

Frullania wairua

COMMON NAME

Liverwort

SYNONYMS

None (first described in 2005)

FAMILY

Frullaniaceae

AUTHORITY

Frullania wairua von Konrat et Braggins

FLORA CATEGORY

Non-vascular – Native

ENDEMIC TAXON

Yes

ENDEMIC GENUS

No

ENDEMIC FAMILY

No

STRUCTURAL CLASS

Liverworts

CURRENT CONSERVATION STATUS

2009 | Threatened – Nationally Critical | Qualifiers: OL

PREVIOUS CONSERVATION STATUS

2004 | Threatened – Nationally Critical

DISTRIBUTION

Endemic. North Island, Te Pahi.

HABITAT

Corticolous. Confined to the twigs of *Metrosideros bartlettii*



Te Pahi. Sep 2011. Photographer: Jeremy R. Rolfe, Licence: CC BY.

DETAILED DESCRIPTION

Plants small, main shoots to 750 micrometre wide, olive-green. Branching frequently pinnate, branches mainly of Frullania-type. First branch underleaf with three distinct segments, the ventral lamina divided for half its length into two subequally sized lobes + 1 dorsal saccate lobe. First branch leaf with two distinct segments, a strap-shaped dorsal segment + 1 saccate ventral segment (+ a stylus), otherwise \pm characteristic in form to those of the main stem. Stem leaves of main shoot flat, slightly imbricate, ovate, to 300 x 225 micrometre, distal margins flat, lobe apices rounded, acute or abruptly apiculate, especially on younger shoots; base truncate or rounded; dorsal surface smooth. Lobules remote from stem, obliquely spreading, at angle of 30–50 degrees so that they are tilted outwards, clavate-cylindric, somewhat dorsiventrally compressed near mouth otherwise upper half gibbous, apex obtuse, the lobule obscuring the exposed area of the dorsal lobe to 125 x 80 micrometre, the opening of the mouth wide, free margin of lobular mouth crenulate-sinuate. Stylus small, uniseriate to triangular, up to 40 micrometre long, of 4–8 cells, 2–3 cells wide at base. Underleaves to 0.05–0.1x size of leaf lobes, distant, to 75(100) x 50(75) micrometre, 4–6 cells wide, 0.5–0.6 bifid, lateral margins entire, lobes 2–3 cells wide, attenuate apex of 3–5 uniseriate row of cells. Lobules of secondary stems \pm similar in size, but lobes and underleaves of secondary branches markedly smaller than those of leading stems. Leaf lobe composed of relatively large cells with major axis to c.20 cells long, minor axis to c.15 cells wide. Median cells of leaf lobe subquadrate to polygonal, with distinct, hyaline triangular trigones. Underleaf median cells with distinct trigones, particularly in the underleaf lobes. Lobule median cells with flexuose walls formed by indistinct heavily pigmented olive-brown to dark brown trigones in contrast to the hyaline walls of the lobe and stem underleaf, 1.5–2.25x longer than wide, cell cavities 8.5–14 x 5–8 micrometre. Oil-bodies of the lobe median cells 2–6 per cell. Dioicous? Gynoecia terminal on leading stems, bearing 1 subfloral innovation with a branch replacing the bract-lobule of the outermost series of bracts, and 1–2 subfloral branches immediately posterior to the outermost series of bracts. Innermost bract unequally bilobed for 0.5–0.6 its length; bract-lobe mostly entire with several coarse serrations; bract-lobule coarsely and sparingly dentate. Innermost bracteole about half bilobed, sinus narrow, lobes acuminate, free lateral margins with 2–4 coarse serrations. Median cells of female bract and bracteole with walls similar to those of underleaf median cells with comparable variation. Archegonia 3 per gynoecium. Perianth half exerted, oblong-ovate, c. 1000 x 750 micrometre. Sporophyte and spores not known.

FRUITING

Fruiting perianths have been seen in September

THREATS

Known from three sites at Te Paki where it grows only on the canopy twigs of four Bartlett's Rata (*Metrosideros bartlettii*). In April 2015 a helicopter Bartlett's rata canopy survey found no *Frullania wairua* on other associated canopy trees (rata (*Metrosideros robusta*), pohutukawa (*M. excelsa*), mamangi (*Coprosma arborea*) and maire tawake (*Syzygium maire*)). Even on Bartlett's rata *Frullania wairua* is scarce, and as its 'host tree' is in serious decline this makes *Frullania wairua* one of the few New Zealand liverworts that we can confidently say is highly threatened

EXTRA INFORMATION

Story in [Trilepidea Issue 28](#) (March 2006)

ATTRIBUTION

Fact Sheet Prepared for NZPCN by: P.J. de Lange (12 December 2005). Description adapted from von Konrat & Braggins (2005).

REFERENCES AND FURTHER READING

von Konrat, M; Braggins, J.E .2005: *Frullania wairua*, a new and seemingly rare liverwort species from Northland, New Zealand. *New Zealand Journal of Botany* 43: 885–893.

NZPCN FACT SHEET CITATION

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MORE INFORMATION

<https://www.nzpcn.org.nz/flora/species/frullania-wairua/>