

**DESCRIPTION OF *ATYLUS (KAMEHATYLUS) PROCESSICER* SP. NOV.
(AMPHIPODA : DEXAMINIDAE) FROM THE GULF OF MANNAR,
INDIA**

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THE genus *Atylus* Leach, which was revised by Barnard (1956, 1970b) comprises 22 species under its nominate subgenus (Barnard, 1969) and 1 species under the subgenus *Kamehatylus* Barnard (1970a). The genus is now placed under the family Dexaminidae with the merger of the family Atylidae with it (Barnard, 1970b). While studying the amphipod collections from the coral reefs of Appa island in the Gulf of Mannar, the author came across an interesting species belonging to the subgenus *Kamehatylus*. As it differs in several important characters from the only other species known under the subgenus, it is being described as a new species.

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***Atylus (Kamehatylus) processicer* sp. nov.**

(Fig. 1)

Material : 2 females from algae attached to the feet of sea-lilies on coral reefs of Appa island, Gulf of Mannar. Length 4.0-5.5 mm.

Type : Female holotype with registered No. C 914/2 has been deposited in the Zoological Survey of India, Calcutta.

Description of the female : Head including rostrum $1\frac{1}{2}$ times as long as 1st pereopod segment. Rostrum short, acute. Lateral margin subtruncate, lateral lobe subquadrate and post-antennal lobe rounded. Eyes small, dark and oval. Body strongly compressed, slightly keeled mid-dorsally, carinae more prominent and slightly produced on 3rd pleon and urosome segments. All urosome segments fused and without any spines. Epimeral plates 2-3 quadrate with a setiferous tooth at posterolateral corner and hind margin slightly convex. Branchiae large, oval and simple. Incubatory lamellae ribbonlike, with setae not yet developed.

Antennae subequal, short, about $\frac{1}{2}$ as long as body and characteristically bent between peduncular joints 2 and 3. Antenna 1, first joint of peduncle stout, as long as 2nd and with a rounded lobe and a plumose seta at middle of hind margin. 3rd joint half as long as 2nd. Flagellum as long as first two peduncular joints, with 9 joints, the distal ones bearing sensory filaments. Accessory flagellum absent. Antenna 2, 4th joint of peduncle shorter than 5th and as long as flagellum which has 6 joints.

