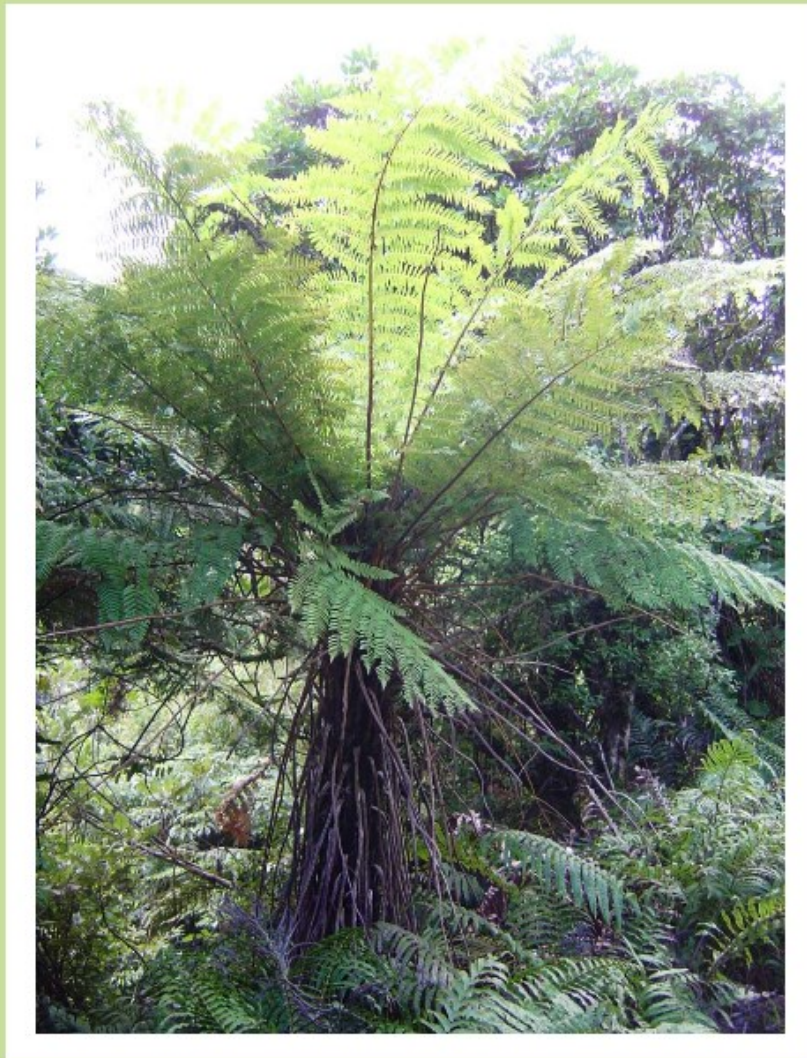




# Ferns of Queen Elizabeth Park, Kapiti



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Made on the New Zealand Plant Conservation Network website – [www.nzpcn.org.nz](http://www.nzpcn.org.nz)

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These ferns either occur already, or probably should occur in this park as determined by regional occurrences, habitat etc.

# *Adiantum aethiopicum*

## Common Name(s):

maidenhair, makaka, true maidenhair

## Current Threat Status (2012):

Not Threatened

## Distribution:

Indigenous. New Zealand. North and South Islands from Te Pahi south to the Waikato and Bay of Plenty, thence rather localised and often absent from large areas until the Wairarapa. Recorded once from the Buller River gorge in the South Island but not seen recently in the South Island. Also New Caledonia, Australia and South Africa.

## Habitat:

Coastal to lowland. Despite its delicate appearance *Adiantum aethiopicum* is often found in very dry, exposed sites in short grassland, on clay pans, stable dunes systems, open scrub and forest. It is also occasionally found in periodically flooded ground in riparian forest and on damp clay banks in shaded gullies.

## Features\*:

Tufted, stoloniferous fern. Rhizome long-creeping (stoloniferous), to 3 mm diameter; wiry, c.1.5 mm diameter; scales chartaceous, yellow, transparent, broadly deltoid, entire, often spirally curled. Fronds yellow-green or bright green, densely tufted, or sometimes scattered along stolons up to 750 mm long. Stipe to 400 mm long, glossy, glabrous, red-brown, bearing conspicuous basal scales similar to those of rhizome. Lamina 120-400 × 50-230 mm, 3-pinnate, ovate to deltoid. pinnae narrowly deltoid. Pinnules round to flabellate; distal margin sometimes shallowly lobed; lobe margins entire or obscurely dentate when sterile; stalks not articulate. Sori 1-5 along the base of the distal margins, 1(-2) per lobe; soral flaps reniform, lunate to sublunate, usually at the base of a shallow sinus (notch) on the pinnule margin. Spores 64 per sporangium, with largest diameter (34.6-)41.1(-53.6) microns.

## Flowering:

Not applicable - spore producing

## Fruiting:

Not applicable - spore producing

## Threats:

Not Threatened

## \*Attribution:

Fact Sheet Prepared for NZPCN by P.J. de Lange (Updated 4 May 2011). Description adapted from Bostock (1998).

## References and further reading:

Bostock, P.D. 1998: Adiantaceae. Flora of Australia 48: 248-263.

