

ON *BOMOLOCHUS SARDINELLAE* SP. NOV. (COPEPODA,
CYCLOPOIDA) PARASITIC ON *SARDINELLA ALBELLA**

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COPEPOD parasites of the genus *Bomolochus* are usually found within the branchial chamber. The present specimens were found attached to the eye ball remaining almost completely hidden beneath the adipose lid, on *Sardinella albella* Val. caught at Mandapam, South India. The only other record of a cyclopoid showing a similar preference for the eye ball is *Pseudoeucanthus alosae* Brian (1906).

Hitherto only seven species of *Bomolochus* have been recorded from India (Bassett-Smith, 1898 ; Gnanamuthu, 1947, 1948 and Pillai, 1962).

Bomolochus sardinellae sp. nov.

Fifty females, one with the male attached to its genital segment, were collected by the author from *Sardinella albella* at Mandapam, South India between 1958 and 1960. Generally one parasite was found on each eye. The percentage of infection was about 10%. In the present locality it was not known to parasitize any other fish, not even *Sardinella gibbosa*, which commonly occur along with *S. albella*.

Holotype female and allotype male are to be deposited at the Central Marine Fisheries Research Institute, Mandapam Camp, South India. The rest of the material, paratypes, will be with the author.

FEMALE

Body long, 1.3 to 2.8 mm., extremely flat and abruptly narrowed behind the carapace ; curved ventralwards, obviously to fit the contour of the eye ball of the host. Cephalothorax broader than long with perfectly rounded lateral border. Rostrum prominent, longer than broad and apically bilobed. First thoracic segment completely fused with the carapace, others free and distinct, successively becoming narrower backwards. Genital segment as long as the second thoracic segment but stouter than the fifth. Abdomen short and three-segmented, tapering, equal to the combined lengths of thoracic segments five and six ; first segment longest, others subequal in length. Anal laminae short, broader than long, each with a long terminal seta and three short lateral spines. Egg sacs roughly ovate, with large eggs arranged in a single layer.

First antenna five-segmented, gracefully curved and reaching slightly beyond the lateral margin of the carapace ; first two segments large, with a total number of

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fifteen stout plumose setae and two simple long setae, other segments with simple setae, last segment with a long apical seta. Second antenna three-segmented, third segment spiny, with five curved apical claws. Mandible with two cutting blades,

