

The anatriænes likewise present, in the first observed stage, a long rhabdome expanded distally into a somewhat obconical thickening, from which three small spines project at the distal margin (Pl. XIII. fig. 20); they diverge at first horizontally, or at right angles to the rhabdome, and preserve this direction for some distance in specimens characterised by cladomes flattened in front; in those with rounded cladomes a slight backward curvature is often very early observed; they subsequently grow backwards more than outwards, and so give rise to the adult form; a further deposit of silica may quite conceal the originally horizontal growth of the cladi, converting an originally flat-fronted into a round-fronted cladome; but the position and direction of the axial fibre remains unchanged, and faithfully records the successive change in direction of the growth of the cladi. The spicules of sponges grow outwards into the cortex, and are subsequently cast out from the sponge to be replaced by fresh ones; evidence of this forward growth is afforded by the sponge under description, since none but fully developed spicules are found with cladomes in the ectosome, and as we descend deeper into the sponge successively younger forms are met with ready to replace those in front as soon as they are cast out.

The large cells surrounding the spicules (Pl. XIII. fig. 10), and serving apparently as mother-cells, are well seen in many of the sections of the sponge. They occur about the middle of the oxeate spicules, but about two-thirds from the proximal end in both forms of triæne.

*Anthastra parvispicula*, Sollas (Pl. XIII. figs. 30-40; Pl. XL. figs. 1, 2).

*Anthastra parvispicula*, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 192, 1886.

*Sponge* (Pl. XIII. fig. 30), small, spherical, free, with a single small oscule. Pores in sieves, generally distributed. Surface even, soft to touch.

*Spicules*.—I. Megascleres. 1. *Oxea* (Pl. XIII. fig. 31), fusiform, usually curved, somewhat sharply pointed, 1·3 by 0·02 mm.

2. *Orthotriæne* (Pl. XIII. fig. 32), a conical, sharply pointed rhabdome; simple conical cladi, diverging from the rhabdome at a wide angle, and rapidly, somewhat suddenly bending into horizontality. Rhabdome 1·75 by 0·02 mm., cladi 0·21 mm. long.

3. *Anatriæne* (Pl. XIII. figs. 33, 34), a conical, sharply pointed rhabdome; stout, short, conical cladi, rapidly recurving till nearly parallel with the rhabdome; front of the cladome rounded. Rhabdome 1·3 by 0·016 mm., cladi about 0·045 mm. long, chord 0·0485 mm., sagitta 0·05 mm. long, thickness of cladal rhabdome 0·025 mm.

II. Microscleres. 4. *Anthaster* (Pl. XIII. figs. 35-37), as in *Anthastra pulchra*, but with somewhat slenderer, less coarsely spined actines; length of a single actine of a tetractinose form 0·014 mm., diameter 0·0035 mm.

5. *Chiaster* (Pl. XIII. fig. 38), a scarcely perceptible centrum and hair-like actines abruptly truncated, not tylote; diameter 0·0118 mm.