

The *Cyclophori* are of Indian types. *Leptopoma* represents forms of the Indian Archipelago.

Aulopoma is probably altogether, and *Cataulus* is nearly confined to Ceylon, a species occurring in the Nicobar Isles.

Pterocyclos is an Indian type.

November 24th, 1855.

XI.—Notice of a curious Metamorphosis in a Polype-like Animal.

By C. W. PEACH, Member of the Royal Physical Society of Edinburgh*.

[With a Plate.]

IN March of the present year, I obtained from a fisherman's line an old and deeply corroded valve of *Psammobia ferroensis*, hooked up from deep water. On it I observed some minute jelly-like spots, and on placing it in a shallow glass of sea-water and examining it next day with my pocket-lens, I fancied I could make them out to be Polype-like animals. I accordingly transferred the shell, in a watch-glass filled with sea-water, to my microscope, and was delighted to find my suspicions correct, for, after a little management so as to catch the light, I could see the forms as figured at A (Pl. VIII.), attached to the shell by short footstalks; they were a little inflated near the upper part, and tipped with a slightly raised and rounded centre, from which extended four long and four short leaf-like arms, each granulated down the centre. One or two had springing from these, delicate tentacle-like arms, as seen at A, *a*—probably in a farther state of development. They were easily disturbed, but soon again displayed themselves, and their transparency, added to this shyness, rendered it difficult to catch their forms. At first I thought they were the early stage of an *Hydractinia*, and probably *H. brevicornis* of Müller, mentioned in Johnston's second edition of the 'British Zoophytes,' p. 35.

My next examination was on the 2nd of April, after giving them a supply of sea-water; they were still fixed; I could however perceive a difference—the centre of the head was more raised and conical, and the arms shorter. I examined them daily, and on the 6th, instead of *moored creatures*, I had a fleet of probably more than 100 minute *free naked-eyed medusoid* beauties jerking about in all directions. Except in size they were all alike, and perfectly transparent; the umbrella was well rounded and pilose; the subumbrella large; each had four large ocellus-like bulbs, composed of minute dark granules on the edge of the mantle,

* Communicated by the Author, having been read at the Annual Meeting of the Royal Institution of Cornwall, Nov. 1855.

at the bases of the stiffly turned-up tentacles, which were tipped with a disk having a dark centre surrounded by a light ring, and outside a darker edge, as seen at fig. 5. Dark but short bars were arranged in a quincunx manner on the tentacula, as in fig. 9.

Besides these long tentacula, there were four smaller and shorter, also turned up, but not furnished with ocelli (as at fig. 4, where the edge of the mantle is shown); on the lower part of the mantle runs a canal communicating with the bulbs of the larger tentacula. In this canal I observed spherical granules passing along, and as if revolving in the bulbs and a short way down each large tentacle; into these bulbs smaller granules descended from the subumbrella by the gastro-vascular canals. The latter extended to the upper part of the stomach, as seen at fig. 8, the stomach being attached to them, rounded on the upper part and divided into four lobes, as at fig. 6; it then narrows and runs out in a campanulate form to the quadrate mouth, which has four long lips fimbriated at the tips, as shown at fig. 6, and by the view from the under side at fig. 7.

The animals were very active up to the 10th, when some little change took place; I supplied small quantities of water and used every precaution, being anxious to see all I could of them. On the 11th they became sickly, and as figured in Pl. VIII. fig. 2; the mouth, as at fig. 2 *a*; the upper part of the umbrella, as at fig. 2 *b*, in eight festoons, the tentacula drooping. On the 13th they were nearly inactive, and *turned inside out*, with the tentacula folded in the upper part, as at figs. 10 & 11. I began to hope, that, as the mouth had become elongated into a peduncle-like form, they were about to become fixed again; they however dwindled away, and although I kept the water for months, I could trace nothing more. I have not yet seen Steenstrup's work on the "Alternation of Generations," and therefore am unable to say whether it may be one of the interesting facts observed by him. They differed in the *fixed state* from any of the zoophytes noticed by Johnston, and when *free*, from all the naked-eyed Medusæ figured in Forbes's Monograph. It may be one of the latter in its earlier stage, and probably is, *from its being pilose*, as is the case with many of the young of the Medusæ which have fallen under my notice: I have seen many, but this is the most interesting of all. The most like the free state is *Lizzia octopunctata* of Forbes, pl. 12. fig. 3; it agrees in the form of the umbrella, in having eight tentacular bulbs and four gastro-vascular canals, in the shape of the stomach, quadrate mouth and long fimbriated lips. It differs in being pilose, and in having only eight tentacula instead of twenty, viz. three at each large bulb and two at each of the smaller ones. Even this difference





Peach, Charles William. 1856. "XI.—Notice of a curious metamorphosis in a Polype-like animal." *The Annals and magazine of natural history; zoology, botany, and geology* 18, 99–101. <https://doi.org/10.1080/00222935608697596>.

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