

**MYSIDACEA (CRUSTACEA) FROM THE MINICOY LAGOON
(LAKSHADWEEP, INDIA) WITH DESCRIPTION OF A NEW SPECIES OF
*ANISOMYSIS***

A. Biju*, S. U. Panampunnayil & M. P. Prabhakaran
National Institute of Oceanography, Regional Centre, Kochi-18, India.
*E-mail: biju_nio@yahoo.com

Abstract

Four species of mysids collected from the Minicoy lagoon are reported. *Anisomysis minicoyensis* sp. nov. is distinguished from the related species in the shape of the rostrum, the relative length of the antennal scale, and the short protuberances on the second segment of the mandibular palp. The other three species recorded are *Siriella australiensis*, *Anisomysis truncata* and unidentified species of subfamily Gastrosaccinae.

Keywords: *Mysidacea*, *Anisomysis*, *New species*, *Minicoy lagoon*, *Lakshadweep*, *India*.

Introduction

During the investigations on the fauna of the sea grass ecosystem, several mysids were collected from the Minicoy lagoon (8°17'N, 73°04'E) of the Lakshadweep Archipelago in the Arabian Sea. Four species of mysids were represented. *Anisomysis minicoyensis* is described as new to science and *Siriella australiensis* is recorded first from Indian waters. Part of two young females of *Anisomysis truncata* and many juveniles of an unidentified species of sub-family Gastrosaccinae were collected. All the specimens were collected from among thick vegetations of *Thalassia* and *Syringodium* from 1 m depth with WP plankton net at night in September 2002. The type specimens of the new species are stored in the Reference Collections of IOBC (Indian Ocean Biological Centre), RC, NIO, Kochi.

Genus *Siriella* Dana

Siriella australiensis Panampunnayil, 1995

Siriella australiensis Panampunnayil, 1995: 1939, 1949, Figures. 1-23.

Materials

One adult male (8.3 mm), two young males and one adult female (9.4 mm)

Remarks

The specimens are identified as *S. australiensis* by the modified setae on the exopod of the third pleopod and the exopod and endopod of the fourth pleopod of the male and the shape and armature of the telson (Figures 2 - 5). The present specimens closely resemble the type specimens except for the shape of the rostrum. The carapace is produced into a low triangular rostrum not extending beyond the base of antennular peduncle (Figure 1), while in the type specimens the rostrum overreaches the base of the antennular peduncle and covers the basal part of the eyestalks.

Distribution

This species has been known only from the type locality, S.W. Australia. The present occurrence extends the distribution range of this species several thousand kms northwestwards.

Sub- family Gastrosaccinae

(Genus unknown)

Material

Large number of juveniles.

Remarks

From the character of the antennule, the antennal scale, the telson and the uropods, these juveniles are identified as members of the sub- family Gastrosaccinae but cannot be referred to any genus due to the very immature stage (Figures 6 and 7).

Genus *Anisomysis* Hansen

Anisomysis truncata Panampunnayil, 1993

Anisomysis truncata Panampunnayil, 1993: 1145, 1148, Figures. 20-34

Material

Posterior part of two young females.

Remarks

These two specimens are referred to *Anisomysis truncata* based on the shape and armature of the telson (Figure 8).

Distribution

This species is known only from Minicoy lagoon.

Anisomysis minicoyensis sp. nov.

Material

Holotype, adult male (IOBC-0509-10-50-2004). Allotype, adult female (IOBC-0509A-10-50-2004). Other materials, 25 adult males, 40 adult females and many juveniles.

Description

Anterior margin of carapace produced into triangular rostrum with obtusely pointed apex, extending to middle of first antennular segment and covering basal part of eye stalks in male (Figure 9); anterolateral corners of carapace rounded. Rostrum of female short, overreaching base of antennular peduncle (Figure 10). Eyes large, cornea globular, wider than stalk. Antennular peduncle of male more robust than that of female; first segment as long as rest of peduncle with distal dorsal lobe tipped with one stout long plumose seta and three or four slender setae; second segment stout with distal lobe tipped with few setae; third segment broad, male lobe large and thickly hirsute (Figure 11). In female antennular peduncle slender, first segment longer than rest of peduncle (Figure 12). Antennal scale of male 9.7 times as long as broad, overreaching antennular peduncle by 1/3 of its length, extending to apex of male lobe, with distal suture; peduncle short, 1/4 length of scale (Figure 13). In female antennal scale 10.7 times as long as broad, overreaching antennular peduncle by half of its length (Figure 14).