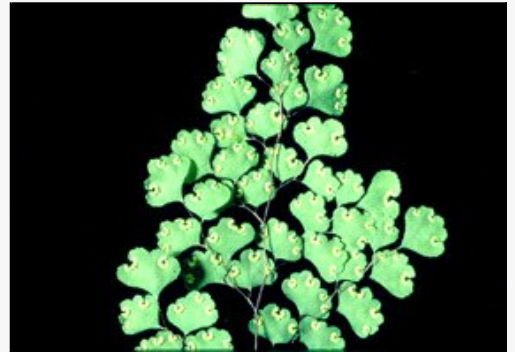
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 2009 Vol. 11 No. 4 pp. 285-309

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2045](http://nzpcn.org.nz/flora_details.asp?ID=2045)



**Caption:** Stony Bay, Coromandel  
**Photographer:** John Smith-Dodsworth



**Caption:** Stony Bay, Coromandel  
**Photographer:** John Smith-Dodsworth

# *Adiantum cunninghamii*

## Common Name(s):

Common maidenhair, Cunninghams maidenhair

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. Kermadec, Three Kings, North, South, Stewart and Chatham Islands.

## Habitat:

Common throughout in coastal and lowland forest, occasionally extending into upper montane forests. Usually found on banks, cliff faces and amongst boulders - especially on limestone, marble, basalt or andesite rocks.

## Features\*:

Tufted, terrestrial fern. Rhizomes, short- to long-creeping. Stipes and rachises glabrous. Fronds adaxially dark green or glaucescent, abaxially paler, glaucous green, ovate to elliptic. Lamina 100-350 x 50-240 mm, 2-3-pinnate at base, Ultimate segments stalked to one side, oblong, tending to curve acroscopically at apices, upper margins irregularly toothed, lower margins smooth, glabrous. Indusia kidney-shaped, glabrous.

## Flowering:

Not applicable - spore producing

## Fruiting:

Not applicable - spore producing

## Threats:

Not Threatened.

## \*Attribution:

Fact Sheet Prepared for NZPCN by: P.J. de Lange (June 2005).  
Description adapted from Brownsey & Smith-Dodsworth (2000).

## References and further reading:

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 2009 Vol. 11 No. 4 pp. 285-309

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1475](http://nzpcn.org.nz/flora_details.asp?ID=1475)



**Caption:** Sori

**Photographer:** Jeremy Rolfe



**Caption:** Coromandel

**Photographer:** John Smith-Dodsworth

# *Asplenium appendiculatum* subsp. *maritimum*

**Common Name(s):**  
Coastal Spleenwort

**Current Threat Status (2012):**  
Not Threatened

**Distribution:**  
Endemic. New Zealand: North and South Islands – mainly around the Cook Strait but known as far south as Banks Peninsula and Kahurangi Point, and as far north as the Waitakere coastline, west of Auckland.

**Habitat:**  
Coastal. Usually on exposed cliffs and rocks subject to salt spray, or amongst coastal scrub.

**Features\*:**  
Rhizome short, erect, bearing dark brown subulate scales up to  $15 \times 2$  mm. Stipes 50-150 mm long, brown below, green above, covered in subulate to narrowly triangular scales with long filiform apices. Laminae relatively short and broad, elliptic,  $100-250 \times 70-200$  mm, dark green, leathery or very thick and fleshy, slightly stiff and upright, bi- to tripinnate. Raches green, scaly, prominently ridged. Pinnae 7-15 pairs, those at the base ovate, those above very narrowly ovate, acute, stalked,  $30-100 \times 5-30$  mm, covered on underside in tiny scales. Upper pinnules linear, acute, entire and sessile; lower pinnules ovate to elliptic and pinnatifid, up to  $20 \times 10$  mm. Sori submarginal, 2-7 mm long.

**Flowering:**  
Not applicable - spore producing

**Fruiting:**  
Not applicable - spore producing

**Threats:**  
Not Threatened

**\*Attribution:**  
Fact Sheet prepared for NZPCN by P.J. de Lange (3 February 2005): Description from: Brownsey (1977)

**References and further reading:**  
Brownsey, P.J. 1977: A taxonomic revision of the New Zealand species of *Asplenium*. *New Zealand Journal of Botany* 15: 39-86.

**For more information, visit:**  
[http://nzpcn.org.nz/flora\\_details.asp?ID=1519](http://nzpcn.org.nz/flora_details.asp?ID=1519)



**Caption:** Moa Point, Wellington  
**Photographer:** John Smith-Dodsworth



**Caption:** Moa Point, Wellington  
**Photographer:** John Smith-Dodsworth

# *Asplenium bulbiferum*

## Common Name(s):

Hen and chicken fern, pikopiko, mother spleenwort

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. North, South, Stewart and Chatham Islands

## Habitat:

Coastal to subalpine. Usually in lowland forest where it is a common species of the ground-layer, especially in high rainfall areas. Commonly associated with riparian forest, and as a species of base-rich substrates. Frequently sympatric and so commonly forming hybrids with other asplenia. It is commonly sympatric with *A. gracillimum* Colenso.

