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Coralliogalathea, A New Genus of Galatheidae (Crustacea, Anomura), with Further Notes on its Type-Species

With 1 Text-figure

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ABSTRACT A new genus of the Crustacea Galatheidae, *Coralliogalathea*, is established for *Galathea humilis* Nobili, 1905. It is distinct from the allied genus *Galathea* in having 1) the first pleopod of male absent, 2) the rostrum with three lateral teeth on each side, 3) the third thoracic sternite anteriorly produced like a betal leaf, and 4) the second segment of antenna unarmed at the inner distal margin.

The large genus *Galathea* of the anomuran Crustacea is revised in the previous papers (Baba, 1969, 1971), in which are established five new genera, *Liogalathea, Allogalathea, Phylladiorhynchus, Sadayoshia* and *Lauriea*. At the time of those publications, another aberrant group represented by *Galathea humilis* Nobili was considered to form a different genus, though any specimen of this species was not available. In the meantime several specimens of the anomuran have come to the present authors' hands together with further informations on ecology and colour. On close examination it was confirmed that this aberrant form should be placed in another new genus, here proposed as *Coralliogalathea* gen. nov.

Coralliogalathea gen. nov.

Diagnosis. Rostrum broad at base, with three lateral teeth of small size. Outer orbital angle pyramidal. Abdominal segments smooth without dorsal spines. Tail fan moderately developed; endopod normal. Eyestalk short, distally not swollen.

Thoracic sternite bearing third maxillipeds anteriorly produced like a betal leaf.

Antennular basal segment globular, more or less depressed, with three distal spines. Basal segment of antennal peduncle with an inner distal marginal spine developed; second segment unarmed at inner distal margin, armed with a distinct spine at outer distal margin. Third maxilliped not so well developed; merus triangular in cross section with a normal row of denticles on inner cutting edge.

First pleopod of male absent.

Type-species. *Galathea humilis* Nobili, 1905.

Remarks. The rostrum with three lateral teeth is the basic character of this new genus. As will be realized from the previous paper (Baba, 1969), this character is not found in any other genera formerly gathered under the name of *Galathea* (s. lat.), i.e. *Galathea* (s. str.) and *Lauriea* both with four rostral lateral teeth, *Liogalathea* with unarmed rostrum, *Allogalathea* with more than 7 rostral lateral teeth, and *Phylladiorhynchus* with leaflet-like rostrum provided with a single lateral tooth at base.

Very remarkable of this form is the second antennal segment. All the other genera revised in the literature have the second segment armed with an outer and an inner distal marginal spine. In this genus the inner margin is not distally produced but smooth, which is quite distinct from the other genera. According to Miyake (1953) and Lewinsohn (1969), the segment concerned is smooth without any projection distally. However, an examination of both the Japanese and Madagascar materials shows that all the specimens have the second segment of the antennal peduncle armed with an outer distal marginal spine, which may have been overlooked by Miyake. For the Red Sea material, Dr. Lewinsohn has kindly taken the trouble of re-examination at our request, and informed us that as in the Japanese material his specimens possessed the outer distal marginal spine on the second segment.

The anteriorly produced sternal segment bearing the third maxilliped represents a betal-leaf-form, very characteristic of this genus.

The first pleopod in male is absent in this genus, as is known in *Lauriea* and *Allogalathea*, while in all the examined species of *Galathea* it is distinctly present. However, it should be taken into consideration in future studies of this group that the presence or absence of the first pleopod is variable in *Munida*. For instance, the first pleopod is present in most of the Japanese *Munida* species, but is perfectly absent in *M. scabra* Henderson, *M. pilossimanus* Baba, *M. incerta* Henderson, etc.

Coralliogalathea humilis (Nobili, 1905)

(Fig. 1)

Galathea humilis Nobili, 1905, p. 396; 1906, p. 124, pl. 8, fig. 8, 8a.——Riddell, 1911, p. 262.——Lewinsohn, 1969, p. 117, fig. 22.

Galathea megalochira Nobili, 1907, p. 376, pl. 1, figs. 12, 12a, 12b.

Galathea tridentirostris Miyake, 1953, p. 202, figs. 3, 4.

