

sending off closely-set opposite primary pinnæ, which are destitute of hydrothecæ, but carry from end to end the proper hydrotheca-bearing pinnæ, which are about one-tenth of an inch in length, alternately disposed, and borne also by the main stem in the intervals of the primary pinnæ. Hydrothecæ closely approximated, rather deep, with a well-marked intrathecal ridge, margin entire, sigmoidally curved; mesial nematophore adnate by its whole length to the hydrotheca, with its sides parallel in profile, diverging from below upwards in front view, its distal end terminating close to the margin of the hydrotheca by a wide orifice, a short distance behind which is a transverse septum-like fold; lateral nematophores wide, overtopping the hydrotheca; hydrothecal internode with strong obliquely-directed intra-cauline ridges.

Gonosome.—Costæ of phylactocarp intimately fused together, so as to form a long nearly cylindrical, completely closed corbula, whose sides support seven or eight transverse series of slightly elevated ramified ridges, with every branch supporting a wide cup-shaped nematophore, and with a strong spur-like nematophore at the base of each series.

Aglaophenia macgillivrayi presents many features in which it differs from the typical *Aglaophenia*. Its doubly pinnate ramification affords in itself a character which contrasts markedly with the ramification of nearly all the other known species. This character shows itself in the thick, strongly-fascicled stem being closely set with opposite pinnæ, which are themselves destitute of hydrothecæ, but give support to the proper hydrocladia, which are disposed in alternate pinnæ from end to end of the opposite or primary pinnæ. Here and there the primary pinnæ become developed into long branches, which then repeat in all respects the ramification of the stem. The absence of true serration in the margin of the hydrotheca, and the bithalamic condition conferred on the mesial nematophore by the presence of an imperfect septum, are other important points in which *Aglaophenia macgillivrayi* differs from the typical *Aglaophenia*; while in the corbula, with its parietal ramifying ridges, we find a still further distinctive feature.

A comparison of the Plumularidan here described with authentic specimens of *Plumularia macgillivrayi*, Busk, brought home by the "Rattlesnake,"¹ establishes the identity of the "Rattlesnake" species with that of the Challenger. Kirchenpauer places it in his special section or sub-genus of *Aglaophenia*, to which he gives the name of *Pachyrhynchia*, and which he bases on the supposed excessive width of the mesial nematophore, believing the nematophore to surpass in this respect the hydrotheca to which it belongs.² I am unable, however, to accept this character as a ground for the establishment of a distinct group, more especially as its reality is not borne out by an examination of well-preserved specimens, and Kirchenpauer's figures seem to have been made from specimens whose bad state of preservation rendered them deceptive. The mesial

¹ Voyage of H.M.S. "Rattlesnake," vol. i. p. 400.

² Kirchenpauer, *loc. cit.*, p. 20.