## Features\*:

Rhizome short, stout, erect, bearing ovate scales up to  $15 \times 5$  mm. Stipes 50-300 mm long, brown on underside, green above, stout, covered in small brown ovate scales. Laminae lanceolate to elliptic, 0.15-1.20 m, 70-300 mm, bi- to tripinnate, sometimes bearing bulbils. Raches pale green to yellow-green, scaly, prominently grooved, usually bulbiferous. Pinnae 15-30 (or more) pairs, ovate to narrowly ovate, acuminate, shortly stalked,  $30-200 \times 10-50$  mm, scaly on underside, basal pair pointing downwards when fresh. Secondary pinnae sessile or shortly stalked, very narrowly elliptic to ovate or elliptic, obtuse, deeply serrate or sometimes almost pinnate, decreasing in size from base to apex, basal acroscopic pinnule often enlarged (up to  $40 \times 10$  mm). Ultimate pinnules narrowly oblong,  $\pm$  entire to crenate-serrate, up to 10 mm long. Sori numerous, broad, submarginal, 2-4 mm long.

## Flowering:

Not applicable - spore producing

## Fruiting:

Not applicable - spore producing

## Threats:

Not Threatened

## \*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange (3 February 2005). Description from: Brownsey (1977)

## References and further reading:

Brownsey, P.J. 1977: A taxonomic revision of the New Zealand species of *Asplenium*. *New Zealand Journal of Botany* 15: 39-86.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1520](http://nzpcn.org.nz/flora_details.asp?ID=1520)



**Caption:** *Asplenium bulbiferum*

**Photographer:** Wayne Bennett



**Caption:** Silverstream, Upper Hutt. Apr 2006.

**Photographer:** Jeremy Rolfe



# *Asplenium flabellifolium*

## Common Name(s):

butterfly fern, walking fern, necklace fern

## Current Threat Status (2012):

Not Threatened

## Distribution:

Indigenous. New Zealand: North and South mostly easterly from the Bay of Islands. Also present in Australia

## Habitat:

Coastal to subalpine. Usually in dry rocky ground, on lava and scoria fields, in grassy areas, within scrub, or along river banks in moderately open alluvial forest. Never found in deep shade or dense forest.

## Features\*:

Rhizome short, erect, bearing dark brown subulate scales with long filiform apices up to 6 × 5 mm. Stipes 1-10 cm long, green or yellow-green, slender, lacking scales. Laminae linear, 70-250 × 10-25 mm, light green, flaccid and often prostrate, pinnate. Raches green, weak, lacking scales, frequently extending beyond the uppermost pinnae and rooting at their apices. Pinnae 8-25 pairs, gradually decreasing in size from base to apex, fan shaped, crenate-dentate, cuneate at base, lowest 5-15 × 5-20 mm. Sori radiating along veins, up to 6 mm long.

## Flowering:

Not applicable - spore producing

## Fruiting:

Not applicable - spore producing

## Threats:

Not Threatened

## \*Attribution:

Description from Brownsey (1977)

## References and further reading:

Brownsey, P.J. 1977: A taxonomic revision of the New Zealand species of *Asplenium*. New Zealand Journal of Botany 15: 39-86.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2054](http://nzpcn.org.nz/flora_details.asp?ID=2054)



**Caption:** Sori

**Photographer:** John Barkla



**Caption:** Upper side of frond (left) and underside (right)

**Photographer:** John Barkla

# *Asplenium oblongifolium*

## Common Name(s):

Shining Spleenwort

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. New Zealand: Kermadec, Three Kings, North, South, and Chatham Islands. In the South Island known from the Marlborough sounds south to Hokitika and Banks Peninsula

## Habitat:

Coastal to montane (but mostly found within coastal and lowland areas). Occupying a diverse range of habitats from coastal cliffs and rock stacks to deep forest where it may be an epiphyte or grow on the ground.

## Features\*:

Rhizome stout, often forming a hard woody mass above ground, bearing pale brown, shiny, ovate, acuminate scales up to 30 × 7 mm. Stipes 80-200 mm long, dark brown, stout, densely covered in narrow scales with very long filiform apices. Laminae oblong to elliptic, 0.18-1.00 m long, 100-350 mm wide, dark green and glossy above, pinnate. Rachis brown below, green above, stout, slightly ridged, scaly. Pinnae 4-15 pairs, lanceolate to narrowly oblong or ovate, acuminate, crenate-serrate to ± entire, cuneate at base, 40-150 × 10-30 mm, frequently covered in very small hair-like scales on the underside. Sori up to 20 mm long, not reaching lamina edge.

## Flowering:

Not applicable - spore producing

## Fruiting:

Not applicable - spore producing

## Threats:

Not Threatened

## \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 29 August 2007. Description from Brownsey (1977).

## References and further reading:

Brownsey, P.J. 1977: A taxonomic revision of the New Zealand species of *Asplenium*. *New Zealand Journal of Botany* 15: 39-86.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1525](http://nzpcn.org.nz/flora_details.asp?ID=1525)



**Caption:** *Asplenium oblongifolium*

**Photographer:** Wayne Bennett



**Caption:** *Asplenium oblongifolium*

**Photographer:** Wayne Bennett

# *Asplenium obtusatum*

## Common Name(s):

shore spleenwort

## Current Threat Status (2012):

Not Threatened

## Distribution:

Indigenous. New Zealand: North (Cook Strait only), South, Chatham, Stewart, Snares, Antipodes, Auckland and Campbell Islands. Also South America as well as on many islands of the southern Atlantic and Pacific Oceans.

