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A New Species of the Leucosiidae (Crustacea, Brachyura) from Amami-Oshima

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Recently, the author received a crab collection from the Ryukyu Islands made in the summer of 1968 by Drs. Y. MIYA and T. FUJINO of the Zoological Laboratory, Kyushu University. Among them is an interesting species referable to the genus *Philyra* of the family Leucosiidae represented by an ovigerous female from the muddy flat at Sumiyo Village in the southern Pacific coast of Amami-Oshima Island. In this short report it is described in detail, but the examination of the male first pleopod would be desirable for getting the complete knowledge of the species. The type specimen is preserved in the Zoological Laboratory, Kyushu University (ZLKU).

The autl or is greatly indebted to Prof. S. MIYAKE and Prof. T. SAKAI for their continued guidance, and must be also thankful to his colleagues, Dr. Y. MIYA and Dr. T. FUJINO, for providing him with the materials.

Family LEUCOSIIDAE Genus *Philyra* Leach, 1817

Philyra taekoae sp. nov. (Fig. 1)

Description of holotype. The carapace is strongly convex and slightly broader than long. The front is dorsally and anteriorly concave in the middle in the dorsal view; the frontal region is rather sunken as a whole, but each part behind the free margin is weakly convex laterally. The orbit is small with a small slit near the subacute external orbital angle, and the eyestalk is stout. The dorsal surface is roughly covered with vesicular granules of various size visible to the naked eye. The gastric, hepatic, branchial and intestinal regions are distinct. The gastric region is high, and most prominently convex laterally, being covered with truncated granules; in the median line from just behind the front to the posterior end of the gastric region the granules are beaded to form a longitudinal line; among the granules

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in the line five rather equidistant ones are larger, and at the third and fourth granules of them on the mesogastric part the gastric region is the highest and most strongly convex laterally; otherwise, one granule on each protogastric part is as large as the larger granules in the median line, being nearly in a transverse line with the second of the larger granules in the median line. The hepatic region is naked and sunken most strongly behind the orbit, the outer border being rather concave and beaded with pearly coalescent granules that become larger posteriorly; at the posterior end the border is convex and distinctly separated from the branchial region by a deep notch; just in front of the notch the hepatic region is more or less convex dorsally with some minute granules. The subhepatic facet is well developed with the minutely granulated surface, the borders being beaded with several granules of good size and gently convex in the dorsal view. The epistome with the distal parts of the subhepatic facets and the anterior margin of the buccal cavity is observable in the dorsal view, but not much extended beyond the front. The branchial region is large and strongly convex with truncated granules near the gastric region: the granules are absent from the anterior part, and otherwise convex so as to be warty near the borders; the outer border is beaded with granules, convex at the anterior end and very weakly convex along the anterior part; then the border is fairly angulated, forming the lateral angle of the carapace; behind the angle the outer border is strongly convergent, and at the same distance with the anterior part is a granulated tooth directed obliquely backwards and upwards; behind the tooth the outer border bears the equal length with the anterior part; the dorsal surface of the branchial region is steeply directed obliquely downwards in front of the above-mentioned posterolateral tooth, and obliquely backwards behind that tooth; the branchial region is separated from the gastric region by the nearly smooth shallow furrow. The intestinal region is strongly convex and thickly covered with truncated granules, being separated from the gastric region by a smooth, rather narrow transverse furrow that is convex anteriorly in the middle; at either side of the transverse furrow the surface is deeply and narrowly sunken longitudinally as a posterior part of the gastrobranchial furrow. The posterior border of the carapace is separated from the intestinal region by a marginal depression, being bordered with pearly truncated granules; each of the lateral ends is strongly developed as a rounded tooth; the median part of the posterior border is strongly convex and protruded posteriorly beyond the level of the lateral angles.

In the third maxilliped the ischium and merus are fairly broad and equal in length along the inner margins, being covered with granules of various size. The ischium is provided with a row of granules from the posterior end of the outer margin to the vicinity of the median part of the anterior margin, and with a row of smaller granules associated with a row of long hairs from the posterior border to the outer one third of the anterior margin. The outer margin of the merus is more or less convex outwards at the anterior one third and weakly concave throughout the posterior two thirds; a row of hairs continuous from the ischium is extended anteriorly to the proximal one third of the surface. The exopod is elongated and foliaceous, being as broad as the anterior margin of the ischium; its outer margin with a fringe of short hairs is gently curved, and the inner margin is weakly concave in the middle at the articulation of the ischium and merus in the natural position; the distal half of the inner margin is fitted in the weak concavity of the outer margin of the merus, the extremity ending at the weakly convex part of the distal one third of the merus; the surface is granulated along the whole margins, and provided with a curved row of several granules of good size in the middle.



