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Decapod Crustacea : Pontoniinae
(MUSORSTOM II)

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ABSTRACT

The pontoniine shrimps collected by the second MUSORSTOM Expedition, 1980, to the Philippine Islands, are described. The collection includes eight species, only two of which were also captured by the first expedition. Of these, two represent new species of *Periclimenes* and *Onycocaris* and one a new genus, *Plesiopontonia*. A key for the identification of the twelve deep water (> 100 m) Indo-West Pacific species of *Periclimenes* is also provided.

RÉSUMÉ

Les crevettes Pontoniinae récoltées par la seconde Expédition MUSORSTOM, 1980, aux îles Philippines, sont ici décrites. Sur les huit espèces, deux seulement ont été récoltées par la première expédition. Trois espèces sont nouvelles, une *Periclimenes* et une *Onycocaris*, et une troisième appartenant à un nouveau genre, *Plesiopontonia*. Une clef est fournie pour l'identification des douze espèces de *Periclimenes* des eaux profondes de l'Indo-Ouest-Pacifique (> 100 m).

INTRODUCTION

The second MUSORSTOM Expedition to the Philippine Islands, in November 1980, has obtained a further small collection of pontoniine shrimps that constitutes an interesting addition to present knowledge of the deep water pontoniine shrimp fauna and the fauna of the Philippine Islands themselves. Only eight specimens were obtained, all except three from over 100 m depth, and all representing separate species of five different genera, one of which, *Plesiopontonia*, is new to science. Two of the other specimens represent undescribed species of the genera *Periclimenes* Costa, 1844 and *Onycocaris* Nobili, 1904. The pontoniine shrimp fauna of the Philippine Islands has been recently reviewed (BRUCE & SVOBODA, 1984) and, with the present additions, is now raised to 30 species, a very small number for a situation in the heart of the rich Indo-West Pacific region, where most of the common regional species are as yet unrecorded.

I am grateful to Dr J. FOREST for the opportunity to examine and report upon this interesting shrimp collection, which is deposited in the collections of the Muséum National d'Histoire Naturelle, Paris.

CL indicates postorbital carapace length. R indicates rostral dentition.

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List of Stations.

Station 2. — 20.11.80, 14°01,0′ N, 120°17,1′ E, 186-184 m, trawl : *Periclimenes coriolis* sp. nov.
Station 6. — 20.11.80, 13°56,5′ N, 120°20,7′ E, 136-152 m, trawl : *Periclimenes foresti* Bruce.
Station 15. — 21.11.80, 13°55,1′ N, 120°28,4′ E, 330-326 m, trawl : *Periclimenes alcocki* Kemp.
Station 26. — 23.11.80, 13°49,6′ N, 120°51,0′ E, 299-320 m, trawl : *Plesiopontonia monodi* gen. nov., sp. nov.
Station 33. — 24.11.80, 13°32,3′ N, 121°07,5′ E, 130-137 m, dredge : *Mesopontonia gorgoniophila* Bruce.
Station 47. — 26.11.80, 13°33,0′ N, 122°10,1′ E, 81-84 m, trawl : *Onycocaris profunda* sp. nov.
Station 73. — 30.11.80, 13°55,5′ N, 120°22,3′ E, 20-21 m, dredge : *Harpiliopsis depressa* (Stimpson), *Periclimenes consobrinus* (de Man).

Species List.

1. *Periclimenes consobrinus* (de Man, 1902).
2. *Periclimenes alcocki* Kemp, 1922.
3. *Periclimenes foresti* Bruce, 1981.
4. *Periclimenes coriolis* sp. nov.
5. *Harpiliopsis depressa* (Stimpson, 1860).
6. *Onycocaris profunda* sp. nov.
7. *Mesopontonia gorgoniophila* Bruce, 1967.
8. *Plesiopontonia monodi* gen. nov., sp. nov.

SYSTEMATIC ACCOUNT

1. *Periclimenes consobrinus* (de Man).

Harpilius consobrinus de Man, 1902 : 836-840, pl. 26, fig. 54.
Periclimenes consobrinus, BRUCE. 1972 : 409, 411, 412, fig. 1 a ; HOLTHUIS, 1981 : 795-796, fig. 3 i-l.

MATERIAL

St. 73, 20-21 m : 1 ovig. ♀, CL. 4.6 mm (Na 5283).

REMARKS

The single example is damaged and lacks the rostrum, one second pereiopod and four ambulatory pereiopods. However it can safely be referred to this species on account of the characteristic morphology of the second pereiopod, distal ambulatory propod and dactyl, second maxilliped and the presence of a distinct slender median spine on the fourth thoracic sternite. The specimen may also be distinguished, in the absence of the rostrum, from *P. bayeri* Holthuis, by the broader, laterally straight scaphocerite. The ova are about 0.5 mm in diameter.

The species is a shallow water associate of scleractinian corals of the family Pocilloporidae.

DISTRIBUTION

Not previously recorded from the Philippine Islands. Type locality : Ternate, Indonesia. Also known from other localities in Indonesia, Tanzania, Kenya, the Comoro Islands, La Réunion, and the southern Great Barrier Reef, Australia.

2. *Periclimenes alcocki* Kemp (Fig. 1).

Palaemon (Brachycarpus) laccadivensis (partim) Alcock, 1901 : 103.
Periclimenes (Periclimenes) alcocki Kemp, 1922 : 141 (key), 154-156, figs. 21-24 ; KUBO, 1940 : 33-35, figs. 1-2, 36 c ; HOLTHUIS, 1952 : 8.
Periclimenes alcocki, BRUCE, 1978 : 227-228, fig. 10 ; 1981 : 190-195, figs. 1-2.

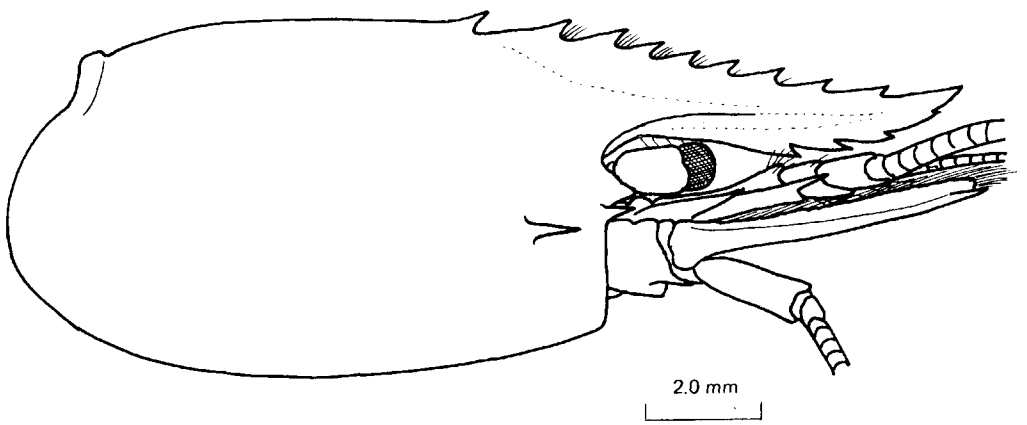

FIG. 1. — *Periclimenes alcocki* Kemp. Ovigerous female : carapace and antennae.

MATERIAL

St. 15, 330-326 m : 1 ovig. ♀, CL. 9.0 mm.

REMARKS

The single example, which lacks only a left second pereiopod, has a well calcified integument. The rostrum extends well beyond the antennular peduncle and has a dentition of nine dorsal and four ventral teeth, with the distal part rather up-curved. As in previously described specimens, the eye is feebly developed and noticeably small, and the telson has four pairs of small dorsal spines. Compared with the western Indian Ocean specimen from Madagascar, this specimen has a smaller eye, much longer rostrum and a much more strongly developed accessory tooth on the dactyls of the ambulatory pereiopods. The previous Philippine specimen, with a post-orbital carapace of 12 mm, had a small eye in comparison with the present at 9 mm and very small in comparison with the 7.4 mm specimen from Madagascar (BRUCE, 1978), so the eye appears to decrease in size with increasing body size.

Previous records of this species have been from depths of 187-195 m (BRUCE, 1981) to 743 m (ALCOCK, 1901), so the present specimen is from the central region of its bathymetric range.

DISTRIBUTION

Previously recorded from the Philippines area (BRUCE, 1981) but otherwise known only from Madagascar, the Laccadive Sea, Japan and eastern Australian waters.

3. *Periclimenes foresti* Bruce (Fig. 2-3).

Periclimenes foresti Bruce, 1981 : 201-204, figs. 10-11, 17 c.

MATERIAL

St. 6, 136-152 m : 1 ♂, CL. 9.5 mm.

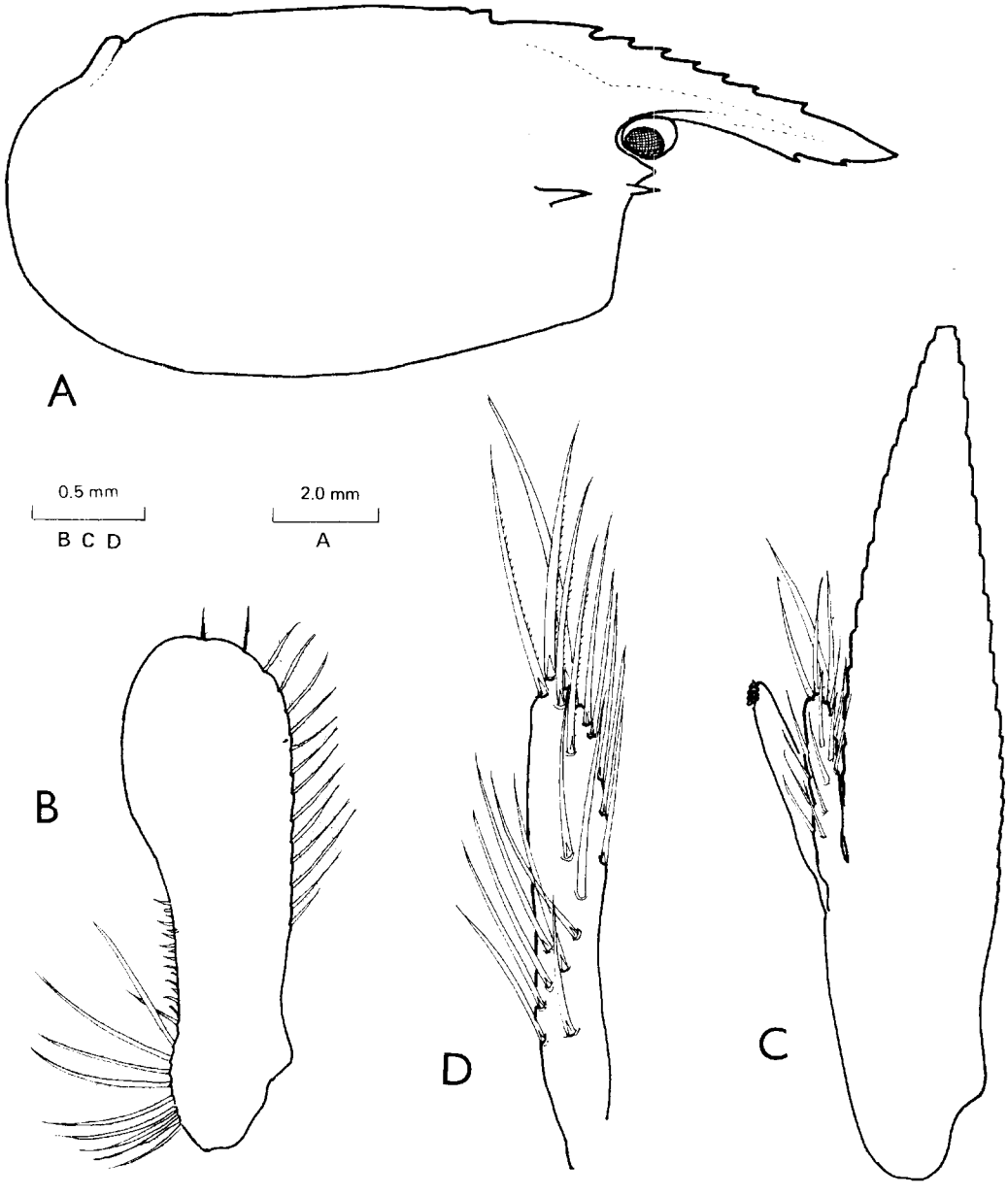

FIG. 2. — *Periclimenes foresti* Bruce. Male : A, carapace and rostrum ; B, endopod of first pleopod ; C, endopod of second pleopod ; D, appendix masculina.

