GALATHEIDS OBTAINED FROM ÔSHIMA, PROV. KII

SADAYOSHI MIYAKE (三宅貞祥)

Zoological Laboratory, Kyushu Imperial University, Fukuoka

ONE PLATE AND THREE TEXT-FIGURES

(Received Sept. 15, 1937)

The galatheids here dealt with were collected in July, 1937 at Ôshima, near Shio-no-misaki in Prov. Kii by the staff of the Seto Marine Biological Laboratory, of the Kyoto Imperial University, and forwarded to me for identification through the courtesy of Mr. Fujio Hiro, to whom I wish to express my hearty thanks. The collection has been found to contain three forms, two of which are commensals living with crinoids. I am greatly obliged to Prof. Hiroshi Ohshima who has kindly revised the manuscript.

1. *Galathea elegans* White

(Pl. 2, Figs. 1, A—C)

Galathea elegans White, List Crust. Brit. Mus., 1847, p. 66.
—— Adams and White, 1848, Pl. 12, fig. 7—Luzon; Borneo.
—— Balss, 1913, p. 4—Sagami Bay. Commensal with a crinoid.
—— Potts, 1915, p. 83, fig. 4, A and Pl. 1, fig. 5—Torres Straits. Commensal with *Comanthus annulatum*.

Habitat. Commensal with crinoids. Ôshima, Kii, Wakayama-Ken.

Material examined.

1 male, S.M.B.L. Cat. No. 23, IX, J; July 25, 1937.

1 ovig. female, S.M.B.L. Cat. No. 24, IX, J; July 25, 1937.

1 male, 1 ovig. female and 1 female, S.M.B.L. Cat. No. 26, IX, J; July 24, 1937.

1 female, S.M.B.L. Cat. No. 27, IX, J; July 24, 1937.

The materials of this series are all collected at Ôshima, Kii, Wakayama-Ken.

Remarks. Potts and Clark unite the *elegans* form with the *longirostris* Dana or *deflexifrons* Haswell. Potts gives the following

diagnosis:—"Rostrum rather more than half the length of the remainder of the carapace with from 5 to 9 small denticulations on each side; with about half the length; sometimes deflexed; carapace somewhat pear-shaped; about a dozen indentations on each side; surface transversed by many narrow horizontal furrows, from which spring thick lines of short fine hairs, through these may be absent or nearly so. The rostrum is covered with hairs rather longer than those on the carapace, arranged in distinct crescents posteriorly. Dorsum and limbs covered with dark pigment, but these are generally pigment-free longitudinal bands of variable width. Chelae long and slender, cylindrical in section, thicker in the male, varying in length in the latter. Often, if not always, commensal with crinoids."