## Habitat:

A coastal fern confined in the northern part of its range to only the most exposed situations. Further south it grows not only on exposed cliffs but also in coastal vegetation where it often forms an important association with *Hebe elliptica* and *Blechnum durum*. Frequently associated with sea bird colonies.

## Features\*:

Rhizome stout, often forming a hard woody mass above ground, bearing brown, shiny, ovate, acuminate scales up to 15 x 4 mm. Stipes 40-300 mm long, dark brown at base, green above, stout, covered in ovate scales with acute or acuminate apices. Laminae ovate, 60-400 ~ 50-200 mm, dull green, very thick and fleshy, pinnate. Raches green, stout, prominently grooved and scaly. Pinnae 5-15 pairs, 20-narrowly ovate to oblong, obtuse to acute, crenate-serrate to entire, cuneate at base, 100 ~ 10-25 mm, scaly on the underside. Sori up to 10 mm long, not reaching to lamina edge.

## Flowering:

Not applicable - spore producing

## Fruiting:

Not applicable - spore producing

## Threats:

Not Threatened

## \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 29 August 2007. Description adapted from Brownsey (1977).

## References and further reading:

Brownsey, P.J. 1977: A taxonomic revision of the New Zealand species of *Asplenium*. *New Zealand Journal of Botany* 15: 39-86.

Ogle CC (1987): Taxonomic changes in *Asplenium* (Aspleniaceae; Filicales) in New Zealand. *New Zealand Journal of Botany* 25: 591-593.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2058](http://nzpcn.org.nz/flora_details.asp?ID=2058)



**Caption:** *Asplenium obtusatum*

**Photographer:** John Barkla



**Caption:** Sori, Taieri River Mouth

**Photographer:** John Barkla

# *Asplenium polyodon*

**Common Name(s):**

sickle spleenwort

**Current Threat Status (2012):**

Not Threatened

**Distribution:**

Indigenous. New Zealand: Kermadec, Three Kings, North, South, Stewart and Chatham Islands. Also Madagascar, Indo-Malaysian, Australia, and the Pacific Islands. In the South Island mainly western, in the east found as far south as Bull Creek on the coast south of Dunedin

**Habitat:**

Coastal to montane. In scrub and dense forest, often as an epiphyte but also on rock outcrops, fallen logs and on the ground.

**Features\*:**

Rhizome stout, short creeping, densely covered in red-brown, narrowly triangular scales up to 10 × 1 mm. Stipes 100-300 mm long, dark brown, stiff, densely covered in scales similar to but smaller than those of the rhizome. Laminae lanceolate, 250-500 (or more) × 100-200 mm, dark green and glossy above, paler and dull below, frequently pendulous, pinnate. Raches dark chocolate brown, very scaly. Pinnae 25 (or more) pairs, narrowly angular-ovate to ovate, sometimes with a large rounded basal acroscopic lobe, acuminate, doubly serrate, 50-100 × 10-20 mm, scaly and with prominent veins on underside. Sori often slightly curved away from the midrib, up to 2 mm long.

**Flowering:**

Not applicable - spore producing

**Fruiting:**

Not applicable - spore producing

**Threats:**

Not Threatened

**\*Attribution:**

Description from: Brownsey (1977).

**References and further reading:**

Brownsey, P.J. 1977: A taxonomic revision of the New Zealand species of *Asplenium*. *New Zealand Journal of Botany* 15: 39-86.

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 2009 Vol. 11 No. 4 pp. 285-309

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2059](http://nzpcn.org.nz/flora_details.asp?ID=2059)



**Caption:** *Asplenium polyodon*

**Photographer:** Wayne Bennett



**Caption:** *Asplenium polyodon*

**Photographer:** Wayne Bennett

## *Austroblechnum lanceolatum*

### **Common Name(s):**

Lance fern, nini, rereti

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Indigenous. New Zealand: North, South, Stewart and Chatham Islands. Also Australia and some Pacific Islands

### **Habitat:**

Coastal to montane. Usually inhabiting forested areas where it commonly grows along shaded river and streams sides, or within the spray zone of waterfalls; or forms a dominant part of the ground cover in riparian forest. It also very common in coastal and lowland forest on shaded cliff faces. It becomes especially luxuriant in limestone country where it is often a conspicuous fern of cave entrances and overhangs.

### **Features\*:**

Rhizome erect to suberect. Fronds dimorphic, 0.12–0.65 m long, 20–100 mm wide, emergent fronds green, often tinged pinkish, mature fronds dark green, often tinged maroon. Stipe 0.02–0.15 m long, stramineous, becoming purple-black towards base; scales linear-lanceolate, subulate, broadly based, entire, reddish-brown. Lamina narrowly linear-lanceolate, pinnate with 17–40 or more pairs of pinnae. Rachis and costae stramineous, often dark purplish towards base on undersurface, glabrous or with very sparse short acuminate red-brown scales. Sterile pinnae oblong, weakly falcate, obtuse or acuminate, 15–32 × 5–10 mm, adnate with broad bases; margins crenate to serrate; basal pinnae shorter, more obtuse. Fertile pinnae linear, 12.0–45.0 × 1.0–2.5 mm, reduced and often sterile towards lamina base.

### **Flowering:**

N.A.

