

RARE LIVERWORTS OF CANTERBURY

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Most lowland forest liverworts (e.g. the many species of *Chiloscyphus* and *Heteroscyphus*) are quite widespread in New Zealand, being limited in their geographic extent by rainfall and suitable habitat. Many alpine liverwort species are known from only a few localities, but are likely to be widespread in the South Island mountains, but have not been searched for sufficiently to establish their true abundance and geographical range.

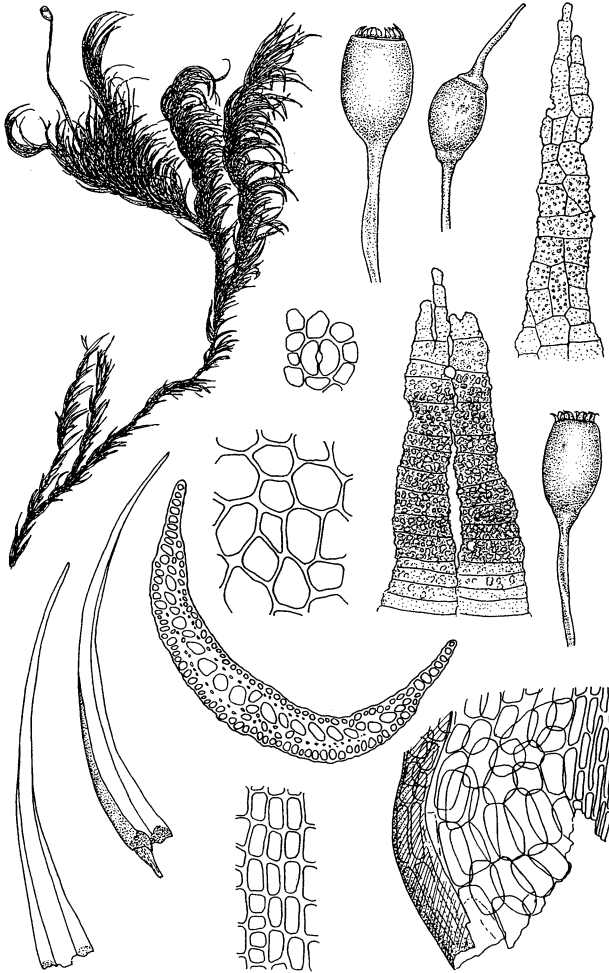
Apart from the mountains on the Main Divide, Canterbury is too dry for most leafy liverwort species. 222 liverwort species have been collected in Canterbury (Westland has 323 species) and most of these species have been collected near to the Main Divide. Eastern Canterbury's climate better suits some of the thallose species that are adapted to alternately wet and dry habitats. *Targionia hypophylla* is a good example of such a species. On the Port Hills it can be found growing on damp soil in early spring before the grasses thicken up. It then spends summer curled up to protect the upper thallus surface that has air pores that allow air and moisture in and out of the thallus. New Zealand is not rich in such thallose liverworts, and in some cases they may be adventives. *Riccia bulbosa*, *R. ciliata*, and *R. glauca* are three thallose species that were found by Bryony Macmillan, Ella Campbell and Ross Elder on the shore of Lake Pukaki in 1975 before the lake level was raised. These species have not been collected in New Zealand since but may be at other similar sites in Canterbury or Otago.

Rectolejeunea ocellata is a tiny leafy liverwort that grows on volcanic rock in the mostly dry streambed at Palm Gully near Akaroa. It is also known from similar sites under nikau palm forest in Northland (Manganui Bluff) and Gisborne. Only further collections will establish its true rarity. *Petalophyllum australe* is a thallose species of soil banks also in lowland forests, and is likely to have been present in the lowland forests of Canterbury (it is in Marlborough and coastal Otago) but has not been recorded from the province.

Plagiochasma rupestre is a dry-adapted thallose liverwort collected on the Port Hills by Amy Hodgson in 1941 but not seen there since. The habitat of *Plagiochasma rupestre* may have disappeared, or more searching may be required to find it. It is common in Gisborne and has been found in Central Otago. It is a species with a worldwide distribution.

Of the alpine liverworts, several species have their type locality on the Sealy Range at Mt Cook as a result of a collecting trip there by Rudolf Schuster in c. 1965. Few new localities have been found for these species since, but this is likely to be due to a lack of collecting effort. These species are: *Cephalolobus squarrosus* (also known from Foggy Peak and Arthurs Pass), *Cephalolobus hodgsonae* (known only from the type), *Herzogobryum filiforme* (also collected in the Upper Otira Valley), *Metzgeria alpina* (also collected in Fiordland), and *Pachyschistochila trispiralis* (also collected on Mt Ruapehu and in the Upper Otira Valley). These species are all New Zealand endemics, and *Cephalolobus* is an endemic genus made up of the two species

mentioned above. In addition, Arthurs Pass has several subalpine to alpine species that are rare: *Herzogobryum atrocapillum* collected on the Avalanche Peak track, *Isolembidium cucullatum* and *Treubia pygmaea* both collected on the Coral track. These three species are also likely to be more common and widespread than collections indicate.



Verrucindens turpis (del. Rebecca Wagstaff)