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The Amphipoda (Crustacea) of Madang Lagoon: Aoridae, Isaeidae, Ischyroceridae and Neomegamphopidae *

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ABSTRACT. In this first comprehensive study of corophioid amphipods from the north coast of Papua New Guinea 38 species in 20 genera and four families are reported. In the Aoridae ten species in four genera are recorded, of which three, *Aoroides vitiosus* n.sp., *Bemlos pugiosus* n.sp. and *Grandidierella nagadae* n.sp. are new to science. In the Isaeidae 20 species in nine genera are recorded. Four genera, *Falcigammaropsis* n.gen., *Gammaropsella* n.gen., *Papuaphotis* n.gen. and *Paraloiloi* n.gen. and thirteen species, *Cheiriphotis pediformis* n.sp., *Chevalia pacifica* n.sp., *Falcigammaropsis excavata* n.sp., *Gammaropsella simplex* n.sp., *G. pilosa* n.sp., *Gammaropsis christenseni* n.sp., *G. gemina* n.sp., *G. lacinia* n.sp., *G. planodentata* n.sp., *G. siara* n.sp., *Papuaphotis regis* n.sp., *Paraloiloi vaga* n.sp. and *Photis paeowai* n.sp. are new to science. Six genera and seven species of Ischyroceridae are recorded. Of which, one genus, *Scutischyrocerus* n.gen. and three species, *Ischyrocerus parma* n.sp., *I. mediodens* n.sp. and *Scutischyrocerus scutatus* n.sp., are new to science. One species, *Parajassa spinipalma* Ledoyer, 1979b, is recorded for the first time from the western Pacific. A new genus and species of the family Neomegamphopidae, *Riwomegamphopus bamus* n.gen. and n.sp., is described.

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Contents

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Introduction

Collections of marine amphipods were made by the writer, J.D. Thomas, J.K. Lowry and M. Jebb, on the north coast of Papua New Guinea, Madang Province during January and February 1990 and in March and April 1991. The present paper reports on 38 species in four families of corophioid amphipods from these collections.

Ten species of Aoridae are reported, three of which are new to science. The three new species, *Aoroides vitiosus* n.sp., *Bemlos pugiosus* n.sp. and *Grandidierella nagadae* n.sp., are fully described and figured. Figures are also provided of three little known species, *Bemlos tui* (Myers, 1985c), previously known only from Western Samoa, *Bemlos bidens* Myers, 1988b, previously known only from Queensland, Australia and *Globosolembos ruffoi* (Myers, 1975), previously reported from East Africa and Queensland.

Twenty species of Isaeidae are reported from the collections, thirteen of which are new to science. The thirteen new species are fully described and figured. Figures are also provided of three established species, for comparison with new species. *Gammaropsis setifera* (Schellenberg, 1938), previously known only from Kiribati and Fiji and *Photis pirloti* Myers, 1985b previously known only from Fiji, are recorded from Papua New Guinea.

Six genera of Ischyroceridae (*Borneoecetes* Barnard & Thomas, *Ericthonius* Milne Edwards, *Ischyrocerus* Krøyer, *Parajassa* Stebbing, *Scutischyrocerus* n.gen. and *Ventojassa* Barnard) are reported. Descriptions and figures are given of three new species, *Ischyrocerus parma* n.sp., *Ischyrocerus mediodens* n.sp. and *Scutischyrocerus scutatus* n.sp., as well as figures of *Parajassa spinipalma* Ledoyer, 1979b and *Ericthonius pugnax* Dana, 1852.

The family Neomegamphopidae is represented in these samples by a single species, new to science, which is placed in a new genus, *Riwomegamphopus* n.gen. The species is described and figured herein. This is the first record of the family from the western Pacific.

Holotypes, paratypes and the majority of the collection are deposited in the collections of the Australian Museum, Sydney. All other material is in the collections of the writer, but will be donated to the Australian Museum on completion of the work in the region, by the writer.

Complete station data is published in Jebb & Lowry (1995, this volume pp. 14–24).

The following abbreviations are used in figures: **Hd**, head; **A**, antenna; **L**, labium; **Lb**, labrum; **Md**, mandible; **Mx**, maxilla; **Mxp**, maxilliped; **C**, coxa; **G**, gnathopod; **P**, pereopod; **Us**, urosome; **U**, uropod; **T**, telson.

Systematics

Corophioidea

Aoridae

Aoroides Walker

Aoroides vitiosus n.sp.

Figs 1, 2

? *Aoroides nahili* Barnard, 1970.–Ledoyer, 1979a: 149, fig. 6(II).

Type material examined. HOLOTYPE male, 2.3 mm, AM P42294; PARATYPE male, AM P42295; Kranket, Madang Lagoon, Papua New Guinea (5°11.34'S 145°49.47'E), among *Halophila ovale*, 1 m, A.A. Myers, 21 February 1990, stn AAM/PNG-1.

Additional material examined. AM P42296 to P42298 from stations: AAM/PNG-13 (2 males), AAM/PNG-15 (1 male), JKL/PNG-261 (16 males, 14 females).

Diagnosis. Body and coxae 1–5 with irregular brown markings. Male pereon segments without sternal processes. Labium outer plate distal margin with three spines. Mandible palp absent. Maxilla palp article 2 with 7 spines. Maxilliped palp articles stout. Antenna 1 over three quarters body length, peduncular articles in the ratios 4:5:3, flagellum over one and a half times length of peduncle, accessory flagellum absent. Antenna 2 a little over half length of antenna 1, peduncular articles

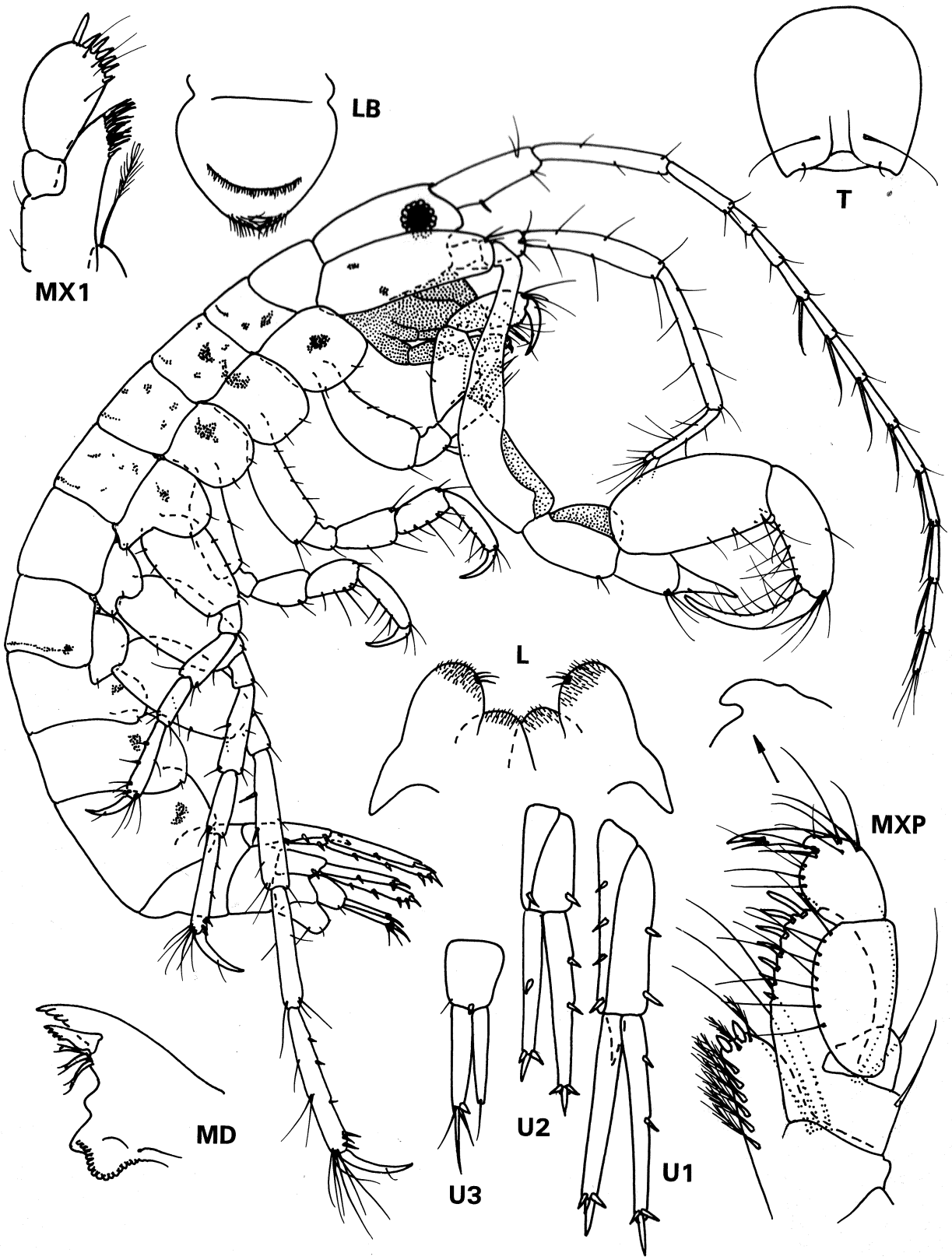

Fig. 1. *Aoroides vitiosus* n.sp., Kranket, Madang Lagoon, Papua New Guinea, AAM/PNG-1.

