

Two new species of the family Galatheidæ from the
Tosa Bay, Japan
(Crustacea, Anomura)^{1, 2)}

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Munida pilorhyncha sp. nov.

(Figs. 1, 2)

Diagnosis. Carapace less than twice as long as broad including rostrum. Rostrum arched, its surface furnished with long setae. A row of eleven spines on gastric region, two of them behind supraorbital spines the largest. Other characters very allied to *Munida andamanica* Alcock.

Description of holotype. The rostrum is twice the length of the supraorbital spine, and is arched downwards. The dorsal surface of the rostrum is thickly furnished with long setae.

The carapace is less than twice as long as broad including rostrum, and armed with seven spines on the lateral margin, two of them are in front of the cervical groove and the others behind it. A transverse row of eleven spines is on the gastric region, of which the two spines behind the supraorbital spines are the largest, but one of them is not seen on the left for being crushed. There is a pair of spines outside and behind the transverse row of gastric spines. Two pairs of spines are also behind the bifurcation of the cervical groove.

The second abdominal segment carries eight spines on the anterior transverse stria.

The basal segment of the antennular peduncle is elongated; it is furnished with a spine on the inner distal margin, and with three spines on the outer margin, the median of which is the largest. The anterior prolongation of the first segment of the antenna is short and

¹⁾ Contributions from the Zoological Laboratory, Faculty of Agriculture, Kyushu University, No. 343.

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directs towards the elongation of the antennal peduncle; the second segment is armed with a short spine on the upper distal margin and a long strong one on the lower distal margin; the third segment without spine.

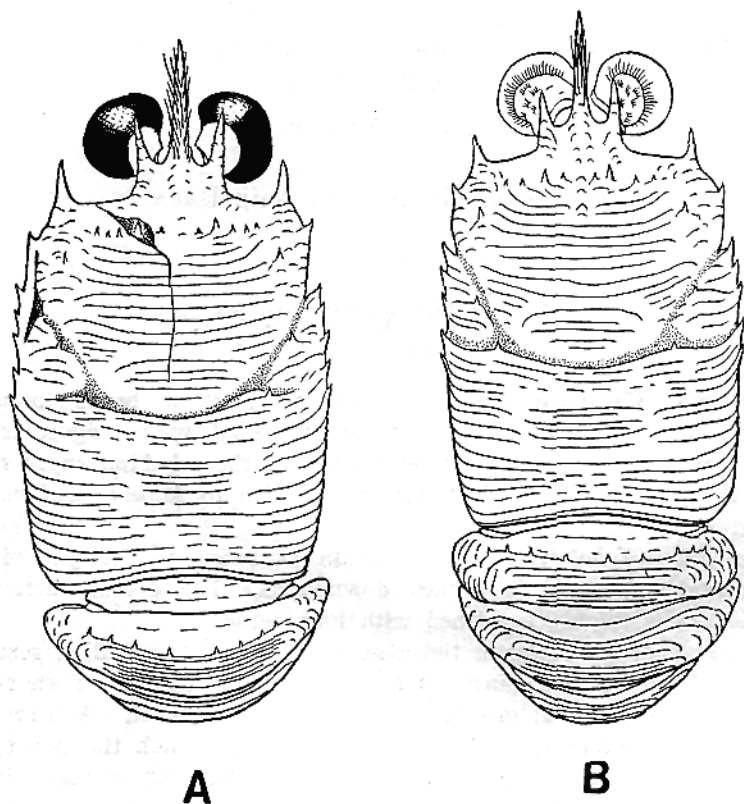


Fig. 1. *Munida pilorhyncha* sp. nov., in dorsal view. A. holotype, male, $\times 2.6$; B. allotype, female, $\times 2.5$.

The ischium of the third maxilliped is as long as the merus; it has about 25 closely placed denticles on the inner toothed ridge; the merus bears two spines on the inner margin, but lacks spines on the outer margin.