Material. Hirara, Miyako-jima, Ryukyu Is., July 22, 1966, T. Noto Coll. — 1 ♂, carapace length including rostrum (cl)=2.1 mm.

Kabira, Ishigaki-jima, Ryukyu Is., Feb. 17, 1968, Y. Nakasone Coll. — 1 ovig. ♀ (eyed), cl=2.8 mm.

Kabira, Ishigaki-jima, Ryukyu Is., July 7, 1969, T. Fujino Coll. — 1 ovig. ♀ (eyed), cl=2.7 mm.

Kabira, Ishigaki-jima, Ryukyu Is., Feb. 21, 1970, K. Baba Coll. — 1 ♂, cl=2.9 mm.

Tulear, Madagascar. — 3 ♂♂, cl=3.0–2.0 mm, 2 ovig. ♀♀, cl=3.0–2.5 mm, 2 ♀♀, cl=2.0–1.5 mm.

Colour. According to field observations made in Ishigaki-jima of the Ryukyus, the animal is whitish when alive. On the other hand, the followings were observed in the Miyako-jima material. After two months in five percent solution of formalin the rostrum is of a light orange and the carapace a light blue. The abdomen is the same to the carapace, with two brown blotches laterally placed on each of the second to fourth segments.

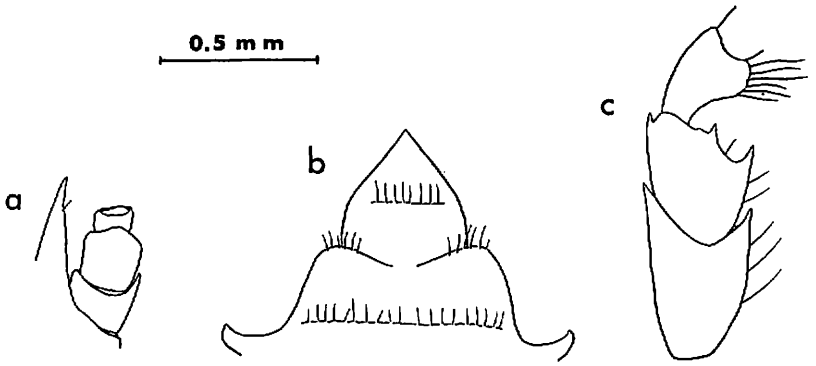

Fig. 1. *Coralliogalathea humilis* (Nobili); a, right antennal peduncle; b, anterior part of sternal segments; c, endopod of right third maxilliped.

Ecology. As has been reported previously, this species is usually found on the coral reef. Lewinsohn (1969) mentioned under the heading of ecological remarks that a few New Guinean specimens in the collection of the Rijksmuseum van Natuurlijke Historie, Leiden, have the label, "originated from *Seriatopora* sp. and *Pocillopora* sp." Of the present materials, one of the Ryukyu specimens, collected in Miyako-jima, was obtained together with allied animals, *Galathea affinis* and *G. platycheles*. All the others from the Ryukyus have been taken from the basal portion of a certain species of *Seriatopora*. The coral is brownish, but the basal portion from which the galatheids were found is whitish. The galatheids attach on its surface and move very slowly so that it is considerably difficult to find them there.

Remarks. Additional notes are provided herewith for specific characters. The pterygostomian flap has a stout spine near the pleural suture, as seen in *Galathea affinis* Ortmann very common on the coral reefs. Most of the specimens have the sternum bearing the third maxillipeds represented by a betal-leaf-form as illustrated in Fig. 1, b, while a male and a female from Madagascar have the maxillipeds similar in shape to those shown by Miyake. Of the four specimens from the Ryukyus three have the betal-leaf-formed sternal segment with biramously dentate tip.

As illustrated by Miyake (1953) and Lewinsohn (1969), most of the specimens examined have the inner meral margin of the third maxilliped armed with a single spine. Different from those are two ovigerous females from Madagascar which possess two spines, as illustrated in Fig. 1, c.

Distribution. Refer to Lewinsohn (1969) for summarized records. Madagascar specimens in this paper extend the known range further south.

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