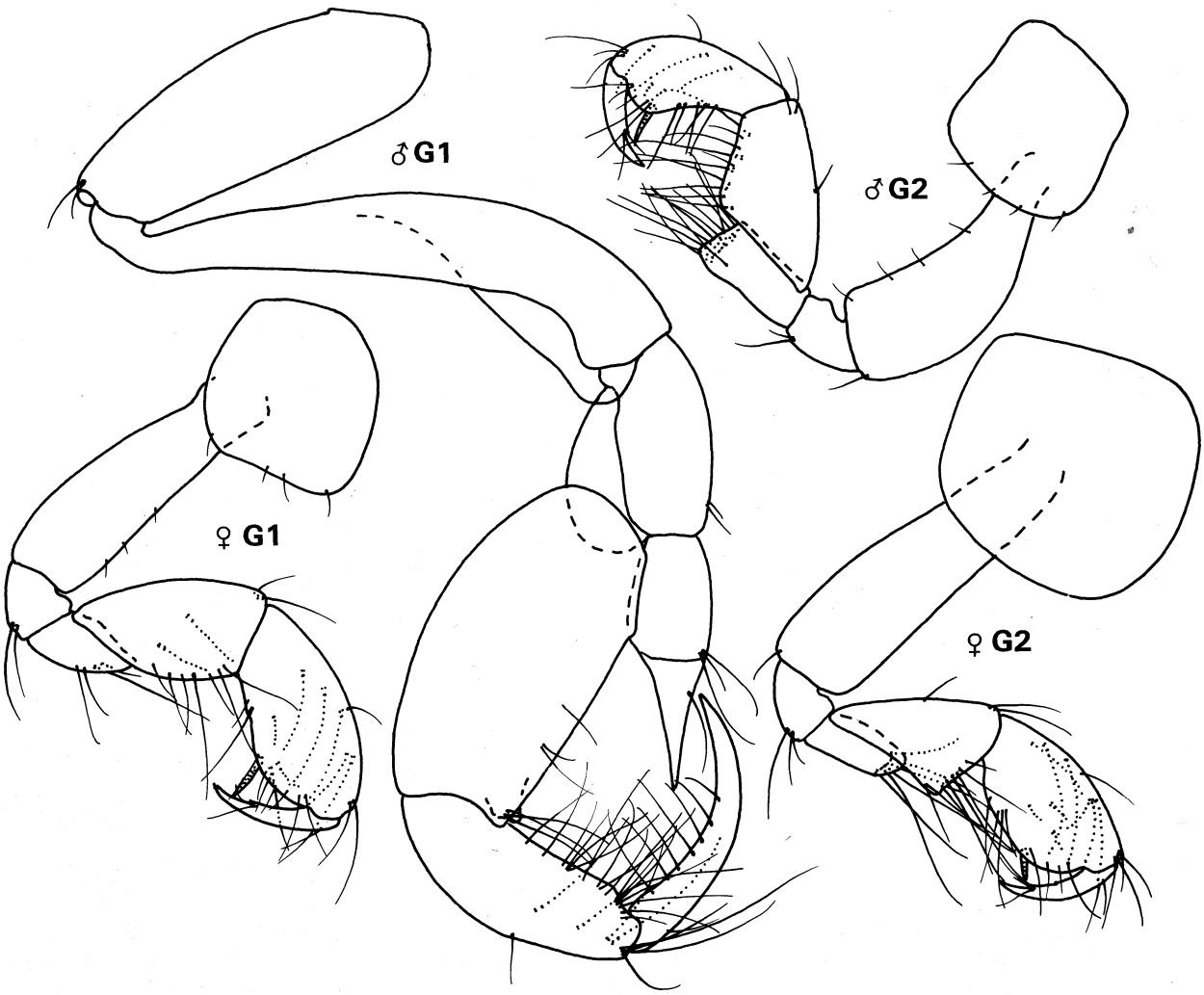

Fig. 2. *Aoroides vitiosus* n.sp., Kranket, Madang Lagoon, Papua New Guinea, AAM/PNG-1.

4 and 5 subequal, flagellum with two articles, article 1 over half length of peduncular article 5. Male gnathopod 1 greatly enlarged, coxa strongly elongated, almost three times as long as broad, basis very elongate, slender proximally, expanded distally and excavate anterodistally, ischium large with rounded anterior flange on inner face, merus with strong, acute, distal tooth, not reaching distal end of carpus, carpus subovoid, propodus over twice as long as broad but shorter than carpus, dactylus elongate, longer than propodus. Female gnathopod 1 not greatly enlarged, propodus very slightly longer than carpus, dactylus overlapping palm. Male gnathopod 2 basis anterior margin concave, posterior margin convex, merus subrectangular, anterior margin transverse, carpus subtriangular, propodus slender proximally, expanded distally, posterior margin concave, dactylus strongly overlapping palm. Female gnathopod 2 basis anterior margin substraight, posterior margin weakly convex, merus anterior margin oblique, carpus shorter than that of male, propodus subovoid, posterior margin convex, dactylus slightly overlapping palm. Pereopods 3–4 slender, dactylus a little over half length of propodus. Pereopods 5–7 slender in the length ratios 7:8:12. Epimera 1–3 each with small posterodistal tooth with a small seta inserted above it. Uropod 1 peduncle with interramal tooth about one quarter length of peduncle, inner ramus slightly longer than outer ramus, outer ramus subequal in length with peduncle. Uropod 2 peduncle lacking an interramal tooth, inner ramus distinctly longer than outer ramus and almost twice length of peduncle. Uropod 3 outer ramus the longer, more than one and a half times length of peduncle, both rami lacking marginal spines or setae. Telson with each lateral crest bearing a single long seta.

Ovigerous female with 5 eggs.

Etymology. From the Latin *vitiosus* = faulty, referring to the missing mandible palp.

Remarks. This species is similar to *Aoroides nahili* from Hawaii, but differs in a number of ways, not least the complete absence of a mandibular palp. Other differences are the greatly elongated male coxa 1 and basis, the short meral tooth of the male gnathopod 1, and the very different form of the male gnathopod 2. *Aoroides vitiosus* may be synonymous with the species described by Ledoyer (1979a) from Banda, Indonesia, under the name *A. nahili.*

The absence of a mandibular palp is unique in the genus and it might be considered sufficient for the erection of a new genus. However, the similarity of the species to *A. nahili* which has a typical *Aoroides*-form mandibular palp, suggests that the diagnosis of the genus should be modified to include species without a mandibular palp.

Habitat. Among *Halophila ovale* in shallow water.

Distribution. Known only from the type locality, Kranket, north-east of Madang, Papua New Guinea.

Bemlos Shoemaker

Bemlos aequimanus (Schellenberg)

Lembos aequimanus Schellenberg, 1938: 76, fig. 39.–Barnard, 1965: 527, fig. 26.–Barnard, 1970: 72, figs 36a–c.–Ledoyer, 1984: 31, fig. 14.–Myers, 1985c: 385, figs 246–248.
Bemlos aequimanus.–Myers, 1988a: 188.

Material examined. AM P42321 to P42324: AAM/PNG-15 (3 males 4 females), AAM/PNG-16 (2 females), JKL/PNG-238 (1 female), JKL/PNG-240 (3 males, 9 females, 3 juveniles).

Remarks. Present material agrees well with the type description and with other described Pacific material.

Habitat. Among algae and coral rubble. Unlike most *Bemlos* species, it is often found among algae and phanerogammes throughout its range.

Distribution. Hawaii, Marshall Islands, Kiribati, Tonga, Western Samoa, New Caledonia.

Bemlos waipio (Barnard)

Lembos processifer Barnard, 1965: 529, figs 28g–m (not *Bemlos processifer* [Pirlot, 1938]).
Lembos waipio Barnard, 1970: 85, figs 44, 45.–Myers, 1985c: 379, figs 242–245.
? *Lembos waipio*.–Ledoyer, 1984: 37, fig. 17B.
Bemlos waipio.–Myers, 1988a: 189.

Material examined. AM P42325 to P42331: AAM/PNG-8 (2 females), AAM/PNG-11 (11 specimens), AAM/PNG-12 (4 specimens), AAM/PNG-13 (5 males, 7 females), JDT/PNG-60 (8 males, 7 females), JKL/PNG-213 (2 males, 2 females). Author's collection: JDT/PNG-34 (1 male, 1 female).

Remarks. The present material agrees closely with the original description (Hawaii) and with material described from Vanuatu (Myers, 1985c). The material described under the name *L. waipio* by Ledoyer (1984), from New Caledonia may be referable to this species, but is too immature to assign with certainty.

Habitat. All material of this species has been collected from coral rubble, often with epiphytes and from red algae, in 1–52 m depth.

Distribution. Hawaii; Caroline Islands (Barnard, 1970, 1965); ? New Caledonia (Ledoyer, 1984); Vanuatu, (Myers, 1985c); Papua New Guinea.

Bemlos tui (Myers) **n.comb.**

Fig. 3

Lembos tui Myers, 1985c: 398, figs 255–258.

Material examined. AM P42332 to P42333: JDT/PNG-57 (6 males, 10 females), AAM/PNG-5 (7 males, 10 females).

Remarks. This species was previously known only from one male and two female specimens collected on Upolu Island, Western Samoa (Myers, 1985b). Present material is in perfect agreement with the original description, but an entire male is figured here to show the form of the disruptive patterning on the dorsum.

Habitat. *Halimeda*, coral rubble and debris.

Distribution. Western Samoa, Papua New Guinea.

Bemlos bidens Myers

Fig. 4

Bemlos bidens Myers, 1988b: 293, figs 24, 25.

Material examined. AM P42334 to P42341: AAM/PNG-13 (2 males, 3 females), JDT/PNG-24 (1 male), JDT/PNG-32 (1 male), JDT/PNG-50 (1 male), JDT/PNG-67 (12 males, 9 females), JKL/PNG-213 (20 males, 10 females), JKL/PNG-238 (1 male, 1 female, 1 juvenile), JKL/PNG-239 (3 males, 5 females), JKL/PNG-240 (10 males, 13 females).

