

A DESCRIPTION OF *CALLIANASSA MARTENSI* MIERS, 1884  
(DECAPODA, THALASSINIDEA) AND ITS OCCURRENCE IN THE  
NORTHERN ARABIAN SEA

BY

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Miers (1884) described *Callianassa martensi* as a new species for a single male (total length 50.1 mm) which was purchased; its type locality is given as Mauritius. This specimen is preserved in the British Museum (Natural History), London. Because of its poor condition it could not be made available for study. However, I am very grateful to Miss E. Allen of the British Museum for answering my queries and comparing the illustrations of my specimen with the type. I am also grateful to Dr. Fenner A. Chace, of the Smithsonian Institution Washington, Dr. Thomas Biffar of the School of Marine and Atmospheric Science, University of Miami, Florida and finally to Dr. L. B. Holthuis of the Rijksmuseum van Natuurlijke Historie, Leiden, the Netherlands, for replying to my several letters, reading the manuscript and encouraging me to complete my study on this rare species.

From all the information that is now available to me it is quite certain that the specimen from the Arabian Sea is referable to *Callianassa (Callichirus) martensi* Miers. As this species is poorly known it seems proper to give a detailed description of the specimen at hand which is a large male measuring 78.5 mm in total length (from tip of the rostrum to the posterior margin of the telson).

The front margin of the carapace is trispinose. The rostrum is sharply pointed at the tip and extends beyond the middle of the eyes. It is horizontal with a slight dorsal bulge near the base. The lateral spines are stout, well developed and articulate (fig. 1A, B, C).

The first abdominal segment is bell-shaped. The second is large, being a little less than one and a half times as long as the first. The lengths of abdominal segments 1 to 6 inclusive are 10, 13, 8, 6.5, 8 and 11 mm respectively. The telson is less than half the length of the last abdominal segment, being only 5 mm long (fig. 1A, D). The inner margin of the exopod of the uropod is deeply concave; near the proximal end of the posterior margin there is a well developed process which is truncate apically (not a sharp spine). The endopod is short and more or less triangular (fig. 1A, D). The sternum representing the seventh sternite is illustrated in fig. 1E.

The eyes are stout, not reaching the distal margin of the basal antennular segment. The cornea is bulging and sub-terminal (fig. 1B).

The terminal segment of the antennule is longer than the second segment. The antennular peduncle extends only a trifle beyond the penultimate segment of the antenna (fig. 1B).