### **Fruiting:**

N.A.

### **Threats:**

Not Threatened

### **\*Attribution:**

Fact sheet prepared for NZPCN by P.J. de Lange (19 September 2012). Description adapted from Chambers & Farrant (1998)

### **References and further reading:**

Chambers, T.C.; Farrant, P.A. 1998: Blechnaceae. *Flora of Australia* 48: 359–384. ABRS/CSIRO Australia, Victoria

Gasper, A.L.; de Oliveira Dittrich, V.A.; Smith A.R.; Salino, A. 2016: A classification for Blechnaceae (Polypodiales: Polypodiopsida): New genera, resurrected names, and combinations. *Phytotaxa* 275: 191–227.

Perrie, L.R.; Wilson, R.K.; Shepherd, L.D.; Ohlsen, D.J.; Batty, E.L.; Brownsey, P.J.; Bayly, M.J. 2014: Molecular phylogenetics and generic taxonomy of Blechnaceae ferns. *Taxon* 63(4): 745–758.

PPG 1: The Pteridophyte Phylogeny Group 2016: A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54: 563–603.

Pyner, T. 2017: A new classification of Blechnum. British Pteridological Society. <https://ebps.org.uk/new-classification-blechnum/>

Wilcox, M.; Warden, J. 2017: Botany of Hillsborough coast bush reserves, Manukau Harbour, Auckland. *Auckland Botanical Society Journal* 72: 32–46.

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1542](http://nzpcn.org.nz/flora_details.asp?ID=1542)



**Caption:** Stokes Valley, Lower Hutt. Mar 2013.

**Photographer:** Jeremy Rolfe



**Caption:** Blechnum chambersii

**Photographer:** Wayne Bennett

## *Austroblechnum membranaceum*

### **Current Threat Status (2012):**

Not Threatened

### **Threats:**

Not Threatened

### **References and further reading:**

Gasper, A.L.; de Oliveira Dittrich, V.A.; Smith A.R.; Salino, A. 2016: A classification for Blechnaceae (Polypodiales: Polypodiopsida): New genera, resurrected names, and combinations. *Phytotaxa* 275: 191–227.

Perrie, L.R.; Wilson, R.K.; Shepherd, L.D.; Ohlsen, D.J.; Batty, E.L.; Brownsey, P.J.; Bayly, M.J. 2014: Molecular phylogenetics and generic taxonomy of Blechnaceae ferns. *Taxon* 63(4): 745–758.

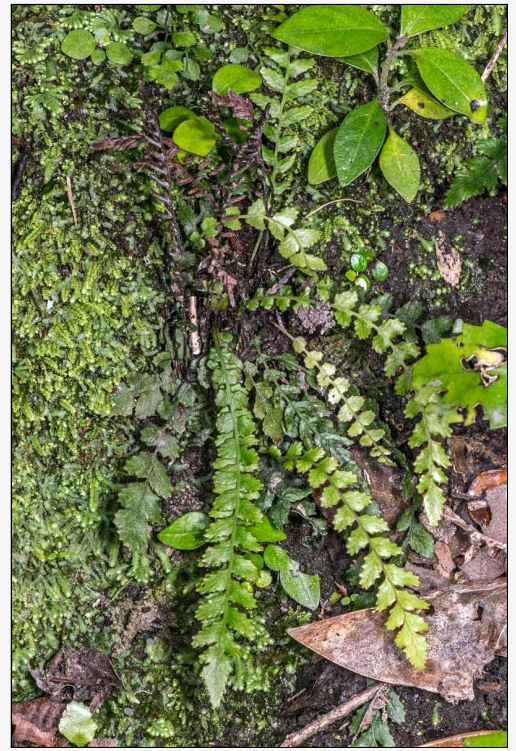
PPG 1: The Pteridophyte Phylogeny Group 2016: A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54: 563–603.

Pyner, T. 2017: A new classification of Blechnum. British Pteridological Society. <https://ebps.org.uk/new-classification-blechnum/>

Wilcox, M.; Warden, J. 2017: Botany of Hillsborough coast bush reserves, Manukau Harbour, Auckland. *Auckland Botanical Society Journal* 72: 32–46.

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1549](http://nzpcn.org.nz/flora_details.asp?ID=1549)



**Caption:** Eastbourne.  
**Photographer:** Jeremy Rolfe



**Caption:** Waikanae. May 1984.  
**Photographer:** Jeremy Rolfe

# *Cyathea dealbata*

## **Common Name(s):**

silver fern, ponga

## **Current Threat Status (2012):**

Not Threatened

## **Distribution:**

Endemic. From the Three Kings Islands south to Mahers Swamp in the west and Dunedin in the east of the South Island.

## **Habitat:**

Common, primarily coastal and lowland habitats but extending to lower montane. Preferring dry forest and shrubland, often under pines.

## **Features\*:**

Tree fern up to 10 m tall (very rarely without trunk). Trunk covered in long-persistent, peg-like, stipe bases. Stipes slender, silvery-white when young, maturing pale brown. Harsh to the touch, covered in pale-brown scales. Scales without marginal spines. Fronds up to 4 m long, horizontal, somewhat arching, 3-pinnate. Dead fronds falling. Longest primary pinnae 300-550 mm, pale green above, white below (very rarely pale green) below. Under surfaces sparingly clad in curly hairs. Indusia covering sori at maturity, opening at maturity to form a deep cup with a smooth rim.