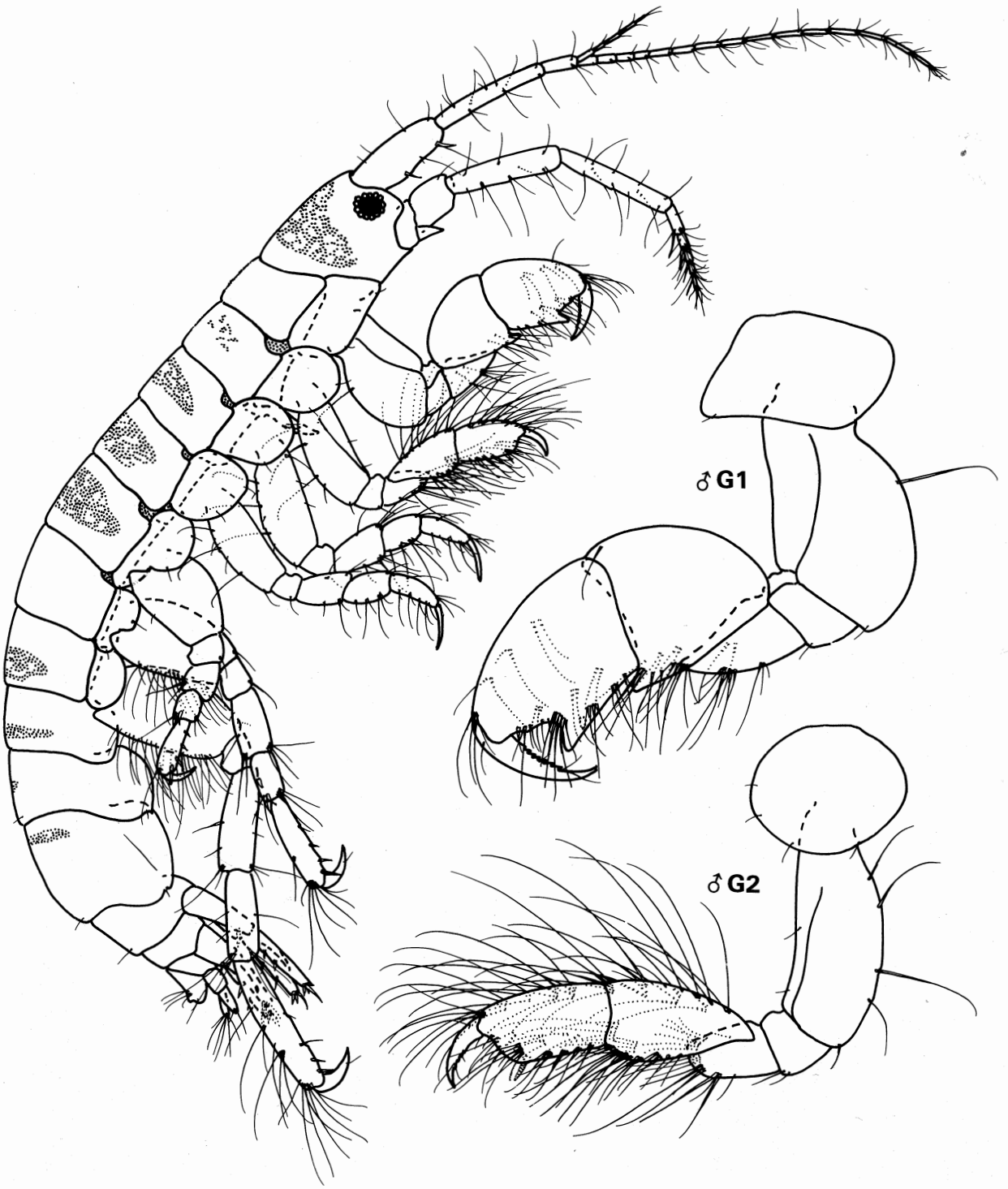

Fig. 3. *Bemlos tui* (Myers), Dam Awan (Rasch Passage), Madang Lagoon, Papua New Guinea, AAM/ PNG-5.

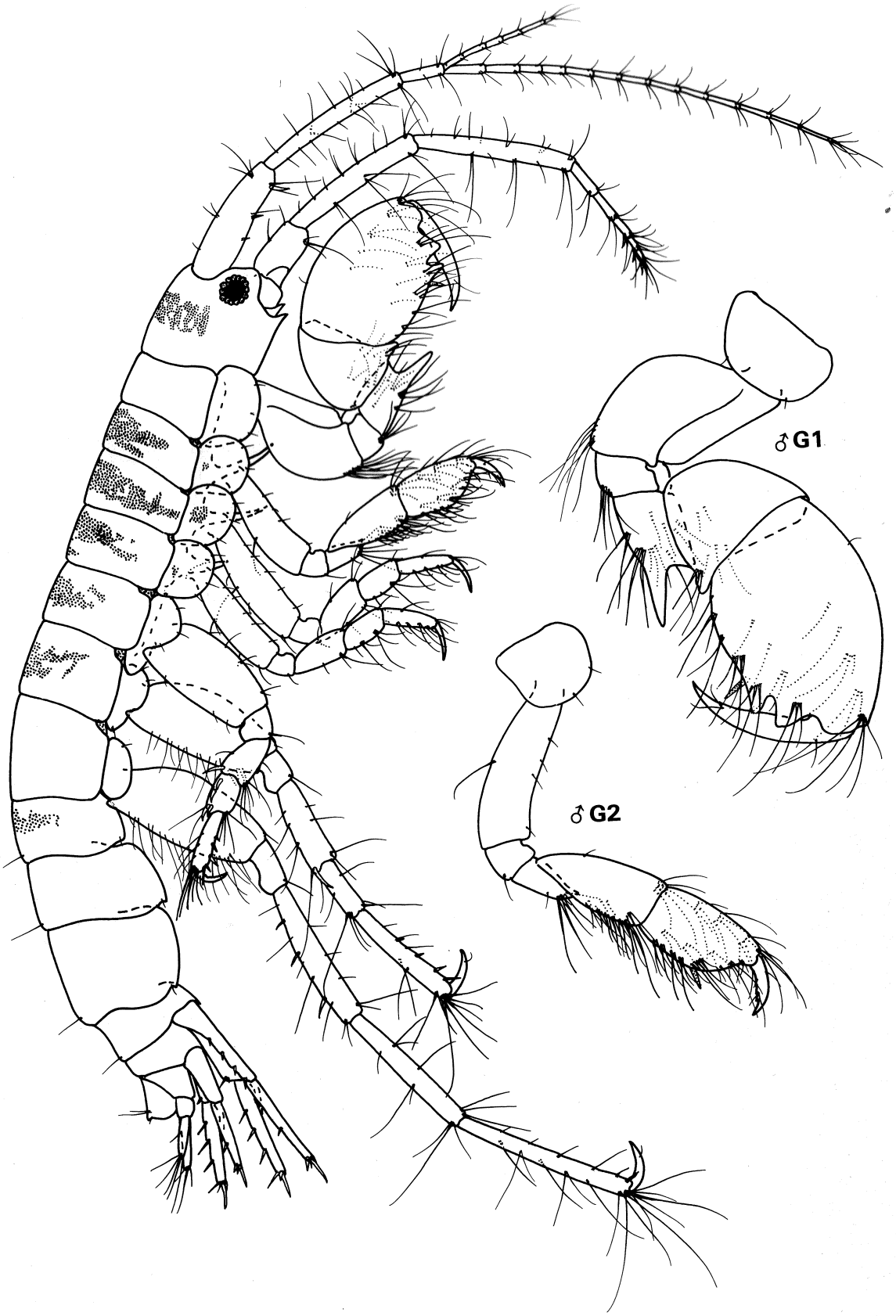

Fig. 4. *Bemlos bidens* Myers, Padoz Natun reef, Madang Lagoon, Papua New Guinea, JDT/PNG-67.

Remarks. *Bemlos bidens* was described from a single male specimen collected in Queensland. Present material differs in the form of the male gnathopod 1, in that the carpal tooth is short and blunt rather than relatively long and acute as in Queensland material and the palm is almost transverse and separated from a posterodistal tooth by a deep excavation, whereas in Queensland material, the palm is oblique and has only a rudimentary excavation. With regard to the propodus, Queensland material appears somewhat immature, however, the carpal and meral teeth are very well developed and the male specimen described was larger (3.9 mm) than Papua New Guinea material (3.8 mm). In other respects there appear to be no significant differences between the two populations and until further material is available from Queensland for comparison it would seem sensible to allocate present material to *B. bidens.*

Habitat: Coral rubble, 1–50 m depth.

Distribution: Queensland, Australia; north coast of Papua New Guinea.

Bemlos pugiosus n.sp.

Figs 5, 6

Type material. HOLOTYPE male, 2.5 mm, AM P42342; PARATYPES, 1 male, 1 female, AM P42343; barrier reef near Wongad (5°08.11'S 145°49.53'E), rubble, encrusted dead *Acropora* plates, also some pieces from caves and overhangs, 36 m and 21 m, J.D. Thomas, 22 February 1990, stn JDT/PNG-59.

Other material examined. AM P42344 to P42347: JDT/PNG-57 (2 males), JKL/PNG-204 (4 specimens), JKL/PNG-259 (13 males, 16 females), JKL/PNG-260 (5 males). Author's collection: JDT/PNG-37 (1 male), JKL/PNG-183 (1 male, 1 female), JKL/PNG-184 (2 males, 3 females, 1 juvenile).

