Hydrobiologia **459:** 47–49, 2001.
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Idiomysis mozambicus, a new mysid species (crustacea: mysidacea) from Mozambique

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Received 5 April 2001; in revised form 5 April 2001; accepted 20 April 2001

Key words: Idiomysis, mysid, Mozambique, nearshore

Abstract

Idiomysis mozambicus is described from coastal waters of Mozambique. The species can be distinguished from the other species of the genus by the one-segmented antennal scale, the two-segmented exopod of the fourth male pleopod and the bluntly pointed rostrum.

Introduction

The genus *Idiomysis* (tribe Mysini) comprises three species to date. *I. inermis* Tattersal (1922) was described from the Gulf of Manaar, India (Tattersall, 1922) and later also recorded and redescribed from Moreton Bay, Australia (Greenwood & Hadley, 1982). The other two *Idiomysis* species are *I. tsurnamali* Bacescu (1973) from the Gulf of Elat, Red Sea, Israel and *I. japonica* Murano (1978) from the Nagasaki Prefecture, Japan.

Idiomysis mozambicus is the fourth species of the genus. Several specimens were collected from Nacala Bay, Mozambique in October 1997. Samples were taken after dark with a small hyperbenthic sled (50 × 30 cm) at a depth of approximately 4 metres. The bottom consisted of uneven rock and patches of sand.

Systematics

Idiomysis mozambicus *sp. nov., Figures 1–3*

Material

Holotype (SAM A44966) lodged in the South African Museum, Cape Town. Adult female from Nacala Bay collected by T. Wooldridge October 1997.

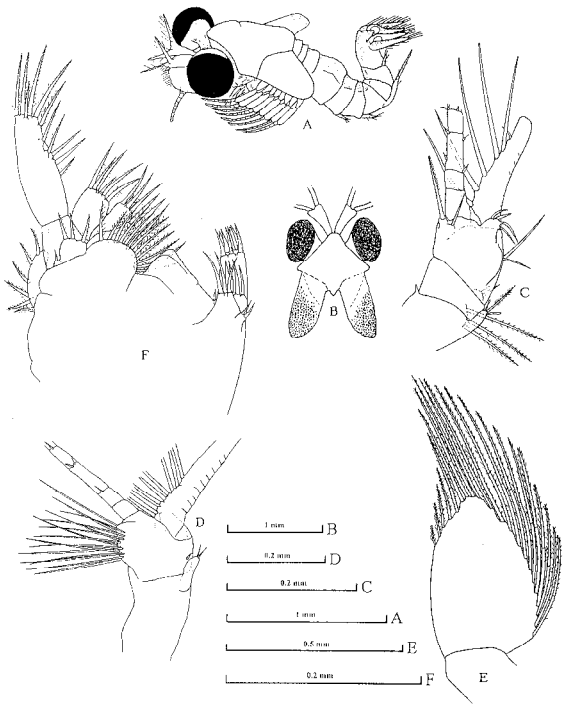

Figure 1. Idiomysis mozambicus sp. nov. (A) Adult male in lateral view. (B) Carapace in dorsal view. (C) Antennular peduncle of female. (D) Antennular peduncle of male. (E) Antennal scale, (F) Maxilla (with part of maxillule).

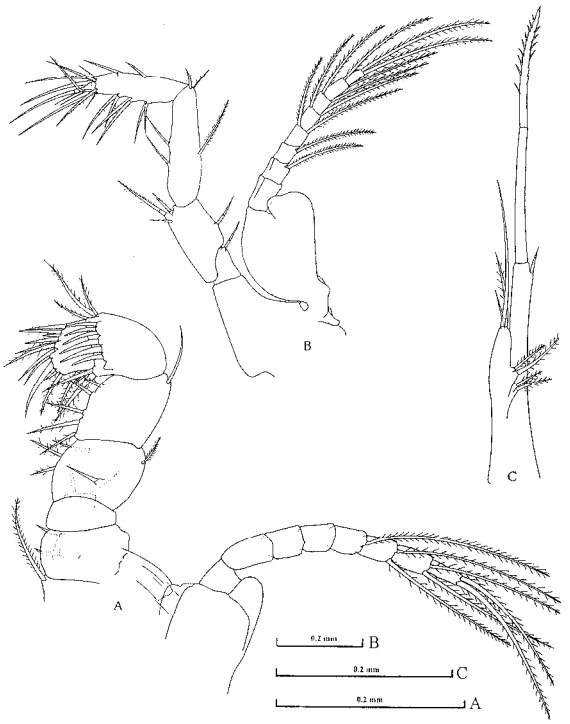

Figure 2. Idiomysis mozambicus sp. nov. (A) First thoracopod. (B) Sixth thoracopod. (C) Fourth pleopod of male.

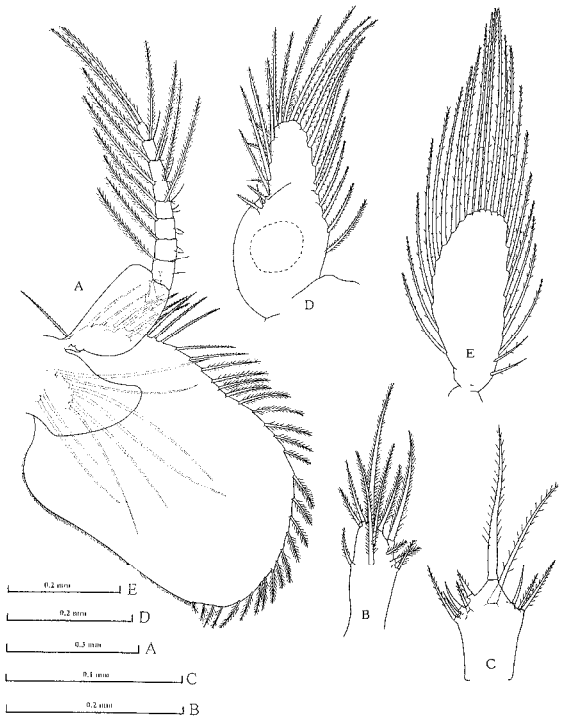

Figure 3. Idiomysis mozambicus sp. nov. (A) Eight thoracopod in adult female with oostegite, (B) Second pleopod in female. (C) First pleopod in male. (D) Endopod of uropod. (E) Exopod of uropod.

