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A REPORT ON A SMALL COLLECTION OF COELENTERATE-ASSOCIATED PONTONIINE SHRIMPS FROM CEBU, PHILIPPINES ISLANDS

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Abstract

Details are provided of six species of pontoniine shrimp from Cebu, Philippine Islands, of which one, *Vir philippinensis*, is a new species and four have not been previously recorded from the Philippines. All species were found in association with coelenterate hosts. The specimens of *Periclimenes kororensis* have enabled the description of that species to be completed. The pontoniine shrimp fauna of the Philippine Islands is reviewed and consists at present of only 24 species.

Introduction

Studies on the caridean fauna of the Philippine Islands have been few in number. In his review of the decapod fauna of this region Estampador (1937) mentions only one species, based on the material collected by the Challenger Expedition (Bate 1888). The U.S. Exploring Expedition (Dana 1852) and the 1899–1900 Siboga Expedition collected several more species from the Sulu Archipelago (Holthuis 1952) and more recently the 1976 MUSORSTOM Expedition provided further material, mainly from deeper water (Bruce 1981).

The present report provides information on six species collected in July, 1980 by the second author (A.S.) from the island of Cebu, of which only one has been previously reported from the Philippine Islands. CL. refers to the postorbital carapace length and all measurements are in millimetres. The colour notes are based on colour photographs of the shrimps taken underwater by the second author (A.S.)

The specimens are mainly deposited in the collections of the Northern Territory Museum, Darwin (NTM), but paratypes of *Vir phillp-pinensis* are deposited on the collections of the National Museum of Natural History, Washington (USNM) and the Rijksmuseum van Natuurlijke Historie, Leiden (RMNH)

Vir philippinesis sp.nov. (Figs. 1-4)

Material examined—(i) 1 ovig. ♀, holotype, CL.

3.0 mm, 1 ♂, allotype, CL. 2.9 mm, NTM Cr. 000415 a: Cr. 000415 b. (ii) 1 ovig. ♀, paratype, CL. 3.0 mm, RMNH D. 35559. (iii) 1 ovig. ♀, paratype, CL. 2.65 mm, USNM 204413

Description. A small slender pontoniine shrimp of slightly compressed body form.

The carapace is smooth and glabrous, with a well developed rostrum that distinctly exceeds the antennular peduncle. The lamina is rather uniform in width proximally and feebly upturned distally. The dorsal border bears 5–8 small acute teeth. The lateral carinae are feebly indicated, carapace. The ventral border bears a single small tooth at 0.6 of its length or is without ventral teeth. The lawteral carinae are feebly indicated, the orbit obsolete and supraorbital spines absent. The inferior orbital angle is distinct, broadly produced in dorsal view. The antennal spine is well developed, marginal, and directed dorsally. The hepatic spine is lacking. The inferior orbital angle of the carapace is bluntly obtuse.

The abdominal segments are smooth. The third segment is not postero-dorsally produced. The sixth segment is about 1.6 times the length of the fifth, about 1.2 times longer than deep. The pleura of the first three segments are broadly rounded, the fourth and fifth pleura posteriorly rounded. The posterolateral and postero-ventral angles of the sixth segment are feebly produced and rather blunt.

The telson is about twice the length of the sixth abdominal segment, about 3.0 times longer than

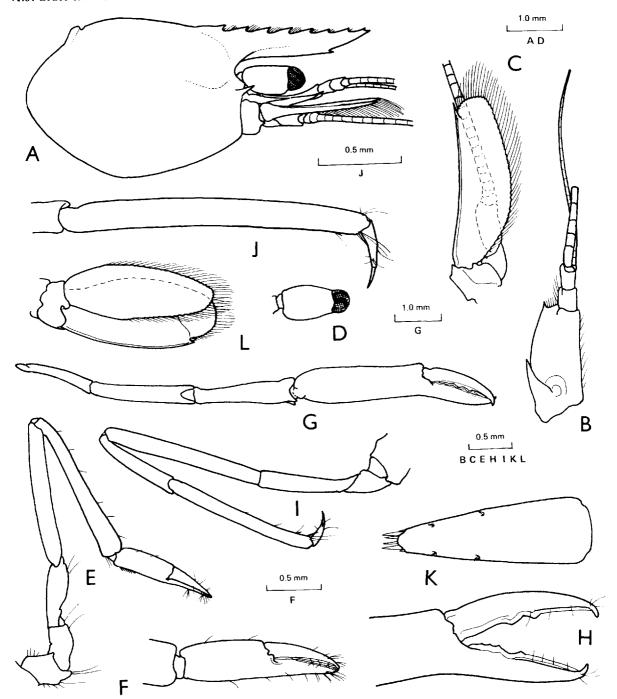


Fig. 1 Vir philippinensis sp. nov. A, carapace and antennal peduncles. B, antennule. C, antenna. D, eye, dorsal. E, first pereiopod. F, same, chela. G, second pereiopod. H, same, fingers. I, third pereiopod. J, same, propod and dactyl. K, telson. L, uropod. AGH holotype female, BCDEFIJKL, allotype male.

