

the changes in shape which the developing generative sac may undergo; accordingly we will now consider a few diverging peculiarities of the generative products themselves, which I was able to observe in the Challenger Nemertea. That they are developed from

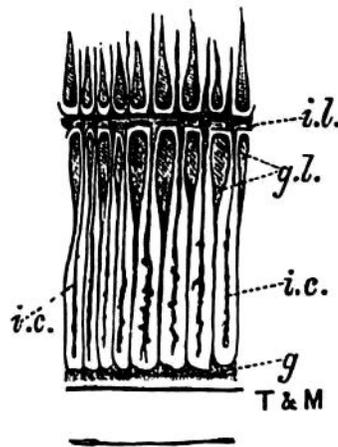


FIG. 6.—Portion of a horizontal section of a *Cerebratulus*. *i.l.*, the digestive tract, *i.c.*, its lateral caeca; *g.l.*, the genital glands; *g*, gelatinous tissue; *T & M.*, integument and musculature.

the epithelium of the generative sacs has long been known; this is figured on Pl. XV. fig. 14, in a Hoplonemertean. It was particularly evident and very distinctly visible in *Cerebratulus longifissus*, where it was at the same time also demonstrable that there is a very sudden decrease in ripeness of the generative products close to the tail-end, where growth in length of the animal is going on, and where new generative sacs are being formed between the intestinal caeca. In this region all the most different stages of ripeness of the ova may be studied side by side in the same longitudinal section. The ova of *Amphiporus marioni*

(Pl. XV. fig. 15) are characterised by the presence, in addition to the nucleus, of a round or reniform body, which is stained dark red by picrocarmine, and but for this offers a certain analogy to the oil-drop in fish eggs, being also more refractive than the nucleus, though not quite so highly as the latter. This paranucleus was already observed in the youngest eggs (Pl. XV. fig. 15, *a*); at that time its relative size, when compared to that of the whole egg, was much more considerable. A second smaller specimen of *Amphiporus marioni* was distinguished by the same peculiarity, which may thus in certain cases help to identify the species, as I did not find the same feature in any other species of Hoplonemertea.

Of the eggs of *Pelagonemertes* it has already been recorded that they are distinguished by an investment of follicle cells (Pl. VIII. fig. 11); the development of this could also be traced downwards to early stages, which were present in the same specimen (fig. 10) side by side with the riper stages.

In the Schizonemertea two facts deserve mention, although their significance cannot well be discussed as long as fresh specimens are not available. The one is the presence round the ripe eggs in *Cerebratulus*, sp. inc. (Pl. XV. fig. 18), and *Drepanophorus serraticollis* (Pl. XV. fig. 17) of a hyaline, apparently mucous layer, which surrounds each egg separately, and which is pressed into a polygonal shape when many ripe eggs are enclosed together in the same sac. The layer is comparatively thick.

The second fact was observed in *Cerebratulus parkeri*, where the peripheral protoplasm was much more darkly stained and more coarsely granular, all the eggs having thus the aspect as figured on Pl. XV. fig. 16.

As to the spermatogenesis I have no new observations to record, spirit specimens alone rarely presenting favourable material for such researches. These phenomena have, moreover, been recently fully studied by Sabatier (XXVIIIa).

Hermaphrodite specimens were not encountered by me in the Challenger collection.