

# 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

2018 | Threatened – Nationally Vulnerable

## PREVIOUS CONSERVATION STATUSES

2012 | Threatened – Nationally Endangered | Qualifiers: SO

2009 | Threatened – Nationally Endangered | Qualifiers: SO

2004 | Threatened – Nationally Endangered

## DISTRIBUTION

Indigenous. In New Zealand confined to the North Island, where it grows on the Poor Knights Islands and locally from Te Paki 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.

## FEATURES

Extremely, robust, coriaceous ferns producing trunks up to 1 m tall. Stipes smooth, 150–600 mm, yellow brown, with ear-like lobes at base. Fronds 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



Close up of *Todea barbara* frond showing sporangia. Photographer: John Smith-Dodsworth

### **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* 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**

None (spore producing)

### **FLOWER COLOURS**

No flowers

### **FRUITING**

None (spore producing)

### **PROPAGATION TECHNIQUE**

Very easily grown in any sunny, frost-free site. Will tolerate 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 Island 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. Pp. 112–115. *Flora of Australia* 48: Ferns, Gymnosperms and Allied Groups. Melbourne: ABRS/CSIRO Australia.

de Lange, P.J.; Heenan, P.B.; Norton, D.A.; Rolfe, J.R.; Sawyer, J.W.D. 2010: *Threatened Plants of New Zealand*. Canterbury University Press, Christchurch.

### **NZPCN FACT SHEET CITATION**

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

### **MORE INFORMATION**

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