DESCRIPTION

The single example is complete, with a well calcified integument. The rostrum has a dentition of seven dorsal and two ventral teeth and extends almost to the end of the antennular peduncle. A well developed epigastric tooth is present. The second pereiopods are markedly unequal and both strongly tuberculate. The right, major chela has the palm slightly longer than the post-orbital carapace length, oval in section, about 3.75 times longer than deep, subcylindrical and about 1.75 times the length of the fingers, which are also finely tuberculate, with small strongly hooked tips. The cutting edges are strongly laterally situated, with the medial aspect of the dactylus, which is about 7.0 times

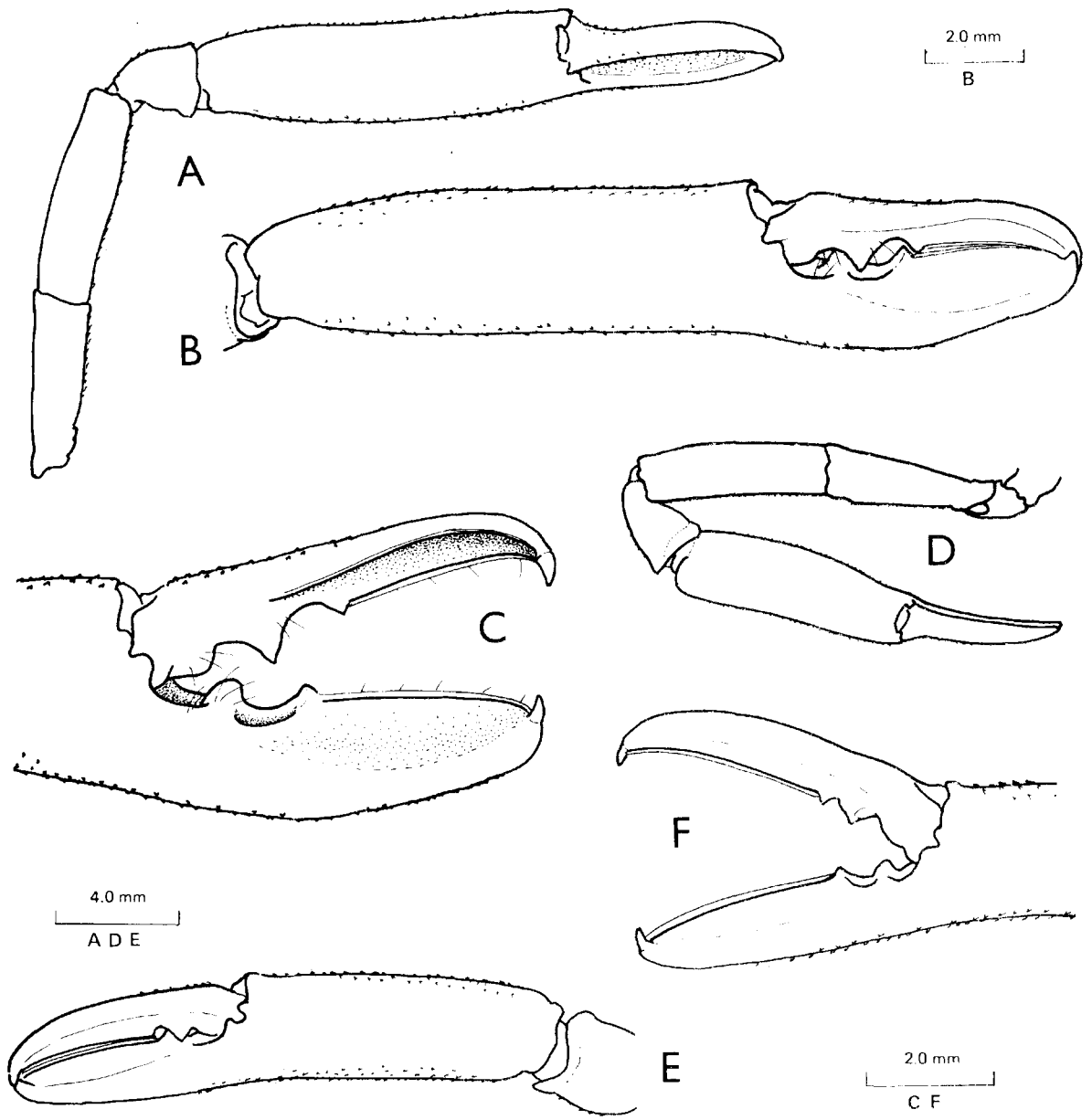

FIG. 3. — *Periclimenes foresti* Bruce. Male : A, major second pereiopod ; B, same, chela ; C, same, fingers ; D, minor second pereiopod ; E, same, chela ; F, same, fingers.

longer than deep, markedly concave, with a carinate outer border. The distal half of the cutting edge is feebly concave and entire, the proximal part with a small acute distal tooth and a large very acute proximal tooth. The fixed finger is much deeper than the dactylus and less markedly hollowed, about 3.5 times longer than deep, with the outer border convex. The proximal cutting edge also bears two teeth but these are less acute than those of the dactyl. The dactylar teeth fit into fossae on the fixed finger. The carpus is short and stout, slightly expanded distally, unarmed but finely tuberculate, equal to about 0.25 of the palm length. The merus is 3.4 times longer than deep, equal to 0.56 of the palm length, rather uniform, with the distoventral angle unarmed and the ventral border densely tuberculate. The ischium tapers slightly proximally, is about 3.2 times longer than wide, equal to about 0.5 of the palm length and also with a densely tuberculate ventral border. The minor second pereiopod is distinctly smaller than the major, with the whole chela subequal to the major palm length. The palm is subcylindrical, slightly compressed, finely tuberculate, about 3.0 times longer than wide. The fingers are slender, equal to about 0.7 of the palm length and finely tuberculate proximally. The dactyl is about 5.8 times longer than deep, similar to that of the major chela but much less robust, with a less marked concavity and lateral carina. The fixed finger is also similar to that of the major chela but more slender and less robust, about 4.0 times longer than deep. The carpus, merus and ischium are similar to those of the major chela but less robust and the merus is also slightly shorter. The basis and coxae are stout and normal.

The endopod of the first pleopod is about 3.0 times longer than the width of the expanded distal half, 5.0 times longer than the width of the proximal half. The proximal fifth of the medial border bears nine long finely setulose setae. The rest of the proximal half of the medial border bears about 15 short hooked spines, and the rest of the border is glabrous. The distal three fifths of the lateral border bears a row of 15 short plumose setae. The second pleopod has an appendix masculina equal to 0.22 of the endopod length, shorter than and exceeded by the appendix interna. The corpus of the latter is about 6.5 times longer than wide, with numerous robust simple spines dorsally and dorsolaterally, with a few longer, sparsely spinulate spines distally.

Remarks

The species is previously known only from the single female holotype specimen, which lacked one of the second pereiopods. The two specimens agree closely in their general morphology, and particularly in the dactyls of the ambulatory pereiopods. The holotype had a rostral dentition of 8/1, similar to the present specimen with 7/1. The single second pereiopod of the holotype is evidently the minor second pereiopod.

Distribution

Previously recorded only from the type locality off Lubang, Philippine Islands, at 14°00,8′ N, 12°18,0′ E, at 189-209 m.

4. *Periclimenes coriolis* sp. nov. (Figs. 4-7).

Material

St. 2, 186-184 m : 1 ♀, CL. 5.0 mm.

Description.

A medium sized, moderately slenderly built pontoniine shrimp, with the body subcylindrical, of normal form.

The carapace is smooth and glabrous, with a well developed, straight, slightly depressed rostrum

reaching almost to the end of the antennular peduncle. The dorsal carina bears eight small, acute, evenly spaced teeth of which the first is situated over the carapace and the second over the orbit. The ventral carina bears two small acute teeth, the first at three quarters of the length and the second close to the tip. The lateral carinae are feebly developed and sparsely setose. There is no epigastric spine or tubercle. Supraorbital spines are lacking and the orbit is feebly developed. The inferior orbital angle is well produced, subacute, and the antennal spine is slender and marginal. The hepatic spine is also small, at a slightly lower level than the antennal spine, and situated below the first dorsal rostral tooth. The anterolateral angle of the branchiostegite is obtusely angular and not produced.

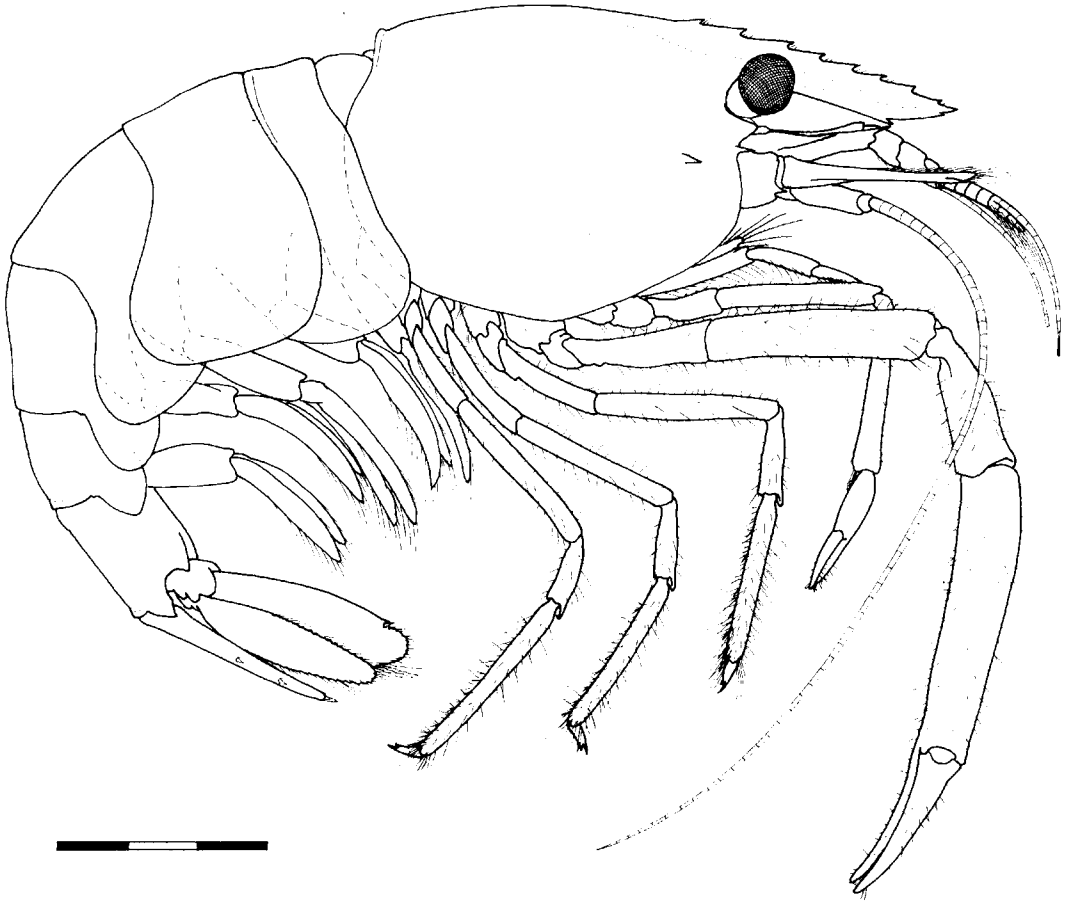

FIG. 4. — *Periclimenes coriolis* sp. nov., holotype female. Scale in mm.

The abdominal segments are smooth, the third slightly produced posteriorly. The fifth segment is about 0.7 of the length of the sixth, which is about 1.3 times longer than deep, with the posterolateral and posteroventral angles acutely produced. The pleura of the first three segments are broadly rounded, those of the fourth and fifth segments bluntly produced posteriorly. The telson is about 1.6 times the length of the sixth segment, about 2.6 times longer than wide, 2.5 times wider anteriorly than posteriorly, with slightly convex sides and a feebly angular posterior border, with a small median point. The dorsal surface bears two pairs of small submarginal dorsal spines at 0.55 and 0.80 of the length. The posterior border bears a pair of small lateral spines, similar to the dorsal spines, and intermediate spines slightly larger and more robust than the lateral ; the submedian spines are lacking.

The eye has a large, well pigmented cornea, without a discernable accessory pigment spot. The stalk is short and narrower than the cornea.

The proximal segment of the antennular peduncle is about 1.5 times longer than broad and bears a well developed acute stylocerite laterally that extends well beyond the midpoint of the medial border, which is armed ventrally with a small acute tooth. The anterolateral margin is produced to the level of the middle of the intermediate segment and bears a strong acute tooth laterally, which extends beyond the level of the proximal end of the distal peduncular segment. The statocyst is normally developed with a granular statolith. The intermediate segment is about 0.18 of the length of the proximal segment and bears a small lateral lobe. The distal segment is about 2.6 of the length of the intermediate and 2.0 times longer than wide. The antennular flagella are incomplete. The upper flagellum is biramous with the five proximal segments fused. The shorter free ramus has four segments. About twelve groups of aesthetascs are present. The lower flagellum is filiform, the proximal segments with short medial setae.

The antenna has a basicerite with a strong anterolateral tooth. The carpocerite is robust, about 2.3 times longer than broad, and reaching just to the middle of the scaphocerite. The flagellum is well developed and slender. The scaphocerite exceeds the tip of the rostrum and reaches the end of the antennular peduncle. The lamella is about 2.5 times longer than wide, with the greatest width proximally to the midlength. The anterior margin is bluntly produced, angular, and extending well beyond the tip of the strong distolateral tooth situated at the distal end of the feebly convex lateral margin.

The epistome is unarmed. The thoracic sternites are narrow and the fourth is unarmed.

The mouthparts are typical of the genus. The mandible is moderately robust and without a palp. The molar process is stout, with a few strong teeth and groups of setae. The incisor process is narrow with three acute, distal teeth, of which the central tooth is smallest. The maxillula has a bilobed palp, with a well developed upper lobe. The lower lobe bears a small ventral setiferous tubercle. The upper lacinia is normal, with the distal and ventral borders confluent, bearing about 12 distal spines and setae. The lower lacinia is strongly tapered with about five strong distal setae and numerous more slender setae. The maxilla has a stout irregular non-setiferous palp, with a few short plumose setae on the proximal lateral margin. The basal endite is slender and deeply bilobed, with the upper lobe more robust than the lower, each with a tuft of short distal setae. The coxal endite is obsolete and represented by a feeble rounded lobe. The scaphognathite is broad, about 2.5 times longer than wide, with the anterior lobe strongly emarginate medially, and a small posterior lobe. The first maxilliped has a long slender palp with a terminal seta. The basal endite is large and broad, with fine setae along its straight medial border, separated by a deep notch from the small sparsely setose coxal endite. The exopod is well developed with a large broad caridean lobe and a flagellum with four long plumose setae distally. A large deeply bilobed epipod is present. The second maxilliped is of normal form, with a well developed exopod. The coxa is angularly produced medially and setose, with an elongated epipod without a podobranch laterally. The third maxilliped has a robust endopod that reaches to the end of the carpocerite. The ischio-merus and basis are completely fused, with the basal portion expanded medially. The combined segment is moderately broad, with some small spines at the distolateral angle, strongly setose medially and about 7.0 times longer than the central width. The proximal medial border has a row of minute submarginal spinules. The penultimate segment is more than half the length of the antepenultimate, about 3.0 times longer than wide, strongly setose ventromedially. The distal segment is about 4.0 times longer than wide, tapering distally and ending in a strong simple spine ; about 0.8 of the length of the penultimate segment, with numerous groups of short spines ventrally. The exopod is normally developed with numerous plumose distal setae. The coxa is feebly rounded medially, with a large oval epipod and a small multilamellar arthrobranch laterally.