Second segment of mandibular palp with 10-11 flagellated short denticles on inner margin, outer margin setose throughout; third segment 1/3 of second segment in length, distally armed with setae (Figure 15). Maxillule with comparatively large inner lobe armed with five short and two long plumose setae, outer lobe distally armed with strong teeth (Figure 16). Maxilla with well developed lobes from second and third joints, exopod small and narrow (Figure 17).

First and second thoracic limbs as usual for the genus (Figures 18-20). Third to eighth thoracic endopods slender, carpo-propodus undivided, dactylus with long slender nail; exopod nine-segmented (Figures 21 - 23).

Pleopods in male reduced to short unsegmented simple lobe except fourth pair. Fourth pleopod biramous, endopod short and unsegmented; exopod long, three-segmented, extending to middle of telson; first segment 1.5 times longer than rest, second segment slightly shorter than third; third segment terminating in two spines, one slender and naked, the other stout and barbed in middle (Figures 24 and 25).

Telson medal-shaped, 1.4 times as long as broad at base, constricted at distal 1/4, narrowest part 1/3 as wide as base; distal 2/5 of lateral margin armed with 9-10 spines, distal margin truncate with eight stout spines, inner most pair shortest, distal margin 2/5 of maximum basal width (Figures 26 and 27).

Uropods long and narrow, setose all round and without spines, exopod longer than endopod; statocyst prominent (Figure 26).

Length: Adult male 5.3-6.2 mm, Adult female 5.6-6.3 mm

Etymology: This species is named after the locality.

Remarks

The present species belongs to the subgenus *Paranisomysis*, in having the mandibular palp with flagellate denticles on the inner margin of the second segment and medal-shaped telson with lateral constriction. In the shape and armature of the telson, this species is closely related to *A. ohtsukai* Murano, 1994 from Japan but differs from it in the following points.

- (1) In *A. minicoyensis*, the rostrum extends to the middle of the first segment of the antennular peduncle and covers the basal part of the eye stalks. In *A. ohtsukai* the

rostrum does not extend to the base of the antennular peduncle and leaves the eye stalks exposed.

- (2) In *A. minicoyensis*, the antennal scales is 9.7 times as long as broad in male and 10.7 times as long in female, while in *A. ohtsukai* it is only 7.5 times as long as broad.
- (3) In *A. minicoyensis*, all flagellated denticles on the second segment of the mandibular palp are small and the third segment is 1/3 of the second segment in length. In *A. ohtsukai* the denticles in the middle are large and prominent and the third segment is 2/5 of second segment.
- (4) The exopod of the fourth pleopod of the male reaches the middle of the telson in *A. minicoyensis* whereas in *A. ohtsukai* it reaches the distal end of the telson.
- (5) The body length of adult male and female of the *A. minicoyensis* is 5.3-6.2 mm and 5.5-6.3 mm respectively, while that of *A. ohtsukai* is 3.6-4.1 mm and 3.8-4.5 mm respectively.

In having the mandibular palp with denticles and in the telson with lateral constriction and truncate apex, the new species is also related to *A. lamellicauda* Hansen, 1912 and *A. marisrubri* Bacescu, 1973. *A. lamellicauda* differs from *A. minicoyensis* in having a very acuminate rostrum, shorter antennal scale, 13 denticles on the second segment of the mandibular palp, 9 spines on the lateral and 9 spines on the distal margin of the telson. *A. marisrubri* differs from *A. minicoyensis* in having shorter antennal scale, 8-10 denticles on the second segment of the mandibular palp, 11-13 spines on the lateral and 10-12 spines on the distal margin of the telson.

