

ON *BOMOLOCHUS JONESI* SP. NOV. PARASITIC ON THE EYE OF  
THE INDIAN MACKEREL *RASTRELLIGER KANAGURTA*\*

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EYE parasites belonging to the genus *Bomolochus* are comparatively few. Two species have been recorded hitherto from the Indian waters, *B. sardinellae* Bennet (1964) and *B. varunae* Bennet (1966). Both of them were found on the eyes of clupeid fishes. The present species was found on the eye of the Indian mackerel *Rastrelliger kanagurta* from the Calicut coast. As in other eye parasites *B. jonesi* is lodged between the eye ball and the adipose lid of the host. At times, when disturbed it goes deeper in the orbit over the eye ball, hiding from outside view. Over two hundred specimens, all females, were obtained between August 1965 and July 1966. During August, November and February about 60% of the host fish were infested. In July all the fish examined (over 50) were parasitised.

The species name is chosen in grateful appreciation for the encouragement given by Dr. S. Jones in this study on the eye parasites of fishes.

DESCRIPTION OF FEMALE

Holotype, female, is deposited at the Central Marine Fisheries Research Institute, Mandapam Camp. The general body form of the adult female is as described for *B. Sardinellae* and *B. varunae*. Cephalothorax slightly broader than long, anterior margin carries the short rostral lobe which is broader than long. First thoracic segment fused with the cephalothorax and the next four free thoracic segments gradually decrease in width posteriorly. Genital segment slightly broader than long, bearing a pair of setae on either side, the remnants of the sixth legs. Egg sacs elliptical, in some specimens egg sacs are elongated, eggs arranged in single layer. Abdomen three segmented, tapering posteriorly. Caudal rami longer than broad, with three apical setae, the inner one much longer than the others and a minute seta at the lateral margin. Caudal rami and the last abdominal segment sculptured with minute spines.

First antenna six segmented, long and curved at the second segment. First two segments enlarged and flattened, bearing stout plumose setae, five setae on the first segment and eight on the second segment. Other segments with simple setae. Second antenna short, strong and stout, three segmented, distal segment shorter than basal segment and bear five curved digitate claws of which one is stout and strong. Outer margin of the terminal segment roughened with ridges. Mandible as in *B. sardinellae* with unequal cutting blades. First maxilla simple, without

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seta. Second maxilla with two pointed blades bearing minute spinous hairs at the margin. Labrum and labium without hairs or denticles. Maxilliped stout, outside