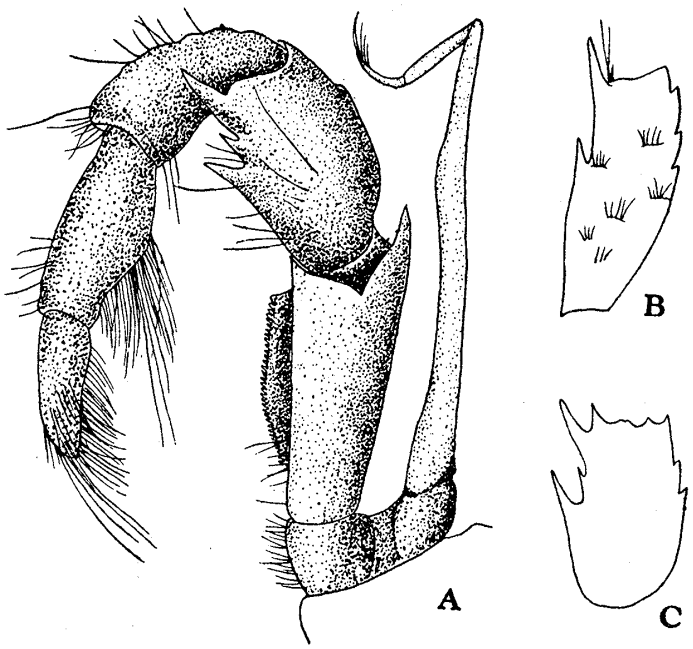


Fig. 1. *Galathea elegans.*

A. Outer maxilliped of No. 23, ×20.
B. Merus of outer maxilliped of No. 24, ×20.
C. The same of No. 26, ×20.

In our Ôshima specimens, I have observed so much variations in important characters, as are given in the following table. I cannot adopt with certainty the specific names already given, but all of these forms fall into Potts' diagnosis.

	No. 23	No. 24	No. 26			No. 27
Length of rostrum, in mm	5.5	4.1	5	4.5	4	4
Width of rostrum, in mm	3	3	2.3	2	1.8	1.9
Length of carapace, in mm (including rostrum)	11.3	10	11.2	9.5	9	8.4
Width of carapace, in mm	6	7	5.3	4.8	4.3	4
Number of rostral spines {Left	8	6	8	5	5	9
Number of rostral spines {Right	8	6	9	5	7	9
Number of lateral spines of carapace	8	8	8	8	9	9
Number of spines on inner margin of merus of outer maxilliped	3 Fig. 1, A	2 Fig. 1, B	2 as in No. 24	3 as in No. 23	4 Fig. 1, C	3 as in No. 23
Length of carapace / Width of carapace	1.88	1.45	2.08	1.98	2.09	2.1
Length of carapace / Length of rostrum	2.05	2.5	2.24	2.11	2.25	2.1

Coloration. Many forms of colour scheme are observed as shown in Plate.

No. 23: Blackish purple with narrow yellowish bands (Fig. C).

No. 24: Dark red uniformly (Fig. E).

No. 26: Alternate longitudinal stripes of blackish purple and yellow (Figs. A, B).

No. 27: Stripes broader than in No. 26, the lateral bands being blackish purple and central one yellowish (Fig. D).

2. *Galathea acanthomera* Stimpson

(Fig. 2, A—B)

Galathea acanthomera Stimpson, Proc. Acad. Nat. Sci. Philadelphia, 1860, p. 252—Futami, Ogasawara Islands.

Galathea orientalis Miers, 1879, p. 51—Corea Strait.

—— Ortmann, 1892, p. 252, Pl. 11, figs. 10_a and 10_i—Sagami Bay; Maizuru; Kagoshima.

—— Doflein, 1902, p. 644—Sagami Bay.

Galathea acanthomera de Man, 1907, p. 402, Pl. 31, figs. 14-15—Inland Sea.

—— Stimpson, 1907, p. 232—No new record.

—— Balss, 1913, p. 2, fig 1—Boshu; Uraga-Canal; Misaki; Zushi.

—— Yokoya, 1933, p. 55—Omaezaki; Shikoku; Tanabe; Atsumi; Iki Island; Tottori-Ken.

Habitat. Commensal with a crinoid.

Material examined.

Off Tonda, 100 m in depth; 1 female, S.M.B.L. Cat. No. 21; Apr. 13, 1937.

Tanabe Bay; 1 female, S.M.B.L. Cat. No. 21; Aug. 5, 1935.

Ôshima, 1 female, S.M.B.L. Cat. No. 21, July 25, 1937.

Ôshima, 1 male, S.M.B.L. Cat. No. 28, July 24, 1937.

Remarks. As far as I am aware, there is no record of occurrence of this species on crinoids. I may give the following diagnosis.

