

Alsophila cunninghamii

COMMON NAME

gully tree fern, slender tree fern, ponga

SYNONYMS

Cyathea cunninghamii Hook.f.

FAMILY

Cyatheaceae

AUTHORITY

Alsophila cunninghamii (Hook.f.) R.M.Tryon

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

No

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Ferns

NVS CODE

CYACUN

CHROMOSOME NUMBER

2n = 138

CURRENT CONSERVATION STATUS

2017 | Not Threatened

PREVIOUS CONSERVATION STATUSES

2012 | Not Threatened

2009 | Not Threatened

2004 | Not Threatened

BRIEF DESCRIPTION

Tall tree fern with green-stalked soft leaves to 3 m long. Trunk to 20 m tall, slender, old leaves fall off leaving just the base. Leaf stems covered in small red and white star-shaped hairs, star-tipped scales and pointed scales (lens needed). Sporangia arranged in small half capsules underneath leaves.

DISTRIBUTION

Indigenous. New Zealand: North Island (mainly western from Te Paki (Unuwhao Bush) south to Wellington), South Island (north-west and western side), Chatham Islands. Also Australia (Queensland, New South Wales, Victoria and Tasmania).

HABITAT

Coastal, lowland to montane in wet forests—especially along riversides, in gullies and in valley heads. An especially prominent species in karst country where it often fringes dolines and cave entrances.

WETLAND PLANT INDICATOR STATUS RATING

FACU: Facultative Upland

Occasionally is a hydrophyte but usually occurs in uplands (non-wetlands).



Cyathea cunninghamii. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.



An image of *Cyathea cunninghamii*.
Photographer: John Smith-Dodsworth, Licence: CC BY-NC.

DETAILED DESCRIPTION

Trunk to 20 m tall, 50–150–(450) mm diameter, usually solitary, rarely bifurcated near apex, slender, bearing dark brown oval stipe scars and toward the apex dark brown, appressed stipe stubs. **Stipes** slender, adaxially golden-brown to yellow, abaxially black-brown, rugose, bearing scales, scales variable, up to 35 × 1–3 mm, with entire, fragile margins devoid of spines, apex terminated by 1 mm long apical seta; some scales hyaline, chartaceous, dull or glossy, dark golden-brown, others distinctly thicker, dark brown, lustrous. **Fronds** to 3 m long, held horizontally with distal portion slightly decurved with the apex distinctly upturned; 3–4-pinnate, soft, adaxially dark green to yellow-green, abaxially paler; dead fronds persistent only on immature plants, otherwise dehiscing to leave a short stipe base stub which soon decays leaving a small oval stipe scar. **Longest primary pinnae** 350–600 × 15–20–(30) mm wide, borne in the middle of the frond with pinnae either side gradually decreasing in length toward distal and proximal portions of stipe; lobes widely spaced; most basal 1–2 pairs free, others connected by narrow wing, largest lobes deeply lobulate; under surfaces bearing red and white stellate hairs and scales ending in single or stellate spines. **Sori** 1 per lobule; indusium cucullate, completely investing young sorus; paraphyses scarce, short, apical on receptacle; spores golden yellow to golden brown when fresh. (Description adapted from Bostock (1998) and Brownsey & Smith-Dodsworth (2000) and based on measurements and notes made from fresh material).

SIMILAR TAXA

Closely related to *Alsophila kermadecensis* which is endemic to Raoul Island (Kermadec Islands) where *A. cunninghamii* is not present. In New Zealand proper *Alsophila cunninghamii* is most often confused with mamaku (*Sphaeropteris medullaris*) with which it often grows. *Sphaeropteris medullaris* differs by its stouter trunk covered in deep hexagonal stipe scars and by the stipe and lamina scales which bear numerous marginal spines which are consistently coloured dark, lustrous black, the fronds of *S. medullaris* tend to be arching with the apices decurved (never horizontal with a slightly decurved distal portion whose final apex is upturned), the indusia of mature *S. medullaris* sporangia is never cucullate and completely covers the sorus

FLOWERING

Not applicable—spore producing

FLOWER COLOURS

No flowers

FRUITING

Not applicable—spore producing

PROPAGATION TECHNIQUE

Easily cultivated provided it is planted in a deep, permanently moist (not waterlogged) soil, and in a semi-shaded site where it can grow up into the light. Plants respond well to regular applications of lime.

ETYMOLOGY

cunninghamii: Named after Allan Cunningham (1791–1839) who was an English botanist and explorer, primarily known for his travels to Australia (New South Wales) and New Zealand to collect plants. Author of *Florae Insularum Novae Zelandiae Precursor*, 1837–40 (Introduction to the flora of New Zealand).

ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange (23 March 2011). Description adapted from Bostock (1998) and Brownsey & Smith-Dodsworth (2000) and based on measurements and notes made from fresh material.

REFERENCES AND FURTHER READING

Bostock PD. 1998. Cyatheaceae. *Flora of Australia* 48, *Ferns Gymnosperms and allied groups*: 193–205. ABRS/CSIRO Victoria, Australia.

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

NZPCN FACT SHEET CITATION

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

MORE INFORMATION

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