

# Veronica tetrasticha

## COMMON NAME

hebe

## SYNONYMS

*Hebe tetrasticha* (Hook.f.) Andersen, *Hebe tetrasticha* (Hook.f.) Cockayne et Allan nom. illeg., *Leonohebe tetrasticha* (Hook.f.) Heads

## FAMILY

Plantaginaceae

## AUTHORITY

*Veronica tetrasticha* Hook.f.

## FLORA CATEGORY

Vascular – Native

## ENDEMIC TAXON

Yes

## ENDEMIC GENUS

Yes

## ENDEMIC FAMILY

No

## STRUCTURAL CLASS

Trees & Shrubs - Dicotyledons

## NVS CODE

LEOTET

## CHROMOSOME NUMBER

2n = 42

## CURRENT CONSERVATION STATUS

2017 | At Risk – Naturally Uncommon | Qualifiers: DP, Sp

## PREVIOUS CONSERVATION STATUSES

2012 | At Risk – Naturally Uncommon | Qualifiers: Sp

2009 | At Risk – Naturally Uncommon

2004 | Not Threatened

## BRIEF DESCRIPTION

Low growing green leafless nearly cross-shaped (in cross section) twigs inhabiting Canterbury mountains. Leaves overlapping, scale-like, triangular, tapering out to a base that clasps the stem, margin with pale hairs (lens needed). Flowers white, in clusters of 2-6 towards tips of twigs.

## DISTRIBUTION

Mountains of Canterbury (mostly) and Westland, from the Otira Valley in the northwest and Puketeraki Range in the northeast to Mt Somers in the south.

## HABITAT

Grows on alpine rocks and scree.



L. Lyndon, December. Photographer: John Smith-Dodsworth, Licence: CC BY-NC.



Sugarloaf, Canterbury. Photographer: Jesse Bythell, Licence: CC BY-NC.

## DETAILED DESCRIPTION

Subshrub to 0.2 m tall, or semiwhipcord form. Branches decumbent; internodes (0.15-) 0.25-0.5 mm; branchlets, including leaves, (1.5-) 2-3.5 (-4) mm wide, cruciform in transverse section; connate leaf-bases glabrous; leaves not readily abscising, persistent along the stem for some distance. Leaf bud tightly surrounded by recently diverged leaves. Leaves connate, appressed; lamina deltoid; venation not evident in fresh leaves; margin ciliate; lower surface light to dark green. Juvenile leaves entire, pubescent (with eglandular hook-shaped hairs). Inflorescences with 2-6 flowers, lateral (obscuring vegetative tip when numerous), unbranched, (0.2-) 0.3-0.7 cm; peduncle 0.05-0.2 cm. Bracts opposite and decussate, connate or free (lowest usually free, but sometimes shortly connate; upper often shortly connate), deltoid, obtuse. Flowers male or female (on different plants). Pedicels absent or if evident then always shorter than bracts, 0-0.7 mm. Calyx 1.3-2 mm; lobes ovate or deltoid, obtuse, with mixed glandular and eglandular cilia (but glandular hairs may be obscure). Corolla tube glabrous; tube of male flowers approximately 1.5 x approximately 1.5 mm, contracted at base, equalling calyx; tube of female flowers approximately 1 x approximately 1 mm, contracted at base, shorter than calyx; lobes white at anthesis, ovate or rhomboid (male flowers only), obtuse, suberect to patent, longer than or approximately equalling corolla tube. Stamen filaments remaining erect, 0.7-1.5 mm (Male approximately 1.5 mm; female 0.7-1 mm); anthers purple or violet to magenta, 1-1.2 mm; sterile anthers of female flowers approximately 0.5 mm. Ovary 0.5-0.6 mm; ovules 3-6 per locule, in 2 vertical rows on placenta; style 0.8-1.5 mm (often longer in male flowers than female flowers); stigma more prominent in female flowers. Capsules angustiseptate, obtuse, 2-3 mm long, 1.5-2.5 mm thick. Seeds flattened, ellipsoid to oblong, smooth or finely papillate, pale brown (to orange), 0.8-1 x 0.5-0.7 mm, micropylar rim 0.1-0.3 mm.

