

**Remarkable Species of the Chirostylidae (Crustacea,  
Anomura) of Japanese Waters**

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The Crustacea Chirostylidae are known to be mostly commensal with octo-corallian corals etc., chiefly inhabiting the deeper waters. In comparison with the allied family Galatheidae which are mostly free, the members belonging to this group have very rarely been taken, so that the Japanese chirostylid fauna contains a small number of species, as represented by three genera, 17 species, and two subspecies (ORTMANN, 1892; BENEDICT, 1902; BALSS, 1913; PARISI, 1917; GORDON, 1930; YOKOYA, 1933; van DAM, 1939; MIYAKE, 1961, 1965; MIYAKE & BABA, 1967a, 1967b, 1968; BABA, 1969).

In the course of my study of this group in the collection of the Zoological Laboratory, Kyushu University, some remarkable species have been encountered, with regard to geographical records and characteristics to be added newly, which are dealt herewith.

## Account of the species

### *Uroptychus breviostris* van DAM, 1933

*Uroptychus breviostris* van DAM, 1933, p. 20, figs. 29-32; — 1940, p. 96.

*Material examined.* Yaéyama Group, Ryukyu Is., coral fishing net, June 1940, H. IKEDA Coll. — 1 ovig. ♀.

*Measurements.* Ovigerous female examined measures 7.4 mm in carapace length.

*Remarks.* Only different from the original description is the length of the cheliped. According to van DAM (1933) the cheliped is almost equal to the carapace, while in the present specimen it is about four times longer. This specimen has the distal two segments of the antennal peduncle quite unarmed, so characteristic of this species, which fact is not mentioned of the Siboga material.

*Distribution.* Previously known from Sulu and Java Seas. This is for the first time recorded from the Japanese waters, and therefore extends its known range further north.

### *Uroptychus tridentatus* (HENDERSON, 1885)

*Diptychus tridentatus* HENDERSON, 1885, p. 421.

*Uroptychus tridentatus* HENDERSON, 1888, p. 181, pl. 6, fig. 1; van DAM, 1933, p. 30, figs. 45, 46; — 1937, p. 99.

*Material examined.* Off Hachijo-jima, Izu Is., 200 m deep, Aug. 15, 1952, Y. KURATA Coll. -1 ♂, 3 ovig. ♀♀.

Near Muko-jima, Ogasawara (Bonin) Is., July 18-19, 1938, H. IKEDA Coll. -1 ♂.

Yaéyama Group, Ryukyu Is., coll. by coral fishing net, June 1940, H. IKEDA Coll. -1 ♀.

*Measurements.* Males 5.5-4.3 mm, ovigerous females 6.4-5.0 mm, and non-ovigerous female 6.7 mm, in carapace length.

*Remarks.* The specimens before me agree well with HENDERSON's (1885) as well as van DAM's descriptions (1933). Slight differences are given in the following regards, which will be of no significance as the specific characters. (1) The merus of the third maxilliped bears two inner marginal spinules, in addition to the usual distal marginal spine of minute size. (2) The pterygostomial flap has many more spinules than that appeared in the previous papers. (3) The present specimens are more setose than the Siboga's.

Further addition to the previous descriptions is provided below:

The ambulatory legs are very setose. In the first pair the merus and carpus are smooth and unarmed. The propodus bears two or three broad setae-like spines on the distal portion of the inner margin. The dactylus is rather straight, with four to seven inner marginal spines of which the distal two or three are larger and others diminish their size proximally. The second and third pairs are similar to the first, with the exception that their propodus bears only one slender spine on the distal end of the inner margin.

*Distribution.* Known from Amboina, Kei Islands, and Solor Straits. The present is the first record for the Japanese chirostyliid fauna.

### *Uroptychus latirostris* YOKOYA, 1933

(Fig. 1)

*Uroptychus latirostris* YOKOYA, 1933, p. 69, fig. 30.

*Material examined.* Southwest of Jogashima, Sagami Bay, ca. 100 m deep, Sept. 5, 1936. -1 ovig. ♀, No. 26 in the collection of the Biological Laboratory, Imperial Household of Japan.