The first pereiopod is moderately robust, strongly setose, exceeding the carpocerite by the carpus and chela. The palm of the chela is about twice as long as deep, slightly compressed, equal to the length of the fingers, which are simple, slender, about 4.2 times longer than deep, tapering to distinct hooked tips. The cutting edge of the dactyl is sharp and entire and fits into a groove along the opposing edge of the fixed finger. The carpus is about 1.45 of the chela length, 5.0 times longer than wide, narrower proximally, slightly longer and more robust than the merus. The ischium is slightly

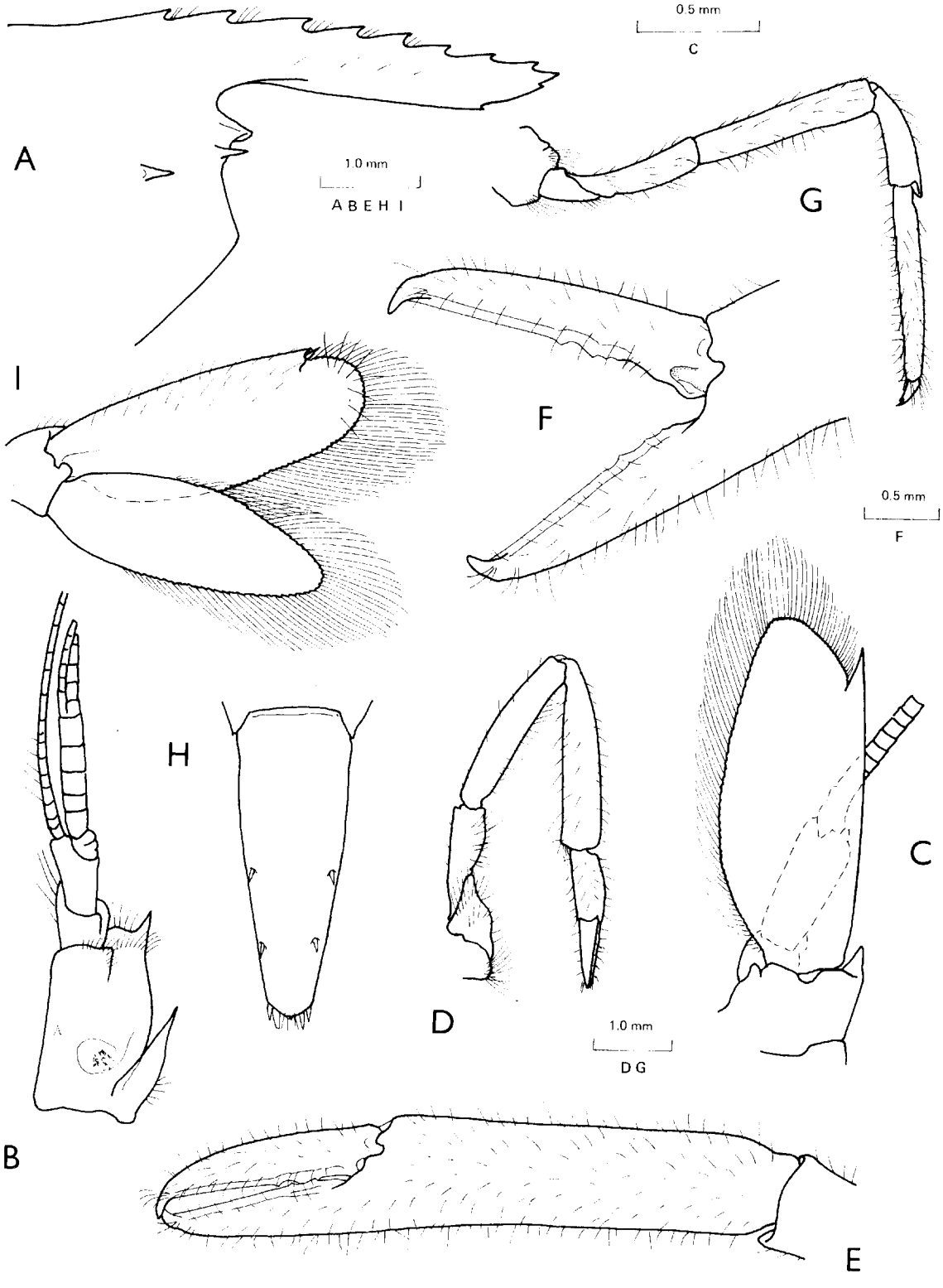

FIG. 5. — *Periclimenes coriolis* sp. nov., holotype female : A, anterior carapace and rostrum ; B, antennule ; C, antenna ; D, first pereiopod ; E, second pereiopod, chela ; F, same, fingers ; G, third pereiopod ; H, telson ; I, uropod.

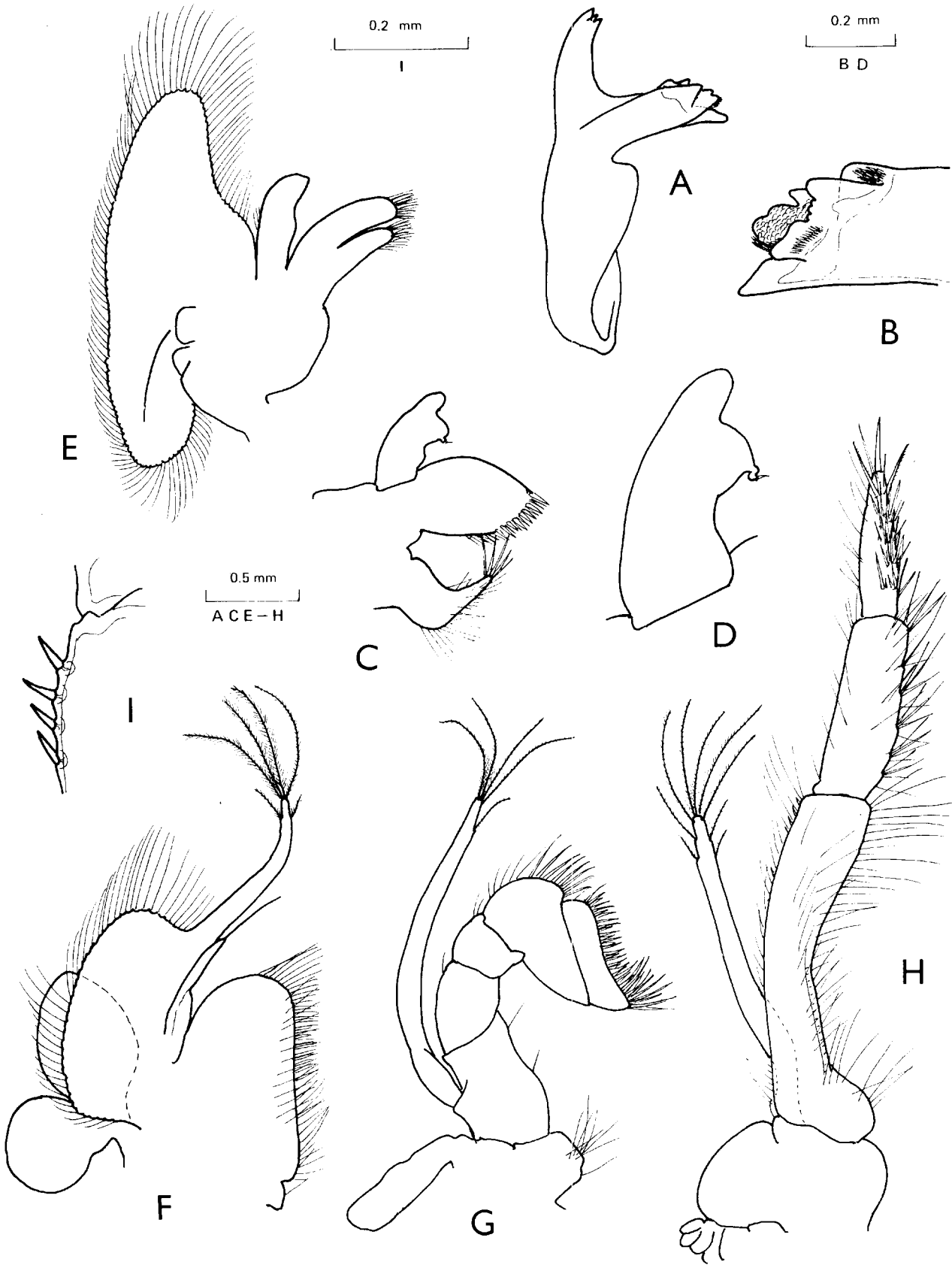

FIG. 6. — *Periclimenes coriolis* sp. nov., holotype female : A, mandible ; B, same, molar process ; C, maxillula ; D, same, palp ; E, maxilla ; F, first maxilliped ; G, second maxilliped ; H, third maxilliped ; I, same, distolateral angle of antepenultimate segment.

shorter than the chela, about 0.6 of the merus length. The basis and coxa are normal, with numerous long setae.

The right second pereiopod only is preserved and is well developed, exceeding the carpocerite by the distal fourth of the merus, carpus and chela. The chela is setose, about 1.25 times the postorbital carapace length, with a subcylindrical, slightly compressed palm, about 4.0 times longer than wide and approximately uniform. The dactyl is about 0.7 of the palm length, moderately narrow, about 5.0 times longer than wide, with a distinct hooked tip. The distal half of the cutting edge is entire and the proximal edge bears four low acute teeth. The fixed finger is similar, with only three small acute teeth on the proximal cutting edge. The carpus is about half the palm length, 3.0 times longer than wide, feebly excavate distally, setose and unarmed. The merus is almost 0.8 of the palm length, setose, about 5.0 times longer than wide, uniform, with the distoventral angle unarmed. The ischium is about 0.6 of the merus length, about 3.6 times longer than wide, narrow proximally and sparsely setose. The basis and coxa are normal, robust, without special features.

The ambulatory pereiopods are moderately slender and markedly setose. The third exceeds the carpocerite by the propod and dactyl. The dactyl is equal to about 0.2 of the propod length. The

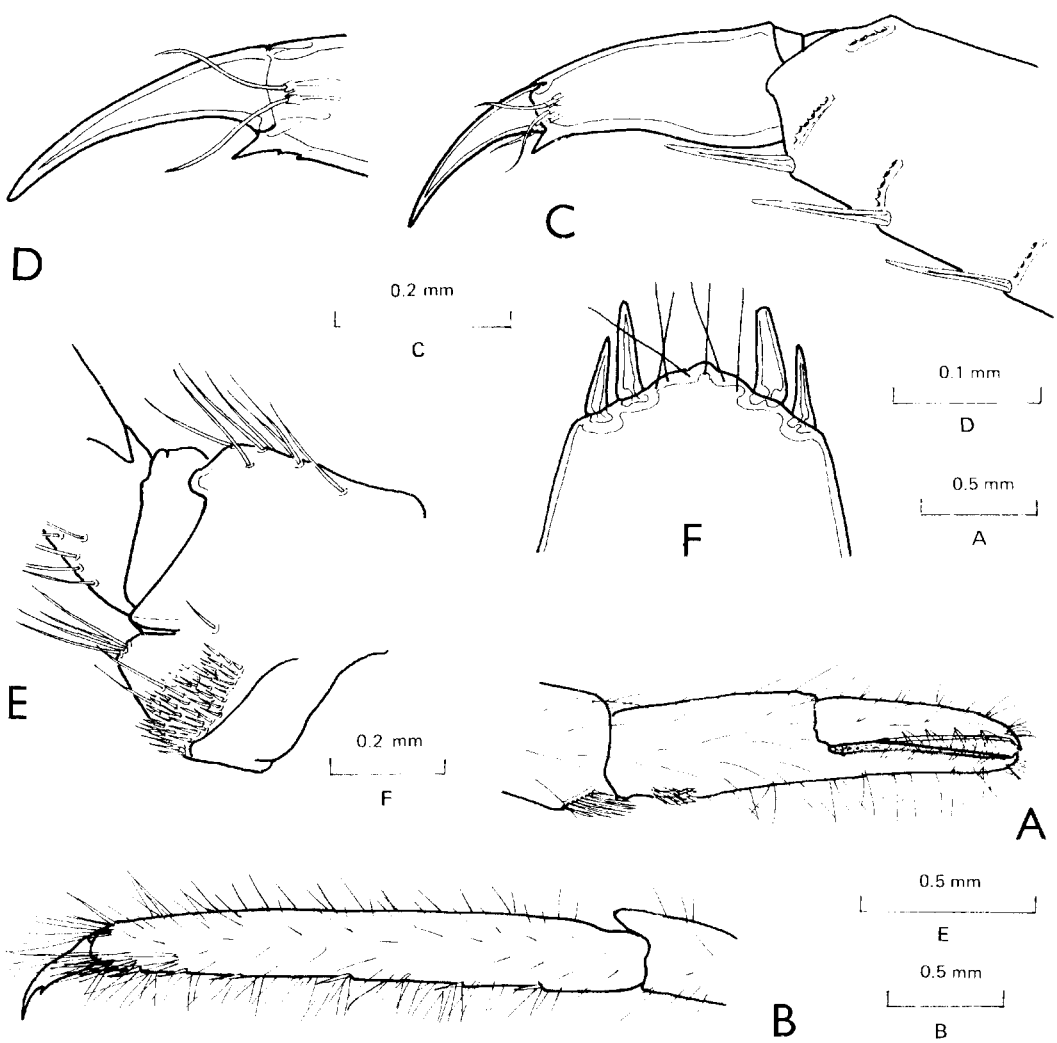

FIG. 7. — *Periclimenes coriolis* sp. nov., holotype female : A, chela of first pereiopod ; B, third pereiopod, propod and dactyl ; C, same, dactyl ; D, same, unguis ; E, same, coxa, medial aspect ; F, posterior telson spines.

unguis is distinct from the corpus, slender, slightly curved, about 4.0 times longer than wide. The corpus is 1.3 times the length of the unguis, about 2.1 times longer than deep and slightly compressed. The ventral border is sinuous with a well developed distal accessory tooth with a few denticles proximally. Some sensory setae are present distomedially and laterally. The propod is 5.0 times the length of the dactyl, about 8.0 times longer than wide, with a strong distoventral spine and six more well developed spines distributed along the ventral border. The carpus is a little less than half of the length of the propod, about 3.3 times longer than wide. The merus is slightly shorter than the propod, uniform, about 5.7 times longer than wide and unarmed. The ischium is about 0.7 of the meral length. The basis is normal and the coxa robust, with a dense band of small spinules ventromedially. The fourth and fifth pereiopods are similar but rather more slender. The fourth has the propod slightly longer than the third, with the ventral border armed with three pairs of spines distally and three single spines proximally. The fifth has the propod distinctly longer and more slender, also with three pairs of spines distally on the ventral border and only one single spine.

