

0.1 mm. on an average; over the entrance to the incurrent tubes it is perforated by a single wide oval aperture, over the inner end of which an exceedingly thin cribriform membrane extends—the poriferous roof.

The endosome or hypophare of the excurrent face is similar to the ectosome, except that no poriferous roof extends over the openings of the excurrent canals; at the same time these canals do not each open by a single aperture, but by several perforations which traverse the endosome immediately over them. The excurrent canals expand towards their termination, so as to produce cavities within the endosome corresponding with the subdermal cavities of the incurrent face.

The ectosome is densely crowded with calthrope-like asters, and faced with a dense layer of smaller asters. Both kinds of spicules are richly dispersed through the choanosome, the smaller asters chiefly occurring below the epithelial surfaces, and the calthrope between the flagellated chambers, to which they form a spicular framework (Pl. X. fig. 11).

Running through the middle of the sponge-wall, and destroying the regular disposition of the canals where they occur, are longitudinal bundles of the stout oxeas, which are irregularly coated with spongin; the spongin appears to be most developed where the spicules lie in closest contact; in one instance the remains of sponginoblasts were observed coating the spongin.

The mesoderm consists of collenchyma, which for the most part is present as a very thin layer, owing to the abundant development of the flagellated chambers; in places, however, it acquires a greater thickness. It contains not only the usual collencytes, but granular cells like those described in *Pacillastra schulzii* (p. 81, Pl. IX. fig. 25), here however not so numerous. They are about 0.02 mm. in diameter, the large oval nucleus measures 0.016 by 0.0118 mm. in diameter, and the spherical nucleolus is 0.003 mm. in diameter.

The axial oxea is subject to considerable modification of form, it frequently terminates prematurely in rounded ends, and sometimes, though rarely, becomes tylote at one extremity. Occasionally it passes into a globular form, and globules thus formed by the reduction of the oxea sometimes occur united several together into a single mass (Pl. X. figs. 7–9).

## Family II. DORYPLERIDÆ.

Centrospinthara in which the ectosome is not a cortex, and the choanosome is not regularly folded; the mesoderm is collenchymatous. The megascleres are oxeas arranged without order. The microsclere is a large oxyaster.