

**NOTES ON SOME INTERESTING PENAEID PRAWNS (CRUSTACEA,
DECAPODA) FROM THE SOUTHEAST COAST OF INDIA.***

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DURING routine collection of prawn samples of commercial catches from certain localities in Palk Bay and Gulf of Mannar on the southeast coast of India specimens of *Penaeus latisulcatus* Kishinouye, *Trachypenaeus pescadorensis* Schmitt, *Trachypenaeus sedili* Hall and *Parapenaeopsis uncta* Alcock were collected. The occurrence of these prawns is reported for the first time from this area.

***Penaeus latisulcatus* Kishinouye, 1900**

Penaeus latisulcatus Kishinouye, 1900, p. 12. de Man, 1911, pp. 108-111. Kubo, 1949, pp. 278-282. Racek, 1955, pp. 222-223; 1959, pp. 10-11. Hall, 1956, p. 72; 1962, pp. 14-15. Dall, 1957, pp. 149-151. Cheung, 1960, p. 64. Joubert, 1965, pp. 17-18. Racek and Dall, 1965, pp. 12-13. de Bruin, 1965, pp. 74-75. Mohamed 1969, p. 29. George, 1969, p. 22.

Peneus latisulcatus Schmitt, 1926, pp. 365-367.

Penaeus canaliculatus Oliv. var ? Lanchester, 1901, p. 571.

Penaeus canaliculatus var. *australiensis* de Man, 1902, p. 905.

Material : 17 specimens. Rameswaram (Palk Bay) : 1 male, carapace length 29 mm and 2 females, 27 and 30 mm ; Vedalai (Gulf of Mannar) : 9 males, 17-26 mm and 1 female, 15 mm; Pudumadam (Gulf of Mannar) : 1 male, 33 mm and 3 females, 38-45 mm. Depth 1-12 m. Collected from the night catches of trawl nets.

Discussion : The specimens agree with the description given by Dall (1957) and others. The bifid processes of the anterior plate of the thelycum are stumpy in young ones (Fig. I, A) while long and slender, their tips turning inwards, in adults (Fig. I, B). On the contrary, according to de Man (1911) the adult female specimen from Japan had short anterior processes of the thelycum while the young female from Djeddah, Red Sea, measuring 110 mm in total length (de Man, 1888) had comparatively long, slender and tapering anterior process, distally curved inwards. He suggested that the differences between these processes of female specimens from the above two localities may be due to the difference in age. The young specimens from the Gulf of Mannar and Palk Bay were compared with similar specimens

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collected from Androth and Minicoy Islands in the Laccadive Archipelago and they were also found to possess short, horn-like processes of the thelycum.

The colouration in life is the same as described by Dall. The prosartema also is brown coloured.

Distribution : Djeddah (Red Sea), Pudumadam, Vedalai (Gulf of Mannar), Rameswaram (Palk Bay), Malaysia, Molluccas to Korea, Japan and Australia.

***Trachypenaeus pescadoreensis* Schmitt, 1931**

Trachypeneus pescadoreensis Schmitt, 1931, pp. 265-268. Hall, 1962, p. 29. Cheung, 1960, p. 65 (Key only).

Trachypenaeus pescadoreensis Mohamed, 1969, p. 30. George, 1969, p. 33.

Trachypeneus granulatus Hall, 1961, p. 100.

Trachypeneus furcilla Hall, 1961, pp. 102-104.

Material : 35 specimens. Rameswaram (Palk Bay) : 4 females, carapace length 20-22 mm ; Thangachimadam (Palk Bay) : 6 males, 11-13 mm and 7 females, 11-16 mm ; Vedalai (Gulf of Mannar) : 6 males, 10-12 mm and 3 females, 12-13 mm ; Mandapam (Gulf of Mannar) : 1 male, 12 mm and 8 females, 16-21 mm. Depth 2-12 m. Collected from trawl net, boat seine and shore seine catches of night fishing operations.

Discussion : The cardiac plate has 35-42 spinules (Fig. I, C). Zyzocardiac ossicle with principal tooth and an upper and lower row of 10-15 teeth, each row ending in a cluster of smaller teeth. Prepyloric with a median blunt tooth and a row of fifteen teeth on either side. The distal piece of the appendix masculina is broader anteriorly and fringed with spinules on the distal and distolateral aspects. It has half the length of the proximal piece.