The uropod has the protopodite unarmed. The exopod is about 2.8 times longer than wide, with the lateral border feebly convex, ending in a small acute tooth, with a small mobile spine medially. The endopod is also about 2.8 times longer than wide and 0.85 of the length of the exopod, both rami slightly exceeding the tip of the telson.

MEASUREMENTS (mm)

Post-orbital carapace length	5.2
Carapace and rostrum	8.0
Total body length (approx.)	21
Chela of second pereiopod	6.2

TYPE

The single example is deposited in the collection of the Muséum National d'Histoire Naturelle, Paris, catalogue number No. Na 8481.

SYSTEMATIC POSITION

Periclimenes coriolis sp. nov., appears to be most closely related to *P. foveolatus* Bruce, from which it may be distinguished by the absence of foveolations on the branchiostegite and pleura ; the rostral dentition of 8/2 as opposed to $\frac{8\text{-}10}{3\text{-}6}$; normal sized instead of minute dorsal telson spines ; the markedly setose pereiopods, more strongly spinose propods on the ambulatory pereiopods and the minute denticles proximal to the accessory spine of the corpus of the dactyl. The channelled inner edge of the fixed finger of the chela of the first pereiopod and the band of spinules on the ventromedial aspect of the coxa of the third pereiopod are apparently unique features in the genus.

REMARKS

The host of *P. coriolis* remains to be identified. From its general resemblance to other commensal species of *Periclimenes* there is little doubt that it will also prove to be associated with some marine invertebrate host. The host of *P. foveolatus* is also unknown. It seems most probable that both will prove to live in association with coelenterates.

5. *Harpiliopsis depressa* (Stimpson).

Restricted synonymy :

Harpilius depressus Stimpson, 1860 : 38 ; KEMP, 1922 : 231-234, figs. 69-70.
Harpiliopsis depressus, BORRADAILE, 1917 : 324, 380, pl. 56, fig. 22 ; HOLTHUIS, 1951 : 70-75, pl. 21 e-f ; 1952 : 182-184, fig. 90 (full synonymy).

MATERIAL

St. 73, 20-21 m : 1 ovig. ♀, CL. 2.6 mm.

REMARKS

The single example presents no special features. It has a rostral dentition of seven dorsal and three ventral teeth. This species has not been previously recorded from the Philippine Islands and is usually found in association with scleractinian corals of the genera *Stylophora, Pocillopora* and *Seriatopora.*

DISTRIBUTION

Throughout the whole Indo-West Pacific region from the Red Sea to Hawaiian Islands. Also known from the Galapagos Islands, Panama, Mexico, Colombia, Costa Rica and California.

6. *Onycocaris profunda* sp. nov. (Figs. 8-11).

MATERIAL

St. 47, 81-84 m : 1 ovig. ♀, CL. 4.0 mm.

DESCRIPTION

The single example is incomplete, lacking most of the antennules, one first pereiopod, one second pereiopod, both third pereiopods and one fourth pereiopod.

The body is smooth with the carapace moderately compressed and the abdomen subcylindrical.

The depth of the carapace is approximately equal to the postorbital carapace length. The rostrum is acute, short, only slightly exceeding the inferior orbital angles. The tip is upturned, the lateral carina confluent with the orbital margin, with a short distinct dorsal carina posteriorly only, with three small acute teeth, absent anteriorly where the rostrum is concave. The ventral carina is absent. The orbits are obsolete but an acute inferior orbital angle is present. Hepatic and antennal spines are lacking. The anterolateral angle of the branchiostegite is slightly produced and blunt.

The abdomen is large, subcylindrical, smooth, with the pleura of the first five segments broadly rounded. The sixth segment is strongly depressed, about 0.75 times the length of the fifth segment and twice as long as wide anteriorly, with the posterolateral angles acute and the posteroventral angles expanded and acutely pointed posteriorly. The telson is about 2.2 times the length of the sixth abdominal segment, 1.6 times longer than wide, with convex lateral borders converging on a feebly rounded posterior border equal to about 0.3 of the maximum width. Two pairs of slender dorsal spines, equal to about 0.9 of the telson length, are situated on the lateral margins at 0.37 and 0.7 of the telson length. The posterior lateral spines are slightly smaller than the dorsal spines. The intermediate spines are robust, about 0.2 of the telson length and 2.2 times the length of the lateral spines.

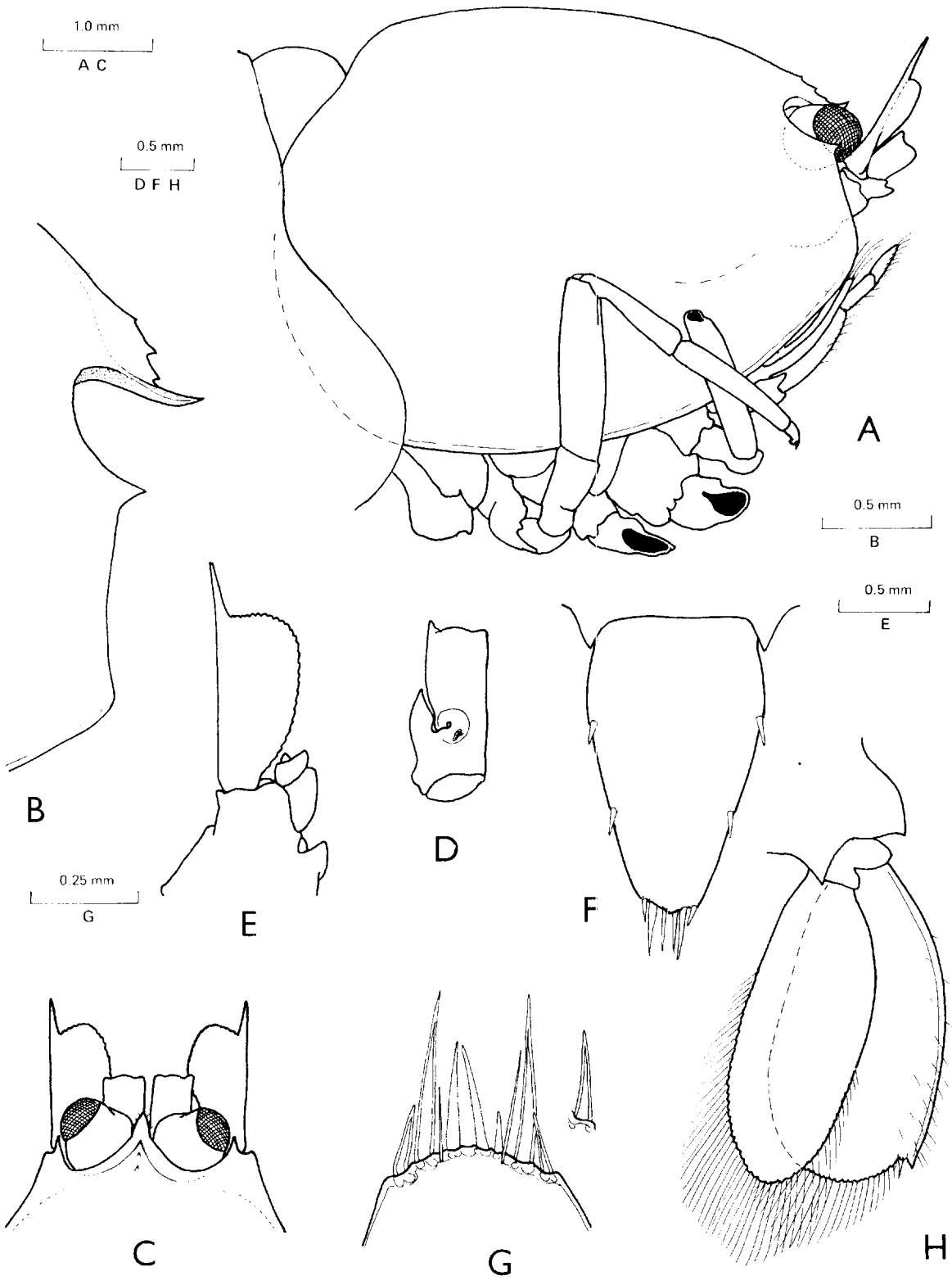

FIG. 8. — *Onycocaris profunda* sp. nov., holotype female : A, carapace and appendages ; B, rostrum and anterior carapace ; C, anterior carapace and appendages, dorsal aspect ; D, proximal segment of antennular peduncle ; E, antenna ; F, telson ; G, posterior telson spines ; H, uropod.

The submedian spines are well developed, robust, about 0.6 of the intermediate spine length, and densely setulose.

The eyes are deeply set, with a short subcylindrical stalk tapering distally, with a less than hemispherical cornea, without an accessory pigment spot. The distomedial angle of the stalk is not quadrate.

Only the proximal segments of the antennular peduncles are preserved. The proximal segment is about 2.4 times longer than wide, with a small acute distolateral process. The stylocerite is leaf-shaped, acute, reaching beyond half the segment length. The statocyst is well developed, forming a ventral swelling, and containing a few granules. There is no ventral medial spine.

The antennae lack the carpocerites and flagella. The basicerite is robust and laterally unarmed. The opening of the antennal gland is conspicuous. The scaphocerite is well developed, extending far beyond the proximal segment of the antennular peduncle. The lamella is broadest distally and rather truncate, about 2.2 times longer than wide. The lateral border is straight with a very strong acute distolateral tooth, equal to about 0.3 of the lateral border length. On the right this has a feebly bifid tip.

The mandible is feebly developed and without a palp. The molar process is slender, tapering distally to an oblique surface with small, very acute posterior teeth and a fringe of short setae. The incisor process is short, tapering distally to a single acute tooth. The distolateral border bears a few obscure denticles. The maxillula has a short simple palp with a reduced upper lobe. The lower lobe is tapering and bears a single seta. The upper lacinia is broad, feebly bilobed ventrally, the upper lobe with numerous very short spines and setae. The lower lobe bears setae only. The lower lacinia slender, tapering, with a few long distal setae. The maxilla has a stout non-setiferous palp. The basal endite is broad and simple, with eleven slender setae only. The coxal endite is reduced, represented by a rounded margin only. The scaphognathite is well developed, 3.0 times longer than wide, with broad anterior and large posterior lobes. The first maxilliped has a stout non-setiferous palp that scarcely exceeds the coxal endite, which is broad and confluent with a small basal endite. The exopod has a well developed flagellum with four plumose setae distally and a large caridean lobe proximally. A deeply bilobed epipod is present. The second maxilliped is of normal form. The distal segment of the endopod is broad, about 2.5 times longer than wide, broadest distally, and densely provided with short spines. The exopod is well developed. The coxa is not produced medially and bears a small rectangular epipod laterally. The third maxilliped is feebly developed, and reaches only to the level of the end of the distal basicerite. The ischio-merus is almost completely fused to the basis, with a small knob-like projection on the medial border marking the apparent junction. The ischio-meral portion of the antipenultimate segment is about 2.7 times longer than wide, tapering distally, very sparsely setose medially but with a row of about 15 small spines submarginally on the proximal medial border. The penultimate segment is about 0.45 of the ischio-meral length, 2.7 times longer than wide, uniform, with about 5 small groups of slender spines medially. The distal segment is about 0.8 of the length of the penultimate segment, feebly tapering, 3.5 times longer than wide, with 4-5 groups of spines medially. The exopod is well developed, with four long plumose terminal setae, and reaches to the distal third of the penultimate segment of the endopod. The coxal segment is large and robust, without a medial process, and a large rounded epipod laterally. There is no arthrobranch.

The anterior thoracic sternites are broad and unarmed, the posterior sternites narrow.

The first pereiopod is particularly slender, and reaches beyond the end of the first segment of the antennular peduncle by half the length of the merus.The chela has a smooth subcylindrical palm, about 4.2 times longer than wide and slightly swollen proximally. The fingers are short, about 0.27 of the palm length, simple, without distinct cutting edges, but with very clearly demarcated, slender tips. The cutting edges are bordered by short paired setae, with dense groups of setae distally. The carpus is about 3.0 times longer than the chela, about 21 times longer than wide, slightly widened distally. The merus is 0.8 of the carpus length, uniform, about 10.6 times longer than wide. The ischium is half the carpus length, about 8.5 times longer than wide, and narrower proximally. The basis and coxa are robust, without special features.