Chelipeds are thickly furnished with fine setae, and are spinose on the dorsal surface; the movable finger is one half the length of the palm, and longer than the wrist; the movable finger carries a rather large spine on its outer proximal margin; the palm is three times as long as broad; four spines on the outer margin of the wrist are prominent.

Ambulatory legs are furnished with plumose setae on the lateral margins of the merus, carpus and proximal half of the propodus. In

the first ambulatory leg the merus has ten spines on the outer and seven on the inner margin; the carpus is armed with three spines on

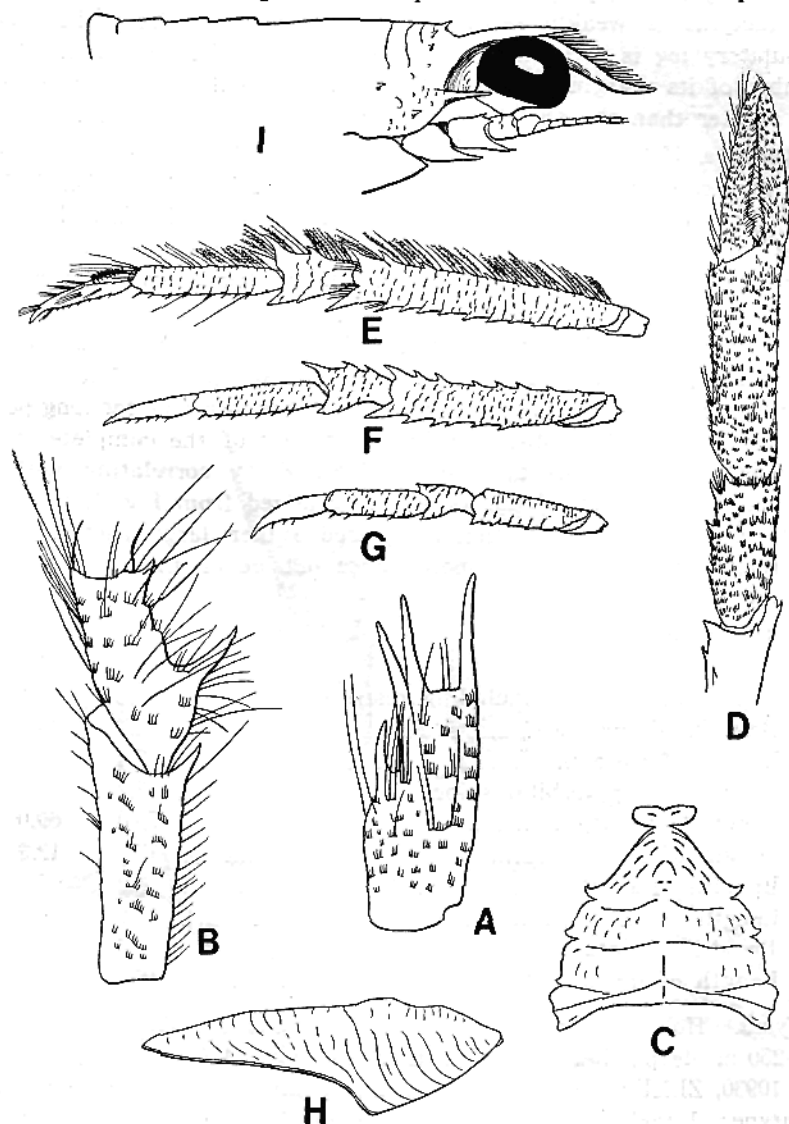


Fig. 2. *Munida pitorhyncha* sp. nov., holotype.

