

Cardamine magnifica

COMMON NAME

Castle Hill bittercress

SYNONYMS

None - first described in 2019

FAMILY

Brassicaceae

AUTHORITY

Cardamine magnifica Heenan

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

INTERIM CONSERVATION STATUS

2019 | Threatened – Nationally Critical | Qualifiers: DP | Interim

BRIEF DESCRIPTION

Allied to *Cardamine glara* from which it differs by its more robust growth habit, strongly rhizomatous stems, larger and thicker leaves, conspicuous and larger flowers, larger sepals and petals, longer anthers, filaments and styles, and longer seeds with a winged margin.

DISTRIBUTION

Endemic. South Island, Canterbury, Castle Hill Basin (including Castle Hill, Gorge Hill, and Prebble Hill).

HABITAT

A plant inhabiting fine-grained limestone scree, stony colluvium, and also growing on the margins of associated sparsely vegetated, stable to semi-stable limestone rock outcrops and bluffs.



Castle hill basin, Canterbury. Photographer: Peter J. de Lange, Date taken: 16/11/2017, Licence: Public domain.



Castle hill basin, Canterbury. Photographer: Peter J. de Lange, Date taken: 16/11/2017, Licence: Public domain.

DETAILED DESCRIPTION

Perennial herb, single rosette or with short lateral branches, stem and branches 1.0–1.5 mm diameter, strongly rhizomatous. Leaves up to 80 mm long, pinnatisect; lamina 10.2–55.0 × 12.0–28.0 mm, grey-green, light green, greenish-yellow, sometimes purplish beneath, coriaceous, usually glabrous, occasionally with sparsely hairy margins and petiole. Terminal pinna 4.0–16.0 × 4.0–17.0 mm, usually simple, sometimes with 1–2 very shallow lobes, orbicular, orbicular-rhomboid, to broadly elliptic-rhomboid, margin often irregular, apex obtuse with a conspicuous hydathode, base obtuse, truncate or weakly cordate and sometimes oblique. Lateral pinnae 2–4, 2.0–11.0 × 2.0–10.0 mm, orbicular, orbicular-rhomboid, to broadly elliptic-rhomboid, petiolule 0.5–8.0 mm long. Petiole up to 65 mm long; hairs septate and 0.3–0.4 mm long. Cauline leaves similar to rosette leaves but smaller and with fewer lateral pinnae. Inflorescence racemose, 7–15-flowered; peduncle up to 140 mm long, 0.8–1.4 mm diam. at base, upright, glabrous. Pedicels 12.0–37.0 mm long, 0.4–0.5 mm diam., glabrous. Sepals 2.6–4.5 × 1.5–2.2 mm, elliptic-oblong to broadly elliptic, ± saccate, green or red-brown, usually glabrous or occasionally sparsely hairy in distal half, margin translucent or white, membranous, apex obtuse, base truncate. Petals 7.6–11.3 × 3.8–5.0 mm, white, limb obovate to broadly elliptic; apex obtuse; base cuneate, tapering to a 1.0–1.4 mm long claw. Stamens 6; median filaments 4, 3.6–4.0 mm long; lateral filaments 2, 3.2–3.4 mm long; anthers 0.8–0.9 mm long, cream to pale yellow, when dehiscent held at a similar height to or slightly below the stigma. Ovary 3.5–4.2 mm long, 0.5–0.6 mm diam., ± terete, green, glabrous; ovules 18–22; style 2.0–4.0 mm long, ± terete; stigma 0.7–0.8 mm diam. Siliques 33.0–40.0 × 1.5–1.8 mm, glabrous, style 1.8–3.0 mm long; valves green to red-brown at maturity; straw-coloured when dehiscent, replum 0.3–0.4 mm wide. Seeds 1.4–1.9 mm long, 0.7–1.1 mm wide, 0.3–0.5 mm thick, broad-oblong, oblong to oblong-elliptic, yellowbrown to henna; wing present.

SIMILAR TAXA

At Castle Hill Basin, *Cardamine magnifica* occurs with *C. coronata*, *C. glara* and *C. intonsa*. In comparison to *C. glara*, *C. magnifica* has a more robust growth habit, strongly rhizomatous stems, thicker, more robust and larger leaves, conspicuous and larger flowers, larger sepals and petals, longer anthers, filaments and styles, and longer seeds with a winged margin. *Cardamine coronata* is readily distinguished by its leaflet axillary hydathodes and the hairy silique, *C. intonsa* has hairy leaves and siliques, and both species have smaller sepals, petals, anthers, filaments, and seeds.

FLOWERING

October - December

FLOWER COLOURS

White, Yellow

FRUITING

December - March

PROPAGATION TECHNIQUE

Not known from cultivation.

THREATS

Heenan & Molloy (2019) recommend that *Cardamine magnifica* be assessed as 'Threatened, Nationally Critical' (Criterion "A" of very small population (natural or unnatural), however they also note that following criteria for 'Nationally Critical' also apply: A(1) < 250 mature individuals and A(3) total area of occupancy ≤ 1 hectare see Townsend et al. (2008). Heenan & Molloy (2019) also advise that the species be qualified 'DP' (data poor) due to the lack of population size and trend data (see Townsend et al. 2008).

ETYMOLOGY

cardamine: From the Greek name kárdamon, referring to an Indian spice

magnifica: Meaning 'splendid'

ATTRIBUTION

Fact sheet prepared by P.J. de Lange (5 September 2019). Description from Heenan & Molloy (2019).

REFERENCES AND FURTHER READING

Heenan, P.B. and Molloy, B.P.J. 2019: Five new and Nationally Threatened taxa of *Brachyscome*, *Cardamine*, *Convolvulus*, *Geranium* and *Ranunculus* obligate to vulnerable limestone habitats, eastern South Island, New Zealand. *Phytotaxa* 415(1): 32-48.

Townsend, A.J., de Lange, P.J., Norton, D.A., Molloy, J., Miskelly, C. and Duffy, C. 2008: *The New Zealand Threat Classification System Manual*. Department of Conservation, Wellington, 35 pp.

NZPCN FACT SHEET CITATION

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

MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/cardamine-magnifica/>