The detached single left second pereiopod has a strongly compressed smooth palm, about 1.7

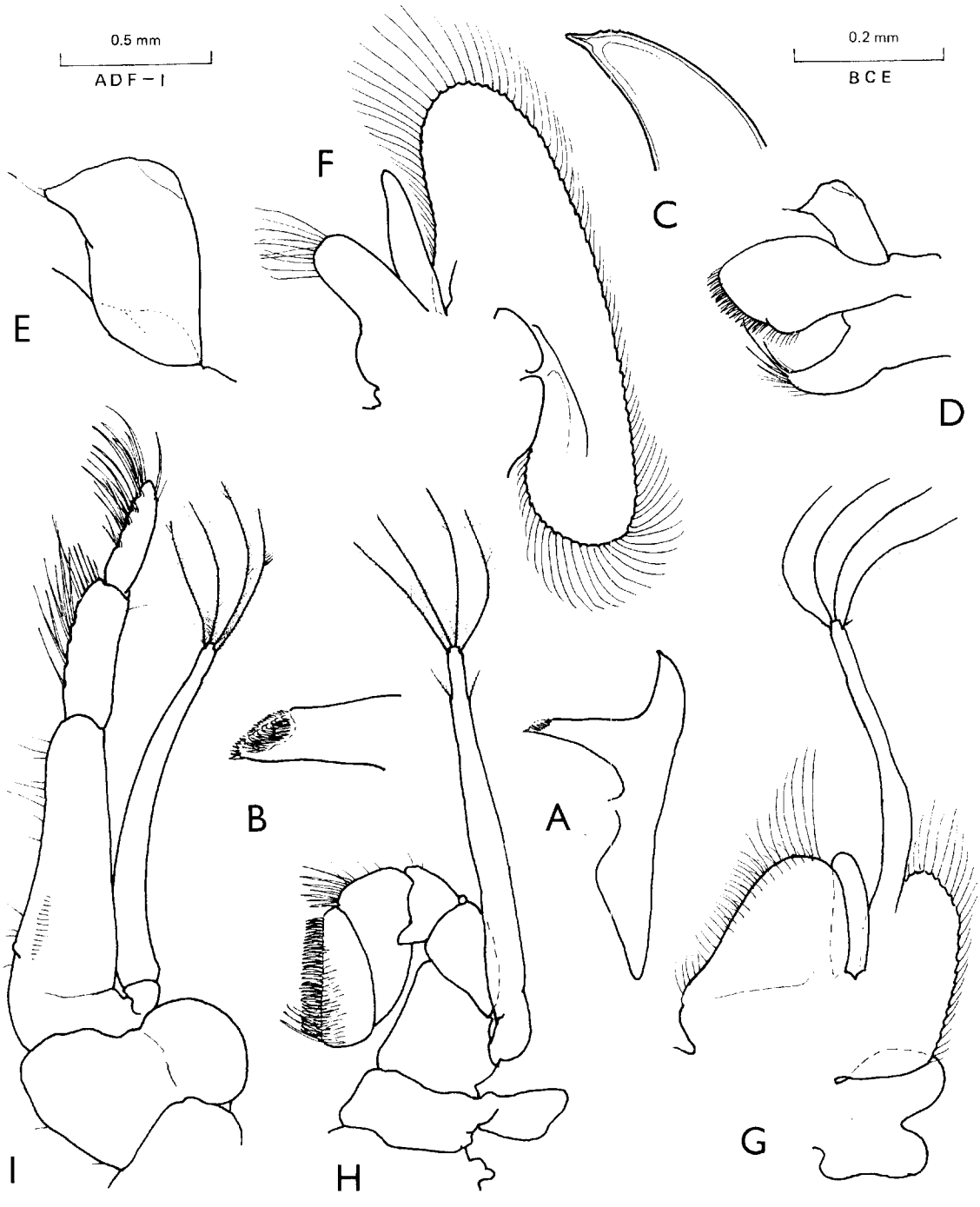

FIG. 9. — *Onycocaris profunda* sp. nov., holotype female : A, mandible ; B, same, molar process ; C, same, incisor process ; D, maxillula ; E, same, palp ; F, maxilla ; G, first maxilliped ; H, second maxilliped ; I, third maxilliped.

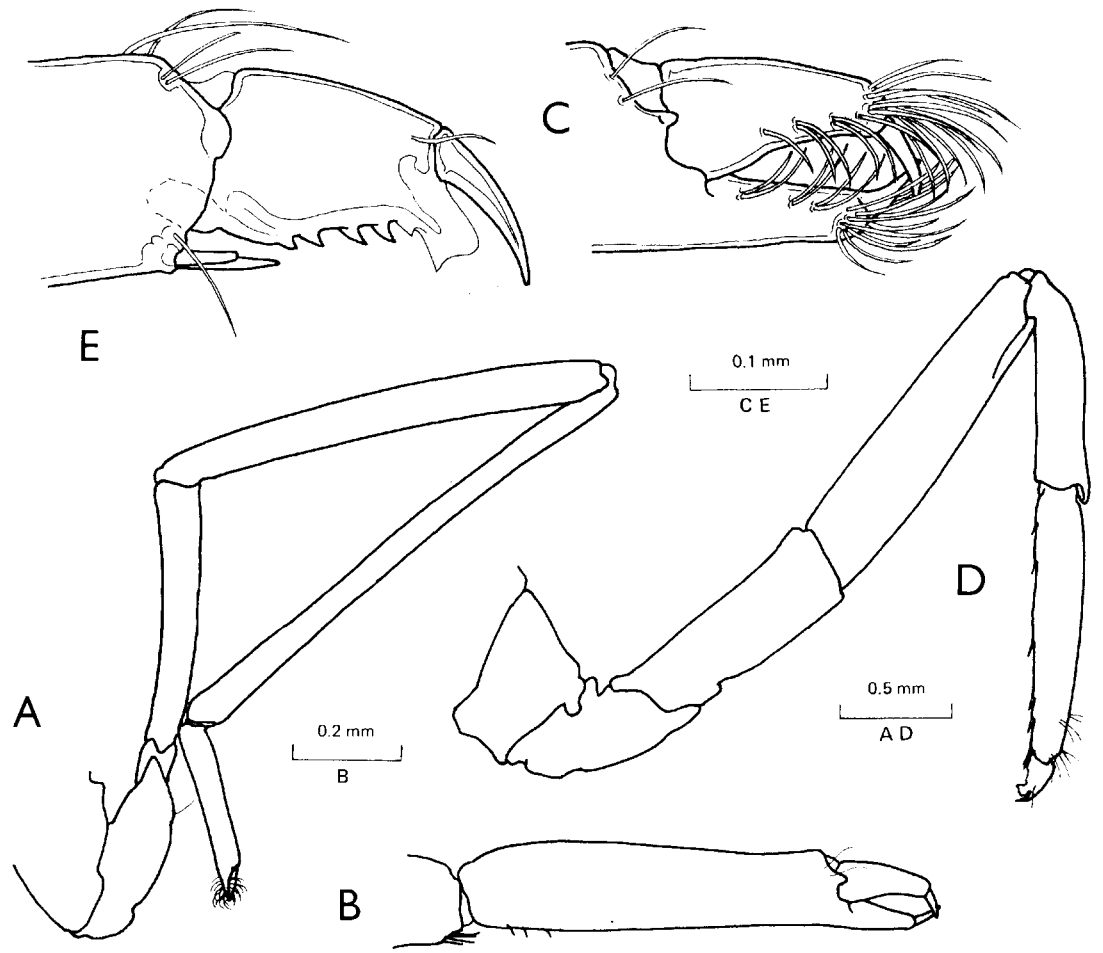

FIG. 10. — *Onycocaris profunda* sp. nov., holotype female : A, first pereiopod ; B, same, chela ; C, same, fingers ; D, ambulatory pereiopod ; E, same, dactyl and distal propod.

times longer than deep and scarcely tapering. The dactyl is slender, equal to 0.75 of the palm length, about 5.5 times longer than deep, tapering distally to a long, very acute, curved distal tooth. The inner aspect of the dactyl is concave with inner and outer cutting edges denticulate throughout their length. The medial cutting edge has fewer and larger teeth, about 20, and the lateral, smaller and more numerous denticles, about 55. The fixed finger is about twice as long as deep, similar to the dactyl but with a very well developed denticulate flange extending throughout its length laterally, with a strong acute tooth distally giving the finger a bidentate appearance. The lateral cutting edge of the dactyl fits into the groove between the lateral flange and the lateral cutting edge of the fixed finger when closed. The cutting edges are also bordered by isolated slender setae. The carpus is robust, unarmed, distally expanded, about 0.6 of the palm length, and about 5.5 times longer than wide. The merus is about 0.65 of the palm length, about 2.0 times longer than wide, sparsely tuberculate ventrally, with the distoventral angle unarmed. The ischium is about 0.4 of the palm length, feebly tuberculate dorsally and ventrally, 2.1 times longer than wide, rather narrower proximally. The basis and coxa are robust and normal.

The fourth ambulatory pereiopod extends beyond the basicerite by half the length of the propod. The dactyl is strongly compressed, equal to 0.2 of the propod length, with a well developed, clearly demarcated, simple, curved unguis equal to 0.8 of the corpus length. The corpus is 1.25 times

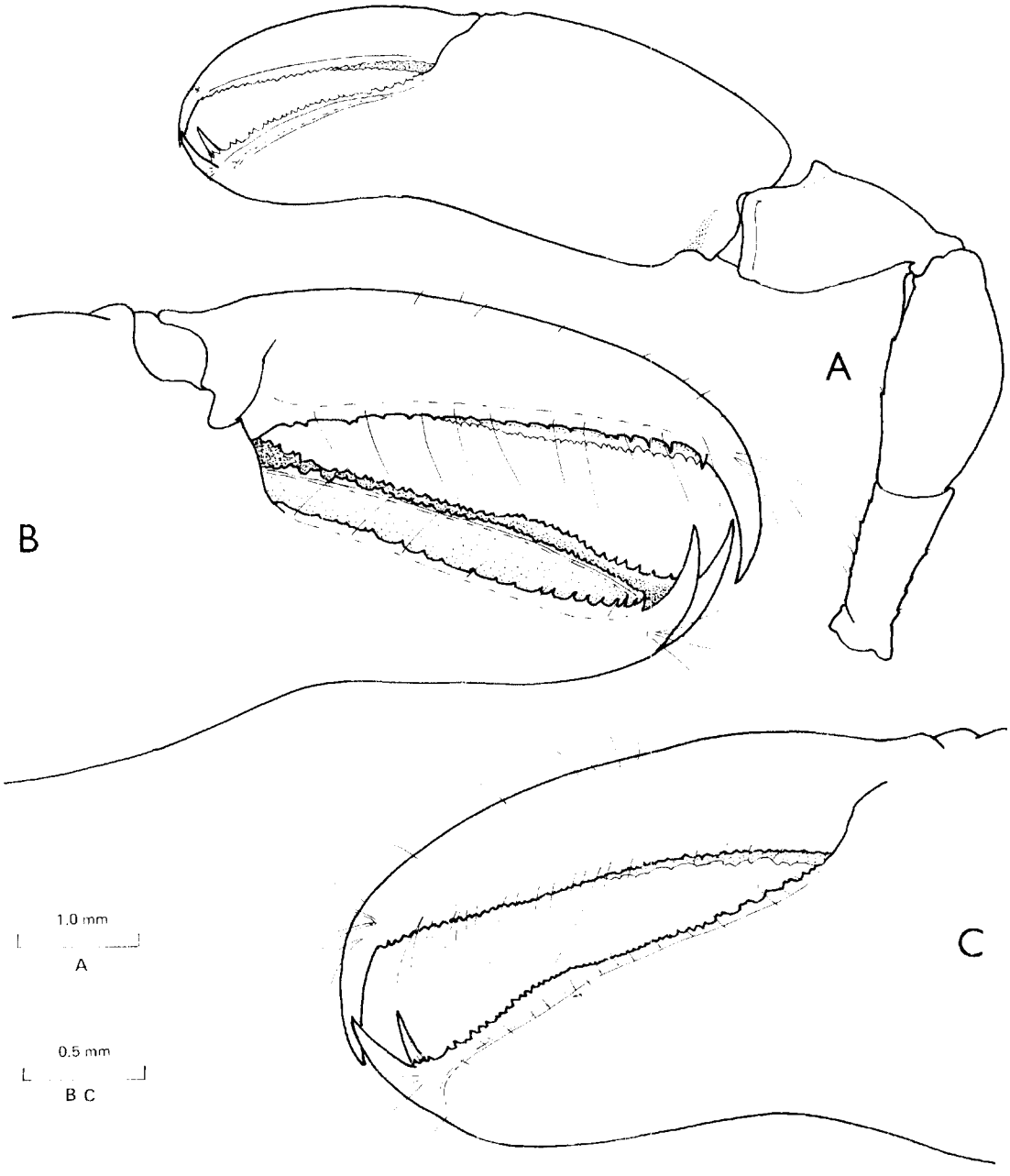

FIG. 11. — *Onycocaris profunda* sp. nov., holotype female : A, second pereiopod ; B, same, fingers of chela, medial aspect ; C, same, lateral aspect.

longer than deep, with the ventral border convex with four strong, acute teeth. The distoventral angle is produced to form a subrectangular lamina with a rounded distoventral angle and an acute proximoventral angle, with a small acute tooth proximally. The propod is about 5.5 times longer than wide, with a pair of strong spines distoventrally, with five spines spaced along the ventral border. The carpus is simple, unarmed, about 0.8 of the propod length. The merus is unarmed, moderately robust, 4.5 times longer than wide and about 1.2 times the propod length. The ischium is robust, about 3.0 times longer than wide distally, and slightly shorter than the propod. The basis is normal and the coxa stout, both without special features. The fifth pereiopod is similar but more slender, and with groups of cleaning setae laterally on the end of the propod. The dactyl is similar to that of the fourth pereiopod.

The uropod distinctly exceeds the end of the telson and has the protopodite posterolaterally unarmed. The exopod is broad, about twice as long as wide, with the lateral border strongly convex, ending distally in a small acute tooth with a mobile spine medially. The endopod is about 2.5 times longer than wide.

The ova are numerous and small.

MEASUREMENTS (mm)

Post-orbital carapace length	4.0
Carapace and rostrum	4.5
Total body length (approx.)	19.0
Chela of second pereiopod	4.9
Length of ova	0.5

TYPE

The single example is deposited in the collection of the Muséum National d'Histoire Naturelle, Paris, catalogue number No. Na 8482.

SYSTEMATIC POSITION

Onycocaris profunda sp. nov. is most closely related to *O. seychellensis* Bruce (1971) but differs from it in numerous details. Both species have dentate rostra and second pereiopods with the merus and ischium unarmed, with elongated first pereiopods. *O. zanzibarica* Bruce (1971a) is also similar. *O. profunda* may be distinguished from these species by the shorter, more feebly dentate rostrum, which does not exceed the anterior margin of the cornea, and the very long distolateral tooth on the scaphocerite. The chela of the single second pereiopod preserved is generally similar to that of the female of *O. seychellensis* but the lateral flange and the distal teeth are much better developed. The dactyl of the third pereiopod is distinct from *O. seychellensis* and *O. zanzibarica*, which have the distoventral angle of the corpus more rectangularly produced, with the distoventral angle acute and not rounded. In this feature it shows a marked similarity to *O. trullata* Bruce (1978), which differs from *O. profunda* in having an edentate rostrum, reduced scaphocerite, and minute dorsal telson spines.

