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**A note on the freshwater crabs of the genus
Spiralothelphusa Bott, 1968 (Crustacea: Decapoda:
Brachyura: Parathelphusidae), with description of a new
species from Sri Lanka**

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Abstract

Problems associated with the taxonomy of the south Indian, Sri Lankan and Nicobar freshwater crabs of the genus *Spiralothelphusa* Bott, 1968, are discussed. A new species, *S. fernandoi*, previously confused with *Parathelphusa innominata* Fernando, 1960, is described. A total of five *Spiralothelphusa* species - *S. hydrodroma* (Herbst, 1794) (type Species), *S. wuellerstorfi* (Heller, 1862), *S. parvula* (Fernando, 1961), *S. innominata* (Fernando, 1960) and *S. fernandoi* sp. nov. are tentatively recognised.

Introduction

The genus *Spiralothelphusa* Bott, 1968, was established for two species, *S. hydrodroma* (Herbst, 1794) (type species) (northern Sri Lanka and southeast India), and *S. wuellerstorfi* (Heller, 1862) (Nicobar Islands). Both have rather smooth and convex carapaces, the male abdomen triangular in shape with the sides gradually concave, and the terminal segment and distal part of the subterminal segment of the male first pleopod being twisted distinctly clockwise.

Although Bott (1970a) had examined the holotype male of *S. hydrodroma*, the photograph he provided of the male first pleopod of this species in his plates (his Pl. 5, Figs. 11a, b) were different from those in his text figures (his Fig. 1). The origins of the male first pleopods of *S. hydrodroma* figured by him was not stated, and one is uncertain if the male first pleopods in his plates were from the holotype male. The male first pleopod figured in his photograph closely resembles that of *S. wuellerstorfi*. The text-figure of the male first pleopod of *S. hydrodroma* is almost identical to that of *Parathelphusa parvula* Fernando, 1961, from Ceylon, a species which Bott (1970a, b) confidently synonymised with *S. hydrodroma*. If the male first pleopod of the holotype male of *S. hydrodroma* should prove to be identical with that of *S. wuellerstorfi*, then both nominal species become synonyms of each other. As regards *P. parvula*, the present author would prefer to regard it as a valid taxon until a good series of both *S. hydrodroma* and *S. parvula* can be compared directly. This is especially in view of the type locality of *S. hydrodroma* being southern India whereas *S. parvula* is known only from Sri Lanka. Moreover, Fernando (1961) had described this species from a very good series of specimens, and his species appears to mature at a distinctly smaller size compared to *S.*

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hydrodroma. I consider all three species to be distinct until this matter can be clarified.

Bott's (1970b) synonymisation of *Paratelphusa innominata* Fernando, 1960, from Madras (India) and Sri Lanka, with *S. wuellerstorfi* is questionable. Bott (1970a) originally synonymised *P. innominata* with *S. hydrodroma* but changed his mind in 1970b. The type localities of *S. wuellerstorfi* and *P. innominata* are quite far apart, and although their carapace and male first pleopod structures appear similar, the present author is reluctant to regard the two as conspecific until specimens can be compared directly. Hence, *P. innominata* is here tentatively recognised as a valid species of *Spiralothelphusa*. There is a possibility that the type material of *S. wuellerstorfi* was not collected from the Nicobars. No freshwater crabs have been obtained from these islands since Heller's time, and fresh collections are necessary to ascertain the validity of this distribution. Weeraratna & Fernando (1984) and Costa (1984) provide notes about the biology and ecology of *Spiralothelphusa*.

In the Zoological Reference Collection (ZRC) of the Department of Zoology, National University of Singapore are three males and a female from Kalundai in Jaffna District, Sri Lanka, which Fernando (1960) had identified as *Paratelphusa innominata*. These are certainly paratypes of this species (although this is not stated on the label) since they were examined by him during his type descriptions and included in the material examined for that species. The holotype of this species was stated to be a male (size not recorded) from Madras, India, contained in the British Museum (Natural History) (BMNH No. 92.7.15.241). Although the external features of the four specimens in the ZRC agree with the type description and figures, the male first pleopod structures are very different. The largest male, 34.6 by 26.0 mm, has a male first pleopod terminal segment which is much shorter and less strongly twisted than *S. hydrodroma*, *S. wuellerstorfi*, *S. innominata* or *S. parvula* as figured by Bott (1970a, b) and Fernando (1960, 1961). Fernando did not state which specimen the male first pleopod of *S. innominata* he figured was obtained from, but it was almost certainly from the holotype as he only had specimens from Madras and Kalundai (Sri Lanka). These differences are consistent for all three male specimens examined, and cannot be due to age or size factors since the largest male examined is comparable, if not larger, in size to the specimens of *S. hydrodroma* and *S. wuellerstorfi* examined by Bott.

