

Lepidium solandri

COMMON NAME

Maniototo peppercress

SYNONYMS

L. sisymbrioides subsp. *solandri* (Kirk) Thell., *L. sisymbrioides* subsp. *solandri* var. *typicum* Thell., *Lepidium matau* Petrie, *Lepidium sisymbrioides* subsp. *matau* var. *lobulatum* Thell., *Lepidium sisymbrioides* subsp. *matau* (Petrie) Thell.

FAMILY

Brassicaceae

AUTHORITY

Lepidium solandri Kirk

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

NVS CODE

LEPSOL

CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Critical | Qualifiers: RF, Sp

PREVIOUS CONSERVATION STATUSES

2012 | Threatened – Nationally Endangered | Qualifiers: DP, Sp

2009 | Threatened – Nationally Endangered | Qualifiers: DP

2004 | Threatened – Nationally Critical

DISTRIBUTION

Endemic. New Zealand: South Island (east of the main divide from North Canterbury to Central Otago (Galloway district, Manuherikia Valley)).

HABITAT

Short and tall tussock grassland, bare hillsides, salt pans, grey scrub and other poorly vegetated ground. On open clay or salt pans, limestone talus, gravel veneers overlying schist, mudstone, or eroded silts and clays.



Lepidium solandri. Photographer: John Barkla, Licence: CC BY.



Close up, *Lepidium solandri*, Springvale, Central Otago. Photographer: John Barkla, Licence: CC BY.

DETAILED DESCRIPTION

Perennial dioecious herb, with up to 24 compact, leafy rosettes. **Rootstock** deep rooted, up to 28 mm diam. near crown; stems spreading to erect, up to 60 mm long, 10.0 mm wide. **Basal and lower stem leaves** persistent, pinnatifid, pinnate, to bipinnatifid, narrow-oblong to oblong, up to 100 mm long, green, green-brown, or brown, central part of lamina 0.7–6.2 mm wide; pinnae in 14–32 pairs, linear, obovate or broadly oblong, with up to 5 secondary pinnae, terminal pinnae 3.0–16.0 × 1.0–4.9 mm, lateral pinnae 2.6–11.3 × 0.8–3.9 mm. **Middle stem leaves** similar, often becoming shallowly pinnatifid, serrate, or entire. **Cauline leaves** 2.5–19.8 × 1.2–9.8 mm, with up to 3 serrations or small lobes, or entire. **Inflorescences** terminal, 1.5–16.0 cm long, 0.8–3.7 mm diameter at base, usually spreading to ascending, with up to 12 lateral branches, glabrous to sparsely hairy; pedicels 2.5–6.5 mm long, 0.2–0.35 mm wide, slightly recurved, adaxial surface glabrous to moderately hairy, abaxial surface glabrous to rarely sparsely hairy. **Flowers** up to 4 mm wide. **Sepals** 0.7–1.3 × 0.7–1.6 mm, green to maroon, sparsely to moderately hairy, rarely glabrous, margins scarious, apex obtuse. **Petals** usually absent, rarely present and then clawed, white, limb obovate, apex emarginate; males: 1.3–1.5 mm long; females: 0.8–1.1 mm long. **Female flowers:** ovary 1.0–2.4 × 1.1–1.8 mm, usually orbicular to rhomboid, sometimes ovate, sparsely to moderately hairy, rarely glabrous; style up to 0.1–0.4 mm long; stigma 0.3–0.4 mm wide; 3–7 staminodes, 0.8–1.4 mm long, rarely with malformed anthers to 0.3 mm long. **Male flowers:** 4–6 stamens, 1.5–2.8 mm long, white; anthers 0.3–0.6 mm long, white or maroon; ovary rudimentary, 0.2–1.1 × 0.3–1.3 mm. **Nectaries** 0.25–0.5 mm long, green, green-red, to red, oblong. **Siliques** 3.1–5.0 × 2.3–3.8 mm, usually orbicular to rhomboid, sometimes ovate, suture usually maroon, apex emarginate to retuse, style base often persistent. **Seed** usually obovate, rarely obovateoblong, straighter along one margin, compressed but with broad rounded margins, 1.7–2.5 mm long, not winged; both surfaces with a distinct groove from hilum at base towards apex, and the seed folded around it; apex broad and rounded; base cuneate or slightly rounded. **Testa** dull, orange or orange-brown to dark henna, with a fine reticulum of very thickwalled cells.

SIMILAR TAXA

Distinguished from *Lepidium sisymbrioides* by shorter, wider cauline leaves, shorter terminal and primary pinnae with less frequent secondary lobing; more hairy sepals and ovaries; broader ovaries; longer stamen filaments; and ecology.

FLOWERING

September–January

FLOWER COLOURS

Green, White

FRUITING

September–February

LIFE CYCLE

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

PROPAGATION TECHNIQUE

Easily grown from fresh seed.

THREATS

Less than 1000 plants are known in the wild. Few sites protected. All sites threatened by weed competition, animal browsing, and for most sites changes in land-use management.

ETYMOLOGY

lepidium: Scale-shaped (pods)

solandri: Named after Daniel Carlsson Solander (19 February 1733 - 13 May 1782) who was a Swedish naturalist and an apostle of Carl Linnaeus.

WHERE TO BUY

Not commercially available.

ATTRIBUTION

Description from: Heenan et al 2007.

REFERENCES AND FURTHER READING

Allen RB. 2000. Inland *Lepidium* recovery plan 2000–2010. *Threatened Species Recovery Plan 32*. Department of Conservation, Wellington, NZ. 25 p.

Heenan PB, Mitchell AD, McLenachan PA, Lockhart PJ, de Lange PJ. 2007. Natural variation and conservation of *Lepidium sisymbrioides* Hook.f. and *L. solandri* Kirk (Brassicaceae) in South Island, New Zealand, based on morphological and DNA sequence data. *New Zealand Journal of Botany* 45(1): 237–264.

<https://doi.org/10.1080/00288250709509712>.

Thorsen MJ, Dickinson KJM, Seddon PJ. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285–309. <https://doi.org/10.1016/j.ppees.2009.06.001>.

MORE INFORMATION

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