

These branches—the main excurrent canals—traverse the wall of the sponge, chiefly obliquely outwards and downwards, sometimes extending as far as the ectosome. They are lined by an extension of the collenchymatous layer of the chief excurrent tube. Pores (Pl. XXX. figs. 3, 4) generally distributed, except on the summits of the ridges, where they are rare or absent; leading into subdermal cavities (Pl. XXX. figs. 1, 2, 5), which join together to form irregular sinuous canals, having a somewhat stellate arrangement, seen as dark spaces through the skin. The centre of each stellate system is situated within one of the depressions left between the ridges of the surface; usually several such centres lie within a single depression. Each centre marks the outer end of an incurrent canal, which descends, with a usually downward and inward direction, into the choanosome; it is lined by a collenchymatous layer, similar to that which forms the walls of the larger excurrent canals.

*Spicules.*—I. Megascleres. 1. *Desma* (Pl. XXIX. figs. 7, 7a), characterised by four triangular depressions, symmetrically disposed around the centre, one in each of the angles formed by the four diverging epactines. Each epactine is triradiate in transverse section near its origin, being raised into three strong longitudinal ridges; and it is by the confluence of these ridges about the centre that the triangular depressions which they bound are produced. At some distance from the origin the epactines become more or less cylindrical in section, and still more distally flatten out, so as to acquire a much depressed elliptical section. They may or may not bifurcate before growing out into a number of little elongated tubercles, which are often bifid; if they bifurcate, the tubercles are produced from any or all parts of the protocladi, if they remain simple, from the ends of the epactines. Zygois is terminal, and is produced by the intergrowth of the syzygial tubercles, which seldom form laminar processes. Sometimes the angle between the two protocladi of an epactine is webbed across by an extension of their adjacent inner margins; in this way the epactine sometimes comes to end in a flat triangular plate, the distal base of which grows out into syzygial tubercles.

The epactines and cladi of the desmas are very variable in their dimensions; most commonly the epactines measure, when simple, about 0.16 to 0.24 by 0.04 mm.; when bifurcate, the epactine exclusive of the cladi is from about 0.05 to 0.125 mm. long.

The axial fibre of the crepis extends from its origin into the epactine, as a rigidly straight rod, for a distance of 0.04 to 0.06 mm.; it then abruptly terminates, and its direction is continued by a series of granules, which branch out into two series at the points of bifurcation.

2. *Phyllotriæne* (Pl. XXIX. figs. 4, 4a-e), a short, conical rhabdome, about 0.13 to 0.16 by 0.019 mm., rounded off at the end; cladi of very various lengths, usually about 0.26 to 0.32 mm. long, diverging at various angles with each other, but perpendicularly to the rhabdome; more or less flattened in a horizontal plane; straight, or more usually irregularly curved; margin undulating; simple or bifurcate, or with accessory