

With the Compliments of ^{exam}
S. Miyake

S. MIYAKE and K. BABA

Two new species of *Galathea* from Japan and
the East China Sea

Reprinted from the Journal of the Faculty of Agriculture,
Kyushu University, Vol. 13, No. 1, March 30, 1964

Two new species of *Galathea* from Japan
and the East China Sea
(Crustacea, Anomura)*

Sadayoshi MIYAKE and Keiji BABA

The recent studies will reveal two new species of *Galathea*, one of them from the East China Sea, and the other from the northern part of Kyushu. The material from the East China Sea agrees well with *G. australiensis* described by Balss (1913), however, we think that it belongs not to the true species of *G. australiensis* but to another species. All the specimens are deposited in the collection of the Zoological Laboratory, Faculty of Agriculture, Kyushu University. We wish to express our thanks to Mr. Hideo Yamashita of the Seikai Regional Fisheries Research Laboratory, and to Mr. Yoshinori Motomatsu, a primary school teacher in Ohshima, Fukuoka Pref., for their kindness to send us the materials.

Galathea balssi sp. nov.

(Figs. 1-2)

Galathea australiensis: Balss, 1913, p. 13, fig. 13.

Description. The carapace about as long as broad, exclusive of the rostrum. The number and arrangement of the transverse ridges as represented in Fig. 1. Two spines on the first stria on gastric region. Behind it there are two spines laterally on the second transverse stria. The rostrum about twice as long as broad, armed on each side with four teeth, of which the fourth is rather large. The upper surface sparsely furnished with fine setae. The outer orbital angle spinulated and directed outwards. Behind this are six spines or teeth, of which the first and fourth are larger. No spines behind the insertion of the antenna.

* Contributions from the Zoological Laboratory, Faculty of Agriculture, Kyushu University, No. 328.

The basal joint of the antennule bears three spines on the distal margin, one of which terminates midway between two anterior rostral teeth. The armature of the basal joints of the antenna is similar to that of other common species. The ischium of the third maxilliped about as long as the merus, and has an inner spine at the distal end. The merus has two spines on the inner margin, distal one is small, and also two spines on the outer margin. The outer margin of the carpus non spinose but protuberant. The ischium of the third max-

illiped has about 23 closely placed denticles on the inner toothed ridge. The anterior sternal segments as represented in Fig. 2, D.

The right cheliped as represented in Fig. 2, E. The left one strongly gapped. The movable finger and wrist subequal in length. The upper surface of the palm less spinulated. The first to third ambulatory legs as represented in Fig. 2, F-H. They have no plumose setae but long normal one. No second row of spines to the outer side of the marginal carpal row.

Remarks. The sufficient data whether the Balss's species was identical with *G. australiensis* Stimpson have not been investigated. Melin (1939) stated that the Balss's description was not identical with and differed in the shape of the rostrum from *G. australiensis*. This specimen agrees with the Balss's figure, and differs clearly from *G. australiensis*. At first in this specimen the outer orbital angle is not pyramid-like as that which Melin has precisely described for *G. australiensis* from Bonin Islands (=Ogasawara Islands). This specimen has only two spinules on the second transverse stria, but

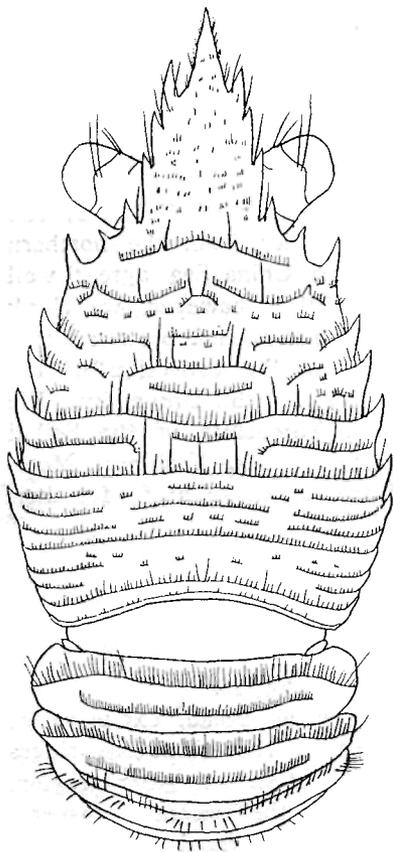


Fig. 1. *Galathea balssi* sp. nov.
Holotype (♂) from the East China
Sea, $\times 8$.

