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A new species of *Paratelphusa* Milne-Edwards (Crustacea; Brachyura), from Ceylon

by

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(With one Plate and one Text Figure)

INVERTEBRATE
ZOOLOGY

Crustacea

INTRODUCTION

Whilst collecting potamonid crabs for a study of their ecology and distribution, I found the regular occurrence of what appeared to be young specimens of *Paratelphusa ceylonensis* Fern., which differed in colour pattern of the carapace, were more rectangular in shape and lived in very shallow burrows. Regular collecting at Nugegoda, where this was noticed, over a period of two years showed the presence of egg-carrying females which were much smaller in size than was usual for *Paratelphusa ceylonensis* or in fact for any of the low-country species of *Paratelphusa*. A detailed study was made of these small specimens of *Paratelphusa* and it became evident that they belong to a species hitherto undescribed. I have named this species *Paratelphusa parvula* sp. nov. because of its small size as compared with the other members of the "ceylonensis" complex found in Ceylon namely *Paratelphusa ceylonensis*, *P. imominata* Fern., *P. bouvieri* (Rathbun) and *P. hippocastanum* (Müller). These species have been described in detail by Roux (1915) and Fernando (1957 a, 1961). All these species except *Paratelphusa bouvieri* are illustrated in Plate 1.

Paratelphusa parvula, sp. nov. (Fig. 1A—F; Plate 1A and 1B).

Carapace slightly convex fore and aft, marked dorsally with somewhat large reddish brown or greenish brown spots. Anteriorly are four groups of slightly larger spots located symmetrically, two on either side of the midline. One pair is placed anteriorly in the branchial portion and the other pair slightly anterior to this and nearer the midline.

In the male type, the carapace measures 16.20* at the broadest portion and 13.00 in length. The posterior end of the carapace measures 9.30 and where the epibranchial spine arises it is 15.40. The antero-lateral border of the carapace is limited by a narrow shelf beginning just behind the base of the epibranchial spine and extending about halfway down the carapace. (Fig. 1A). The postero-lateral border is marked by 5—7 oblique striations.

The epibranchial spine is of medium size, stout basally and somewhat pointed apically. The anterior border of the carapace between the eyes is slightly curved backwards towards the midline (Fig. 1A).

* All measurements in millimetres.

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The cervical furrow is broad and shallow anteriorly, then disappears almost completely in the median portion and appears again as a shallow, narrow channel behind the mesogastric region. The mesogastric region is prominently marked off and has two indentations in level with the median portion of the cervical furrow. The branchial lobes are indistinct except at the inner margins. They are elongate and slightly inclined outwards. The urogastric lobules are prominent and somewhat elongate horizontally (Fig. 1A).

The epigastric crests are short and elevated, the elevated portion facing directly forwards. They are in advance of the postfrontals. The latter curve backwards and follow a wavy course to the bases of the epibranchial spines. In its course the postfrontal shows a distinct break (Fig. 1A).

The chelipeds (Fig. 1C) are subequal in the male and almost equal in the female. The merus is somewhat rectangular in shape with a number of rugosities running from the central portion to the outer sides. The carpus is more or less square in shape with very fine striations running across the upper aspect (away from body). It bears a small, pointed spine very like a rose thorn on its inner side (facing body). The propodus is swollen in its median portion and the chelae bear numerous teeth of varying size on their biting edges. The chelae are curved away from the body in the middle and the dactylus is almost equal in length to the propodus.

The apex of the male abdomen is shown in Fig. 1B. The sixth segment is distinctly longer than the seventh. It is also broader than long.

The male pleopods are shown in Fig. 1D—F. The first pleopod has a broad basal portion and a narrower apical portion. The apical portion is spirally twisted and the twist is most prominent where the basal and apical portions meet. The tip of the apical portion is ornamented (Fig. 1E). The apical portion bears a series of short spines running obliquely at the base of the ornamented region and a number of longer spines of varying size on the convex portion just behind the first series but laterally. The second pleopod is bent near its apex so as to fit into the first pleopod.

HOLOTYPE: Male, Gangodawila, Nugegoda, Ceylon. British Museum (Natural History), Reg. No. 1961 3-1-1.

ALLOTYPE AND PARATYPES: From same locality, British Museum (Natural History), Reg. No. 1961, 3-1-2 and Reg. Nos. 1961, 3-1-3—8.

PARATYPES: From same locality.

Ceylon National Museum, Colombo.

Raffles Museum, Singapore.

Zoology Department, University of Malaya, Singapore.

Range of size in material examined: 9.50×6.50 — 22.0×18.0 .

REMARKS

Superficially adult *Paratelphusa parvula* resembles *P. ceylonensis* of the same size and these two species occur together in paddy fields. However specimens of this size can be recognized as one or the other species by an examination of the female abdomen. In *Paratelphusa parvula* it has assumed the typical broad shape of the adult female whilst in *P. ceylonensis* it is hardly distinguishable from the abdomen of the male.

In general structure *Paratelphusa parvula* resembles closely the other members of the "ceylonensis" complex namely *P. ceylonensis*, *P. hippocastanum*, *P. innominata* and *P. bouvieri*. It is however separable from all these species by its small size, more rectangular carapace and the structure of the male pleopods. It also differs from other species in the general shape of the carapace, the shape and nature of the epigastric and postfrontal crests, the shape and position of the mesogastric region, branchial lobes and urogastric lobules and the shape and extent of the cervical furrow. In view of these differences it is necessary to create a new species to accommodate it.

