

minute, are of the *Esperella* type. It affords a striking example of the way in which Monaxonid sponges from very deep water tend to assume a definite, symmetrical external form.

*Esperella mammiformis*, Ridley and Dendy (Pl. XIV. figs. 5, 6; Pl. XV. figs. 1, 18, 18a).

1886. *Esperella mammiformis*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 337.

Sponge (Pl. XIV. figs. 5, 6) sessile, hemispherical, usually with flat base, by which it is attached to stones, and a slight, free, projecting rim all round. At the top are one or two (usually only one) short, slender projections, bearing the oscula at their summits. *Size* 17 mm. in diameter across the base. *Colour* in spirit pale greyish-yellow. *Texture* soft and stringy. *Surface* even, but rather rough owing to the presence of numerous foreign bodies, Foraminifera, &c. *Dermal membrane* thin, transparent. *Pores*; a few only have been found, here and there, about 0.04 mm. in diameter. *Oscula*, usually one only, at the summit of a short tubular projection (Pl. XIV. figs. 5, 6, o). One specimen had two such oscula.

*Skeleton*.—(a) *Dermal*; a reticulation of loose spiculo-fibre, composed of long stylote spicules. (b) *Main*; this is arranged in a radiate manner; starting from the centre of the circular base, fibres radiate in every direction except downwards. The base itself thus acquires a stellate appearance, having a number of bands of spiculo-fibre radiating from its centre to its circumference like the spokes of a wheel. Other fibres radiate from the same point to every part of the surface of the sponge; as they approach the surface each breaks up into a brush of divergent spicules, which spread out and terminate in the dermal layer, to which they give support (*cf.* the similar arrangement in *Esperella murrayi*). In addition to the fibres just described there appear to be some poorly-developed secondary fibres which cross the main ones more or less at right angles.

*Spicules*.—(a) *Megasclera*; of one kind only, viz., long, smooth, slender styli (Pl. XV. fig. 1), sometimes showing a tendency to develop heads, as in so many *Esperellæ*; usually quite straight and tapering gradually to a very fine point; size about 1 mm. by 0.019 mm. The spicule also tapers a little towards the base. (b) *Microsclera*; of one kind only, viz., palmate anisochelæ, with the front palm much rounded; length of spicule 0.072 mm.; breadth of large end 0.034 mm. The shape of these spicules is very characteristic (*vide* Pl. XV. figs. 18, 18a); smaller ones also occur, probably young forms of the larger.

This is a very beautiful little species and affords another good example of a deep-sea sponge with a definite external form. It is distinguished by the external form, the