## **Flowering:**

None (spore bearing)

## **Fruiting:**

None (spore bearing)

## **Threats:**

Not Threatened.

## **\*Attribution:**

Fact sheet prepared for NZPCN by P.J. de Lange March 2004.  
Description adapted from Brownsey & Smith-Dodsworth (2000).

## **References and further reading:**

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

## **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1776](http://nzpcn.org.nz/flora_details.asp?ID=1776)



**Caption:** *Cyathea dealbata*

**Photographer:** Wayne Bennett



**Caption:** *Cyathea dealbata*

**Photographer:** Wayne Bennett

# *Cyathea medullaris*

## Common Name(s):

black tree fern, mamaku, black mamaku

## Current Threat Status (2012):

Not Threatened

## Distribution:

Indigenous. Occurring from the Three Kings Islands south to Stewart and the main Chatham Islands. Uncommon in the drier eastern portion of the South Island, and apparently absent from Canterbury and Otago.

## Habitat:

Common in lowland forest throughout the North Island. Primarily in wetter coastal areas of the South Island.

## Features\*:

Tree fern up to 20 m tall. Trunk black covered with hexagonal stipe bases. Stipes thick, black, harsh to touch, covered in black scales. Scales with marginal spines. Fronds up to 5 m long, arching upwards from crown, 3-pinnate, leathery, dead fronds falling (except in very young plants). Longest primary pinnae 0.4-1 m long, undersurfaces bearing scales with marginal spines. Indusia completely covering sori at maturity, splitting irregularly.

## Flowering:

None (spore bearing)

## Fruiting:

None (spore bearing)

## Threats:

Not Threatened.

## \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange March 2004.  
Description adapted from Brownsey & Smith-Dodsworth (2000).

## References and further reading:

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

Esler, W.R. 1976. Succession of fronds of mamaku (*Cyathea medullaris*). *Wellington Botanical Society Bulletin* 39: 41-43

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2097](http://nzpcn.org.nz/flora_details.asp?ID=2097)



**Caption:** *Cyathea medullaris*  
**Photographer:** Wayne Bennett



**Caption:** *Cyathea medullaris*  
**Photographer:** Wayne Bennett



# *Cyathea smithii*

## Common Name(s):

katote, Smiths tree fern, soft tree fern

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. New Zealand: North, South, Stewart, Chatham and 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 *Cyathea 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.

## Features\*:

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).

## Flowering:

N.A.

## Fruiting:

N.A.

## Threats:

Not Threatened

## \*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, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1777](http://nzpcn.org.nz/flora_details.asp?ID=1777)



**Caption:** *Cyathea smithii*

**Photographer:** Wayne Bennett



**Caption:** Sori. Stokes Valley. Jan 2012.

**Photographer:** Jeremy Rolfe

# *Dicksonia fibrosa*

## Common Name(s):

wheki-ponga, wheki-kohoonga, golden tree fern, kuripaka

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. North, South, Stewart, and Chatham islands. Uncommon north of the Waikato River and Coromandel Peninsula

## Habitat:

Coastal to montane, Usually in forested situations, often in riparian sites or at gully heads.

## Features\*:

Stout, non-rhizomatous tree ferns, up to 10 m tall. Trunk up to 1 m diameter, very dense, composed of tightly interwoven, red-brown rootlets, entirely without aerial buds. Fronds numerous, persistent in death, and forming a dense, pendent skirt; in life erect and arching, forming a dense, tight crown 1.2–2.8–3.6 m long, 300–480(–600) mm wide. Stipes 100(–300) mm long, pale brown to red-brown (sometimes golden-brown), smooth, base densely clad with persistent, soft, light red-brown hairs; immature rachises initially clad in soft, pale brown hairs, otherwise glabrate. Lamina (0.9–)2.5–3.3 m long, lanceolate, (2–)3–4-pinnate, abaxially glossy dark green, adaxially paler, harshly coriaceous, primary pinnae 150–280(–300) mm long, lanceolate, long tapering, ± acuminate; secondary pinnae 40–50 mm long, lanceolate, close-set to ± overlapping. Barren pinnules 5 mm long, subfalcate, acute, toothed or entire, widened and confluent at base, shallowly concavo-convex; fertile pinnules rounded, concavo-convex lobes. Sorus ± ovoid to rounded, terminating veins at fertile pinnae margins; sporangia on raised receptacle, partially obscured by in rolled pinnae margin, and submembranous inner indusium. Spores golden brown to red-brown.

## Flowering:

Not applicable - spore producing

## Fruiting:

Not applicable - spore producing

## Threats:

Not Threatened

## \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (10 October 2010).  
Description by P.J. de Lange

## References and further reading:

Duguid, F. 1978. Annual growth of new fronds on *Dicksonia fibrosa*.  
Wellington Botanical Society Bulletin, 40: 48-49

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1789](http://nzpcn.org.nz/flora_details.asp?ID=1789)



**Caption:** Eastern Wairarapa. Oct 2010.

**Photographer:** Jeremy Rolfe



**Caption:** Rangaika, Chatham Island. June 2013.

**Photographer:** Jeremy Rolfe

# *Dicksonia squarrosa*

## Common Name(s):

rough tree fern, harsh tree fern, wheki

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. North, South, Stewart and Chatham Islands.

