

are evidently very short and project little beyond the surface of the peristome. Usually they appear in spirit specimens as round knob-like elevations arranged biradially around the mouth. The members of each lateral pair of tentacles are separated from each other by the stomodæum, but the two tentacles on each side are usually close together and appear to form a pair as in *Parantipathes* (Pl. III. fig. 9).

All the tentacles arise from the surface of the peristome in this genus, and the oral cone forms a median prominence equalling the tentacles in height. The body-wall usually passes almost immediately from the oral surface around the sclerobasic axis, so that the outline of a zooid is rarely well defined. In specimens in which the sexual elements are well developed the zooid becomes distended, and then its outline is more easily traced. Spines project through the tissues of the zooid in all directions, and in numbers varying with the species. This may be partly due to contraction in spirit specimens, but I have satisfied myself that this feature is not altogether artificial, but is one of the peculiarities of the genus, probably connected with the compressed type of zooid. In horizontal sections spines may be seen projecting through the coelenteron in many parts. These are usually surrounded by a ring of mesogloea covered externally by a layer of entoderm. Such an arrangement could not be brought about by shrinking, and I have regarded it as one of the generic characters. The mouth is usually somewhat elongated in the sagittal axis, but in some species (e.g., *Aphanipathes cancellata*) the aperture is usually wide and most frequently circular. In some cases, though rarely, the oral aperture was observed to consist of two terminal circular apertures united by a short median slit-like portion, thus resembling a dumb-bell in shape. Whether in the living colony this may be the usual shape of the mouth, as in many Actiniaria, I am unable to say. Should such prove to be the case, the two terminal rounded openings would probably serve for the entrance and exit of afferent and efferent currents. Unfortunately we as yet know little concerning the living colonies of any of the Antipathidæ. The mesenteries are ten in number, and have the same arrangement as in *Antipathes*. Probably on account of the compressed form of zooid, the secondary mesenteries are in this genus relatively more important, and reach nearly to the base of the coelenteron. They do not, however, appear to bear convoluted filaments.

#### *Pteropathes.*

The single species at present included in this genus differs in several important respects from any other species examined. The zooids form a regular linear series, and are so closely pressed together that the line of demarcation between two adjoining zooids never has a curved outline, but passes straight across the branchlet. Seen from above (Pl. IV. fig. 3) the zooids present a rectangular outline, and the elongation in the transverse axis, when such exists, is not marked. The zooids are imperfectly separated