OXYCEPHALUS LONGIPES SPANDL, 1927 A VALID SPECIES OF THE GENUS *OXYCEPHALUS* (AMPHIPODA, HYPERIIDEA, OXYCEPHALIDAE)

BY

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ABSTRACT

This is the first description on an adult of *Oxycephalus longipes* Spandl, 1927. The original record was based on juvenile females. Since its description, the species has not been recorded again, hence its validity remained uncertain. The present record of two adult females from the Indian Ocean establishes its validity. The general shape and armature on the carpus and propodus of pereopods 1 and 2 resembles that of *Oxycephalus latirostris*, but the unique shape and structure of the seventh pereopod, the cephalon, and the first antenna are sufficient to distinguish this species from its congeners.

RÉSUMÉ

Première description d'un adulte d'*Oxycephalus longipes* Spandl, 1927. La description originale était fondée sur des femelles juvéniles. Depuis lors l'espèce n'avait pas été retrouvée, si bien que sa validité restait incertaine. Cette validité se trouve établie par la capture de deux femelles adultes de l'océan Indien. La forme générale et l'armature sur le carpe et le propode des périopodes 1 et 2 ressemblent à celles d'*Oxycephalus latirostris*, mais la forme unique et la structure du septième périopode, le céphalon, et la première antenne suffisent pour distinguer cette espèce de ses congénères.

INTRODUCTION

The original description of *Oxycephalus longipes* Spandl, 1927 was based on juvenile females of 11-12 mm length collected from the tropical Atlantic in a vertical haul from 800-0 m depth (5°27′N 20°41′W) during the "Deutsche Südpolar Expedition, 1901-1903". Since then, this species has not been recorded.

Fage (1960) recognized only three species as valid within the genus *Oxycephalus* viz. *Oxycephalus clausi* Bovallius (1887), *O. piscator* H. Milne Edwards (1830), and *O. latirostris* Claus (1879). Obviously because he did not

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come across adults of *O. longipes* in his circumglobal collections. However, Semonova in Vinogradov et al. (1982) recognized four valid species in the above genus, including also *O. longipes*. *Oxycephalus longipes* is distinct from the other three species in having a unique seventh pereopod which has a long, spiniform propodus which obviously gave rise to its name.

The present descriptions and illustrations (figs. 1, 2) are the first based on adult females collected during the International Indian Ocean Expedition (IIOE of Hansen, 1966). The specimens originate from widely separated tropical areas of the Indian Ocean. The above two specimens were treated initially as aberrant forms of the species, but detailed examination enabled the present author to identify them as adult females of *O. longipes*. The male, consequently is yet to be recorded.

DESCRIPTION

Oxycephalus H. Milne Edwards, 1830

Oxycephalus longipes Spandl, 1927 (figs. 1-2)

Oxycephalus longipes Spandl, 1927: 181, fig. 14; Vinogradov et al., 1982: 412, fig. 221.

Material examined. — Two adult females of identical length (19.50 mm) were recorded from two standard vertical hauls (200-0 m) of the IIOE collections (IOBC, 1969). Of the two specimens, one was from a night haul in the southwestern Bay of Bengal (Ki, CR. XV, Stn. No. 359, 09°10′N 85°13′E) and the other was from a day haul in the southeastern Indian Ocean (Dm, CR.V, Stn. No. 218, 09°00′S 104°53′E).

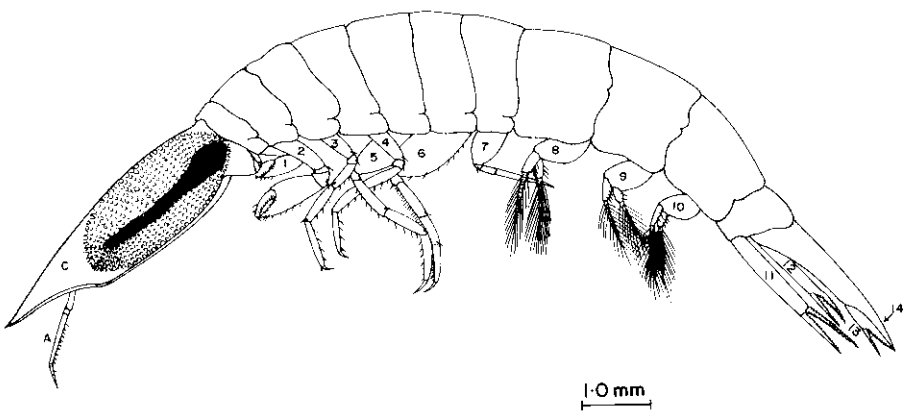

Fig. 1. *Oxycephalus longipes* Spandl, 1927, adult female from southwestern Bay of Bengal. A, antenna; C, cephalon; 1-7, pereopods 1-7; 8-10, pleopods 1-3; 11-13, uropods 1-3; 14, telson.

