

Where the collenchyma is more abundantly developed, as in the angle formed between three adjacent chambers, it sometimes presents small, deeply-stained granular cells, 0·006 to 0·02 mm. in diameter, these are no doubt contracted amoeboid cells.

The flagellated chambers are very perfectly preserved, so as to show every detail of structure. They measure about 0·087 by 0·067 mm.; the apopyle is from 0·012 to 0·032 mm. in diameter; the prosopyles are usually obliterated. The apopyle is situated in the midst of an excessively thin membrane, which is devoid of choanocytes, but bears evident though minute nuclei; it sometimes shows traces of concentric striation, and may attain a width of 0·018 mm. The darkly stained, more or less spherical bodies of the choanocytes are produced into a collum, defined by two parallel lines, which curve a little apart as they become continuous with the margin of a fenestra in the fenestrated lining. The fenestræ are about 0·006 to 0·008 mm. in diameter, and in the middle of each is frequently seen a little dark spot, which may represent the retracted flagellum. The body of the choanocyte is extended into thin thread-like lateral processes, by which adjacent choanocytes are united continuously together. In some regions of the sponge the flagellated chambers (Pl. VI. fig. 20) have suffered a contraction, by which the choanocytes are brought close together side by side, possibly through the contraction of their connecting processes; in such cases exceedingly tenuous tail-like processes, proceeding from the base of the choanocyte in an opposite direction to the collum, are rendered plainly visible; and what is of particular interest, these processes can be traced into continuity with those of the choanocytes of adjacent chambers, with the fine branching processes of the surrounding collencytes, and with the epithelial cells of neighbouring canals.

*Thenaea wrightii*, Sollas (Pl. VIII. figs. 11–20).

*Thenaea wrightii*, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 185, 1886.

*Sponge* (Pl. VIII. figs. 11, 12) depressed, with flat or very obtusely conical upper surface, and flat base. Margin more or less lobate, rounded over the lobes, where the upper and lower surfaces pass insensibly into each other, thus interrupting the equatorial recess and converting it into a series of circumscribed poriferous areas.

Neither the oscule, which is excentrically placed on the upper surface, nor the pores, are protected by a marginal fringe of projecting spicules.

Rootlets absent, but the lower surface strongly hispid. Flagellated chambers large. Collenchyma scanty.

*Spicules*.—I. Megascleres. 1. *Oxeas* fusiform, of the usual characters; a stout form 5·4 by 0·07 mm., and a longer and more slender form 8·57 by 0·055 mm.

2. *Protriæne*, rare, and then evidently a reduced *dichotriæne*.

3. *Dichotriæne*, of the usual character; rhabdome 5·0 by 0·0645 mm.; protocladi 0·286 by 0·0645 mm.; deuterocladi 1·07 by 0·058 mm.