

which contain a soft medullar or pith-substance. But a closer examination of the different Stannomidæ, and a comparison with the Spongelidæ and Psammimidæ, have convinced me that the network is the hydrorhiza of a symbiotic Hydroid; this conjecture was finally proved by the discovery of the hydranths and gonangia (figured in Pl. II. figs. 6, 7, &c.; see their description in the Appendix). I suppose that these strong chitinous tubes of *Stylactis*, &c., replace the absent stout spongin-fibres of the skeleton in the Stannomidæ, and that the want of these latter may be supplied by the development of this curious symbiosis. The same remarkable condition is found among the Spongelidæ, in *Psammophyllum* (Pls. IV., V.), which connects this family with the Stannomidæ.

*Canal-System.*—The Stannomidæ seem to agree in the essential structure of the canal-system with the closely-allied Spongelidæ, with which they are immediately connected by the transitional genus *Psammophyllum* (Pls. IV., V.). Below the porous dermal membrane, which is very distinct in *Stannophyllum* and *Stannarium*, there are usually large subdermal cavities. These communicate with the internal canal-system, which is expanded, together with the symbiotic hydrorhiza, between the two parallel dermal plates of these foliaceous sponges. In *Stannoma*, where no distinct dermal membrane was preserved, the canals in the cylindrical branches form a closer network, with smaller meshes. The form, size, and disposition of the flagellated chambers seem to be similar to those of the Spongelidæ, but only traces of them could be found; their epithelia were destroyed in the same way as the exodermal epithelium of the outer surface.

*Eggs and Gastrulæ.*—Having convinced myself that the Stannomidæ are true sponges (and not "gigantic Rhizopods," as was supposed by the first observers), it was, of course, very important to confirm that opinion by the authentic demonstration of eggs, and if possible gastrulæ. For a long time I looked in vain for them, but at last I was fortunate enough to find them in a single specimen of *Stannophyllum globigerinum*, apparently better preserved than the others. After having stained it with carmine and dissolved the calcareous pseudo-skeleton in hydrochloric acid, I found scattered here and there in the maltha single amœboid cells with a large vesicular transparent nucleus and a dark nucleolus. The largest were so similar to the usual naked sponge eggs (especially to those of *Psammophyllum*, Pl. V. fig. 5, *e*, and of *Spongelia*), that I had no doubt as to their egg nature, the more so as a few eggs were found in segmentation. Finally, some larger dark ovate bodies, composed of granular cells which were found in the same specimen, may be its gastrula larvæ; they were, however, not sufficiently well preserved to allow of a detailed description and drawings.