A. basal segment of right antennule, $\times 7$; B. endopod of right third maxilliped, $\times 7$; C. sternal segments, $\times 3$; D. right cheliped, $\times 15$; E. left first ambulatory leg, $\times 2$; F. left second ambulatory leg, $\times 2$; G. left third ambulatory leg, $\times 2$; H. right pterygostomial flap, $\times 3$; I. lateral view of carapace, $\times 3$.

the outer margin; its inner distal angle extends to form a spine; the inner margin of the propodus is equipped with seven conical long spines; the dactylus is weakly serrated on the inner margin. The second ambulatory leg is very similar to the first, with the exception of the number of its marginal spines. The third ambulatory leg is smaller and shorter than the anterior two, and its armature is weak.

Remarks. This species is very allied to *M. andamanica* Alcock¹⁾ and *M. heteracantha* Ortmann,²⁾ but it is easily distinguished from them by the following respects. (1) The rostrum is furnished with setae on the dorsal surface and is arched in lateral view. (2) The inner margin of the merus of the ambulatory leg is armed with large spines.

A specimen, of which the gastric and left anterior branchial regions are crushed, is selected as the holotype for the reason that it bears complete appendages and has strong constitution bearable for long period of preservation, while other specimens are out of the complete status. The destroyed portions are well understood by correlating with the allotype specimen, in which, as will be realized from Fig. 1, a pair of small spines is placed between the paired rather large gastric spines and furthermore a pair of small spines outside of the large pair is wanting.

Measurements (in mm):

	Holotype	Allotype
Length of carapace including rostrum	27.5	26.0
Breadth of carapace	15.4	14.9
Length of rostrum	7.4	7.0
Length of supraorbital spine	3.7	3.0
Length of cheliped	79.0	69.0
Length of wrist	13.1	12.3
Breadth of wrist	6.2	5.8
Length of palm	19.8	19.8
Breadth of palm	6.6	5.3
Length of movable finger	16.2	12.3

Types. Holotype, male, Cat. No. 8988, ZLKU; Tosa Bay, Japan, 200-250 m deep; Jan. 21, 1963; K. Sakai leg. Allotype, female, Cat. No. 10930, ZLKU; Tosa Bay, 250 m deep; Jan. 10, 1961; K. Sakai leg. Paratype: 1 male, Cat. No. 10931, ZLKU; Tosa Bay, 250 m deep; Jan. 10, 1961; K. Sakai leg.

¹⁾ Alcock, A. 1894. Ann. Mag. Nat. Hist., ser. 6, vol. 13, p. 321.

²⁾ Ortmann, A. 1892. Zool. Jahrb., Syst., vol. 6, p. 255, pl. 11, fig. 12.

Munidopsis latimana sp. nov.

(Figs. 3, 4)

Diagnosis. Rostrum flat and triangular. Carapace furnished with fine setae and without spines on upper surface; lateral margin with eight spines. Legs rather short. Cheliped strongly depressed, palm very broad.

Description of holotype. The rostrum is longer than broad, and triangular; the lateral margin smooth. A large protuberance forms an external orbital angle. The carapace is longer than broad, exclusive of the rostrum; the upper surface is thickly furnished with fine

