

# Abrodictyum caudatum

## SYNONYMS

*Trichomanes caudatum* Brack.; *Cephalomanes caudatum* (Brack.) Bostock; *Macroglena caudata* (Brack.) Copel.

## FAMILY

Hymenophyllaceae

## AUTHORITY

*Abrodictyum caudatum* (Brack.) Ebihara et K. Iwats.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

No

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Ferns

## CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Critical | Qualifiers: DP, SO

## PREVIOUS CONSERVATION STATUSES

2012 | At Risk – Naturally Uncommon | Qualifiers: DP, OL, SO

2009 | Threatened – Nationally Critical

## DISTRIBUTION

Indigenous. New Zealand: Kermadec Islands (Raoul Island), North Island (Kerikeri, Auckland). Also the wider Pacific, eastern Australia (Queensland to Victoria), New Guinea, Malesia, New Caledonia, Fiji, Samoa, Tahiti and Rarotonga.

## HABITAT

Epiphytic on the trunks of wheki (*Dicksonia squarrosa*) in lowland, riparian forest.

## DETAILED DESCRIPTION

Diminutive, epiphytic fern. **Rhizome** long creeping 1–1.5 mm diameter, densely clothed with spreading bristle-like dark red-brown multicellular hairs. **FronDS** crowded toward rhizome apex, 10–20 mm long. **Stipes** 3–5 mm long, bearing two faint longitudinal ridges. **FronD lamina** deeply 1–2(–3) pinnatifid, broadly deltoid to narrowly ovate, 8–10(–12) mm wide, membranous, ± pale green; apex erect, ultimate segments linear, 1–3 mm long, 0.3–0.4 mm wide, ± glabrous. **Sori** inconspicuous, immersed in the apices of basal segments of secondary pinnae, involucre funneliform, 0.2–0.5(–1.0) mm long, 0.3–0.6 mm wide at apex, narrowly winged for most of length, ± narrowly triangular, mouth lobed 4×, lobes entire, spreading; receptacle exserted.



Kerikeri Falls. Photographer: Jeremy R. Rolfe, Date taken: 14/11/2010, Licence: CC BY.



Kerikeri Falls. Photographer: Jeremy R. Rolfe, Date taken: 14/11/2010, Licence: CC BY.

## SIMILAR TAXA

The mainland New Zealand form of *Abrodictyum caudatum* is superficially similar to *Polyphlebium endlicherianum* and *P. venosum*. From *Polyphlebium endlicherianum* it differs by its deltoid frond and by the lobed involucre of the fruiting receptacle. Further it differs by its ecology as *P. endlicherianum* is rarely found in this country as an epiphyte, while *Abrodictyum caudatum* in New Zealand, as elsewhere in the world, is strictly epiphytic. From *Polyphlebium venosum*, *Abrodictyum caudatum* differs by having a deltoid frond, and especially by the obvious lack of distinct veins within the fronds.

New Zealand plants of *Abrodictyum caudatum* may yet warrant formal recognition as a separate species or subspecies (B.S. Parris *pers. comm.*). In particular they are much smaller than this species usually is overseas, they have a less well defined creeping rhizomatous habit, and the fronds are much smaller and less divided than is usual for this species, furthermore the involucre is distinctly divided into 4 entire lobes (it is usually entire in *A. caudatum*). However, *Abrodictyum caudatum* is a highly variable species and sequences of the New Zealand plant are the same as samples of *A. caudatum* from Fiji so it seems best for now to place our plant there. Raoul Island *Abrodictyum caudatum* are different again and they would repay further study.

## FLOWER COLOURS

No flowers

## LIFE CYCLE

Fruiting material appears to be present in the New Zealand population throughout the year.

## PROPAGATION TECHNIQUE

Difficult—should not be removed from the wild.

## THREATS

Currently this species is known from two sites in mainland New Zealand, the Kerikeri population is present on < 10 wheki (*Dicksonia squarrosa*) in a small area of riparian forest. The host trees are at risk from flooding, weeds and, as they grow alongside a popular walking track, vandalism. The population has declined since it was first discovered in the late 1990s as some host trees have died. The population is being carefully monitored by the Department of Conservation. An Auckland population has recently been discovered, here it is found on one wheki tree, growing with *Hymenodon pilifer*, *Tmesipteris tannensis*, *Lepraria ulrikii* and other bryophytes (Ford, 2023). Both these populations were found by chance and it is very easily overlooked it is quite likely that further populations exist elsewhere in New Zealand. On Raoul Island (Kermadec Islands group) it is known from a single site near the summit of that island.

## ETYMOLOGY

**abrodictyum:** From the Greek habros 'delicate', 'pretty' and diktyon 'net', literally "delicate net"

**caudatum:** With a tail

## WHERE TO BUY

Not commercially available

## TAXONOMIC NOTES

NZPCN now follows Ebihara et al. (2006) in recognising *Abrodictyum* as distinct from *Trichomanes*—although Brownsey & Perrie (2016) rejected this idea, the generic segregation was adopted by the PPG I (2016) and is now widely followed throughout the world.

## ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange 10 March 2011 with modification to threats made by M. Ford (4/12/23). Description modified from Bostock & Spokes (1998) using measurements taken from the limited New Zealand herbarium material available. Notes on variability of *A. caudatum* in New Zealand from B.S. Parris (*pers. comm.*)

## REFERENCES AND FURTHER READING

- Bostock PD, Spokes TM. 1998. Hymenophyllaceae. *Flora of Australia 48, Ferns Gymnosperms and allied groups*: 116–148. ABRIS/CSIRO Victoria, Australia.
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- PPG 1: The Pteridophyte Phylogeny Group 2016. A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54: 563–603. <https://doi.org/10.1111/jse.12229>.

## NZPCN FACT SHEET CITATION

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

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/abrodictyum-caudatum/>