



FronDS



Fan-shaped segments



Shallowly-notched segments, kidney-shaped indusia

## ***Adiantum aethiopicum***

mākaka

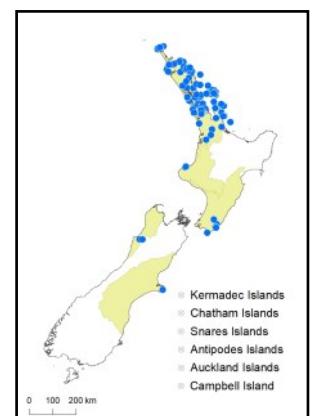
Indigenous to New Zealand, Australia, New Caledonia, and Africa.

Distinguished by its kidney-shaped 'indusia', and fan-shaped frond segments, which are generally wider than long, and none of which are incised more deeply than the indusial notches.

Grows in open, lowland, often coastal forest and scrub. Seemingly extinct in the South Island.

Compare with *A. capillus-veneris* and *A. raddianum*.

Pteridaceae



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Frond



Small plant on brick wall



Fan-shaped frond segments, with oblong 'indusia'



Young oblong 'indusia'

## *Adiantum capillus-veneris*

### Venus-hair fern

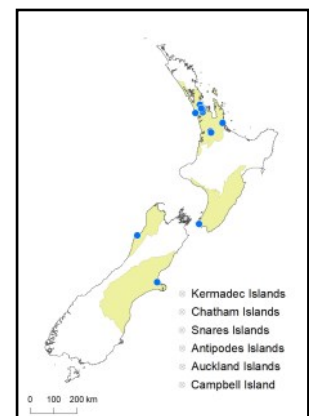
Naturalised in New Zealand. Indigenous to many other parts of the world.

Distinguished by its fan-shaped frond segments and oblong 'indusia'; the latter is unique among *Adiantum* species wild in New Zealand.

Often cultivated. Escaping to the wild around urban areas, commonly on brick or concrete walls, but also banks.

Compare with *A. aethiopicum* and *A. raddianum*.

### Pteridaceae





Frond, with mostly oblong segments



Frond axes without hairs



Segments blue-green underneath; indusia kidney-shaped



Long creeping rhizome

## *Adiantum cunninghamii*

Pteridaceae

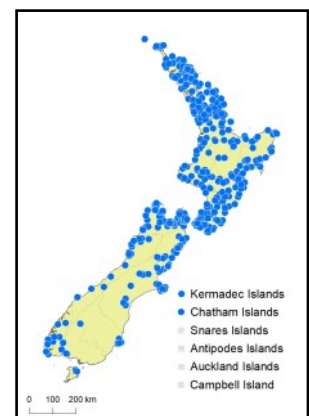
common maidenhair, Cunningham's maidenhair

Endemic to New Zealand.

Distinguished by its kidney-shaped and hairless 'indusia', oblong (rather than fan) shaped frond segments whose undersides are almost always hairless and more blue-green than other species, hairless frond axes, and fronds spread along a creeping rhizome.

Common forest fern, particularly on banks. Can be abundant on mudstone and other base-rich substrates.

Compare with *A. fulvum*.



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1-pinnate frond



Many 1-pinnate plants



A large, 2-pinnate plant



Hairless frond axes



Segment undersides and indusia can be hairy

## *Adiantum diaphanum*

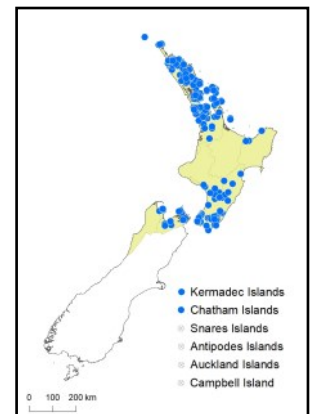
small maidenhair

Indigenous to New Zealand, Australia, many Pacific Islands, and southern and eastern Asia.

Distinguished by its kidney-shaped 'indusia' that can be hairy or hairless, oblong (rather than fan) shaped frond segments, hairless frond axes, and tufted fronds that are small and only 1- or 2-pinnate. It is the only species that can produce tubers on its rootlets.

Grows in lowland, warmer forests, often on banks.

