

0·25 mm. across; it undergoes a considerable thickening at the margin of the poriferous recesses, and is continued inwards as a wall to the incurrent canals. The choanosome is amply supplied with collenchyme, which forms a wall to the main excurrent canals and their branches, except those into which the flagellated chambers open. The chambers are fairly large, 0·06 by 0·04 to 0·065 by 0·055 mm. The plesiasters occur chiefly in the walls of the canals, where they are so situated that two or more of their rays extend parallel to the surface of the canal, and one projects from it at right angles; so that the cavity of the canal is echinated throughout.

The spiraster occurs in the choanosome as well as the ectosome; it varies in dimensions, especially in the length of its spines.

*Thenea wyvillii*, Sollas (Pl. VI. figs. 1-9).

*Thenea wyvillii*, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 184, 1886.

*Sponge* (Pl. VI. figs. 1, 2).—Upper surface rounded, cushion-like or flat; equatorial margin sharp, thin, and not provided with a spicular fringe; projecting considerably over the lower surface, which is produced into large conical processes from which several strong roots are continued downwards as short fibres, which splay out at their lower ends and lose themselves in a dense mass of tangled spicules forming a basal support. The oscule in the centre of the upper surface is the open mouth of a wide, somewhat shallow basin-like depression or cloaca, which is lined by a delicate, smooth, minutely perforate membrane, below which the numerous excurrent canals open by small circular mouths, arranged more or less in vertical or radial series. The minute perforations of the cloacal membrane are sometimes replaced—either along the oscular edge or generally—by large oval fenestræ, radially elongated and serially arranged, within which the excurrent canals open, one or more to each fenestra, by a sphinctrate aperture. The equatorial poriferous membrane, of which the pores are unusually small, is very finely, closely, and regularly striated, owing to the close and regular disposition of its supporting fibrous strands.

Although the equatorial membrane is continuous round the sponge, the equatorial sinus is broken up into a number of subsidiary cavities by the frequent attachment of the membrane to the underlying tissue.

The incurrent and excurrent canals are lined by a thick layer of collenchyme. Flagellated chambers eurypylous, from 0·032 to 0·04 by 0·051 mm. in diameter.

*Spicules*.—I. Megascleres. 1. *Oxea*, fusiform, usually curved, sharply pointed, 7·85 by 0·07 mm. to 0·084 mm.

2. *Protriæne*, with short conical cladi, straight or slightly undulating; sometimes reduced to two or even one in number; rhabdome 6·783 by 0·072 mm.; cladi 0·5 mm. long.

3. *Dichotriæne* (Pl. VI. fig. 4) of the usual form, except as regards the rhabdome,