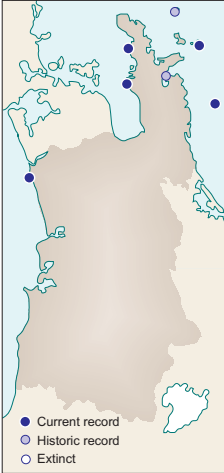


Lepidium oleraceum

nau, Cook's scurvy grass



BRASSICACEAE

Status

Nationally Endangered

Description

Bushy, leafy, aromatic herb up to 1 m tall. All parts when brushed past or crushed impart a strong cabbage-like smell. The edible, cress-flavoured 100 × 30 mm leaves are fleshy, green, somewhat diamond-shaped in outline, with the margins of the upper third finely serrated. The freely produced, white cress-like flowers are 2–3 mm in diameter, white, with four petals and are arranged in clusters. The small broadly heart-shaped fruits (silicles) are flattened, with a sharply pointed apex, and each contain two orange-brown seeds. Flowers appear year-round, but mainly from September to March. Fruiting occurs from December to April. Seed production is rapid so flowers, immature and ripe seed capsules are often found on the same plant.



Similar species

Can be confused with some introduced cresses (*Barbarea* spp.) which have yellow flowers, and long pointed seed capsules (siliques), bitter cresses (*Cardamine* spp.) which are much smaller, with variously lobed and divided often compound leaves and long narrow pointed capsules (siliques), and other naturalised *Lepidium* species. Of these, Cook's scurvy grass is most commonly found in association with *Lepidium pseudotasmanicum*, which differs in having more finely divided, lobed compound leaves, and much smaller, greenish flowers which are produced in long spike-like racemes.

Lepidium oleraceum. Photo: A. Brandon.

Habitat

Fertile soils on coastal slopes, often associated with seabird roosts and nesting sites, rocky shorelines and gravel beaches.

Distribution

Once locally common on the coast and islands throughout New Zealand, but now largely restricted to offshore islands. In the Waikato, it is known from islands off the Coromandel Peninsula and a series of nearshore rock stacks south of Port Waikato.

Threats

This plant is under serious threat. There is firm evidence that the scurvy grasses have been declining for a very long time as a consequence of the loss of sea bird nesting grounds and seal haul outs. Dependent on high-fertility soils and regular cycles of animal induced disturbance, the decline in onshore and nearshore seabird colonies, as a consequence of rat predation, has seriously reduced the range of suitable habitats for this species. Furthermore, it is very susceptible to a range of introduced pests and diseases, including snails, aphids, leaf miner, diamondback moth and cabbage white butterfly, and is greedily consumed by cattle and other livestock. A fungus-like disease (white rust, *Albugo candida*) is also a problem; and the plant has been and continues to be over-collected by people.

Lepidium oleraceum.

Photos: A. Brandon.



Libertia peregrinans

sand iris

IRIDACEAE

Status

Gradual Decline

Description

A sward-forming, orange-coloured, strongly rhizomatous plant. The orange-coloured, flat, strap-like leaves are 130–700 mm long by 5–15 mm wide, and arranged in fans. The leaves have no midrib, and can be distinguished from all other native irises by their many prominent dark orange-red veins running along their length. The numerous branched flowering stems are usually shorter than the leaves, and may contain 3–20 flowers. The white flowers have 3 petals, and are up to 30 mm diameter. The orange seeds are borne in black, 10 mm long barrel-shaped capsules. Flowering occurs from October to January; fruiting from January to December.

Similar species

Although there are other *Libertia* species that are similar, none have the orange-coloured foliage with the prominent dark orange-red veins, and black mature fruiting capsules, nor do any of these occur in the same habitat.

Habitat

Sandy, peaty soils in coastal sites including dune systems and river mouths; often in association with oioi (*Apodasmia similis*) and *Isolepis nodosa*.

Libertia peregrinans.
Photo: J. Campbell.