wide, sides almost straight, convergent to an angular posterior border, about 0.3 of anterior border width, without postero-median point. Two

pairs of small submarginal dorsal spines present at about 0.6 and 0.8 of telson length. Lateral pair of posterior telson spines small, similar to dorsal

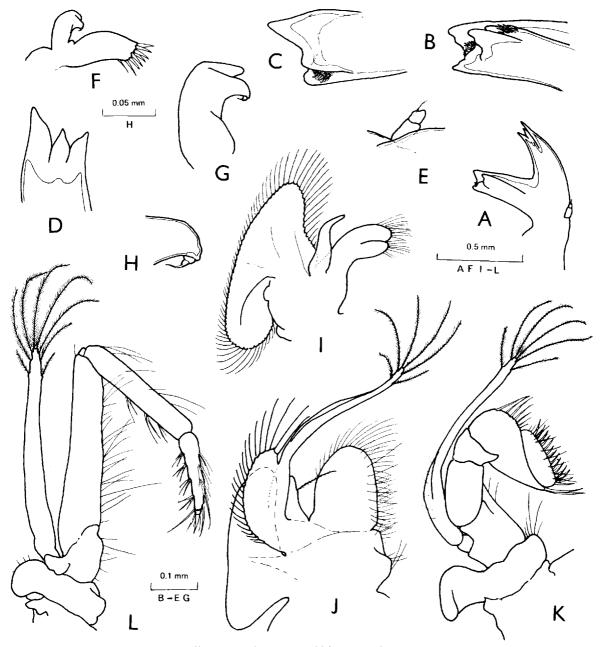


Fig. 2 Vir philippinensis sp. nov. Allotype male. A, mandible. B, molar process. C, same, posterior. D, incisor process. E, mandibular palp. F, maxillula, lacking lower lacinia. G, same, palp. H, same, lower lobe of palp. I, maxilla. J, first maxilliped. K. second maxilliped. L, third maxilliped.

spines, intermediate spines large, robust, about 3.5 times length of lateral spines and 1.5 times length of submedian spines, which are finely setulose.

The eyes are small, with the cornea banded by darker pigmentation, globular, with inconspicuous dorsal accessory pigment spot. The eyestalk is slightly compressed, about 1.5 times longer than wide and broader than the corneal diameter.

The antennae are well developed. The antennule has the proximal segment of the peduncle about 2.0 times longer than wide. The lateral border is convex and convergent distally, with a small disto-

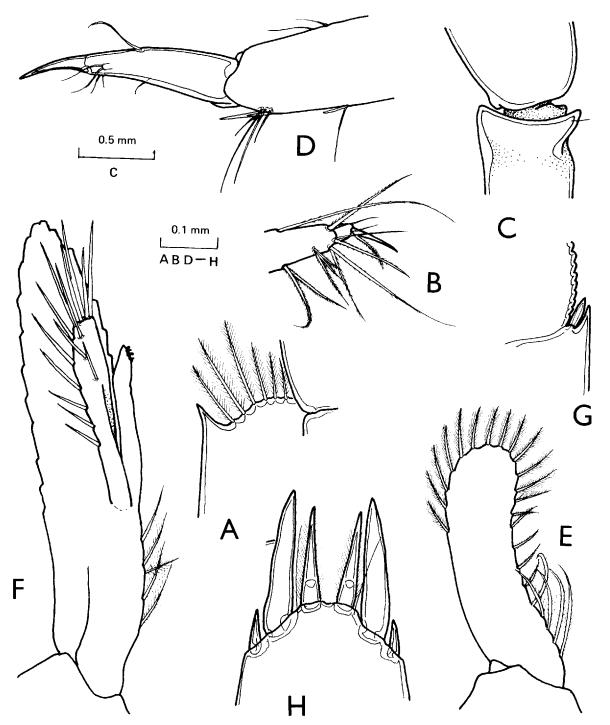


Fig. 3 Vir philippinensis sp.nov. A, disto lateral angle of proximal segment of antennular peduncle. B, distal end of endopod of third maxilliped. C, carpo-meral joint of second pereiopod, dorsal. D, dactyl of? third pereiopod. E, endopod of male first pleopod. F, endopod of male second pleopod. G, disto lateral spine of exopod of uropod. H, posterior telson spines. CD, holotype female, ABEEGH male allotype.

