GNATHOPHYLLOIDES ROBUSTUS SP. NOV., A NEW COMMENSAL GNATHOPHYLLID SHRIMP FROM WESTERN AUSTRALIA, WITH THE DESIGNATION OF A NEW GENUS *LEVICARIS* (DECAPODA, CARIDEA)

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The genus *Gnathophylloides* was erected by Schmitt in 1933 for the Caribbean species *G. mineri* Schmitt. The only other species that has been referred to this genus is *G. mammillatus* from Hawaii, which was first described as *Coralliocaris mammillatus* by Edmondson in 1931 (Holthuis, 1952).

The discovery of a new species of *Gnathophylloides* from Western Australia indicates that the genus extends into the Indian Ocean, as well as being found in the Pacific and Atlantic Oceans. The new species is closely related to *G. mineri* in its general morphology, although separated by numerous details at specific level. Both *G. mineri* and the new species, however, show several important differences in the basic structure of the mouthparts from *G. mammillatus*. These differences are here considered to be of too great a magnitude for the three species to be placed in the same genus. A new genus is therefore designated to include the single species described by Edmondson.

I am particularly grateful to Dr. R. U. Gooding for the opportunity to examine and report upon these specimens.

Gnathophylloides robustus sp. nov.

Material examined. — 1 ♂, 3 ♀ (ovigerous), off Point Moore, Geraldton, Western Australia, 28°47.0′S 114°34.2′E, depth 3 m; coll. M. Kramer, Stn. RU 540, 7 July 1969.

Description. — Female. A small-sized shrimp, with a stout subcylindrical body form, neither compressed nor depressed. General appearance fusiform.

The carapace is smooth. The rostrum is well developed and acute, distinctly exceeding the length of the antennular peduncle, but fails to reach the anterior margin of the scaphocerite. The rostrum is straight, triangular in dorsal view, with broadly expanded lateral carinae. The dorsal carina is reduced and the central region is depressed. Two or three small acute teeth are present dorsally, anterior to the orbital margin, the most posterior tooth being the largest. The ventral lamina is strongly developed, evenly convex and without teeth or setae.

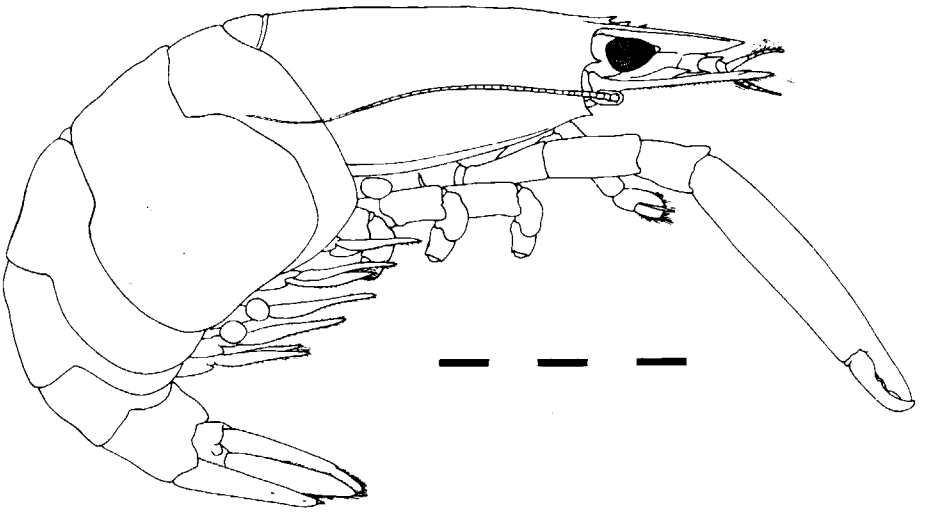

Fig. 1. *Gnathophylloides robustus* sp. nov., ovigerous female, paratype. Scale in mm.

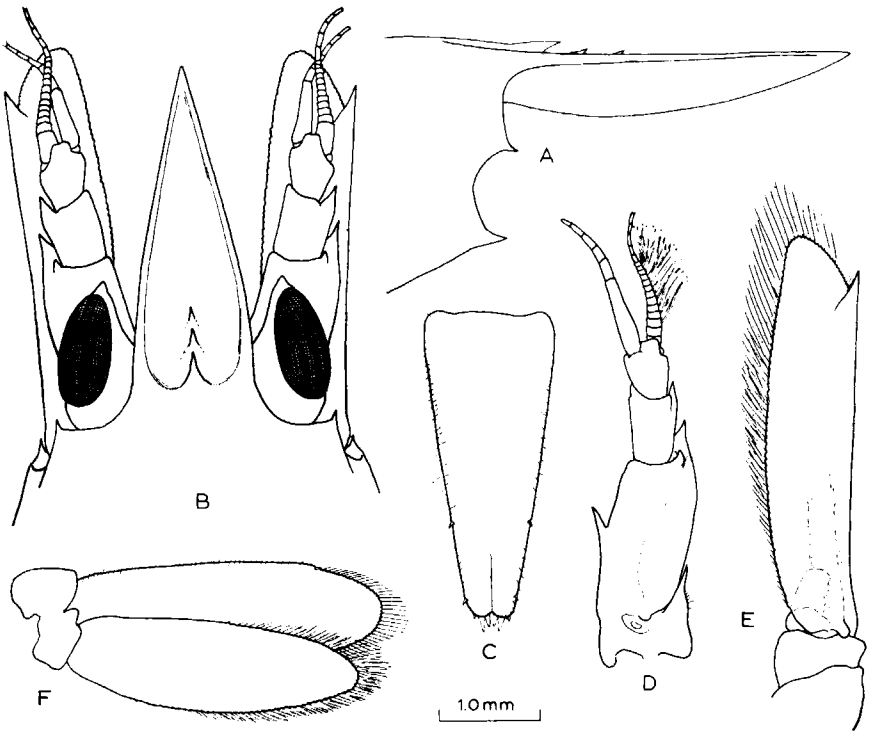

Fig. 2. *Gnathophylloides robustus* sp. nov., ovigerous female, paratype. A, rostrum and anterior carapace, lateral view; B, rostrum, anterior carapace, eyes and antennae, dorsal view; C, telson; D, antennule; E, antenna; F, uropod.