G. australiensis has usually four spinules which proved on examination to be almost always non variable. That the carapace and legs in *G. australiensis* are furnished with plumose setae to which Stimpson has not referred in his original description, is clear in Melin's figure and also

in our specimens from Okinawa Island, Ryukyus (unpublished), and it seems to be an important character. On the other hand, this specimen has no plumose setae, in addition, has no bundle of setae on the anterior part of the carapace with which *G. australiensis* is usually furnished. *G. australiensis* has, as usual, two equal large spines on the inner margin of the merus of the third maxilliped,

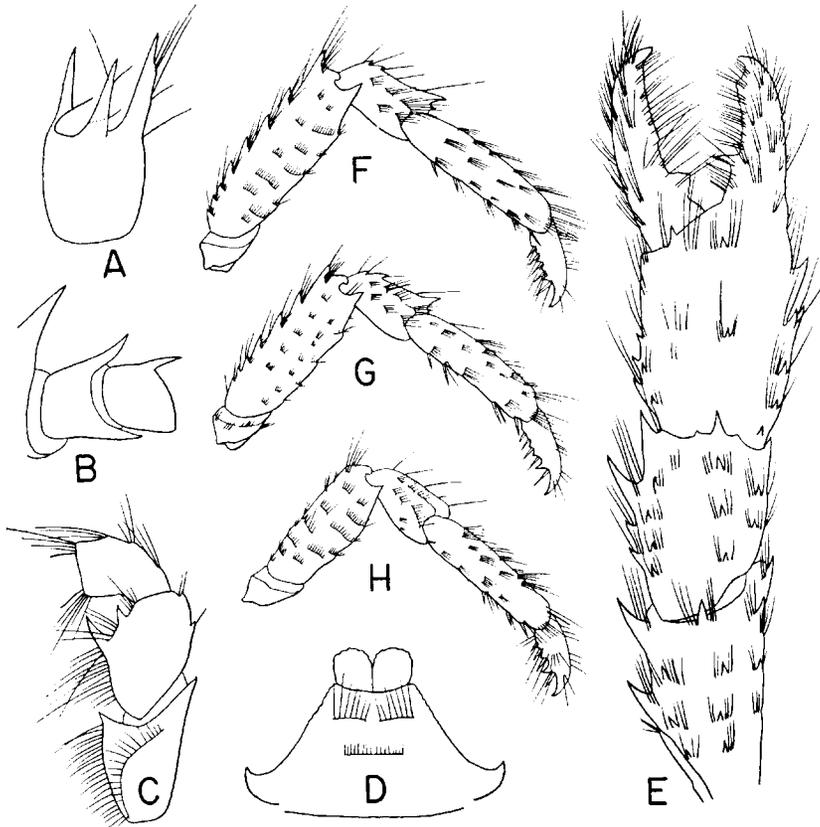


Fig. 2. *Galathea balssi* sp. nov.

A: first joint of left antennule, $\times 14$, B: basal joints of left antenna, $\times 14$, C: endopodite of left third maxilliped, $\times 11$, D: anterior part of sternal segments, $\times 11$, E: right cheliped, $\times 6$, F: right first ambulatory leg, $\times 6$, G: right second ambulatory leg, $\times 6$, H: right third ambulatory leg, $\times 6$.

however, one of them in this specimen is small, and moreover, the outer margin of the merus is two-spinulated. This specimen has no second row of spines to the outer side of the marginal carpal row with which the other species of this genus are usually armed.

There is another question to be noted that Melin made the following suggestion: "Vielleicht ist die von Balss als *G. australiensis* abgebildete Form mit *G. longimana* Paulson identisch." However, this species may be distinguished from *G. longimana* Paulson by the number and arrangement of spines on the carapace, and by the length of joints of the third maxilliped.

Type. Holotype, male, Cat. No. 8513, Zoological Laboratory, Faculty of Agriculture, Kyushu University; from East China Sea (27° 01.2' N, 122° 56' E), sandy bottom, 120-122 m deep; Feb. 21, 1961; collected by Mr. H. Yamashita.

Dimensions in holotype (in mm):

Length of carapace including rostrum.....	9.55
Breadth of carapace	6.00
Length of rostrum	3.60
Breadth of rostrum	2.00
Length of cheliped	21.35
Length of wrist	3.25
Breadth of wrist.....	3.00
Length of palm	5.15
Breadth of palm.....	3.70
Length of movable finger	1.30
Breadth of movable finger	1.60

Galathea genkai sp. nov.