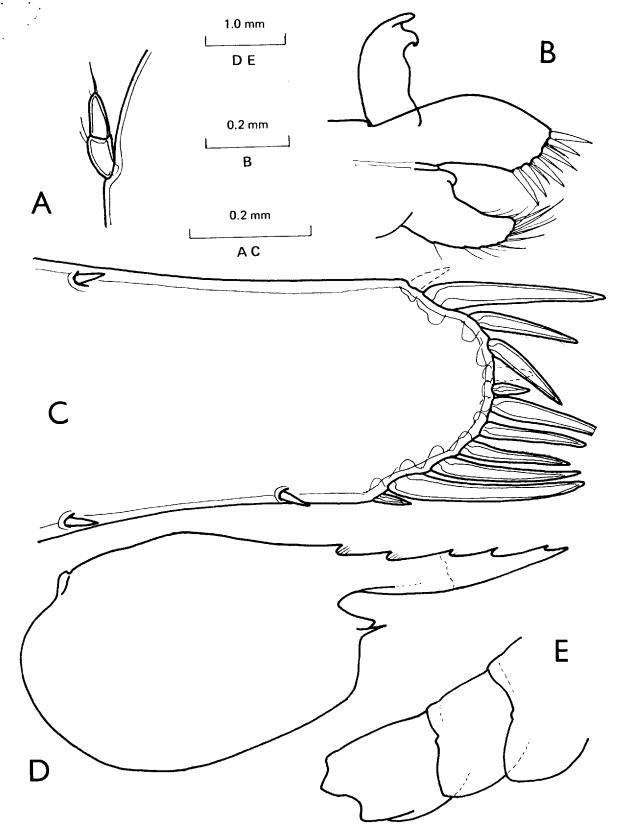


Fig. 4 Vir philippinensis sp. nov. Female, paratype. A, mandibular palp. B, maxillula. C, posterior telson. D, anterior carapace and rostrum (broken at dotted line). E, posterior abdominal segments.

lateral spine, with the anterolateral border feebly produced, with short plumose setae. stylocerite is slender and acute, reaching to about the middle of the segment length. The statocyst is normally developed with a subcircular statolith. The medial border of the segment is setose, with a submedian tooth ventrally at half its length. The intermediate and distal segments are short and slender, subequal in length, the intermediate segment with a small lateral lobe. The upper flagellum is well developed, biramous, with the proximal 13 segments or so fused. The shorter free ramus is about equal to the post-orbital carapace length and consists of only three segments. The larger ramus consists of about 13 very short slender segments and equals about twice the length of the fused rami. About six groups of aesthetascs are present. The lower flagellum is long and slender, exceeding the upper flagellum, with about 30 segments.

The antenna has the basicerite with a small anterolateral tooth. The ischiocerite and merocerite are normal. The carpocerite is about 2.5 times longer than wide, not reaching the middle of the scaphocerite length. The flagellum is long and slender, equal to about 5-6 times the post-orbital carapace length. The scaphocerite is well developed and slightly exceeds the tip of the rostrum. The lateral border is feebly concave, with an acute disto-lateral tooth, that does not exceed the anterior margin of the lamella, which is about 3-4 times longer than wide, broadest at half its length, with a broadly rounded distal margin.

The mandible is robust, with a small twosegmented palp. The molar process is stout with large angular teeth. The incisor process is well developed, with three large acute teeth distally. The maxillula has a bilobed palp, the lower lobe of which bears a setiferous tubercle. The upper lacinia is slender, with about six stout spines and few setae distally. The lower lacinia is short and stout with a few slender setae distally. The maxilla has is slender, tapering non-setiferous palp. The basal endite is bilobed, with about 11 slender simple setae on the distal lobe and 8 on the proximal. The coxal endite is obsolete, the medial border feebly convex. The scaphognathite is broad, about 2.2 times longer than wide. The anterior lobe is feebly emarginate medially; the posterior lobe is large. The first maxilliped has a

short stout palp bearing a single plumose seta disto-medially. The basal endite is large and rounded with numerous slender setae distally and medially. The basal endite is feebly bilobed and sparsely setose. The exopod is well developed with a large caridean lobe, the flagellum with four long plumose setae distally and a large narrowly epipod is present. The second triangular maxilliped has a normal endopod, the dactyl is narrow with numerous short spinulate spines, the disto-medial propod bears six slender spines. The exopod is normally developed with four long plumose setae. The coxa is feebly produced medially and sparsely setose, with a small epipod laterally, without subrectangular podobranch. The third maxilliped has a slender endopod, reaching anteriorly to exceed the carpocerite by the length of the terminal segment. The ischio-merus and basis are distinct. The antepenultimate segment is about 6.0 times longer than wide, tapering feebly distally, with slender setae sparsely along the medial border. The penultimate segment is about 5.8 times longer than wide, 0.6 of the length of the antepenultimate, and also sparsely setose. The terminal segment is more heavily spinose, tapering distally, about 4.0 times longer than wide, equal to about 0.45 of the ischio-merus length, with a short strong distal spine. The medial border of the basis is sparsely setose and not produced. The exopod is well developed, reaching to the end of the antepenultimate segment of the endopod with 5-6 long plumose distal setae. The coxa is feebly produced medially with a small rounded epipod laterally. A rudimentary arthrobranch is present.