✓ Off Ashizuri-zaki, Tosa Bay, 150 m deep, Sept. 29, 1965, T. HABA Coll. -1 ♂.

② → Near Muko-jima, Ogasawara (Bonin) Is., July 18-19, 1938, H. IKEDA Coll. -1 ♂.

✓ Off Hachijo-jima, Izu Is., 200 m deep, Aug. 15, 1952, Y. KURATA Coll. -2 ovig. ♀♀, 1 sp.

*Measurements.* Males 5.8-5.2 mm, ovigerous females 8.7-5.5 mm, in carapace length.

*Description.* Rostrum flat, triangular, smooth and concave above. Outer orbital angle spinulated.

Carapace longer than broad; dorsal surface smooth. Anterolateral angle well developed. Anterior branchial region with a large spine at anterior end of

lateral margin; behind this is a minute spine. Unarmed penultimate segment of antennal peduncle measuring  $1/4$  of the ultimate which possesses a small but distinct spine on inner distal margin. Antennal scale slender, failing to reach the tip of ultimate segment.

Merus of third maxilliped unarmed.

Thoracic sternite bearing third maxilliped concave; anterior margin deeply embayed, without any spine at its center.

Chelipeds about four times as long as carapace, somewhat depressed, smooth on surface, and thickly furnished with long setae on distal half or distal extremity of palm and on fingers. Those in female slenderer than in male. A hook-like spine present on dorsal surface of ischium. Palm with two spines on distal margin which articulates with the wrist. Latter segment with also a single spine on distal margin. Fingers slightly gaping in male, but not gaping in female; movable finger with a large tubercle on cutting edge, irrespective of sex.

Ambulatory legs similar each other, furnished with long setae on distal two segments; merus and carpus in first pair unarmed and sparsely setose; propodus with eight to ten slender and mobile spines along inner margin. Dactylus gently curved inwards, with about ten spines on inner margin. Second and third pairs very similar to first.

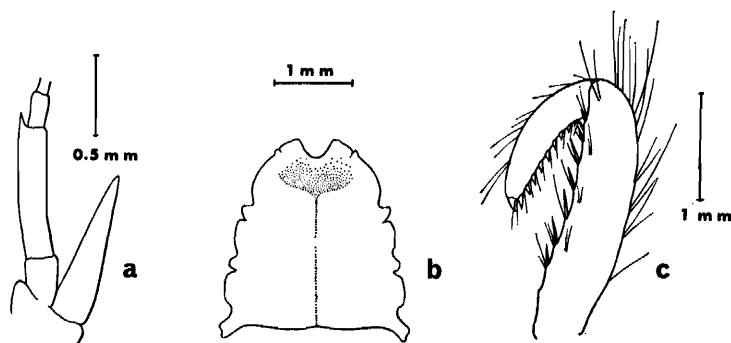


Fig. 1. *Uroptychus latirostris* YOKOYA, a, left antenna, ventral view; b, sternal segments; c, distal two segments of left first ambulatory leg.

*Remarks.* The species is allied to *Uroptychus brevisrostris* van DAM, from which it differs in having large lateral marginal spines on the carapace and having the paired spines on the anterior margin of the third thoracic sternite bearing third maxillipeds.

All the specimens examined agree with the description given by ALCOCK & ANDERSON (1899), under the name of *Uroptychus cavirostris*. On the other hand, YOKOYA (1933) briefly defined the new species *U. latirostris*, whose description however does not enter into details of such characters as the shape of the sternal segments, antennal peduncle and of the distal segment of ambulatory legs. It is no doubt that the present specimens are topographically referable to YOKOYA's species, as one of the specimens was collected from the type-locality, Ashizuri-zaki.

As far as the proper specific status is concerned, it is here left undetermined whether or not *U. latirostris* falls into a synonym of *U. cavirostris*.

*Distribution.* Previously known from the Pacific coast of Japan.

***Uroptychus nitidus occidentalis* FAXON, 1893**

(Fig. 2, Pl. IV, fig. 1)

*Uroptychus nitidus occidentalis* FAXON, 1893, p. 192; —1895, p. 101, pl. 26, fig. 1; BALSS, 1913, p. 27; PARISI, 1917, p. 3; YOKOYA, 1933, p. 67.