Paratype material (23420) lodged in the Royal Belgian Institute of Natural Sciences and at the South African Museum, Cape Town (SAM A44967). Two adult males and two adult females from Nacala Bay collected by T. Wooldridge, October 1997.

Description

The morphological characteristics refer to both sexes, unless otherwise stated. Total length of adult females ranged between 2.6 and 2.9 mm (4 specimens); adult males measured between 2.9 and 3.9 mm.

Carapace rather short, leaving the last thoracic somites exposed in dorsal view (Fig. 1A). Anterior carapace margin produced into a bluntly rounded rostrum, extending in between the eyes up to two thirds of the length of the cornea (Fig. 1B). Posterior dorsal margin of carapace deeply emarginate, distal lateral parts produced into wing-like extensions. Whether this is as a morphological characteristic or an artefact due to conservation in ethanol 70% is unclear (Fig. 1A).

First segment of female antennular peduncle (Fig. 1C) with a proximally extending lobe armed with two typical spines and one plumose seta. The segment also bears three other plumose setae. Second segment with a small lobe with two small non-plumose setae. Third segment twice as long as second and bearing eight setae, one of which is plumose; five of the non-plumose setae are located on the proximally extending lobe.

First segment of exopod wearing 5 long setae and 1 short seta. Antennular peduncle of male (Fig. 1D) with appendix masculina looking like hirsute lobe.

Antennal scale (Fig. 1E) about two times as long as broad. Lateral margins curved, distal end rounded. Inner margin, distal end en distal third of outer margin armed with c. 21 plumose jointed setae.

Maxilla (Fig. 1F) with small exopodite bearing seven short plumose setae along outer border. Terminal segment of endopod rectangular with nine plumose and two non-plumose setae. Global shape of maxilla and maxillule (lateral view) as illustrated. Endopod of first thoracic limb (Fig. 2A) short and densely setose, especially along inner lateral margin. First segment of exopod expanded. Flagellum 7-segmented, first three segments non-setose, fourth segment bearing 1 plumose seta and last three segments bearing two long plumose setae each.

Second thoracic limb similar in form to first (not figured).

Third to eight thoracic limbs similar in form. First exopod is composed of eight segments, the others of nine segments. Proximal exopod segments armed with one long plumose seta, distal segments armed with two plumose setae (Fig. 2B). Marsupium with two pairs of lamellae; lamella of eighth thoracic limb as illustrated in Fig. 3A.

First, second, third and fifth pleopods in both sexes simple unjointed plates with 9 to 12 plumose setae (Fig. 3B, C).

Fourth pleopod sexually dimorphic. Female fourth pleopod similar to other pleopods. Male endopod small unsegmented plate with three terminal setae, one of which plumose, and a clear side lobe bearing four plumose setae. Male exopod consists of two segments: first segment bears one small non-plumose seta distally, second segment with small proximal setules and ending in a stout seta, approximately the same length as the segment (Fig. 2C). When abdomen in normal bent posture, tip of exopod reaches to posterior borders of uropods.

Uropods (Fig. 3D, E) extending beyond telson. Exopod equal in length to endopod. Exopod setose all around, bearing c. 25 long plumose setae. Endopod also setose all around, with 18 long plumose setae. Endopod with four short plumose setae spaced regularly among the long plumose setae of the outer margin. Second group of three short plumose setae on the outer margin above statocyst.

Telson short, broad triangular plate, as broad as long, with bluntly rounded apex, smooth and unarmed, as in other members of the genus.

Remarks

The morphological characters that distinguish *Idiomysis mozambicus* from the other species of the genus mainly concern the antennal scale, the uropods, the fourth male pleopod and the rostrum.

The exopod of the fourth male pleopod consists of two segments in *I. mozambicus*, while in all other species of the genus there is only one. Another distinguishing characteristic is the female pleopod, which bears up to 11 plumose setae versus five to eight in other species.

I. mozambicus has closest affinities with *I. inermis*. The new species can easily be distinguished from *I. japonica* and *I. tsurnamali*: the antennal scale of *I. mozambicus* only consists of one segment, while there are two segments in *I. japonica*; in *I. mozambicus* the uropod rami are equal in length, while in *I. tsurnamali* the endopod of the uropod is distinctly shorter than the exopod. *I. mozambicus* can be distinguished from *I. inermis* by the shape of its rostrum: the rostrum of *I. mozambicus* is triangular and bluntly pointed, while in *I. inermis* it is clearly rounded.

Identification key for the species of the genus Idiomysis

1. Antennal scale consists of two segments, endopod of uropod smaller in length than exopod → *Idiomysis japonica*;
   Antennal scale consists of one segment → 2
2. Endopod of uropod equal in length than exopod → 3
   Endopod of uropod smaller in lenghth than exopod → *I. tsurnamali*
3. Rostrum triangular and bluntly pointed, exopod of fourth male pleopod 2-segmented → *I. mozambicus*
   Rostrum clearly rounded, exopod of fourth male pleopod unsegmented → *I. Inermis*

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