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Crustacean Parasites of *Pampus argenteus* Euphrasen from Karachi Waters

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Switchover from the red meat to the white has increased the value of fish and with this there is an increase in the awareness of diseases of fish. Fish *Pampus argenteus* Euphrasen is obtained from the commercial landings of two fish harbors of Karachi. The fish is commonly known as white paplate and is considered a delicacy as such the prize is high, on three occasions two kilos, five kilos and two kilos were purchased. These fishes are caught from the offshore waters by the trawlers and are stored in ice till landing at the harbor so there are high chances of loosing ecto parasites, however, all the collections revealed the presence of three types of crustacean parasites two are copepods and on one occasion a single specimen of *Argulus* (Branchiura) was obtained. Parasitic copepods of marine fishes of Pakistan are not well known. A few records from fresh water of Pakistan are published. The species are identified as *Nothobomolochus tricerus*, Bassett – Smith, (1898), *Diphyllogaster aliuncus* Rangnekar, 1955. The branchiopod *Argulus* sp. is unfortunately identified only to the generic level. All these species afford the first records from Karachi (Pakistan).

The species are well illustrated with the help of microscopes and are briefly described.

Description

Diphyllogaster aliuncus. Rangnekar, 1955.

(Figs. 1A – G)

Material and Measurements, 20 ♀♀ 5.0 – 7.0 mm.

This is the most common copepod parasite of *Pampus argenteus* Euphrasen and a big sized copepod visible to the naked eye (Fig. 1A) Rangnekar 1955 recorded this species from the *Pampus argenteus* Euphrasen from Bombay. In females the genital segments are enlarged. These segments are with long posterior processes ending up to the telson sometimes these processes are with different shapes as shown in figures (Figs. 1B-D).

First maxilliped (Fig. 1E) is with two strong claws, the first and fourth legs are uniramous, the first leg (Fig. 1F) is with a rudimentary exopod, the furca is H shaped as illustrated in Fig. 1G.

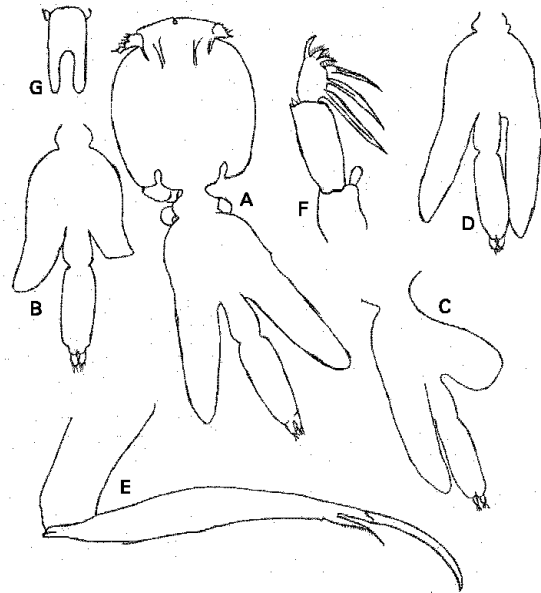


Fig. 1: *Diphyllogaster aliuncus* Rangnekar, 1955, A. dorsal view; B – D, genital segments; E, first maxilliped; F, first leg; G, furca.

Distribution, Bombay, Karachi, Arabian Sea.
Nothobomolochus tricerus Basset - Smith, 1898.
(Figs. 2A – H)

Material and Measurements, 10 ♀♀ 2-3.5 mm.

The specimens were obtained from the gills of the host *Pampus argenteus* Euphrasen. The body (Fig. 2A) is elongated, cyclopoid. Antenna one (Fig. 2B) is with an outwardly curved spine on the base which is projecting beyond the broad rostrum, the basal segment is with four strong outwardly directing spines the other segments bear plumose setae and spines. The second antenna (Fig. 2C) is with a pectinate portion and claw like setae, first maxilla (Fig. 2C) is with three strong setae, the second maxilla (Fig. 2E) is terminating into three setal processes; the thoracic legs (Fig. 2F) are with well developed exo and endopods both are three segmented. The fifth thoracic leg (Fig. 2G) is uniramous and two segmented, the telson (Fig. 2H) is biramous,