Diagnostic characters. — Body not very slender, cephalon as long as pereon, and parallel-sided for more than two-thirds of its length, rostrum short. Telson almost triangular, distal one-third of its lateral borders serrated. First antenna six-segmented with elongated peduncle. Seventh pereopod typical, with basis broadest at one-third from the base and steadily tapering; propodus extremely elongated, ending in a long dactylus.

Description. — Body (fig. 1) moderately deep and elongated, with a distinct neck constriction. Cephalon (fig. 1C) elongated, except for the rostrum, fully covered by the eyes. Rostrum (fig. 1) short and together with the cephalon slightly more than a quarter of the total length of the animal. Pereon (fig. 1) clearly longer than cephalon, coxal plates fused with pereon somites but the line of fusion still indicated by a posterior incision in each somite. First two pleonites (fig. 1) almost equal in length, and the third sub-equal. Lateral borders of the pleonites not well rounded and without lateral or posterolateral process. Double urosomite longer than wide and fused with telson (fig. 1). Telson roughly triangular and narrowing towards its tip, the distal one-third of its lateral borders serrate (fig. 2I).

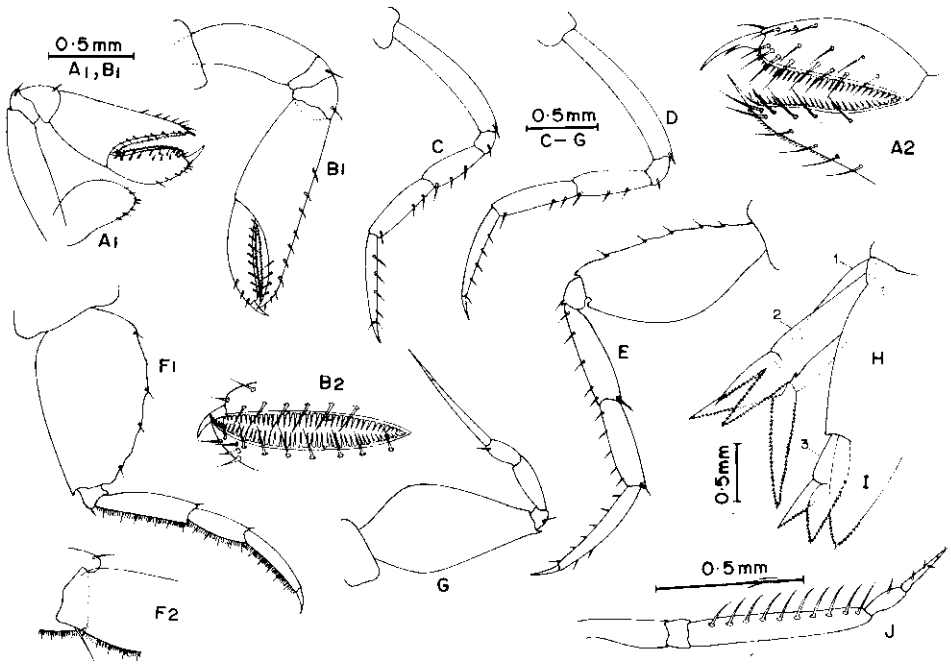

Fig. 2. *Oxycephalus longipes*, Spandl, 1927, adult female. A1-2, pereopod 1; B1-2, pereopod 2; C-E, pereopods 3-5, respectively; F1-2, pereopod 6; G, pereopod 7; H, urosome with uropods 1-3 (left), and I, telson; J, first antenna.

First antenna (fig. 2J) six-segmented, with considerably elongated peduncle, third peduncular segment with ten stiff setae, first flagellar segment relatively small, second one elongate and third spiniform. Second antenna absent.