The ventral surface of the mandible is strongly convex, its cutting edge is

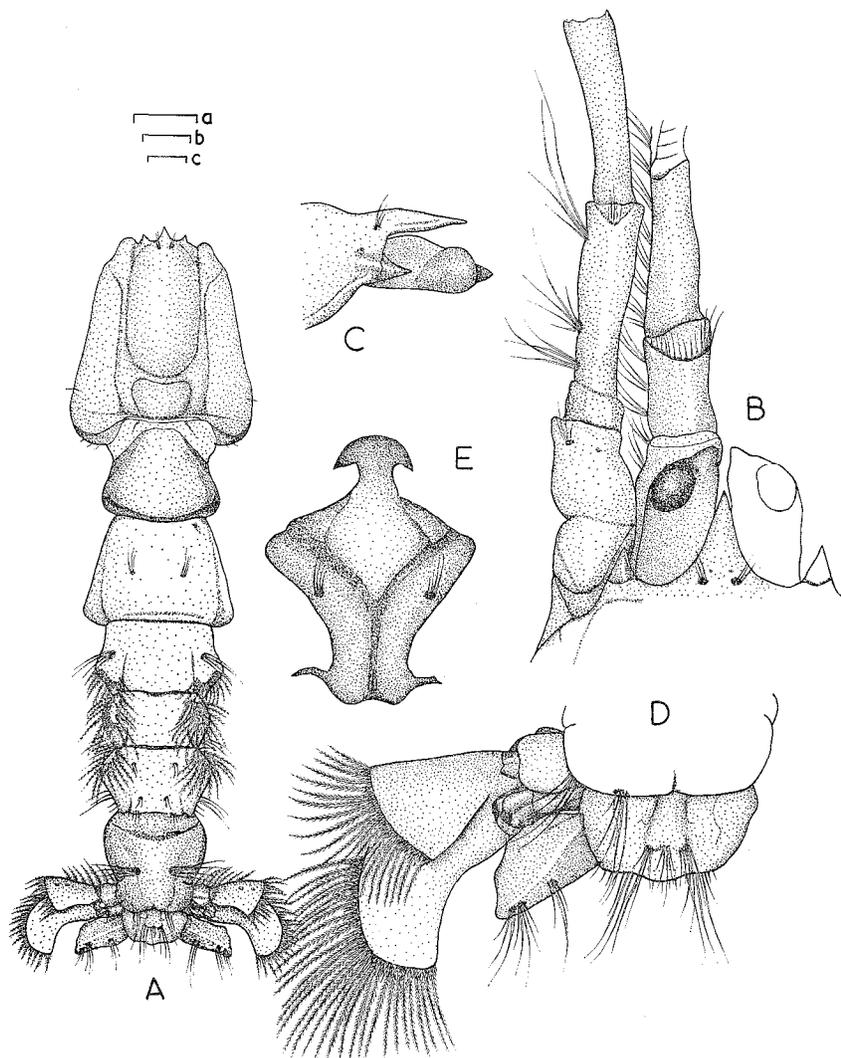


Fig. 1. *Callianassa (Callicbirus) martensi* Miers, 1884. A, male in dorsal view; B, anterior portion of carapace with eyes and left antennular and antennal peduncle in dorsal view; C, anterior part of carapace and right eye in lateral view; D, part of last abdominal segment, telson and left uropod in dorsal view; E, sternum in ventral view. Fig. A at scale b = 6 mm, B, C at scale a = 1 mm; E, D at scale c = 1 mm.