The fourth thoracic sternite has a stout median spine. The subsequent sternites are unarmed, narrow but increasing in width posteriorly.

The first pereiopods are slender, extending distally to exceed the scaphocerite by the distal half of the carpus. The chela is slender, feebly compressed, with the fingers slender, about 4.5 times longer than deep, slightly shorter than the palm length, with cutting edges entire, and small hooked tips. The carpus is slender, about 1.5 times length of the chela, about 7.0 times longer than the distal width. The merus is slightly shorter than the carpus, uniform, about 8.0 times longer than wide. The ischium is about 0.5 of the merus length and 1.5 times the basis length. The coxa has

a small median ventral process.

The second pereiopods are well developed, subequal and similar, and extend beyond the scaphocerite by the distal third of the merus, carpus and chela. The palm of the chela is smooth, subcylindrical, slightly swollen proximally, about 4.75 times longer than wide. The fingers are equal to about 0.6 of the palm length, 5.0 times longer than deep, with hooked tips. The dactyl has two low acute teeth at the middle of the cutting edge and the fixed finger has a single small central tooth, with a group of three smaller teeth proximally. The distal cutting edges are sharp, entire and sparsely setose. The carpus is about 0.75 of the palm length, about 4.5 times longer than wide subdistally, slightly expanded and excavate, distally unarmed. The merus is subequal to the carpus, about 6.0 times longer than wide, narrower proximally and distally unarmed. The ischium is about 0.75 of the carpus length, more slender than the merus and also unarmed. The basis and coxa are normal.

The ambulatory pereiopods are moderately slender, the third exceeding the carpocerite by the carpus, propod and dactyl. The dactyl is slender, compressed, about 4.5 imes longer than deep, and 0.22 of the propod length. The unguis is distinct from the corpus, slender and feebly curved, about 0.5 of the corpus length. The corpus bears a few short disto-lateral setae with a long seta rising from the distal dorsal border. The propod is about 11.5 times longer than wide, uniform, with a pair of small disto-ventral spines and a small preterminal ventral spine, with a few slender setae disto-laterally. The carpus is slender, equal to about 0.5 of the propod length. The merus is very slightly longer than the propod and about 1.6 of the ischium length. The basis and coxa are normal. The fourth and fifth pereiopods are essentially similar to the third.

The endopod of the male first pleopod is about 3.5 times longer than wide, curved, with the median border concave, with five long feebly plumose setae on the proximal third, 4–5 short spines centrally and short plumose setae distally, extending round the distal and disto-lateral border. The second pleopod has a well developed appendix masculina that distinctly over-reaches the appendix interna but not the ramus of the endopod, with about 5 long distal spines, with six

further spines along the lateral border and 3 on the distal ventral aspect.

The uropods are slightly exceeded by the tip of the telson. The protopod has the disto-lateral angle unarmed. The exopod is broad, about 2.2 times longer than wide, the lateral border strongly convex with a small posterior lateral tooth with a small mobile spine medially. The endopod is about 2.7 times longer than wide and slightly exceeded by the exopod.

The ova are numerous and small, length about 0.5 mm.

Hosts. The type specimens were found in association with a *Plerogyra sinuosa* (Scleractinia). The paratypes were associated with a *Fungia* and an unidentified solitary coral.

Bathymetric range. 25-30 m.

Colouration. Mainly transparent, with a brownish tinge, but with thin lines of blue-black along the length of all pereiopods, as well as the third maxilliped, and all antennal flagella.

Systematic Position. The present species is most closely related to V. orientalis Dana, the only other species referred to the genus Vir Holthuis, 1952. It may be most readily distinguished from that species by the longer and more slender form of the second pereiopods and the ambulatory pereiopods, which are short and robust in V. orientalis. Kemp (1922) has shown that the second pereiopod in V. orientalis has the palm about 2.5 times longer than deep and the carpus 0.6 of the palm length (as opposed to 3.5 times and 0.8 in V. philippinensis). Similarly the propod of the third pereiopod in V. orientalis is 7.0 times longer than deep, with only a single disto-ventral spine but dense long setae distally, with the dactyl short and strongly curved, about 3.3 times longer than deep, (as opposed to 11.5 times longer than deep; dactyl 4.7 times longer than wide and feebly curved with sparse distal setae).