(Figs. 3-4)

Description. The carapace nearly as long as broad, the rostrum excluded. The striation of the carapace weak and sparsely provided with rather large setae among a row of fine setae. All the transverse ridges incomplete. On the hepatic region the striation is wavy and scale-like. Immediately behind the second transverse stria stand six strong setae. The arrangement of the transverse ridges as represented in Fig. 3. No spines on the gastric region which is not defined. Four spinules on the hepatic region. On the median transverse ridge lie two spinules laterally.

The rostrum about twice as long as broad, armed on each side with three short and broad teeth of subequal size and a small one at the base. The upper surface of the rostrum furnished with short setae. There is no tooth which forms the external angle of the orbit. Behind this the carapace armed with inconstant number of spines and teeth

on each side. The marginal spines and teeth of the carapace vary from dorsal to ventral in position so that they are not arranged in a longitudinal row of spines along the lateral margin. Behind the insertion of the antenna there is a rather small spine which is not seen from a dorsal view.

The form of the anterior sternal segments as represented in Fig. 4, D. The first joint of the antennular peduncles bears three spines directed forwards on the distal margin, one of which is setose and extends to the tip of the second rostral tooth. The second peduncle of the antenna is furnished with an outer distal and an inner distal spine, the third with an inner distal spine.

The ischium of the third maxilliped as long as the merus, armed at its inner distal angle with a small spine, and its outer distal angle well developed. The inner toothed ridge of the ischium armed with 10 closely placed denticles. The merus of the third maxilliped two-spined on each margin, spines sharp, elongated, and directed rather inwards.

The chelipeds subequal in length and very similar. The movable finger and wrist subequal in length and about two thirds the length of the palm. The movable finger about twice as long as broad. The upper surface of the palm and wrist spinose. The arm and wrist have a large and rather depressed spine on each inner distal angle.

The first and second ambulatory legs armed with a row of spines along the outer margins of the merus, carpus, and proximal half of the propodus. A second row of spines lies on the outer sides of the marginal meral, carpal and propodal rows. There are spines on the lower margins of the merus, propodus and dactylus. In the third ambulatory legs the armature is not so much emphasized but each joint except the merus is rather in evidence.

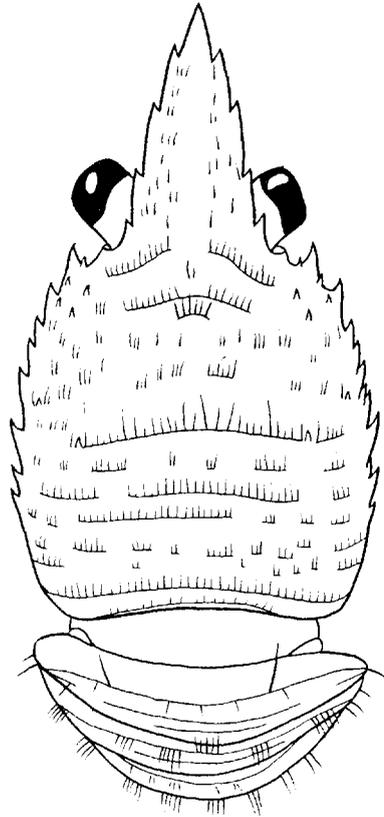


Fig. 3. *Galathea genkai* sp. nov.
Holotype (♀) from the Sea of Genkai, $\times 8$,

Remarks. This species is allied to *G. subsquamata* Stimpson in the arrangement of the transverse ridges on the carapace, but it is easily distinguished from the latter by the armature of the rostrum and by lacking gastric spines. The number and arrangement of lateral marginal spines and teeth on the carapace, and the armature of the marginal spines on the ischium and merus of the third maxilliped are remarkably different from other members of this genus.

Types. Holotype, female, Cat. No. 5336, Zool. Lab., Fac. Agr., Kyushu Univ.; off Ohshima, in the Sea of Genkai, the northern part of Kyushu (33° 45' N, 130° 25' E), sandy bottom, ca. 10 m deep; July 3, 1958; collected by Mr. Y. Motomatsu. Paratype: a female, Cat. No. 8041, Zool. Lab., Fac. Agr., Kyushu Univ.; from the same locality as