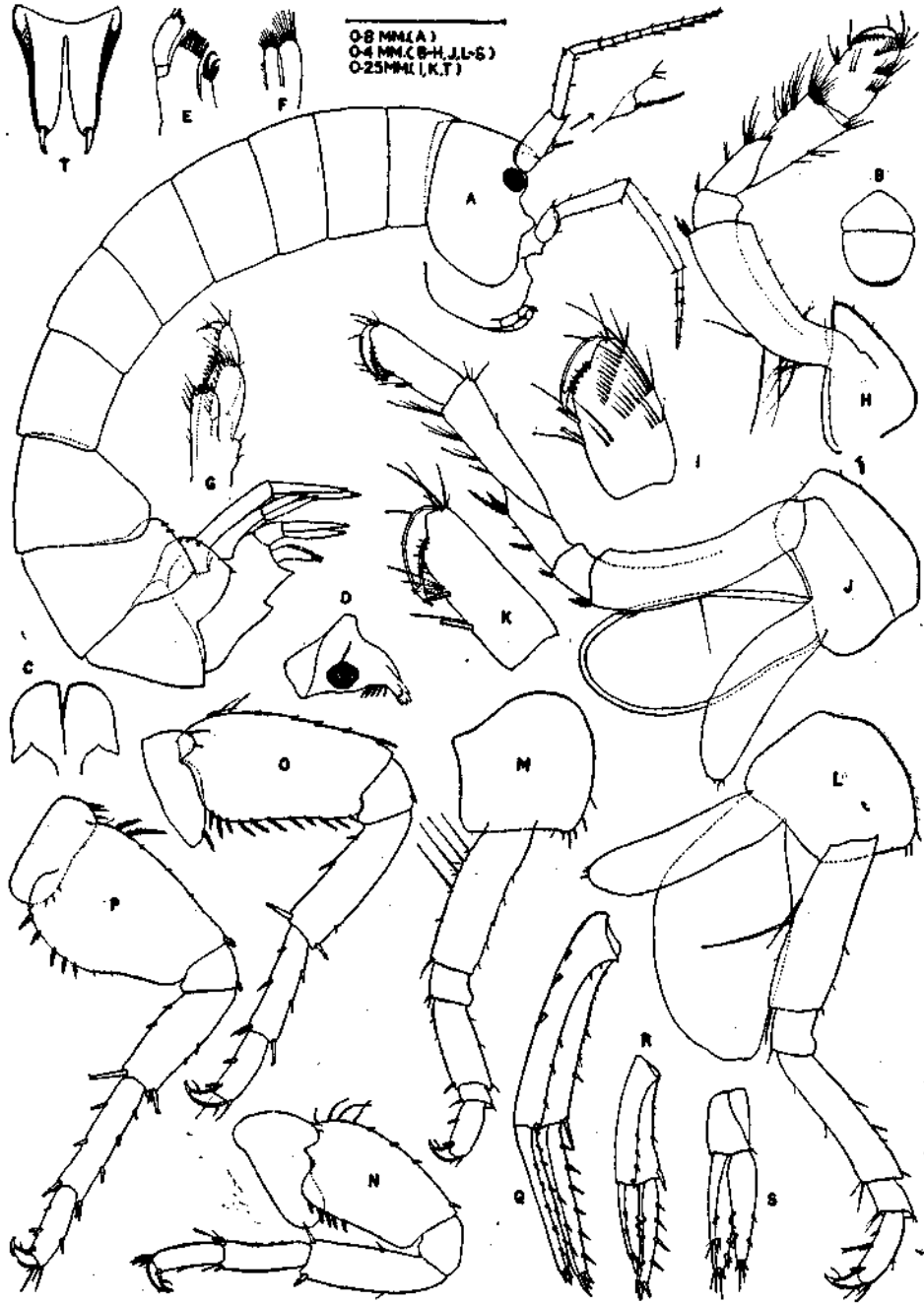


FIG. 1. *Atylus (Kamehatylus) processicer* sp. nov. Female: A. entire animal; B, C. upper and lower lips; D. mandible; E, F. maxillae 1, 2; G. maxilliped; H. gnathopod 1; I. gnathopod 1, joints 6-7 enlarged; J. gnathopod 2; K. gnathopod 2, joints 6-7 enlarged; L, M, N, O, P. pereopods 1, 2, 3, 4, 5; Q, R, S. uropods 1, 2, 3; T. telson.

Upper lip rounded below. Lower lip without inner lobes. Outer lobe rounded. Mandibular process short, stout and acute. Mandible with primary cutting plate 5-dentate and the accessory 4-dentate. Spine row with 5 spines. Molar well-developed and triturative. Palp absent. Maxilla 1, inner plate with 3 stout, plumose setae at apex and without a cusp. Outer plate with 10 serrate spines. 2nd joint of palp with 5 apical spines and a seta. Maxilla 2 with outer plate broader and longer than inner. Maxilliped with inner plate extending much beyond 1st joint of palp, apex truncate with 3 stout spines and inner margin with stout setae. Outer plate reaches a little beyond 2nd joint of palp, with about 9 stout spines on inner margin. Palp rather slender, last joint slender and tipped by a spine.

Gnathopod 1 with side plate conical. 2nd joint long, stout, bent near the base and widening distally. 4th joint twice as long as 3rd and distally setose. 5th joint $1\frac{1}{2}$ as long as 6th and subequal in width. Hind margin with 4 rows of stiff setae. 6th joint oblong-oval, slightly narrowing distally. Palm narrow, slightly oblique, with 6 setules, continuous with hind margin which has in its distal half 2 long spines. There are 3 rows of close-set setae on inner surface along front margin. Dactylus stout and its tip reaching to 1st spine on hind margin. Gnathopod 2 very long and slender. Side plate oblong, quadrate below. 2nd joint as long as next three combined. 4th joint twice as long as 3rd. 5th joint very long, $1\frac{1}{2}$ as long as and a little wider than 6th. Hind margin with 4 sets of setae. 6th joint oblong, $\frac{2}{3}$ as long as wide. Palm very narrow, slightly oblique, with 6 setules and rounded off with hind margin which has a pair of spines at $\frac{1}{4}$ of its length and another spine near the middle. Dactylus stout, its tip lying between first pair of spines.