The orbital margin is rounded and there is no orbital depression. The inferior orbital angle is acute. Supra-orbital and hepatic spines are both absent. The antero-lateral angle of the carapace is feebly produced and acute. The ventral border of the carapace bears a well developed membranous margin. The posterior border of the branchiostegite is broadly rounded.

The abdominal segments are smooth. The third segment is not produced in the dorsal midline. The fifth segment is subequal in length to the sixth segment, which is as deep as long. The posterior lateral angle is bluntly produced and the posterior ventral angle is also blunt. The pleura of the first five segments are well developed and with broadly rounded margins, the first three enclosing a large marsupial chamber.

The telson is about 1.6 times the length of the sixth abdominal segment, and 2.3 times longer than broad. The sides of the telson are straight and converge posteriorly to about 0.34 of the anterior width. The posterior margin of the telson bears a median notch and a short feebly developed median dorsal carina. Two pairs of small dorsal spines are present on the lateral borders at about 0.70 and 0.94 of the telson length. Three pairs of posterior spines are also present. The lateral spines are small and stout. The submedian spines are also short and stout, tapering strongly to slender tips, about twice as long as the lateral spines. The submedian spines are similar to the intermediate spines but slightly shorter and less stout, with a few setules on the lateral border. The lateral and posterior margins of the telson bear numerous short simple setae.

The eyes are well developed, feebly mobile and orientated anteriorly. The cornea is laterally situated and oval in shape, about twice as long as broad. The eyestalk is short and stout, tapering distally, and the anterior extremity bears a small acute process. No accessory pigment spot is visible.

The antennular peduncle is distinctly exceeded by the rostrum. The basal segment is about 2.3 times longer than wide. The lateral border bears a slender acute stylocerite which just reaches to the level of the middle of the segment. The ventral medial border bears a large acute spine. The antero-lateral margin is strongly produced and bears an acute process that reaches to 0.6 of the length of the intermediate segment. A small statocyst with an oval statolith is present. The intermediate segment is about 0.33 of the length of the basal segment, subcylindrical, with a strongly produced acutely pointed lateral lamina. The terminal segment of the peduncle is approximately equal in length to the intermediate segment. The lower antennular flagellum is short, about 0.8 of the length of the basal peduncular segment, and consists of six segments. The proximal segment of the flagellum is subcylindrical and gradually tapering, and equal in length to the five distal segments together. The upper flagellum is uniramous and consists of a stouter proximal portion of twelve segments, bearing about twelve groups of aesthetascs and a distal portion of five slender segments.

The antenna has a stout basicerite, with a broad acute lateral tooth. The carpocerite is short, stout and subcylindrical. The flagellum is feebly developed,

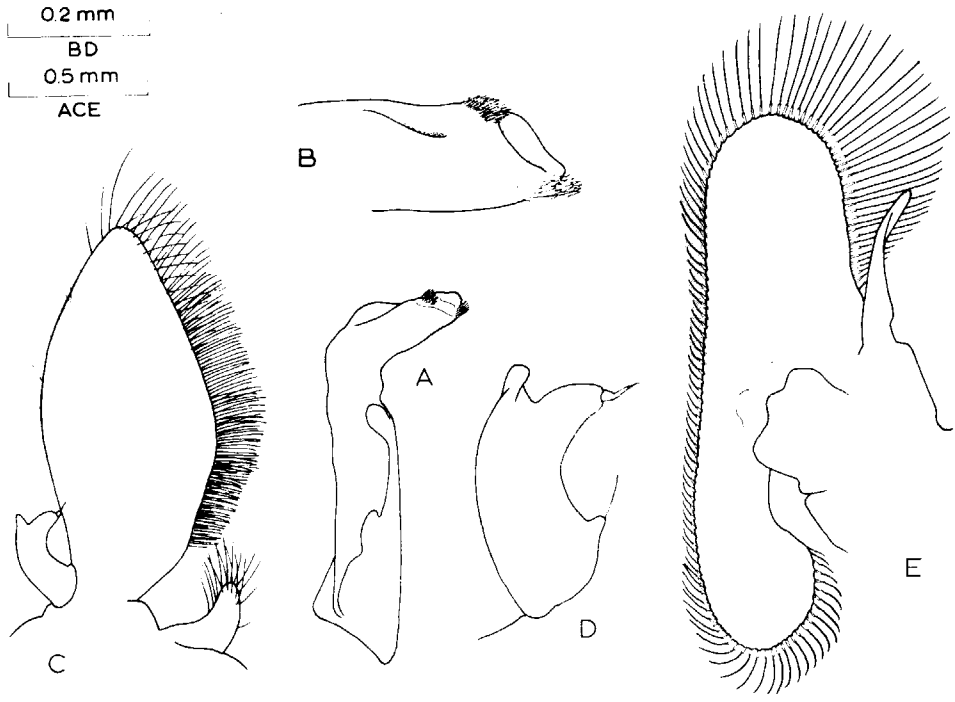

Fig. 3. *Gnathophylloides robustus* sp. nov., ovigerous female, paratype. A, mandible; B, molar process; C, maxillula; D, palp of maxillula; E, maxilla.

short, reaching only to the posterior border of the branchiostegite. The scaphognathite is well developed, with the lamina extending well beyond the tip of the rostrum. The lateral border is almost straight and terminates in a strong acute spine. The lamina is 4.6 times longer than broad, with the medial border subparallel to the lateral. The anterior portion of the lamina is distinctly produced beyond the disto-lateral spine and the anterior margin is bluntly angulated with the median border.

The epistome is unarmed and shows no special features. The labrum is normally developed.