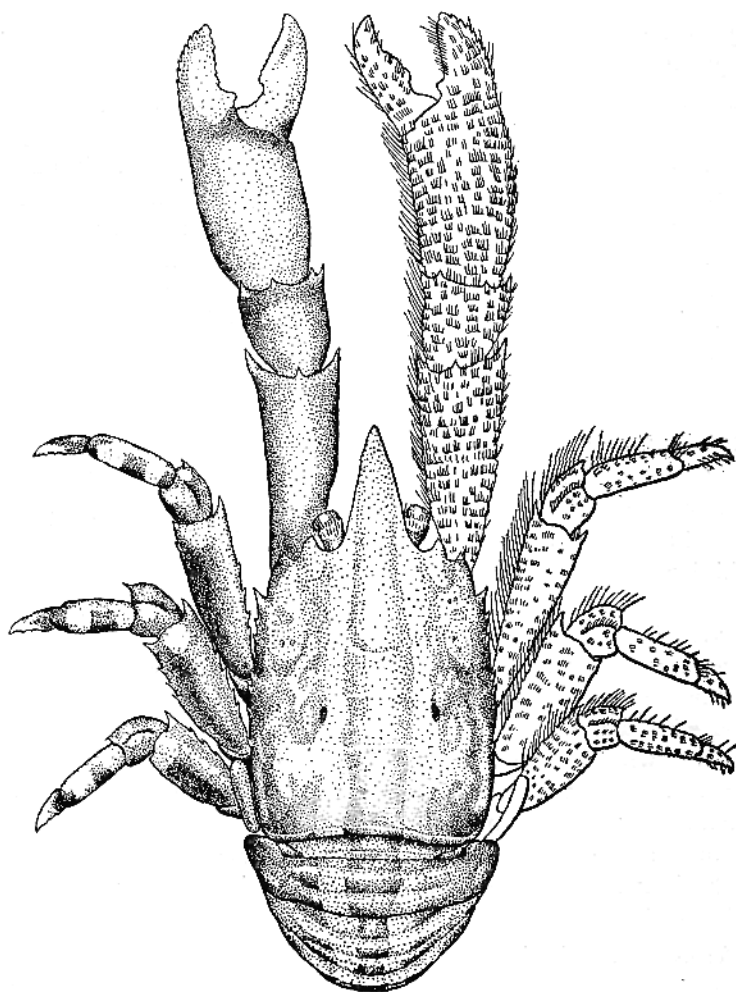


Fig. 3. *Munidopsis latimana* sp. nov., holotype, male, in dorsal view, $\times 2.5$.

setae, but without spines. The lateral margin of the carapace is armed with eight spines. The eye-stalk is equipped with a fringe of fine setae.

Each of the abdominal segments forms two transverse angles on the dorsal surface.

The basal segment of the antennule carries two spines on the outer distal margin. The first segment of the antenna lacks spines; the second segment bears a blunt spine on the lower distal margin; the third segment without spines.

The ischium of the third maxilliped is shorter than the merus, and its inner toothed ridge has 16 closely placed denticles; the merus is armed with three inner marginal spines of equal size, and with an outer distal marginal spine.

The chelipeds are thickly furnished with fine setae; the movable finger is slightly shorter than the palm; the cutting margin with rather large tubercles; the immovable finger bears a large but not sharp tubercle on the proximal margin of the cutting edge, and also carries teeth on the distal half of the outer margin; the palm is broad, and two-thirds as long as broad; the palm has no spines on both margins and on the surface; the anterior margin of the wrist which articulates with the palm carries four spines; the arm has an outer distal marginal and an inner distal marginal spine, and also bears a single spine on the distal upper margin.

Ambulatory legs are thickly furnished with fine setae; the merus of the first ambulatory leg bears five spines on the outer margin, the distal of which is the largest; the inner margin of the same is spined at its distal end; the carpus with a spine on the outer distal margin; the dactylus is armed with unguiculi on the inner margin; the second and third ambulatory legs are very similar to the first, but the merus of the second has four spines on the inner margin.

Colour. In five per cent of formalin, this species is yellow on all over the surface. On the carapace and abdomen two rows of white strips run longitudinally. The upper surface of the carapace is complicated with white. Chelipeds are yellow orange, and are particularly emphasized with orange red at the distal portion of each joint excepting fingers. In the ambulatory legs the merus has a white speck on the distal part of the upper surface; the propodus bears two white bands and two orange yellow bands; the dactylus is white at the distal half and orange yellow at the proximal half; the eyes are brownish yellow.

