

species, which is described as retracting itself when disturbed with extreme rapidity into its tube.

NOTE ON A CURIOUS INSTANCE OF SYMBIOSIS.

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In the June before last I obtained with the dredge off Thursday Island, in a depth of four or five fathoms, specimens of a branching species of *Cellepora*, which was dotted over with small red specks. On examining these more minutely, I found each to consist of a minute *Actinid* lodged in a cylindrical pit excavated in the substance of the polyzoarium and projecting, when expanded, about a quarter of an inch from the surface of the latter. Each of the pores is about a twentieth of an inch in diameter; they are cylindrical and tolerably smooth, and in most cases the orifices are furnished with a low projecting rim. When they are traced backwards into the substance of the *Cellepora* two are frequently found to unite, and very often they eventually open into the cavity occupying the centre of the thicker branches. They very often extend in this way through a distance many times greater than the length of the *Actinid* itself, and, as the latter is provided with no means by which it can retract itself into the interior, this long canal must be the result of the simultaneous growth of the little anemone and the *Cellepora* in which it is lodged.

This singular phenomenon is specially interesting on account of the light which it throws on the structure of some very problematical-looking species of Bryozoa, one of which I described not long ago under the name of *Sphæropora fossa*.* In this species the bryozoarium is spherical, slightly compressed, one pole being

* Mr. Waters, whose authority on the subject of Bryozoa is probably as great as that of any living zoologist, regards the form of the cells as not being sufficiently distinctive to justify the separation of this species from *Cellepora*.

always characterised by the presence of a deep cylindrical pore running in the direction of the axis, but not quite reaching to the opposite pole. This pit is always well-defined and uniformly cylindrical, and it is difficult to explain its nature unless we suppose that it was occupied by a minute *Actinid* similar to those already described. None of the specimens which I have seen exceeded an eighth of an inch in diameter, and most of them, from their worn appearance, must have been dead when dredged, so that there would seem to be a tendency in this species to a rest of growth and death at a certain definite stage of growth. This species, it is to be remarked, differs entirely in the nature of its zoœcia from the branching species already mentioned, which is a normal *Cellepora*.

A species very nearly related in the peculiar form of the cells of *C. fossa* was dredged off Port Stephens, at depths of 20 to 30 fathoms. The form of the bryozoarium in this case is usually that of an elongated cone, a third of an inch to half an inch in length, with a pit, exactly like that occurring in *C. fossa*, in the centre of the base; but sometimes it has the form of a circular plano-convex disk, a third of an inch in diameter, with cells on both sides and without a pit, while in other cases the shape is more irregular, subhemispherical or the like, but never larger than a pea.

It seems very likely that the first-mentioned species starts from an early stage resembling *C. fossa* or its ally, a group of cells surrounding a single young *Actinid*; as the zoarium increases and the cells grow round the mouth of the cavity occupied by the latter, the canal is constantly being elongated as the sea-anemone remains at its orifice, and thus prevents it from being encroached upon by the multiplying cells. Sometimes the sea-anemone* gives off a lateral bud, and at this point the canal is seen to branch,

* I sent specimens of the *Actinid* to Prof. Mosely of Oxford, who will describe them.

and by degrees, by the simultaneous growth of the *Bryozöon* and the Sea-Anemone, such a complex organism as I have described is produced.
