

A NEW SPECIES OF *CALLIANASSA* (DECAPODA, THALASSINIDEA)  
FROM WEST PAKISTAN

BY

NASIMA M. TIRMIZI

Zoology Department, University of Karachi, Karachi, Pakistan

It is nearly three years now that a small, badly mutilated specimen of *Callianassa* was brought to me by one of the students of this department. The specimen showed some important differences from known species, and appeared to be new. Recently two more specimens of the same species have been collected from the sandy shore of Karachi. On consulting the literature available to me I believe that the present specimens belong to a new species which is described below.

***Callianassa (Callichirus) masoomi* n. sp.**

Material. — Holotype ♀, 22.5 mm in total length (from the tip of the rostrum to the posterior margin of the telson). Paratypes 2 ♀♀, measuring 29 and 30.5 mm respectively. All are preserved in the Invertebrate Reference Museum, Zoology Department, Karachi University.

Description. — The rostrum of the holotype is triangular, sharply pointed and reaches beyond the middle of the eyes. A pair of small spines is present on the anterior margin of the carapace (fig. 1A). The antero-lateral margins are acute. The lateral margin of the carapace is folded inwards and bears setae, some of which are long and directed laterally, extending beyond the carapace.

The first abdominal segment is bell-shaped and a shallow groove runs parallel to each lateral margin. The second segment is slightly longer than the first and distinctly longer than the third. The posterior margin of the second segment is a trifle wider than the anterior. A few laterally directed setae can be seen near the antero-lateral angles of the first, and near the postero-lateral angles of each of the first two segments. The pleura of the third to fifth segments bear a tuft of plumose setae. The sixth segment is a little longer than the fifth. The lateral margin of this segment shows a distinct constriction in its posterior portion. On all the abdominal segments small tufts of setae can be seen. The telson is shorter than the sixth segment. Its posterior margin is setose and very slightly convex in the middle. Its maximum breadth is just above the posterior margin. In the middle it bears a transverse row of spinules along with a few long setae out-reaching the setose posterior margin.

The eyes are more or less triangular with the apex dorsally curved and hook-like, this can be seen clearly in lateral view (fig. 1A'). The cornea is large and lies at some distance from the apex.

The basal segment of the antennule is very slightly longer than the second. The third segment is much longer than the combined length of the first two segments and bears two flagella (fig. 1B). The last segment of the antennular peduncle is slightly longer than the penultimate. As far as I can see the scaphocerite is indistinguishable (fig. 1C).

The cutting edge of the mandible has sharp teeth some of which are strong. At the lower end is a large tooth separated from the others by a deep notch. The mandibular palp is three-segmented (fig. 1D). The lower endite of the maxillule (fig. 1E) is short and broad, whereas the upper is long and rather slender. The tip of the palp is folded backwards and terminates in a rounded apex (fig. 1E, E'). The two endites of the maxilla are separated by a deep notch, the palp ends in a fine point. The scaphognathite is well-developed (fig. 1F).

In the first maxilliped the endites and coxa are well separated. The palp is rudimentary (fig. 2A). The second maxilliped is pediform. The propodus is much longer than the dactylus. The exopod is broad and flat, extending beyond the distal margin of the merus, its inner margin is overlapped by the merus of the endopod. The third maxilliped is also pediform. Its propodus is much broader than the dactylus. The inner margin of the propodus is strongly convex. The entire appendage is heavily setose (fig. 2C).

The first pair of legs is strong and unequal. The left cheliped is slender. The fingers of the chela are longer than the palm. The carpus is longer than the merus. The inner margin of the ischium is serrated (fig. 2D). The right cheliped is strong. The fingers of the chela are smaller than the palm and their cutting edges are serrated. The carpus is smaller than the palm. The inner margin of the ischium also bears a row of small teeth (fig. 2E, E'). The fingers of the second legs are longer than the palm and are heavily setose (fig. 2F). The third leg is characteristic, the propodus is trilobate. The posterior lobe is elongated and curved backwards (fig. 3A). The dactylus of the fourth leg is pointed at the tip. The propodus is about 1.5 times as long as the dactylus. Both these segments bear setae. The carpus is nearly as long as the merus. The ischium is much shorter (fig. 3B).