The mandible is weakly developed. The body of the mandible is slender and feebly calcified. The molar process is feeble, obliquely truncated distally with a concave molar surface bearing a group of short spines posteriorly and a brush of fine setae anteriorly. The incisor process is absent, its position being marked by a thin laminar flange. The mandibular palp is lacking.

The maxillula is well developed. The upper lacinia is greatly expanded, leaflike, about twice as long as broad, with numerous long simple setae along the ventral border. The lower lacinia is small, tapering bluntly, with a few finely plumose setae distally. The palp is normally developed, distinctly bilobed, with a small simple seta distally on the lower lobe.

The maxilla is normally developed. The palp is elongated, slender and

non-setose. There are no endites present, the proximal medial border is almost straight. The scaphognathite is well developed, about 3.4 times longer than broad.

The first maxilliped has a short, subcylindrical non-setose palp. The basal endite is well developed, enlarged, with the anterior portion subacutely produced. The medial border is feebly convex and bears a fringe of long densely plumose setae. Distally these setae are about 0.65 mm long, and decrease in length proximally

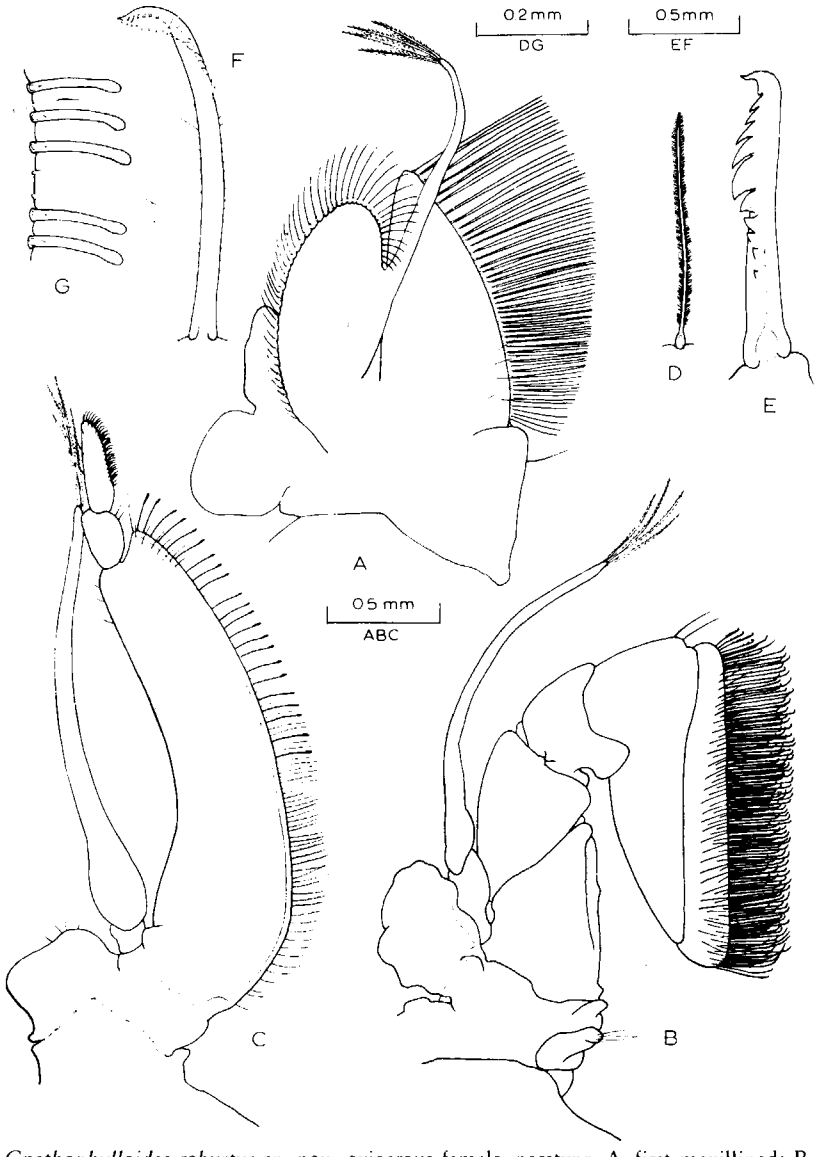

Fig. 4. *Gnathophylloides robustus* sp. nov., ovigerous female, paratype. A, first maxilliped; B, second maxilliped; C, third maxilliped; D, seta from basal endite of first maxilliped; E, seta from inner edge of dactylus of second maxilliped; F, seta from outer edge of dactylus of second maxilliped; G, setae from inner edge of antepenultimate segment of third maxilliped.

to about 0.25 mm. The setules on these setae are orientated to form a barrier and are short, very closely packed and regular (fig. 4D). The coxal endite is distinct, slightly produced distally, with a straight non-setose medial border. The exopod is well developed with a large caridean lobe. The ramus is slender with four distal plumose setae only. A large bilobed epipod is also present.

The second maxilliped is normally developed. The dactylar segment is elongated and narrow, about 7.0 times longer than broad in ventral view. The medial border is densely fringed with numerous rows of setae. The dorsal median row consists of short stout setae, about 0.16 mm long, with a short acute hooked tip and a row of stout acute recurved denticles along the anterior aspect of the shaft (fig. 4E). Dorsally to this row of setae is situated a series of rows of more slender setae about 0.15-0.25 mm long, the tips of which are curved anteriorly and provided with a row of long slender lateral teeth. The shaft of these setae is sparsely setulose (fig. 4F). The more ventrally situated rows consist of similar but longer setae, with two rows of lateral teeth distally. The ventral surface of the median border bears numerous slender simple setae arranged in irregular rows. The antero-lateral angle of the propodal segment is feebly produced and bears a few simple setae only. The ventral aspect is produced posteriorly and is elongated and slender. The posterior ventral angle of the carpus is bluntly produced. The merus is normal. The ischium is completely fused with the basis, which is represented by a small acute process on the proximal medial border. The coxal segment is stout, with two small lobes medially, of which the proximal bears a few simple setae. The exopod is well developed, slender, with four plumose setae distally. A large irregular epipod, without a podobranch, is present on the coxa.