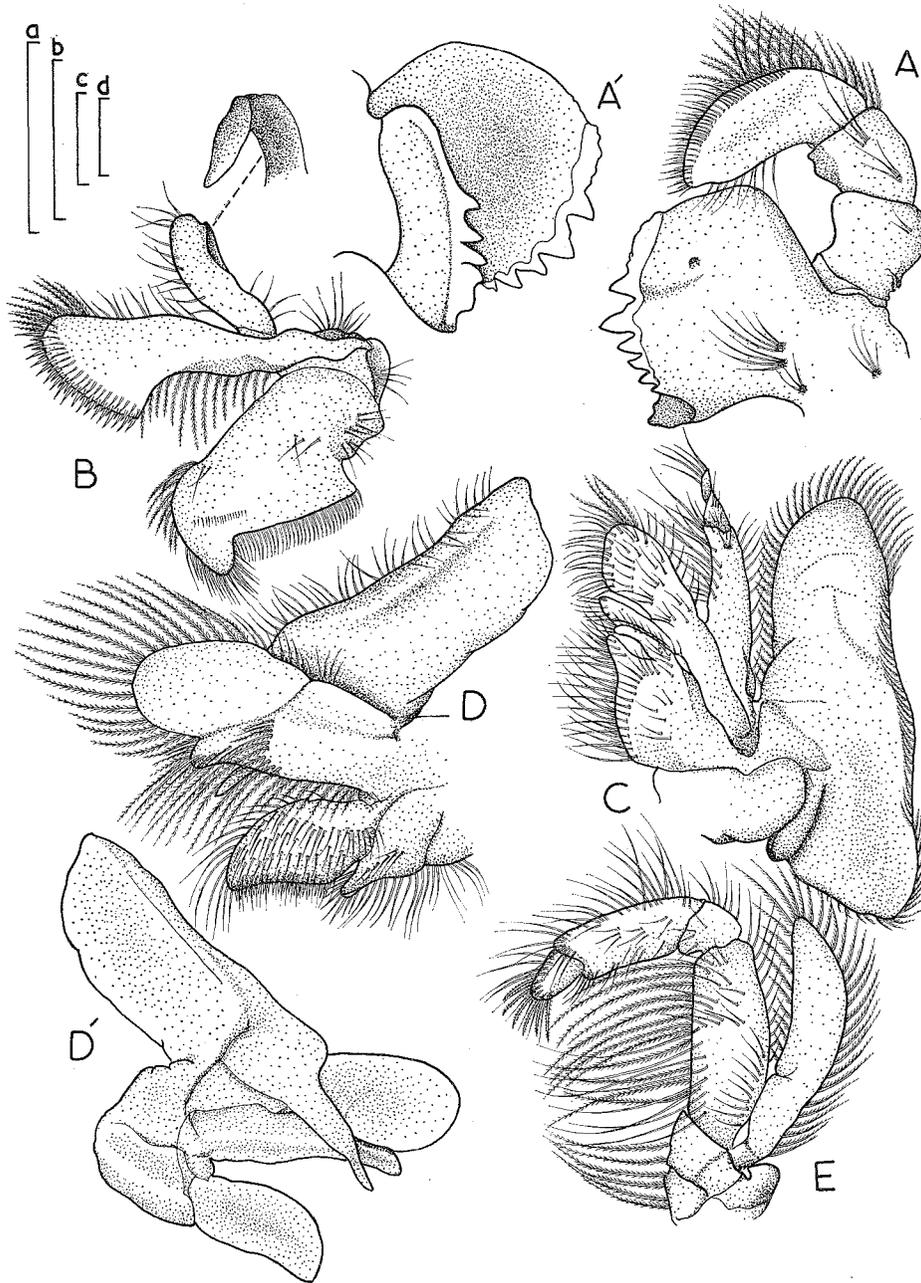


Fig. 2. *Callianassa (Callichirus) martensi* Miers, 1884. A, left mandible in ventral view at scale b; A', head of mandible in dorsal view at scale a; B, left maxillula in ventral view at scale c; C, left maxilla in ventral view; D, left first maxilliped in dorsal view; D', same in ventral view (setae omitted). C, D, D' at scale d; E, left second maxilliped in ventral view at scale d. Scale a-d = 1 mm.

provided with well developed, sub-equal teeth (fig. 2A). The dorsal surface bears a toothed crest (fig. 2A'). The palp is three-segmented.

The maxillulary palp is two-segmented. The terminal segment is narrow, leaf-like and dorsal in natural position (fig. 2B). The palp of the maxilla is also two-segmented (fig. 2C). The epipod of the first maxilliped ends in a whip-like process (fig. 2D, D'). The second maxilliped is pediform, its exopod is lamellate and extends just a little beyond the distal margin of the merus (fig. 2E). The basal two segments of the third maxilliped are broad (fig. 3A); a row of spines is present on the dorsal side of the ischium (fig. 3A'). A close examination of these spines shows that some of them bear a (?movable) microscopic spinule. The carpus is narrow, the propodus is broader than long. The dactylus is finger-like, nearly as long as the propodus.

The first left cheliped is wanting. The first right cheliped is strong and unarmed, the tip of the movable finger is broken as illustrated in fig. 3B. The fingers of the second cheliped are longer than the palm (fig. 3C). The propodus of the third leg has a characteristic shape, its free margins bear long setae, besides this there are several bunches of setae on its surface, the dactylus is somewhat triangular in shape, heavily setose and with a small blunt tooth at the apex (fig. 3D). The last two pereopods are illustrated in figs. 4A, B.

The first pleopod is broad, rather concave ventrally and with a longitudinal groove on the middle of this surface; long setae are present on the distal half; the outer distal angle is produced into a sharp claw-like spine (fig. 4C). The second pleopod is biramous, with a small finger-like projection distally on the inner ramus (fig. 4D). The appendix interna on each of the three remaining pleopods is stalked and with several rows of hooks on its free margin; that of the third pleopod is illustrated in fig. 4E.

Remarks. — Through information received on checking the type of *C. martensi* several very important facts have come to light. It is hoped that the description of the present specimen (from the northern Arabian Sea) along with the information received from Miss E. Allen will straighten out the position of the present species.

In the type of *C. martensi* the lateral spines of the carapace are "sharp and articulated" (Miss Allen, in litt.), not tooth-like as mentioned by Barnard (1950: 506). "The cornea is less than half as long as the eye-stalk, but it is slightly more than one third the length"; the antennal peduncle is "much longer than the antennular peduncle". Both the ischium and merus of the third maxilliped are "short and broad". About the cheliped Miss Allen writes that "In *C. martensi* the lower edge of both merus and ischium are entire. Miers (1884) refers only to the lower margin of the merus in both larger and smaller chelipeds, he does not mention the ischium. De Man (1928) refers to the larger cheliped having the lower border of the ischium crenulate". Finally, the projection on the proximal end of the posterior border of the exopod of the uropod is "a tooth-like projection, not a spine".

