

Some clue to the nature of this disappearance is possibly furnished by the Stellettid, *Myriastria clavosa*. In this sponge an oscule constantly exists (Pl. XII. fig. 40); but in many cases its aperture is so much diminished by the growth of its margin towards the centre as to be invisible to the unaided eye, or even when examined under a simple lens; indeed recourse must be had to serial sections for its discovery. The existence of a main excurrent canal can also only be ascertained by means of such sections. In *Anthastria communis*, a sponge very similar in general character to *Myriastria clavosa*, all traces of an oscule have disappeared, and the main excurrent canals cannot be traced to any common point of union beneath the cortex.

A comparison of the two sponges leads to the suggestion, that in instances of *Myriastria clavosa* with a very small oscule, we have an indication of a passage towards the condition presented by *Anthastria communis*. The chief excurrent canals in the former extend at their centrifugal ends very near to the ectosome, a little more and they would penetrate it, and open to the exterior. If this should take place a second oscule would be produced, and if it were closed by a sieve-plate, as it probably would be, it would be indistinguishable from the pores; the main branches of the excurrent canals might similarly penetrate to the exterior and several oscules result; the condition of things presented by *Anthastria communis* would thus be brought about.

Unless the original oscule of a young sponge continues to increase in size with the growth of the sponge, some such change in character as the foregoing might almost be predicted, and in *Myriastria clavosa*, so far from increasing it actually diminishes in many cases. The result of this is to lead to an increase in the water-pressure on the walls of the excurrent canals, and knowing how amenable tissues of all kinds are to the pressure, it will not surprise us to find an elongation of the centrifugal ends of the excurrent canals taking place in consequence.

In many cases the oscule is not lost, so much as transformed, its originally simple opening being replaced by a pore-sieve (*Cydonium*); this should rather be termed cryptostomy than lipostomy. In those two remarkable sponges, *Tribrachium schmidtii* and *Disyringa dissimilis*, the cloaca is produced beyond the sponge-body into a long cloacal or excurrent tube, the walls of which are cribriporal, the pores replacing the oscular opening (Pl. XVII. fig. 1; Pl. XLI. figs. 1, 5).

SECONDARY CANALS OR EPOCHETOSE SYSTEM.¹

Folding is not confined to the choanosomal plate or spongophare, but frequently affects the entire sponge, producing secondary cavities or canals (*epochets*). The simplest case of an excurrent epochet—or exochet,—as we may term it for brevity, is produced by an incurving growth of a fan-shaped plate till the lateral edges meet and unite, a vasiform

¹ ἐχέτρος, ὁ, a channel.