

NOTE ON THE GENUS *MIYADIELLA* KUBO (CRUSTACEA  
DECAPODA PENAEIDAE)

WITH THE DESCRIPTION OF A NEW SPECIES

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UNTIL now only one species was known to belong to the genus *Miyadiella*, which genus was described by KUBO in 1949. In the present paper a few remarks are given on the synonymy of this species, which has been reported from Japanese and Chinese waters. Furthermore a new species of Kubo's genus is described here. This new species is based on material collected in the Java Sea by Dr. Th. Mortensen, which forms part of the collection of the Zoological Museum at Copenhagen.

***Miyadiella podophthalmus* (Stimpson).**

*Penaeus podophthalmus* Stimpson, 1860, Proc. Acad. nat. Sci. Phila., 1860, p. 43.  
*Miyadiella pedunculata* Kubo, 1949, Journ. Tokyo Coll. Fisheries, vol. 36, pp. 4, 28, 29, 45, 46, 66, 105, 141, 149, 151 (*M. peduncularta*), 154, 264, figs. 6D, 7N, 23G, H, 58O, 74C, I, 79E, 104, 105.

Comparison of STIMPSON's (1860) rather short description of *Penaeus podophthalmus* with the extensive and well illustrated account of *Miyadiella pedunculata* by KUBO (1949), leaves not the least doubt that the two species are identical. Stimpson very accurately described the shape of the carapace and that of the rostrum, the eyes, etc., which agree very well with Kubo's description.

Stimpson's specific name *podophthalmus* being the first ever given to this species has priority over Kubo's *pedunculata*, and therefore has to replace the latter. Since the word *podophthalmus* is a noun, its ending does not change even though this specific name is now used in combination with the feminine generic name *Miyadiella*.

Between 1860 and 1949 no specimen of *Miyadiella* seems to have been in the hands of students of Crustacea. This absence of material and

Stimpson's short unillustrated description of *Penaeus podophthalmus* evidently were the cause that carcinologists were at a loss as to the identity of this Penaeid. Only ALCOCK (1906, p. 45) ventured the suggestion that Stimpson's species might belong to the genus *Atypopeneus* Alcock. The fact that so little attention was paid to this form makes it quite intelligible that Kubo overlooked the long forgotten description of Stimpson's *Penaeus podophthalmus* when he rediscovered the species.

Stimpson's specimen, which measured 32 mm, was considerably longer than Kubo's animals which have a length of 19 and 20 mm.

The type of *P. podophthalmus* was collected on a muddy bottom at a depth of 6 fathoms ("fundo limoso prof. sex. org."); KUBO (1949, p. 28) records *Miyadiella pedunculata* from a similar habitat, he states his species to "inhabit muddy bottom of shallow waters".

The species is known from Japanese and Chinese waters: Nanao-wan (= Nanao Bay), Noto Peninsula, west coast of Honshu Island, Japan, and Osaka-wan (= Osaka Bay), south coast of Honshu Island, Japan (KUBO, 1949), Hongkong (STIMPSON, 1860).

#### ***Miyadiella ornata* new species (figs. 1, 2).**

Material examined.

Off N. E. Java, 7°33' S, 114°36' E, depth 200 m, bottom mud, trawl, April 3, 1929, leg. Th. Mortensen, Sta. 2.—1 female, 38 mm.

The rostrum (fig. 1a) is very short, it measures less than  $\frac{1}{3}$  of the length of the carapace and reaches about halfway the ophthalmic peduncles. The upper margin bears 5 teeth, the first of which is situated in the anterior third of the carapace and is separated from the second by a distance which is far larger than the intervals between the other teeth. The third tooth stands over the posterior part of the orbit. The lower margin of the rostrum is convex and hairy, it bears no teeth. The lateral carina runs close to the ventral margin of the rostrum. The carapace is pubescent all over. The antennal spine is distinct, but neither orbital nor post-orbital spines are present. Also the hepatic spine is lacking. The anterolateral angle of the carapace is rounded and somewhat anteriorly produced. The lower part of the cervical groove is distinct, it becomes obsolete dorsally. A shallow notch is visible in the dorsal margin of the carapace where this is reached by the cervical groove. A sharp cervical carina is present behind the lower part of the cervical groove. The hepatic groove is most distinct in the anterior part, where it is bordered by a sharp hepatic carina. The cervical and the hepatic carinae lie in one line

but do not touch each other. A very peculiar feature in this species is the presence of a rather large number of distinct spines in the dorso-median region of the carapace (fig. 1b). Most of the spines are situated behind the cervical groove, only a double row of about 5 or 6 spines is

