Heteropegma nodus gordii, *Leucilla uter*, *Leuconia typica*. In all these cases the larvæ belonged to the type known under the name of Amphiblastula.

As far as the spermospores are concerned, I can only corroborate my former statements[1] as to their existence in the Calcarea, as well as in reference to the mode of their development. I have observed them in *Leucosolenia poterium* (?), in most of the Syconidæ, in *Leucilla uter*, *Leuconia multiformis*, *Leuconia typica*, *Leucetta hæckeliana*, *Eilhardia schulzei*, in *Sycon arcticum* and *Leucilla uter* together with Amphiblastulæ. In one specimen of *Leucosolenia poterium* (?) the spermospores were pretty numerous; but in almost all cases I found them outside the walls of the sponge, close to the flagellated cells. I was not able to account for this strange phenomenon, till Dr. Vosmaer kindly showed me this spring in Naples some sections with spermospores made from an Asconid exceedingly well preserved. As the observation belongs to Dr. Vosmaer and not to me I cannot here enter into particulars; I can only say that what I have seen in his preparations gives a very simple explanation of how Prof. Hæckel arrived at his statements[2] as to the endodermic origin of the spermospores. Be that as it may, their *mesodermic* origin is beyond all doubt, and, apart from the Syconidæ and Leuconidæ, I found in one case in the same *Leucosolenia poterium* (?) one spermospore lying quite obviously in the mesoderm. No mistake was possible, for it was found in a spot forming a common meeting-point of several branches of the colony, so that the mesoderm appeared in the section, not as usually happens in the Asconidæ as a, so to speak, mathematical line, but as a plane of comparatively broad surface. In this (Pl. III. fig. 1), as well as in other instances, a thin membrane around the spermospore was to be discerned very easily. In two cases this membrane had a slight thickening upon it as represented in the figure just alluded to, which I am inclined to regard as corresponding to the place of the nucleus of the covering cell. This supposition will appear to the reader very natural if he compare the picture just mentioned with the fig. 2*f*, Pl. VI. representing two spermospores of *Leucilla uter*. The few spermospores I was able to discover in *Leucetta hæckeliana* were found lying, not in the parenchyma, but in the cortex, not very far, however, from the zone of the flagellated chambers (Pl. VIII. fig. 2).

It is a very interesting fact that the mode of development of the spermospores, as I have described it in *Sycandra raphanus*, by no means seems to be confined to the Class Calcarea. I have also found the same in a horny sponge (an Aplysinid), and I shall return to the matter in my Report on the Challenger Keratose Sponges; and as in the form just mentioned the spermospores are also very small, there can—in view of F. E. Schulze's statements as to the spermatogenesis in *Aplysilla*,[3] *Spongelia*,[4] and

[1] *Sitzungsb. d. math.-naturw. Cl. d. k. Akad. d. Wiss. Wien*, Bd. lxxxvi. p. 277, 1882.

[2] Kalkschwämme, Bd. i. p. 150.

[3] *Zeitschr. f. wiss. Zool.*, vol. xxx. p. 412, 1878.

[4] *Ibid.*, vol. xxxii. p. 145, 1879.