

***Galathea maculiabdominalis* sp. nov., a New Galatheid from
the Ryukyu Islands (Crustacea, Anomura, Galatheidae)**

By

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A new species of the anomuran Crustacea, *Galathea maculiabdominalis*, was taken from the coral reef of the Ryukyu Islands. It is closely related to *Galathea formosa* De Man, 1902, but differs from this in colouration, and having longer rostrum and indistinct cervical groove.

From the Ryukyu Islands including the Amami Group 9 species of the genus *Galathea* have been recorded so far (STIMPSON, 1858; 1907; MIYAKE, 1953; MIYAKE & BABA, 1966). All of these known species are taken from crevices of reef rocks or among branching corals, and most of them are known to have a wide distribution in the Indo-West Pacific. The further addition represents here a new species, *Galathea maculiabdominalis* sp. nov., which is based upon only three specimens collected among branching corals in a small bay of Ishigaki-jima, one of the Ryukyus.

Type specimens are deposited in the Biological Laboratory, Faculty of Education, Kumamoto University.

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***Galathea maculiabdominalis* sp. nov.**

(Fig. 1)

Material. Kabira, Ishigaki-jima, Ryukyu Is., 10 m deep, Feb. 19, 1971, S. SHOKITA & K. BABA leg. — 1 ovig. ♀ (holotype), 1 ♀ (paratype), 1 sp. (paratype).

Description of holotype. Rostrum broad, but slightly longer, flat, with 4 lateral teeth; basal small; all acute, slightly curving inwards. Dorsal surface with short setae. Carapace smooth dorsally; transverse ridges weak, their posterior edges with fine setae; median transverse ridge complete, and moderately developed; cervical groove indistinct; first stria roundly protruded anteriorly, without gastric spines; second stria complete, its median part also projecting forwards roundly; a single spine present on either side of it.

Lateral spines prominent; two spines on anterior branchial region, three on posterior branchial region; anterolateral spine large. Outer orbital angle rounded; orbit deep; its inferior margin with a produced spinule.

Abdomen not hairy; second segment with an anteriorly placed ridge distinct; other portion smooth without distinct median transverse ridge, but few setae arranged on ordinary site of transverse ridge. Third to fifth segments each with an anterior stria only.

Basal antennular segment stocky, with three terminal spines; outermost largest, reaching to tip of anteriormost of rostral lateral teeth; coarse setae developed on outside of outermost terminal spine. Basal segment of antennal peduncle strongly projecting forwards; second segment with distal marginal spines; third segment without any spines.

Endopod of third maxilliped extended beyond rostral tip; ischium as long as merus, triangular in cross section; inner toothed ridge with 28 closely placed denticles; two

spinules present at inner terminal margin; merus widest at middle; inner margin with two moderately developed spines, one on its middle and other between median spine and distal end; outer margin smooth, its distal angle spinulated; carpus smooth, without any spines.

Chelipeds stout, subequal in length, and exceeded beyond rostrum by 1.5 times the length of carapace; strong spines and coarse non-plumose setae distributed over surface as in accompanying figure; palm longer than wrist, laterally spinose but dorsally having no distinct spines; fingers gaping weakly and slightly shorter than palm; each of cutting edges with an eminent projection at proximal third; tips not pointed but rounded and fitted each other with four small rounded teeth; movable finger with two spinules extero proximally.