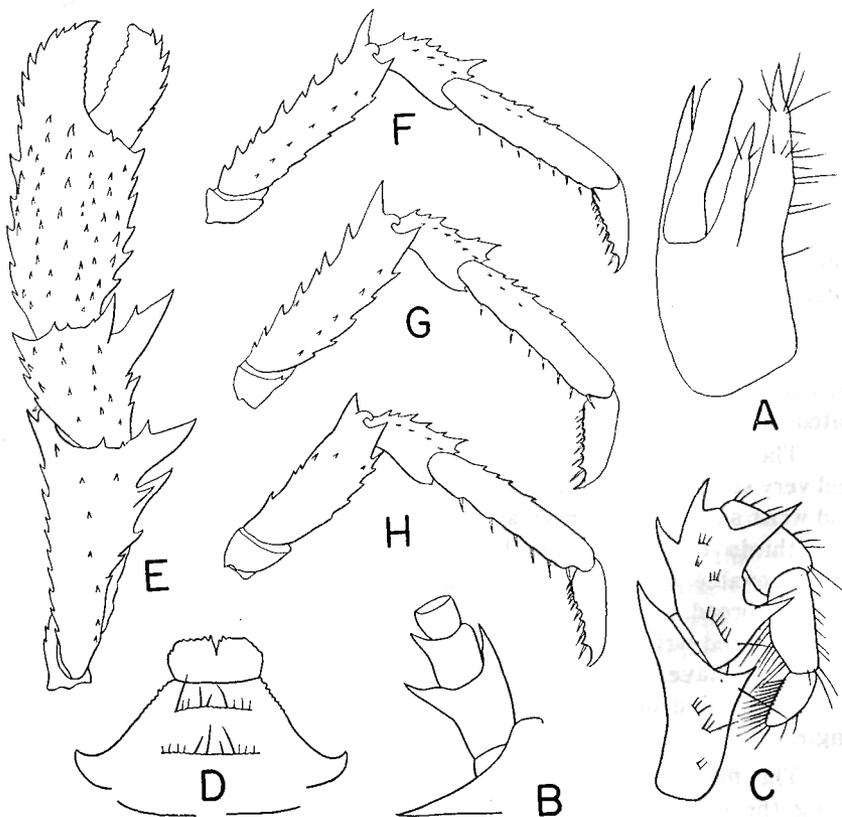


Fig. 4. *Galathea genkai* sp. nov.

A: first peduncle of left antennule, $\times 19$, B: basal joints of left antenna, $\times 18$, C: endopodite of right third maxilliped, $\times 16$, D: anterior part of sternal segments, $\times 14$, E: left cheliped, $\times 7$, F: right first ambulatory leg, $\times 7$, G: right second ambulatory leg, $\times 7$, H: right third ambulatory leg, $\times 7$.

in the holotype; Feb. 1958; collected by Mr. Y. Motomatsu.

Dimensions in holotype (in mm):

Length of carapace including rostrum	9.95
Breadth of carapace	5.65
Length of rostrum	3.50
Breadth of rostrum	2.00
Length of cheliped.....	15.90
Length of wrist	2.25
Breadth of wrist.....	1.65
Length of palm	4.10
Breadth of palm	2.25
Length of movable finger	2.50
Breadth of movable finger.....	1.00

REFERENCES

- Baiss, H. 1913. Ostasiatische Decapoden. I. Die Galatheiden und Paguriden. Abh. Math.-phys. Kl. K. Bayer. Akad. Wiss. München, suppl.-vol. 2, Abh. 9, p. 13, fig. 13.
1915. Die Decapoden des Roten Meeres. II. Anomuren, Dromiaceen und Oxystomen. Denkschr. Kaiserl. Akad. Wiss., Math.-naturw. Kl., Wien. vol. 92, pp. 2-3.
- Melin, G. 1939. Paguriden und Galatheiden von Prof. Dr. Sixten Bocks Expedition nach den Bonin-Inseln 1911. K. Svenska Vetensk.-akad. Handl. Stockholm, ser. 3, vol. 18, no. 2, pp. 56-63, figs. 32-35.
- Nobili, G. 1906. Faune carcinologique de la Mer Rouge. Décapodes et Stomatopodes. Ann. Sc. Nat. Zool., Paris, ser. 9, vol. 4, pp. 124-129.
- Stimpson, W. 1858. Prodröm descriptionis animalium evertibratorum,..... Pars 7. Crustacea Anomura. Proc. Acad. Nat. Sci., Philadelphia, vol. 10, p. 251 (89).
1907. Report on the Crustacea (Brachyura and Anomura) collected by the North Pacific Exploring Expedition, 1853-1856. Smiths. Misc. Coll., Washington, vol. 49, p. 230.