Pteridaceae



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Many large fronds, spread along creeping rhizomes



Large, very divided frond



Rachis hairless but side-axes hairy

## *Adiantum formosum*

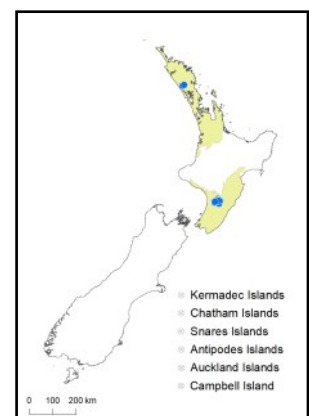
giant maidenhair

Indigenous to New Zealand and Australia.

Distinguished by its kidney-shaped and hairless 'indusia', oblong (rather than fan) shaped frond segments whose undersides can be hairy or hairless, hairy frond branches while the stipe and rachis are hairless, and large, usually 4-pinnate fronds that are spread along a creeping rhizome.

Grows in forest around the Manawatū Gorge. Northland indigenous populations are extinct. Regularly establishes itself when planted outside its native range.

Pteridaceae



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FronD segments can have rounded apices



FronD axes hairy



FronD segment undersides green; can be hairless



FronD segments can have pointed apices



FronD undersides can be hairy; 'indusia' kidney-shaped

## ***Adiantum fulvum***

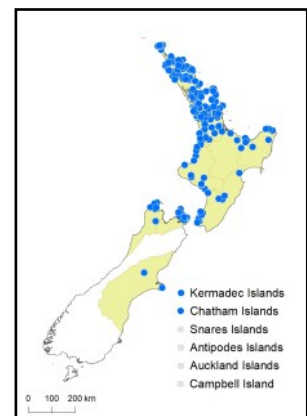
### Pteridaceae

Endemic to New Zealand.

Distinguished by its kidney-shaped and hairless 'indusia', oblong (rather than fan) shaped frond segments whose undersides can be hairy or hairless, hairy frond axes (including the stipe), and usually 3-pinnate fronds that are spread along a creeping rhizome.

Grows in lowland forest and scrub.

Includes plants previously identified as *Adiantum viridescens*. Compare with *A. cunninghamii*.





Fronds somewhat hand-shaped, with branching at the base



Frond axes hairy; segments oblong



Young fronds can be red



'Indusia' kidney-shaped and hairy; frond segments hairy

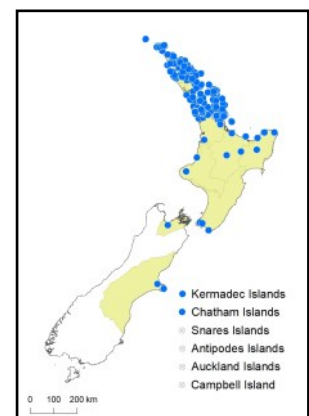
## *Adiantum hispidulum*

### Pteridaceae

Indigenous to New Zealand, Australia, many Pacific Islands, Asia, and Africa.

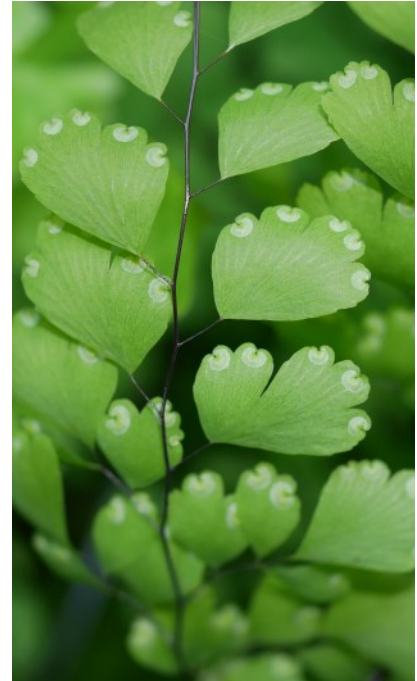
Distinguished by its kidney-shaped and hairy 'indusia', oblong (rather than fan) shaped frond segments, and hairy frond axes. A frond's branching is mostly towards its base, so it is usually somewhat hand-shaped.

Grows in lowland forest and scrub.