Diagnosis. Eye large. Pereon segments 2–4 and 5 with weak dorsal pigmentation. Male pereon segments lacking sternal processes. Labium outer plate distal margin with 8 spines. Maxilla 1 palp with 7 distal spines. Mandible palp articles in the basi-distal ratios, 3:5:8, article 3 posterior margin straight, with about 7 long setae and a comb row of short setae. Maxilliped palp with dactylus much less than half length of propodus. Antenna 1 three quarters body length, peduncular articles in the basi-distal ratios, 7:11:3, primary flagellum one and a half times length of peduncle with 17–18 articles, accessory flagellum with 5 articles, the terminal article rudimentary. Antenna 2 two thirds length of antenna 1, peduncular articles 4 and 5 subequal, flagellum a little shorter than peduncular article 5, with 7 articles. Male gnathopod 1 coxa subrectangular, anteriorly rounded, basis stout, anterior margin straight, merus strong, carpus cup-shaped less than half length of propodus, posterior distal margin with a cluster of long setae, propodus weakly setiferous, anterior margin strongly convex, palm short, convex, separated from a long, acute posterodistal tooth by a deep triangular excavation, posterior margin almost straight, dactylus stout, not strongly falcate, posterior margin weakly toothed. Female gnathopod 1 slender, propodus longer than carpus, broader distally, palm oblique, evenly convex, dactylus overlapping palm. Male gnathopod 2 basis anterior margin markedly concave, posterior margin convex, carpus and propodus slender, carpus the longer, anterior margins of carpus and propodus weakly setiferous, dactylus fitting oblique palm. Female gnathopod 2 basis anterior margin straight, carpus and propodus subequal. Pereopods 3 and 4 slender, dactylus a little over half length of propodus. Pereopods 5–7 in the length ratios 4:6:9. Epimeron 1 rounded, epimera 2–3 each with small posterodistal tooth above which is inserted a seta. Uropod 1 peduncle with interramal tooth less than half length of peduncle, rami subequal, longer than peduncle. Uropod 2 peduncle with interramal tooth three quarters length of peduncle, inner ramus longer than outer and one and a half times length of peduncle. Uropod 3 inner ramus the longer and twice length of peduncle. Telson with each lateral crest bearing a pair of long setae.

Etymology. From the latin *pugio* = dagger, referring to the dagger-like tooth on the propodus of the male gnathopod 1.

Remarks. In the form of the male gnathopod 1 this species resembles *Bemlos podoceroides* (Walker, 1904) but differs in the rounded coxa 1 and *Bemlos spinicarpus inermis* (Myers, 1979), but that species has a strongly setose male gnathopod 2. The only similar Pacific species is *B. quadrimanus* (Sivaprakasam, 1970), but that species has a male gnathopod 1 with a more rectangular propodus, a shallower palmar excavation, and a markedly deflected posterodistal tooth.

Habitat. Dead coral and rubble.

Distribution. Currently known only from Papua New Guinea.

Globosolembos Myers

Globosolembos ovatus (Myers)

Lembos (Globosolembos) ovatus Myers, 1985a: 354, figs 228–230.
Globosolembos ovatus.–Myers, 1985b: 47, figs 34, 35.–Myers, 1989: 66, table 1.

Material examined. AM P42349 to P42358: AAM/PNG-8 (1 male, 2 females), AAM/PNG-12 (1 male, 2 females), AAM/PNG-13 (3 males, 5 females), JDT/PNG-24 (1 female), JDT/PNG-32 (1 female), JDT/PNG-47 (2 males, 8 females), JDT/

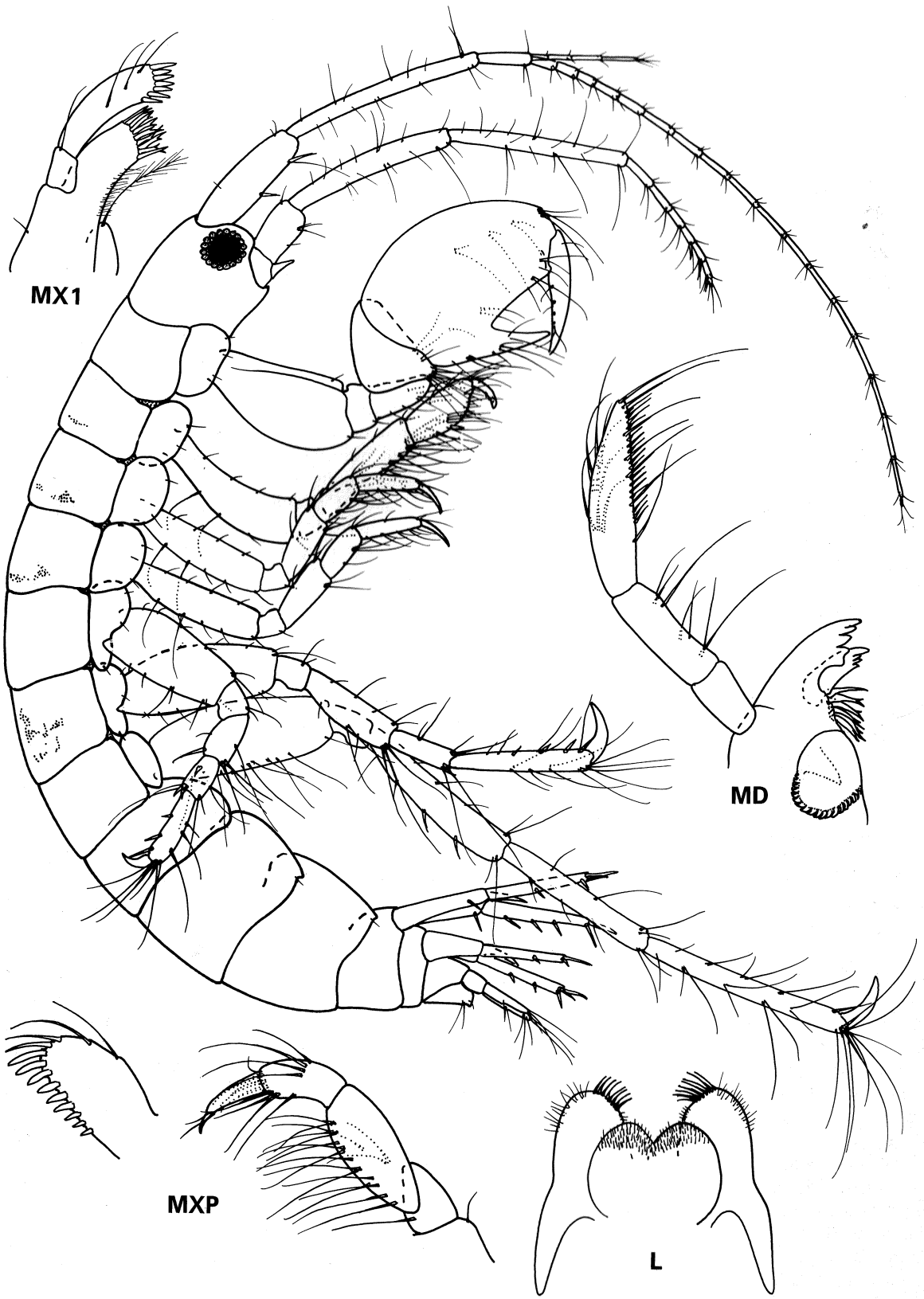

Fig. 5. *Bemlos pugiosus* n.sp., barrier reef near Wongad, Madang Lagoon, Papua New Guinea, JDT/PNG-59.

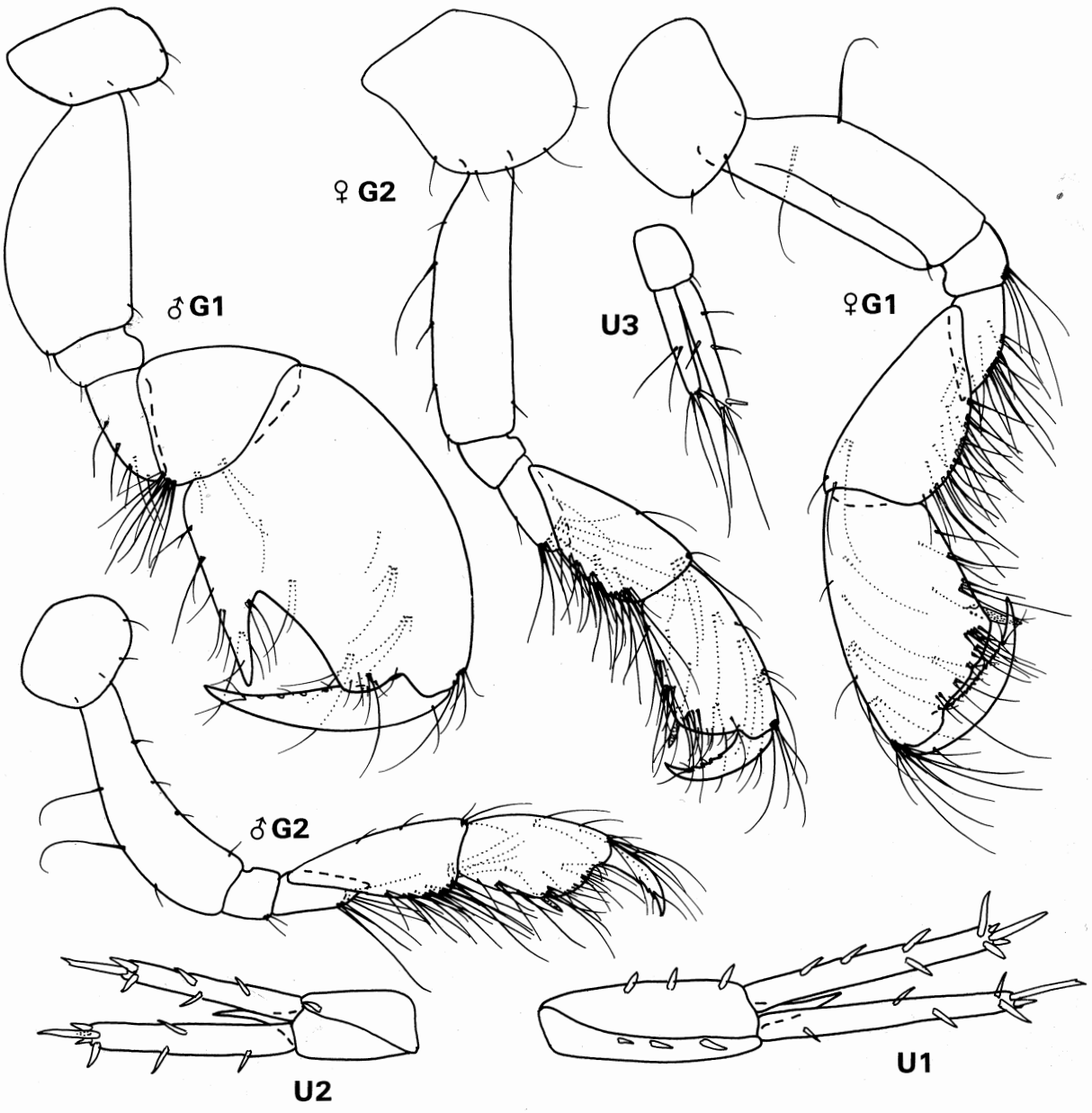

Fig. 6. *Bemlos pugiosus* n.sp., barrier reef near Wongad, Madang Lagoon, Papua New Guinea, JDT/PNG-59.