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Legend to figures

***Siriella australiensis* Panampunnayil, 1995 (female)**

- Figure 1. Anterior part of body
- Figure 2. Distal part of exopod of third pleopod
- Figure 3. Distal part of exopod of fourth pleopod
- Figure 4. Distal part of endopod of fourth pleopod
- Figure 5. Telson

Sub- family Gastrosaccinae

Genus unknown (juvenile)

- Figure 6. Anterior part of body
- Figure 7. Telson and uropod

***Anisomysis truncata* Panampunnayil, 1993 (female)**

- Figure 8. Telson and uropod

***Anisomysis minicoyensis* sp. nov.**

- Figure 9. Anterior part of body of male
- Figure 10. Anterior part of body of female
- Figure 11. Antennule of male
- Figure 12. Antennule of female
- Figure 13. Antennal scale of male
- Figure 14. Antennal scale of female
- Figure 15. Mandible of male
- Figure 16. Maxillule of male
- Figure 17. Maxilla of male

***Anisomysis minicoyensis* sp. nov. (male)**

Figure 18. First thoracic endopod.

Figure 19. Second thoracic limb.

Figure 20. Tip of second thoracic endopod

Figure 21. Fourth thoracic endopod.

Figure 22. Tip of fourth thoracic endopod

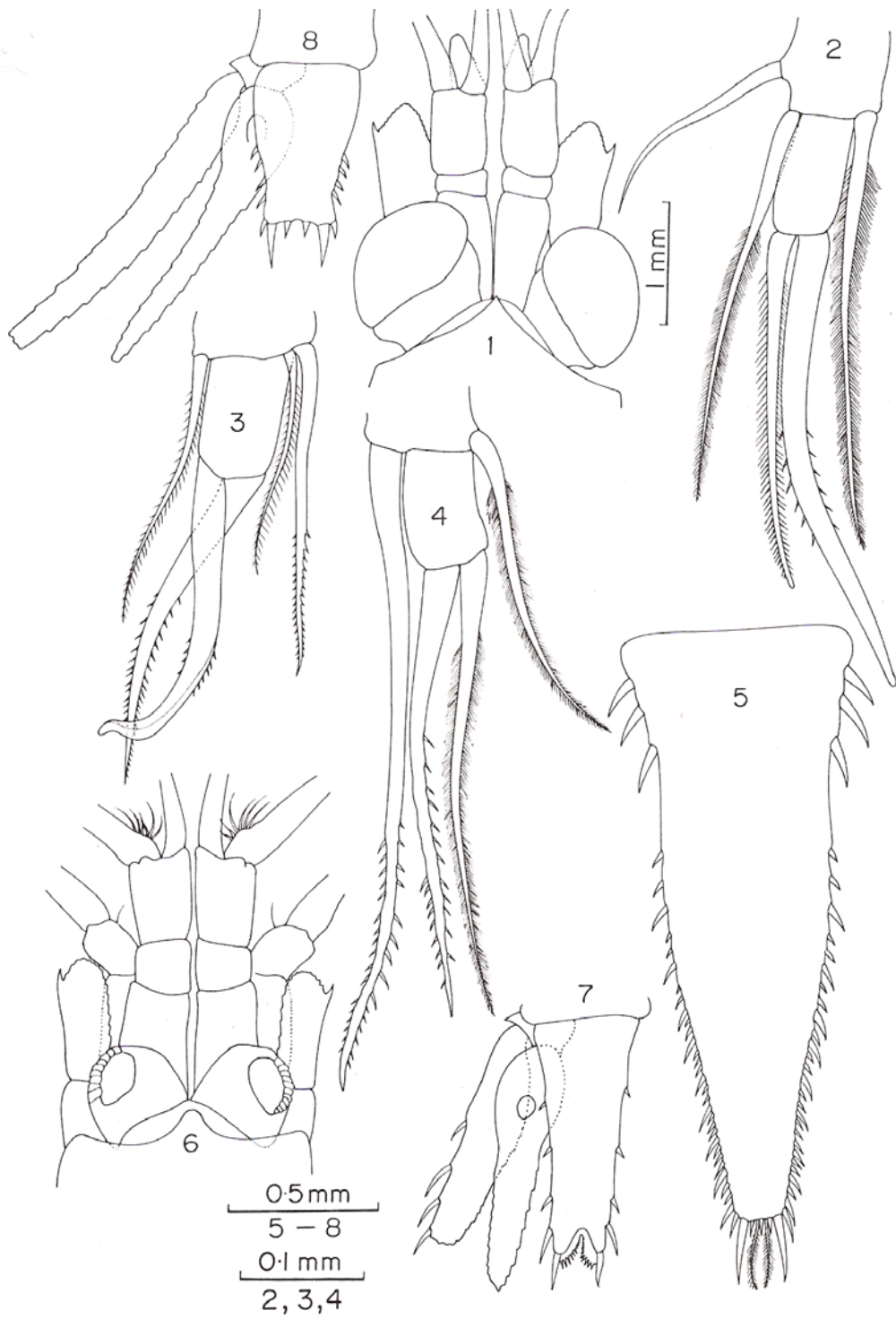
Figure 23. Eighth thoracic endopod.