The third maxilliped is moderately developed. The tip of the endopod reaches to the distal end of the carpocerite, and the anterior extremity of the antepenultimate segment reaches to the level of the antero-lateral angle of the carapace. The antepenultimate segment consists of the completely fused ischio-merus and basis. The segment is strongly bowed ventrally. When flattened, the segment is about 3.6 times longer than broad, with convex medial and concave lateral margins which converge slightly distally. The medial border bears a single row of setae of two types. Distally the setae are mainly stout, about 0.16-0.18 mm long, of uniform diameter throughout their length and with swollen distal ends. These setae are well separated from each other and have longer, more slender, tapering simple setae occasionally interspersed. The club-ended setae decrease in numbers proximally and are absent from the proximal half of the medial border. The slender tapering setae increase in numbers proximally and are most numerous along the proximal half of the median border, although they are more slender than the more distally situated setae. Except for a few short simple setae distally, the lateral border of the antepenultimate segment is devoid of setae. The penultimate segment is short and stout, about 1.6 times longer than broad, and equal to about 0.13 of the length of the antepenultimate segment. The disto-medial angle bears two simple setae only. The terminal segment is

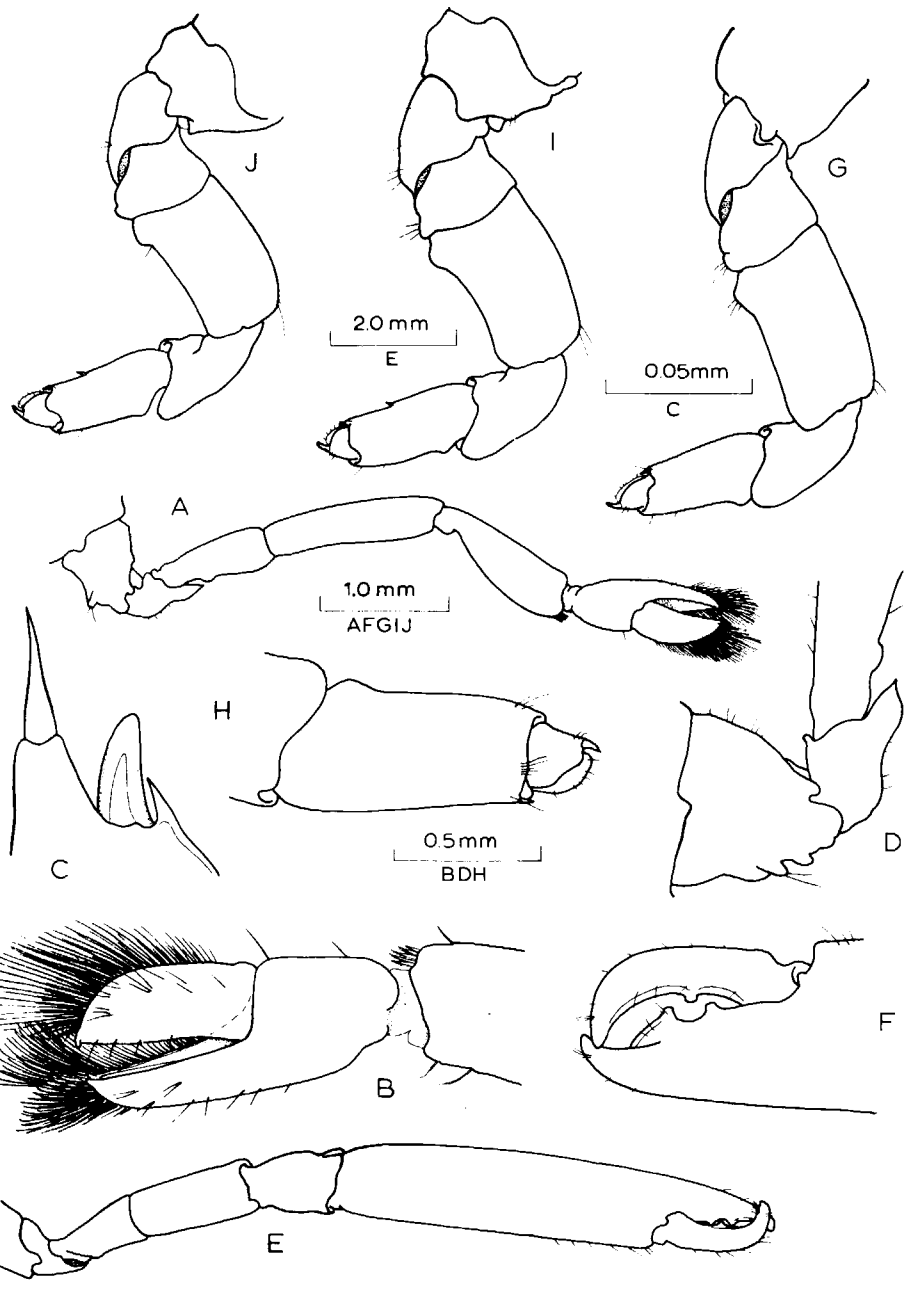

Fig. 5. *Gnathophylloides robustus* sp. nov., ovigerous female, paratype. A, first pereiopod; B, chela of first pereiopod; C, tip of fixed finger of first pereiopod; D, ischium of first pereiopod; E, second pereiopod; F, fingers of second pereiopod; G, third pereiopod; H, dactylus and propod of third pereiopod; I, fourth pereiopod; J, fifth pereiopod.

elongated, slender, about 3.6 times longer than wide and 1.5 times longer than the penultimate segment. The medial and distal borders are densely fringed with numerous short tapering setae, with setules proximally and small denticulations distally. The exopod is well developed; the ramus is slender with four plumose setae distally. The coxa lacks any medial process and bears an irregular epipod laterally. There is no arthrobranch present.

