

zooids, "individuals" or "personæ," having devolving on them as their role in the physiological division of labour among the various zooids some special office which is probably that of aiding the hydranths, by their amœboid prehension of solid matter, in the general nutrition of the colony.

The Ectoderm of Myriothela.—The curious Gymnoblastic genus *Myriothela* has been already more than once referred to as possessing exceptional points of structure. The ectoderm especially presents so many points of interest and significance that no exposition of Hydroid structure would be complete without some special account of it.¹

The ectoderm of *Myriothela phrygia*, the only known representative of the genus, is composed of two distinct strata—a superficial and a deep. The superficial stratum consists of small round cells, several in depth. These are formed of membraneless protoplasm, and contain throughout the greater part of the body abundance of yellowish corpuscles, while on the summits of the tentacles and in irregular patches on other parts of the body the superficial cells contain granules of a dark brownish-purple colour. In this layer large and small thread-cells may be seen enclosed in their generating cells or cnidocysts, for the most part lying near the surface.

The deep layer of the ectoderm is formed by a very remarkable tissue to which I have elsewhere given the name of "claviform tissue."² This is composed of cells consisting of a yellowish granular protoplasm, entirely destitute of membrane, and each drawn out into a long caudal process. An obvious nucleus may frequently be seen in them. By the union of their caudal processes branched groups of claviform cells are produced, and the common stalk of each group runs to the hyaline mesosarc, where it loses itself among the fibrillæ, which here form a well-marked muscle layer. The whole forms a soft, pulpy, and somewhat glandular-looking tissue easily broken down under the compressorium.

If we except the condition of the long transitory arms of the *Actinula* or free locomotive stage of *Myriothela*, the claviform tissue does not come to the surface of the body. Throughout the whole of the body of the adult it forms a deep zone intervening between the hyaline mesosarc and the superficial layer of the ectoderm.

In *Myriothela* the ectodermal musculature is well developed. It forms a well-marked layer of longitudinal fibrillæ closely applied to the outer side of the mesosarc, from which, after a short maceration in water, it may be separated as a continuous plate composed of fibrillæ which adhere to one another by their sides, forming a stratum of a single fibril in thickness. The fibrillæ are about $\frac{1}{12000}$ of an inch in diameter, soft and compressible, with a very finely granular structure, but otherwise apparently homogeneous. They show no striation, no nucleus can be detected in them, and they admit of being traced to a considerable distance without showing any tendency to taper away in the manner of true muscle cells.

¹ For a detailed account of the structure of *Myriothela*, see *Phil. Trans.*, vol. clxv. pt. ii.

² Structure and development of *Myriothela*, p. 553, pl. lvi. fig. 6, &c.