

stomodæum is supported by a number of mesenteries<sup>1</sup> (sarcosepta) which incompletely divide the cœlenteron into a number of radial chambers. The mouth is rarely round, most frequently it is slit-like, the long axis being placed at right angles to the axis of the branch on which the zooid is situated. The axis corresponding with the elongation of the mouth will be spoken of as the "sagittal" axis, that at right angles to it as "transverse." I have not been able to note any well-marked siphonoglyphe in the various species examined, though, on account of the small size of the zooids, these would be difficult to make out in preserved material, even should they exist.

The tentacles arise from the margin of the peristome, or some form the peristome and others form the body-wall. In the Antipathinæ there are always six tentacles present. These are simple finger-like outgrowths of the cœlenteron. In the Schizopathinæ each zooid bears only two tentacles, but in this subfamily the zooids are dimorphic, and three zooids correspond morphologically with an unspecialised zooid of the ordinary type. In *Dendrobrachia* the tentacles are branched.

The mesenteries, on account of their different relative development, may be conveniently considered under two heads, viz., "primary" and "secondary." This division is, however, artificial, and is merely used for convenience of description.

In all Antipathidæ the primary mesenteries are six in number, and are well developed. The secondary mesenteries are developed in a varying degree in different genera. Of those already examined the number is six or four, or the series may be entirely wanting. The number, arrangement, and comparative length of the mesenteries may be best studied by means of a series of horizontal sections commencing at the oral surface. The number of mesenteries in the oral cone generally differs from that in the lower section of the cœlenteron. The arrangement in the various genera will be best understood by reference to the diagrams.

### *Leiopathes.*

This genus may be conveniently taken first on account of the fact that, as the mesenteries are present in a multiple of 6, it is more directly comparable than other genera with the regular Hexactiniæ. In *Leiopathes glaberrima* the mouth is somewhat elongated in the sagittal axis, whilst the zooid is elongated in the transverse axis. In neither case, however, is the elongation so pronounced as in some other forms.

A horizontal section through the upper portion of the oral cone (fig. 1) shows that

<sup>1</sup> I have used the term *mesentery* in the present Report in preference to *septum* or *sarcoseptum*, because, whatever objection there may be to its use in reference to the Anthozoa, it has within that group a well-defined meaning. It is solely applied to the soft radiating partitions passing from the body-wall to the stomodæum, which imperfectly divide the cœlenteron into chambers. In addition to these in Antipathidæ the individual zooids are imperfectly separated from one another by means of vertical mesogloal partitions, to which the terms *septa* and *sarcosepta* might be considered equally applicable, but which would not come within the meaning of the term *mesentery*.