Cheilolejeunea trifaria

Common Name(s):

liverwort

Current Threat Status (2009):

Data Deficient

Distribution:

Indigenous. New Zealand: Kermadec Islands (Raoul Island), Chatham Islands (Rangiauria (Pitt Island). Otherwise a widespread pantropical species

Habitat:

In New Zealand saxicolous on coarse coarse andesitic breccia within damp sites in shaded in ravines

Features*:

Forming extensive pure mats. Shoots black-green when fresh, fading to brown in herbaria, large for genus, to 40mm long and 890-1200 microns wide, branching infrequent, shoot system monomorphic, lateral branches same stature as parent branch. Stems with thin, continuous, yellow-pigmented secondary thickening on external walls, cortical cells in 7-8 rows with bulging trigones at cell angles, medulla cells in 9-14 rows, smaller than cortical cells, with confluent nodular trigones at cell angles. Dorsal leaf-free strip absent. Branching Lejeunea-type, collar with small leaf-like bracts, persistent. Lobes rotund, 670-850 × 600-820 microns wide, falcate, more or less plane, imbricate, margin continuously rounded, stem not visible between lobes in dorsal view. Lobe margins crenulate due to medial wall thickenings on outer walls of marginal cells. Surface of lobe cells bearing a single low papilla over each cell. Vitta and ocelli absent. Lobules small relative to lobe size, c. 1/20 the lobe area, trapeziform, 130-155 × 90-100 microns wide, carinal region weakly and broadly inflated, keel shallowly but continuously curved. Acroscopic margin not inrolled, straight. First lobule tooth indistinct, more or less incorporated into the lobule margin, but partially free on interior margin from adjacent lobule cells, unicellular, obscuring base of second lobule tooth. Second lobule tooth prominent, perpendicular to first lobule tooth, unicellular, cell apex acute. Lobule papilla attached to lobule margin in notch between first and second teeth. Underleaves rotund, 5-6× wider than the stem, shallowly bifid, sinus narrowly V-shaped, subauriculate, broadest at midpoint, margins entire, margins plane, 340-760 470-850 microns. Underleaf insertion strongly arched across two ventral cortical cell rows. Asexual reproduction absent. Autoicous. Gynoecia terminal on short lateral branches bearing zero to several pairs of vegetative leaves below the gynoecial bracts. Gynoecia usually without a subfloral innovation, rarely a single Radula-type innovation. Gynoecial bracts in one pair, asymmetrical, lobe of larger bract 550-590 × 270-300 microns, obovate, lobule of larger bract 410-460 × 130-150 microns, apex truncate, lobe of smaller bract 430-475 × 220-240 microns, obovate, lobule of smaller bract 340-370 × 90-120 microns, elliptical. Bract underleaf oblong, apex truncate, 570-620 × 160-180 microns, fused with bract lobules on both sides. Antheridial bracts in 2-4 pairs produced intercalary on leafy shoots that continue vegetative growth. Antheridial bracteoles 280-310 × 230-250 microns, obovate, entire. Antheridial bract lobes 220-360 × 390-520 microns, lobules 220-270 × 260-320 microns wide, keel deeply curved, apex triangular, hypostatic. Perianths and sporophytes not known in New Zealand.

Fruiting:

Known from two collections - neither fruiting

Threats:

In the New Zealand Botanical Region (see de Lange & Rolfe 2011) Cheilolejeunea trifaria is known only from Raoul Island in the Kermadec Islands group and Rangiauria (Piitt Island) in the Chatham Islands group (Renner & de Lange 2011). These gatherings were made on brief bryological surveys of both island groups and to date are all that has been seen from these areas. For this reason Cheilolejeunea trifaria has been cautiously awarded the status of "Data Deficient". Notably the species was not present in the May 2011 Kermadec Biodiscovery bryophyte gatherings made from Raoul, so it seems likely that it a scarce species, at least on those islands.

***Attribution:**

Fact Sheet Prepared for NZPCN by: P.J. de Lange (2 October 2011). Description adapted from Renner & de Lange (2011).

References and further reading:

de Lange, P.J.; Rolfe, J.R. 2010: New Zealand Indigenous Vascular Plant Checklist. Wellington, New Zealand Plant Conservation Network. 164pp.

Renner, M.A.M.; de Lange, P.J. 2011. Additions to the Lejeuneaceae Flora of New Zealand: New Species from the Kermadec Islands and Range Extensions of New Zealand species into the South Pacific. New Zealand Journal of Botany 49: 421–433.

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