

hyaline gland cells are situated in the depressions between adjoining rugæ, and never project beyond the batteries of nematocysts. On this account the arrangement of the ectoderm cells in this species has a close resemblance to that found in *Leiopathes glaberrima* (Pl. XV. fig. 3).

In all the specimens examined by means of horizontal sections, the stomodæum was found to be relatively small. The portion contained within the oral cone is about 0.22 mm. long and 0.15 mm. broad. It opens into the cœlenteron by a funnel-shaped aperture, the lumen of which is entirely occupied by branched mesenterial filaments.

The entoderm is not very rich in gland cells, and in this respect presents a marked contrast to that of *Antipathella subpinnata*. It appears to consist chiefly of elongate, ribbon-like, epithelial cells, each with a large round nucleus. Each epithelial cell extends from the surface of the layer to near the base, and possibly may be continued basally into a short contractile filament, as in Actiniaria. In portions of the entoderm containing gland cells, the epithelial cells between them become constricted towards the centre, and thus present a dilation at each extremity. Sexual cells were not observed in all the specimens, but in a few, isolated ova were contained within the transverse mesenteries near their point of union with the lateral body-wall.

Antipathella assimilis.

In this species the structure of the ectoderm and entoderm is similar to those of *Antipathella minor*, but the batteries of nematocysts do not taper so rapidly towards the base. The mouth is slit-like, but a short distance beneath it the lumen of the stomodæum becomes widely oval. The inner aperture is funnel-shaped, but the portion of its circumference corresponding to each sagittal tentacle, *i.e.*, between the two pairs of directive mesenteries, is not continued to so low a level as the other portions. Laterally the stomodæum is continued on each side as a slightly-curved plate, which is fused with a transverse mesentery and stretches across from a directive mesentery at one end of the body axis to its fellow at the opposite extremity.

Testis.—All the specimens observed contained a number of spermatic capsules imbedded within the transverse mesenteries. They have usually an oval outline, the largest observed measuring 0.224 mm. \times 0.159 mm. Around the periphery of each capsule a number of germinal cells are to be observed, from which the spermatozoa are derived. These cells are distinctly larger than any of the others, and each contains a large nucleus which stains deeply. In the younger capsules the inner portion is filled with cells in various stages of division, and centrally with young spermatozoa. With an increase in size a lumen appears within the capsule, which is usually situated somewhat excentrically. In such cases the flagella of the spermatozoa may be recognised as