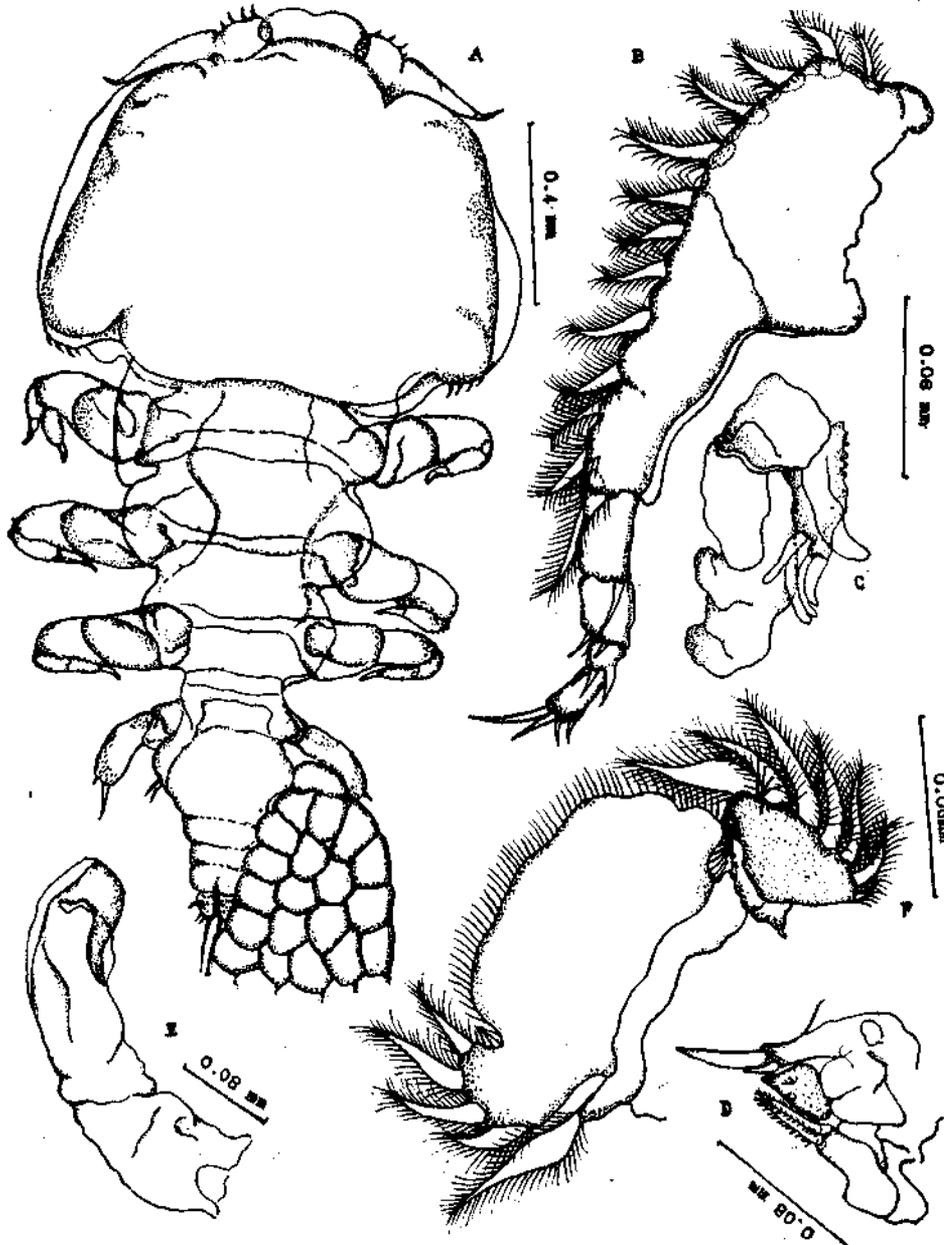


FIG. 1. *Bomolochus jonesi* sp. nov. (A) female dorsal view, (B) first antenna, (C) second antenna, (D) mouth parts, (E) maxilliped, (F) first swimming leg.

and forward to the other mouth parts, three segmented, middle segment longer than the other two; claw without accessory structures.

First pair of swim legs flattened and enlarged, bi-ramous. Exopod two segmented, basal segment narrow with one short seta, distal segment enlarged bearing