The thoracic sternites are narrow and unarmed. The fourth thoracic sternite is without a median ventral process.

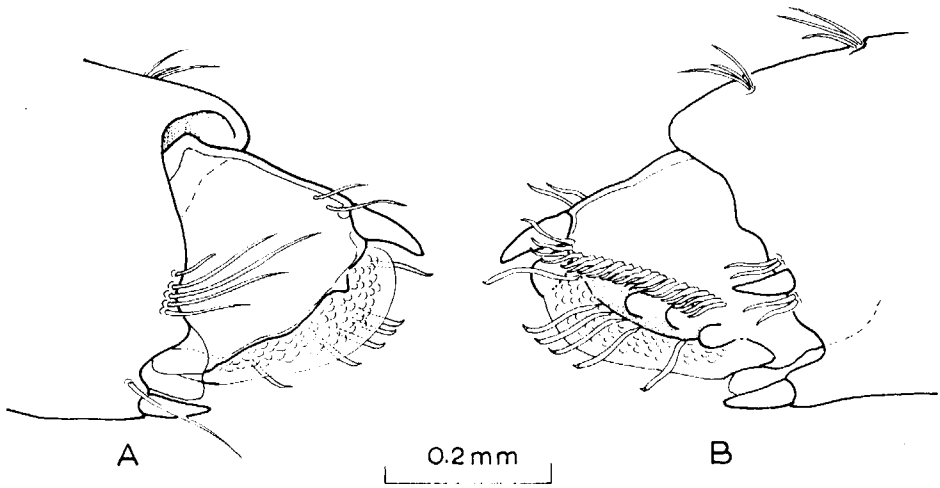

Fig. 6. *Gnathophylloides robustus* sp. nov., ovigerous female, paratype. Dactylus of third pereiopod: A, lateral aspect; B, medial aspect.

The first pereiopod is short and robust, and extends anteriorly to the middle of the intermediate segment of the antennular peduncle. The chela is well developed. The palm is distinctly compressed and about 1.2 times longer than deep. The fingers are stout, compressed, with laterally situated entire cutting edges. The tip of the dactylus bears a small hooked tooth. The tip of the fixed finger bears a slender acute spine distally with a stout blunt spine subterminally and a small acute process medially. The medial aspect of both fingers is provided with a dense brush of setae. The more distal setae are finely biserrate and the more proximal setae plumose. The carpus is short and stout, 3.0 times longer than wide, tapered proximally and equal to 1.1 times the length of the chela. The merus is simple, 4.3 times longer than wide, and 1.2 times longer than the carpus. The ischium is tapered proximally and equal to 0.65 of the length of the merus. The basis is short, less than half the length of the ischium, but with a strong acutely pointed disto-ventral process. The coxa is stout with a small median process only.

The second pereiopods are well developed, subequal in size and similar in shape. The intermediate segment of the antennular peduncle is exceeded by the

entire length of the chela. The chelae are elongated, about 5.5 times longer than deep and moderately compressed. The fingers are equal to 0.25 of the length of the palm. The dactylus is slender, strongly curved, with a blunt tip. The cutting edge is strongly concave, entire except for a single small peg-like tooth at about one third of its length. The fixed finger is more robust. The cutting edge bears two peg-like teeth separated by a deep notch and opposing the dactylar tooth. The distal cutting edge is entire. The carpus is short and stout, moderately expanded distally with unarmed laminar margins. The carpus is subcylindrical, 1.4 times longer than broad and equal to 0.21 of the length of the chela. The merus and ischium are compressed. The merus is about 2.2 times longer than wide and the disto-ventral angle is feebly produced and bluntly rounded. The ischium is about 2.0 times longer than broad, unarmed and narrowed proximally. The basis and ischium are short and unarmed.

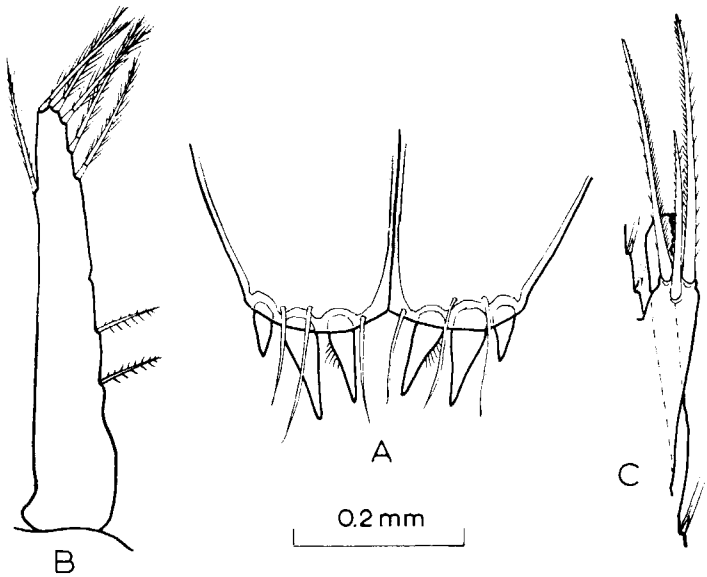

Fig. 7. *Gnathophylloides robustus* sp. nov., A, terminal telson spines (ovigerous female, paratype); B, endopod of first pleopod (♂, allotype); C, appendix masculina and appendix interna of second pleopod (♂, allotype).