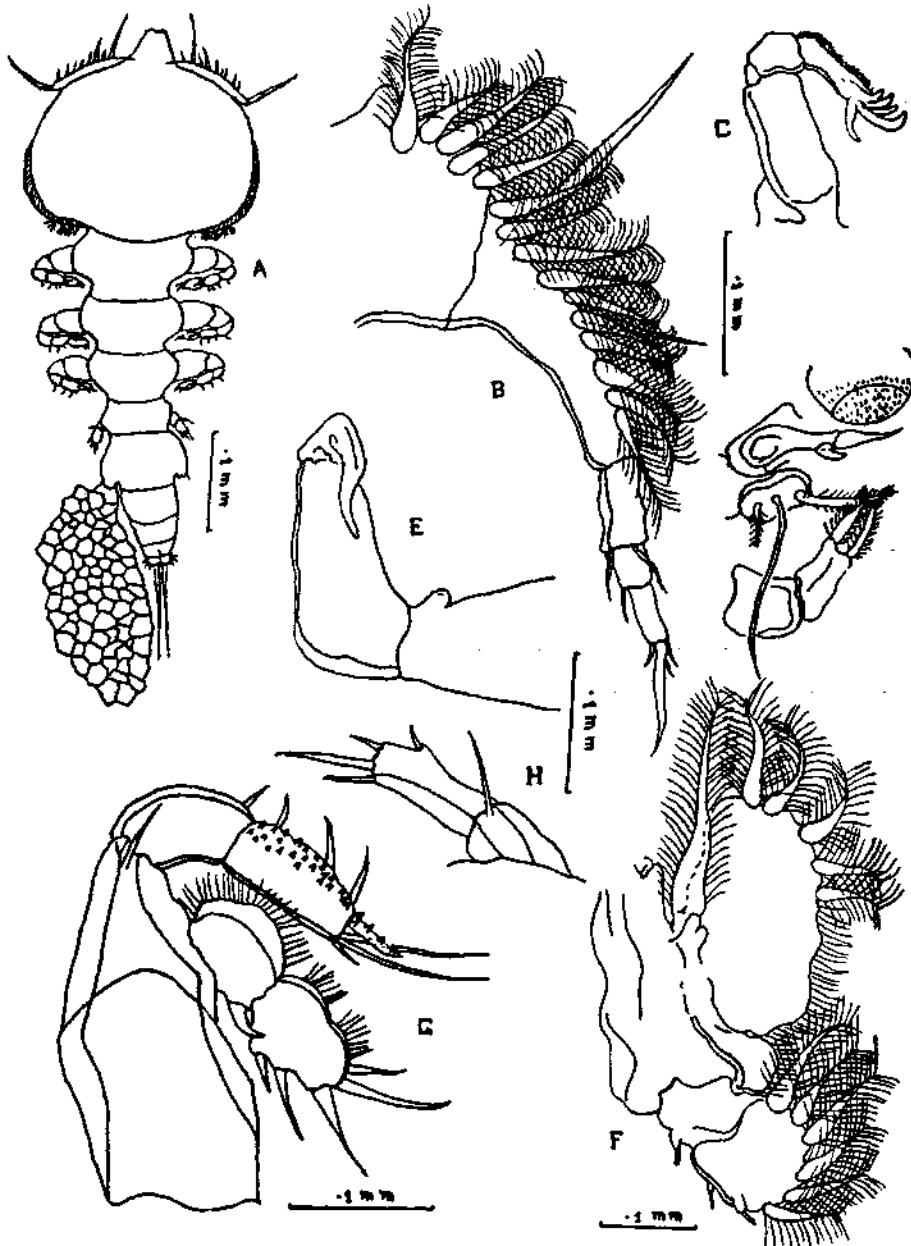


FIG. 1. *Bomolochus sardinellae* sp.nov. (A) female, dorsal view; (B) first antenna; (C) second antenna; (D) mouth parts, ventral view; (E) maxilliped; (F) first leg; (G) second leg; (H) fifth leg.

one very small. First maxilla with three setae, one of them very long and non-plumose; others plumose, short and unequal in length. Second maxilla with two stout blades barbed on both edges. Upper and lower lips spiny. Maxilliped three-segmented, claw somewhat straight, accessory claw and setae absent.

First four pairs of legs biramous, fifth uniramous, sixth absent. Rami of first leg flattened and two-segmented. Basal exopod segment with a short seta, second segment with two short and six stout plumose setae. Basal endopod segment narrow, with a long plumose seta at the inner side; second segment large and with five stout plumose setae; endopod segments hairy at the outer margin. Legs two to four more or less equal in size with stout two-segmented basipod and two-segmented rami, except the fourth endopod which is three-segmented. Basal exopod segment carries a single spine; distal segment externally spiny and ending in a short claw-like barbed spine. The setal formula of second to fourth swimming legs as below. Endopod segments of second to fourth legs hairy at the outer margin. Fifth leg cylindrical and two-segmented. Basal segment short, with a single seta at its outer distal margin; distal segment with three unequal terminal setae and one small seta on the outer margin.

Swimming legs	Basipod Segments				Endopod Segments						Exopod Segments						
	1		2		1		2		3		1		2				
	Si	Se	Si	Se	Si	Se	Si	St	Se	Si	St	Se	Si	Se	Si	St	Se
2	0	0	0	1	1	0	2	2	1	..	..	..	0	0	0	3	0
3	0	0	0	1	1	0	1	2	0	..	..	..	0	0	0	2	0
4	0	0	0	1	1	0	1	0	0	1	1	1	0	0	0	3	0

(Si, St & Se represent inner, terminal and outer margins of segments)

MALE

Male smaller than the female, 0.9 mm. Rostrum comparatively very short, broader than long and hardly visible beyond the base of the first antenna. Genital segment longer than broad. Abdomen short and composed of two subequal segments. There is no sign of the third segment. Caudal rami with two apical setae and two lateral spines; inner seta more than half the length of the body, outer seta plumose. The last segment of the second antenna with only four claws. First maxilla minute with three short pectinate setae. First segment of maxilliped short, second enlarged and ovate, its outer border ciliated; claw simple and folding against the second segment as usual in the genus.