The fifth leg forms an indistinct chela which is setose. The carpus is slightly shorter than the chela. The merus is 1.5 times as long as the carpus. The ischium is very short (fig. 3C).

The first pleopod of the holotype is illustrated in fig. 3D. Its terminal segment is rounded and bears a few long setae on its distal half. The second pleopod is biramous. The exopod is longer than the endopod and there are very few setae (fig. 3E). Each of the three remaining pleopods is broad and foliaceous, bearing an inconspicuous appendix interna (fig. 3F).

Relationship. — The present species differs from all the species belonging to the sub-genus *Callicbirus* in having the ocular peduncles narrow and hooked distally. The third maxilliped is slender except the penultimate segment which is expanded and has its disto-median angle produced forwards, the dactylus is narrow

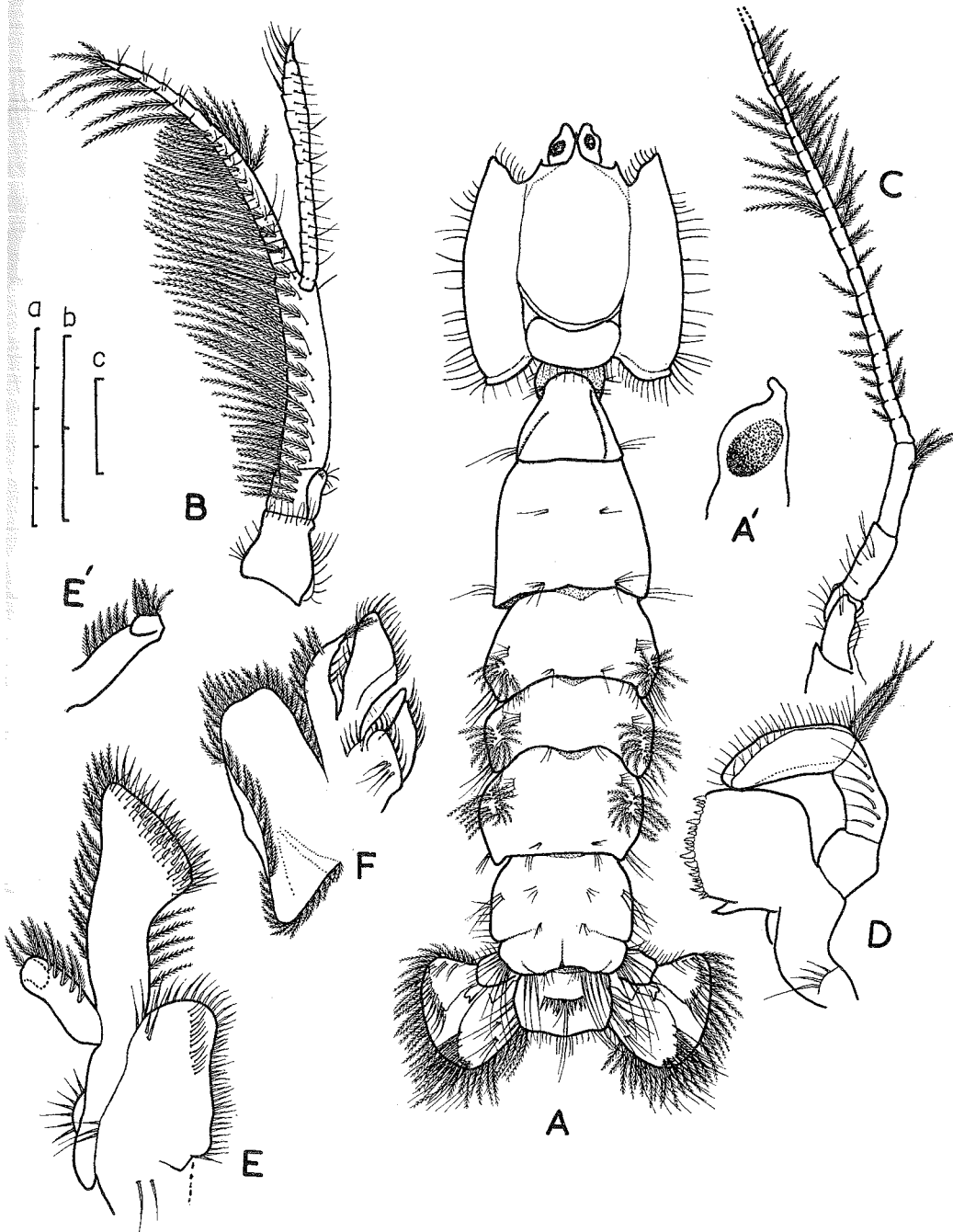


Fig. 1. *Callianassa (Callicbirus) masoomi* n. sp. A, holotype in dorsal view; A', eye in lateral view, further enlarged; B, antennule; C, antenna; D, left mandible of paratype; E, right maxillule of paratype in ventral view; E', maxillulary palp in dorsal view; F, left maxilla of paratype. A, at scale a = 5 mm; B, C, at scale b = 2 mm; D, E, F, at scale c = 5 mm.