The ambulatory pereiopods are short and robust. The third pereiopod barely extends to the level of the antero-lateral angle of the carapace. The propod is short and stout, tapering distally, compressed and about twice as long as broad. The disto-ventral angle bears a single lateral spine with a chitinous flange dorsally. The ventral margin is unarmed. The proximal part of the dorsal border is slightly swollen. The median distal border of the propod also bears a single stout spine. The carpus is short and stout, tapered proximally and with the disto-dorsal margin bluntly produced over the proximal end of the propod. The merus is broad and

robust, about 1.6 times longer than broad, compressed and with a ventral swelling proximally. The disto-lateral angle is bluntly rounded. There are no ventral spines. The basis is short, 1.5 times broader than long and 0.45 times the length of the merus. The coxa is robust and without any median process. The fourth and fifth pereiopods are similar to the third but shorter and more slender. The propod in each case bears a single spine at about 0.6 of the length of the ventral border.

The dactyli of the ambulatory pereiopods are highly modified. On the third pereiopod the dactylus is very short and broad, equal to about 0.29 of the length of the propod. The corpus of the dactylus is obliquely flattened. The lateral border bears a broad distally rounded squamate carina. The ventral surface bears a few long setae laterally and a row of closely set short setae medially. Proximally the ventral surface also bears three rounded protuberances. The unguis is robust and clearly demarcated from the body of the dactylus.

The pleopods are well developed and with slender rami, enclosing a large number of ova.

The uropods distinctly exceed the tip of the telson and the exopod is slightly longer than the endopod. The basipodite is unarmed laterally. The lateral border of the exopod is very feebly convex, almost straight, and unarmed, terminating distally in a small mobile spinule.

The ova are numerous, estimated at about 200 in number, with a greater diameter of 0.5 mm.

Male. Generally closely similar to the female but smaller and more slender. The rostrum is slightly shorter, only just exceeding the antennular peduncle. The carpus of the first pereiopod is shorter and stouter than in the female, and is subequal to the length of the chela.

The endopod of the first pleopod is slender, gradually tapering, about 5.0 times longer than wide proximally, where it is slightly expanded medially. The proximal half of the medial border bears two short setose setae, and the distal fourth bears five plumose setae. The lateral border bears a single distal plumose seta.

The appendix masculina is short and stout, and exceeded by the appendix interna. There are two stout terminal setae, with a row of densely packed setules along one aspect with sparse setules along the opposite side. A single shorter subterminal seta, sparsely setulose, is also present.

Types. — The largest ovigerous female and the single male specimens are selected as the holotype and allotype respectively, and have been deposited in the collections of the Rijksmuseum van Natuurlijke Historie, Leiden, reg. no. Crust. D. 27146 and 27147 respectively. The second ovigerous female paratype has been deposited in the collections of the Smithsonian Institution, United States National Museum, catalogue number Crustacea 138271.

Measurements (in mm):

	Holotype, ♀	Allotype, ♂	Paratype ♀	Paratype ♂
Post-orbital carapace length	**6.2**	4.0	5.4	6.0
Total carapace length	**9.4**	6.0	8.1	4.5
Total body length (appx)	**20.0**	13.0	18.0	22.0
Major chela of second pereiopod	6.2	5.0	5.6	6.2
Minor chela of second pereiopod	6.1	4.8	5.6	5.5

Colour. — The general colouration is dark purplish red. In more detail, the carapace and five anterior abdominal segments are covered by uniform narrow longitudinal bands of red finely margined by black. Narrower translucent spaces separate the red bands which tend to form a reticulum on the sixth abdominal segment. The rostrum, antennal peduncles, scaphocerite, second pereiopods, ambulatory pereiopods and the caudal fan are densely covered with small purple red dots, largest over the chelae of the second pereiopods. The lower margin of the branchiostegite appears yellowish white. The cornea is black.

Host. — *Centrostephanus tenuispinus* H. L. Clark (Diadematidae).

Associated fauna. — Also found in association with the host were three specimens of the pontoniinid shrimp *Periclimenes zanzibaricus* Bruce. This species has not been previously recorded from the eastern Indian Ocean, nor has it been found before in association with echinoids of the genus *Centrostephanus*, previous records having been from *Diadema, Astropyga* and *Echinothrix* (Bruce, 1967).

Remarks. — The new species *G. robustus* is closely related to *G. mineri* Schmitt, but may be readily separated by the following features: —

G. robustus sp. nov.	*G. mineri* Schmitt
1. Larger size, Cl. up to 6.2 mm.	Smaller size, Cl. up to 2.3 mm.
2. Rostrum long, straight, exceeding eyes and without ventral teeth.	Rostrum short, depressed, not exceeding eyes, with small distal ventral tooth.
3. Antero-lateral angle of carapace acutely produced.	Antero-lateral angle of carapace blunt.
4. Telson relatively slender, with lateral margins straight; posterior margin with median notch; short dorsal distal median carina present.	Telson relatively broad; with lateral margins convex; posterior border without median notch; median posterior dorsal carina absent.
5. Antennular flagella less reduced; stylocerite slender.	Antennular flagella greatly reduced. Stylocerite broader.
6. Scaphocerite with almost straight lateral border; lamina narrow, of mainly uniform width.	Scaphocerite with strongly concave lateral border; lamina wide, broadest centrally.
7. Cornea completely laterally situated, exceeded anteriorly by small process of eyestalk.	Cornea obliquely situated, not exceeded anteriorly by any part of eyestalk.

8. Mandible with small vestige of incisor lamina.	Mandible without any trace of incisor process.
Scaphognathite narrower.	Scaphognathite broader.
First maxilliped with basal endite broader.	First maxilliped with basal endite narrower.
Second maxilliped with dactylar and propodal segments narrow and elongated.	Second maxilliped with dactylar and propodal segments short and broad.
Third maxilliped with antepenultimate segment narrow, of sub-uniform width; exopod shorter than endopod.	Third maxilliped with antepenultimate segment broad, widest centrally; exopod longer than endopod.
9. First pereiopod with acute disto-ventral process on ischium.	First pereiopod without acute disto-ventral process in ischium.
10. Chelae of second pereiopods longer and more slender, about 5.0 times longer than broad. Fingers with one peg-like tooth on dactylus and two on fixed finger.	Chelae of second pereiopods short and stout, about 3.0 times longer than broad. Fingers without peg-like teeth; dactylus without teeth.
11. Dactylus of ambulatory pereiopods with well defined ventro-lateral carina and without a ventral row of spines.	Dactylus of ambulatory pereiopods without a ventro-lateral carina but with distinct row of low conical spines.
12. Colour pattern of fine longitudinal red bands.	Colour pattern of a single broad longitudinal lateral band of dark brown (or black ?).