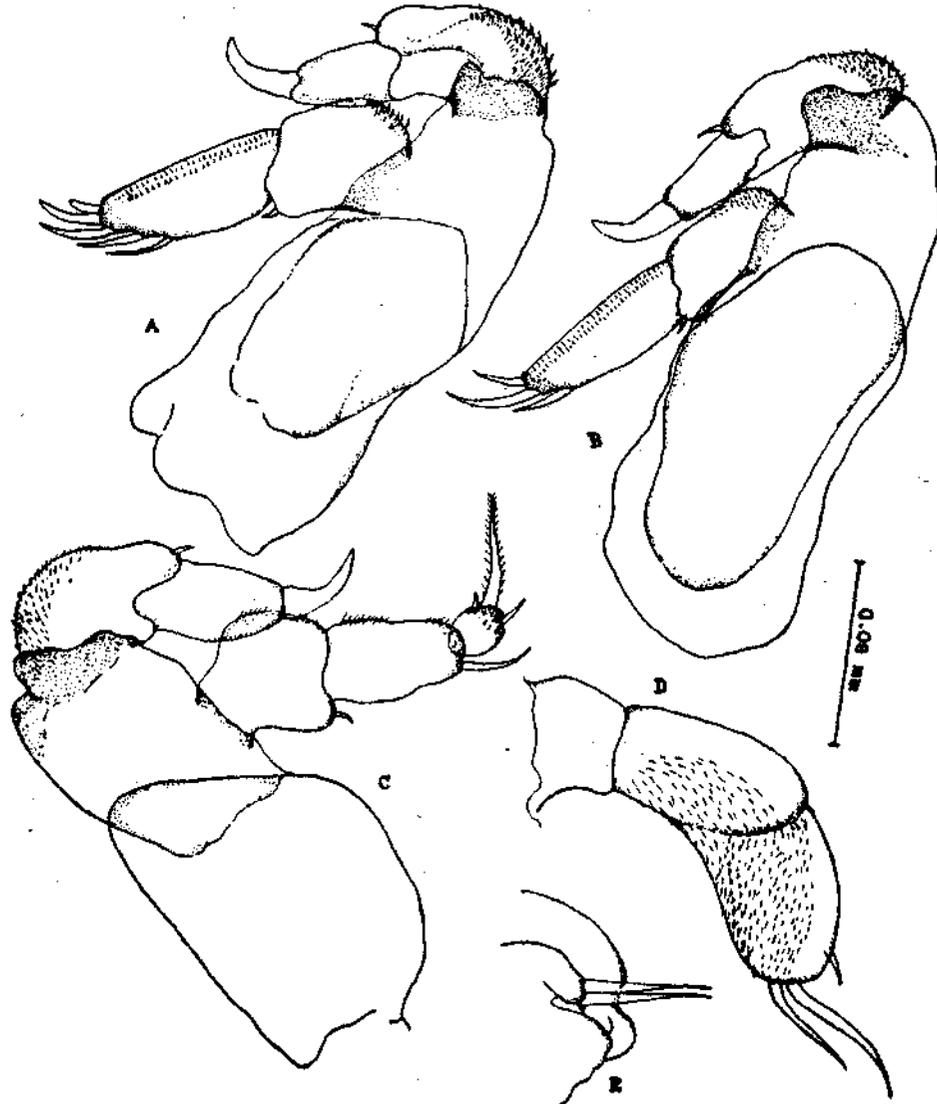


FIG. 2. *Bomolochus jonesi* sp. nov. (A to E) swimming legs 2 to 6.

seven stout plumose setae. Endopod much enlarged and two segmented, basal segment narrow, with one long plumose seta, distal segment large, hairy at the outer margin and with four stout plumose setae. Basipod of legs two to four more or less equal in length, stout, elongated and two segmented. Exopods of second to fourth legs two segmented, basal segment roughened at the outer margin and bear a single spine; distal segment ends in a strong, curved, smooth claw like spine. Endopod

TABLE

Characters	<i>B. jonesi</i> sp. nov.	<i>B. sardinellae</i> Bennet	<i>B. varunae</i> Bennet
Rostrum.	Broader than long.	Longer than broad, apically bilobed.	Broader than long.
Egg sac.	Elliptical and elongated, eggs arranged in a single layer.	Ovate, eggs in a single irregular layer.	Long and narrow, longer than the length of the animal, eggs in 3 or 4 longitudinal rows.
First antenna.	First two segments with only plumose setae and no simple seta.	First two segments with plumose setae and two long simple setae.	First two segments with plumose setae and two non-plumose tactile hairs.
Second antenna.	Three segmented, distal segment shorter than basal segment, with five curved claws of which one is stout and strong. Outer margin of the distal segment with ridges.	Three segmented, third segment spiny, with five curved apical claws.	Three segmented, distal segment as long as the basal segment, surface roughened with minute teeth and ends in four apically curved digitate processes.
Mandible.	With two blades, One very small.	With two cutting blades, one very small.	With a smooth and simple pincer like blade.
First maxilla.	Simple without seta.	With three setae one of them very long and non-plumose, others plumose.	With three divergent short hairy setae.
Second maxilla.	With two pointed hairy blades.	With two blades barbed on both edges.	With one long hairy spine.
Swimming legs 2 to 4.	Distal basipod segment without seta, rami two segmented except the fourth endopod which is 3-segmented, exopod segments without spinules at the outer margin, with a non-barbed claw like terminal spine, without any terminal seta.	Distal basipod segment with single seta, rami two segmented except the fourth endopod which is 3-segmented, exopod segments with spinules at the outer margin and a barbed short claw-like terminal spine, terminal setae present at the exopod segments.	Distal basipod segment with single seta, rami obscurely three segmented both in exopod and endopod, exopod segments with spinules at the outer margin, terminal exopod segment with a barbed claw and setae.
Sixth leg.	Present in the form of a short basal segment and two long setae.	Absent.	Rudimentary, in the form of three long non-plumose setae on the genital segment.
Anal laminae.	Longer than broad with three terminal setae of which one is long and one lateral seta at the margin.	Short, broader than long, each with a long terminal seta and three short lateral spines.	Narrow and elongated, twice as long as wide, tipped with a long median seta and three smaller setae of which two are terminal and one at the lateral margin.

of legs two and three two segmented, hairy at the outer margin, basal segment with one seta, terminal segment with five setae in leg two and three setae in leg three. Endopod of leg four three segmented, outer margin with groups of minute hairs, first two segments with single seta at the inner margin, terminal segment smaller than the other two segments and bear three setae of which one is long and hairy. Fifth leg short, uniramous, with a single segmented basipod and obscurely two segmented ramus, bearing distally two long and one short setae. The genital segment bears the sixth pair of legs in the form of a rudimentary basipod and two long setae.

A comparison of the females of the three known species of eye parasites recorded in India is given below for easy identification of the different species. As in the case of *B. sardinellae* and *B. varunae*, *B. jonesi* shows affinities with *Pseudoecanthus alosae* Brian (1906) and *P. miseratus* Wilson (1913) in not having accessory structures on the maxillipedal claw.

#### SUMMARY

Female of a new species of copepod parasite, *Bomolochus jonesi* is described from the eye of the Indian mackerel, *Rastrelliger kanagurta* from the Calicut coast. A comparison is made with the already known eye parasites from India.

#### ACKNOWLEDGEMENT

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