

is a little smaller, viz., 18 mm. in diameter and 12 mm. in height. The oscule of one of the larger specimens is 3 mm. in diameter. The slender thread-like rootlets are about 25 mm. long. There are about four or five to each sponge. The oscule, which is not protected by a spicular fringe, leads into a wide almost spherical cloaca lined by a fenestrated membrane, beneath which are seen the circular openings of several small excurrent canals.

Horizontal transverse sections were prepared to determine whether any trace of radiate symmetry occurred in the arrangement of the excurrent canals. The result was negative, but the sections confirmed a suspicion suggested by an examination of the entire sponge both in this species and others, namely, that the excurrent canals near the oscule are bounded on the outer side by the ectosome only, as shown at *a*, fig. 10, Pl. VIII. It is possible that a membrane like that of which traces are shown at *b* may originally have existed, and subsequently been torn away or displaced in the preparation of the slices; but I could, at all events, detect no signs of it in any of them. If the appearances represented in the drawing are to be relied upon, we may suppose that after the folding of the choanosome which gave rise to the canal system, an upward growth of the sponge took place, in which the choanosome only incompletely participated, leaving only longitudinal zones of ectosome to complete the external covering of the excurrent canals.

In vertical transverse section (Pl. VI. figs. 13, 14) the regular radiate arrangement of the spicules is clearly shown (though not in the illustrations), as well as the interdigitation of the excurrent and incurrent canals, the latter starting chiefly from the poriferous zone as widely open channels which ramify within the substance of the sponge as they proceed.

The spicules are remarkably few in number, and this is true of all alike, from the oxeas to the amphiasters. The small size of the somal anatriæne is worth noting, though a similar reduction, but not to the same extent, occurs in some other species of the genus, e.g., *Thenca wyvillii*.

Still more interesting is the transformation of the radical anatriænes; in most species of *Thenca* a few club-shaped spicules, which are reduced anatriænes, occur along with the normal anatriænes of the roots, but in this case all the spicules which compose the rootlets are of this form. Most frequently the axial fibre of the rhabdome after entering the tylus gives off three irregular fibres, either from the same point, not necessarily the end, or at different points along its course. These fibres are thinner than that of the rhabdome, swollen and constricted irregularly, and crooked in their course; they usually bifurcate, and frequently give off a number of small lateral branchlets which give them a ragged appearance. Frequently when they reach the surface of the tylus their termination is marked by a small rounded projection, suggestive of an aborted cladus. In other cases only two, or even one, branch may arise from the axial fibre, and sometimes branches are altogether absent. In this last case the spicule is in every