Although the two species are clearly distinct, the most noteworthy feature is the great similarity of the oral appendages. These show the most marked contrast with the mouthparts of *G. mammillatus* which is now placed in a separate genus.

Levicaris gen. nov.

Definition of genus. — Small commensal gnathophyllid shrimps, associated with echinoids. Body fusiform, slightly depressed. Rostrum well developed, lateral carinae broadly expanded, dorsal teeth present. Carapace smooth. Inferior orbital angle acute. Antennal, hepatic and supra-orbital spines absent. Abdomen smooth, pleura rounded. Telson with two pairs of dorsal spines and three pairs of terminal spines. Eyes well developed, pyriform, with lateral cornea. Antennule short and stout, with short flagella; upper flagellum biramous with rami fused proximally. Antenna normal with well developed scaphocerite. Mandible feeble, without incisor process or palp. Maxillula with bilobed palp; upper lacinia enlarged and expanded. Maxilla with slender palp, endites absent, scaphognathite well developed. First maxilliped with slender palp, basal endite large, coxal endite distinct; exopod well developed with large caridean lobe; bilobed epipod present. Second maxilliped with carpus and merus greatly elongated; propodal segment also elongated, much longer than wide, with a narrow dactylar segment attached terminally; exopod well developed; simple epipod without podobranch present. Third maxilliped with feebly developed endopod; antepenultimate segment broad basally and greatly narrowed distally; exopod well developed; epipod and small arthrobranch present. First pereiopods slender. Second pereiopods robust; chelae stout, subequal, similar. Ambulatory pereiopods stout; dactylus short and stout, with numerous short, sharp and blunt spines, unguis distinct. Uropod normal.

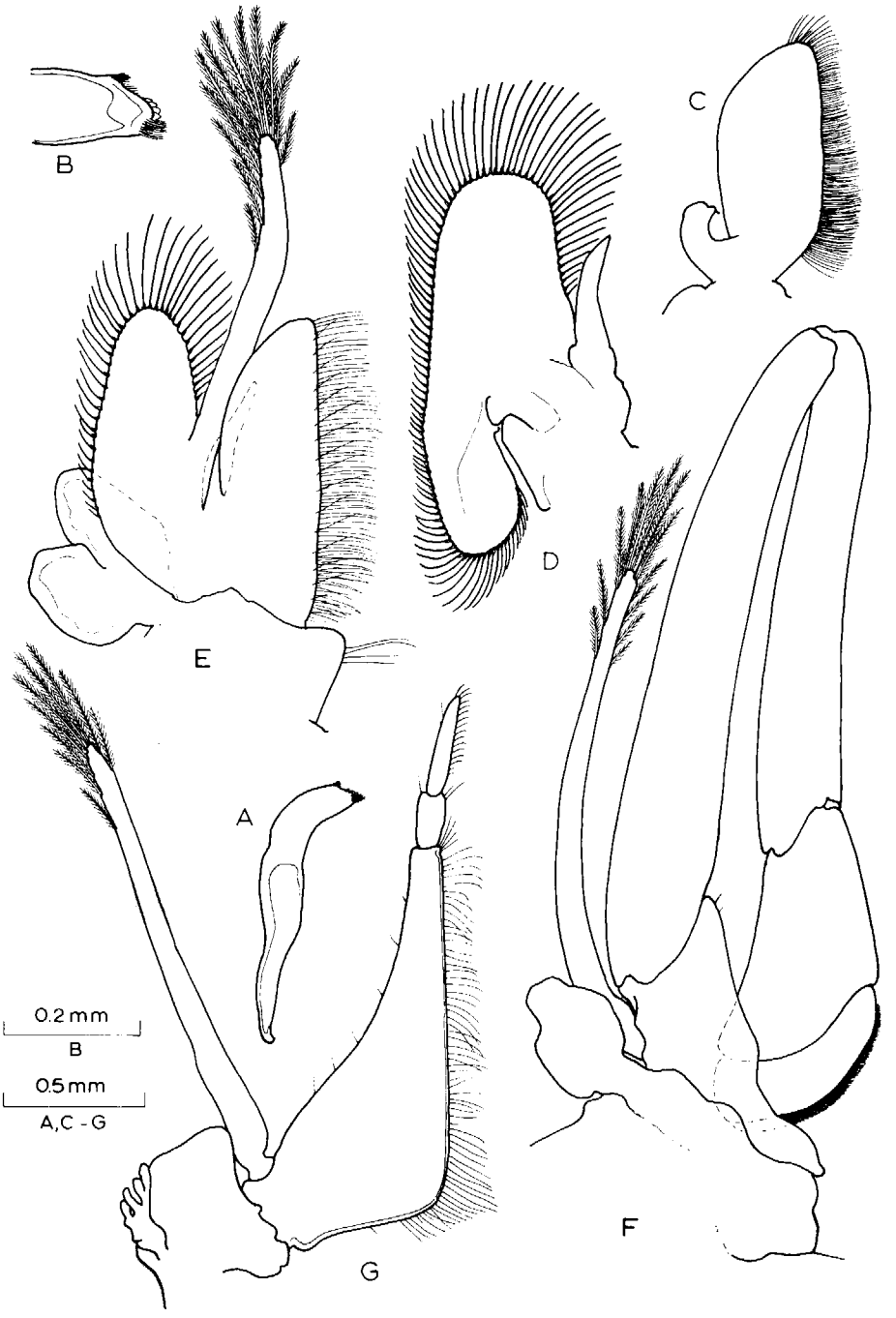

Fig. 8. *Levicaris mammillata* (Edmondson), ovigerous female. A, mandible; B, molar process; C, maxillula; D, maxilla; E, first maxilliped; F, second maxilliped; G, third maxilliped.