Distribution

Endemic to New Zealand; occurring from Piha to Wellington in the North Island and throughout the South Island, Stewart Island and the Chatham Islands. In the Waikato, it was last seen at Te Maika Peninsula, Kawhia Harbour in the early 1980s.

Threats

Habitat loss through development and weed encroachment; cattle browse.

Linguella puberula

dwarf greenhood

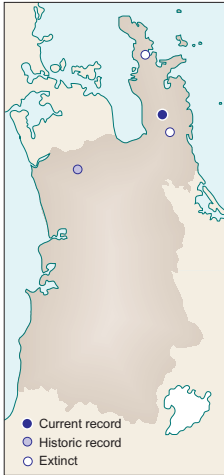
ORCHIDACEAE

Status

Nationally Critical

Description

A slender, silvery-green, rosette-forming, greenhood orchid up to 150 mm tall (but usually much less). Plants often exhibit a ‘washed out’ colouration. The rosette leaves are trowel-shaped with winged petioles and contrast strongly with the stem leaves, which are small and closely sheathing. The stem is faintly hairy. Flowers are usually solitary, have long club-shaped ‘antennae’ (lateral sepals), a short ‘beak’ (dorsal sepal) and oblong ‘tongue’ (labellum) and stigma. In the Waikato this species usually flowers in mid to late November, but occasionally later in early December.



Habitat

Clay banks beneath light scrub (especially manuka) and gumland.

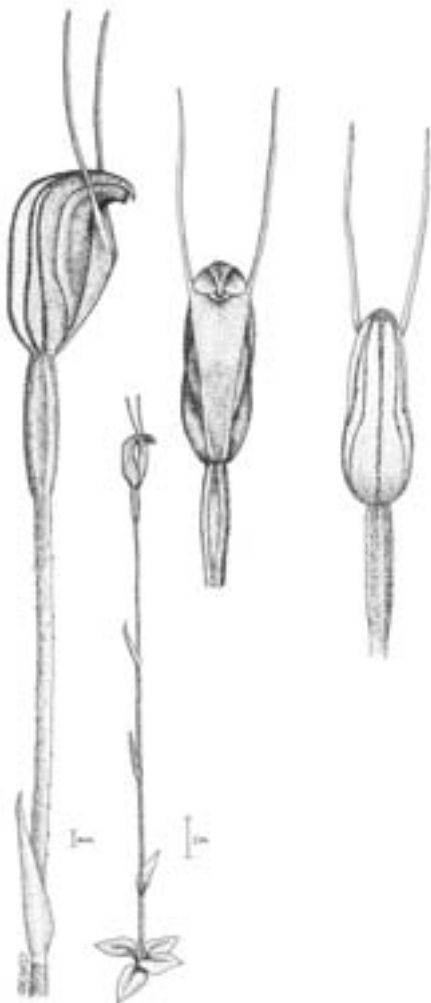
Similar species

Diplodium (Pterostylis) trullifolium and *Diplodium (P.) alobulum* are similar but have much smaller, trowel or heart-shaped basal leaves without winged petioles and larger stem leaves. The rosette leaves of *D. trullifolium* are further distinguished by embossed vein patterning.

Distribution

Endemic to New Zealand. Previously reported from near North Cape to North West Nelson. Now only definitely known from three sites; one on the Three Kings, one at North Cape

Linguella puberula. Photo: J.C. Smith-Dodsworth.



Linguella puberula.
Illustration by C. Beard.

and one in the Waikato (Kauaeranga Valley). In the Waikato it was historically recorded in low gumland scrub near Mercer, in similar sites on the Kopu-Hikui Road (1900) and at Kennedy Bay (1920).

Threats

Habitat loss and degradation through weed encroachment, natural regeneration of forest species, and pig rooting are the main threats. Also, over-collection by botanists and orchid enthusiasts has occurred in the past.