Trachypenaeus pescadoreensis Schmitt is closely related to *Trachypenaeus granulatus* (Haswell), though it differs from the above species in the structure of the thelycum and petasma. Unlike that of *T. granulatus* the anterior thelycal plate in *T. pescadoreensis* does not reach the posterior margin of the posterior plate. The petasma has a conspicuous wing-like expansion on the outer side of the distolateral projections. Besides, the appendix masculina in this species has a series of spinules on the distal and distolateral aspects of the distal piece whereas in *T. granulatus* from Australia (Dall, 1957) the spinules are only present at the distal end.

Distribution : Vedalai, Mandapam (Gulf of Mannar), Rameswaram, Thangachimadam (Palk Bay), Malaysia and Formosa.

***Trachypenaeus sedili* Hall, 1961**

Trachypeneus sedili Hall, 1961, pp. 100-102 ; 1962, p. 30. de Bruin, 1965, pp. 92-93.

Trachypenaeus sedili Racek and Dall, 1965, p. 92. Mohamed, 1969, p. 30. George, 1969, p. 33.

Material : 22 specimens. Rameswaram (Palk Bay): 3 males, carapace length 8.5-9.5 mm and 7 females, 11.5-14.5 mm; Mandapam (Gulf of Mannar): 3 males, 10.5-11.0 mm and 9 females, 11.0-19.0 mm. Depth 2-25 m. Collected from the trawl catches from muddy bottom during night.

Discussion : De Bruin (1965) has recorded the male of *T. sedili* from Ceylon. Since he has not given the description the male is described here, for the first time.

Allotype : Male.

The rostrum is straight with epigastric tooth and eight teeth on the upper surface. It reaches a little beyond the base of the second segment of the antennular peduncle. The epigastric tooth is placed a short distance behind the hepatic spine. The first rostral tooth is situated above the supraorbital margin. The post-orbital carina extends to about two-thirds the distance towards the posterior margin of the carapace. The adrostral sulcus ends a little short of the first dorsal tooth. The carapace and abdomen are heavily setose. The postorbital spine is small but well defined while the antennal spine is large. The hepatic spine is rather small. The carina of the carapace are not well defined. The antennal sulcus is only discernible while the cervical sulcus is wide and shallow. The hepatic sulcus extends back to the middle of the carapace and anteriorly curves obliquely down towards the pterygostomial angle, becoming broader and less defined.

The first abdominal segment is not carinated, dorsally. The second segment has a small elevation, dorsally, just behind the anterior margin and the third to sixth segments are carinated, the carina of the sixth segment ending in a spine. The postero-ventral angles of the sixth segment are produced into spines. The length of the sixth segment is a little more or equal to the depth.

Telson is slightly longer than the sixth segment, exceeding the uropod by its distal spine. The dorsal sulcus of the telson is deep and provided with straight and hook-like spinules. The marginal spines are larger and movable, the last being placed proximal to the base of the terminal spine.

The basal segment of the ocular peduncle has a spine on the dorsal side. The prosartema falls short of the anterior margin of the cornea. The stylocerite is nearly half the length of the cornea. The length of the cornea is about one-third the length of the carapace. The second antennular segment is almost twice as long as the third segment while the antennular flagella are nearly as long as the antennular peduncle. The scaphocerite reaches the base of the third antennular segment, the lateral spine surpassing the joint.

The third maxilliped exceeds the carapocerite by the dactylus and one-fourth of the propodus. The first leg reaches a little beyond the middle of the carapocerite and bears a long, curved basal spine. The second leg also bears a similar basal spine and reaches the middle of the scaphocerite. The third and fourth legs reach a little short of the tip of the scaphocerite and one-third length of the scaphocerite respectively and do not bear spines. The fifth leg falls a little short of the tip of the scaphocerite. The first three legs bear mastigobranchs.

Cardiac plate has 32 spinules (Fig. I, J.). The zyzocardiac ossicle has two principal teeth and two rows of 9 to 10 teeth.