REMARKS

All species of *Onycocaris*, whose hosts have been recorded, have been found in association with sponges, and it is assumed that *O. profunda* has similar associations. *O. profunda* is also the first species of the genus to be reported from deep water, most others whose depth of capture has been recorded have been from intertidal depths, although *O. zanzibarica* was trawled from 18 m and *O. trullata* was captured from 28 m. At a depth of 81-84 m the occurrence of *O. profunda* represents a considerable extension of the bathymetric range of the genus.

7. *Mesopontania gorgoniophila* Bruce (Fig. 12).

Restricted synonymy :

Mesopontonia gorgoniophila Bruce, 1967 : 13-23, figs. 5-9.

MATERIAL

St. 33, 130-137 m : 1 ? juv., CL. 2.7 mm.

DESCRIPTION

The single example has lost most of the rostrum and is in a rather soft condition, but in general conforms well to the description of *M. gorgoniophila* Bruce, except that the second pereiopods are much less well developed, probably due to its juvenile condition and small size. The third maxilliped bears only a rudimenty arthrobranch. The second maxilliped has a normally developed exopod. The first pereiopod has the chela distinctly shorter than the carpus, whereas in the original material the chela is distinctly longer than the carpus. The second pereiopods are unequal. The major chela has the fingers equal to about half the palm length, feebly dentate and without a dactylar flange. The palm is sparsely tuberculate. The carpus is greater than half the palm length, smooth and unarmed. In the minor second pereiopod the fingers are slender, unarmed, over two thirds of the palm length. The carpus is long and slender, almost 1.5 times the palm length. The merus and ischium are also slender and slightly longer than the carpus, but shorter than the chela. The ambulatory pereiopods are slender, with the dactyl equal to about 0.2 of the propod length, strongly biunguiculate, and the propod is strongly spinulate ventrally.

REMARKS

The specimen is probably a juvenile and its identification as *M. gorgoniophila* cannot be considered as fully certain in view of the differences in the chelae of the second pereiopods and the differences in proportions of the segments of the first pereiopods.

Mesopontonia gorgoniophila is an associate of gorgonian octocorals and has been reported in association with *Melithea* ? *albitincta* Ridley and *Acabaria frondosa* (Brundin), at depths of 117-270 m.

DISTRIBUTION

Previously recorded only from the northern South China Sea and eastern Australian waters.

Plesiopontonia gen. nov.

DEFINITION

A medium sized pontoniine shrimp of unknown association. Body slender, subcylindrical, smooth. Rostrum well developed, dentate. Carapace without epigastric, supraorbital and hepatic spines. Abdominal pleura rounded. Telson with four pairs of dorsal and three pairs of posterior spines. Eye normal. Antennae normal, scaphocerite and statocyst well developed. Mandible without palp, molar and incisor process normal. Maxillula with feebly bilobed palp, upper lacinia slightly broadened. Maxilla with simple palp, basal endite deeply bilobed, scaphognathite normal. First maxilliped with slender setose palp, basal endite narrow, coxal endite obsolete ; exopod with normal flagellum, caridean lobe large ; epipod bilobed, anterior lobe produced. Second maxilliped normal, exopod well developed, epipod subrectangular. Third maxilliped with ischio-merus and basis fused ;

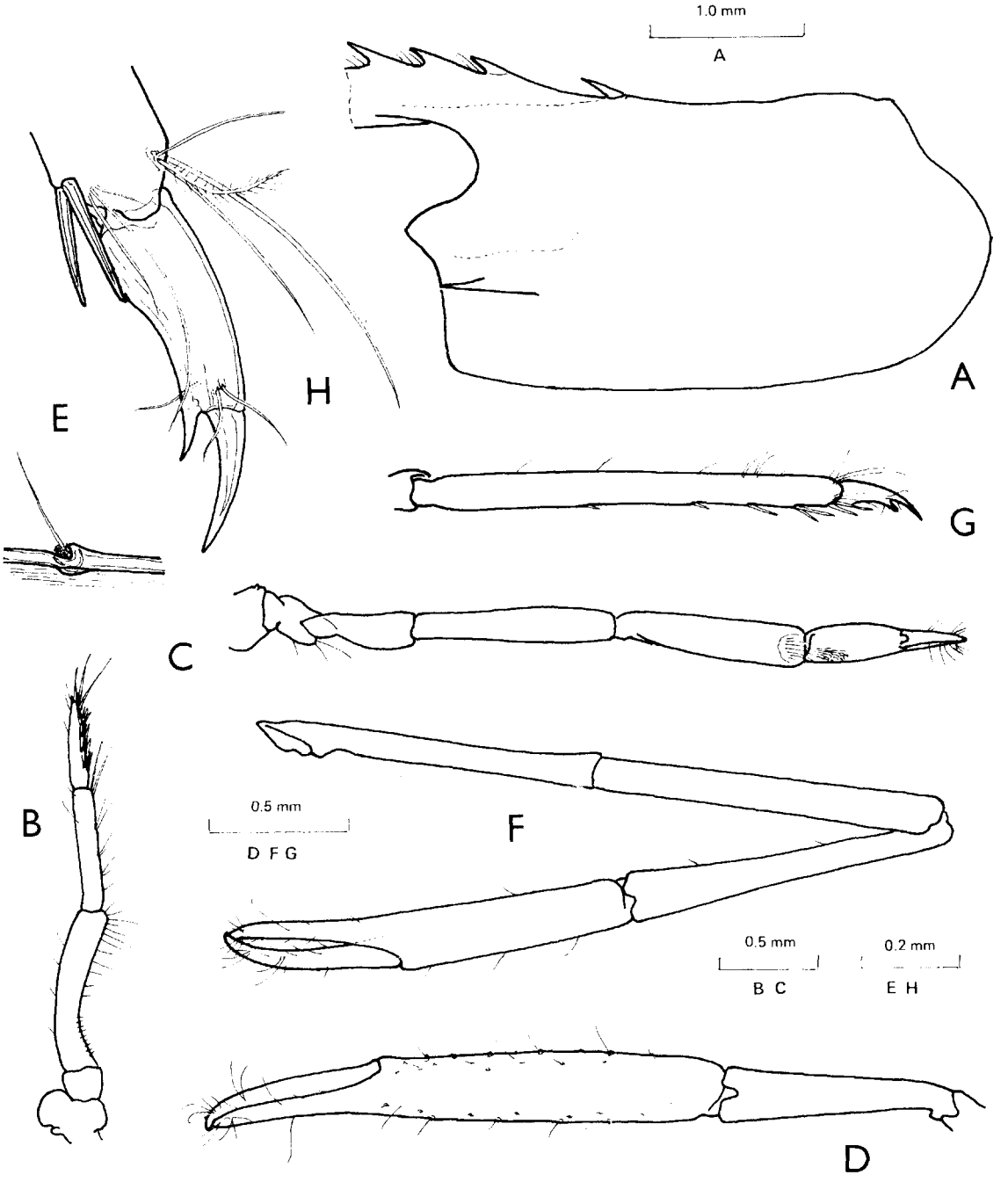

FIG. 12. — *Mesopontonia gorgoniophila* Bruce, juvenile : A, carapace and broken rostrum ; B, third maxilliped ; C, first pereiopod ; D, chela and carpus, major second pereiopod ; E, tubercle of major chela palm ; F, minor second pereiopod ; G, propod and dactyl of third pereiopod ; H, dactyl and distal propod of third pereiopod.

exopod well developed, oval epipod and small lamellar arthrobranch present. Fourth thoracic sternite unarmed. First pereiopods normal, slender, carpus unsegmented. Right (minor ?) second pereiopod with slender feebly armed chela ; carpus, merus and ischium unarmed. Ambulatory pereiopods slender : dactyl of third pereiopod slender, minutely biunguiculate. Uropods normal.

TYPE SPECIES

Plesiopontonia monodi sp. nov.

SYSTEMATIC POSITION OF GENUS

Using the keys of HOLTHUIS (1952, 1955) and BRUCE (1983), the genus *Plesiopontonia* appears most closely related morphologically to either *Philarius* Holthuis or *Anchistus* Borradaile, 1898, the former genus exclusively associated with scleractinian corals and the latter with bivalve molluscs.

Plesiopontonia may be distinguished from *Anchistus* by (i) the well developed rostrum, with teeth distributed throughout its dorsal length, (ii) the presence of two slender lobes on the basal endite of the maxilla, (iii) the long and slender dactyls of the ambulatory pereiopods, (iv) the presence of four pairs of dorsal telson spines and (v) the absence of an acute posterolateral angle on the protopodite of the uropod. The arthrobranch on the third maxilliped also appears more strongly developed than in *Anchistus* spp., with distinct lamellae.

Plesiopontonia may be distinguished from *Philarius* by (i) the absence of a median process on the fourth thoracic sternite, (ii) the absence of ventral rostral teeth, (iii) the comparatively feeble development of the exopods of the maxillipeds, associated with a large caridean lobe on the first maxilliped and small epipod (in *Philarius* the epipod is large and the caridean lobe particularly small, the flagella are all broad and provided with numerous plumose setae), (iv) the basal endite of the maxilla with two slender lobes, (v) the third maxilliped with ischio-merus and basis fused, (vi) the pleura of fourth and fifth abdominal segments rounded, (vii) the presence of four pairs of dorsal telson spines, (viii) the long slender dactyls on ambulatory pereiopods.

In general, *Plesiopontonia* appears more closely related to *Anchistus*. *Philarius* species usually show a depressed body form, associated with their habit of clinging to *Acropora* branches, and they have very short, simple, strongly hooked dactyls on the ambulatory pereiopods, concealed in a dense brush of setae on the distal propod, which is particularly robust and devoid of spines. *Plesiopontonia* has a subcylindrical body form, as in *Anchistus* spp., and the ambulatory propods are spinulate. The dactyls of the ambulatory pereiopods are characteristic and quite distinct from both *Anchistus* and *Philarius* and are presumably an adaptation to an unknown host.

8. *Plesiopontonia monodi* sp. nov. (Figs. 13-17).

MATERIAL

St. 26, 299-320 m : 1 ♂, CL. 4.4 mm.

DESCRIPTION

A medium sized, slenderly build pontoniine shrimp of subcylindrical body form.

The carapace is smooth, with a well developed rostrum that extends to the middle of the distal segment of the antennular peduncle. The rostrum is slender, acute, slightly depressed, with the midrib mainly near the lower border. The dorsal carina is well developed, extending onto the anterior carapace, with five small acute teeth situated on the central portion. The lower carina is feebly developed, distinct distally only, where two small acute teeth are present, the posterior ventral tooth being situated distally to the most anterior dorsal tooth. The orbital notch is deep but the orbit is

obsolete. Supraorbital, hepatic and epigastric spines are absent. The inferior orbital angle is well developed, produced and acute. The antennal spine is slender and acute, marginal and situated well below the inferior orbital angle in lateral view. The anterolateral angle of the carapace is bluntly rectangular.

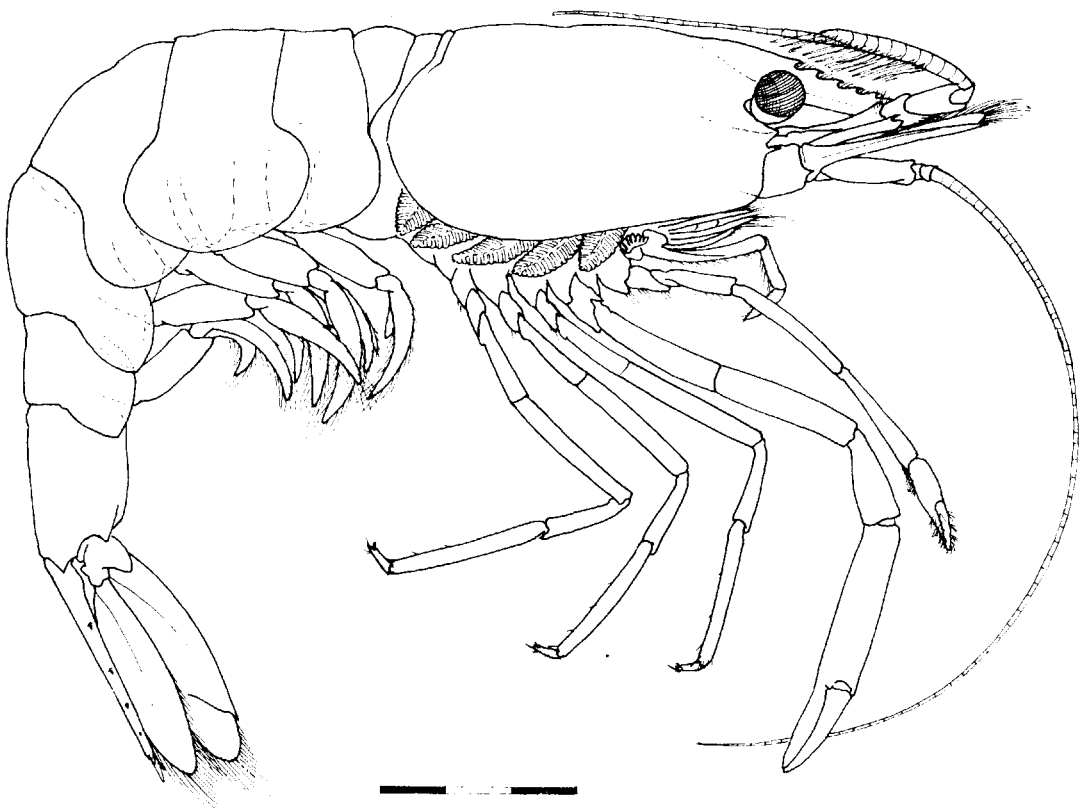

FIG. 13. — *Plesiopontonia monodi* gen. nov., sp. nov., holotype male. Scale in mm.

The abdomen is smooth, third segment not produced posterodorsally. The fifth segment is about half the length of the sixth, which is 1.5 times longer than wide, with the posterolateral angle acutely produced, the posteroventral angle produced, but less acute. The pleura of the first three segments are small, rounded ; fourth and fifth pleura bluntly angular. The telson is about 1.6 times the length of the sixth abdominal segment, slender, with straight, feebly convergent sides, about 3.6 times longer than greatest width ; posterior border angular, about 0.35 of anterior width. Four pairs of small acute dorsal spines present at 0.33, 0.55, 0.70 and 0.87 of the telson length. The posterior border is without a median point ; with small lateral spines, rather shorter and stouter than dorsal spines, large blunt swollen intermediate spines, about 2.75 times length of lateral spines, and short acute submedian spines, non-plumose, equal to half the length of the submedian spines.

