KOWALEVSKAIA OCEANICA, LOHMAN (1896), TUNICATA: LARVACEA A NEW RECORD FROM THE INDIAN OCEAN

ABSTRACT

A single specimen of *Kowalevskaia oceanica* (Lohman, 1896), a rare species of the family Appendicularidae was collected during a cruise of M. V. *BLUEFIN* operated off Quilonin the Arabian Sea and a brief description of the species is given in this account. The species has been previously recorded from the Atlantic Ocean and the Mediterranean Sea and by this rediscovery from the Arabian Sea its distribution is extended to the Indian Ocean also.

THE genus Kowalevskaidae, (Fol., 1872) is hitherto not recorded from the Indian Ocean. The monogenetic appendicularian family Kowalevskaidae (Lahille, 1888) is represented by two species, i.e. (1) *Kowalevskaia tenuis* (Fol, 1872), (2) *Kowalevskaia oceanica* (Lohmann, 1899). These are small forms lacking heart and endostyle. The pharynx is broad depressed with a double row of internal ciliated processes on each side of the pharynx and very wide non-tubular gill slits. These species have hitherto been recorded from the Atlantic and the Mediterranean and the occurrence of *Kowalevskaia oceanica* as reported in this note, is a new record from the Indian Ocean.

A single specimen was collected during a cruise on board M. V. *BLUEFIN* at station No. 28A and position : 08°30'N and 76°00'E from a vertical haul (200 m to surface) with a Hansen Tranter net.

Description : Total length 0.6 mm. Hood present ; trunk voluminous ; pharyngeal portion flattened dorsoventrally showing distinctly the large globular gastro-genital part ; Oikoplastic layer is present below pharynx and is capped in posterior part of hood ; mouth round without lip, but provided with lashes and with tactile bristles ; endostyle and heart absent. Pharynx broad divided into compartments longitudinally by two lateral tiers of comb-like ciliary structures. Spiracles modified as large lateral branchial openings, oval in form, very much flattened and extending all through long pharyngeal segment. Oesophagus short and stomach spheroidal. A short pyloric duct present ; intestine is globular. Gonads uneven having a pair of testes and an ovary.

Tail lanceolate, 4 to 6 times longer than trunk. Musculature of tail straight and broad, double the width of notochord.

Remarks : The presence of the comb-like internal ciliated processes on each side of the pharynx is the diagnostic feature of the family kowalevskaidae. Of the two known species of the genus *Kowalevskaia*, *K. oceanica* differs from *K. tenuis* in the following characters.

1. The body is truncated in *K. oceanica* whereas it is ovoid posteriorly and truncated at the buccal extremity in *K. tenuis* (Brien, P., 1948).
2. In *K. oceanica*, tail is lanceolate and 4 to 6 times longer than the trunk. Musculature of the tail is straight, broad and double the width of the notochord, while in *K. tenuis*, the tail is lanceolate and undulating in appearance

