Cladia Nyl.

(In *Bull. Soc. Linn. Normandie* 11, 4, 167 (1870).)

Primary thallus nodular or unknown. Pseudopodetia dichotomously branched, often sympodial; esquamulose, esorediose, ascyphous, and without isidia, glossy or dull; cortex of conglutinate longitudinal hyphae. Chondroid axis absent; medulla thin, arachnoid, poorly developed; walls clathrate to sparingly perforate, sometimes imperforate. Apothecia minute, black, peltate, on tips of terminal branchlets, often aggregate in small cymes, numerous.

KEY TO SPECIES OF *Cladia* NYL.

1. Apices of podetia blunt; perforations very numerous 2
   Sterile podetia ending in 2 (1–3) short spinose branchlets; wall perforations fewer and more irregularly spaced or absent .... *C. aggregata.*
2. Plants snow-white, greyish, or faintly yellowish. Perforations occupying not less than half podetial surface. Interior white .... *C. retipora.*
   Plants brown and black, or greenish-grey. Perforations fewer and less regular. Interior walls usually black .... *C. sullivanii*

DESCRIPTION OF *Cladia retipora* (LA BILL.) NYL. (Plate 1)

Primary thallus nodular, white. Pseudopodetia robust or slender, 1.5–5mm diam., 25–80mm tall; colour white, pale greyish, or faintly yellowish; pliant and spongy when moist, brittle when dry; cortex continuous; walls uniformly clathrate from base to apex in 3–8 series, forming an even network. Perforations 5–11 per cm in each series. Medulla thin, white, poorly developed. Plants forming open cushions 10–100cm diam. Apothecia minute, black, peltate, crowded on apical branchlets. Spermagonia minute on separate plants or podetia; spermagonial jelly not seen. Plants K±, P—, KC±. Atronorine, rangiformic acid, and usnic acid commonly present.

DISTRIBUTION:—Australia, Tasmania, New Zealand, New Caledonia, Campbell Island, Auckland Island, Chatham Island.

HABITATS:—Sea-level to 1,200m usually on peaty soils amongst tussocks or other low vegetation, in manuka heaths, on fell-fields; more rarely on rocks, logs and sand dunes.

I am indebted to Dr R. T. M. Pescott, Director of the National Herbarium of Victoria, and to Mr K. Mair, Director and Chief Botanist of the Botanic Gardens at Sydney, for the loan or gift of *Cladia* specimens from Australian and Tasmanian sources, including all three species. All specimens of *C. retipora* forwarded appear to belong to the same taxon as those in New Zealand and New Caledonia. Var. *corallizon* F. Wilson is quite synonymous with the type form and should be dropped.

At Lewis Pass in Canterbury, New Zealand, the writer has observed cushions of *Cladia retipora* over a square metre in area, and Dr Pescott informs me that cushions the size of a football occur on the Grampian Mountains in Australia. These massive cushions are apparently restricted to subalpine zones for lowland plants are normally only 5–10cm in diameter. Vainio and Müller (Argov.) describe the colour as brown, but this colour only develops after lengthy storage. Plants collected by the writer in Chatham Island in 1925 were white when secured but are now quite brown, as are many other early collections—but not all. Several specimens have the apical network black to a depth of 1 to 3mm but are otherwise snow-white.