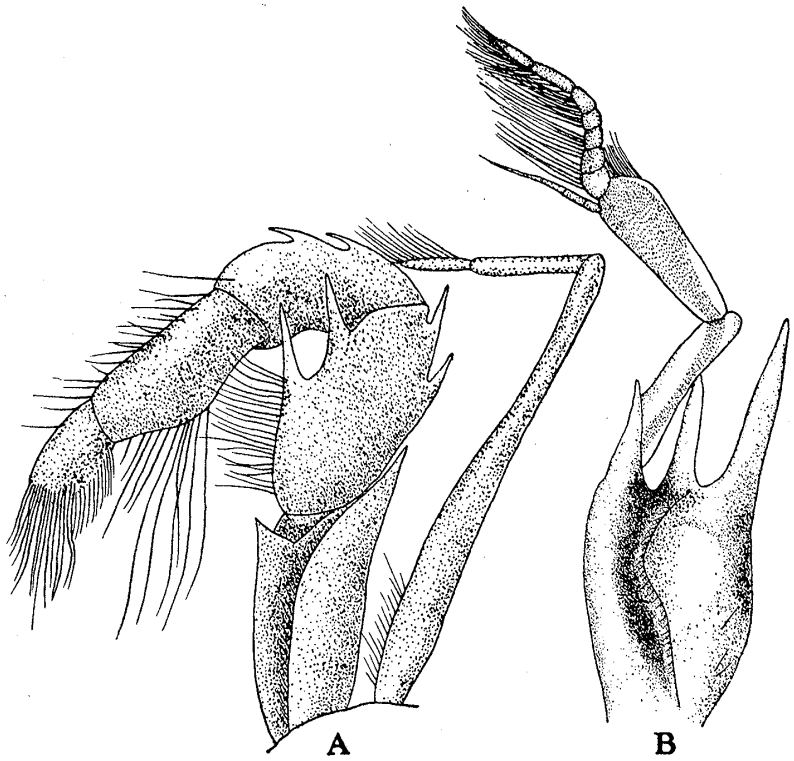


Fig. 2. *Galathea acanthomera.*
A. Outer maxilliped, ×20.
B. Antennule, ×28.

Rostrum with four acuminate teeth on each side. Basal tooth smaller than anterior three. Lateral borders of carapace armed with eight spines. The first three spines are in front of the cervical groove. Behind it lateral border carries five other spines. Upper surface of carapace smooth. Gastric region ornamented with two spines. Outer margin of ischium of external maxilliped is terminating in an acute spine. Merus armed with two spines which are larger than those of outer margin. Outer margin of carpus with two spines, except one specimen which has three. Chelipeds subequal. Dactylus has no spine. Often found incidentally on crinoids.

3. *Galathea subsquamata* Stimpson

(Fig. 3, A—B)

Galathea subsquamata Stimpson, 1907, p. 233—Amami-Ôshima.
—— Henderson, 1888, p. 118, Pl. 12, fig. 4—Philippines.
—— Yokoya, 1933, p. 58—Inubo-zaki.

Habitat. Collected on massive coral, 6 m in depth. Ôshima, Kii, Wakayama-Ken.

Material examined. Ôshima, Kii, Wakayama-Ken; 1 ovig. female; S.M.B.L. Cat. No. 25; July 25, 1937.