Measurements in holotype (in mm):

Length of carapace including rostrum	21.5
Breadth of carapace.....	13.1

Length of rostrum	7.1
Length of cheliped	37.4
Length of wrist	5.0
Breadth of wrist	4.7
Length of palm.....	8.5
Breadth of palm	5.3
Length of movable finger	7.5

Remarks. This species bears some resemblances in the armature of the carapace and legs to *Munidopsis laevigatus* (Henderson),¹⁾ but it is distinguished from the latter by the following respects. (1) The lateral margin of the carapace is armed with seven teeth, but the same of *M. laevigatus* with two. (2) The merus of the third maxilliped has

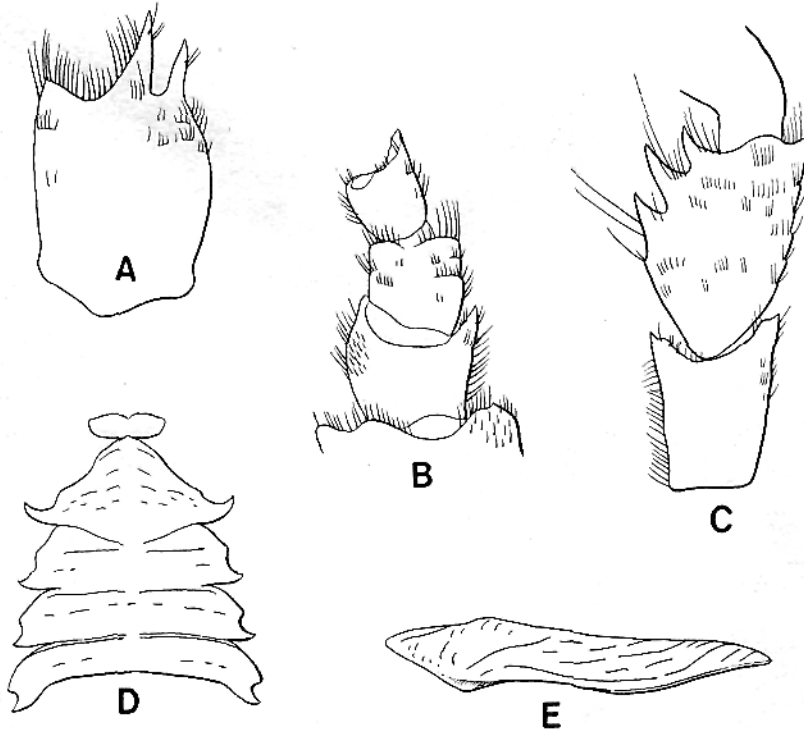


Fig. 4. *Munidopsis latimana* sp. nov., holotype.

A. basal segment of left antennule, $\times 13$; B. right antennal peduncle, $\times 9$; C. endopod of left third maxilliped, $\times 13$; D. sternal segments, $\times 4$; E. left pterygostomial flap, $\times 4$.

¹⁾ Henderson, J. R. 1885. Ann. Mag. Nat. Hist., ser. 5, vol. 16, p. 417.—1888. Report on the scientific results of the H. M. S. Challenger, Zool., vol. 27, p. 164, pl. 18, fig. 3.

three spines of equal size on the outer margin, but the same of *M. laevigatus* bears two spines.

Types. Holotype, male, Cat. No. 11041, ZLKU; Tosa Bay, 250-350 m deep; Mar. 17-24, 1964; K. Sakai leg. Paratypes: 2 ovig. females, Cat. No. 11042, ZLKU; Tosa Bay, 350 m deep; Apr. 1962; K. Sakai leg. 2 males, 8 ovig. females, Cat. No. 11045, ZLKU; Tosa Bay, 250 m deep; Jan. 16-Feb. 14, 1963; K. Sakai leg. 1 male, 1 female, Cat. No. 6014, ZLKU; Tosa Bay; Nov. 25, 1941; S. Ishikawa leg. 2 males, Cat. No. 7449, ZLKU; off Mimase, Tosa Bay; Dec. 24, 1959; K. Sakai leg. 1 male, 1 ovig. female, Cat. No. 7560, ZLKU; off Tosa-Shimizu, Tosa Bay; Mar. 24, 1940; K. Kurohara leg. 1 male, Cat. No. 7535, ZLKU; off Mimase, Tosa Bay, Feb. 29, 1960; K. Sakai leg.