

# Lepidium rekohuense

## COMMON NAME

Chatham Islands scurvy grass

## SYNONYMS

None (first described in 2013)

## FAMILY

Brassicaceae

## AUTHORITY

*Lepidium rekohuense* de Lange et Heenan

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

No

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

## NVS CODE

LEPREK

## CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Critical | Qualifiers: CD, IE, RR

## PREVIOUS CONSERVATION STATUS

2012 | Threatened – Nationally Critical | Qualifiers: CD, IE, RR

## BRIEF DESCRIPTION

Long-lived perennial herb arising from stout turnip-liked tap-root. Plants with sprawling, leafy branches. Leaves dark green to yellow green, with toothed margins, smelling of cress when crushed. Inflorescences at branch tips, Flowers white with two stamens. Fruits circular, splitting cleanly into two valves, seeds red-brown.

## DISTRIBUTION

Endemic. Chatham Islands (Rekohu, Rabbit and Forty-fours)

## HABITAT

Coastal. Amongst petrel burrows on small offshore islands, on sea cliffs, cobble beaches and saltmarsh.



Chatham Island. Jan 2006. Photographer: John Sawyer, Licence: CC BY-NC.



Chatham Island. Nov 2008. Photographer: Peter J. de Lange, Licence: CC BY-NC.

## DETAILED DESCRIPTION

Tap-rooted, pungent-smelling, decumbent, summergreen, perennial herb forming densely leafy masses up to 2 m diameter, and arising from stout, semi-circular, dark reddish-grey (when exposed) rootstock 100–500 mm diameter. Tap root woody, up to 1.5 m long, deeply descending. Plants dying down to rootstock and/or previous seasons stem nodes, over winter or in times of adversity. Stems decumbent, widely spreading, up to 2 m long and 30 mm diameter, woody, ± spherical in cross-section, prominently ridged and/or grooved (especially when dry), dark reddish-green to dark green, usually scarred throughout with numerous old leaf bases; stems heavily branched in upper two-thirds, branches and branchlets numerous, prostrate, widely spreading, very leafy; basal portion of stems, ± glabrous, otherwise finely and sparsely papillate-hairy, especially along leaf decurrencies, and within stem grooves, hairs very short 0.01–0.3 mm long, white, glandular-pustulate, rather sticky when fresh. Leaves glabrous, firmly fleshy to succulent, dark green to green, at senescence turning yellow. Rosette leaves persistent at fruiting; petioles distinct up to 50 × 3 mm, slightly concave in cross-section, fleshy; lamina narrowly spatulate to spatulate-oblong, up to 30.0 × 13.3 mm, margins usually denticulate, crenulate, if denticulate then with 10–26 pairs of blunt teeth running to and including apex, base broadly attenuate. Middle stems leaves persistent at fruiting; petiole distinct up to 15 × 2 mm, mostly flat in cross-section, sometimes slightly concave, fleshy; lamina elliptic, narrowly elliptic to oblong, 18.86–35.00 × 9.64–18.00 mm; margins sharply and regularly serrate-dentate with 10–16(–22) pairs of teeth running to and including the apex, lamina base broadly cuneate to cuneate. Upper stem leaves with or without a distinct petiole, petiole if present 2.14–5.60 mm, flat; lamina 9.46–17.00 × 2.03–6.14 mm, narrowly oblanceolate, oblanceolate to obdeltoid, apex often tridentate, base cuneate to narrowly cuneate; lamina margins deeply dentate, incised, or otherwise entire except for the upper third which is prominently toothed; teeth if present in 2–6 pairs running to and including the apex. Racemes 10–60 mm long, elongating up to 90 mm at fruiting, terminal and axillary; rachis and pedicels finely and sparsely covered in retrorse to patent, very short, 0.05–0.8 mm long, ± clavate, eglandular–glandular, hairs; pedicels, erecto-patent to patent, 1.04–2.38 mm, 2.34–6.02 mm long at fruiting. Flower buds dark green, apex bearing a conspicuous, caducous, crest of white, eglandular, antrorse hairs up to 0.9 mm long. Flowers sweetly fragrant, 1.4–2.0 mm diameter. Sepals, broadly ovate to oval, c.0.6–1.0 × 0.6–1.2 mm, apex broadly obtuse, centrally green with a white margin, deeply concave, adaxially weakly keeled, adaxial midrib invested in conspicuous, caducous, white, eglandular, antrorse, hispid hairs, hairs sometimes scattered across rest of adaxial surface; abaxial surface glabrous. Petals white, 0.3–1.0 × 0.2–0.8 mm, erecto-patent or patent, clawed; limb broadly obovate, apex obtuse, retuse or distinctly emarginate. Stamens 2, equal. Anthers c.0.16 mm long. Pollen bright yellow. Nectaries 4, subulate, 0.40 mm long. Silicles cartilaginous when fresh, coriaceous when dry, orbicular to obovate, 2.8–4.1 × 2.2–4.0 mm, narrowly winged, apex shallowly, minutely, notched, base cordate, valves dark green to green maturing straw-yellow, glabrous; style 0.8 (–1.0) mm long, free from the narrow wing, equal to or slightly exceeding the notch; stigma 0.2–0.4 mm diameter. Seeds 2, 1.20–1.38 × 0.80–1.10 mm, ovoid to suborbicular, red-brown, dark red-brown or brownish black, not winged.

