

metrically disposed on the walls of the gonangium. Over each of these points a nematophore is developed externally, while a perforation in the chitinous walls allows of the free communication of the contents of the nematophore with the subjacent branch of the blastostyle.

In the only two known species of phylactocarpal Eleutheroplea the nematophores are developed in abundance along the sides of the appendages, which combine to form the peculiar phylactocarps of these Hydroids.¹

That the nematophores play a very important part in the economy of the Plumularidæ would appear from the fact of their early appearance and of their persistence. In the development of the trophosome they are in many cases, if not in all, the first zooids of the colony to make their appearance, preceding the hydranths and hydrothecæ; while, as we shall afterwards see, they remain behind in certain cases in which the hydranth and hydrotheca, which would normally belong to them, have become entirely suppressed.

I have endeavoured to show elsewhere² that their phylogenetic or palæontological significance is scarcely less important, for I believe we have good grounds for maintaining that the ancient graptolites represent hydroid organisms, in which the nematophores were the only zooids of the trophosome which had been developed.

Morphology of the Gonosome in the Phylactocarpal Plumularidæ.

The gonosome in the phylactocarpal forms of the Plumularidæ is full of interest, presenting as it does some significant morphological facts, and affording instructive examples of the extent to which variation of form may exist consistently with the retention of homological identity.

The term *phylactocarp* may be used as a sufficiently convenient general expression for the various forms under which the apparatus destined for the protection of the gonangia shows itself in the phylactocarpal Plumularidæ. This apparatus is referrible to one or other of two types: it consists either of one or more variously modified hydrocladia, or of a separate appendage to the hydrocladium quite distinct from the hydrocladium itself.

The commonest and longest known form of phylactocarp is the corbula of *Aglaophenia* (Pls. XI. and XII.). This consists of a peculiarly modified hydrocladium, which supports on each side a row of ribs or costæ in the form of flattened leaf-like appendages, and between these two rows a row of gonangia. The leaflets of each side arch over the gonangia, and enclose them in a basket-shaped receptacle. They are furnished with numerous short teeth-like nematophores on one or both edges, recalling somewhat the

¹ See J. W. Fewkes, *Bull. Mus. Comp. Zool., loc. cit.*

² *Gymnoblasic Hydroids*, p. 179.