PNG-57 (7 males, 6 females), JDT/PNG-58 (3 males, 3 females, 7 juveniles), JDT/PNG-60 (8 males, 14 females), JKL/PNG-259 (1 male), AAM/PNG-5 (3 males, 4 females).

Remarks. Present material is in good agreement with material described from Fiji.

Habitat. Coral rubble and *Halimeda.*

Distribution. Western Samoa, Fiji, Vanuatu (Myers, 1985a), Society Islands (Myers, 1989).

Globosolembos ruffoi (Myers)

Fig. 7

? *Lembos* sp. Barnard, 1965: 530, figs 28a–e.
? *Lembos leapakahi*.–Sivaprakasam, 1970: 86, fig. 3. (non *L. leapakahi* Barnard, 1970: 79, figs 39, 40).
Lembos ruffoi Myers, 1975: 22, figs 68–75.
Lembos sp. Myers, 1985a: 365, fig. 235.
Globosolembos ruffoi.–Myers, 1988a: 189.–Myers, 1988b: 327, fig. 54.

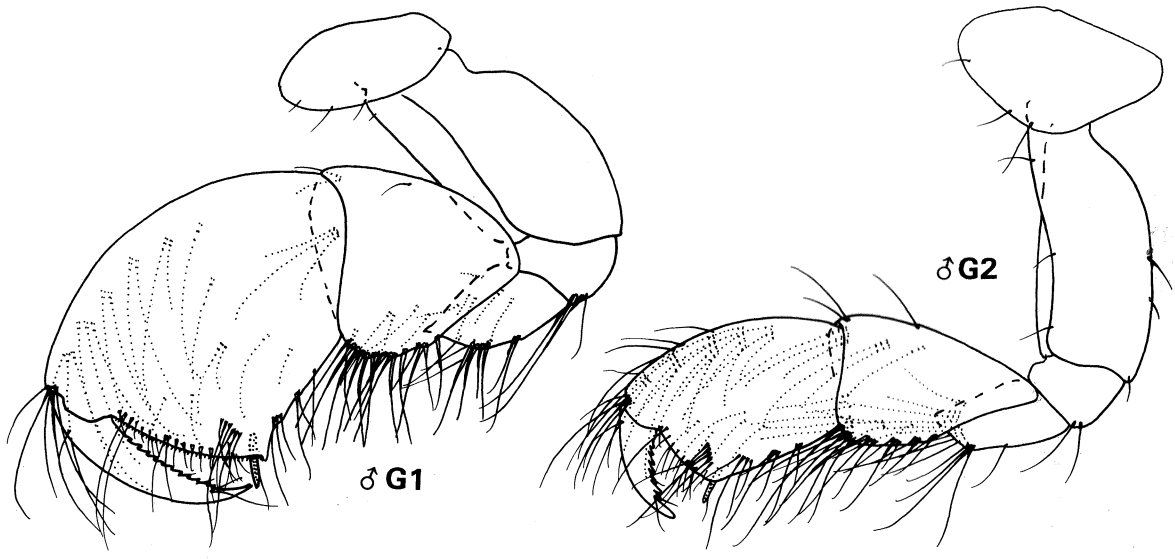

Fig. 7. *Globosolembos ruffoi* (Myers), Barracuda Point, Madang Lagoon, Papua New Guinea, JDT/PNG-57.

Material examined. AM P42359 to P42361: JDT/PNG-47 (1 male, 2 females), JDT/PNG-57 (1 male, 3 females), JKL/PNG-259 (5 males, 6 females). Author's collection: AAM/PNG-5 (1 male), JKL/PNG-212 (3 males, 4 females).

Remarks. Present material is much smaller than East African material (Type locality), 2.5 mm as opposed to 5.0 mm, and is also quite differently pigmented. Present material has posterior margins of head, pereon segments 1–7 and pleon segments 1–2 with narrow red bands, proximal part of antenna 1 peduncular articles red, flagellum red, peduncular articles of antenna 2 spotted with red. East African material: body with weak brown bands on pereon segments 1–5. Notwithstanding these differences, no morphological differences could be found. For the present, therefore, this material is attributed to *G. ruffoi*.

Habitat. Coral rubble and *Halimeda*.

Distribution. East Africa (Myers, 1975), ? India (Sivaprakasam, 1970), Queensland, Australia (Myers, 1988b), ? Caroline Islands (Barnard, 1965), Papua New Guinea.

Grandidierella Coutière

Grandidierella bonnieroides Stephensen

Grandidierella bonnieroides Stephensen, 1948: 12, fig. 3.–Myers, 1970: 141, figs 1, 2.–Myers, 1972: 790.–Myers, 1981: 218.–Asari & Myers, 1982: 252, figs 9, 10.
For detailed synonymy prior to 1948, see Myers (1970)

Material examined. AM P42362 to P42365: AAM/PNG-7 (3 males, 5 females), AAM/PNG-13 (2 males, 1 female), AAM/PNG-17 (1 male), JKL/PNG-261 (10 males, 15 females).

Remarks. Agrees well with the original description.

Habitat. In highly sedimented habitats among algae, mangrove roots etc. in variable salinity.

Distribution. Apparently circumtropical.

Grandidierella nagadae n.sp.

Figs 8, 9

Type Material. HOLOTYPE male, 5.0 mm, AM P42366; PARATYPES, 2 males, 7 females, AM P42367; just west of bar, Nagada River sandbar, (5°10.40'S 145°48.40'E), muddy silt, large amount of organic matter, 1.0 m, J.D. Thomas, 26 February 1990, stn AAM/PNG-2.

Other material examined. JKL/PNG-151 (25 males, 30 females, 82 juveniles, AM P42365). Author's collection: AAM/PNG-9 (1 male).

Diagnosis. Length 5.0 mm. Head with distoventral corner weakly produced, ocular lobes evenly rounded. Mandible palp article ratios (basi-distal) 3:4:4. Antenna 1 a little longer than antenna 2, accessory flagellum composed of one long and one rudimentary article. Male gnathopod 1 carpus broadly ovoid with strong

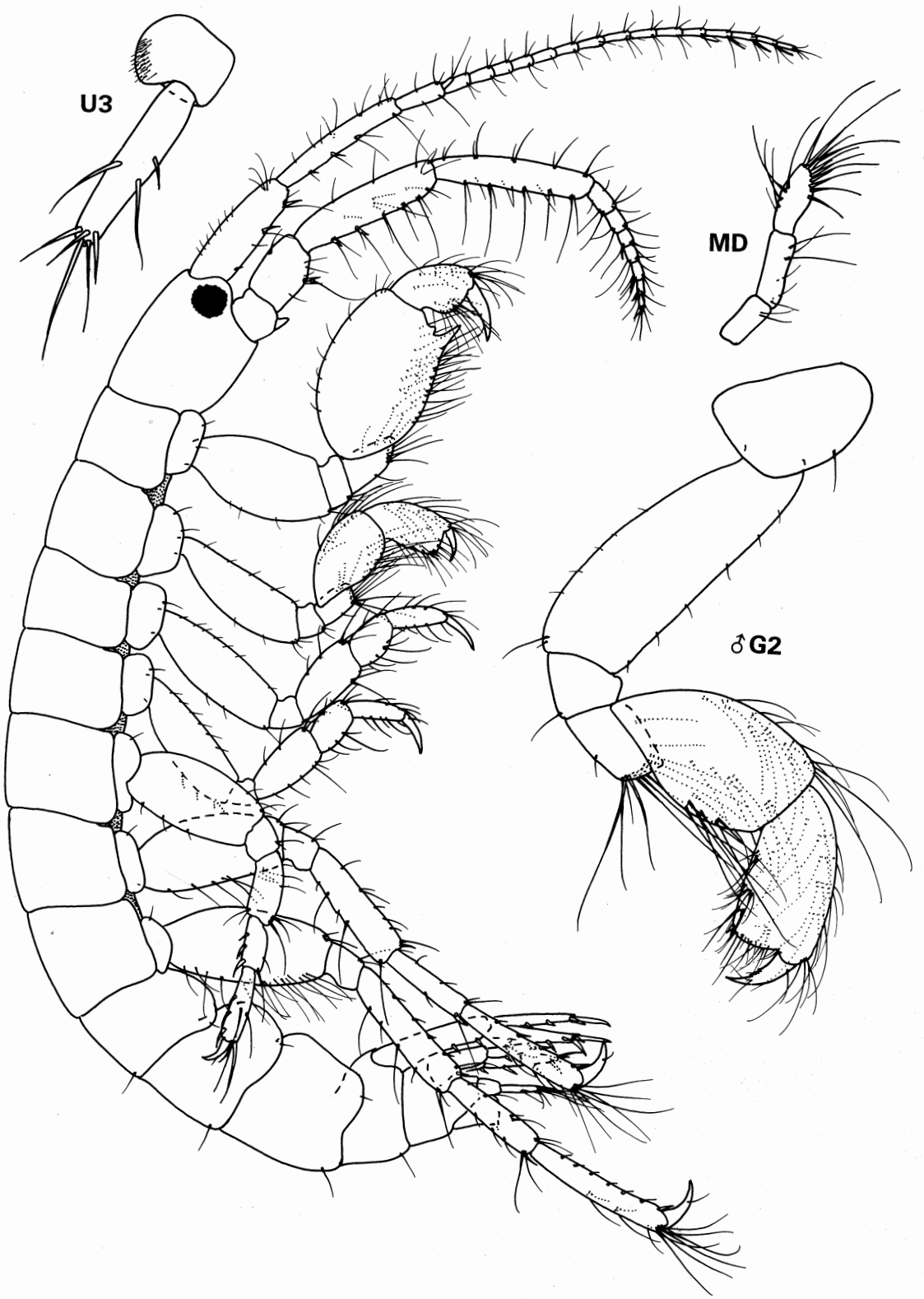

Fig. 8. *Grandidierella nagadae* n.sp., Nagada River estuary, Madang Lagoon, Papua New Guinea, AAM/PNG-2.