Distribution. — Indo-Pacific: Mauritius (Miers, 1884), Amboina (De Man, 1887) and northern Arabian Sea (West Pakistan) (present material).

The specimen described here is preserved in the Invertebrate Reference Museum, University of Karachi, Karachi.

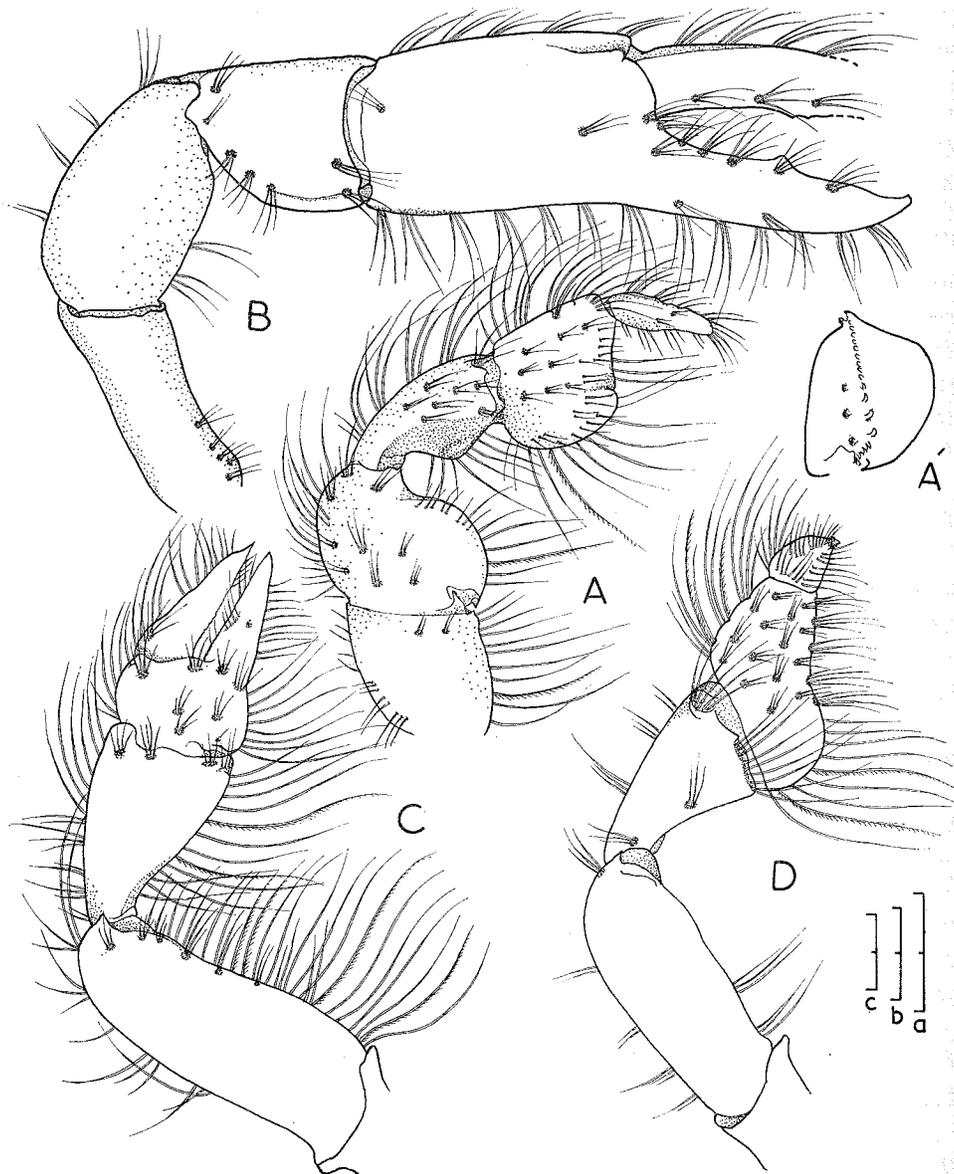


Fig. 3. *Callianassa (Callichirus) martensi* Miers, 1884. A, third left maxilliped in ventral view; A', ischial segment of the same in dorsal view; B, right cheliped in outer view; C, second right leg in ventral view; D, third right leg in ventral view. Fig. A, A' at scale b; B at scale a; C, D at scale c. Scale a-c = 2 mm.