Kemp's single example of *V. orientalis* had a single segmented mandibular palp, although his illustration suggests a small segment could be present. The present specimens show that the segments can be subequal or with the proximal longer than the distal. In the holotype of *V. orientalis* the palp has two segments, approximately subequal. Other differences are portion of the rami of the upper antennulary

A.J. Bruce & A. Svoboda

philippinensis than in V. orientalis and the fused portion of the rami of the upper antennualr flagellum is comparatively longer, with about 12–13 segments as opposed to six.

Remarks. The paratype female, CL. 3.0 mm, has an abnormal telson, armed with probably twelve posterior marginal spines. The specimen also has a rostral dentition of 5/1, whereas the two other specimens with complete rostra have 7/1 and 8/1, the fourth example having half the rostrum lacking. The male allotype also has the carapace presenting a noticeably inflated form and the hepatic region appears filled with a mass of small ova which may be those of a cryptoniscan parasite. A photograph of a small host coral shows the presence of a male-ovigerous female pair of specimens.

Periclimenes psamathe (De Man)

Restricted synonymy:

Urocaris psamathe De Man, 1902: 816- pl. 25, fig. 1.

Periclimenes (Ancylocaris) psamathe—Kemp, 1922: 173.

Periclimenes (Harpilius) psamathe—Holthuis, 1952: 61–62, fig. 23–Monod, 1976: 14–22, figs. 1–28.

Material examined—1 ♂, 1 juv., NTM Cr. 000416.

Remarks. The specimens present no special features. The male has a rostral dentition of $1 + \frac{5}{0}$ and the juvenile has the rostrum broken. The male has a bopyrid isopod of the genus Filophryxux attached to the dorsum of the second abdominal segment. The specimens were reported to have been found in association with a Plerogyra.

Distribution. Not previously recorded from the Philippines. Type locality, Ternate, Indonesia. Also known from Kenya, Tanganyika, Zanzibar, Madagascar, Maldive Islands, Diego Garcia, Singapore, South China Sea, Japan, New Caledonia, NE Australia, and Marshall Islands.

Periclimenes holthuisi Bruce

Restricted synonymy:

Periclimenes (Periclimenes) aesopius—Holthuis, 1952; 34–37, figs. 5–6.

Periclimenes holthuisi Bruce, 1968: 258-259; 1981: 244-246, fig. 7.

Material examined. 1 ♂, 1 ovig. ♀, NTM Cr. 000417.

Bathymetric range. 10-35 m.

Colouration. Generally as previously described, but the chevron of colour on the dorsum of the third abdominal segment consists of white spots outlined in blue.

Remarks. The male has a rostral dentition of 7/1 and the female 9/2, and both specimens agree closely with previously published reports.

Host. Actiniaria indet. Large numbers of specimens were observed in association with sea anemones, including Entacmaea quadricolor, Heteractis magnifica, Actinodiscus sp., Megalactis sp. and an unidentified corallimopharian, as well as the corals Euphyllia glabrescens and Plerogyra sinuosa. Previously reported in associations with Scyphozoa and Scleractinia.

Distribution. Not previously reported from the Philippines. Type locality, Lung Ha Wan, Hong Kong. Also known from the Red Sea, Zanzibar, Seychelle Islands, Maldive Islands, Ceylon, Indonesia, New Guinea, Japan, New Caledonia, NE Australia and Marshall Islands.

Periclimenes kororensis Bruce (Figs. 5-6)

Restricted synonymy:

Periclimenes kororensis Bruce, 1977: 33-43, figs. 1-4.

Material examined. 1 ♂, 1 ovig. ♀, 1 juv., NTM Cr. 000418; 1 ♂, NTM Cr. 000419.

Bathymetric range. 15 m.

Colouration. Apparently generally transparent, but with anterior carapace and rostrum (?) and antennal peduncles white. Ventral thoracic region and basis and coxa of second pereiopod orangered.

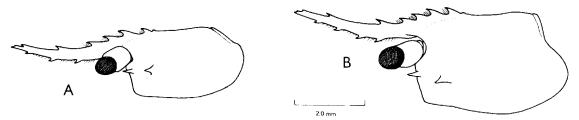


Fig. 5 Periclimenes kororensis Bruce. Carapace and rostrum. A, male. B, female.