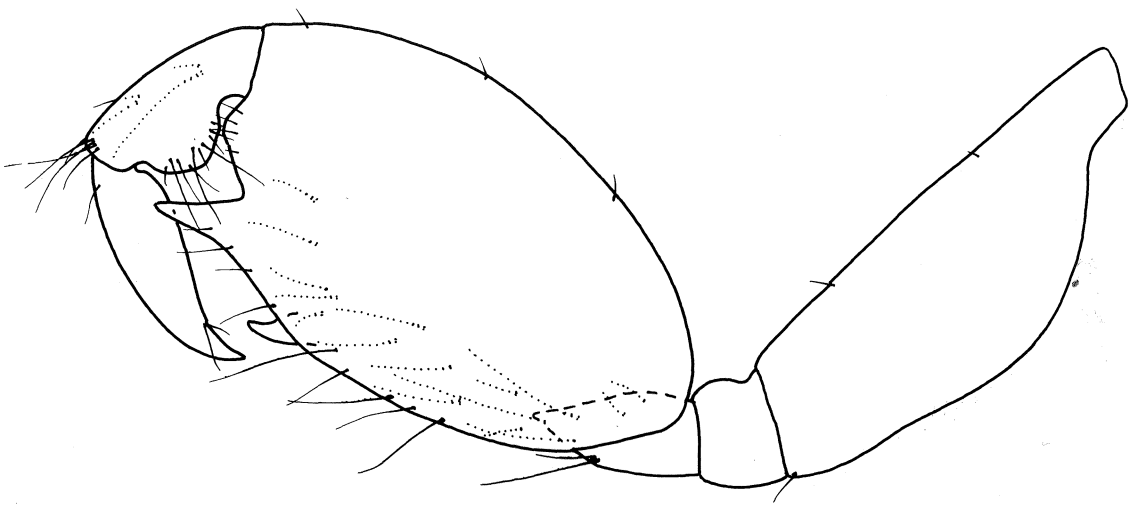

Fig. 9. *Grandidierella nagadae* n.sp., hyperadult male, Kranket, Madang Lagoon, Papua New Guinea, AAM/PNG-9.

posterodistal tooth and smaller rounded distal tooth, posterior margin smooth, propodus posterior margin concave proximally, convex distally, dactylus stout. Male gnathopod 2 basis anterior margin smooth, carpus enlarged, anterior margin with numerous long setae. propodus broader distally, anterior margin convex, posterior margin straight, palm almost transverse, dactylus fitting palm. Pereopods 5–7 stout, in the length ratios 4:6:7, pereopod 7 scarcely over half body length. Uropod 3 peduncle expanded on inner face, finely setose, ramus slender, over three times length of peduncle.

Etymology. Named after the type locality.

Remarks. This species is very close to *G. bispinosa* Schellenberg, 1938 but is more robust with stouter antennae and pereopods, pereopod 7 for example being only about half the body length as compared with two thirds the body length in *G. bispinosa* (as figured by Myers, 1985b). It also differs in the form of the male gnathopod 2. The basis lacks any crenulations, and the propodus is broad distally due to the palm being almost transverse. The specimens described from Amboina by Ledoyer (1979a), under the name *G. bispinosa* also lack crenulations on the basis of the male gnathopod 2 but exhibit the very oblique palm typical of *G. bispinosa*. The limited figures and descriptions provided by Schellenberg (1938) and Ledoyer (1979a) make it difficult to assess those specimens and compare them with those of Myers (1985b) and present material. Schellenberg's specimens were collected in the Bismark Archipelago, a locality geographically close to Madang. However, present material appears to differ sufficiently from Bismark specimens to warrant specific recognition, although a study of collections from a wider range of localities is necessary to clarify the relationships of the several materials.

Habitat. In mangrove litter and other organically enriched habitats and among sea grasses on reef flats.

Distribution. Nagada River Estuary, north-east Papua New Guinea.

Isaeidae

Ampelisciphotis Pirlot

Ampelisciphotis tridens Pirlot

Ampelisciphotis tridens Pirlot, 1938: 341, figs 154–156.– Ledoyer, 1982: 175, fig. 59.

Material examined. AM P42428 to P42432 AAM/PNG-5 (1 male, 9 females), AAM/PNG-11 (2 males), AAM/PNG-13 (1 male), AAM/PNG-15 (4 females), AAM/PNG-16 (1 male, 1 female).

Habitat. In shallow water (0–2 m) on rubble bottoms among dead coral, *Halimeda, Padina* and sponges.

Distribution. Madagascar, Sulawesi, Papua New Guinea.

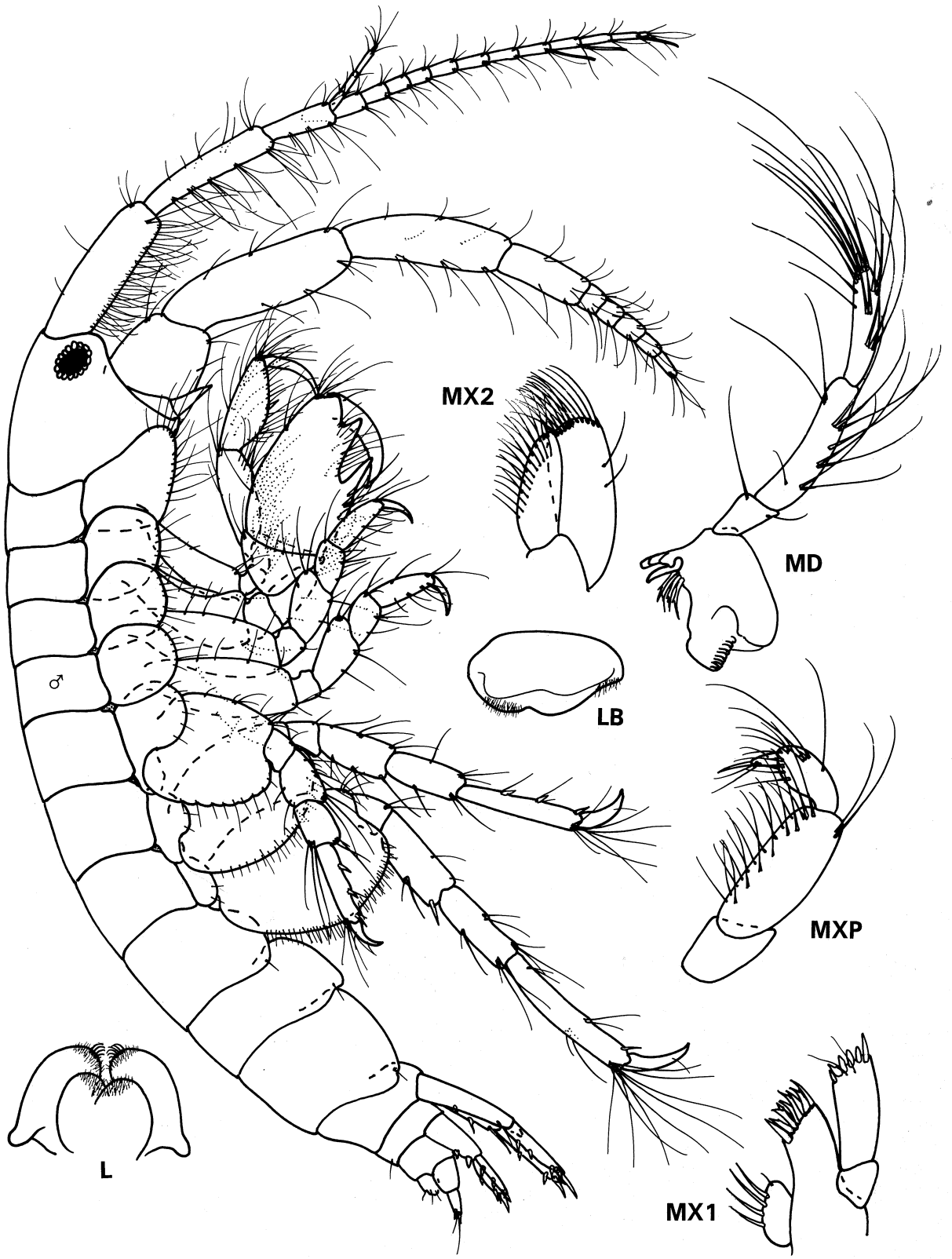

Fig. 10. *Cheiriphotis pediformis* n.sp., Nagada River sand bar, Madang Lagoon, Papua New Guinea, JDT/PNG-61.

Cheiriphotis Walker

Cheiriphotis pediformis n.sp.