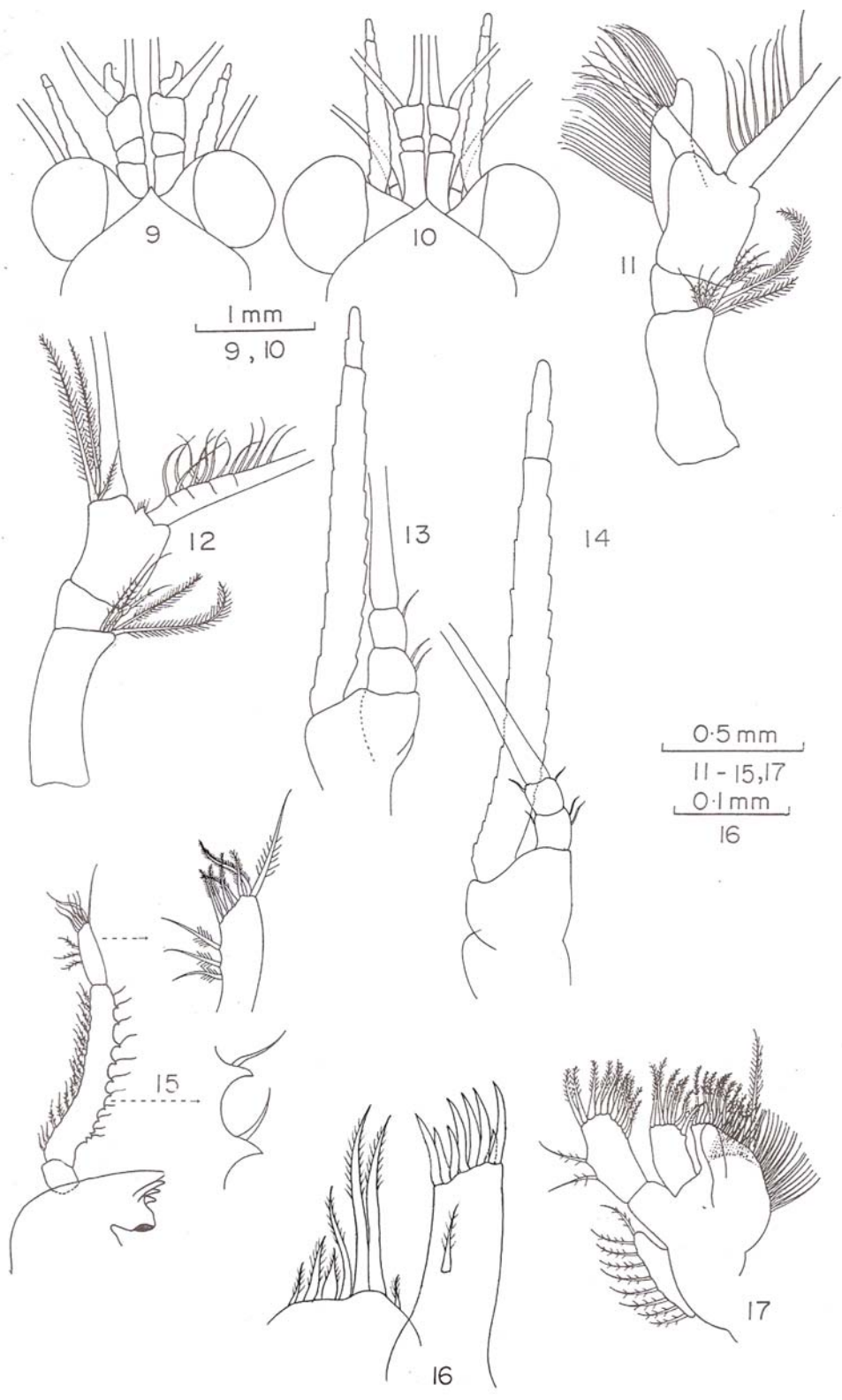
Figure 24. Fourth pleopod.