The present author here establishes a new taxon for the Sri Lankan specimens, *Spiralothelphusa fernandoi* sp. nov. The description of the new species follows:

Spiralothelphusa fernandoi sp. nov.

(Fig. 1)

Paratelphusa innominata Fernando, 1960: 210 (part)

Spiralothelphusa hydrodroma Bott, 1970a: 630 (part)

Spiralothelphusa wuellerstorferi Bott, 1970b: 98 (part)

(Not *Cancer hydrodromus* Herbst, 1794: 164, pl. 41 fig. 2, or *Thelphusa wuellerstorferi* Heller, 1862: 520).

Holotype: ZRC 1984. 7547 (male, 34.6 by 26.0 mm), northwestern Sri Lanka: Kalundai, Jaffna Lagoon, leg. C. H. Fernando.

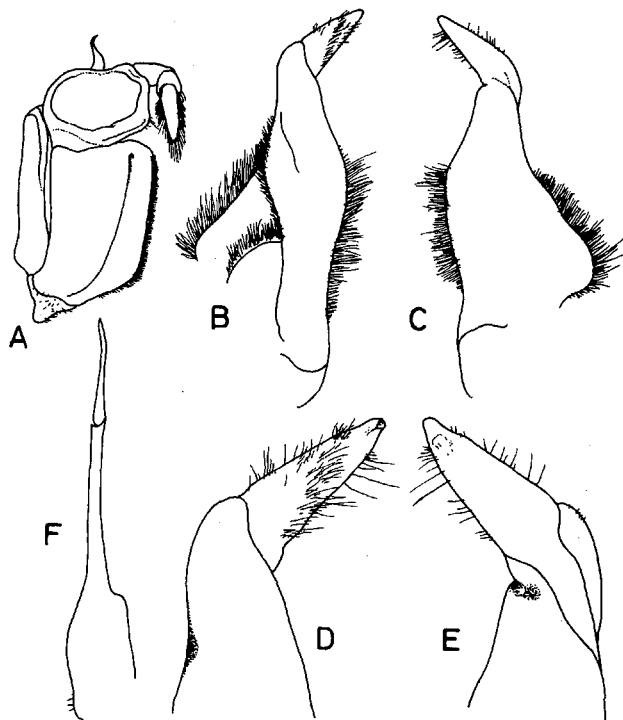


Figure 1. *Spiralothelphusa fernandoi* sp. nov. Holotype male, 34.6 by 26.0 mm (ZRC 1984.7547). A, right third maxilliped; B, C, left male first pleopod; D, E, terminal segment of left male first pleopod; F, left second male pleopod.

Paratypes. ZRC 1984.7548-75502 (two males, 20.0 by 15.5 mm, 16.2 by 14.1 mm and one female, 34.7 by 35.8 mm (ovigerous)), same data as holotype.

Diagnosis

Carapace transverse, surfaces smooth, convex, epigastric and postorbital cristae distinct, relatively sharp, epibranchial tooth well developed, distinct. Third maxilliped exopod with well developed flagellum reaching beyond width of merus. Male abdomen broadly triangular. Male first pleopod stout, relatively short, subterminal segment tapering quite suddenly from very broad base, distal part of subterminal and terminal segments distinctly twisted once clockwise, the subterminal segment visible as a "hump" on the base of the terminal segment from dorsal view, terminal segment about one quarter length of subterminal segment, cone-shaped, lined with numerous hairs, male second pleopod with distinct distal segment which is shorter than elongate basal segment.

Etymology

The species name is a patronym, honouring Professor Herbert Fernando, presently with the University of Waterloo, Canada, for his important contributions

to Southeast Asian limnology and Sri Lankan freshwater crab biology over the years, during a long and very distinguished career.

Acknowledgements

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