The eyes are well developed, with a short subcylindrical stalk, about as long as wide, with a large globular, well pigmented cornea with a small dorsal accessory pigment spot.

The antennae are normally developed. The antennular peduncle extends beyond the tip of the rostrum, almost to the base of the tooth of the scaphocerite. The proximal segment is about twice as long as broad, with a well developed anterolateral lobe, the medial portion reaching to the middle of the intermediate peduncular segment and extending beyond the tip of the anterolateral tooth. The stylocerite is acute, extending beyond half the segment length. The statocyst appears normal but without a distinct statolith. The ventral medial border bears a small tooth. The intermediate and dis-

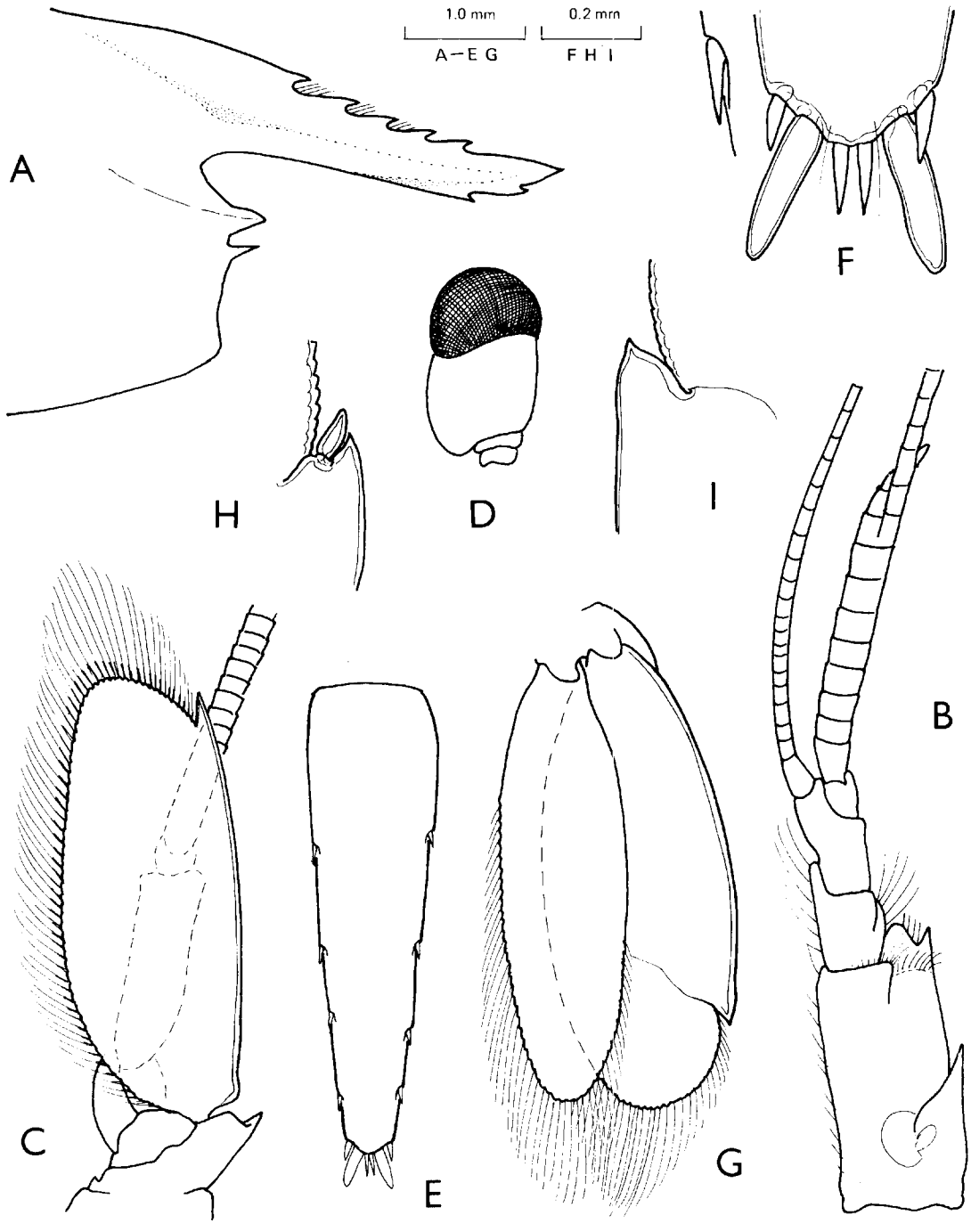

FIG. 14. — *Plesiopontonia monodi* gen. nov., sp. nov., holotype male : A, anterior carapace and rostrum ; B, antennule ; C, antenna ; D, eye ; E, telson ; F, posterior telson spines, and dorsal spine ; G, uropod ; H, same, posterolateral angle, left ; I, same, right.

tal segments together equal 0.8 of the proximal segment's length and are obliquely articulated, subequal in length. The flagella are normal. The upper flagellum is biramous, with the stouter shorter ramus consisting of 13 segments, of which the proximal 8 are fused to the longer, slender, filiform lower ramus. About 20 groups of aesthetascs are present. The lower flagellum is slender.

The antenna has a robust basicerite with a small distolateral tooth. The ischiocerite and merocerite are normal, short. The carpocerite is about 3.3 times longer than wide and reaches beyond the middle of the scaphocerite. The flagellum is well developed, short, about 3.25 times the postorbital carapace length. The scaphocerite is well developed, broad, about 2.5 times longer than wide, with the lateral border slightly concave, with a distolateral tooth slightly exceeded by the bluntly angled distal lamella.

The mandible is without a palp. The molar process is robust, obliquely truncated distally, with four large teeth. The incisor process is slender, rather truncate distally with three strong acute teeth of which the central is the smallest. The maxillula has the palp feebly bilobed, the lower lobe with a small simple seta. The upper lacinia is broad, with the upper margin notched ; about a dozen simple teeth are present distally, with numerous setae. The lower lacinia is narrow, with several long distal setae. The maxilla has a short simple palp. The basal endite is deeply bilobed, the slender upper and lower subequal lobes bearing 9 and 7 simple setae respectively. The coxal endite is obsolete, represented by a low rounded medial projection. The scaphognathite is well developed, about 2.5 times longer than broad, with a large anterior lobe with an emarginate medial border. The first maxilliped has a long slender palp with a few finely plumose distal setae. The basal endite is narrow and completely fused with the coxal endite, presenting a straight medial border fringed with finely setulose setae. The endopod has a well developed flagellum, with fine plumose distal setae. The caridean lobe of the endopod is particularly large and broad. A bilobed epipod with an elongated anterior lobe is present. The second maxilliped is of normal form. The dactylar segment is moderately broad, with numerous coarsely serrulate spines medially. The flagellum is well developed, setose proximally, and with four plumose setae distally. The coxa bears a subrectangular epipod laterally, without a podobranch. The third maxilliped has a moderately robust but slender endopod, and extends anteriorly to the end of the distal fourth of the carpocerite. The ischio-merus is completely fused to the basis, with a small notch indicating the point of junction on the medial margin. The combined segment is about 7.0 times longer than broad, uniform, slightly widened proximally, with the medial margin bearing numerous slender setae, the lateral border with a small distal spine and several short setae. The penultimate segment is about half the length of the antepenultimate segment, about 5.3 times longer than wide, uniform, with numerous fine setae medially. The terminal segment is about 0.8 of the length of the penultimate segment, about 5.0 times longer than wide, tapering distally with about six transverse groups of spines medially. The exopod has a well developed flagellum with six plumose setae distally. The coxa is feebly angulated medially and bears an oval epipod laterally, with a small multilamellar arthrobranch.

The fourth thoracic sternite is narrow and unarmed.

The first pereiopod is moderately slender and extends beyond the carpocerite by the length of the chela and distal third of the carpus. The chela is normal, with the palm about 1.7 time longer than deep, slightly compressed, with about 5-6 groups of short cleaning setae proximally. The fingers are simple, slender, tapering, with small acute hooked tips, subequal to the palm length and without clearly defined cutting edges. The dactyl is about 4.0 times longer than deep, and the fixed finger is similar ; both are provided with several transverse rows of short setae. The carpus is about 1.2 time the length of the chela, about 5.5 times longer than wide distally, and more slender proximally, with a transverse row of cleaning setae distally. The merus is about 1.2 time the carpus length, widest centrally, about 6.8 times longer than wide. The ischium is slightly less than half the length of the merus, sparsely setose ventrally. The basis is subequal to the ischial length. The coxa is normal.

The single second pereiopod may represent the minor pereiopod of an unequal pair or be one of a subequal pair, as the chela is only moderately robust, especially for a male specimen. It extends beyond the carpocerite by the chela, carpus and distal fourth of the merus, and beyond the scaphocerite by the two thirds of the palm of the chela. The chela has a smooth, subcylindrical palm, slightly

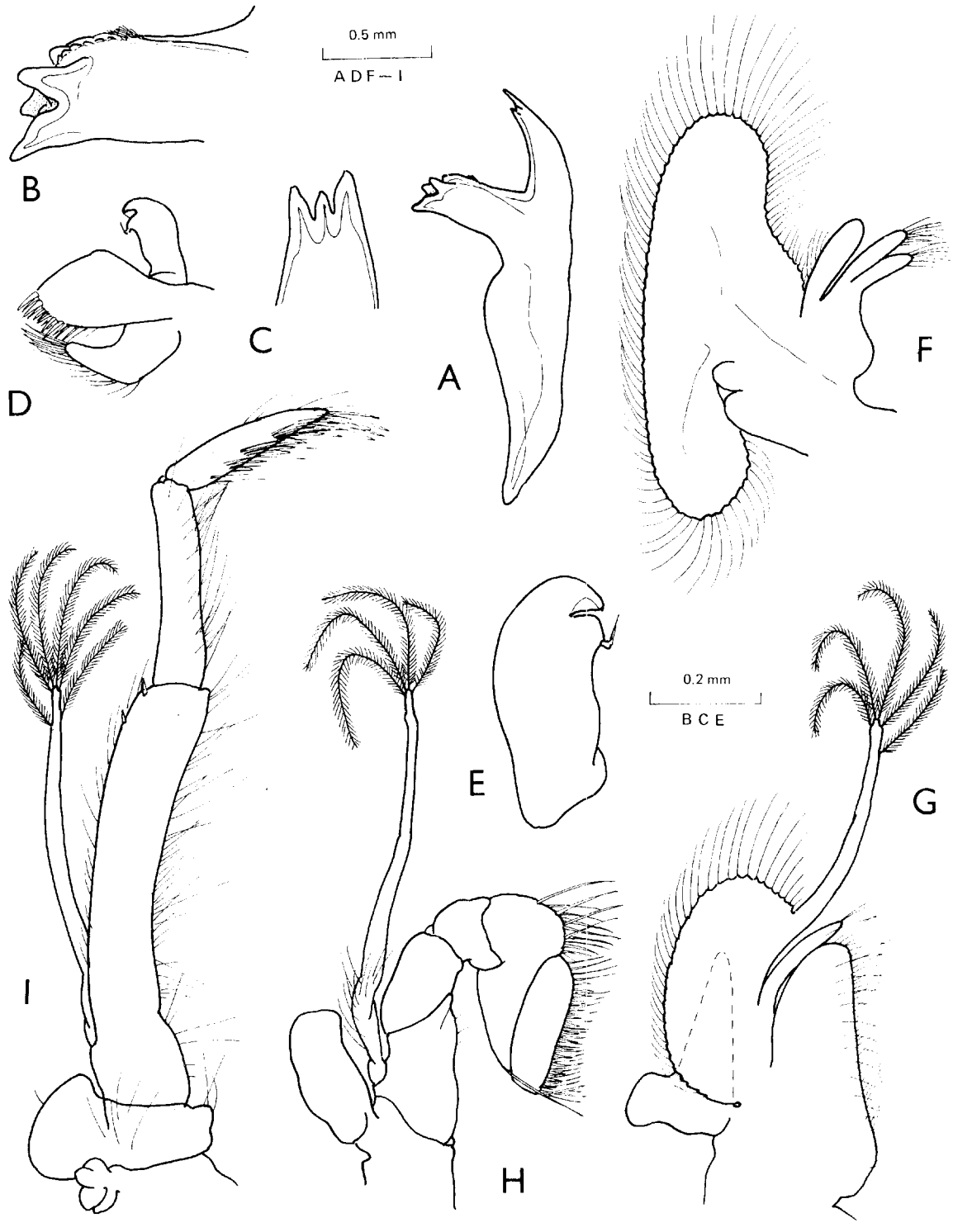

FIG. 15. — *Plesiopontonia monodi* gen. nov., sp. nov., holotype male : A, mandible ; B, same, molar process ; C, same, incisor process ; D, maxillula ; E, same, palp ; F, maxilla ; G, first maxilliped ; H, second maxilliped ; I, third maxilliped.