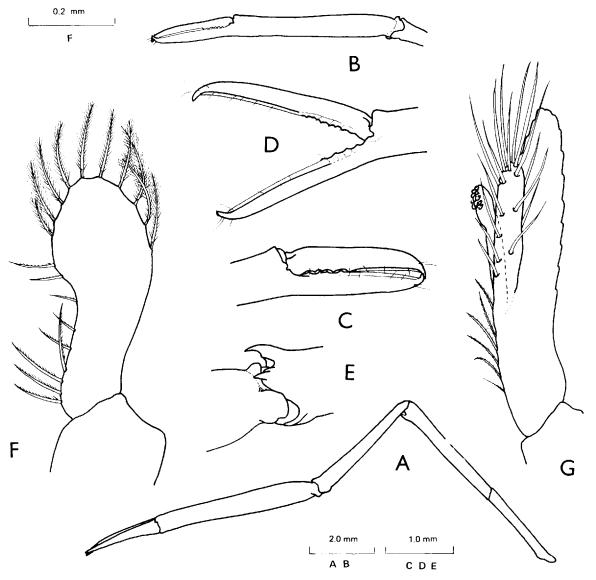


Fig. 6 Periclimenes kororensis Bruce. A, second pereiopod. B, same, chela. C, same, fingers of chela. D, same. E, same, carpo-meral joint, dorso-lateral. F, endopod of male first pleopod. G, endopod of male second pleopod.

Table 1. Measurements of Periclimenes kororensis.

	pereiopod	
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	CL.	L/R	Dactyl	Chela	Carpus	Merus	Ischium
ď	3.5	L	2.5	8.5	5.0	5.0	3.4
		R	3.1	8.8	5.0	5.0	3.4
juv.	2.7	L	2.2	6.6	3.5	4.0	2.6
		R	-	_	_	-	_
ov. Q	v. Q 4.5	L	2.0	4.3	3.8	3.7	2.7
,		R	2.0	4.3	3.9	3.7	2.7
O'	2.5	L	2.6	7.5	3.7	4.0	2.8
		R	2.7	7.2	3.9	4.0	2.8

Remarks. Periclimenes kororensis was first described on the basis of a single ovigerous female from Koror, Palau Islands, which lacked both the second pair of pereipods. Although since found in Australia waters (Bruce in press), the second pereiopods are as yet undescribed.

The present specimens have all the second pereiopods detached but the first lot have three preserved, all apparently from the adult pair, and the second lot has both preserved, enabling the description of the species to be completed.

The specimens have the rostral dentition as follows: \circ 8/5, \circ 7/3, juv. 7/3; \circ 6/3. In the males, a distinct postrostral tubercle is present, that is only very feebly indicated in the female. The second pereiopods are long and slender, equal and similar in the male. The chela is equal to about 2.5 of the post-orbital carapace length. The palm is very slender, smooth, subcylindrical, slightly swollen proximally, about 7.2 times longer than wide; fingers slender, equal to about 0.5 of palm length, about 8.0 times longer than deep, tips feebly hooked, distal two thirds of cutting edges entire, proximal third with 4-6 small teeth; carpus slender, equal to about 0.75 of palm length, 7.5 times longer than distal width, slightly expanded distally, with angular ventral lobe and two acute spines dorsally; merus subequal to carpus length, about 9.5 times longer than wide, subuniform, with acute distal ventral spine, ischium about 0.7 of merus length, slender, unarmed, about 8.5 times longer than wide; basis and coxa robust, normal. The second pereiopods attributed to the ovigerous females are essentially similar with chelae equal to 1.4 of the postorbital carapace length. The endopod of the male first pleopod is 4.0 times longer than wide, distally expanded, without medial lobe, distal third with 10 short plumose setae, medial border with 9 feebly setulose spines. Appendix masculina distinctly exceeded by appendix masculina on second pleopod, corpus about 5.0 times longer than wide, with two ventral rows of 3 and 5 simple spines and 5–6 longer distal spines.

Host. Numerous specimens were observed in male-female pairs in association with fungiid corals, probably Fungia actiniformis.

Distribution. Not previously recorded from the Philippines. Type locality, Koror, Palau Islands, Marshall Islands. Also known from Queensland, Australia.

Periclimenes magnificus Bruce

Restricted synonymy:

Periclimenes magnificus Bruce, 1979: 195–208, figs. 105, pl. 1 a-c; 1980: 41, fig. 5; 1981: 18—Cases & Storch, 1981: 15–16.

Material examined. 1 ovig. ♀, NTM Cr. 000420. *Bathymetric range*. 3–10 m.

Colouration. Generally as previously described and illustrated (Bruce 1979, 1980) but the white scaphocerite and the antennal flagella much less conspicuous than in Australian material.

Remarks. The single example agrees with the previously published description and has a rostral dentition of 7/2, the two ventral teeth being subterminal and minute.

Host. Actiniaria indet. Also observed on Megalaspis sp.

Distribution. Previously recorded in the Philippines from Canbyan island by Cases and Storch (1981). Type locality: Heron Island, Capricorn Islands, Queensland, Australia. Otherwise recorded only from Japanese waters.

Pliopontonia furtiva Bruce (Fig. 7)

Restricted synonymy:

Pliopontonia furtiva Bruce, 1973: 99–108, figs. 1–5, pl. 1; 1981: 22, 27.

