



# 2022 NZPCN Conference: Drylands Field Trip notes - Butterfields



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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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### Geomorphology

Geomorphically, this site and the broader surrounding terraces are a complex of two, different-aged, glacial moraine and outwash terraces, derived from glaciers advancing down the Lake Hawea basin during the late Pleistocene – see accompanying map. We will promenade on the Luggate Advance (140 000 yr) and the Albert Town Advance (80 000 yr) and be within cooe of the Mt Iron Advance (23 000 yr) and Hawea Advance (18 000 yr). Older advances are evident via arm-waving in the wider landscape.

### Hydrology

The wetland occupies a shallow, depression-channel formed as an oxbow-cut-off-meander of the nearby Hawea River. The water is derived from artesian springs at the base of the bordering, terrace-scarp. The down-stream pond/lake is an artificial impoundment created in 1961 by Albert John Butterfield, a local farmer, desiring trout habitat; the trout were unimpressed.

### Flora and Vegetation

Like much of the semi-natural, outwash stony terraces of the upper Clutha River/Mata Au basin, the Butterfields Reserve area is being rapidly colonised by kānuka (predominantly *Kunzea serotina*). The Central Otago-Lakes Branch of Forest & Bird have undertaken native vegetation enhancement planting amongst the naturally-regenerating kānuka woodland/forest. The highly variable survival outcomes for the broad range of species and their targeted microsites sourced from the Te Kakano Nursery offers many lessons for future enrichment planting projects – a fertile discussion topic for the day.

On a similar terrace landform to Butterfields is the Hikuwai Conservation Area, also protecting kānuka woodland on stony outwash terraces bordering the Clutha River/Mata Au. This reserve harbours a rich flora of spring annual herbs in light gaps and beneath the kānuka – *Myosotis hikuwai* (endemic), *M. brevis*, *M. glauca* and *Crassula mataikona*. Unfortunately, early December is seasonally too late to experience this array of hand-and-knees miniatures, so we will experience this reserve via a long vista.

# Muehlenbeckia ephedroides

## SYNONYMS

None

## FAMILY

Polygonaceae

## AUTHORITY

Muehlenbeckia ephedroides Hook.f.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Lianes & Related Trailing Plants - Dicotyledons

## NVS CODE

MUEEPH

## CHROMOSOME NUMBER

2n = 20

## CURRENT CONSERVATION STATUS

2018 | Threatened – Nationally Vulnerable

## PREVIOUS CONSERVATION STATUSES

2012 | At Risk – Declining | Qualifiers: PD, Sp

2009 | At Risk – Declining | Qualifiers: PD, Sp

2004 | Sparse

## DISTRIBUTION

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

## HABITAT

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



In cultivation ex Pencarrow. Photographer: Jeremy Rolfe



In cult. ex Birdlings Flat. Sep 2008. Photographer: Colin Ogle

## FEATURES

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

## SIMILAR TAXA

None. The near leafless, dark grey to grey-black, rush-like stems, untidy, sprawling mass of seemingly dead stick and twig like branches and stems are unique to this species.

## FLOWERING

November - June

## FLOWER COLOURS

Green, White

## FRUITING

November - June

## PROPAGATION TECHNIQUE

Easy from fresh seed, rooted pieces and semi-hardwood cuttings. An unusual plant that makes an excellent ground cover in sunny, free draining sites. Does not like much shade. Once established very drought tolerant. An intriguing plant that also makes a great pot plant.

## THREATS

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

## ETYMOLOGY

**muehlenbeckia**: Named after a botanist named Muehlenbeck

**ephedroides**: Like ephedra, the horse-tail rush

## ATTRIBUTION

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

## NZPCN FACT SHEET CITATION

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

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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/muehlenbeckia-ephedroides/>

# Mazus novaezeelandiae subsp. impolitus f. impolitus

## FAMILY

Mazaceae

## AUTHORITY

*Mazus novaezeelandiae* subsp. *impolitus* Heenan f. *impolitus*

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

## CHROMOSOME NUMBER

2n = 38

## CURRENT CONSERVATION STATUS

2018 | Threatened – Nationally Endangered

## PREVIOUS CONSERVATION STATUSES

2012 | Threatened – Nationally Vulnerable | Qualifiers: DP

2009 | Threatened – Nationally Vulnerable | Qualifiers: DP

2004 | Serious Decline

## DISTRIBUTION

Endemic to New Zealand. North and South Island, Marlborough, Canterbury and Otago.

## HABITAT

*M. novaezeelandiae* subsp. *impolitus* prefers coastal sites, particularly damp hollows and sand flats, amongst sandy turf and coastal pasture species; but has also been found inland on river gravels in Otago. Swamp and stream margins, soggy ground, river flats beneath tawa and kahikatea.

## FEATURES

A perennial, creeping herb forming compact, leafy rosettes, leaves spoon-shaped, dark green to yellow-green 20–75 mm long. The margins of the leaves may be pigmented brown. The erect inflorescence is often held well above the foliage and may bear from 1 to 5 Mimulus-like flowers, these are white with a yellow throat. It is distinguished from subsp. *novaezeelandiae* by its dull green leaves that are hairless or only sparsely hairy.

## SIMILAR TAXA

*Mazus pumilio* which has blue or lilac flowers and a finely toothed leaf margin. This predominantly Australian species is known in New Zealand from only one site in Northland, but is now sold by many garden centres as *M. novaezeelandiae*.

## FLOWERING

Flowering occurs in November.

## FLOWER COLOURS

White, Yellow



Dwarf musk. Photographer: Andrew Townsend



Wanaka. Photographer: John Barkla

## FRUITING

Fruiting capsules are found from December to April.

## THREATS

Very susceptible to disturbance, habitat clearance and modification including stock trampling.

## ETYMOLOGY

**mazus:** Tear (after protuberance on throat of flower)

**novaezeelandiae:** Of New Zealand

**impolitus:** Unpolished, matt

## Where To Buy

## ATTRIBUTION

Fact Sheet prepared for NZPCN by P.J. de Lange (30 August 2003). For more information see Heenan (1998)

## REFERENCES AND FURTHER READING

Heenan, P. B. 1998: *Mazus novaezeelandiae* (Scrophulariaceae): taxonomy, distribution, habitats, and conservation. *New Zealand Journal of Botany* 36(3): 407-416.

## NZPCN FACT SHEET CITATION

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

<https://www.nzpcn.org.nz/flora/species/mazus-novaezeelandiae-subsp-impolitus-f-impolitus/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/mazus-novaezeelandiae-subsp-impolitus-f-impolitus/>