

Cardamine panatohea

SYNONYMS

None first described in 2018

FAMILY

Brassicaceae

AUTHORITY

Cardamine panatohea Heenan et de Lange

FLORA CATEGORY

Vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Herbs - Dicotyledons other than Composites

CURRENT CONSERVATION STATUS

2017 | Threatened – Nationally Critical | Qualifiers: DP

DISTRIBUTION

Endemic. North Island, Tongariro National Park, Mt Ruapehu

HABITAT

Known from 1600-1700 m a.s.l., in two closely located but separate seepages and associated alpine flush vegetation. The two habitats occupied are completely water-saturated, with plants growing threaded through thick, floating bryophyte-dominated mats composed of mostly *Breutelia pendula* and *Riccardia furtiva* in sites that are partially sheltered by *Hierochloa redolens* and *Chionochloa pallens* subsp. *pallens*.



Mount Ruapehu. Photographer: Jeremy R. Rolfe, Date taken: 12/03/2015, Licence: CC BY.



Mount Ruapehu. Photographer: Jeremy R. Rolfe, Date taken: 12/03/2015, Licence: CC BY.

DETAILED DESCRIPTION

Perennial herb, single or several rosettes, with 1–10 short lateral branches, stems and branches 0.5–1.5 mm diameter. Leaves up to 45 mm long, pinnatisect; lamina 3.3–15.0 × 3.5–13.0 mm, green, semi-coriaceous, sparsely to moderately hairy or glabrate on adaxial surface, margin and petiole, glabrous or sparsely hairy on abaxial surface; terminal pinna 3.3–12.0 × 3.5–13.0 mm, simple, orbicular-reniform to reniform, apex obtuse with an inconspicuous hydathode, base usually cordate, sometimes obtuse or truncate. Lateral pinnae 0–4, 2.0–4.0 × 1.5–2.5 mm, orbicular to orbicular-rhomboid, petiolule absent or up to 1.2 mm long; petiole up to 30 mm long; hairs 0.1–0.2 mm long, spreading to patent. Cauline leaves similar to rosette leaves but distally smaller, narrower, with fewer lateral pinnae. Inflorescence with 1–4 racemes, each raceme 4–12-flowered, terminal flowers often in a cyme-like cluster; peduncle up to 140 mm long, 0.5–1.5 mm diam. at base, prostrate, decumbent to seldom upright, glabrous. Pedicels 1.5–8.0 mm long, 0.2–0.8 mm diam., glabrous or rarely hairy, spreading. Sepals 1.8–2.2 × 0.5–1.1 mm, elliptic-oblong to narrowly elliptic-oblong, ± saccate, green, glabrous; margin with a thin membranous white edge, apex obtuse; base truncate. Petals 4; 3.8–5.0 × 1.2–1.5 mm, white, limb obovate to broadly elliptic-obovate; apex obtuse; base cuneate, tapering to a c. 1 mm long claw. Stamens 6; median filaments 4, 2.4–2.7 mm long; lateral filaments 2, 2.1–2.2 mm long; anthers 0.3–0.4 mm long, cream to pale yellow, when dehiscent held at a similar height to or slightly below the stigma. Ovary 2.2–2.4 mm long, 0.3–0.4 mm diameter, ± terete, green, glabrous; ovules 18–24; style 0.1–0.2 mm long, ± terete; stigma 0.3–0.4 mm diam. Siliques 12.0–23.0 × 1.3–1.8 mm, glabrous, style 1.0–1.5 mm long; valves green at maturity and when dehiscent, replum 0.3–0.4 mm wide. Seeds 1.1–1.4 mm long, 0.9–1.0 mm wide, 0.4–0.5 mm thick, orbicular-oblong to broadly oblong, light green to brown-green; wing absent.

SIMILAR TAXA

Cardamine panatohea is distinguished from all other New Zealand indigenous *Cardamine* species by its sprawling, usually prostrate or decumbent inflorescences that have well-developed leafy rosettes in the axils of the lateral branches, and from *C. corymbosa* in its thicker leaves with scattered hairs on the adaxial surface and racemose inflorescence

FLOWERING

November - February

FLOWER COLOURS

White

FRUITING

December to April

PROPAGATION TECHNIQUE

Easily grown from fresh seed but short-lived and difficult to maintain in cultivation.

THREATS

Known from two sites on the south-western flank of Mt Ruapehu, occupying an area of < 1 ha. The main population of 30–38 plants is threatened by animal browse and loss of habitat through trampling. The second site, comprising a single patch growing within the spray zone of a waterfall, is extremely vulnerable to a stochastic event such as flooding, but less likely to be threatened by animal browse and trampling. Following the criteria of Townsend et al. (2008) the species has been assessed using the tag name *Cardamine* (p) (CHR 640349; Turoa) as 'Threatened – Nationally Critical' qualified 'DP' [Data Poor] by the New Zealand Indigenous Vascular Plant Threat Listing Panel (de Lange et al. 2018).

ETYMOLOGY

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

panatohea: The Te Reo Maori epithet 'panatohea' originates from the names 'panapana', a generic name for this type of cress, and 'titohea' which is the description of the land above the bush line on Ruapehu. 'titohea' is usually translated to mean 'barren' but for Whanganui tribes it means a sacred area, usually desert or mountainous, where special species grow.

ATTRIBUTION

Fact Sheet prepared by P.J. de Lange (30 November 2019) based on Heenan & de Lange (2018)

REFERENCES AND FURTHER READING

Heenan, P.B.; de Lange, P.J. 2018: *Cardamine panatohea* (Brassicaceae), a new, threatened, alpine species from New Zealand. *Phytotaxa* 379: 255–260

NZPCN FACT SHEET CITATION

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<https://www.nzpcn.org.nz/flora/species/cardamine-panatohea/> (Date website was queried)

MORE INFORMATION

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