REMARKS

The shape of the body and the absence of setae and accessory claw on the distal claw of the maxilliped readily distinguish this species from all the other species of *Bomolochus* hitherto described. It is nearest to *B. aculeatus* Pillai (1962) but can be

easily distinguished by the differently shaped rostral prolongation and the absence of accessory structures on the distal claw of the maxilliped.

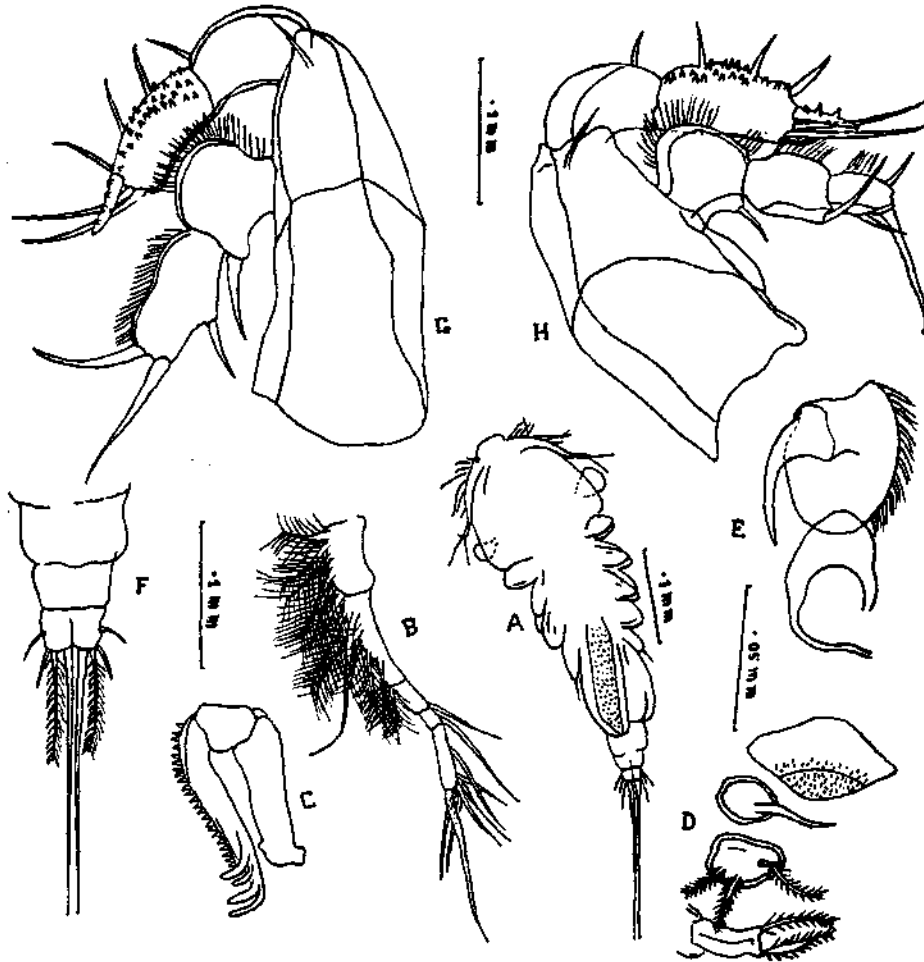


FIG. 2. *Bomolochus sardinellae* sp. nov. (A) male, dorsal view; (B) first antenna; (C) second antenna; (D) mouth parts, ventral view; (E) maxilliped; (F) abdomen, dorsal view; (G) third leg of female; (H) fourth leg of female.

Surprisingly the present species shows certain similarities with *Pseudoecanthus* Brian. Brian's (1906) original description of the genus was very inadequate and Wilson (1913) rectified some of the defects. Both species of *Pseudoecanthus*, namely *P. alosae* Brian (1906) and *P. uniseriatus* Wilson (1913) can easily be distinguished by the long slender egg sacs.

SUMMARY

Female and male of a new species of *Bomolochus*, *B. sardinellae* parasitic on the eye ball of *Sardinella albella* from Mandapam, South India are described. Notes on incidence and intensity of infection are given.

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