Although *Paratelphusa parvula* is closely related to Indian species (see Alcock, 1910), it differs from all those previously described from the Indian region and Eastern Asia where species of *Paratelphusa* occur.

ECOLOGY OF PARATELPHUSA PARVULA

Paratelphusa parvula lives in paddy fields in shallow burrows. Most of these burrows are found in the bunds but it sometimes burrows into the sides of irrigation ditches too. Like other Potamonidae the female carries the eggs in a pouch formed by the abdomen and the ventral portion of the cephalothorax. The female and male occupy a single burrow during the mating season which is at the beginning of the drought (January—February). The eggs are incubated during the drought. The young are liberated during the monsoonal rains.

At present this species is known only from one locality in Ceylon but is perhaps widespread in the low-country, having been missed in collections because of its small size and close resemblance to the other members of the "ceylonensis" complex. The ecology and distribution of Ceylonese Potamonidae are given by Fernando (1957 *b*, 1961).

ACKNOWLEDGEMENT

I wish to thank the authorities of the British Museum (Natural History) for the photographs reproduced in Plate I.

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LEGEND TO FIGURE 1

Paratelphusa parvula, sp. nov.:— A. Dorsal aspect of carapace x 3.5; B. Distal segments of male abdomen; C. Cheliped of male x 4, inner aspect (facing body); D. First pleopod of male; E. Distal portion of first pleopod of male; and F. Second pleopod of male.

LEGEND TO PLATE I

A. *Paratelphusa parvula*, sp. nov. x 2.5; B. *P. parvula*, about natural size; C. *P. innominata* Fern., natural size; D. *P. hippocastanum* (Müller), natural size and E. *P. ceylonensis* Fern., natural size.

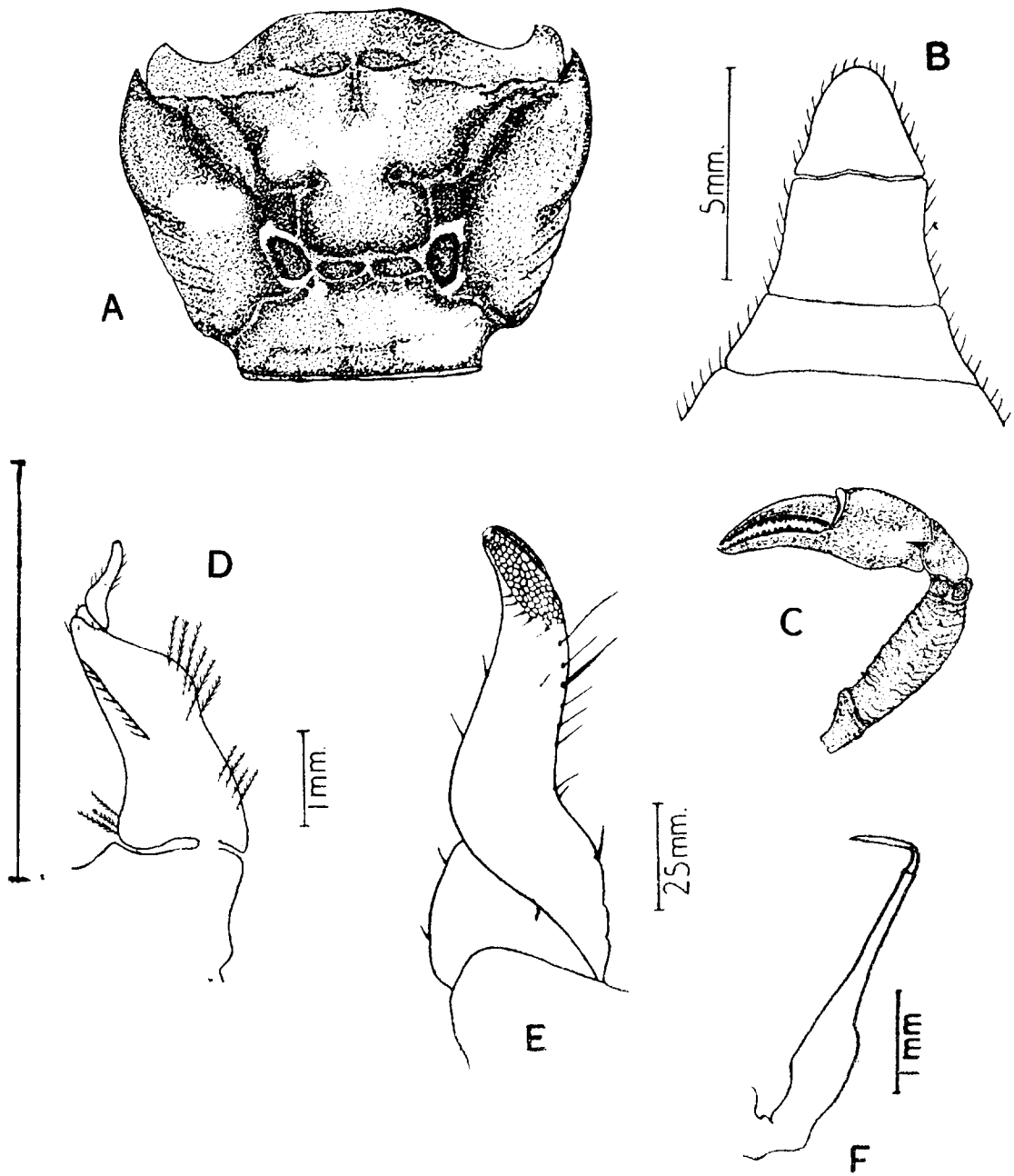


FIG. 1

