

the walls of the incurrent canal, which starts from the poriferous recess, is a simple form of Hydroid, lying with its tentacles just below the surface of the canal and its basal end extending inwards amongst the flagellated chambers. It is about 0.3 mm. long by 0.05 mm. broad at the oral end. The cavity of the collenchyma in which it lies is lined by the epithelium of the sponge and opens by a somewhat constricted aperture into the canal. I have more than once found Hydroids overgrowing the surface of a sponge, but never before met with one inhabiting the interior.

*Thenea schmidtii*, Sollas (Pl. VII. figs. 1, 2; Pl. VIII. figs. 21, 22).

*Stelletta agariciformis*, O. Schmidt, 1870, Spong. Atlant. Gebiet., p. 68, pl. vi. fig. 12.

*Tisiphonia agariciformis*, O. Schmidt, Spong. Meerb. Mexico, 1880, p. 71.

*Thenea schmidtii*, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 183, 1886.

*Sponge* (Pl. VII. fig. 1) more or less spherical in form; special poriferous area either restricted to one side, opposite the oscule, which is then also lateral, or surrounding the sponge as an equatorial recess, which divides an upper portion, bearing one or more oscules, from a lower, which is produced into anchoring filaments. Surface hispid, margins of poriferous and oscular areas fringed by projecting spicules. Collenchyma but scantily developed in the choanosome; flagellated chambers large.

*Spicules*.—I. Megascleres. 1. *Oxea*, fusiform, sharply or bluntly pointed, straight or curved, 14.3 by 0.079 mm. The hispidating oxeas of the oscular margin and the tegminal edge are usually more slender (from 0.045 to 0.06 mm. thick) than those of the body-fibres, from which the foregoing measurements are taken. In a specimen with a lateral poriferous area I found the distal ends of these spicules preserved in several instances; and they proved to be not oxeas but protriænes, the cladi of which are liable to reduction, sometimes all but one disappearing, in others all, a club-like thickening (tylus) then replacing them.

2. *Protriæne*; rhabdome conical, straight or flexuous, with straight conical cladi diverging outwards and forwards. Rhabdome 5.4 by 0.071 mm.; cladi 1.07 by 0.063 mm.

3. *Dichotriæne*; rhabdome straight or irregularly flexuous, sharply or bluntly pointed; protocladi diverging outwards and forwards, deuterocladi tangential. Rhabdome 9.3 by 0.087 mm.; protocladi 0.175 mm. long; deuterocladi 1.5 by 0.055 mm.

4. *Somal anatriæne*; rhabdome cylindrical, with a sharply pointed or rounded end; actines diverging at first almost at right angles, subsequently somewhat suddenly bent backwards, till nearly parallel with the rhabdome. Rhabdome 17.9 by 0.02 mm.; cladi 0.143 by 0.008 mm.; chord 0.12 mm.

5. *Radical anatriæne*; rhabdome as in the preceding; cladi curving backwards and outwards from their origin, thicker, and more divergent than those of the somal