAR TAXA

Could only be confused with *Pneumatopteris pennigera* with which it sometimes grows. However, this species has longer, narrower pale green, soft hairy fronds of even length and shape that wilt easily. *Pneumatopteris pennigera* also occupies different habitats, being found on stream-banks in kahikatea remnants, and on shaded limestone overhangs and cave entrances.

## FLOWERING

Spore bearing fronds may be found throughout the year

## FLOWER COLOURS

No flowers

## FRUITING

Spore bearing fronds may be found throughout the year

## LIFE CYCLE

Minute spores are wind dispersed (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Easily grown from division of whole plants. Can be grown from fresh spore. Frost tender, and does best in damp or waterlogged ground.

## THREATS

Drainage, land development and fern collectors.

## ETYMOLOGY

**interruptus**: Interrupted in some way

## WHERE TO BUY

Sold by a few specialist native plant nurseries. Not widely grown.

## 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* 11: 285-309

## CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Cyclosorus interruptus* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.

<https://www.nzpcn.org.nz/flora/species/cyclosorus-interruptus/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/cyclosorus-interruptus/>

# Centipeda aotearoana

## COMMON NAME

New Zealand sneezewort

## SYNONYMS

None

## FAMILY

Asteraceae

## AUTHORITY

Centipeda aotearoana N.G.Walsh

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledonous composites

## NVS CODE

CENAOT

## CHROMOSOME NUMBER

2n = 20

## CURRENT CONSERVATION STATUS

2012 | At Risk – Naturally Uncommon

## PREVIOUS CONSERVATION STATUSES

2009 | At Risk – Naturally Uncommon

2004 | Data Deficient

## DISTRIBUTION

Endemic. New Zealand, Three kings, North and South Islands.

## HABITAT

Open damp ground, lake, tarn and river margins, ephemeral wetlands, and drains.

## FEATURES

Annual to short-lived perennial prostrate herb forming circular patches 10-30 cm diameter. Stems trailing, prostrate, sparsely to moderately covered in cottony-hairs. Leaves yellow-green, obovate to spatulate in outline, 4-8(-12) mm long, 1.5-4 mm wide, margins with 1-3 acute to blunt teeth, rarely entire. Inflorescence a single leaf-opposed, unstalked hemispherical, capitula (daisy-like structure), domed, 3-4(-7) mm diameter, female (outer) florets c.60-120 in 3-5 rows, bisexual flowers 8-16. Fruiting heads persistent. Cypselas (seeds) brown, club-shaped or narrowly cylindrical, 1.2-1.7 mm long, 4-angled with prominent ribs at each of the angles, smooth or finely scabrid in lower portion, glandular hairs sparse or absent, non-glandular hairs spreading or subappressed, confined to ribs.



In cultivation ex Waitakere. Oct 2007.

Photographer: Jeremy Rolfe



Te Hapua, nr Otaki. Photographer: Colin Ogle

## SIMILAR TAXA

Most likely to be confused with *C. elatinoidea* (Less.) Benth. et Hook., and *C. cunninghamii* (DC.) A. Braun et Asch. *C. elatinoidea* differs by its hairless or slightly cob-webbed branchlets, shortly stalked capitula, and narrowly obovate cypselas with rounded apices. *Centipeda cunninghamii* differs by its erect growth form, leaves longer than 10 mm, and by possessing 20 or more bisexual florets in the capitula. *C. aotearoana* can be immediately distinguished by its hemispherical fruiting capitula.

## FLOWERING

Herbarium specimens and field notes indicate it may flower from mid summer through to autumn but plants may continue flowering into winter.

## FRUITING

Herbarium specimens suggest that fruit is produced in late summer to autumn.

## LIFE CYCLE

Cypselae dispersed by wind, attachment and granivory (Thorsen et al., 2009).

## PROPAGATION TECHNIQUE

Easily grown from rooted pieces and fresh seed.

## THREATS

*Centipeda aotearoana* was described by Australian Botanist Neville Walsh in 2001. At the time of its description the comment was made that this species does not appear to be rare. Current indications are that *C. aotearoana* is probably a naturally sparse, opportunistic species

## ETYMOLOGY

**centipeda:** From the Greek word for one hundred feet

**aotearoana:** From the Maori name for New Zealand (although originally the name only referred to the North Island). Derived from the Maori *ao* 'cloud, daytime, world' and *tea* 'white' and *roa* 'long', usually translated as 'land of the long white cloud', a reference to the appearance of the island from the sea.

## NOTES ON TAXONOMY

Collectively the four species now recognised from New Zealand were all regarded by Allan (1961) as *C. orbicularis*, a later synonym of *C. minima*. Webb et al. (1988) were the first to recognise *C. minima* and *C. cunninghamii* as present in New Zealand.

## ATTRIBUTION

Fact sheet prepared for NZPCN by P. J. de Lange 5 May 2005. Description adapted from Walsh (2001).

## REFERENCES AND FURTHER READING

Deverson, T, Kennedy G. 2005. *The New Zealand Oxford Dictionary*. Oxford University Press: Victoria.  
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  
Walsh, N.G. 2001: A revision of *Centipeda* (Asteraceae). *Muelleria* 15: 33-64.  
Webb, C.J.; Sykes, W.R.; Garnock-Jones, P.J. (eds). *Flora of New Zealand*. Vol. IV. Christchurch, Botany Division, D.S.I.R. 1365 p.

## CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Centipeda aotearoana* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.

<https://www.nzpcn.org.nz/flora/species/centipeda-aotearoana/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/centipeda-aotearoana/>