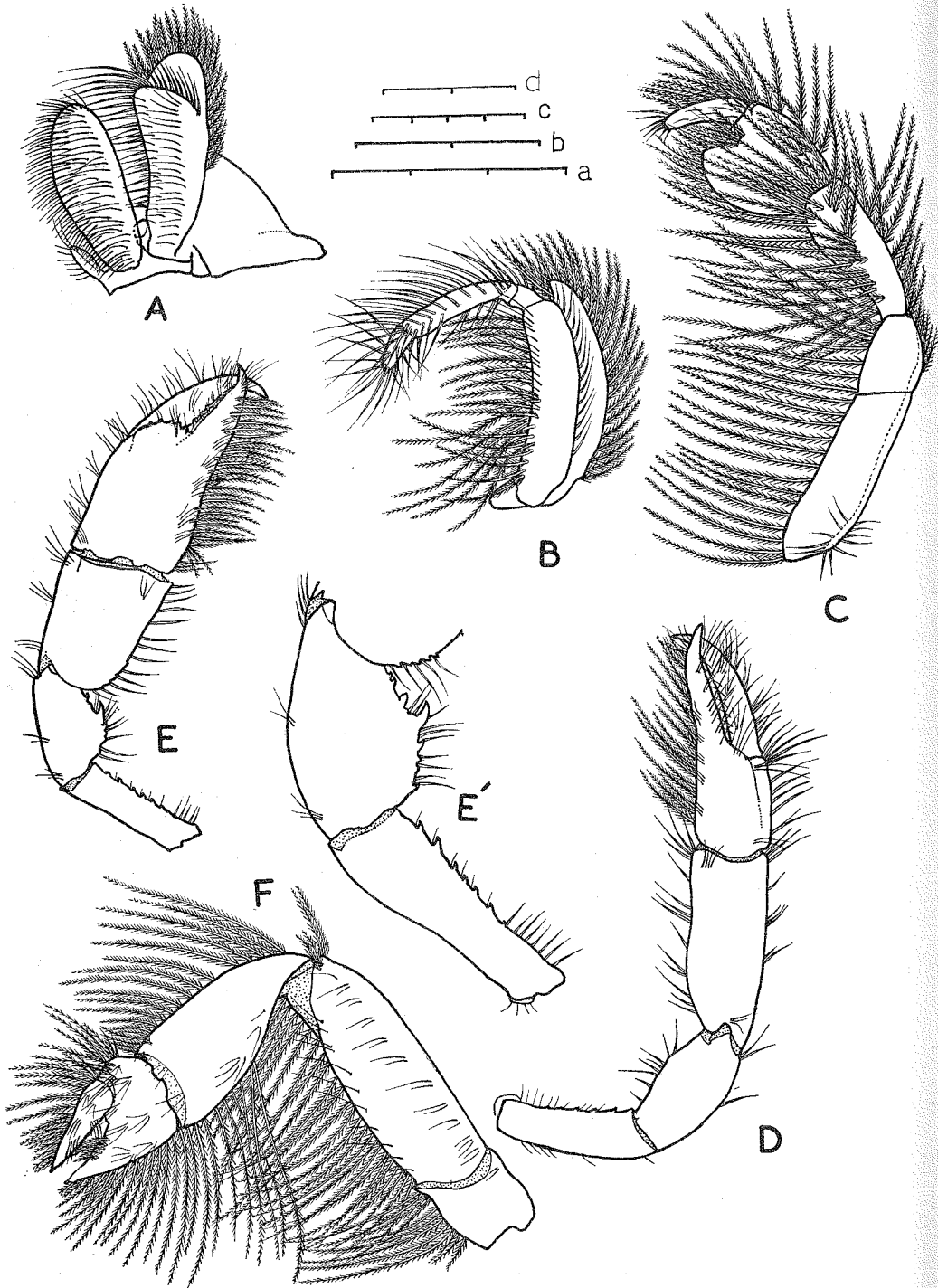


Fig. 2. *Callianassa (Callicbirus) masoomi* n. sp. A, left first maxilliped of paratype; B, left second maxilliped of paratype; C, left third maxilliped of holotype; D, left first cheliped of holotype; E, right first cheliped of holotype; E', same, merus and ischium further enlarged; F, left second cheliped of holotype. A, B, E, at scale b = 2 mm; C, F, at scale a = 3 mm; E, at scale c = 4 mm; D, at scale d = 2 mm.

