

Cœnosteum of *Pliobothrus symmetricus*.

The cœnosteum is described and figured by Pourtalès (Deep-Sea Corals, Ill. Cat. Mus. Comp. Zool., Harvard Coll., Cambridge, Mass., 1871, p. 57, pl. iv. figs. 7 and 8). He describes three kinds of pores as existing in the cœnosteum. In reality, there are only two kinds of true pores present, viz., the larger circular-mouthed gastropores and the smaller dactylopores, which open at the summits of short tubular projections from the general surface of the cœnosteum. The third kind is described by Pourtalès as very small linear pores disposed over the whole cœnenchyma, and arranged in rows. These are merely spaces between the trabeculæ of hard tissue forming the cœnenchym of the cœnosteum, and are occupied by canals of the cœnosarcal meshwork in the recent condition of the coral. They do not contain any form of zooid. It is to be noted that in *Pliobothrus tubulatus*, a second species (Pourtalès, *l.c.*, p. 58), the projecting tubules of the tubulated pores are much longer than in the case of *Pliobothrus symmetricus*, and thus form a stepping-stone in the series towards the condition existing in *Errina*. The pores of both kinds in *Pliobothrus* are devoid of styles. The gastropore cavities are tubular in form for a short depth from the surface, and then expand suddenly into a wide basin-shaped chamber, which lodges the similarly formed base of the gastrozooid, and from the margins of which proceed numerous large canals running mostly to the bases of neighbouring dactylopores. They sometimes have one or two tabulæ. The cœnosteum is very coarsely porous, otherwise the finer structure is much as in *Sporadopora*. The ampullæ are, as in *Sporadopora*, buried beneath the surface of the cœnosteum. Pourtalès remarks on them as "occasional round cavities found in the centre of the branch, filled with a yoke-like substance contained in a membrane."

Soft structure of *Pliobothrus symmetricus* (Pl. VIII. fig. 2).

The cœnosarcal meshwork of *Pliobothrus symmetricus* is very like that of *Sporadopora* in general arrangement, as will be seen by reference to the figure (Pl. VIII. fig. 2). The tubes composing it are however much finer and smaller in diameter, and the components generally of the coral are on a smaller scale.

There is the usual surface layer of ectoderm present, and the nematocysts which occur are of the two forms found in the whole of the Stylasteridæ. The offsets of the cœnenchymal meshwork, which join the sheaths of the gastrozooids, show only a very indefinite trace of the radiate arrangement which is so marked in *Sporadopora*. A trace of the arrangement does, however, exist (Pl. VIII. fig. 2, XX).

The gastrozooids are devoid of tentacles.¹ In the contracted condition they consist

¹ In a specimen of *Pliobothrus tubulatus* preserved in spirit, kindly given to me for examination by Count Pourtalès, I saw what appeared to be very short tentacles, five or six in number, on the margins of the mouths of the gastropores. The specimen was, however, not well hardened, and I am uncertain in the matter.