Material examined. $1 \circ Q$, with hemiarthrinid bopyrid parasite, NTM Cr. 000421.

Bathymetric range. 10 m.

Colouration. Transparent, with yellow and white spots.

Remarks. The single example lacks both second pereiopods and has only two intact ambulatory pereiopods. The rostrum is slender and smoothly tapering and reaches to the middle of the intermediate segment of the antennular peduncle. The dorsal margin bears seven small similar acute teeth and the ventral border is without teeth. The rostrum therefore contrasts strongly with that of the ovigerous female holotype specimen from Mombasa, Kenya, in which it was extremely short and with four dorsal teeth only, with an abruptly truncated appearance. This truncated form of rostrum is now attributed to developmental or traumatic factors and the rostrum as shown by the present specimen is considered typical of the species (closely resembling Australian materialunpublished observations). In other respects the specimen agreed well with the description of the holotype.

Host. Actiniaria indet.

Distribution. Not previously recorded from the Philippines. Type locality, Ras Iwatine, Mombasa, Kenya. Also recorded from the Australain Great Barrier Reef.

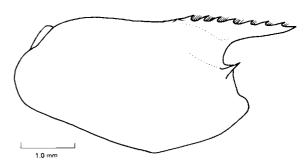


Fig. 7 Pliopontonia furtiva Bruce. Carapace and rostrum of adult female.

Discussion

The pontoniine shrimp fauna of the Philippine Islands has received comparatively little study. Dana (1852) described the first species from this area, Anchistia gracilis, Palaemonella tenuipes and Palaemonella orientalis. There have been no further records of A secritis, considered a further three species. The fauna thus consists of by Holthuis (1952) as incertae sedis, and may well specimen of Harpiliopsis depressa (Stimpson). Unfortunately the type specimen is no Holthuis longer extant. (1952) has transferred Palaemonella orientalis to the genus Vir. Subsequently the 1899-1900 Siboga Expedition provided further specimens from the Sulu Archipelago and, more recently, the 1976 MUSORSTOM Expedition provided a further six species, mainly from deeper waters. Most recently, Cases and Storch (1981) were able to add a further three species. The fauna thus consists of only 24 species (excluding Anchistia gracilis). Details of these species are summarized below.

- 1. Anchistioides willeyi (Borradaile, 1898). Reported from plankton off Kapul Island, Sulu Archipelago (Holthuis 1952).
- 2. Anchistus miersi (De Man, 1888). Recorded by Cases and Storch (1981) from Sumilon Island and Alignay, Zamboanga del Norte, near Dipolog, in association with *Tridacna squamosa*.
- 3. Onycocaridella stenolepis (Holthuis, 1952). Reported from Pearl Bank, Sulu Archipelago, at 15m, by Holthuis (1952). This species is an associate of sponges.
- 4. *Palaemonella rotumana* (Borradaile, 1898). One ovigerous female recorded from North Ubian Island, Sulu Archipelago, from 16–23m (Holthuis

1952) and one specimen from 107m off Lubang (Bruce 1981).

- 5. Palaemonella tenuipes Dana, 1852. Dana (1852) recorded the holotype specimen from the Sulu Sea.
- 6. Periclimenaeus tridentatus (Miers, 1884). Specimens referred to this species have been reported in association with ascidians from North Ubian Island, Sulu Archipelago (Holthuis 1952). The dactyls of the ambulatory pereiopods differ from the type of *P. tridentatus* and may indicate that this record should be referred to a separate species.
- 7. Periclimenaeus truncatus (Rathbun, 1906). A single male example, from 76m has been reported from Lubang (Bruce 1981).
- 8. Periclimenes alcocki Kemp, 1922. One ovigerous female from 187m has been recorded from off Lubang (Bruce 1981).
- 9. Periclimenes batei (Borradaile, 1917). Known only from the holotype collected by the Challenger Expedition off Sibago and first reported by Bate (1888) as Palaemonella orientalis (Holthuis 1959).
- 10. Periclimenes brevicarpalis (Schenkel, 1902). Recorded by Holthuis (1952) from surface waters of the Sulu Sea and later from sea anemones on Canbyan Island, by Cases and Storch (1981).
- 11. Periclimenes foresti Bruce, 1981. Known only from a single female caught at 189 m (Bruce 1981).
- 13. Periclimenes foveolatus Bruce, 1981. Known only from five examples caught at 187–194 m off Lubang (Bruce 1981).
- 14. Periclimenes holthuisi Bruce, 1969. Present report.
- 15. Periclimenes kororensis Bruce, 1977. Present report.
- 16. Periclimenes latipollex Kemp, 1922. One female, from 133-185m, off Lubang, recorded by Bruce (1981).