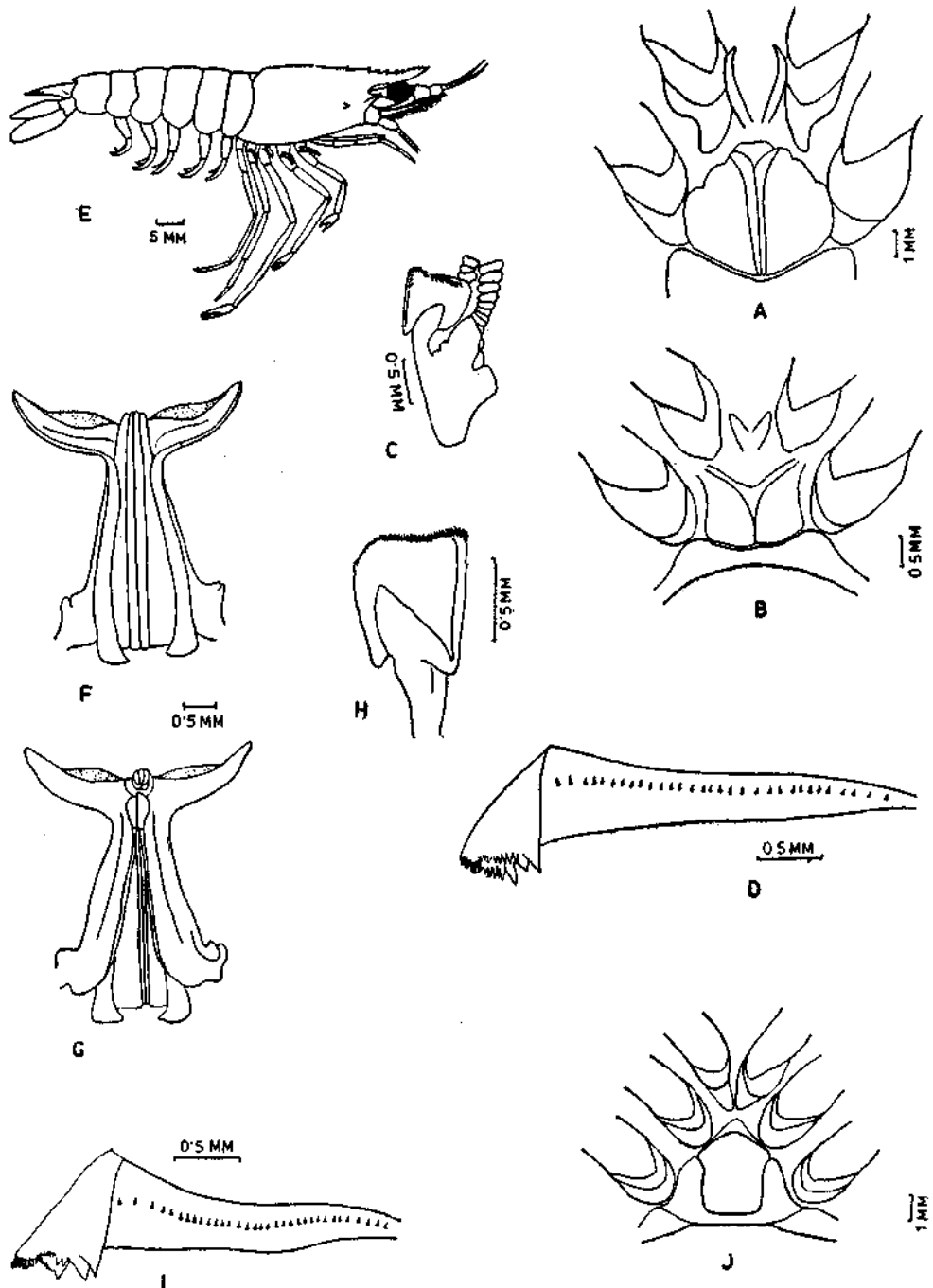


FIGURE I. A and B, *Penaeus latisulcatus* Kishinouye; A, thelycum of young female; B, thelycum of adult female; C and D, *Trachypenaeus pescadoreensis* Schmitt; C, appendix masculina; D, cardiac plate and zyzocardiac ossicle; E-K, *Trachypenaeus sedili* Hall; E, male, lateral view; F, petasma, dorsal view; G, same, ventral view; H, appendix masculina, left side, dorsal view; I, same, distal piece, ventral view; J, cardiac plate and zyzocardiac ossicle; K, thelycum.

The petasma (Fig. I, E & F) reaches the bases of the third pair of pereopods. Its greatest width across the distolateral projections is equal to its length. The distolateral projections taper distally and curve slightly forwards. The distomedian projections curve ventrally enclosing the distal opening of the petasma.

