

7. Note on the Occurrence of *Phoronis* larvae (*Actinotrocha*) at Monterey Bay, California.

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The occurrence of *Phoronis* on the Western Coast of the United States was first recorded by Torrey¹ who described *Phoronis pacifica*, in 1901, from specimens taken at Humboldt Bay, California and Puget Sound, Washington.

This past summer, during a long continued calm spell in June, some remarkably rich plankton was collected by the students of the Hopkins Seaside Laboratory, Monterey Bay, California, and on two days June 15 and 16 — a few *Actinotrocha* were taken.

In external appearance these were similar to those figured by Masterman², Roule³ and Ikeda⁴, representing several stages of development. The youngest larva, 0,5 mm in length, had a well developed preoral hood, 6 pairs of short larval tentacles, a comparatively large perianal band, and a short invagination of the rudimentary stalk. Some of the older larvae showed this invagination at a more advanced stage. The largest of the typical larvae was 1,75 mm in length, with 11 pairs of larval tentacles and was more robust in the trunk region, while the body cavity was crowded with the intestine and the coiled, invaginated stalk. A still older larva appeared to be nearly through the free swimming period; the stalk had evaginated and was filled with the coiled intestine, while the remains of the hood and the perianal band appeared as irregular lobes beside the tentacles, which were more slender and appeared to be massed into the beginnings of a lophophore.

With the exception of the very oldest, all the larvae when alive carried the preoral hood at right angles to the long axis of the body, -i. e., in the position described and figured by Ikeda and not that mentioned by Masterman. In killing, nearly all retained the hood in this position, although one specimen raised the hood until its long was parallel to that of the body.

While as yet no adults have been found, the presence of the larvae indicates their occurrence and forms a valuable addition to the rich fauna

¹ Torrey, H. B., On *Phoronis pacifica*. Biol. Bull. II. 1901. p. 283—288.

² Masterman, A. T., On the Diplochorda. I. The structure of *Actinotrocha*. Quart. Journ. Micr. Sci. XL. 1897. p. 281—338.

³ Roule, L., Étude sur le développement embryonnaire des Phoronidiens. Ann. Sci. Nat. ser. 8. XI. 1900. p. 51—230.

⁴ Ikeda, I., Observations on the Development, Structure and Metamorphosis of *Actinotrocha*. Journ. coll. Japan. XIII. 1901. p. 507—582.

of Monterey Bay. It is also probable that when found the adult will prove to be the same species as that described by Torrey.

By the careful use of chloretone in narcotizing the specimens, subsequently treating them with formalin-alcohol, the larvae were killed in an approximately lifelike condition, without distortion or shrinkage. This method has worked equally well with other larvae, to show characteristic larval structures; and with extremely contractile adult forms which retained a very lifelike appearance.

8. *Monostoma filicolle* Rudolphi e *Distoma okeni* Kölliker.

Del Prof. Vincenzo Ariola, Genova.

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Rudolphi nella sua Sinossi¹, con quella precisione che tanto lo distingue, indicava un Trematode parassita di *Brama rayi*, osservato a Napoli, col nome di *Monostoma filicolle*. È un verme che misura mm 30—108 di lunghezza, costituito da una parte anteriore, sottile e filiforme che si estende per quasi $\frac{2}{3}$ della lunghezza totale dell' animale, e sulla quale stanno la ventosa orale, apicale, e le aperture degli organi riproduttori; la parte posteriore si presenta alquanto ispessita, allargata, e col diametro longitudinale quattro o cinque volte maggiore del trasversale; è ottusa all' indietro. Vive incapsulato tra le apofisi spinose accessorie, avvolto da sottile membrana, e ciascuna ciste contiene un solo individuo. Dujardin nella storia naturale degli elminti² accetta e conserva questa specie.

Kölliker più tardi, pure a Napoli, nello stesso pesce riscontrava un Trematode, che descriveva ed esattamente figurava³; questa seconda forma, molto più frequente, vive anch' essa incistata sulla superficie inferiore o ai lati dell' opercolo, sugli archi e nella cavità branchiali. Entro ogni singola ciste si trovano racchiusi due individui, dissimili, l'uno filiforme, clavato anteriormente, il maschio secondo Kölliker; l'altro, da questo differente, costituito da una regione anteriore assottigliata, e da una seguente più o meno rigonfia e variamente contorta, e che rappresenterebbe la femmina. Le dimensioni sono di gran lunga inferiori al *Monostoma filicolle*, non superando i 15 mm. Entrambi presentano due ventose, assai cospicue e vistose, orale e ventrale, tra loro poco discoste. Ed è per tale ultima caratteristica che l'A. collocò questa forma nel gen. *Distoma* (*D. okeni*).

¹ Entozoorum Synopsis, p. 85 e 347. Berolini 1819.

² Histoire natur. des Helminthes, p. 361. Paris 1845.

³ Berichte Kgl. zootom. Anstalt z. Würzburg. II. Bericht. S. 55. Leipzig 1849.

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