- 17. Periclimenes longirostris (Borradaile, 1915). One male, from 17m, off Lubang (Bruce 1981).
- 18. Periclimenes magnificus Bruce, 1979. Recorded in association with sea anemones from Canbyan Island, Cebu, by Cases and Storch (1981) and also in this report.
- 19. Periclimenes psamathe (De Man, 1902). This report.
- 20. Periclimenes rectirostris Bruce, 1981. Known only from two males and one ovigerous female recorded from 134–129m, off Lubang, probably in association with the echinoid Eremopyga denudata (De Meiger).
- 21. Periclimenes seychellensis Borradaile, 1915. Recorded by Holthuis, (1952) from Sipankot, near Sibutu, Sulu Islands.
- 22. Periclimenes soror Nobili, 1904. Also recorded from Sipankot, near Sibutu, Sulu Islands by Holthuis (1952) and also by Cases and Storch (1981) from Mactan and Sumilon Islands, in association with Acanthaster planci.
- 23. Pliopontonia furtiva Bruce, 1973. This report.
 - 24. Vir philippinensis sp. nov. Present report.

The meagre number of species represented clearly indicates how little work has been carried out on the marine caridean fauna of the Philippine Islands, an area of rich and extensive coral reefs. It is most probable that the number of species known from this region could be increased by a factor of five if more detailed faunistic studies were carried out. Most shallow water tropical marine shrimps have extensive distributions throughout much of the Indo-West Pacific region and can be expected to occur in Philippine waters. Many of the best known common species are yet to be reported although their presence is a foregone conclusion. Undoubtedly also, many new or little-known species are also present and waiting to be recorded.

References

Bate, C.S. 1888. Report on the Crustacea Macrura collected by H.M.S. Challenger during the years 1873–76. Reports of the voyage of H.M.S. Challenger, Zoology. 24, i-xc, 1–942.

Bruce, A.J. 1968. Preliminary descriptions of sixteen new species of the genus *Periclimenes* Costa 1844 (Crustacea, Decapoda Natantia, Pontoniinae). *Zoologisches Mededelingen*, *Leiden*, 44, 159–175.

- Bruce, A.J. 1973. Notes on some Indo-Pacific Pontoniinae, XXII. *Pliopontonia furtiva* gen. nov., sp. nov., a new shrimp associated with a coralliomorph zooantharian. *Crustaceana*, 24, 97-109.
- Bruce, A.J. 1977. Periclimenes kororensis sp. nov., an unusual shrimp associate of a fungiid coral Heliofungia actiniformis. Micronesica, 13, 33-43.
- Bruce, A.J. 1979. Notes on some Indo-Pacific Pontoniinae, XXXI. *Periclimenes magnificus* sp. nov., a coelenterate associate from the Capricorn islands (Decapoda, Palaemonidae). *Crustaceana*, suppl. 5, 195-208.
- Bruce, A.J. 1980. Shrimp: the complex life relationships of shrimps on the Great Barrier Reef. *Geo.* 2, 38–53.
- Bruce, A.J. 1981. Decapod Crustacea: Pontoniinae. In: Resultats de Campagnes MUSORSTOM I. Philippines (18–28 mars 1976), *I* (8): *Memoires ORSTOM*. 91, 189–215.
- Cases, E. and V. Storch, 1981. Decapods Associated with Invertebrates from Cebu. *The Philippine Scientist*. 18, 15–26.
- Dana, J.D. 1852. Conspectus Crustaceorum quae

- in Orbis Terrarum circumnavigatione, Carolo Wilkes & Classe Reipublicae Foederatae Duce, lexit et descripsit. *Proceedings of the Academy of Natural Sciences of Philadelphia*. 1852, 10-28.
- Estampador, E.P. 1937. A Check List of Philippine Crustacean Decapods. *Philippines Journal of Science*. 62, 465–559.
- Holthuis, L.N. 1952. The Decapoda of the Siboga Expedition, XI. The Palaemonidae collected by the Siboga and Snellius Expeditions with remarks on other species. Subfamily Pontoninae. Siboga Expedition Monograph, 39a¹⁰, 1–254.
- Holthuis, L.B. 1959. Results of the reexamination of the type specimens of some species belonging to the subfamilies Pontoniinae and Palaemoninae (Crustacea Decapoda Macrura). Zoologisches Mededelingen, Leiden. 36, 193-200.
- Kemp, S. 1922. Pontoniinae. Notes on Crustacea Decapoda in the Indian Museum, XV. Records of the Indian Museum, 24, 113–288.
- Monod, Th. 1976. Sur quelques Natantia (Crust. Décapodes) de Nouméa (Nouvelle Calédonie). *Cahiers du Pacifique*, 19, 7–28.