## SIMILAR TAXA

Differences from *V. cheesemanii* require clarification. The two species are distinguished primarily on differences in the profile of branchlets in transverse section (square, at least on older branchlets, in *V. cheesemanii* cruciform in *V. tetrasticha*). However, branchlet profiles vary between the two extremes, and differences are not always clear-cut.

## FLOWERING

(November-) December-January

## FRUITING

December-February

## LIFE CYCLE

Seeds are wind dispersed (Thorsen et al., 2009).

## ETYMOLOGY

**veronica:** Named after Saint Veronica, who gave Jesus her veil to wipe his brow as he carried the cross through Jerusalem, perhaps because the common name of this plant is 'speedwell'. The name Veronica is often believed to derive from the Latin vera 'truth' and iconica 'image', but it is actually derived from the Macedonian name Berenice which means 'bearer of victory'.

**tetrasticha:** From Latin, tetra 'four' and stichos 'row, line', refers to the leaf arrangement.

## IC NOTES

Plants identified as *V. cheesemanii*, but with features approaching *V. tetrasticha*, occur as far north as the Amuri District, as far west as the Leibig Range (Aoraki/Mt Cook National Park), and as far south as the Kirkliston Range. Some of these plants have branchlets that are prominently cruciform near the apex (where leaves are still expanding) but become more or less square with age. Whether some of these plants are better placed under *V. tetrasticha* is debatable, and at least some have been treated as such by Wilson (1978, 1996), Macdonald (1980) and Heads (1994).

From the distributions given here (see Bayly & Kellow, 2006), *V. tetrasticha* effectively "replaces" *V. cheesemanii* in parts or mid-Canterbury. A possible explanation for such a pattern is that *V. tetrasticha* has differentiated in this area from an historically more widespread, *V. cheesemanii* like ancestor. Of course, other scenarios are possible (different interpretations of the limits of the species might contradict this one), and whether *V. tetrasticha* and *V. cheesemanii* are most closely related is also not known. Analysis of ITS sequences (Wagstaff et al. 2002) does not support a sister relationship, but similarity or flavonoid profiles (Markham et al. 2005) might.

## ATTRIBUTION

Description adapted by M. Ward from Bayly & Kellow (2006).

## REFERENCES AND FURTHER READING

- Bayly, M.J., Kellow, A.V. 2006. An illustrated guide to New Zealand Hebes. Wellington, N.Z.: Te Papa press pg. 298.
- Heads, M. J. 1994. Biogeography and evolution in the Hebe complex (Scrophulariaceae): *Leonohebe* and *Chionohebe*. *Candollea* 49: 81-119.
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- Markham, K.R., Mitchell, K. A., Bayly, M. J., Kellow, A. V., Brownsey, P. J. and Garnock-Jones, P. J. 2005. Composition and taxonomic distribution of leaf flavonoids in Hebe and *Leonohebe* (Plantaginaceae) in New Zealand - I. "Buxifoliatae", "Flagriformes" and *Leonohebe*. *New Zealand Journal of Botany* 43: 165-203.
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- Wagstaff, S.J., Bayly, M. J., Garnock-Jones, P. J. and Albach, D. C. 2002. Classification, origin, and diversification of the New Zealand Hebes (Scrophulariaceae). *Annals of the Missouri Botanical Garden* 89:38-63.
- Wilson, H. D. 1978. *Wild Plants of Mount Cook National Park*. Christchurch: Field Guide Publication.
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## NZPCN FACT SHEET CITATION

Please cite as: Ward, M.D. (Year at time of access): *Veronica tetrasticha* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/veronica-tetrasticha/> (Date website was queried)

## MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/veronica-tetrasticha/>