

# Alsophila smithii

## COMMON NAME

kātote, Smith's tree fern, soft tree fern

## SYNONYMS

*Cyathea smithii* Hook. f.; *Hemitelia smithii* (Hook.f.) Hook. ex Hook. et Baker

## FAMILY

Cyatheaceae

## AUTHORITY

*Alsophila smithii* (Hook. f.) R.M.Tryon

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Ferns

## NVS CODE

CYASMI

## CHROMOSOME NUMBER

2n = 138

## CURRENT CONSERVATION STATUS

2017 | Not Threatened

## PREVIOUS CONSERVATION STATUSES

2012 | Not Threatened

2009 | Not Threatened

2004 | Not Threatened

## BRIEF DESCRIPTION

Tree fern with green-stalked soft leaves to 2.5 m long. Trunk to 5 m tall, skirted by the remains of old leaves. Leaf stems covered in small red and white star-shaped hairs and pointed scales (lens needed). Sporangia arranged in small round capsules underneath leaves.

## DISTRIBUTION

Endemic. New Zealand: North Island, South Island, Stewart Island/Rakiura, Chatham Islands, Auckland Islands.

## HABITAT

Lowland to montane (mostly montane in northern New Zealand), usually in dense forest where it is often a common subcanopy species, in wetter areas often extending in open scrub, gullies and valley heads, and within the bushline. In wetter areas *Alsophila smithii* often forms a tree-fern land in cut over and/or deer damaged indigenous forest, and it may be a common species in pine plantations.



Stokes Valley. Photographer: Jeremy R. Rolfe, Date taken: 22/09/2004, Licence: CC BY.



Remutaka Forest Park. Photographer: Jeremy R. Rolfe, Date taken: 25/11/2006, Licence: CC BY.

## WETLAND PLANT INDICATOR STATUS RATING

FACU: Facultative Upland

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

## DETAILED DESCRIPTION

**Trunks** up to 8 m tall, 50–150 mm diameter, covered with appressed, dark brown stipe stubs. **Stipes** slender, pale to dark brown, finely rugose, bearing dark red-brown scales with entire margins devoid of spines. **Fronds** up to 2.5 m long, held horizontally, 3-pinnate, soft, delicate (wilting readily if picked or drought stressed), adaxially dark glossy green, abaxially paler; midribs of dead fronds long persistent as a short skirt around trunk. **Longest primary pinnae** 250–500 mm long, abaxial surface bearing numerous red and white stellate hairs, and scales with entire or sparingly spinose margins. **Indusia** saucer-shaped, surrounding sori only at bases when mature. (Description modified from Brownsey & Smith-Dodsworth (2000)).

## SIMILAR TAXA

Easily recognised by the soft, delicate fronds, persistent grass-like skirt of dead stipes and rachises, and by the stipe and frond red-brown scales. Young plants are often confused with *Alsophila cunninghamii* which often grows in the same habitats. The scales of *Alsophila cunninghamii* are more variable than those of *A. smithii*, often golden-brown to yellow and terminated by a short (1 mm long) stiff bristle like seta.

## FLOWERING

N.A.

## FLOWER COLOURS

No flowers

## FRUITING

N.A.

## PROPAGATION TECHNIQUE

Easily grown but needs shelter from strong winds and must never be allowed to dry out. Does better in wetter parts of the country.

## ETYMOLOGY

**smithii**: After the British botanist John Smith (1798-1888) or Stephenson Percy Smith (1840-1922).

## ATTRIBUTION

Fact sheet prepared for NZPCN by P.J. de Lange (Updated 23 March 2011). Description modified from 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.

## NZPCN FACT SHEET CITATION

Please cite as: de Lange, P.J. (Year at time of access): *Alsophila smithii* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/alsophila-smithii/> (Date website was queried)

## MORE INFORMATION

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