

Polystichum neozelandicum subsp. zerophyllum

COMMON NAME

shield fern

SYNONYMS

Aspidium zerophyllum Colenso, *Polystichum richardii* (Hook.) J.Sm.

FAMILY

Dryopteridaceae

AUTHORITY

Polystichum neozelandicum subsp. *zerophyllum* (Colenso) Perrie

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Ferns

NVS CODE

POLNSZ

CHROMOSOME NUMBER

$2n = c.328$

CURRENT CONSERVATION STATUS

2017 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2012 | Not Threatened

2009 | Not Threatened

2004 | Not Threatened

DISTRIBUTION

Endemic. New Zealand: North Island (ranging from Taupo and the southern Bay of Plenty southwards (but extent of overlap with *P. neozelandicum* subsp. *neozelandicum* not clear), South Island, Stewart Island/Rakiura, Chatham Islands.

HABITAT

Coastal to montane. Common fern of forested hillsides and banks, coastal cliff faces (under scrub), usually in well-lit conditions. It has also extended its range into urban situations where it sometimes a feature of roadside banks and cuttings.



Mataroa, Taihape. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.



Mataroa, Taihape. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.

DETAILED DESCRIPTION

Rhizomes short, erect. **Stipes** 100–420 mm long. Stipes and rachises moderately to densely scaly. **Scales** obviously scale-like to the naked-eye; usually acicular-lanceolate; usually widest in the basal third of length; those from the stipe-rachis junction usually 135–570 µm wide at mid length; mid to dark brown, often appearing black to the naked eye; apex tapering; margins almost always with projections which usually taper to cilia-like apices; underlain by smaller scales, including ‘arachnioid’ scales with fimbriate bases. **Lamina** 175–525 × 90–220 mm, bipinnate with the basal primary pinnae of some large fronds becoming tripinnate; usually forest green with primary and secondary costae blackish blue. **Primary pinnae** in 11–25 pairs, the longest 45–120 × 5–38 mm. **Secondary pinnae** stalked and free towards the base of primary pinnae, becoming sessile and adnate towards the apex of primary pinnae; with sharply pointed apices and usually additional marginal teeth and/or crenulations. **Sori** round. **Indusia** peltate, ± flat, ± round, with entire, although often undulate and/or scalloped, margins; persistent; central dark area moderately sized (5–30% surface area).

SIMILAR TAXA

According to Perrie (2003) the distributions of *P. neozelandicum* subsp. *neozelandicum* and subsp. *zerophyllum* do not overlap. Both subspecies are primarily distinguished by the size of the dark pigmented centre of the indusia, which in subsp. *neozelandicum* is usually larger in the former (Perrie 2003) viz, 15–60% surface area, and usually > c. 30% in subsp. *neozelandicum* and 5–30% surface area in subsp. *zerophyllum*. However, on the Chatham Islands at least, both subspecies are sympatric (de Lange et al. 2011). Some botanists have reported that the distinctions between the two subspecies overlap and that it may be better to regard *P. neozelandicum* as just the one species (C. Ecroyd pers. comm.). *Polystichum oculatum* is superficially similar. It is distinguished by its broad, often pentagonal scales, widely inserted and relatively broad pinnae, indusia with obvious dark centres, and relatively small spores. *Polystichum wawranum* is also somewhat similar. However it is distinguished by its hair-like scales, closely inserted and relatively long narrow pinnae, indusia mostly lacking obvious dark centres, and relatively small spores. *Polystichum wawranum* is often sympatric with both subspecies of *P. neozelandicum*.

PROPAGATION TECHNIQUE

Easily grown from fresh spores and transplants. However, often slow to establish. Does best in a shaded site planted within a deep, free draining humus-enriched fertile soil. *Polystichum neozelandicum* (either subspecies) is also an excellent pot plant.

ETYMOLOGY

polystichum: Many rows (of sori); from the Greek polus and stikhos; parallel rows of spore cases

WHERE TO BUY

Occasionally available, though often sold as *Polystichum richardii*.

ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange (13 November 2012). Description adapted from Perrie et al. (2003).

REFERENCES AND FURTHER READING

de Lange PJ, Heenan PB, Rolfe JR. 2011. Checklist of vascular plants recorded from Chatham Islands. Department of Conservation, Wellington, NZ. 57 p.

<https://www.doc.govt.nz/globalassets/documents/conservation/native-plants/chatham-islands-vascular-plants-checklist.pdf>

Perrie LR, Brownsey PJ, Lockhart PJ, Large MF. 2003. Evidence for an allopolyploid complex in New Zealand *Polystichum* (Dryopteridaceae). *New Zealand Journal of Botany* 41(2): 189–215.

<https://doi.org/10.1080/0028825X.2003.9512841>.

NZPCN FACT SHEET CITATION

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

MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/polystichum-neozelandicum-subsp-zerophyllum/>