

Australopyrum calcis subsp. optatum

COMMON NAMES

Canterbury limestone wheat grass

BIOSTATUS

Native – Endemic taxon

CATEGORY

Vascular

STRUCTURAL CLASS

Grasses

DETAILED DESCRIPTION

Slender, stoloniferous red-green to dark green perennial grass. **Leaf-sheath** 25–50 mm, reddish green. **Auricles** 0.1–0.5 mm. **Ligule** 0.6–1.25 mm, lacerate. **Collar** dark brown to purple. **Leaf-blade** 60–250 × 0.5–3.5 mm, flat, thin, upper surface finely hairy on nerves; underside with conspicuous white midrib and 2 lateral ribs. **Culm** 170–600 mm, slender, reddish, nodes swollen, dark-brown to black, internodes glabrous with uppermost shortly-hairy. **Inflorescence** a spicate raceme 30–130 mm; spikelets 4–13, overlapping; rachis internodes shortly hairy, margins toothed. **Spikelets** 10–14 mm. **Glumes** unequal, lower 2.5–4 mm, upper 3.7–5.5 mm, narrowly to broadly-triangular, 3–5-nerved, undersides prickly toothed, upper invested with short white hairs. **Lemma** 9–11 mm; undersides with stiff 0.3 mm long teeth, awn 1.5–4 mm. **Palea** 5.3–7 mm, apex bidid. **Callus** 0.25–0.4 mm upperside with short stiff hairs. **Anthers** 2.4–2.8 mm. **Ovary** 0.8–1 mm, stigma-styles 1.8–2 mm. **Seed** 3.5–4 mm, linear.

SIMILAR TAXA

Australopyrum calcis Connor et Molloy subsp. *calcis* is a larger, stouter grass. The upper surfaces of the leaves of this subspecies are glabrous (finely hairy in *Australopyrum calcis* subsp. *optatum*), while the culm internodes are glabrous (the uppermost is hairy in *Australopyrum calcis* subsp. *calcis*). The rachis internodes of *Australopyrum calcis* subsp. *calcis* are glabrous; in subsp. *optatum* they are finely hairy.

DISTRIBUTION

Endemic. South Island. Canterbury. Known from Mt Cass, Castle Hill (where it is known from Castle Hill, Prebble Hill and Flock Hill) and from the Limestone Valley Road near Pleasant Point.

HABITAT

A species of base-rich substrates and soils derived from these. Now only known from limestone outcrops where it grows under overhangs, in crevices or under shrubs and trees growing in and around the rock outcrops. One old herbarium specimen suggests it once grew on alluvial terraces.

CURRENT CONSERVATION STATUS

2023 | Threatened – Nationally Critical | Qualifiers: RR

[Jump to previous conservation statuses](#)



Australopyrum calcis ssp. *optatum*.
Photographer: Brian P. Molloy, Licence: CC BY-NC.



Herbarium specimen. Photographer: Cathy Jones, Licence: CC BY.

THREATS

Vulnerable to browsing animals damaging the shrublands shading the limestone overhangs in which this species grows, thereby allowing the spread of weed species and altering light levels, and although not especially palatable, plants are browsed. There is a total of perhaps 2000 plants: approximately 100 of these are at Mt Cass, and the largest sub-population of approximately 1000.

DETAILED TAXONOMY

FAMILY

Poaceae

AUTHORITY

Australopyrum calcis subsp. *optatum* Connor et Molloy

SYNONYMS

None

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

ECOLOGY

FLOWERING

October–December

FRUITING

November–February

PROPAGATION TECHNIQUE

Easy from fresh seed. Does well in a sunny or semi-shaded location. Prefers a friable soil enriched in lime. Does best in a dry soil, disliking permanently damp conditions. Very shade tolerant but in such conditions it rarely flowers well.

OTHER INFORMATION

MANAAKI WHENUA ONLINE INTERACTIVE KEY

[Key to the grasses of New Zealand](#)

NVS CODE

AUSOPT

CHROMOSOME NUMBER

2n = 14

PREVIOUS CONSERVATION STATUSES

2017 | Threatened – Nationally Endangered | Qualifiers: DP, RR

2012 | Threatened – Nationally Endangered | Qualifiers: RR

2009 | Threatened – Nationally Vulnerable | Qualifiers: RR

2004 | Threatened – Nationally Vulnerable

[Jump to current conservation status](#)

REFERENCING AND CITATIONS

REFERENCES AND FURTHER READING

Edgar E, Connor HE. 2000. Flora of New Zealand. Vol. V. Grasses. Christchurch, Manaaki Whenua Press. 650 p.

ATTRIBUTION

Description modified from Edgar and Connor (2000).

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MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/australopyrum-calcis-subsp-optatum/>

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