

Isoetes alpina

COMMON NAME

Alpine quillwort

FAMILY

Isoetaceae

AUTHORITY

Isoetes alpina Kirk

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Lycophytes (clubmosses, selaginella, quillworts)

CHROMOSOME NUMBER

2n = 22

CURRENT CONSERVATION STATUS

2017 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2012 | Not Threatened

2009 | Not Threatened

2004 | Not Threatened

DISTRIBUTION

Endemic. New Zealand: North and South Islands from the headwaters of the Waikato River and Lake Taupo south (near Whakamaru) south. Most common in the montane lakes, tarns and slow-flowing streams of the South Island.

HABITAT

Montane to alpine, 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.

WETLAND PLANT INDICATOR STATUS RATING

OBL: Obligate Wetland

Almost always is a hydrophyte, rarely in uplands (non-wetlands).



L. Rotoroa, Nelson. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.



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DETAILED DESCRIPTION

Aquatic, heterosporous, robust 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 70, dark green, usually evenly septate, septae forming air chambers; lamina 50-250-500 (-750) mm long, linear to linear-filiform, tapered to a finely acute (rarely subacute to obtuse) apex, base swollen, up to 10 mm wide. Leaf appendages ligulate, ligule broadly triangular 1.0-1.4 mm long, located above the sporangium on the adaxial side. Sporangia adaxially located in pockets in leaf bases, large (up to 5 mm long) and conspicuous, oblong, heterosporous, Megaspores grey-white, mostly smooth, rarely minutely and obscurely tubercled; microspores minute, numerous.

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 (mostly) 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.

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).

alpina: From the Latin alpes 'the Alps', refers to plants growing in mountainous areas

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

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

NZPCN FACT SHEET CITATION

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MORE INFORMATION

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