

Note on *Hiantopora ferox*, MacG., and  
*Cribrilina monoceros*, Busk.

In the earlier portion of this paper I have referred to Mr. Kirkpatrick's remarks on the systematic position of the former of the above species, and have suggested that there is probably a close affinity between it and *Cribrilina monoceros*. A careful examination and comparison of the two forms has convinced me that they are very nearly related and should probably find a place in the same genus. Reverting for a moment to Mr. Kirkpatrick's paper, I venture to suggest that the form which he describes as a variety (*intermedia*) of *Membranipora radicefera* may prove to be only an early stage in the development of *Hiantopora ferox*. His figure certainly bears a very close resemblance to cells of the latter species on the growing edge of the colony which have lately come under my notice. The zoecium represented in his figure is in an early stage of growth; the lower margin of the orifice is incomplete, but from the base of the avicularian cell (or from the margin beneath it) processes are budding which, in conjunction probably with offshoots from the side-wall of the cell, have already all but formed one or two of the large pores which are so striking a feature of the species. A marginal cell in a fine colony of *H. ferox* (which Miss Jelly has kindly lent me for examination) is in a similar stage of development, and presents very much the same appearance. Other cells exhibiting various phases of growth enable us to trace the history of the mature form.

As to the relationship between this species and *C. monoceros* there can, I think, be little difference of opinion. The development of the zoecium is essentially the same in both. In its earliest stages the cell is simply Membraniporine in character; the first change is the completion of the calcareous framework of the orifice, which is effected by the formation of a bar across the aperture, which shuts off the upper portion of it and constitutes the inferior margin of the oral opening. By the successive growth of a number of calcareous processes from the lower margin of the orifice and the side-walls of the cell, the extremities of which meet and are fused together, a perforated shield is formed which arches over and protects the membranous front wall. As I have said, the method of construction is similar in both forms, and the structural elements are alike. They may certainly rank in the same genus, and probably in MacGillivray's *Hiantopora*.

The affinity between these forms and the Cribrilinidæ is sufficiently apparent, but they can hardly be included in the

same family. The elements of the protective covering in the latter are modified marginal spines; in the former they are special processes given off from the walls of the cell. These are not morphological equivalents, whilst the general character of the two structures is dissimilar. *Hiantopora* must therefore be the type of a distinct family group.

[To be continued.]

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## MISCELLANEOUS.

### *On the Nervous System of Monocotylidæ.*

By M. G. SAINT-REMY.

AMONG the *Tristomeæ*, the nervous system of the *Tristomidæ* is well-known, thanks to recent researches, in particular the labours of Lang and Monticelli. No precise observations have hitherto been made on the *Monocotylidæ*, of which we have examined two types—*Pseudocotyle squatinæ* and *Microbothrium apiculatum* \*.

We know that, among the *Tristomidæ*, the brain, situated above and in front of the pharynx, sends out six pairs of nerves, three in front and three behind (lateral nerves), of which the two outermost, ventral in position, extend as far as the posterior sucker, where they anastomose. The nervous system of *Pseudocotyle squatinæ* most nearly resembles this type. The brain is a thick band, incurved during growth, and situated in front of the pharynx, above the vestibule; it gives rise to five pairs of anterior nerves, and behind to two or perhaps three pairs of lateral nerves. The first pair of anterior nerves is large, arises directly against the median line in the upper region of the brain, and loses itself in the parenchyma, above the mouth: it is the homologue of the nerves of the Tristomian frontal lobe, the internal nerves of Monticelli. The second pair is very slender and of little importance; the third is constituted by two branches which start one from each exterior angle of the brain, and lose themselves outside: they represent the nerves of the suckers (median nerves) of the *Tristomidæ*. The fourth corresponds to the third pair of the latter: it is formed of two strong branches, which pass forwards and inwards to unite in the median line, as in *Tristomum*, but remain here without contact with the other anterior nerves. Lastly, the fifth pair is represented by two little accessory threads of no importance.

As regards lateral nerves, we have found two pairs of strongly

\* These investigations were made upon animals collected at the Roscoff laboratory, where Prof. Lacaze-Duthiers was good enough to accord to us the most liberal hospitality.



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