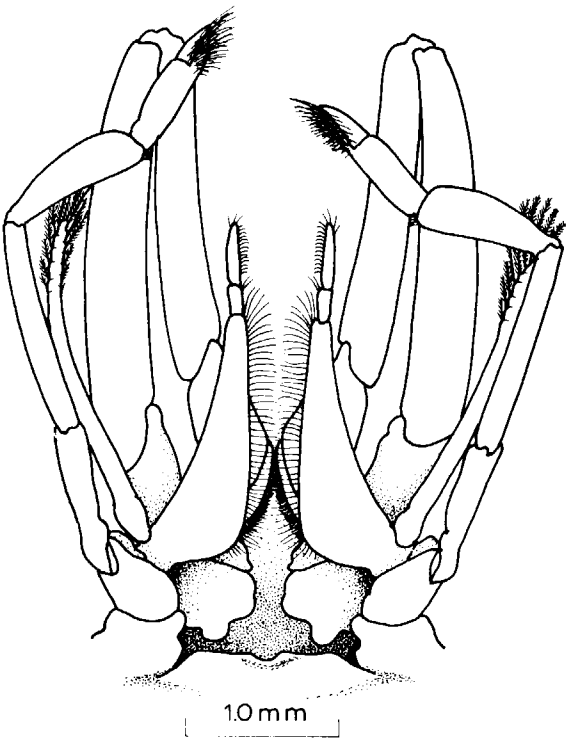

Fig. 9. *Levicaris mammillata* (Edmondson), ovigerous female. Oral region, showing relationship of second maxillipeds, third maxillipeds and first pereiopods.

Type species. — *Coralliocaris mammillatus* Edmondson, 1931.

Gender. — Feminine.

Systematic position of genus. — The genus *Levicaris* is most closely related to *Gnathophylloides* Schmitt, but is separated from that genus by the unusual development of the second and third maxillipeds. In all other features a close resemblance is found between the two genera. In *Gnathophylloides* the second maxilliped has the carpus and merus short and stout and the dactylar segment is short but laterally expanded. In *Levicaris* the second maxilliped is greatly enlarged and the carpus and merus are conspicuously elongated. The dactylus is also considerably elongated. In *Gnathophylloides* the third maxilliped is well developed with the antepenultimate segment broad throughout its length. In *Levicaris*, the third maxilliped is feebly developed, particularly in comparison with the second maxilliped, and, although broadened basally, tapering markedly throughout its length. A small arthrobranch is also present which is not found in *Gnathophylloides.*

The remarkable development of the second maxillipeds is particularly noticeable when the mouthparts are examined in situ. In most Caridea the second maxilliped is quite small and obscured from view beneath the antepenultimate segment of the third maxilliped. This condition is found in *Gnathophylloides.* Also, in most

Caridea the second maxilliped is conspicuously smaller than the first pereiopods. In *Levicaris* the second pereiopods are much larger and more robust than the first pereiopods. In this genus the first pereiopods extend anteriorly to exceed the lamella of the scaphocerite by the length of the fingers. The second maxilliped extends beyond the scaphocerite by two thirds of the length of the carpus and the propodal and dactylar segments. When fully extended the dactylar segment reaches far beyond the fingers of the extended first pereiopod and attains the level of the distal end of the palm of the second pereiopod. The endopod of the third maxilliped reaches only to the level of the middle of the merus of the second maxilliped, which is scarely concealed from view at all by the third maxilliped. The thoracic sternites are also noticeably broader in *Levicaris* than in *Gnathophylloides.*

The functions of the greatly enlarged second maxilliped are obscure. No observations have been recorded on the behaviour of live specimens other than that they are found attached longitudinally to the spines of the host *Heterocentrotus mammillatus* (Linnaeus). When the second maxilliped is fully extended the distal segments are rotated so that the flattened medial aspects, which are covered distally with short recurved setae, face each other. In this position they are to grasp the echinoid spine to which the shrimp is clinging. Flexion of the carpomeral joint could then enable the distal segments to exert a rasping action upon the surface of the spine. The shrimp may therefore be acting as a cleaner in relation to the host, or may be feeding upon the tissues of the host, in the role of an ectoparasite.

The small family Gnathophyllidae now consists of six genera (Bruce, 1972). These may be divided into two groups. (i) *Hymenocera* Dana and *Phyllognathia* Borradaile. These are probably both free-living and predatory, and the former is now known to feed on asteroid echinoderms. (ii) *Gnathophylloides* Schmitt, *Pycnocaris* Bruce, *Levicaris* gen. nov. and *Gnathophyllum* Latreille. The first three genera are all "commensals", *Gnathophylloides* and *Levicaris* living in association with echinoids. The host for *Pycnocaris* is not yet known. *Gnathophyllum* spp. are generally found as free-living micro-predators but one species may also be found in association with echinoids (Manning, 1963). The limited amount of information available suggests that all members of the *Gnathophyllidae* may be ecologically related to echinoderms.

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RÉSUMÉ

Une nouvelle espèce du genre *Gnathophylloides* Schmitt, *G. robustus*, est décrite. Les spécimens ont été trouvés en association avec l'échinoïde diadématide *Centrostephanus tenuispinis* H. L. Clark, récolté dans les eaux peu profondes près de Geraldton, Australie Occidentale. Le genre

Gnathophylloides ne comprend plus maintenant que les espèces dont le second maxillipède n'est ni agrandi ni allongé (*G. mineri* et *G. robustus*), et un nouveau genre *Levicaris* est désigné pour inclure les espèces dans lesquelles le second maxillipède est agrandi et allongé (*L. mammillata*). Aucune crevette n'avait été, jusqu'à présent, trouvée en association avec des échinoïdes du genre *Centrostephanus*.

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