Figs 10, 11

Type material. HOLOTYPE male, 2.1 mm, AM P42433; 1 immature PARATYPE, AM P42434; Nagada River sandbar, (5°10.40'S 145°48.45'E); sediment samples black silt with little organic matter, 0.6 m at high tide (could be exposed at low tide), definite freshwater layer noticeable on surface, J.D. Thomas, 26 February 1990, stn JDT/PNG-61.

Diagnosis. Length 2.1 mm. Head eye lobes weakly produced, sub-ocular margin excavate, deep, for reception of enlarged antenna 2 peduncle, eye sub-round; antenna 1 peduncular articles in the basi-distal ratios 6:5:3, article 1 stout, strongly setose on posterior margin, article 2 more slender than 1 with tufts of long setae, flagellum a little shorter than peduncle, with about 12 articles, the terminal articles with aesthetascs; accessory flagellum with 4 articles; antenna 2 subpediform, article 3 massive, articles 4 and 5 greatly enlarged, article 4 the longer, flagellum longer than peduncular article 5, with about 6 articles, the first article half the length of peduncular article 5; Labrum ventral margin sinuous; mandible palp article 2 setiferous on anterior margin, article 3 three-quarters length of article 2, slender, spatulate, distally setose; labium outer plate anterior margin with stout, strongly curved setae, mandibular processes short, rounded; maxilla 1 inner plate with four stout evenly spaced setae; maxilla 2 normal; maxilliped palp article 4 coniform with strong distal spine; gnathopod 1 coxa anterodistal margin produced forward, rounded, basis, carpus and propodus slender, the carpus slightly the longer, propodus palm very oblique, dactylus elongate and slender, over three quarters length of propodus; male gnathopod 2 coxa subquadrangular, basis stout, anterodistal margin produced into a rounded lobe, carpus short, cup-shaped, propodus enlarged, more than three times length of carpus, palm with short, acute proximal tooth, separated from a similar but much larger distal tooth, by a deep triangular excavation, dactylus stout, overlapping palm; female gnathopod 2 unknown; pereopods 3–4 stout, normal, dactylus two-thirds length of propodus, pereopod 5 basis posterior margin produced into a crenulate flange so that the podomere is as broad as long, merus and carpus with a few long plumose setae; pereopods 6–7 basis expanded, posterior margin evenly convex, not or only minutely crenulate; epimeron 1 rounded, epimera 2–3 each with small notch bearing a seta at the posterodistal margin; uropod 1 peduncle longer than rami and with a short inter-ramal tooth less than one fifth length of peduncle, inner ramus a little longer than outer; uropod 2 peduncle subequal in length with inner ramus, lacking an inter-ramal process, inner ramus slightly longer than outer; uropod 3 uniramous, the peduncle and ramus subequal in length, ramus with three strong distal spines and two or three setae; telson with each dorsolateral crest bearing a pair of setae.

Etymology. From the Latin *pes* = foot, and *formis* = in the shape of, referring to the stout antenna 2.

Remarks. This species differs from all other known species of *Cheiriphotis* by its subpediform antenna 2.

Habitat. In black silt in shallow water, perhaps polyhaline.

Chevalia Walker

Chevalia pacifica n.sp.

Fig. 12

Chevalia aviculae.–Myers, 1985b: 76, fig. 59.
Chevalia sp. Barnard & Thomas, 1987b: 534.
not *Chevalia aviculae* Walker, 1904: 288, pl. 7, fig. 50, pl. 8, fig. 50.

Type material. HOLOTYPE male, 3.0 mm, AM P42436; PARATYPE female, AM P42437; barrier reef near Wongad (5°08.11'S 145°49.53'E), rubble, encrusted dead *Acropora* plates, also some pieces from caves and overhangs, 36 m and 21 m, J.D. Thomas, 22 February 1990, stn JDT/PNG-59.

Other material examined. AM P42438 to P42439; JDT/PNG-25 (2 males, 2 females), JDT/PNG-36 (1 male), JDT/PNG-67 (1 male, 1 female).

Diagnosis. Length 3.1 mm. Article 3 of antenna 1 about two thirds length of article 1, accessory flagellum two articulate the second article rudimentary; gnathopod 1 coxa anteroventral corner blunt, gnathopod 2 palm oblique, notch at dactylus hinge moderately deep; basis of pereopods 5–7 expanded, pereopod 7 basis posterodistal margin protuberant, merus slender; uropod 1 inner ramus with fine serrations proximally but lacking marginal setae; uropod 2 outer ramus with 1–2 setae.

Remarks. Barnard & Thomas (1987b) have revised the genus *Chevalia*, which prior to their work was considered monotypic. The above diagnosis is based on their descriptions and key and provides a formal name for the Fijian/Papua New Guinean species originally described by Myers (1985b) under the name *C. aviculae*.

Habitat. On rubble bottoms in 1 m to at least 36 m, among dead coral, sand, or *Halimeda*.

Distribution. Fiji, Papua New Guinea.

Falcigammaropsis n.gen.

Diagnosis. Head lobes produced, rounded; antenna 1 peduncular article 3 shorter than article 1, accessory flagellum present; labrum with well-developed, acute epistome; maxilla 1 inner plate asetiferous; maxilla 2

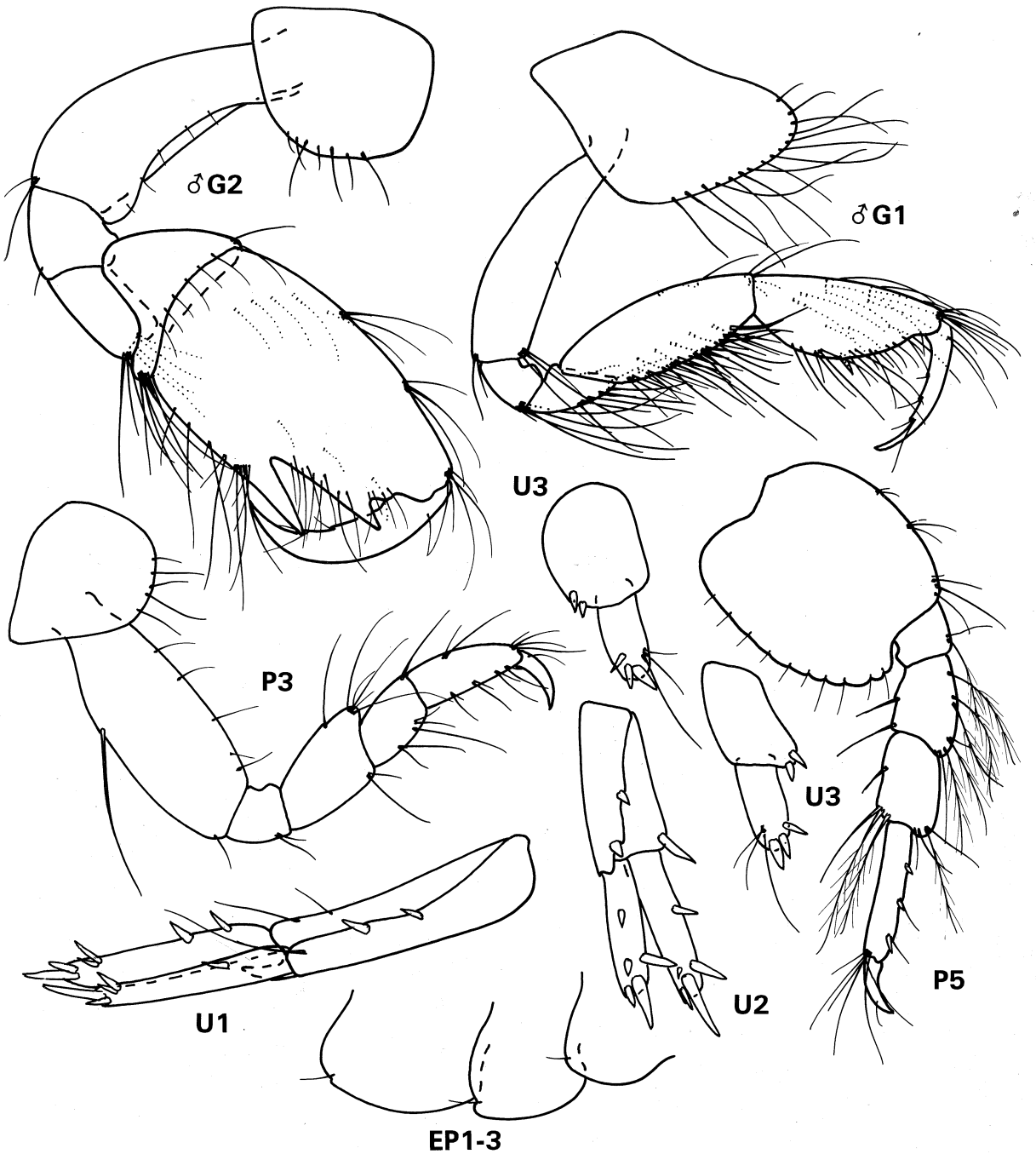

Fig. 11. *Cheiriphotis pediformis* n.sp., Nagada River sand bar, Madang Lagoon, Papua New Guinea, JDT/PNG-61.

outer plate with distal but no lateral setae; mandible palp article 3 shorter than article 2, spatulate; labium outer plate anterior margin incised, mandibular processes acute, recurved; maxilliped palp article 3 posterodistal margin produced into rounded lobe, article 4 dactyliform, falcate; coxa 1 with posterodistal tooth; gnathopod 2 larger than 1, subchelate; pereopods 5–7 stout, basis posterior margin toothed; urosome segment 1 with dorsal teeth.

Type species. *Falcigammaropsis excavata* n.sp.

Included species. *Gammaropsis latipalma* Ledoyer, 1979b.