## Features\*:

Tree ferns up to 8 m tall. Rhizomatous usually forming colonial stands. Rhizomes numerous spreading from main stock 1–2 m or more distant, giving rise to subsidiary erect caudices. Trunk slender, solitary, bifurcated (sometimes several times over), up to c.200 mm diam., composed of long-persistent, black stipe bases, interwoven dark brown to black rootlets, red-brown hairs and dormant or active aerial buds. Fronds numerous, persistent or not in death, either falling or forming an untidy, tattered skirt (especially on young plants); in life erect, arching, forming an often tattered, untidy crown, 1.0–2.0(–2.6) m long, 0.5–1.0 m wide. Stipes (180–)280–300(–320) mm long, black, ± rugose, base densely clad deciduous dark red-brown to brown filiform hairs 30–40(–55) mm long; rachises initially clad in dark reddish brown hairs when young, becoming rugose with age. Lamina (0.68–)1.6–(2.28) m long, oblong-lanceolate, (2–)3–4-pinnate, adaxially light to dark glossy green, abaxially paler, harshly coriaceous; primary pinnae 250–500 mm long, deltoid-ovate to lanceolate, acuminate; secondary pinnae close-set to ± overlapping, 50–80 mm long, acute. Barren pinnules 10–18 mm, acute, often sharply toothed, widened and confluent at base, shallowly concave; fertile pinnules close-set, narrowly confluent at base, 10–15 mm long; lobes strongly concavo-convex c.5 mm. long, rounded, each bearing a sorus. Sorus ± rounded, terminating veins at fertile pinnae margins; sporangia on raised receptacle, partially obscured by in rolled pinnae margin, and delicate, submembranous inner indusium. Spores golden brown to red-brown.

## Flowering:

Not applicable - spore producing

## Fruiting:

Not applicable - spore producing

## Threats:

Not Threatened

## \*Attribution:

Fact Sheet Prepared for NZPCN by P.J. de Lange (10 November 2012). Description by P.J. de Lange.

## References and further reading:

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1791](http://nzpcn.org.nz/flora_details.asp?ID=1791)



**Caption:** *Dicksonia squarrosa*

**Photographer:** Wayne Bennett



**Caption:** *Dicksonia squarrosa*

**Photographer:** Wayne Bennett

## *Parablechnum minus*

### Common Name(s):

swamp kiokio

### Current Threat Status (2012):

Not Threatened

### Distribution:

Indigenous. New Zealand: North, South, Chatham Islands. Also Australia from where it was first described.

### Habitat:

Coastal to lower montane in swampy ground within swamp forest, wetlands and along the margins of freshwater lakes, streams and rivers.

### Features\*:

Rhizome creeping to erect. Fronds dimorphic, 0.10–1.65 × 0.025–0.42 m. Stipe 20–330 mm long, stramineous to red-brown, darkening towards the base; scales cordate to linear, acuminate to subulate, entire to slightly dentate, brown to red-brown, often darker at the base of the scale. Lamina lanceolate to ovate, pinnate, with 3–37 pairs of pinnae; rachis and costae stramineous, brown to red-brown, scaly; scales linear, subulate, entire to somewhat dentate, stramineous to dark red-brown (rarely with broad cordate bases); sterile pinnae narrowly oblong with acute apices, 15–220 × 5–17 mm, shortly stalked towards lamina base, basiscopically adnate and sometimes winged at apex; margins finely serrate; basal pinnae aurciulate; fertile pinnae 0.06–0.21 m long, 1.5–5.0 mm wide; lowest pinnae with expanded sterile segments at rachis.

### Flowering:

N.A.

### Fruiting:

N.A.

### Threats:

Not Threatened

### \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (19 September 2012). Description adapted Chambers & Farrant (1998b)

### References and further reading:

Chambers, T.C.; Farrant, P.A. 1998a: The *Blechnum procerum* ("capense") (Blechnaceae) complex in New Zealand. *New Zealand Journal of Botany* 36: 1-19.

Chambers, T.C.; Farrant, P.A. 1998b: Blechnaceae. *Flora of Australia* 48: 359-384. ABRS/CSIRO Australia, Victoria

Gasper, A.L.; de Oliveira Dittrich, V.A.; Smith A.R.; Salino, A. 2016: A classification for Blechnaceae (Polypodiales: Polypodiopsida): New genera, resurrected names, and combinations. *Phytotaxa* 275: 191–227.

Perrie, L.R.; Wilson, R.K.; Shepherd, L.D.; Ohlsen, D.J.; Batty, E.L.; Brownsey, P.J.; Bayly, M.J. 2014: Molecular phylogenetics and generic taxonomy of Blechnaceae ferns. *Taxon* 63(4): 745-758.

PPG 1: The Pteridophyte Phylogeny Group 2016: A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54: 563-603.