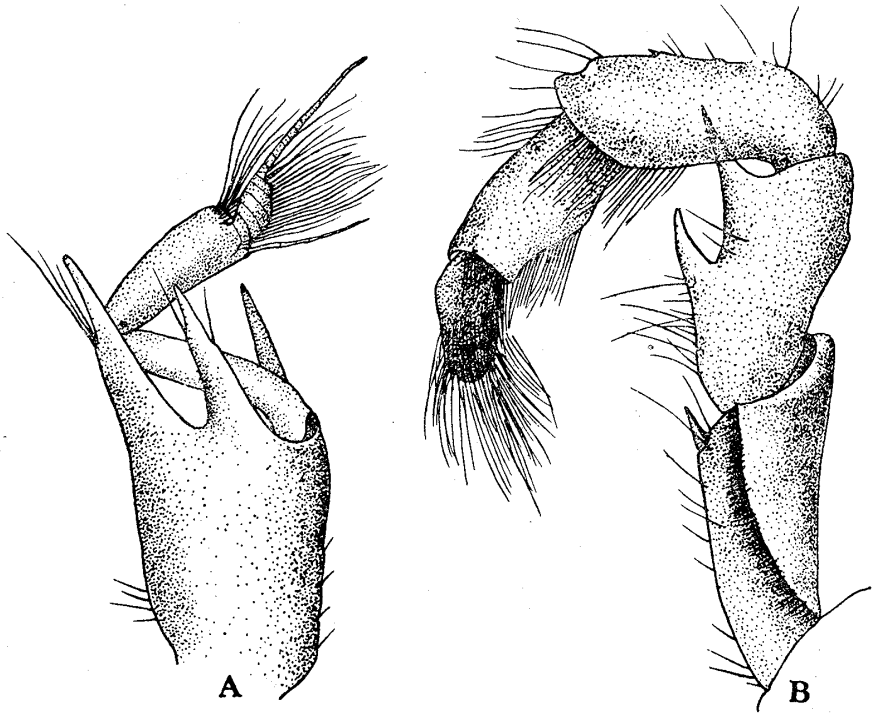


Fig. 3. *Galathea subsquamata.*
A. Antennule, ×28.
B. Outer maxilliped, ×20.

Remarks. Carapace depressed, scarcely narrowed anteriorly. Upper surface of carapace hairless and smooth. There are only three strigae on the cardiac region. Regions are not distinct. Carapace is ornamented with a few spinules on the antero-lateral regions. Lateral margin armed with seven teeth. Rostrum four-toothed being acute and equal-sized. Chelipeds subequal, the right one being larger. Carpus and merus armed with three spines on the inner margins; hand with four or five teeth on the inner margin. The outer margin of cheliped ornamented with spinules standing regularly at an equal distance: Fingers parallel, depressed, not gaping nor toothed. Ambulatory legs ornamented with long hairs sparsely. Merus armed with spinules on both upper and lower margins. On the upper margin carpus and propodus armed with spinules. Dactylus with a short stout tooth on the lower margin.

LITERATURE

Adams, A. and White, A. (1848). Crustacea: in Zoology of the voyage of H. M. S. "Samarang." London.

Balss, H. (1913). Ostasiatishe Decapoden I. Die Galatheiden und Paguriden. Abh. K. B. Wiss., Math.-phys. Kl., Suppl.—Bd. 2, Abh. 9.

Clark, A. H. (1921). A monograph of the existing crinoids. vol. 1, pt. 2. The Comathulids. U. S. Nat. Mus., Bull. 82.

Dana, J. D (1852). Crustacea: in U. S. Expl. Exped. Philadelphia.

Doflein, F. (1902). Ostasiatische Dekapoden. Abh. K. B. Akad. Wiss., Kl. 2, Bd. 21, Abth. 3. Henderson, J. R. (1888). Anomura: in Voyage of H M. S. "Challenger," vol. 27.

de Man, J. G. (1907). On a collection of Crustacea, Decapoda and Stomatopoda chiefly from the Inland Sea of Japan, with descriptions of new species. Trans. Linn. Soc. London, (2), Zool., vol. 9.

Miers, J. E. (1879). On Crustacea from the Corean and Japanese Seas. Proc. Zool. Soc. London.

Ortmann, A. (1892). Die Decapoden-Krebse des Strassburger Museums. IV. Galatheidea und Paguridea. Zool. Jahrb. Syst., Bd. 6.

Potts, F. A. (1915) The fauna associated with the Crinoids of a tropical coral reef: With especial reference to its colour variations. Papers from Depart. Mar. Biol. Carnegie Inst. Washington, vol. 8.

Stimpson, W. (1907). Report on the Crustacea collected by the North Pacific Exploring Expeditions. Smiths. Misc. Coll., vol. 49.

