vel raro perforatis; scyphis imperforatis, sensim dilatatis, 3–6mm latis, margine dentatis vel proliferis, interdum deformis vel obsoletis; proliferationibus numerosis, longis vel brevis. Apothecia parva, .2–.4mm diam, simplicia vel aggregata in apicibus ramulorum, fuscentia; spermagonia etiam in apicibus ramulorum sita, cylindrica; materiam hyalinam (?) continentia.

Primary thallus 1.5–2mm long, soon evanescent. Podetia 1–1.5mm at the base, widening upwards, subcylindric, ecorticate but not tomentose, surface uneven, usually imperforate but an occasional longitudinal foramen may occur. The axils are closed, branches are few, irregular, or absent, and the walls are esquamulose and esorediate. The chondroid layer is smooth and lacks the reticulate surface present in *C. boryi*. The habit too is distinct. The scyphi may be quite regular, oblique, deformed, or even absent; they are commonly proliferous from the margin and closed with a concave or funnel-shaped membrane. Apothecia and spermagonia are borne on the apices of the proliferations or their branches and are quite minute. All plants are K — and P —, but KC + indicative of the presence of usnic acid.

Cladonia southlandica differs from *C. boryi* in the absence of the reticulate lining of the chondroid layer surrounding the central canal, in its smaller stature and almost constant presence of well-formed scyphi, in the fewer branches and distinct habit. The walls of the podetia, though of uneven thickness, are not conspicuously perforate or lacunose, but the exterior medullary layer is rather similar to that of *C. boryi* though less tuberculate. The terminal branchlets in both species are short, erect, and commonly fertile. Many plants have the goblet form of *C. chlorophaea* or *C. major* but are constantly proliferate. Very short spinous branchlets 1mm long sometimes are present.

DISTRIBUTION. Amongst *Leptospermum* in open spaces on peaty soil at Awarua Bay, and other localities on the Southland Plains. It occurs also on peaty soils at the head of Paterson's Inlet in Stewart Island.

Subsection CLADINAE

In a recent paper the writer reviewed the subsection *Cladina* of the genus *Cladonia*, indicating that four species were present in New Zealand—viz., *Cladonia alpestris* (or *alpestroides* ?), *C. leptoclada, C. impexa,* and *C. mitis*. Not having seen *C. alpestroides,* I was unable to say which of these two allied species was indigenous to New Zealand. Prof. Teuvo Ahti, in a personal communication, agrees that our plant belongs to the *Alpestrae,* but thinks it distinct from either. *C. alpestroides* was named by Des Abbayes for plants met with in Madagascar, where *C. leptoclada* is also indigenous. Des Abbayes stated that one distinguishing feature was the white spermagonial jelly of *C. alpestroides,* that of *C. alpestris* being red; but Ahti points out that the jelly is red in both species.

Whether our plants are specifically distinct from either of these two species can be determined only by examination of ample suites of specimens such as are not available in New Zealand. The so-called var. *portentosa* is very probably no more than an ecad, as suggested by Ahti.

Further study of New Zealand material leads me to the conclusion that plants determined for me by Dr Alex. W. Evans as *C. impexa* differ from *C. leptoclada* in little more than colour, and that records of this species in New Zealand should be transferred to *C. leptoclada,* a species which in this country shows considerable colour variation from white to grey or to yellow. This will further reduce our *Cladinae* to three species. It has been suggested that our plants of the *Alpestrae* group might possibly come within the range of *C. leptoclada,* but field evidence and a study of the structure seem to exclude any such possibility.

C. mitis was first recorded from New Zealand by Sandstede, the author of the species. Though none of numerous subsequent gatherings exactly matches overseas material in my herbarium, there is little doubt that our plants are correctly labelled. Ahti was at first inclined to place our plants as near to *C. laevigata,* but other material recently sent him has led him to confirm my determination as *C. mitis*. Recent gatherings include: Arthur's Pass (8259); Maungatua, Dunedin (T.1332 and M.8260); Cass (W. R. Philipson B.23), (6796); Rotoiti, Nelson (8190); Rimutaka Mts (8195); near Taupo (K. W. Allison L.236).