Pyner, T. 2017: A new classification of *Blechnum*. British Pteridological Society. <https://ebps.org.uk/new-classification-blechnum/>

Wilcox, M.; Warden, J. 2017: Botany of Hillsborough coast bush reserves, Manukau Harbour, Auckland. *Auckland Botanical Society Journal* 72: 32-46.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2070](http://nzpcn.org.nz/flora_details.asp?ID=2070)



**Caption:** *Blechnum minus*

**Photographer:** Wayne Bennett



**Caption:** Matapaua Bay, Coromandel

**Photographer:** John Smith-Dodsworth

## *Parapolystichum glabellum*

### **Common Name(s):**

Smooth shield fern

### **Current Threat Status (2012):**

Not Threatened

### **Threats:**

Not Threatened

### **References and further reading:**

Labiak, P.H.; Sundue, M.; Rouhan, G.; Moran, R.C. 2015: New combinations in *Lastreopsis* and *Parapolystichum* (Dryopteridaceae). *Brittonia* 67: 79–86.

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=897](http://nzpcn.org.nz/flora_details.asp?ID=897)



**Caption:** Sori, Otago Peninsula

**Photographer:** John Barkla



**Caption:** Underside of frond, Otago Peninsula

**Photographer:** John Barkla

## *Pteris comans*

### **Common Name(s):**

coastal brake, netted brake

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Indigenous (see Taxonomic Notes). New Zealand: Kermadec Islands (Raoul, the Meyers Islands and Macauley Island), Three Kings and North Island from North Cape to Bay of Plenty in the east and Waitakere coastline in the west

### **Habitat:**

Coastal in forest especially on the sides of gullies, on banks and in valley heads. A very common offshore island fern

### **Features\*:**

Terrestrial ferns. Rhizomes short, erect, scaly. Stipes 0.25-0.6 m long, pale brown, glabrous or scaly at very base. Laminae 0.2-1.8 × 0.15-0.9 m, dark green to yellow-green, 2-3-pinnate at base, ovate, coriaceous, veins reticulate. Pinnae not overlapping; most lower secondary pinnae adnate. Ultimate segments 10-55 × 5-10 mm, oblong, apices tapering or bluntly pointed, margins toothed. Sori continuous along pinna margins on a marginal vein, protected by a membranous inrolled pinna margins.

### **Flowering:**

Not applicable - spore producing

### **Fruiting:**

Not applicable - spore producing

### **Threats:**

Not Threatened

### **\*Attribution:**

Fact sheet [repared for NZPCN by P.J. de Lange (17 January 2012). Description adapted from Brownsey & Smith-Dodsworth (2000).

### **References and further reading:**

Allan, H.H. 1961: New Zealand Flora. Vol. I. Wellington, Government Printer.

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman.

de Lange, P.J.; Norton, D.A.; Courtney, S.P.; Heenan, P.B.; Barkla, J.W.; Cameron, E.K.; Hitchmough, R.; Townsend, A.J. 2009: Threatened and uncommon plants of New Zealand (2008 revision). *New Zealand Journal of Botany* 47: 61-96.

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2231](http://nzpcn.org.nz/flora_details.asp?ID=2231)



**Caption:** Motuoruhi, Coromandel  
**Photographer:** John Smith-Dodsworth



**Caption:** Motuoruhi, Coromandel  
**Photographer:** John Smith-Dodsworth

## *Pteris tremula*

### **Common Name(s):**

shaking or tender brake, Australian bracken

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Indigenous. New Zealand: Kermadec Islands (Raoul, Meyers and Macauley Islands), Three Kings, North, South, Chatham Islands. Also Australia, Tasmania, Lord Howe, Norfolk and Fiji.

### **Habitat:**

Coastal to montane (in northern part of range) in open, dry forest, scrub, wasteland, along track and roadsides and on retaining walls and similar sites in built up areas.

### **Features\*:**

Stout terrestrial ferns. Rhizomes short, erect, apex covered with long narrow, pale brown scales. Fronds dimorphic, tufted. Stipes 0.15-0.6 m long, glabrous (rarely with a few narrow basal scales), red-brown or black, often basally so and then red-yellow for rest of length. Laminae 0.3-1.2 × 0.2-0.7 m, bright green, yellow-green or yellow, ovate, ovate-deltoid, 3-4-pinnate at base, membranous, rachis red-brown or yellow-green. Pinnae overlapping; most secondary pinnae stalked or sessile. Ultimate sterile segments 6-38 × 3 mm wide, linear, apices blunt margins toothed; ultimate fertile segments 5-35 × 1-2 mm, linear, apices blunt, margins toothed. Veins free, simple or 1-2-forked. Sori ± continuous on a marginal vein, but absent from bases and apices of ultimate segments, protected by a membranous inrolled pinna margins

### **Flowering:**

Not applicable - spore producing

### **Fruiting:**

Not applicable - spore producing

### **Threats:**

Not Threatened

### **\*Attribution:**

Fact sheet prepared for NZPCN by P.J. de Lange (17 January 2012). Description adapted from Brownsey & Smith-Dodsworth (2000) and Kramer & McCarthy (1998).

### **References and further reading:**

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman.

Kramer, K.U.; McCarthy, P.M. 1998: Pteridiaceae. Pp. 241-248. Flora of Australia 48. Australian Biological Resources Study, CSIRO Canberra

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2232](http://nzpcn.org.nz/flora_details.asp?ID=2232)



**Caption:** Emerging frond. Stokes Valley, Lower Hutt. Mar 2013.

**Photographer:** Jeremy Rolfe



**Caption:** Coromandel

**Photographer:** John Smith-Dodsworth