

Brownseya serpentina

COMMON NAME

bog clubmoss

SYNONYMS

Pseudolycopodiella serpentina (Kunze in Lehm.) Holub; *Lycopodium serpentinum* Kunze, *L. drummondii* Spring, *Lycopodium carolinianum* Hook.f., *Lycopodiella serpentina* (Kunze) B.Øllg.

FAMILY

Lycopodiaceae

AUTHORITY

Brownseya serpentina (Kunze) Li Bing Zhang, L.D.Sheph., D.K.Chen, X.M.Zhou et H.He

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

No

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Lycophytes (clubmosses, selaginella, quillworts)

NVS CODE

LYCSER

CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Vulnerable | Qualifiers: DP, RR, TO

PREVIOUS CONSERVATION STATUSES

2012 | Threatened – Nationally Endangered | Qualifiers: DP, RR, TO

2009 | Threatened – Nationally Vulnerable | Qualifiers: PD, RR, TO

2004 | Threatened – Nationally Vulnerable

DISTRIBUTION

Indigenous. New Zealand; North Island (formerly known from Kaimaumu and Motutangi Swamps and the Karikari Peninsula in the far north, and from Opuatia, Rukuhia, Komakorau and Moanatuatua peat bogs in Waikato; now known only from Ahipara and the Karikari Peninsula in Northland (it may still survive in Kaimaumu) and the Whangamarino wetlands and Kopouatai Peat Bog in Waikato). Australia (extremely uncommon, the best populations known are now found in Tasmania). New Caledonia (possibly extinct).

HABITAT

A coastal or lowland species. It is confined to naturally open nutrient starved, permanently damp ground or sites recently cleared by fire. It is intolerant of competition from taller plants. In New Zealand *Brownseya serpentina* is usually found in restiad-dominated peat bogs where it grows in open situations amongst mosses and liverworts. It has also been collected from water saturated clay within gum land at Ahipara.

WETLAND PLANT INDICATOR STATUS RATING

OBL: Obligate Wetland

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



Lycopodiella serpentina photographed at Ahipara Gum fields. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.



Kopouatai – *Lycopodiella serpentina* amongst *Goebelobryum*. Photographer: Peter J. de Lange, Licence: CC BY-NC.

DETAILED DESCRIPTION

Yellow-green to green, prostrate, shortly creeping clubmoss, forming diffuse patches to compact turf depending on local habitat conditions. **Roots** stout, peg-like, white. **Main stems** 20–200 mm long forking, rooting at intervals.

Aerial stems unbranched, 30–60 mm long, invariably surmounted by fertile cones. **Sterile leaves** spirally arranged, 0.4–0.6 mm long, linear, appressed, loosely imbricating on prostrate stems, spreading on aerial stems. **Cones** up to 30 mm long, solitary and terminal, erect, sessile, green when immature, turning yellow-green on maturity.

SIMILAR TAXA

This species could be confused with nutrient-starved forms of *Lateristachys lateralis* which commonly grows in association with *Brownseya serpentina*. From *Brownseya*, *Lateristachys lateralis* differs by the non-stalked (or shortly so) cones borne on sides of the erect stems.

FLOWERING

Cones can be present throughout the year but they are more commonly seen between August and May.

FLOWER COLOURS

No flowers

FRUITING

Cones can be present throughout the year but they are more commonly seen between August and May

PROPAGATION TECHNIQUE

Difficult. Should not be removed from the wild.

THREATS

Wetland drainage, stock trampling, fertiliser run-off from adjacent farmland, and vegetation succession on the less acidic Whangamarino are significant threats. The species is also a frequent target of fern collectors.

ETYMOLOGY

brownseya: Honouring Dr. Patrick J. Brownsey (1948–) based at Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand, for his floristic and taxonomic study of pteridophytes of New Zealand and neighboring regions

TAXONOMIC NOTES

Brownseya, currently a monotypic Australasian (Australia, New Caledonia, New Zealand) genus was erected by Chen et al. (2021) to accommodate this morphologically aberrant clubmoss, the basis for the decision, has a firm basis in molecular as well as morphological evidence, and is followed here.

WHERE TO BUY

Not commercially available.

ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange December 2003. Description adapted from Chinnock (1998) and Brownsey & Smith-Dodsworth (2000).

REFERENCES AND FURTHER READING

Brownsey PJ, Smith-Dodsworth JC. 2000. New Zealand Ferns and Allied Plants. David Bateman, Auckland, NZ. 168 p.

Chen D-K, Zhou X-M, Rothfels CJ, Shepherd LD, Knapp R, Zhang L, Lu NT, Fan X-P, Wan X, Gao X-F, He H, Zhang L-B. 2021. A global phylogeny of the Lycopodiaceae (Lycopodiales; lycophytes) with the description of a new genus, *Brownseya*, from Oceania. *Taxon* 71(1): 25–51. <https://doi.org/10.1002/tax.12597>.

Chinnock RJ. 1998. Lycopodiaceae. *Flora of Australia* 48, *Ferns Gymnosperms and allied groups*: 66–85. ABR/CSIRO Victoria, Australia.

NZPCN FACT SHEET CITATION

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

MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/brownseya-serpentina/>