Appendix masculina (Fig. I, H & I) has a distal piece bearing spinules on its tip and the inner side. The basal piece is more than double the length of the distal piece.

The female specimens agree well with the description given by Hall (1961). The chair-like nature of the thelycum is well defined in the present material (Fig. I, K). However, the figure given by de Bruin (1965) is quite different from this.

The general body colour in live specimen is yellowish white with dark yellow patches. The posterior margin of the carapace is brown. The rostrum also is brown, becoming lighter towards the tip. Antennae are white while the flagella are yellowish pink. Pereiopods are tipped white. Pleopods with light green iridescent patches on the bases and exopods on the external aspect. Uropods are dark brown middle and margins becoming whitish towards their tips. Telson distally brown and with yellowish setae.

Distribution: Mandapam (Gulf of Mannar), Rameswaram (Palk Bay), Malaysia and Singapore.

***Parapeneopsis uncta* Alcock, 1905**

Parapeneopsis uncta Alcock, 1905, p. 528; 1906, p. 39. de Bruin, 1965, pp. 96-98.

Parapeneopsis uncta Menon, 1956, p. 346. Mohamed, 1969, p. 30. George, 1969, p. 34.

Parapeneopsis probata Hall, 1961, pp. 96-98; 1962, p. 27.

Material: 44 specimens. Off Pudumadam (Gulf of Mannar): 8 males, carapace length 18-22 mm and 34 females, 16-39 mm; Kilakkarai (Gulf of Mannar): 1 male, 18 mm and 1 female, 24 mm. Depth 5-20 m. Collected from trawl catches of night fishing.

Discussion

Parapeneopsis uncta Alcock collected from Gulf of Mannar is in close agreement with the description given by Alcock (1906) in most of the characters excepting the following.

The rostrum is distinctly sigmoid in all the adult females. In young males the rostrum has an upturned, short and pointed tip beyond the toothed portion. In adult males, however, the rostral tip is straight as in the case of the specimens from Ceylon (de Bruin, 1965). Only in two specimens, out of the total of nine males examined, the tips of the rostrum were pointed and upturned. In fifty per cent of the female specimens examined from the Gulf of Mannar, the rostrum reached the tip of the third antennular segment while in the rest it extended upto the middle of this segment. In most of the females from Madras (Bay of Bengal) the rostrum surpassed the antennular peduncle by one and a half the length of the third antennular segment.

In all females, except one, the telson was longer than the sixth abdominal segment, while in one it was equal in length. In males, only two had telson longer than the sixth segment while it was equal in others. The telson reached the tip of the inner caudal swimmeret in all specimens. Third maxilliped reached nearly the middle of the antennal scale, surpassing the tip of the fifth leg by the length of dactylus and half the propodus.

Hall (1961) described *Parapeneopsis probata* as a new species. De Bruin (1965) has correctly pointed out the intraspecific nature of these characters separating this species and *P. uncta* and synonymised the two. In fact, the shape of the rostrum, the proportions of the rostrum and antennular peduncle, the telson and the sixth abdominal segment, the nature of the antero-inferior angle of the carapace and the extent of development of the spine on the second pereopod are so identical in specimens from Singapore, India and Ceylon that the synonymy of the two species cannot be doubted.

There is no detailed record of the colour of this species except the mention of the reddish area near the posterior border of the carapace by Hall (1961). The ground colour of the fresh specimen is pale yellow. Besides the above mentioned reddish patch on the carapace, the anterior one-third of the carapace is darker in shade. The rostral teeth are tipped yellow. Abdomen has a brown band across the posterior half of each segment. Appendages are pale yellow with bright yellowish tips. Antennular peduncles are dark with pale yellow flagella. Antennal scale bordered dark brown while the flagella are yellowish with dark cross bands. Uropods are yellow with dark brown patches near the extremities and bases.

The largest female collected from the Gulf of Mannar measured 39 mm in carapace length which is much larger than recorded by Hall from Singapore and probably by de Bruin from Ceylon, the same measurements being mentioned as both carapace length and total length at different places by him.

Distribution : Kilakkarai, Pudumadam (Gulf of Mannar), Ceylon, Madras, and Ganjam (Bay of Bengal) and Singapore.

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* Not referred to in the original.