

Alsophila kermadecensis

COMMON NAMES

Kermadec tree fern

BIOSTATUS

Native – Endemic taxon

CATEGORY

Vascular

STRUCTURAL CLASS

Ferns

SIMPLIFIED DESCRIPTION

Tall tree fern with green-stalked soft leaves to 4 m long inhabiting Raoul Island in the Kermadec Islands. Trunk to 20 m tall, slender, old leaves fall off whole. Leaf stems covered in small star-tipped scales and pointed scales (lens needed). Sporangia arranged in small half capsules underneath fronds.

DETAILED DESCRIPTION

Gracile tree fern up to 20 m tall. **Trunk** slender, often curved, covered with diamond-shaped stipe scars. **Stipes** slender, copiously invested in woolly hairs and pale brown to brown scales lacking marginal spines. **Fronds** arching from crown, up to 4 × 2 m, 3-pinnate; dead fronds falling. **Primary pinnae** up to 400 mm long, dark green to yellow-green above, subcoriaceous to membranous, undersides paler, bearing numerous scales; scale apices terminated by single or stellate spines. **Indusia** cucullate.

SIMILAR TAXA

On Raoul Island this species is sympatric with *Alsophila milnei*, from which it is easily distinguished by its taller, more slender trunk which lacks a persistent skirt of dead frond and bears numerous rhomboid stipe scars; by the soft rather than coriaceous, raching rather than horizontal fronds, and hood-shaped rather than cup-shaped indusia. The scales on the underside of the pinnae in *A. kermadecensis* are not curled and are terminated by a single or stellate spine. *Alsophila kermadecensis* is very closely related to *A. cunninghamii*, which is common in New Zealand proper and Australia. From that species *Alsophila kermadecensis* is best distinguished by its clean trunks which lack persistent stipe bases, less divided fronds and by the absence of stellate hairs on the frond undersides.

DISTRIBUTION

Endemic. Kermadec Islands, Raoul Island only

HABITAT

Confined to the higher parts of Raoul Island where it is a locally conspicuous component of ravine, gully, gorge and cliff forest in the wetter part of the island.

CURRENT CONSERVATION STATUS

2023 | At Risk – Naturally Uncommon | Qualifiers: IE, OL

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THREATS

Not Threatened. Listed because it is a narrow range naturally confined to Raoul Island. In the past it had been regarded as highly threatened but in recent years numerous plants of all different age classes have been found.



Raoul island, crater rim. Photographer: Bec Stanley, Licence: CC BY-SA.



Adult noted on road from Moumoukai Track to Accommodation House (Kermadec Islands, northern Kermadec Islands group, Raoul Island Fishing Rock to Boat Cove Road). Photographer: Peter J. de Lange, Date taken: 08/05/2009, Licence: CC BY.

DETAILED TAXONOMY

FAMILY

Cyatheaceae

AUTHORITY

Alsophila kermadecensis (W.R.B.Oliv.) R.M.Tryon

SYNONYMS

Cyathea kermadecensis W.R.B. Oliv.;

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

ECOLOGY

PROPAGATION TECHNIQUE

Easily grown from spores. Young plants are very cold sensitive and will not tolerate any frost, wind or drought. They are best planted in a warm, sheltered, permanently damp site. Once established this species is very fast growing.

OTHER INFORMATION

CULTIVATION

Occasionally available from specialist native and general plant nurseries.

ETYMOLOGY

kermadecensis: From the Kermadec Islands

NVS CODE

CYAKER

CHROMOSOME NUMBER

2n = 138

PREVIOUS CONSERVATION STATUSES

2017 | At Risk – Naturally Uncommon | Qualifiers: IE, OL

2012 | At Risk – Naturally Uncommon | Qualifiers: IE, OL

2009 | At Risk – Naturally Uncommon | Qualifiers: RC, IE, SO

2004 | Range Restricted

[Jump to current conservation status](#)

REFERENCING AND CITATIONS

REFERENCES AND FURTHER READING

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

ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange July 2009. Description adapted from Brownsey & Smith-Dodsworth (2000).

MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/alsophila-kermadecensis/>

PDF DATE

08 September 2025