

Lepidium oleraceum

COMMON NAME

nau, Cook's scurvy grass

SYNONYMS

Lepidium oleraceum var. *acutidentatum* Kirk, *L. oleraceum* var. *frondosum* Kirk, *L. oleraceum* var. *serrulatum* Thell.

FAMILY

Brassicaceae

AUTHORITY

Lepidium oleraceum Sparrm. ex G.Forst.

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

NVS CODE

LEPOLE

CHROMOSOME NUMBER

2n = c.72

CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Endangered | Qualifiers: CD, DP, EF, RR, Sp

PREVIOUS CONSERVATION STATUSES

2012 | Threatened – Nationally Endangered | Qualifiers: CD, DP, EF, RR, Sp

2009 | Threatened – Nationally Vulnerable | Qualifiers: CD, EF, RR, Sp

2004 | Threatened – Nationally Endangered

DISTRIBUTION

Endemic. New Zealand, Kermadec Island group, Three Kings Island group, North, South, Stewart Islands and the Bounty Islands group.

HABITAT

Now strictly coastal, *L. oleraceum* is usually found in friable well manured soils, guano deposits, or rock crevices associated with seabird roosts and nesting sites. Occasionally it grows under taller vegetation, and then usually near petrel or shear water burrows. The species is now mainly found on rock stacks, islets, and windshorn headlands on rodent free offshore islands. In some places it has been found growing on sand or gravel beaches, and in one location it grows on boulders and clay that are part of an artificial sea wall. Historically this species was also known from the upper Waitaki Valley, well inland from the sea. This suggests that before human occupation it was once more widespread away from coastal situations.



Lepidium oleraceum plant below Matata (Davids Lookout), Motukino (Fanal) Island. Photographer: Bec Stanley, Licence: CC BY-SA.



At Matariki Island. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.

DETAILED DESCRIPTION

Glabrous, much-branched, perennial, herb up to 1 x 1 m, usually less. All parts strongly pungent when bruised. Stems erect to decumbent, stout, somewhat woody near base, flexuous. Petioles winged of variable length. Leaves 20-100 x 15-40 mm, decreasing in size toward stem apices, dark green to green, fleshy, somewhat succulent, narrow-oblongate, obovate to elliptic, margins, deeply and evenly serrated, cuneately narrowed at base. Inflorescences racemose, terminal and lateral, usually leaf-opposed 30-150 mm at fruiting; pedicels erecto-patent, 3-10 mm long at fruiting. Flowers fragrant. Sepals 1-2 x 0.5-1 mm. Petals white, 2.5-3.5 x 0.5-2 mm, obovate-spathulate. Stamens 4, yellow. Silicles 3-5 x 2.5-5 mm, broadly ovate, truncate at base, apex acute, not winged; style 0.1-0.2 mm; seeds 1.5-2 mm, ovoid, orange-brown

SIMILAR TAXA

Distinguished from all other indigenous and exotic *Lepidium* species by the glabrous stems, persistent, toothed, stem leaves, glabrous pedicels, flowers with four stamens and by the acute silicles which lack a marginal wing.

FLOWERING

Flowers appear year-round, but mainly from September to March.

FLOWER COLOURS

White, Yellow

FRUITING

Fruiting occurs from December to April. Seed production is rapid so flowers, immature and ripe seed capsules are often found on the same plant.

LIFE CYCLE

Mucilaginous seeds are dispersed by attachment and possibly wind and water (Thorsen et al., 2009).

PROPAGATION TECHNIQUE

Easy from fresh seed. Can be grown from semi-hardwood cuttings. Fast growing. Does best in friable soils enriched with N, P, K, in full sun. This species, and indeed all other representatives of the genus in New Zealand are very prone to fungal diseases and insect attack, and can be difficult to maintain. *Lepidium oleraceum* is best treated as an annual.

THREATS

Seriously threatened by loss of indigenous sea bird nesting grounds because it is dependent on high-fertility soils and regular cycles of animal induced disturbance. It is susceptible to a range of introduced pests and diseases, including rodents, snails, aphids, leaf miner, diamond back moth and cabbage white butterfly, and is browsed by cattle and other livestock. A fungus-like disease (*Albugo candida* (J.F.Gmel.) Kuntze) is also a problem; and the plant has been and continues to be over-collected by people.

ETYMOLOGY

lepidium: Scale-shaped (pods)

oleraceum: As a vegetable

TAXANOMIC NOTES

Chatham, Antipodes, Snares and Auckland Island plants differ from *L. oleraceum* s.s. Their taxonomic status is under review. Cooks scurvy grass or nau, played a vital role in preventing scurvy in ship crews visiting New Zealand during the late 1700s and early 1800s. All parts of the plant are edible. The Maori name nau is of ancient derivation and is found in varying forms throughout Polynesia. Many Pacific Island peoples have traditions of harvesting and/or cultivating related lepidia as a vegetable food and suggests NZ Maori may well have used *L. oleraceum* and allied species in the same way.

ATTRIBUTION

Description adapted from Webb et al. (1988).

REFERENCES AND FURTHER READING

- Allan, H.H. 1961. *Flora of New Zealand. Volume I. Indigenous Tracheophyta: Psilopsida, Lycopsida, Filicopsida, Gymnospermae, Dicotyledones.* Wellington, Government Printer.
- Norton, D.A. and P.J. de Lange. 1999. Coastal cress (Nau) recovery plan. Threatened Species Recovery Plan 26. Department of Conservation
- Sawyer, J.W.D., de Lange, P.J. 2007. *Lepidium oleraceum* - a threatened herb of coastal Wellington. Wellington Botanical Society Bulletin, 50: 30-36
- 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* 11: 285-309
- Webb, C.J.; Sykes, W.R.; Garnock-Jones, P.J. 1988. *Flora of New Zealand. Volume IV. Naturalised Pteridophytes, Gymnosperms, Dicotyledons.* Christchurch, New Zealand, Botany Division, D.S.I.R.

MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/lepidium-oleraceum/>