Fig. 1. *Philyra taekoae* sp. nov., holotype. A, carapace, $\times 6.7$; B, third maxilliped, $\times 20$.

The chelipeds are not much strong. The merus is sparsely covered with longish silky hairs; the anterior and posterior borders and the lower surface are thickly covered with granules; the upper surface is provided with a prominent granulated ridge running from the base of the merus to the distal part of the anterior border; the two surfaces thus formed between the ridges and the anterior and posterior borders are rather concave and devoid of granules. Both the upper and the lower surfaces of the carpus and palm are uniformly and thickly covered with minute granules without distinct ridge; the granules on the lower surfaces are much smaller; the fingers bear a narrow gape filled with short setae.

The ambulatory legs are very slender and sparsely provided with silky hairs. In the first pair both the anterior and the posterior borders of the merus are covered with thick minute granules, while the meri of the other pairs are granulated only on the posterior borders; the other segments are almost devoid of granules, but in close observation the anterior border of the carpus of the first pair bears the thick microscopical granules; the dactyli are only slightly longer than the propodi.

The whole surface of the abdomen is covered with truncated granules; in the third or the coalescent segment two vestigial sutures indicated by the narrow furrows are present, one about at the proximal one fourth and the other near the middle.

The anterior branchial regions, chelipeds and abdomen are very dirty with blackish sticky mud. The larger truncated granules on the carapace and abdomen are markedly white.

Material. An ovigerous female, holotype; Sumiyo, Amami-Oshima I., Ryukyu Is.; July 22, 1968; Y. MIYA and T. FUJINO leg.

Measurements. Length, 8.3 mm; breadth, 8.5 mm.

Remarks. In the Indo-West Pacific waters the genus *Philyra* is represented by 32 species and 2 subspecies, so far as the means at the author's disposal enable him to judge. The genus is characterized by the combination of the features that (1) the front is subtruncated and not much beyond the general contour of the carapace, (2) the hepatic facets are usually developed, (3) the epistome and the anterior boundaries of the pterygostomian regions are usually more or less projecting beyond the edge of the front, (4) the buccal cavern is broad, and (5) the exopod of the third maxilliped is broadly expanded. The known species may be divided into two groups, one with the naked carapace and the other with the granulated uneven carapace. The present new species is referred to the latter group, and may be most closely related to Ph. tuberculosa Stimpson from Hongkong and Taiwan and Ph. yangumatoensis Shen from North China in the general formation of the carapace, chelipeds and ambulatory legs. Both species are in reality close to and probably identical with each other. It is shortly noted that as rightly suggested by SAKAI (1937) the materials reported as Ph. tuberculosa by BALSS (1922) without definite locality and by SHEN (1931) from Hongkong may be really referable to *Ph. grobulosa* H. MILNE EDWARDS which is well described by ALCOCK (1895) and TESCH (1918).

The present new species differs from *Ph. tuberculosa* most remarkably in having the following features. (1) The branchial regions are strongly expanded laterally so as to be rather angulated. The carapace is therefore wider than long. (2) The posterolateral border of the carapace is angulated with a granulated tooth. (3) The posterior border of the carapace is strongly produced and angulated in the middle. (4) In the female abdomen the whole surface is roughly studded with granules.

The present new species is dedicated to the author's wife who is helpful in various ways.

Literature

- BALSS, H. (1922) Ostasiatische Decapoden. III. Die Dramiaceen, Oxystomen und Parthenopiden. Arch. Naturg. (A) 88: 104–140.
- SAKAI, T. (1937) Studies on the crabs of Japan. II. Oxystomata. Sci. Rep. Tokyo Bunrika Daigaku (B) 3 (Suppl.): 67–192, pls. 10–19.
- SHEN, C. J. (1931) The crabs of Hong Kong. Part II. Hong Kong Nat. 2: 185–197, Addenda, pls. 12–14.

(1932) The brachyuran Crustacea of North China. Zool. Sinica (A) 9: 1–320, pls. 1–10.
 STIMPSON, W. (1907) Report on the Crustacea (Brachyura and Anomura) collected by the North Pacific Exploring Expedition 1853–1856. Smiths. misc. Coll. 49: 1–240, pls. 1–26.

TESCH, J. J. (1918) Die Decapoda Brachyura der Siboga-Expedition. III. Oxystomata: Calappidae, Leucosiidae, Raninidae. Siboga-Exp. 39b²: 159-322.

ALCOCK, A. (1895) Materials for a carcinological fauna of India. No. 2. The Brachyura Oxystomata. J. Asiat. Soc. Bengal 65: 134–296, pls. 6–8.

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