*Material examined.* Misaki, Sagami Bay, Oct. 1938, M. Yeri Coll. —1 ♂.

*Measurements.* Male 19.0 mm in carapace length.

*Remarks.* This is originally reported from the Bay of Panama. Notwithstanding a considerable geographical separation this subspecies is subsequently recorded from the area around Japan (BALSS, 1913; PARISI, 1917; YOKOYA, 1933). CHACE (1942), examining the West Indies material, divides *U. nitidus* into four forms, the typical form and varieties A, B and C. He mentions that the three varieties differ more markedly from the typical form than do either *U. nitidus concolor* or *U. nitidus occidentalis*. In addition very interesting is his note, “the largest of the cotypes of *U. nitidus occidentalis* FAXON, an ovigerous female, is so similar to the West Indian specimens that I am at a loss to discover distinguishing characters.” The identity of the species of the Gulf of Panama and the Japanese waters seems to still remain uncertain, however, the known subspecific name is used in this paper, following the previous authors. Further details of our Japanese material are provided herewith.

Basal antennular segment short and widened; outer distal margin with two spinules at its apex. Fourth (penultimate) and fifth (ultimate) segments of antennal peduncle unarmed and of equal length; antennal scale flat, terminating at middle of fifth segment.

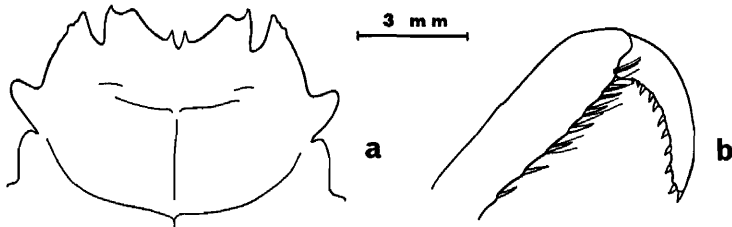


Fig. 2. *Uroptychus nitidus occidentalis* FAXON, a, anterior part of sternal segments; b, distal segments of right second ambulatory leg.

Third maxilliped smooth, devoid of spines.

Anterior part of sternal segments as represented in Fig. 2, a; anterior margin smoothly embayed with one pair of spines placed at middle; a deep V-shaped notch present between third and fourth thoracic sternites bearing third maxilliped and cheliped respectively.

Chelipeds about three times as long as carapace, somewhat depressed, smooth

on surface; each segment devoid of spines, but arm with two longitudinal rows of tubercular teeth on proximal half of inner margin; fingers gaping at proximal two-thirds and touching at distal third, with two large tubercular teeth on cutting edge of movable finger.

Merus and carpus of ambulatory leg smooth and devoid of spines and setae; propodus with slender and movable spines (8–9 in number) on distal half of inner margin, distal of them paired; long coarse setae placed along inner and outer margins of propodus; dactylus bent inwards, representing a sickle-shape, devoid of setae, with about ten short spines on inner margin; second and third pairs of ambulatory legs similar to first.

*Distribution.* Known from the Gulf of Panama, and the Japanese waters from Sagami Bay to the southward as far as the east of Kagoshima, Kyushu, and off Hachijo-jima.

***Eumunida funambulus* GORDON, 1930**

(Fig. 3, Pl. IV, fig. 2)

*Eumunida funambulus* GORDON, 1930, p. 744, figs. 1c, 2a, 2b, 3b, 4b, 5; van DAM, 1933, p. 10; —1937, p. 102.

*Material examined.* Sea of Hyuga, east coast of Kyushu, 130–150 m deep, Oct. 17, 1960, K. KUROHARA Coll. —1 ♀.

*Description.* Rostrum stout, short, more than one-third the carapace length. Carapace well calcified, rounded, with seven lateral marginal spines, one of them anterolateral, two on anterior branchial region, of which the hinder is the smaller, and other four on posterior branchial region. One other spinule placed just inside of anterolateral spine. A row of three spines (hepatic) running backwards and outwards from base of outer supraorbital spine, which somewhat diminish their size posteriorly. Outside of these is present a very small spine (GORDON, 1930, fig. 5,  $\beta$ ) only on left side. One pair of gastric spines present between foremost pair of hepatic spines.

