

GEOGRAPHICAL AND BATHYMETRICAL DISTRIBUTION.

We do not yet possess the data necessary for a complete exposition of the geographical distribution of the Plumularidæ. It may be generally asserted of this group that it attains its greatest development in the warmer seas of both hemispheres, and that in tropical and sub-tropical regions it has its maximum in multiplicity of form, in the size of the colonies, and in individual profusion.

The dredgings of the Challenger and of the United States Exploration of the Gulf Stream would further seem to point to two centres of maximum development within the area thus indicated,—an eastern centre, which is situated in the warm seas around the Philippines and other islands of the East Indian Archipelago, and a western centre, which will be found in those which lie around the West Indian Islands, and bathe the eastern shores of Central and Equinoctial America. From these two centres the largest known Plumularian colonies have been obtained, and we learn, on the authority of Semper, that the natives of the Philippine Islands regard with dread, in consequence of their formidable stinging powers, some of the great Plumularians which occur around their shores.

These eastern and western centres of Plumularian distribution remind us of the two great centres in which the Cheiroptera have their maximum development, as seen in the gigantic bats of both hemispheres,—centres of Cheiropteran distribution which are nearly coincident with these regions of maximum development in the Plumularidæ.

In bathymetrical distribution the Plumularidæ present considerable variation. Among the species described in the present Report some are quite littoral, having been dredged from depths ranging between 8 and 20 fathoms. The greater number however of the Challenger species have been obtained from depths between 20 and 150 fathoms, while the dredge has brought up three species, *Aglaophenia filicula*, *Aglaophenia acacia*, and *Polyplumaria pumila*, from a depth of 450 fathoms. The striking and beautiful genus *Cladocarpus* consists of eminently deep water forms, and of the two species here described one, *Cladocarpus formosus*, was obtained in the Japan Seas from a depth varying between 420 and 775 fathoms—the same species having been dredged by the "Porcupine" in the seas lying to the north of Scotland from 167, 560, and 632 fathoms—while *Cladocarpus pectiniferus* was dredged by the Challenger off the Azores from 900 fathoms. This last is the greatest depth from which any Plumularidan is known to have been obtained,