

open pores in the epithelium; though it forms the roof to numerous dome-like canals extending up to it. It is, of course, quite possible that pores may open in this epithelial roof when the sponge is actively alive, and that they close up when it is exposed to unfavourable conditions, such as immersion in alcohol. However this may be (and I think it unlikely) the chief supply of water to the sponge evidently flows through the incurrent tube, which delivers it to the intercortical cavities or superficial branches of the incurrent canals; thence it descends by the usual incurrent canals into the choanosome, and is urged on by the choanocytes through the flagellated chambers into the excurrent canals, whence it flows into the cloacal tube, and by pores in the walls of this reaches the exterior.

The Cortex.—The exterior of the whole sponge is invested with an epithelial layer, over the under face of which are scattered innumerable sanidasters; this then forms the outermost layer of the cortex. It is succeeded by collenchyma, which presents the usual stellate collencytes, but with the branching processes strongly developed, so as to produce a general fibrous reticulation. In addition numerous fusiform cells are present, most, but not all, of which are gathered into fibrous tracts, which wrap round the spicules of the cortex, binding them together into a strong framework. Next the choanosome the fibres are more richly developed than elsewhere, forming a darkly staining layer. Immediately beneath the epithelium is a layer of collencytes more or less fusiform in shape, their long axes lying radially, with short processes extending from their distal ends at right angles to the epithelium, with which they come in contact, and longer processes from their proximal ends descending into the collenchyma. The cortex is densely crowded with oxeas (No. 2), which lie chiefly horizontally in all azimuths; it also receives the ends of the radiating sheaves of the chief skeleton (Pl. XVIII. fig. 14). These include both oxeas and cladoxeas, the latter chiefly orthomonænes (3, γ), their single cladi projecting into the cortex away from the side of the sheaf, in the same manner as the corresponding spicules do in *Chrotella macellata*, among the Tetillidæ (see p. 20).

Numerous irregular canals traverse the cortex, apparently in all directions, without any tendency to a chonal arrangement. According to universal rule they are lined by epithelium, which is accompanied by the usual sanidasters. The cortex is about 0·0714 to 1·0 mm. thick.

The Choanosome.—The mesoderm of the choanosome is a sarcenchyma, richly provided with fusiform cells, which are arranged about the spicular sheaves, both longitudinally and transversely, the transverse fibres enveloping the spicules and binding them together. Fibres cross from one spicular sheaf to another, concentrically surround the water canals, and wander apparently aimlessly among the flagellated chambers, which are frequently circumscribed in groups by fibrous strands. The flagellated chambers (Pl. XVIII. figs. 16, 22) measure 0·0276 mm. in breadth, by 0·0237 mm. in length, the apophyle is about