Merus of third maxilliped with one outer distal marginal spine well developed and two inner marginal spines rather distally placed.

Thoracic sternite bearing third maxilliped anteriorly produced to have a pair of spines developed, with a V-shaped notch between the pair; following sternite bearing chelipeds also equipped with a stout lateral marginal spine on each side.

Chelipeds cylindrical, about twice as long as carapace; arm spinous, with short setae on anterior margin of each spine; outer margin smooth and unarmed; about 12 spines present on ventral surface near outer margin. Eleven spines of large and small size placed alternately near ventral side of inner margin, nine spines on inner margin and 12 spines on dorsal surface near inner margin; wrist short, less than half the length of palm; it is armed with one strong, sharp spine on distal end of inner margin and two rows of dorsal spines, the inner one is composed of five spines and the outer 3; palm slightly shorter than fingers, thickly furnished with short soft setae; four or five spines present on ventral surface, and about five spi-

nules on dorsal surface near inner margin; fingers tuberculate, with setae longer and stouter than those placed on other segments; fingers of left side not gaping, but those of right side slightly gaping proximally; cutting edge with rather large tubercles among small tubercular teeth.

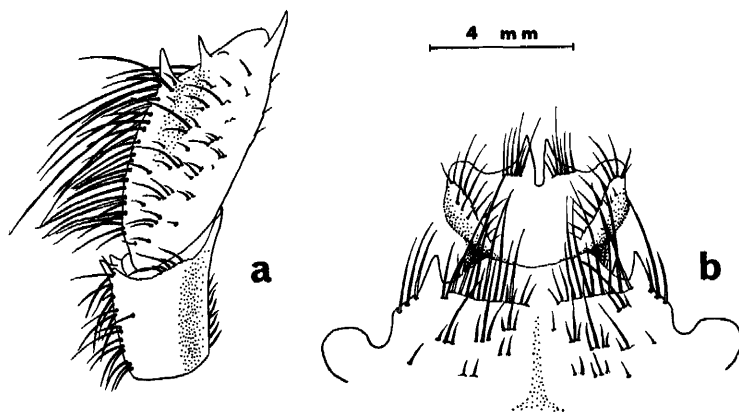


Fig. 3. *Eumunida funambulus* GORDON, a, merus and ischium of left third maxilliped; b, anterior part of sternal segments.

Ambulatory legs depressed; merus of first pair strigose and scaliform above, bearing about ten strong spines on outer (upper) margin, two on inner (lower) distal margin, and one other spine placed on distal end of ventral surface; carpus armed with three outer marginal spines; propodus scaliform mid-dorsally, with short setae on median line; proximal half of outer margin with six spines and whole inner margin bearing 11 mobile spines; dactylus pointed at its tip to form a claw, with 10 spines inner-marginally which decrease in size towards the proximal portion of its segment. Second ambulatory leg similar to first. Third leg smaller and more weak in armature than anterior two legs; merus with nine outer marginal spines, three dorsal spines and a single inner marginal spine distally placed.

*Colour.* The body preserved in five percent solution of formalin is orange on all over the surface, with a whitish spot behind the anterior first hepatic spine.

*Measurements.* Carapace 38.8 mm long, cheliped 109.1 mm.

*Remarks.* This genus is one of the most rarest members in the family, so that only 8 species have been recorded so far (GORDON, 1930), including three Japanese species. According to GORDON's key to the species, this is referred to *Eumunida funambulus* GORDON, only apart from the third maxilliped with a well developed outer distal marginal spine, which character seems highly valuable. However it is here identified with GORDON's species, providing a full description with the intention of avoiding future confusions.

*Distribution.* Previously taken from the Gulf of Aden, Socotra Channel, between Aden and Bombay, south of Timor, Madura Strait, Java, north coast of Sumatra, Celebes Sea, and Philippine Islands. The present extends its known range further north.

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#### Explanation of Plate IV

- Fig. 1. *Uroptychus nitidus occidentalis* FAXON, male from Sagami Bay.
- Fig. 2. *Eumunida funambululus* GORDON, female from east coast of Kyushu.
- Scales equal to 20 mm.

