

delicate lines arranged somewhat radially around the lumen. The subjects of oogenesis and spermatogenesis in the Antipathidæ will be discussed in detail in a subsequent paper.

*Antipathella contorta.*

At present I only propose to refer to one point in the structure of this species, viz., to the situation of the ova. All the specimens examined contained ova in various stages of development, but in this species they are apparently larger and less numerous than in any other species of the genus which has come under my notice. The largest observed have a diameter of 0.34 mm. From two to five ova, according to their size, cause a considerable dilation of the lateral sections of the cœlenteron, which is very marked in horizontal sections. In several cases I was able to satisfy myself that the ova are contained within mesogloæal capsules (as in Schizopathinæ), and not within a thickened mass of entoderm, as appears to be the case in *Antipathella subpinnata*. In sections of a mesentery, at a point where it contains only one ovum, the mesogloæa on leaving the body-wall consists of a single thin layer up to the point where the ovum is situated. Here it becomes split up into two portions, which completely surround the ovum, and then ultimately become united again beyond the ovum into a single layer. At the free margin of the mesentery the mesogloæa again becomes divided into two portions, which form a short transverse bar at right angles to the breadth of the mesentery. The whole is clothed with a layer of entoderm, which, however, is thinner around the ovum than in other portions of the mesentery. Here evidently the ova are developed under the same conditions as in Actiniaria. They arise from entodermal cells, but undergo their elaboration within the mesogloæa.

*Antipathes dichotoma.*

The polyps of *Antipathes dichotoma*, and apparently also of other species of the genus (e.g., *Antipathes arborea* and *Antipathes virgata*), are larger than those of any other ramose Antipathinæ known at present. The general form of the polyp and the arrangement of the mesenteries has already been described (p. 41). The ova are contained in a specialised band of cells stretching across from near the lateral margin of a polyp to the lower portion of the stomodæum. Its situation is best understood from a study of transverse vertical sections (Pl. XIV. fig. 1). The band contains a median strand of mesogloæa continuous with that of the body-wall and stomodæum, and on each side is a layer of entoderm of the usual structure. The ova are apparently enclosed within semi-fibrous capsules united to the layer of mesogloæa which passes the whole length of the band. Simple or branched ribbon-like mesenterial filaments occupy