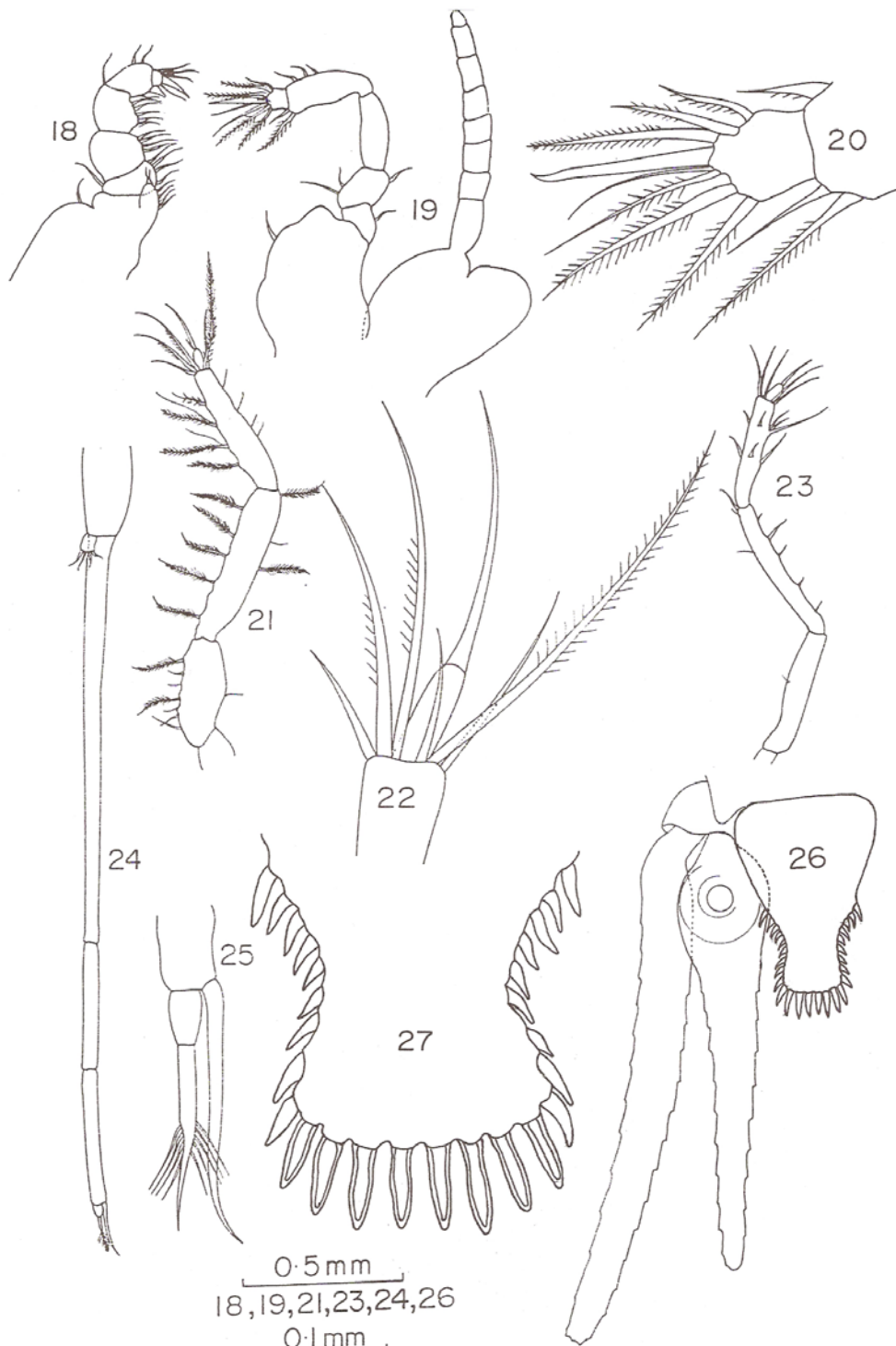
Figure 25. Distal end of exopod of fourth pleopod

Figure 26. Telson and uropod

Figure 27. Distal part of telson







0.5 mm
 18, 19, 21, 23, 24, 26
 0.1 mm
 20, 22, 25, 27