LOCALITY. Type locality, Aldinga, South Australia (Bale, 1882): Quail Island, Gladstone Pier, Lyttelton Harbour (G. Knox), 25/6/53, 409; and, Lyttelton Harbour (Bale, 1924); Menzies Bay, Bank's Peninsula (G. Knox), –/8/49, 240; Portobello Marine Biological Station, reef (E. J. Batham), 26/3/51, 180; Stewart Island (Ringa Ringa), Mrs. E. Willa, 8/11/56, 528.

DISTRIBUTION. Australia; Tasmania; New Zealand; South Africa.

A. plumosa was recorded first from New Zealand by Bale (1924), and not recorded again until the present paper. The species appears to be of fairly widespread occurrence in the Lyttelton and Port Chalmers harbour areas and is known from one Stewart Island locality but not from North Island waters. *A. plumosa* is the only species of *Aglaophenia* known from New Zealand waters in which the lateral margin of the hydrotheca lacks teeth and has everted marginal lobes.

Aglaophenia acanthocarpa Allman, 1876. Figs. 9, h-j; 10, g.

1876a. *Aglaophenia acanthocarpa* Allman, p. 274, Pl. XXI, figs. 1–4.
1911. *Aglaophenia laxa* of Hilgendorf, p. 541, not *A. laxa* Allman, 1876.
1916. ? *Aglaophenia divaricata* var. *acanthocarpa* of Jaderholm, p. 18.
1924. *Aglaophenia acanthocarpa* Allman. Bale, p. 258, fig. 14 (synonymy).
1926. *Aglaophenia acanthocarpa* Allman. Bale, p. 23.
1928. ? *Aglaophenia acanthostoma* Allman. Trebilcock, p. 25.
1930. *Aglaophenia acanthocarpa* Allman. Totton, p. 235.

A small species with erect stem up to 8.0 mm in length, often arising from a tangled mass of hydrorhizal stolons; monosiphonic, stems either branched or unbranched; "branches" in reality secondary stems arising from hydrorhizal tubes that have grown up the stem; primary stem smooth for the first one or two millimetres, then a portion of variable length, bearing a row of nematothecae, and lastly, the stem regularly divided by transverse nodes into internodes, from which the hydrocladia arise, one per internode, and from the frontolateral aspect; hydrocladia borne on a stem apophysis approximately 0.09 mm in length; hydrocladia up to 3.5 mm in length; secondary stems ("branches") divided by nodes into non-thecate internodes for the first one or two millimetres, thereafter each internode carries a hydrocladium; stem internodes from 0.22 to 0.30 mm in length and 0.19 to 0.30 mm in width; internodes of hydrocladia from 0.200 to 0.275 mm in length and 0.11 to 0.14 mm in width; hydrothecae deep, length to breadth ratio most frequently 2:1; an adcauline intrathecal ridge towards the base of the hydrotheca and a fold from it nearly surrounds the hydrotheca; hydrotheca set at an angle of from 40° to 45° to the long axis of the internode; margin of hydrotheca with prominent teeth, a median anterior tooth sharply pointed and with a small angular erect crest, and four pairs of lateral teeth, the first wide, the second and third triangular, and the fourth tiny and not readily observed in side view; second lateral tooth everted and the largest of the laterals; abcauline length of hydrotheca approximately 0.25 mm; width of hydrotheca at margin 0.13 to 0.15 mm viewed laterally; two septal ridges across the internode, one at the level of the intrathecal ridge and the other at the base of the lateral nematothecae; in general neither septal ridge extends right across the internode; nematothecae—mesial nematotheca 0.29 to 0.35 mm in length, fixed to the abcauline wall of the hydrotheca almost to the margin and then projecting outward, and upward, free portion forming a tube nearly equal in diameter from lateral aperture to the tip; terminal aperture and lateral aperture well separated and readily observed; an opening from mesial nematotheca into hydrotheca; lateral nematothecae flanking the hydrotheca approximately 0.125 mm in length, fixed to the hydrotheca as far as the margin with the short free portion directed forward and upward; lateral nematothecae largest on hydrothecae at the distal end of the hydrocladium; terminal and lateral aperture distinct; stem nematothecae positioned at the base of the hydrocladia on the stem apophysis: two in number, broader than but similar to the laterals flanking the hydrotheca: gonosome, borne on a modified hydrocladium which forms a protective corbula; corbula open, approximately 4.0 mm in length including the basal peduncle; basal peduncle with one hydrothecate internode; internodes of rachis short, approximately 0.15 mm in length, and each is provided with a median and inner nematotheca with gutter-like aperture; gonohydrocladia borne on fronto-lateral apophysis of the rachis internodes; approximately 25 pairs of gonohydrocladia on fully grown corbulae; each gonohydrocladium with a basal median and a distal lateral nematotheca; arching costae arise from the gonohydrocladia of each side, and tips of the two series of costae meet in mid line; costae divided by transverse nodes into internodes, each of the latter with a pair of opposite long, slightly-curved tubular nematothecae, except the two internodes at the base, which usually have only one nematotheca; gonangia arise from the rachis in the axils of the gonohydrocladia.