Peraeopod 1 longer than 2. Side plate quadrate. 2nd joint long and stout. 4th joint much longer than next three joints, with parallel margins. 5th joint very short and half as long as 6th which has 3 spines on hind margin. Dactylus stout, acute-tipped and with a seta on inner margin. Peraeopod 2 similar to the 1st but much shorter. 5th joint very short. 6th joint with 2 spines on hind margin. Peraeopods 3 to 5 similar and spinous. Peraeopod 3 with side plate small and slightly bilobed. 2nd joint oblong. Hind margin straight, with 5 plumose setae and rounded proximally and distally. Joints 4-6 stout, gradually increasing in length as in next two peraeopods also. Dactylus stout, with a seta on inner margin. Peraeopod 4 longer than 5th. Side plate narrow and slightly bilobed. 2nd joint as in peraeopod 3 but larger and hind margin with plumose setae throughout. Peraeopod 5 with 2nd joint oblong-oval, widest near the base and narrowing distally. Hind margin broadly rounded in its proximal half to which plumose setae are restricted.

Uropods very spinous. Uropod 1 reaches beyond uropod 3. Peduncle much longer than rami. Inner ramus slightly longer than outer. Uropod 2 reaches middle of rami of uropod 1. Peduncle longer than rami. Inner ramus longer than outer. Uropod 3 reaches beyond uropod 2. Rami lanceolate, outer a little longer than inner and twice as long as peduncle.

Telson long, widest near the base, narrowing distally and cleft nearly to the base. Each division with a long, stout spine apically.

Male : Not known.

Remarks : The subgenus *Kamehatylus* differs from the nominate subgenus of *Atylus* in the absence of mandibular palp and the fusion of all the three segments of urosome. In these respects the new species clearly belongs to *Kamehatylus*.

The new species has a close resemblance to *Atylus (Kamehatylus) nani* Barnard (1970a), the only species under the subgenus, but differs in the following respects : (1) the fused urosome without lateral spines ; (2) antenna 1 with a rounded process on 1st peduncular joint, with more flagellar joints and without any vestigial accessory flagellum ; (3) lower lip with the plates broadly rounded and mandibular process pointed ; (4) maxilla 1 with 3 plumose setae ; (5) gnathopod 1 with 2 sets of spines on hind margin of 6th joint and palm less oblique ; (6) gnathopod 2 with 5th joint much longer than 6th, the latter with 2 sets of spines on hind margin and palm very narrow and slightly oblique ; (7) peræopods 3-5 with 2nd joint more linear, not markedly wide near the base and with more plumose setae ; and (8) telson without setae on lateral margins.

The new species is also related to *Atylus japonicus* Nagata (1961) in which mandibular palp is said by its author as broken but is probably absent as opined by Barnard (1970a), but in the latter species peduncle of antenna 1 is elongate and without a rounded process, inner plate of maxilla 1 has a cusp, gnathopods are slenderer, urosome segments 1 and 2 are not coalesced and the telson is longer.

The new species derives its specific name from the peculiar rounded process on 1st peduncular joint of antenna 1.

SUMMARY

A new amphipod, *Atylus (Kamehatylus) porcessicer* sp. nov. from the Gulf of Mannar has been described.

REFERENCES

- BARNARD, J. L. 1956. Two rare amphipods from California with notes on the genus *Atylus*. *Bull. S. Calif. Acad. Sci.*, 55 (1) : 35-43.
- . 1969. The families and genera of marine Gammaridean Amphipoda. *Bull. U.S. nat. Mus.*, 271 : 1-535.
- . 1970a. Sublittoral Gammaridea (Amphipoda) of the Hawaiian Islands. *Smiths. Contr. Zoology*, 34 : 1-286.
- . 1970b. The identity of *Dexamonica* and *Prinassus* with a revision of Dexaminidae (Amphipoda). *Crustaceana*, 19 (2) : 161-180.
- NAGATA, K. 1961. A new Atylid Amphipod from Japan. *Annot. zool. Jap.*, 34 : 216-218.