

**OCCURRENCE OF PEA CRABS *PINNOTHERES GRACILIS* BURGER
AND *PINNOTHERES MODIOLICOLUS* BURGER IN
THE INDIAN COAST**

A NUMBER of clams occurring at Karwar and nearby places on the west coast of India were found to be commensalised by pea crabs. These crabs were identified as *Pinnotheres gracilis* and *Pinnotheres modiolicolus*. As these species are not so far reported from the Indian coasts, opportunity is taken to record them here.

***Pinnotheres gracilis* Burger**

Pinnotheres gracilis Burger 1895, p. 368-69; Rathbun 1910, p. 330; Tesch 1918, p. 249, 253; Silas & Alagarwami 1967, p. 1199.

Pinnotherus gracilis Pillai 1951, p. 26.

Material : 4 males, 2.5 mm to 3.5 mm carapace breadth and 4 females, 4.5 mm to 6.5 mm carapace breadth.

Locality : Karwar, west coast of India (Lat. 14° 50'N and Long. 74° 10'E) in the sand and mud banks of the Kali river near Kodibag.

Host : Previous records of this crab are from the host *Solen* sp. The present collection was obtained from the branchial chambers of the edible clams *Katelysia opima* which occurs abundantly in this area.

Distribution : The species has been reported from Ubay, Philippines (Burger 1895) and Gulf of Siam (Rathbun 1910). The present report is the first record in Indian waters and extends the distribution of the species considerably.

Remarks : The maximum breadth of cephalothorax noticed in the present material is 6.5 mm, which is only about half the maximum size recorded in *P. sanguinolariae* by Pillai (1951). Dactylus of external maxilliped almost reaches or slightly over-reaches the propodus (Fig. 1). Chelipeds short and stout, with fingers slightly shorter than half the length of the chela. The 2nd pair of legs the longest, the dactylus of the same also comparatively longer. One important difference from *Pinnotheres* sp. described by Silas and Alagarwami (1967) from Malpe is in the length of the dactyli of the walking legs, the dactylus of the 4th leg being the longest, while in *P. gracilis* the dactylus of the 2nd leg is the longest. Although, in general, the male copulatory pleopod of the species (Figs. 2 & 3) resembles the figures given by Silas and Alagarwami (1967) the tip is slightly different.

***Pinnotheres modiolicolus* Burger**

Pinnotheres modiolicola Burger 1895, p. 370.

Pinnotheres modiolicolus Tesch 1918, p. 249, 253; Silas and Alagarwami 1967, p. 1203.

Material : 6 males, 2.5 mm to 4.0 mm carapace breadth and 21 females, 3.5 mm to 7.0 mm carapace breadth.

Locality : Karwar, west coast of India (Lat. 14° 50'N and Long. 74° 10'E) along the beach and at Kodibag.

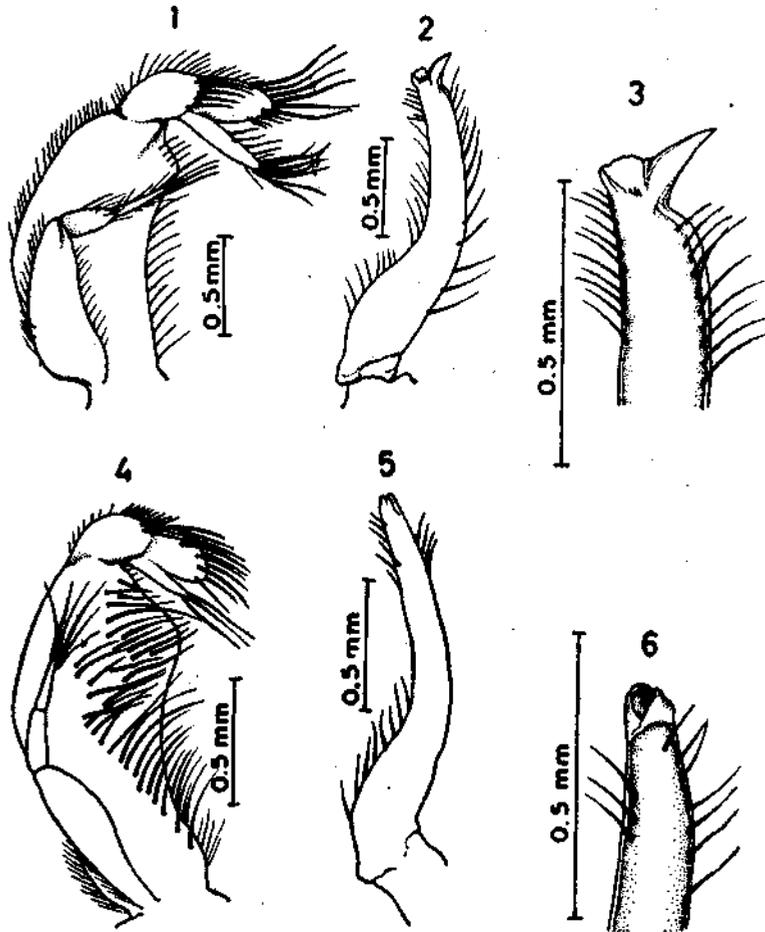


FIG. 1. External maxilliped of *Pinnotheres gracilis*. 2. Copulatory pleopod of male of the same crab. 3. Tip of the same pleopod enlarged. 4. External maxilliped of *Pinnotheres modiolicolus*. 5. Copulatory pleopod of male of the same crab. 6. Tip of the same pleopod enlarged.

Host : The host reported earlier is *Modiola philippinarum*. The present material was obtained from the branchial chambers of the false clam *Mactra violacea* occurring along Karwar beach and of *Katylisia opima* at Kodibag. Incidence of occurrence of crabs was 3% in the former and 14% in the latter.

Distribution : The species was originally recorded from the Philippines (Burger 1895). This is the first record outside the type locality and extends the distribution to Indian waters.

Remarks : Cephalothorax slightly broader than long. Dactylus of external maxilliped almost reaches the tip of the propodus (Fig. 4). Chelipeds short and the palm of the chela almost twice the length of the finger. Walking legs slender and

glabrous except the inner edge of the dactyli. The dactylus of the 4th leg the longest and nearly twice the length of that of the 1st. In the length of the last walking leg this species is similar to *Pinnotheres* sp. described by Silas and Alagarwami (1967) but there is considerable difference in the nature of the copulatory pleopod of the male (Figs. 5 & 6).

Although multiple infestations by pea crabs have been reported by several authors (Hornell & Southwell 1909; Southwell 1910; Chopra 1931; Pillai 1951; Chhapgar 1957; Silas and Alagarwami 1967), more than one crab was not observed in a host in the present collection. Experiments with live crabs in the laboratory showed interesting results concerning behaviour. Crabs dislodged from their abodes and kept in tanks containing live clams were noticed to seek entry into the hosts when the valves were agape, irrespective of sizes or sexes. The smaller-sized crabs were observed to squeeze themselves into the clams through the opening of the valves. But in the case of bigger crabs they had to be helped into the clams by forcing open the valves wider. Clams buried inside the sand were located by the smaller crabs at the siphon and entry effected after getting themselves buried in the sand by the side of the siphon. From these observations it would appear that the crabs invade the hosts in early stages as observed by Christensen and McDermott (1958). It is also fairly clear that the crabs do not enter the mantle cavity of the host through the siphon.

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