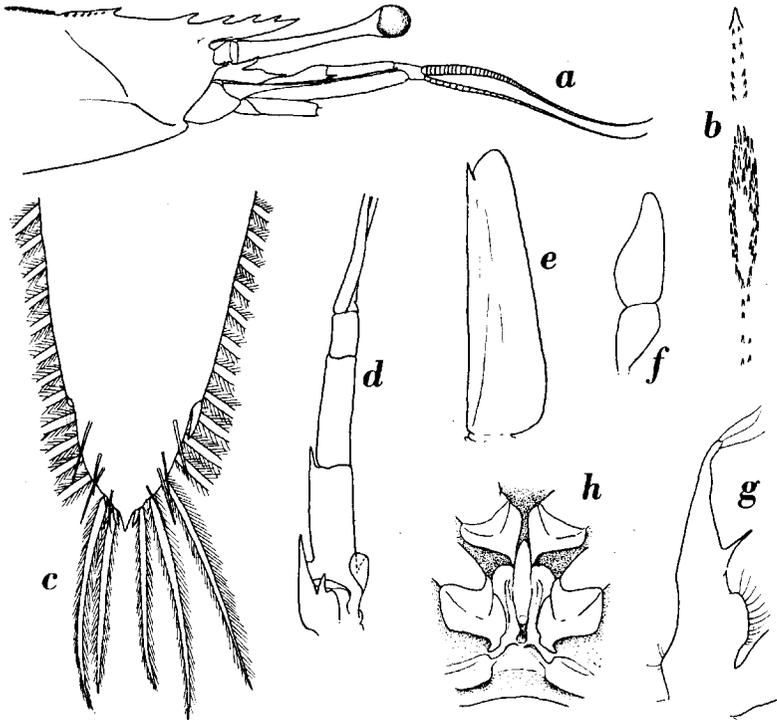


Fig. 1. *Miyadiella ornata* new species. a, anterior part of body in lateral view; b, arrangement of the spines in the postero-median region of carapace, dorsal view; c, tip of telson; d, antenna; e, scaphocerite; f, mandibular palp; g, palp of maxillula; h, thelycum. a,  $\times 3.5$ ; b, d-f,  $\times 7$ ; c,  $\times 50$ ; g,  $\times 25$ ; h,  $\times 9$ .

seen between the first rostral tooth and the cervical groove. The rest of the spines is arranged in a double row of about 15, occupying slightly more than the anterior half of the dorso-median region behind the cervical groove. In its anterior part the two components of this double row are placed close together, then they diverge somewhat to finally converge again in the posterior part. In the anterior part two or three more rows of spines are placed between the two just mentioned rows.

The abdomen has the first three segments without a dorsal carina. The fourth segment has a faint, but well visible median dorsal carina, which is stronger in the fifth segment and very distinct and sharp in the

sixth. The posterior margin of the fifth segment bears a median incision, while the sixth segment is provided with a small but sharp spine there. The lower margin of the pleura of the sixth segment bears a small but distinct tooth slightly before the tip. The telson is very similar to that of *M. podophthalmus*. The median part shows pits and several minute

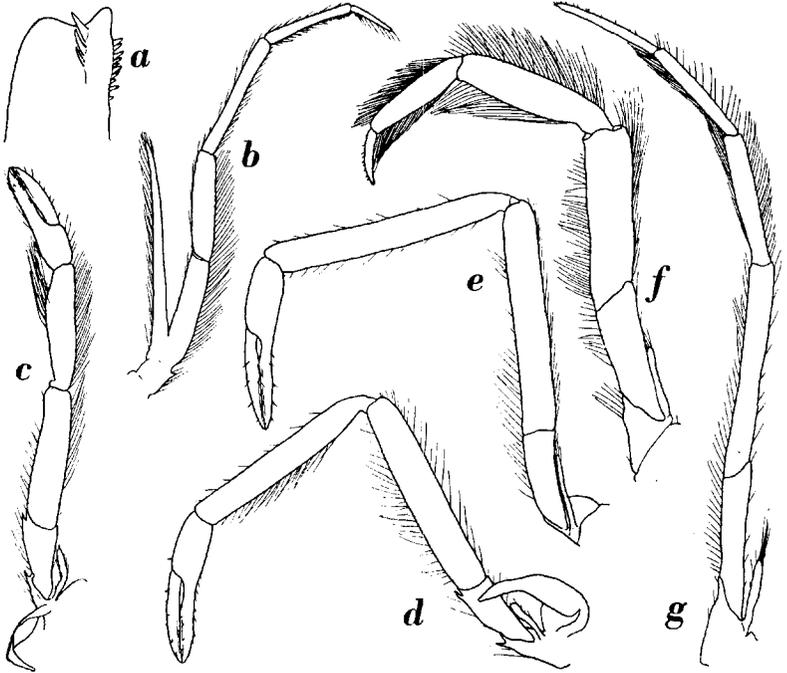


Fig. 2. *Miyadiella ornata* new species. a, tip of palp of maxilla; b, third maxilliped; c, first pereiopod; d, second pereiopod; e, third pereiopod; f, fourth pereiopod; g, fifth pereiopod. a,  $\times 50$ ; b-g,  $\times 7$ .

spinules. The top of the telson (fig. 1c) is sharply pointed. The lateral margins each bear three small spines slightly before the end. The proximal of these spines is distinctly stronger than the others.