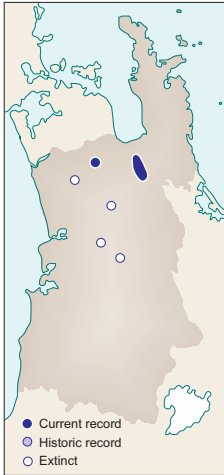
Comments

This plant is predominantly self-fertilising but does not appear to set seed often. It rarely persists at any one locality for more than a few years. Indications are that this species has a fire ecology, requiring periodic burns to retain the open gumland scrub habitat it requires.

This orchid has been known in New Zealand as *Pterostylis puberula*, and *P. nana*. There are still doubts about whether *Linguella puberula* is really endemic to New Zealand; certainly its restriction to gumland scrub habitats (an artificial habitat created by frequent burning on impoverished soils) shows an unusual requirement for an endemic orchid.

Lycopodiella serpentina

bog clubmoss



LYCOPODIACEAE

Status

Nationally Vulnerable

Description

A diminutive clubmoss with sparingly branched, tightly appressed stems. The small, bright yellow or yellow-green scale-like 'leaves' are spirally arranged around the stem. From these appressed stems, numerous up to 40 mm long, stalked, long-persistent, solitary cones are produced.

Similar species

In the Waikato, this species can be confused with nutrient-starved forms of *Lycopodiella lateralis* which commonly grow in association with *L. serpentina*. This species differs by the non-stalked (or shortly so) cones borne on sides of the erect stems.

Habitat

In the Waikato confined to the most acidic bogs where it grows only in open, sparsely vegetated sites.

Distribution

Indigenous. Possibly extinct in Australia (D. Cameron pers. comm.) and New Caledonia (P. Morat, pers. comm.). In New Zealand now

known only from three bogs in Northland and two in the Waikato (Whangamarino and Kopouatai).

Threats

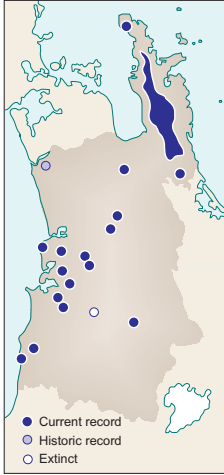
Wetland drainage, stock trampling, fertiliser run-off from adjacent farmland, and vegetation succession on the less acidic Whangamarino are significant threats. The species is also a frequent target of fern collectors.

Lycopodiella serpentina.
Photo: J.C. Smith-Dodsworth.



Marattia salicina

king fern, para, tawhiti para, horseshoe fern



MARATTIACEAE

Status

Serious Decline

Description

A large, robust fern with fronds to 5 m tall arising from a stout, starchy base that was a traditional food for the Maori. The cane-like leaf stalks are green, 1–3 m long, and have a large basal, ear-like lobe that protects the uncoiling frond. The dark glossy green (or yellow-green in stressed sites) fronds are up to 4 m long by 2 m wide. The frond pinnules are entire, oblong, strap-like, and taper towards the tip. Midribs of the secondary pinnae are swollen at the junction with the main stem. The spores are arranged in distinctive boat-shaped sori. The juvenile fronds are less robust, wilting easily on exposure to sunlight, with the strap-like pinnules often lobed or serrated. An unusual form with crested tips to the adult pinnules is sometimes found in the wild around the Kawhia area.



Marattia salicina.

Photo: A.J. Townsend.

Similar species

None

Habitat

Favouring lowland, karst habitats (cave entrances and tomo shafts) and dark stream sides, often amongst supplejack (*Ripogonum scandens*) and parataniwha (*Elatostema rugosum*).

Distribution

Indigenous to New Zealand and the South Pacific (possibly elsewhere). In New Zealand it is found throughout the north-western half of the North Island from inland Wanganui northwards. The Waikato is probably its stronghold. Here it is known from many remnants and forested areas in the western Waikato Areas.

Threats

Feral and domestic stock, wild pig and goat browse are serious threats throughout its range. Indeed large specimens are only found where there has been intensive animal control, in inaccessible cave and tomo entrances or in steep-walled limestone gorges. Aside from animals the most serious threat to this species comes from plant collectors who have been responsible for the recent loss of several large, reasonably accessible populations near Kawhia.