Frond



Segments deeply incised, fan-shaped



Indusia kidney-shaped

## *Adiantum raddianum*

delta maidenhair fern

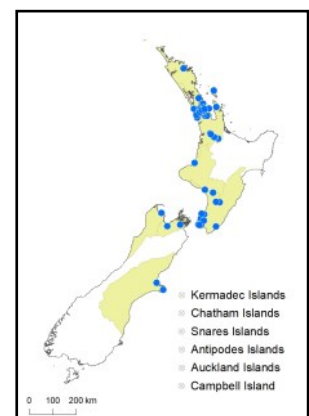
Naturalised in New Zealand. Indigenous to South America.

Distinguished by its kidney-shaped 'indusia', and fan-shaped frond segments, which are generally longer than wide, and some of which are incised more deeply than the indusial notches into two or more distinct lobes.

Commonly cultivated. Increasingly weedy in some areas.

Compare with *A. aethiopicum* and *A. capillus-veneris*.

## Pteridaceae







Fronds



Many plants on bank

## *Anogramma leptophylla*

Pteridaceae

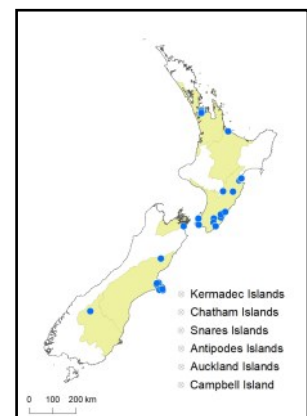
annual fern

Indigenous to New Zealand, Australia, Asia, Africa, Europe, and Central and South America.

Distinguished by its small size, fronds without hairs or scales, and its unprotected sori that are elongated along the veins. It is New Zealand's only annual fern, sprouting during winter.

It grows in open habitats, usually on banks, often in areas that are particularly dry over summer.

Has a conservation status of Nationally Vulnerable.



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Densely scaly; sori on pinna margins



Twice-divided frond



Plant on open rock

## *Cheilanthes distans*

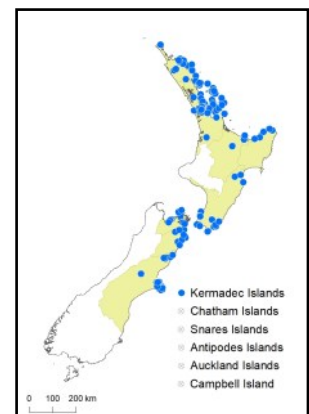
woolly cloak fern

Indigenous to New Zealand, Australia, and New Caledonia.

Distinguished by its narrow fronds that are at least twice divided, sori on the pinna margins, and dense covering of scales and hairs.

Grows in dry, open, rocky lowland areas.

Pteridaceae



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Frond with few scales and hairs



Sori on the pinna margins



Plant in the open

## *Cheilanthes sieberi* subsp. *sieberi*

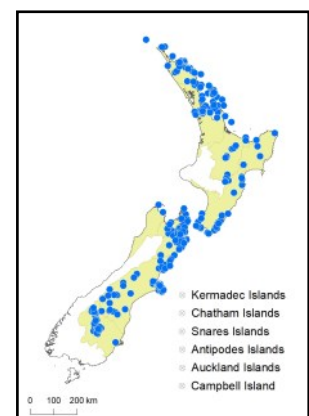
Pteridaceae

rock fern

Indigenous to New Zealand, Australia, and New Caledonia.

Distinguished by its narrow fronds that are at least twice divided, sori on the pinna margins, and by having only a few scales and hairs on its fronds.

Grows in dry, open, rocky areas.



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Fronds once-divided; large terminal pinna on sterile fronds



Rachis scales mostly appressed



Sori on pinna margins, joining at pinna apex

## *Pellaea calidirupium*

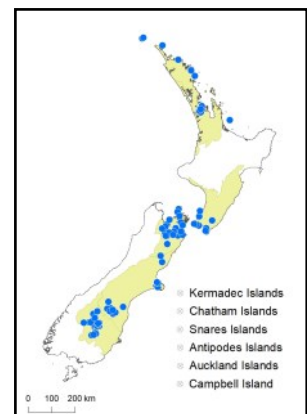
Pteridaceae

### hot rock button fern

Indigenous to New Zealand and Australia.

Distinguished by its narrow, once-divided fronds that are spread along a long-creeping rhizome, sori on the pinna margins that usually join at the pinna apex, and appressed scales on the rachises and stipes. Sterile fronds often have an enlarged apical pinna.