The eyes are very elongate, they even are more slender than in *Miyadiella podophthalmus*. They are about half as long as the carapace, reach to the end of the scaphocerite and almost attain the end of the antennular peduncle. The ophthalmic peduncle is narrowest in the middle, and widens towards both ends.

The antennular peduncle (fig. 1d) is slender. The first segment reaches about to the middle of the eye, its anterior margin bears a very distinct external spine. The stylocerite is rather high and sharply pointed, it

reaches beyond the middle of the basal segment. The dorsal margin of the stylocerite shows a triangular pointed lobe. A prosartema is present. The second joint of the antennular peduncle, though shorter than the first, is long and slender, it is more than twice as long as the third. The two flagella are distinctly longer than the antennular peduncle.

The scaphocerite (fig. 1 e) is slightly more than three times as long as broad, it is broadest in its basal part. The outer margin is about straight and ends in a strong spine, which, however, is somewhat overreached by the lamella. The antennal peduncle reaches about to the middle of the scaphocerite.

The mouthparts do not differ much from those of *M. podophthalmus*. The mandibular palp has the basal segment longer than broad (fig. 1 f). The palp of the maxillula (fig. 1 g) is much longer than that of *M. podophthalmus* and has the tip far more slender. The maxilla strongly resembles that of the previous species, even in the shape of the top of the palp (fig. 2 a). The first and second maxillipeds show much resemblance to those of *M. podophthalmus*, only the exopod of the second maxilliped is much longer than the one shown in Kubo's figure. The third maxilliped (fig. 2 b) reaches with the last joint beyond the antennal peduncle. This last joint is about half as long as the penultimate. The antepenultimate is almost 1.5 times as long as the penultimate and is distinctly longer than each of the next two joints which are of about equal length. The exopod almost reaches the base of the antepenultimate joint.

The branchial formula of the present species is the following:

	Maxillipeds			Pereiopods				
	1	2	3	1	2	3	4	5
Pleurobranchs .....	—	—	1	1	1	1	—	—
Arthrobranchs .....	—	2	2	2	2	2	1	—
Podobranchs .....	—	1	—	—	—	—	—	—
Epipods .....	1	1	—	1	1	1	—	—
Exopods .....	1	1	1	1	1	1	1	1

This formula differs from that of *Miyadiella podophthalmus* by the absence of the arthrobranch of the fifth pereiopod.

The first pereiopod (fig. 2 c) reaches with the fingers beyond the base of the scaphocerite. The fingers are less than twice as long as the palm. The carpus is slightly longer than the chela and slightly shorter than the merus. The ischium and the basis both bear an antero-ventral spine.

The second pereopod (fig. 2d) reaches with the fingers beyond the antennal peduncle. The fingers are about 1.5 times as long as the palm. The carpus is distinctly longer than the chela and about as long as the merus. Both the ischium and the basis bear, like in the first leg, an antero-ventral spine. The third leg (fig. 2e) reaches slightly beyond the second. The fingers are less than 1.5 times as long as the palm. The carpus is longer than the merus and about 1.5 times as long as the chela. No spines are present on either basis or ischium. The fourth leg (fig. 2f) reaches slightly beyond the base of the scaphocerite. The propodus is about twice as long as the dactylus and has  $\frac{3}{4}$  of the length of the carpus. The latter is about as long as the merus. The last leg (fig. 2g) is slender, it reaches almost to the end of the antennal peduncle. The dactylus is about as long as the propodus and slightly shorter than the carpus. The merus is almost twice as long as the dactylus. Neither the fourth nor the fifth leg carries spines on any of its joints.

The thelycum (fig. 1h) ends anteriorly in a median, bluntly topped lobe that lies between the coxae of the fourth legs. The lateral plates of the thelycum are rounded anteriorly. In its median posterior part the thelycum shows a distinct longitudinal slit.

The exopod of the uropods resembles that of *Miyadiella podophthalmus*, but has the postero-lateral angle slightly more acute. An oblique carina runs over almost the full length of the exopod, a second, far shorter, carina is present in the distal part, running parallel with the long carina. The endopod is oval in shape. Hairs are present both on the exo- and the endopod, especially the external proximal part of the upper surface of the exopod is densely pubescent.

The present new species is closely related to *Miyadiella podophthalmus*, the only other known species of this aberrant genus. It differs, however, in a good many respects. The rostrum bears fewer teeth and has the lateral carina much closer to the ventral margin. The carapace is pubescent, lacks the hepatic spine and shows many spines in the postero-median region. The telson is pointed and is provided with lateral spines. The stylocerite possesses a dorsal tooth. The palp of the maxillula is more slender. The exopods of the second and third maxillipeds are longer. No arthrobranch is present at the base of the fifth pereopods.

Type. The holotype, the only known specimen of this species, is preserved in the Zoological Museum of Copenhagen, Denmark.

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