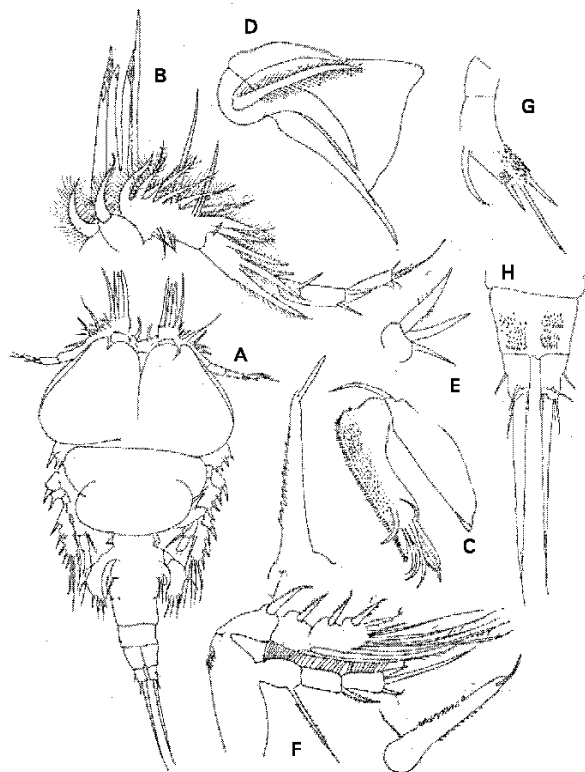


Fig. 2: *Nothobomolochus tricerus* Basset - Smith, 1898, A, dorsal view; B, first antenna; C, second antenna D, maxilliped; E, first maxilla; F, first thoracic leg; D, fifth leg; H, telson.

each ramus bear one very large and strong setae and tow small setae, on the lateral sides in the middle of each ramus there is a single seta.

Distribution, Bomby, Kerala, Karachi, Arabian Sea.

Argulus sp.

(Figs. 3 A to H)

Material and Measurements ♀E, 4.5 mm.

The branchiuran parasites are more damaging specially in cultured fish. The branchiuran parasites are not host specific and the females can be found free swimming specially when they have to lay the eggs. The specimen is obtained from the body surface of *Pampus argenteus*. The cephalothorax is broadly convex. Carapace larger than broad with lateral margins broadly convex, posterior sinuous is deep, paired eyes are conspicuous, round and near the anterior end. The head region is provided with scattered spines and constricted at the base at the

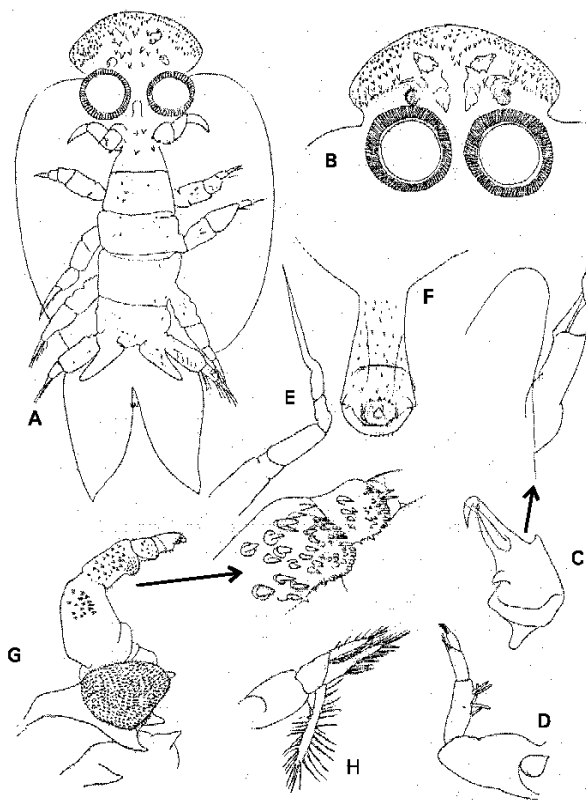


Fig. 3: *Argulus* sp. A, dorsal view; B, anterior part further enlarged; C, first antenna; D, second antenna; E, pre-oral sting; F, proboscis; G, second maxilliped; H, thoracic appendage.

attachment with thorax region. The suckers are big sized (Figs. 3A & B) antenna one is with anterior hook (Fig. 3C) and two other spines, the flagellum is broad. The antenna two (Fig. 3D) is elongated with a large basal segment, the other three segments are with aesthetasc setae.

The Pre-oral sting (Fig. 3E) is elongated and needle like. The proboscis is as illustrated in figure 3F. The second maxilla (Fig. 3G) is stout, with three large spines on the basal segment which is provided with a minutely spinose lobe on the surface, the other segments bear spinules. Thoracic appendage is illustrated in figure 3H.

The species at hand has got resemblance with the *A. feuiatilis*, Thomas & Devaraj, (1975), which is recorded from the plankton of Hoginekal, canvery river, (India) the major difference is in the attachment of head and thorax region. Locality, Karachi.

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