Grows in dry, open, rocky areas.



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Fronds once-divided



Many rachis scales spreading; pinnae rounded



Fronds spread along creeping rhizome



Sori on pinna margins; pinnae pointed

## *Pellaea rotundifolia*

tarawera, button fern

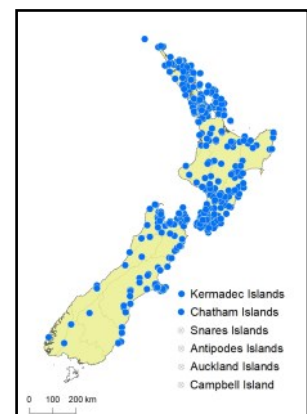
Indigenous to New Zealand and Norfolk Island.

Distinguished by its narrow, once-divided fronds that are spread along a long-creeping rhizome, sori on the pinna margins that usually do not join at the pinna apex, and spreading scales on the rachises and stipes.

Common forest fern, more-so in the lowlands.

New Zealand plants previously attributed to *Pellaea falcata* are included here.

## Pteridaceae



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Frond



Sori on pinna margins



Veins in net-like pattern



Basal secondary pinnae elongated

## *Pteris carsei*

### Carse's brake

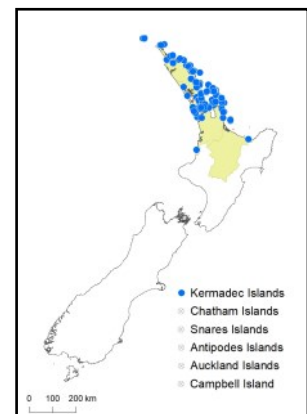
Endemic to New Zealand.

Distinguished by its large, tufted fronds, with net-like veins, sori on the pinna margins, most secondary pinnae not stalked, and with the basal secondary pinnae greatly elongated.

Grows in coastal forest.

Previously known as *Pteris comans*, but that species is now considered confined to the SW Pacific. Hybridises with *P. saxatilis*. Compare with *P. macilenta*.

## Pteridaceae



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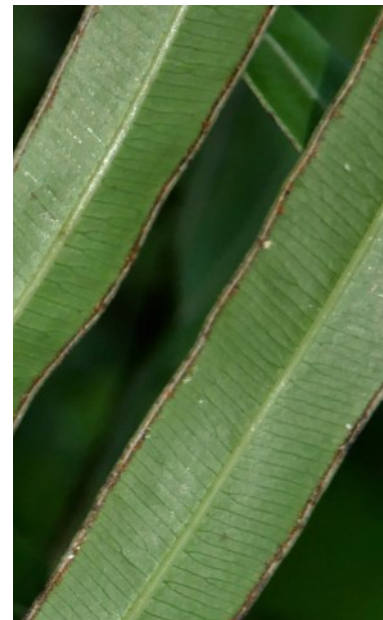
Many fronds



Sori on pinna margins



Fronds twice-divided at base, otherwise once-divided



Veins free, not netted

## *Pteris cretica*

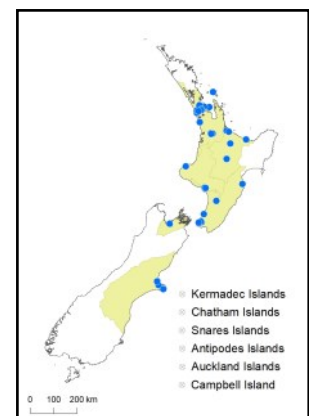
### Cretan brake

Naturalised in New Zealand. Indigenous to Africa, Europe, and Asia.

Distinguished by its fronds that are twice-divided at their base and spread along a creeping rhizome, veins free, and sori on the pinna margins.

Grows in lowland habitats, usually near houses. Increasingly weedy in several parts of the country.

### Pteridaceae



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Frond, with many stalked secondary pinnae



Smaller frond



Veins in net-like pattern



Sori on pinna margins

## ***Pteris macilenta***

sweet fern

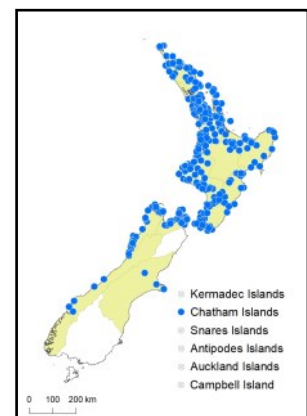
Endemic to New Zealand.