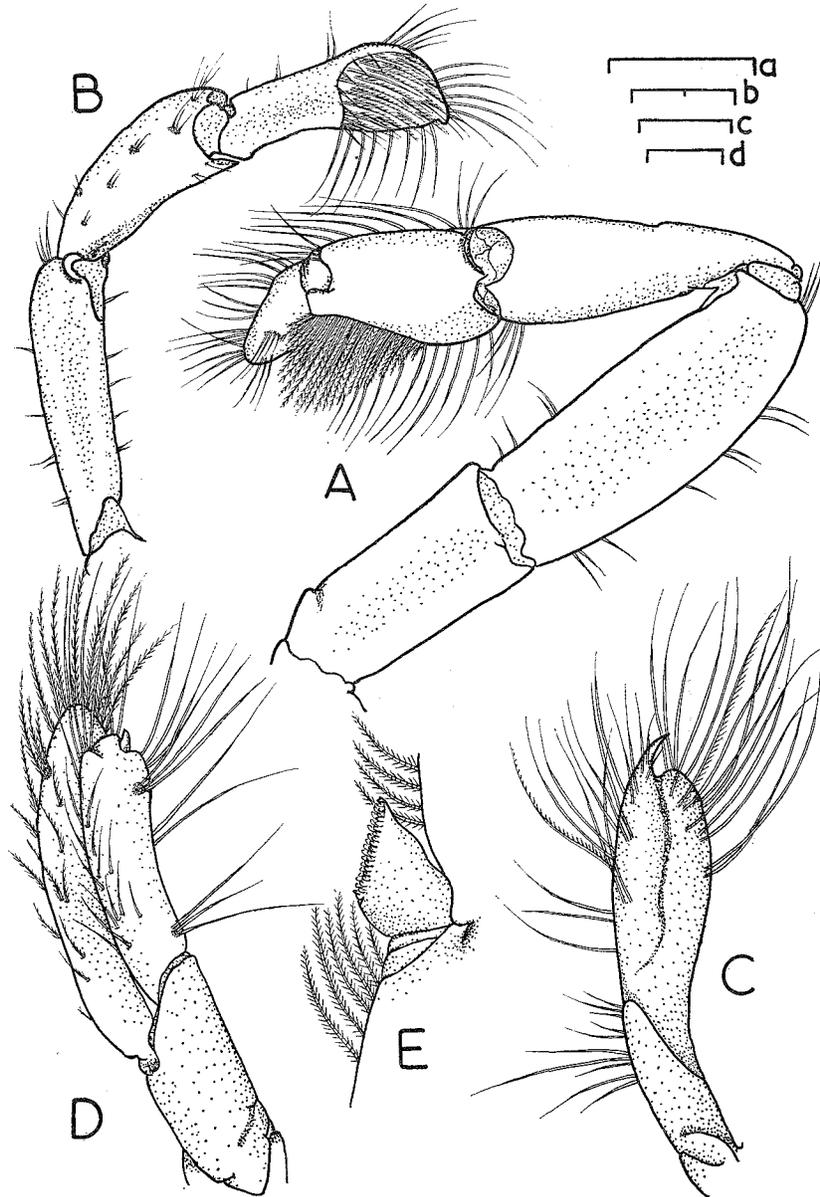


Fig. 4. *Callianassa (Callicbirus) martensi* Miers, 1884. A, fourth right leg in ventral view; B, fifth right leg in dorsal view; C, first right pleopod in ventral view; D, second right pleopod in ventral view; E, appendix interna on endopod of third pleopod. Fig. A at scale b; B, D at scale d; C at scale e; E at scale a. Scale a, c, d = 1 mm; b = 2 mm.

## ZUSAMMENFASSUNG

Neubeschreibung und Abbildungen werden vorgelegt von *Callianassa (Callichirus) martensi* Miers, 1884, und zwar nach einem grossen Männchen vom nördlichen Arabischen Meer. Die Art war bis jetzt nur von Mauritius und Amboina bekannt.

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