

terminate within the spicule without affecting its form, are wholly and highly porrectate, reminding one of the two shorter cladi which occur in *protriænes* characterised by one cladus much longer than the other two.

*Tetilla grandis*, Sollas (Pl. V. figs. 1-14).

*Tetilla grandis*, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. i. p. 180, 1886.

*Sponge* (Pl. V. figs. 1-3) large, somewhat cylindrical or ellipsoidal in form, anchoring filaments matted together to form a massive base. Oscules several, comparatively small, the patent openings of the excurrent canals, chiefly distributed on the summit of the sponge. Surface more or less hispid, raised into ridges and low papillæ, which unite to form an irregular reticulation, in the depressions of which the pores are situated in groups. Ectosome thicker than in most *Tetillæ*, consisting of fibrous and fibro-vesicular collenchyma. The skeleton consists of spicular fibres radiating spirally from an excentrically situated core.

*Spicules*.—I. Megascleres. 1. *Oxea*, fusiform, anisoactinate, the distal end more obtusely pointed than the proximal, which is sometimes almost filiform. The difference between the two ends is less marked in spicules occurring near the origin of the fibre, than in those which form its peripheral ends, where they may sometimes be seen with the distal end quite rounded off, or strongylate; from 6·07 by 0·075 to 5·72 by 0·079 mm.

2. *Protriæne*, rhabdome cylindro-conical, diminishing from the cladome to a filiform termination; cladi typically three in number, but frequently reduced to two or even one. Rhabdome 8·6 by 0·0158, cladi 0·15 by 0·0118 mm.

3. *Trichodal protriæne*, usually with one cladus longer than the other two, which are equal in length; chiefly disposed about the cribriform areas over the incurrent canals.

4. *Somal anatriæne* (Pl. VI. fig. 6) a fusiform rhabdome, attenuated proximally to a filiform extremity, distally at first diminishing and then increasing in diameter up to the cladome; cladome rounded in front, axial fibre not prolonged into it, cladi long, slender, springing from the rhabdome in a bold sweeping curve. Rhabdome 12·14 by 0·02 mm. just below the cladome, diminishing to 0·006, and then increasing to 0·0118 mm. in diameter, finally tapering to its filiform extremity; cladi 0·158 by 0·0118, chord 0·16 mm.

5. *Radical anatriæne*. The cladal end of the rhabdome is much thicker than that of the cortex, and provided with shorter stouter cladi; the axial fibre of the rhabdome extends halfway into it. The rhabdome is thickest just below the cladi, and somewhat rapidly tapers for the first half of its course, and then more gradually till it ends in a filiform termination. Rhabdome 31·5 by 0·0315 near the origin of the cladi, 0·0276 just beyond their points, and 0·021 mm. a little more than a millimeter lower down;