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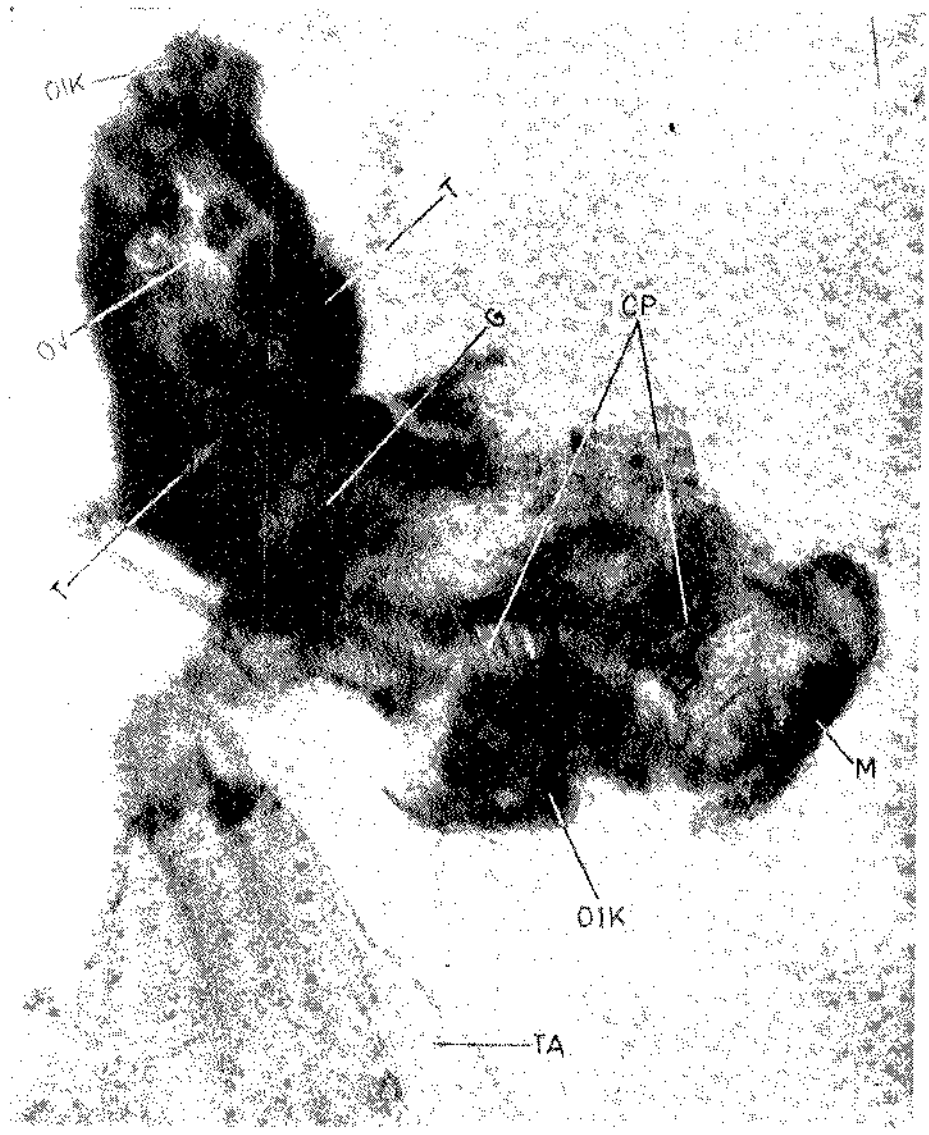

PLATE I. *Kowalevskaia Oceanica* Lohman

(OIK-Oikoplastic layer, OV-Ovary, T-Testis, M-Mouth, CP-Comb plates, G-Gut, TA-Tail)

attaining its greatest width in its terminal third section with a pointed end. The musculature is not straight and is not attaining twice the diameter of the notochord at its widest point.

3. Oikoplastic layer is present below the pharynx in *K. oceanica* and is capped in the posterior part of the hood but in *K. tenuis* oikoplastic layer is discoid, limited to the middle part of the pharynx.

4. In *K. oceanica*, the oesophagus is short and stomach is spheroidal. A short pyloric duct is present and the intestine is globular but in *K. tenuis* there is real oesophagus, stomach spherical when full, ovoid when empty. No obvious intestine is seen and the pyloric duct is on the right side of the stomach emptying directly into the ovoid rectum. The anus is inconspicuous (Thompson, 1948).

5. Gonads in *K. oceanica* are uneven, having a pair of testes and an ovary whereas in *K. tenuis* gonads consist of an elonagted reniform testis and a spherical ovary which is situated to the left of the testis.

Distribution : The species have so far been recorded from the Atlantic (Lohmann, 1896a) and from Mediterranean Sea — (Fenaux, 1963b and 1967) and presently from the Indian Ocean, which probably indicate their discontinuous distribution. However, further studies on these lines are needed, before anything could be said certain about their distribution pattern.

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