

On Fascicularia radicans, C. Vig., a new Type of Anthozoan.
By M. CHARLES VIGUIER.

When dredging in the mud of the harbour of Algiers, about the middle of last April, we collected this little Alecyonarian, which lived for two months in the aquaria of the new Zoological Station. I made a detailed investigation of this new type, but it is unfortunately incomplete in several points.

The only specimen collected was a female colony attached to a fragment of charcoal, which it covered with a network of slightly flattened anastomosing stolons, from 3 to 6 millim. broad. Upon these stolons, at very variable intervals, and sometimes nearly touching each other, rose groups of polyps, which, when in the extreme state of contraction, considerably resembled those of *Paralecyonium*. But as soon as the colony begins to expand, it is seen that we have to do with a very different type.

Thus while in *Paralecyonium* the basal portion is surmounted, in the state of complete expansion, by another common portion of still larger dimensions, or, in one word, the polypary divides into two portions—one soft and retractile, the other hard, within which the former folds itself up,—in *Fascicularia* there is no other common portion than the base itself, and far from the polyps being fixed one upon the other, or, more correctly, incompletely separated, they are here entirely distinct to the level of the apex of the basal column, and at this point their separation is very clearly marked by white lines, produced by spicules occupying the top of the interpolypary partitions. The rest of these partitions does not contain any spicules; but the common wall which surrounds the bundle of polyps is sustained by a palisade of long white vertical spicules which give it its characteristic rigidity. If we make a section perpendicular to the axis of this basal column, we see that the cavity of each of the polyps is perfectly distinct from that of its neighbours, and that even the young polyps are separated very early from that upon which they have budded forth. Moreover, each of the polyps retracts itself separately into its proper cell, or, more correctly, into its basal portion, and enjoys a perfect independence with respect to its neighbours. It is only when the retraction of all the polyps is complete that the column itself begins to retract as much as is permitted by the spicules with which its wall is furnished.

The free portion of the polyps in the state of extreme expansion may attain double the height of the basal column, which gives, for the whole, a maximum height of 16–18 millim. The number of polyps does not appear to exceed 10–12 per bundle. These polyps have the tentacles relatively very long, and of a bright greenish yellow on the buccal surface. On the outer surface, on the contrary, these tentacles, as well as the whole of the œsophagean

region of the polyp, are of a very dark brown colour, upon which there is a pure white collar, formed of spicules with a peculiar crystalline texture, in no respect resembling the ordinary spicules. Below the œsophagean region the colour of the polyp becomes much lighter; the tube becomes almost translucent, and allows the lines of insertion of the septa to be traced. Then the colour deepens again to the point of union.

From this description it will be seen that we have to do with an animal perfectly distinct from *Paralcyonium*, although it is with that form that it presents the most affinities. *Fascicularia*, I think, must form the type of a third subfamily, the Fascicularinæ, intermediate between the Cornularinæ and the Alcyoninæ, into which, at present, it is generally agreed to divide the family Alcyonidæ.—*Comptes Rendus*, July 16, 1888, pp. 186, 187.

*On the Resemblance of the Primitive Foraminifera and of
Ovarian Ova.*

Prof. Ryder remarked that upon cutting sections of nearly mature ovarian ova with their investing membrane, zona radiata, in place, it was found that, in quite a number of cases, fine protoplasmic processes or pseudopods extended from the peripheral layer of protoplasm of the egg, through its capsule or zona, and joined the cells of the granulosa or discus proligerus. This arrangement reminded one forcibly of the filamentous pseudopods extended from a *Heliozoön*, or of the slender pseudopods extended through the perforations in the walls of the single chambers of *Globigerina*. This resemblance is all the more suggestive if one will compare a section of one of the chambers of a *Globigerina* made through the calcareous shell and its contained protoplasm with a similar section through the ovum of the Gar Pike, where the zona is formed of pillars of homogeneous matter. Such prolongations of pseudopods through the investing zona radiata, in the case of many species of animal forms, shows fairly well that this must be the principal means by which new matter is taken up from without and incorporated, as there is no direct extension of the vascular system into the egg, by which it can take up nutriment. It is thus seen that the early stages of the growing ovum not only resemble some of the lower forms of *Heliozoa* and *Foraminifera* as respects the grade of their morphological differentiation, but also as to the mode in which they exhibit their nutritive or physiological activities. This resemblance is still further heightened if a form like *Orbulina* is compared with certain stages of the development of ova. It is thus seen that, in many cases, the ovarian germ, at least, passes through a stage which may be morphologically as well as physiologically compared with some of the lowest grades of the *Protozoa*.—*Proc. Acad. Nat. Sci. Philad.* Feb. 14, 1888, p. 73.



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