## SIMILAR TAXA

*Lepidium rekohuense* is morphologically most similar to *L. oblitum* and *L. oligodontum*. From these species it is easily separated by the flowers which consistently have two rather than 2–4 (*L. oblitum*) or 2–4–6 (*L. oligodontum*) stamens, by its much larger overall stature (up to 2 m diameter), by the sparsely papillate hairy upper branch stems, and by the presence of retrorse to patent, very short, ± clavate, eglandular–glandular hairs on the inflorescence rachis and pedicels. The silicles of *L. rekohuense* are orbicular (rarely obovate) and consistently, though minutely, notched, while those of *L. oligodontum*, orbicular to suborbicular and not or scarcely notched.

## FLOWERING

November - February

## FRUITING

January - April

## PROPAGATION TECHNIQUE

Easily grown from seed but difficult to maintain in cultivation. Prone to white rust (*Albugo candida*) which in cultivation may kill plants. As far as is known no one has successfully kept this plant alive in ex-situ collections of New Zealand *Lepidium*

## THREATS

In 2013 this species was known from four sites within the Chatham Islands archipelago. Only one of these could be successfully managed. Management halted between 2016 and 2018 leading to a near terminal decline of this species by February 2019. The status of the other populations, all small, all on private land is unknown, though at least one has probably gone extinct. The species is threatened by coastal erosion, browsing animals (including possum, and a native moth *Epyaxa rosearia* (which if uncontrolled can seriously damage plants)). As of July 2019, c.200 seedlings have been recorded from one site, the result of seed germinating from an assumed seed-bank.

## ETYMOLOGY

**lepidium:** Scale-shaped (pods)

**rekohuense:** The epithet 'rekohuense' is derived from 'Rekohu', the Moriori name for Chatham Island which is said to mean 'land of misty skies'. This name was chosen to reflect the endemic status of this species on the Chatham Islands group (see de Lange et al. 2013).

## TAXANOMIC INFORMATION

*Lepidium rekohuense* was first recognised as distinct from *L. oleraceum* in 1996 (de Lange et al. 1999; Walls et al. 2002; de Lange et al. 2010). Following its recognition as potentially distinct, and until its formal description in 2013 it was known as *Lepidium* aff. *oleraceum* (a) (AK 230459; Chatham Islands) - see for example de Lange et al. (2009).

## ATTRIBUTION

P.J. de Lange (15 August 2013). Description from de Lange et al. (2013) - see references for free download link for that paper.

## REFERENCES AND FURTHER READING

de Lange, P.J., Sawyer, J.W.D.; Ansell, R. 1999: Checklist of indigenous vascular plant species recorded from Chatham Islands. Wellington, Department of Conservation.

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.

de Lange, P.J.; Heenan, P.B.; Norton, D.A.; Rolfe, J.R.; Sawyer, J.W.D. 2010: Threatened Plants of New Zealand. Christchurch, Canterbury University Press. 471pp.

de Lange, P.J.; Heenan, P.B.; Houliston, G.; Rolfe, J.R.; Mitchell, A.D. 2013: New *Lepidium* (Brassicaceae) from New Zealand. *Phytokeys* 24:1-147pp. , doi: [10.3897/phytokeys.24.4375](https://doi.org/10.3897/phytokeys.24.4375)

Walls, G.; Baird, A.; de Lange, P.J.; Sawyer, J.W.D. 2002: Threatened plants of the Chatham Islands. Wellington, Department of Conservation.

## NZPCN FACT SHEET CITATION

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

## MORE INFORMATION

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