

Todea barbara

COMMON NAME

royal fern, hard todea, king fern

SYNONYMS

Acrostichum barbarum L., *Osmunda barbara* Thunberg, *Todea africana* Willd.

FAMILY

Osmundaceae

AUTHORITY

Todea barbara (L.) T. Moore

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

No

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Ferns

CHROMOSOME NUMBER

$2n = 44$

CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Vulnerable | Qualifiers: SO

PREVIOUS CONSERVATION STATUSES

2012 | Threatened – Nationally Endangered | Qualifiers: SO

2009 | Threatened – Nationally Endangered | Qualifiers: SO

2004 | Threatened – Nationally Endangered

DISTRIBUTION

Indigenous. New Zealand: North Island (Poor Knights Islands and locally from Te Pahi south to about Dargaville and the Bay of Islands). Common in South Africa and Australia.

HABITAT

Coastal to lowland areas. A species of gumland scrub, coastal shrublands, and streamside margins in open forest, occasionally found on coastal cliffs or on serpentinite. Often found on bare claybanks or fringing sinkholes in gumland scrub.

DETAILED DESCRIPTION

Extremely, robust, coriaceous ferns producing trunks up to 1 m tall. **Stipes** smooth, 150–600 mm, yellow brown, with ear-like lobes at base. **Fronde**s persistent, coriaceous, 0.25–0.65 × 1.2–3.5 m, ovate, elliptic to lanceolate, 1-pinnate-pinnatifid to 2-pinnate, glabrous or finely pubescent along veins, glossy, upper surface pale green, yellow-green to golden yellow, undersides similar but paler. **Pinnae** 20–60 × 4–10 mm, lanceolate, narrowly oblong, to ovate; pinnules broadly attached at base, 15–80 × 4–9 mm, oblong-elliptic, apex acute, margins toothed; sporogenous pinnae occasionally shorter than sterile ones, restricted to lower part of frond, on lower pinnules of primary pinnae, at first in discrete groups, then confluent, green turning reddish brown.



Plants in the wild, Spirits Bay. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.



Close up of *Todea barbara* frond showing sporangia. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.

SIMILAR TAXA

A well marked species quite unlike any other indigenous or cultivated species of fern present in New Zealand. However, there has been some confusion with the introduced royal fern, *Osmunda regalis* L., perhaps because both species share the same vernacular. *Osmunda regalis* is an aggressive species, which is readily distinguished from *Todea* by the deciduous habit, softer pale-green to blue-green fronds, and by the fertile portion of the frond occurring as a distinct branchlet at the apex of the frond.

FLOWERING

Not applicable—spore producing

FLOWER COLOURS

No flowers

FRUITING

Not applicable—spore producing

PROPAGATION TECHNIQUE

Very easily grown in any sunny, frost-free site. Will tolerant quite extreme conditions including very dry and very wet habitats but does best in a sunny, free draining soil.

THREATS

Threatened by habitat loss through land clearance and competition from weeds such as *Hakea* spp. and pampas grass (*Cortaderia selloana* (Schult. et Schult.f.) Asch. et Graebn.). Some populations have been eliminated by people collecting plants for the horticultural trade. At least one major population, that on Aorangi Island, Poor Knights Islands group is threatened by natural succession from open shrubland to coastal forest.

ATTRIBUTION

Fact Sheet prepared for NZPCN by P.J. de Lange 1 August 2003. Description based on Chinnock (1998) but see also de Lange et al. (2010)

REFERENCES AND FURTHER READING

Chinnock R.J. 1998. Osmundaceae. *Flora of Australia* 48, *Ferns Gymnosperms and allied groups*: 112–115.

ABRS/CSIRO Victoria, Australia.

de Lange PJ, Heenan PB, Norton DA, Rolfe JR, Sawyer JWD. 2010. Threatened Plants of New Zealand. Canterbury University Press, Christchurch. 471 p.

NZPCN FACT SHEET CITATION

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MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/todea-barbara/>