First pereopod (fig. 2A1, A2) smaller than second; basis moderately slender, equal to the combined lengths of carpus and propodus; ischium and merus short; carpus regularly widening distalwards and internally produced into a straight thumb, as long as the segment proper, its inner edge armed with a close row of sharp spines; propodus and thumb with long marginal and submarginal setae; dactylus short and slender. Second pereopod (fig. 2B1, B2) much longer than first; basis as long as that of the first, but wider and slightly curved; carpus much longer than the rest of the limb, thumb-like process clearly shorter than the segment proper; propodus more slender than in the first pereopod, inner border armed like that of the thumb; dactylus similar to that of the first pereopod. Third and fourth pereopods (fig. 2C, D) slender and almost similar, with relatively short dactylus. Pereopod five (fig. 2E) clearly longer than pereopod six, basis enlarged, outer border nearly straight and sharply spiny, inner border convex and smooth. Succeeding segments with a few stiff setules on the outer border. Basis of pereopod six (fig. 2F1, F2) more enlarged, nearly conical, its outer border smooth and inner border spiny, the reverse of what is seen in the fifth pereopod; outer border of merus, carpus, and propodus closely spinulose. Seventh pereopod (fig. 2G) characteristic of the species, broadest at one-third from its base and further on steadily tapering; the rest of the appendage longer than the basis, much of the additional length being the result of the extreme elongation of the propodus, which ends in a long dactylus.

Each pleonite bears a pair of biramous swimming appendages, the pleopods (fig. 1, nos. 8-10). Thus far they have not been shown to be useful in taxonomy and hence they are not described, here.

Urosome two-segmented, the second segment formed by the fusion of two body-segments and hence termed double urosomite. The urosome bears 3 pairs of uropods (fig. 1, nos. 11-13), each consisting of a proximal segment the protopod, which bears distally an exopod and an endopod.

Uropods (fig. 2H, nos. 1-3) flattened, endopods of second and third ones fused with the protopods, the exopods of all uropods reduced in size compared to the respective endopods; their outer borders not serrated; both borders of all the endopods are serrated. The protopod of the first uropod overreaches that of the second, distal one-third of its inner border serrated, the endopod does not reach the tip of the telson (fig. 2I). Protopod of second uropod not much longer than the endopod and in third uropod, the protopod is as long as the endopod.

DISCUSSION

O. longipes is clearly distinct from the other three species of the genus in having a cephalon which is parallel sided for more than two-thirds of its length (fig. 1C). The rostrum is short and together with the head it comprises slightly more than a quarter of the total length of the animal. The first antenna in the female is six-segmented against five-segmented in *O. latirostris*, and the peduncle is considerably elongated. The third peduncular segment has ten stiff setae in *O. longipes*, against five groups of hairs or setules in *O. latirostris*. There is a recognizable difference in the shape of the carpus of the second pereopod between both species. The cutting edges of the chelae of the first and second pereopods in *O. longipes* and *O. latirostris* are more or less similar, and are armed with a closely packed row of sharp spines. The most significant difference is in the seventh pereopod. In *O. latirostris* the lower proximal part of the basis is expanded into a rounded lobe, making the segment broadest proximally. The narrowing is also gradual. The rest of the appendage is as long as or slightly shorter than the basis. In *O. longipes*, the basis is broadest at one-third from the base and further on steadily narrowing. The rest of the appendage, contrary to *O. latirostris*, is longer than the basis, the additional length being the result of the extreme elongation of the propodus. In *O. latirostris* and *O. longipes*, the outer border of the protopod of the first uropod is unarmed but armed in *O. clausi* and *O. piscator*. The endopod of the first uropod in *O. latirostris* almost reaches the tip of the telson, but in *O. longipes* the endopod does not reach the tip of the telson. About half of the distal borders of the telson is serrate in *O. latirostris*, whereas only less than one-third is serrate in *O. longipes*. As in the case of *Rhabdosoma minor* (Fage, 1954), another rare oxycephalid, the male of *O. longipes* is still unknown.

The two collections came from more or less equidistant areas on either side of the equator, one in the Bay of Bengal and the other one in the southeastern Indian Ocean, and were both collected during the south west monsoon. They showed the following hydrographic conditions: surface temperature 29-26°C, salinity 33.40-34.26‰ and dissolved oxygen 4.69-4.89 $ml \cdot l^{-1}$, all values ranging from north to south, respectively.

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