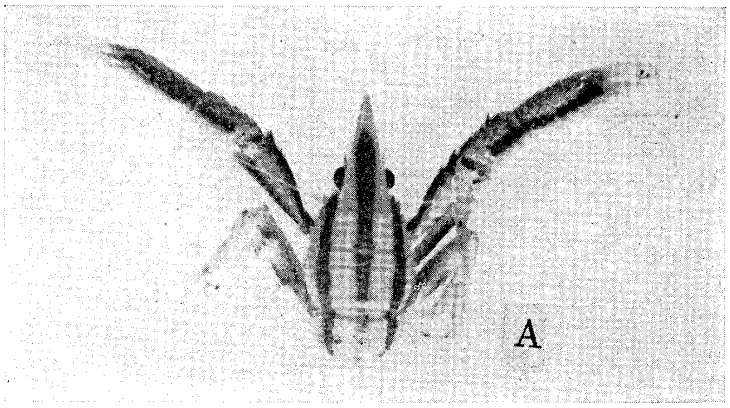
Yokoya, Y. (1933). On the distribution of Decapod Crustaceans inhabiting the continental shelf around Japan, chiefly based upon the materials collected S. S. Sôyô-maru, during the year 1923–1930. Jour. Coll. Agr. Tokyo Imp. Univ. vol. 12, no. 1.

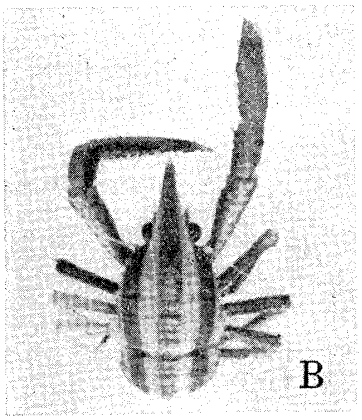
—— (1936). Some rare and new species of Decapod Crustaceans found in the vicinity of the Misaki Marine Biological Station. Japan. Jour. Zool., vol. 7, no. 1.

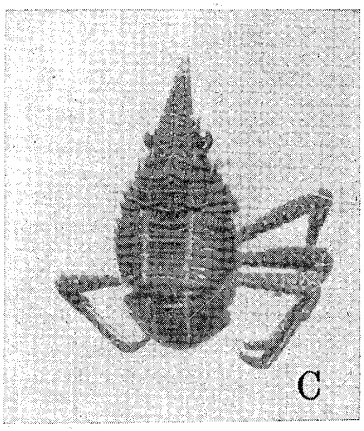
PLATE

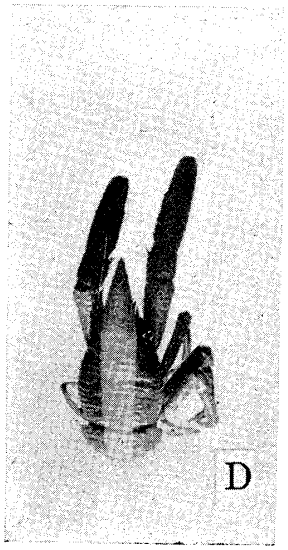
Galathea elegans White

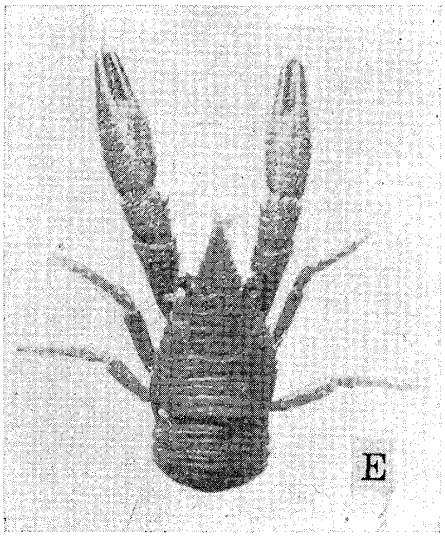
A. Male, S.M.B.L. Cat. No. 26, ×2.3.
B. Ovig. female, No. 26, ×2 5.
C Male, No. 23, ×2.3.
D. Female, No. 27, ×2.5.
E. Ovig. female, No. 24, ×2.3.











S. MIYAKE: GALATHEIDS OBTAINED FROM ÔSHIMA