Distinguished by its tufted, often large fronds, with net-like veins, sori on the pinna margins, most secondary pinnae stalked, the basal secondary pinnae not greatly elongated, and the pinnae not widely spaced.

Grows in forest and scrub, more-so in warmer habitats.

Compare with *Pteris tremula*, and with *P. carsei* and *P. saxatilis*; easily confused with hybrids between the latter pair.

## Pteridaceae



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Fronde with widely-spaced pinnae



Sori on pinna margins



Veins in a net-like pattern

## ***Pteris saxatilis***

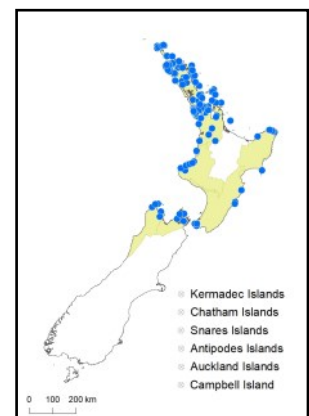
### Pteridaceae

Endemic to New Zealand.

Distinguished by its small, tufted fronds, with net-like veins, sori on the pinna margins, most secondary pinnae stalked, the basal secondary pinnae not greatly elongated, and the pinnae widely spaced.

Grows in forest and scrub, usually near the coast.

Compare with *Pteris macilenta*. Hybridises with *P. carsei*.





Frond



Pinnae rectangular; sori on pinna margins



Veins free, not netted



Frond tufted

## *Pteris tremula*

turawera, shaking brake

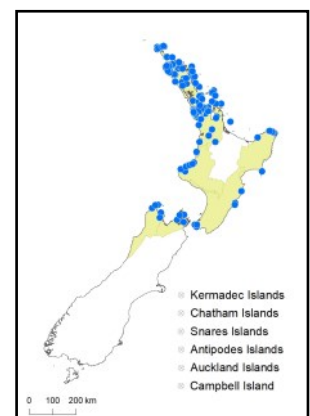
Indigenous to New Zealand, Australia, Vanuatu, and Fiji.

Distinguished by its often large, tufted fronds that are at least thrice-divided, veins free, and sori on the margins of somewhat rectangular pinna segments.

Grows in lowland forest and scrub, and often invades gardens.

Compare with *Pteris macilenta*. The indigenous *P. epaleata* and naturalised *P. dentata* are both also similar but are very uncommon—see eFloraNZ.

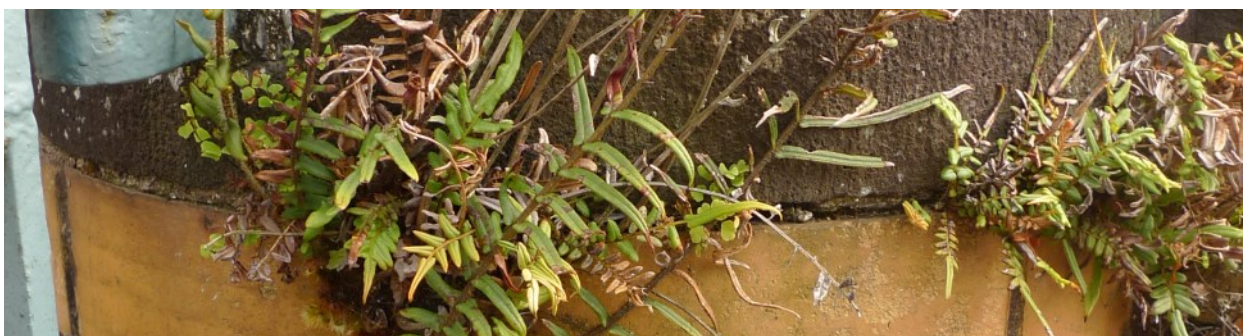
## Pteridaceae



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Large plant on retaining wall



Small plants on brick wall

## *Pteris vittata*

### ladder brake

Naturalised in New Zealand. Indigenous to many other parts of the world.

Distinguished by its once-divided fronds that are spread along a creeping rhizome, veins free, and sori on the pinna margins.

Grows mostly in urban areas, on walls and rocks, but has also been found in a geothermal area.

### Pteridaceae