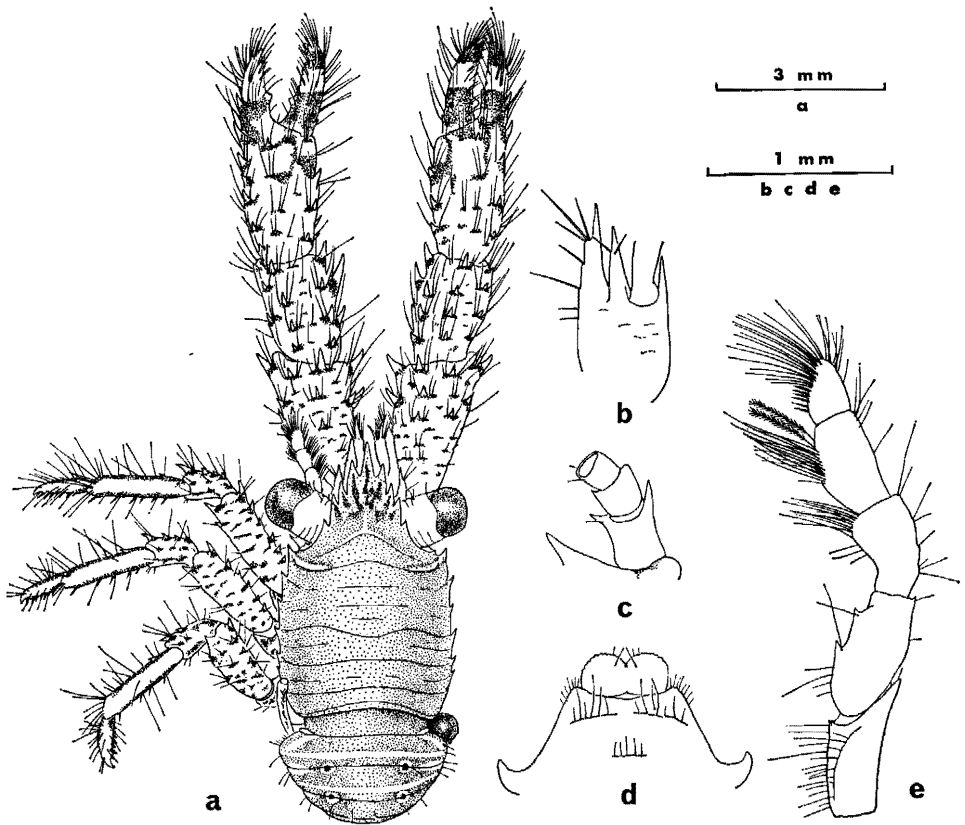


Fig. 1. *Galathea maculiabdominalis* sp. nov., holotype, a, animal in dorsal view; b, basal segment of antennule; c, antennal peduncle; d, anterior part of sternal segments; e, endopod of third maxilliped.

Walking legs stout with coarse setae; merus of first leg 3 times as long as broad, with 7 outer (anterior) marginal spines on its whole length, and with two inner (posterior) marginal spines distally placed; four outer marginal spines present on carpus; propodus slightly shorter than merus, with a stout outer marginal spine at proximal fourth and 6 mobile spines on inner margin; dactylus moderately stout, more than half the length of propodus; about 7 movable spines or bristles arranged on inner serrated margin; distal part of the serration most prominent and proximal part obscure. Second walking leg

similar in size to first; merus with 6 outer marginal and one inner marginal terminal spines; carpus and dactylus as in preceding legs; propodal inner marginal spines decreasing to 5. Third leg smaller than preceding two legs; outer margin of merus with only a distal spine; slightly dorsal to outer margin is present a row of 4 small spines; outer marginal spines on carpus numbering 2; other portions similar to those of first and second legs.

Sternal segments normal; anterior margin roundly produced forwards in two lobes, with a row of tubercles; sternite of cheliped with a long transverse ridge anteriorly placed, which is broken at middle, and followed behind by a short ridge; both ridges with distinct setae.

Epipods absent from all pereopods.

Colour in life. Carapace purplish, with white lines running along main part of anterior first transverse ridge and each lateral 1/3 of second transverse ridge. Rostrum purplish with blue ground colour. Abdomen light purple; brownish purple spots present as pairs each between second and third, third and fourth, fourth and fifth, and fifth and sixth abdominal segments, and also present as a single on anterior median portion of telson. A white line running on ordinary site of median transverse ridge of each of second to fourth abdominal segments.

Chelipeds and walking legs brownish with blue ground colour. Distal third of fingers orange and proximal third purple; anterior part of palm light brown with dark purple stains. Distal portion of merus of walking leg reddish orange; propodus purplish marginally, and light brown medially; dactylus orange internally.

Measurements (in mm).

	holotype (ovig. ♀)	paratype (♀)	paratype (young)
Length of carapace	4.7	5.2	2.0
Breadth of carapace	3.0	3.2	1.2
Length of cheliped	9.6	9.6	3.4
Length of palm	2.2	2.0	0.6
Breadth of palm	1.4	1.1	0.4
Length of movable finger	1.8	1.8	0.5
Diameter of ovum	0.6	—	—

Ecology. The animals were collected among a branching coral, *Acropora* sp. obtained by a gill net from a depth of 10 m, where is the deep of the small bay. Another species of this genus, *Galathea subsquamata* STIMPSON, was also taken associated with the same coral.

Remarks. Among three specimens examined, some minor variations were observed. The smaller paratype is not separable in sex, distinctly being in the younger stage; eyes are comparatively large, extending laterally beyond the level of the lateral margin of the carapace; the carapace is weak in striation, with 6 lateral marginal spines, but without the spine on the extremity of the second transverse ridge. The merus of the third maxilliped has the outer margin completely smooth in the young paratype; likewise it bears the outer margin with a terminal spine in the holotype, whereas that in the female paratype is bispinose. The chelipeds are similar one another in all the types; but those of the younger paratype have the comparatively large spines; especially the one that is placed dorsally on the palm just at the base of the fingers is the stouter.

In the walking legs the propodus of the younger paratype has no spine on the anterior proximal margin; the dactylus of the same specimen has 3 or 4 mobile bristles or spines.

In colour pattern the larger paratype bears the abdomen with an additional purplish spot on the left side to the normal pair of spots between fourth and fifth segments.

Relationships. This species is closely related to *Galathea formosa* De MAN, 1902, which has only originally been known from Ternate, Malay Archipelago. De MAN's specimen is ovigerous and has the same condition to the present holotype as in sex and size. The differences between these are given below.

	<i>G. formosa</i>	<i>G. maculiabdominalis</i>
Colour	carapace and abdomen reddish above, with a longitudinal stripe of white dorsally	carapace and abdomen purplish; abdomen with 4 pairs of brownish purple spots
Rostrum	broader than long	longer than broad
Cervical groove	distinct	indistinct
Third maxilliped	ischium without inner distal marginal spine	ischium with two spinules on inner distal margin
Walking leg	carpus with a row of 2 or 3 small spines on dorsal surface	carpus without spines on dorsal surface

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