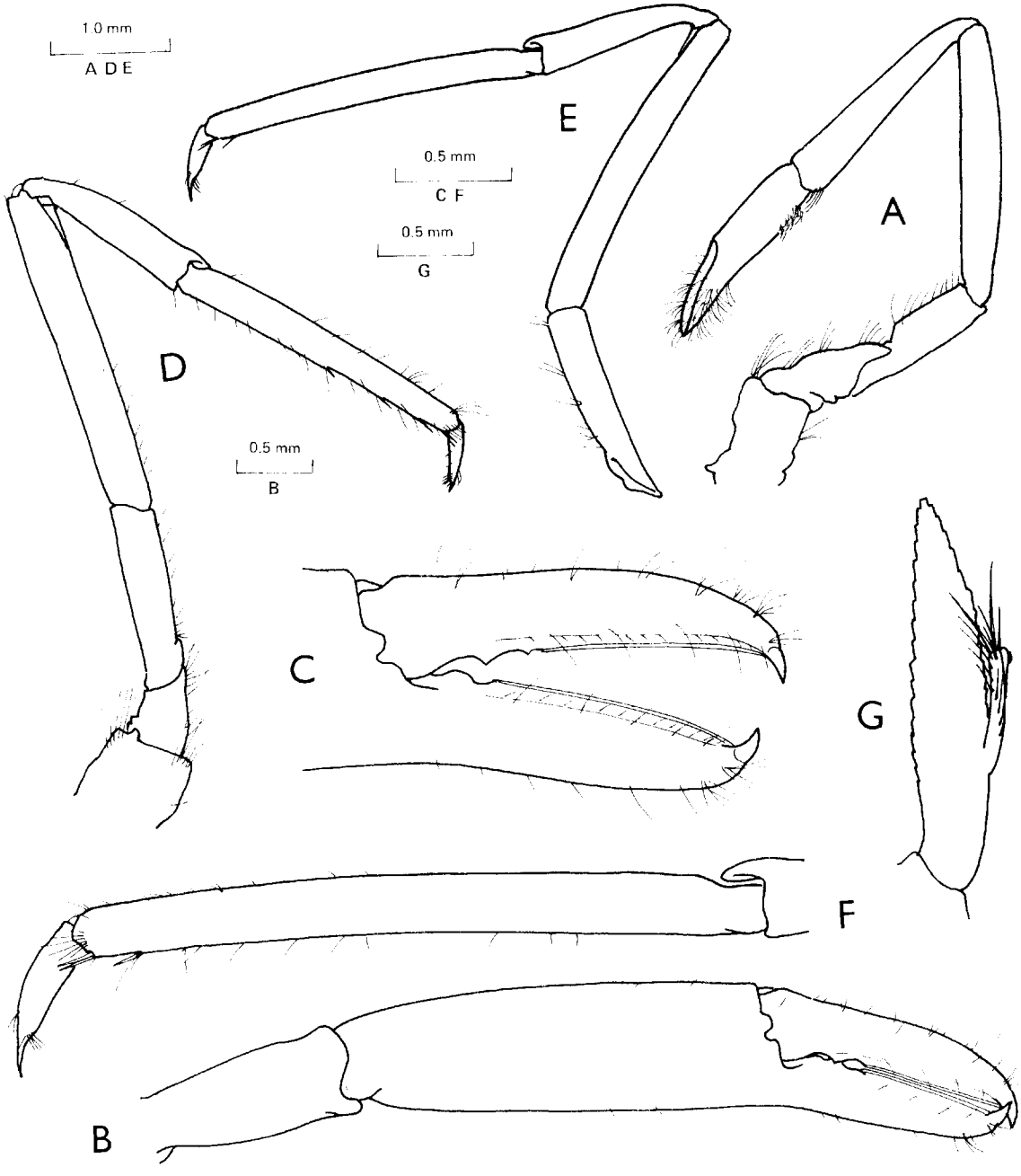

FIG. 16. — *Plesiopontonia monodi* gen. nov., sp. nov., holotype male : A, first pereiopod ; B, second pereiopod, chela and carpus ; C, same, fingers of chela ; D, fourth pereiopod ; E, fifth pereiopod ; F, same, propod and dactyl ; G, endopod of second pleopod.

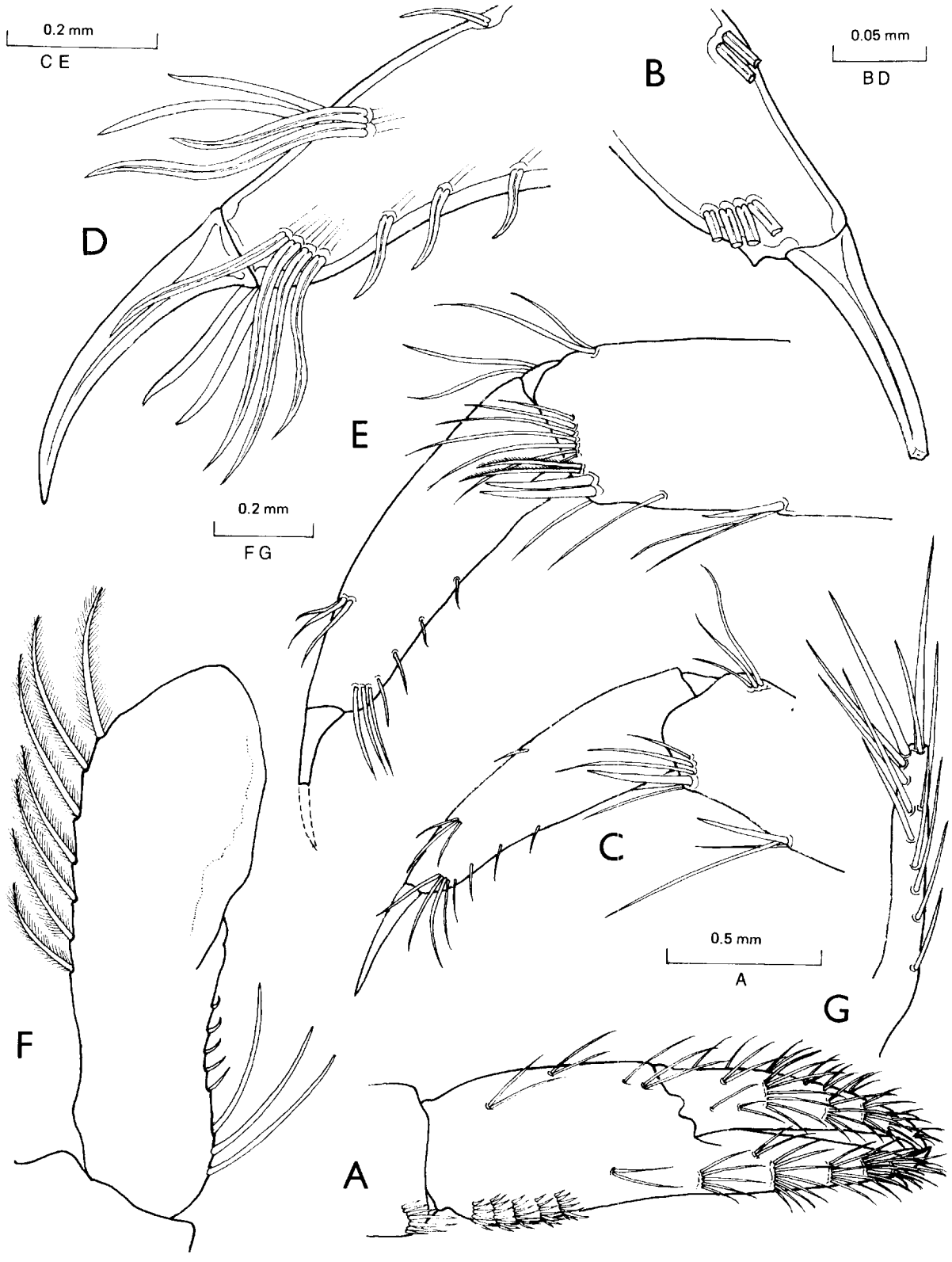

FIG. 17. — *Plesiopontonia monodi* gen. nov., sp. nov., holotype male : A, chela of first pereiopod ; B, third pereiopod, dactyl, distal corpus and broken unguis ; C, fourth pereiopod, distal propod and dactyl ; D, same, distal dactyl ; E, fifth pereiopod, distal propod and dactyl ; F, endopod of first pleopod ; G, appendix masculina.

narrower proximally, 3.3 times longer than deep, slightly compressed, and about 1.65 time the length of the dactyl. The dactyl is slender, about 5.0 times longer than deep, moderately compressed, tapering, with a strongly hooked acute tip. The cutting edge has the distal three quarters sharp and entire, with the proximal fourth bearing a small acute proximal tooth and a minute acute tooth distally. The fixed finger is similar but with the proximal teeth less well developed. The fingers are smooth and sparsely setose. The carpus is about half the palm length, 2.5 times longer than wide, moderately expanded distally and unarmed. The merus is slender, equal to about 0.85 of the palm length, about 4.8 times longer than wide, uniform and without a distoventral tooth. The carpus is subequal to the merus but more slender, about 5.1 times longer than wide, uniform and unarmed. The basis and coxa are normal.

The ambulatory pereiopods are slender. The third extends beyond the carpocerite by the length of the propod and dactyl. The dactyl is slender and elongated, equal to about 0.22 of the propod length. The corpus is compressed, tapering distally, about 3.0 times longer than deep, with the distoventral angle rounded and bearing a minute acute tooth. The distomedial and lateral surfaces bear transverse rows of 2-4 short, stout setae, with similar setae dorsolaterally, and single shorter setae along the sides of the sharp ventral border. The unguis is distinct, slender, curved, equal to about 0.4 of the corpus length, about 3.6 times longer than wide at its broadened base, unornamented. The propod is about 9.4 times longer than broad, uniform, with a pair of slender distoventral spines and two smaller spines spaced along the ventral border. The carpus is unarmed, equal to about 0.55 of the propod length. The merus is about 7.5 times longer than wide, uniform and unarmed, subequal to the propod length. The ischium is also unarmed, subequal to the carpus length, about 0.55 of the propod length. The basis and coxa are without special features. The fourth pereiopod is very similar. An acute distoventral accessory tooth cannot be discerned on the corpus due to accretions, but may be present. The propod is provided with a distoventral pair of spines, a pair and three single ventral spines. The fifth pereiopod is also similar, but the propod is longer and more slender, with some serrulate cleaning setae distolaterally and a pair of distoventral spines only, and the dactyl is without an accessory tooth.

The first pleopod has the endopod about 3.4 times longer than the central width, with the distal half rather expanded medially. The proximal half of the medial border bears three long setae proximally, with five short spines distally, and the penultimate two fifths of the lateral margin bears seven short plumose setae. The appendix masculina of the second pleopod is well developed and slightly exceeds the appendix interna. The ventral aspect bears an oblique row of eight simple spines, of increasing length distally, with two longer more robust spines distally, and two shorter spines distomedially.

The uropods extend well beyond the tip of the telson. The protopodite is unarmed posterolaterally. The exopod has the lateral border convex, ending in a large acute tooth on the right and a smaller acute tooth, with a short blunt mobile spine medially on the left ; about 2.45 times longer than broad. The endopod is about 3.4 times longer than wide, not exceeding the exopod.

MEASUREMENTS (mm)

Post-orbital carapace length	4.4
Rostrum and carapace	7.3
Total body length (approx.)	22.0
Chela of second pereiopod	4.0

TYPE

The single example is designated as the holotype and is deposited in the collection of the Museum National d'Histoire Naturelle, Paris, catalogue number No. Na 8483.

REMARKS

The morphology of *P. monodi* suggests that, like most other pontoniine shrimps, it is commensally associated with another marine invertebrate but its specializations do not clearly indicate what its

host may be. Numerous examples of the large bivalve *Acesta rathbuni* (Bartsch, 1913, det. P. BOUCHET) were collected from the same station (J. FOREST, pers. comm.) and it is possible that there are the host for *P. monodi*.

DISCUSSION

This second series of pontoniine shrimp from the MUSORSTOM collections off the Philippine Islands augments considerably the fauna known from deep water, i.e., over 100 m. The vast majority of the 220 or so known species of Indo-West Pacific pontoniine shrimps are from intertidal or shallow water habitats and reports of deep sea species have been comparatively rare. It seems probable that the paucity of records from deeper waters has been due to the use of gear that has not captured or retained these small shrimps, which may be present in greater variety and numbers than previously expected on the basis of earlier expedition reports.

The genus best represented in the deeper waters of the Indo-West Pacific region is *Periclimenes*, which is now represented by twelve species. These may be conveniently separated by the following key :

THE INDO-WEST PACIFIC SPECIES OF THE GENUS ***Periclimenes*** OCCURRING AT DEPTHS OF 100 M OR OVER.

1. Antennal spine present 2
— Antennal spine absent ..... *P. gorgonicola* Bruce, 1969
2. Dactyls of third pereiopods simple 3
— Dactyls of third pereiopods not simple 4
3. Rostrum exceeding postorbital carapace length ; epigastric spine absent ; eye large ; chela of second pereiopod smooth, R $\frac{11\text{-}12}{4\text{-}5}$ ..... *P. rectirostris* Bruce
— Rostrum not exceeding postorbital carapace length ; epigastric spine present ; eye small ; chela of second pereiopod tuberculate ; R $\frac{8}{1\text{-}2}$ ..... *P. foresti* Bruce
4. Third pereiopod with dactyl elongate, unguis greater than 0.3 of corpus length, distoventral angle not with simple accessory tooth 5
— Third pereiopod with dactyl normal, unguis not greater than 0.3 of corpus length, distoventral angle of corpus with simple accessory tooth 6
5. Palm of chela of second pereiopod tuberculate, slender, four times longer than deep, R 7/3 ..... *P. dentidactylus* Bruce (in press)
— Palm of chela of second pereiopod smooth, robust, about three times longer than deep, R $\frac{6}{1\text{-}2}$ ..... *P. hertwigi* Balss
6. Telson with four pairs of dorsal spines ..... *P. alcocki* Kemp
— Telson with two pairs of dorsal spines 7
7. Rostrum very slender, with three teeth situated on carapace 8
— Rostrum not particularly slender, less than three teeth situated on carapace 9
8. Hepatic and antennal spines on same level ; dactyl of major second pereiopod with lateral flange, R 8/3 ..... *P. latipollex* Kemp
— Hepatic spine situated well below level of antennal spine ; dactyl of major second pereiopod without lateral flange, R 10/2 ..... *P. laccadivensis* (Alcock & Anderson)
9. Ambulatory pereiopods with dense tufts of long setae, dactyl short, stout and strongly hooked, R 8/2 ..... *P. curvirostris* Kubo
— Ambulatory pereiopods without dense tufts of long setae, dactyls not short, stout and feebly curved 10

10. Rostrum arched ; third abdominal segment posterodorsally produced, R $\frac{7\text{-}8}{1\text{-}2}$..... *P. tosaenis* Kubo, 1940

— Rostrum straight ; third abdominal segment not posterodorsally produced..... 11

11. Branchiostegite and pleura without foveolations, dorsal telson spines normal, R 8/2..... *P. coriolis* sp. nov.

Branchiostegite and pleura foveolate ; dorsal telson spines minute, R $\frac{8\text{-}10}{3\text{-}6}$..... *P. foveolatus* Bruce

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