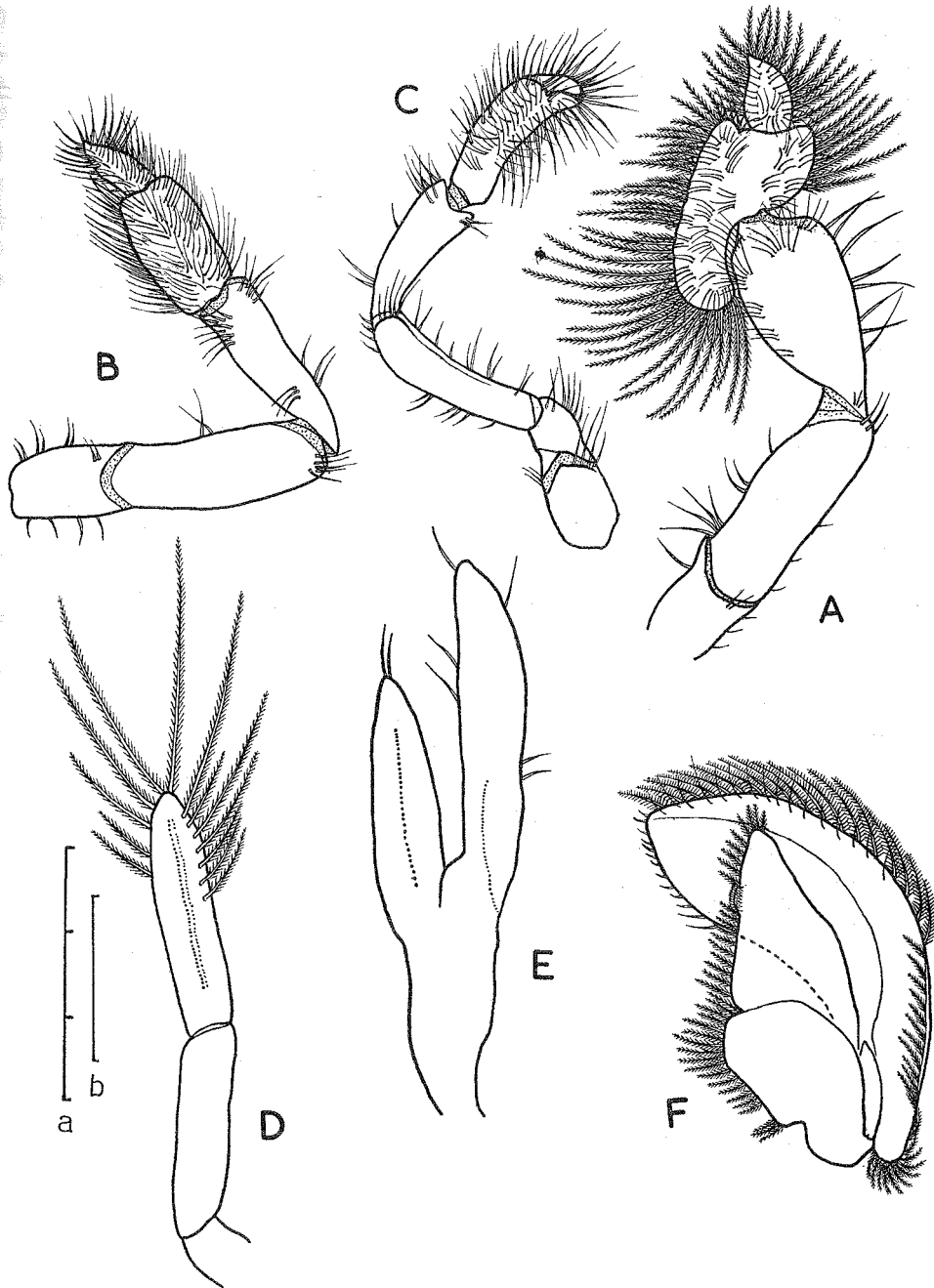


Fig. 3. *Callianassa (Callichirus) masoomi* n. sp., appendages from the left side of the holotype. A, third leg; B, fourth leg; C, fifth leg; D, first pleopod; E, second pleopod; F, third pleopod. A, B, C, F, at scale a = 3 mm; D, E, at scale b = 0.5 mm.

and finger-like. As in *Callianassa (Callichirus) audax* De Man (cf. Tirmizi, 1967, fig. 1C) the merus of the large cheliped is armed with a row of teeth on its inner margin, except that the middle tooth is longer and stronger than the others. In *Callianassa (Callichirus) winslowi* Edmondson (1944: 59, fig. 11) the merus is also armed but there are only three teeth of which the posterior-most is the largest. Moreover, in this species the ischium bears a few teeth distally whereas in the present species almost the entire margin is toothed. The third leg resembles that of *Callianassa (Callichirus) audax* (cf. Tirmizi, 1967, fig. 2B) except that in *Callianassa (Callichirus) masoomi* the carpus is broader anteriorly and the posterior lobe of the propodus is curved backwards, giving a characteristic appearance to this appendage.

Colour. — Ivory white.

Locality. — Bholegi, 14 miles west of the fish harbour, Karachi, Pakistan. In intertidal zone of muddy sand beach with loose stones.

Remarks. — The holotype (collected 16 December 1968 by Messrs. A. Kazmi and Wali) was taken when it was trying to burrow in the sand. The larger paratype was found under a small stone by Mr. Kazmi on 20 January 1969. The smaller paratype was collected by Mr. Javed Shahzad, it is mutilated, the locality and date of collecting are unknown.

#### ZUSAMMENFASSUNG

Beschreibung einer neuen Art von Decapoden, *Callianassa (Callichirus) masoomi* n. sp., aus dem Gezeitengebiet von Bholegi, West Pakistan.

#### LITERATURE CITED

- EDMONDSON, C. H., 1944. Callianassidae of the central Pacific. Occ. Pap. Bernice P. Bishop Mus. Honolulu, **18** (2): 35-61, figs. 1-11.  
TIRMIZI, N. M., 1967. On the occurrence of *Callianassa (Callichirus) audax* De Man off West Pakistan. Crustaceana, **13** (2): 151-154, figs. 1, 2.