

layer (ectosome) of the *Cliona*, and is also penetrated through and through by the sponge (choanosome). The tubular canals penetrating the Coral in every direction ramify and anastomose and appear on the surface at fairly regular intervals in the form of circular, vertical pits.<sup>1</sup> Each of these pits is closed at the top by a thick, cushion-like pad of sponge tissue. These cushions are merely portions of the general crust which the *Cliona* forms on the surface of the corallum, but whereas the crust is in most places only about 0.2 to 0.25 mm. thick, in the cushion-like areas it attains a thickness of about

0.4 mm. on the one side of the corallum, and 0.8 mm. on the other (*vide* annexed woodcut). On the one surface, again (Pl. XXV. fig. 5), the pits are very much more abundant than on the other (Pl. XXV. fig. 5a), and average about 2 mm. in diameter, while the distance between two adjacent pits is also about 2 mm. On this surface the cushions are also much thicker than on the other (*vide supra*), and they present no appearance of perforation to the naked eye, though there is commonly a slight depression in the centre (Pl. XXV. fig. 5c). On the opposite surface the pits are fewer and less regularly arranged, and the cushion-like pads of tissue have each a small, but distinct, oscular perforation through the centre (Pl. XXV. fig. 5b). Colour of the sponge in spirit light brown. Oscula minute (Pl. XXV. fig. 5b, o and woodcut Fig. 11, o), one in the centre of each

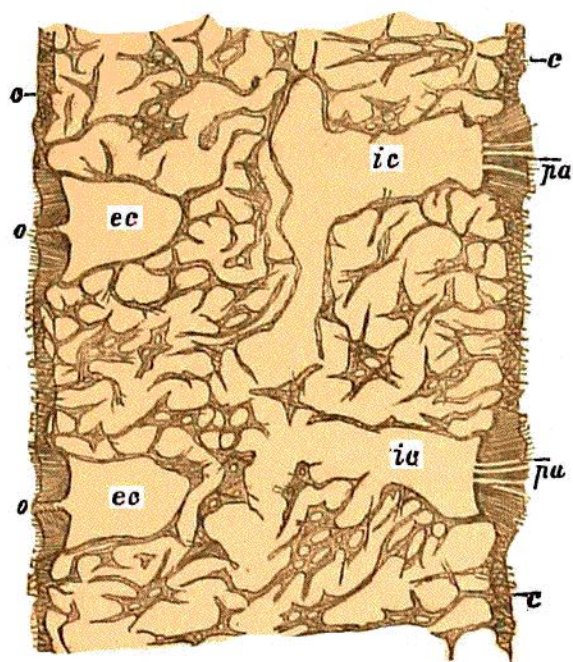


FIG. 11.—*Cliona dissimilis*. Vertical section of a decalcified specimen; o,o, oscula; pa, pore-areas. c, ectosome; ic, inhalent canals; ec, exhalent canals.  $\times 4$ .

cushion-like area on one surface only of the sponge. Pores, narrow, slit-like perforations, between vertical brushes of spicules, many in each cushion-like area on the opposite side of the sponge (woodcut, Fig. 11, pa).

**Skeleton.**—The ectosome contains numerous, closely packed, tylostylote spicules, many (? most) of which are arranged more or less vertically to the surface, beyond which their apices project for a short distance. In the cushion-like areas on both surfaces the spicules are especially abundant and more regularly placed than in other parts of the ectosome; around each osculum they form a slightly projecting fringe (*vide* woodcut, Fig. 11). The skeleton in the main body of the sponge, *i.e.*, in the canals in the corallum, is very loose and scanty, consisting only of a few scattered spicules.

**Spicules.**—*Megasclera*; of one form only, viz., rather slender tylostyli (Pl. XXIX. fig. 8), with very well marked heads; size about 0.32 by 0.0065 mm.

This is an extremely interesting and well characterised species; the most important points about it are (1) that it completely envelops as well as bores into the organism

<sup>1</sup> Originally the calicular cavities of the Coral, of which the sponge has taken advantage.