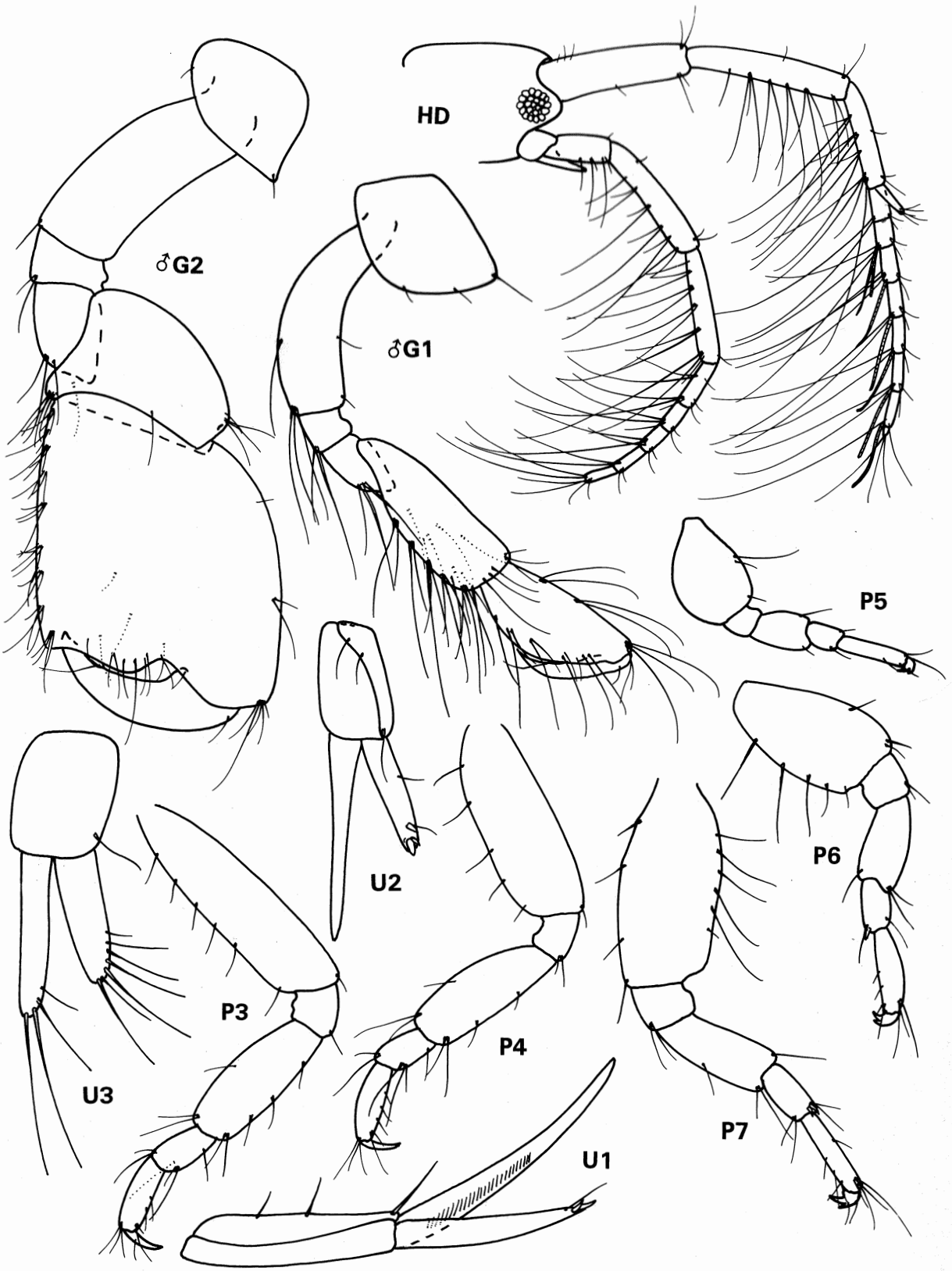

Fig. 12. *Chevalia pacifica* n.sp., barrier reef near Wongad, Madang Lagoon, Papua New Guinea, JDT/PNG-59.

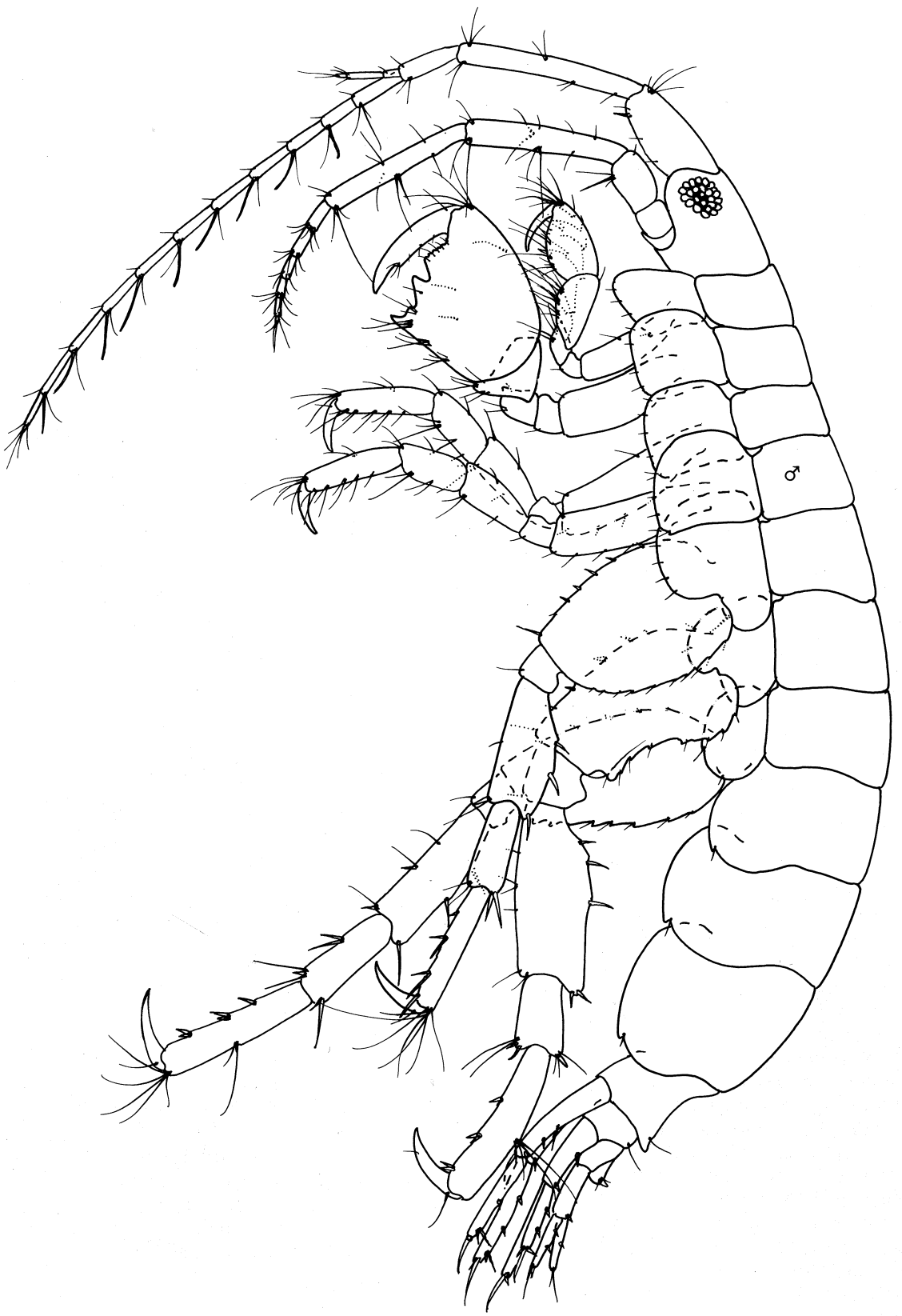

Fig. 13. *Falcigammaropsis excavata* n.sp., barrier reef near Wongad, Madang Lagoon, Papua New Guinea, JDT/PNG-59.

Etymology. From the Latin *falcifer* = carrying a sickle (referring to the shape of maxilliped palp article 4), prefixed to *Gammaropsis* Liljeborg, a related genus.

Remarks. This genus is characterised chiefly by the *Ampithoe*-like labium, and subchelate maxilliped palp, with falcate article 4. In its toothed coxa 1, urosome segment 1, and pereopod 5–7 bases and its acute, produced epistome. This genus resembles the toothed species of *Gammaropsis*, such as *G. dentata* Chevreux, 1900 and *G. siara* described herein. In these latter species, however, the eye lobes are acute, and the mouthparts, labrum excepted, conform to those of non-toothed *Gammaropsis*.

Falcigammaropsis excavata n.sp.

Figs 13, 14

Type material. HOLOTYPE male, 2.1 mm, AM P42441; PARATYPES, 8 males, 8 females, AM P42442; barrier reef near Wongad (5°08.11'S 145°49.53'E), rubble, encrusted dead *Acropora* plates, also some pieces from caves and overhangs, 36 m and 21 m, J.D. Thomas, 22 February 1990, stn JDT/PNG-59.

Other material examined. AM P42443 to P42447; JDT/PNG-67 (1 male, 1 female), JKL/PNG-185 (1 male), JKL/PNG-213 (6 females), JKL/PNG-239 (1 male, 2 females), JKL/PNG-240 (1 male, 1 female).

Diagnosis. Length 2.1 mm. Head lobes moderately produced, rounded, eye large; antenna 1 over three-quarters body length, peduncular articles in the basi-distal ratios 5:8:3, flagellum longer than peduncle with 12 articles, nine bearing aesthetascs; accessory flagellum 3-articulate; antenna 2 much shorter than antenna 1, peduncular articles 4 and 5 subequal in length, flagellum shorter than peduncular article 5; labrum with well-developed, acute epistome; mandible palp article 3 shorter than article 2, spatulate; labium outer plate anterior margin incised, mandibular processes acute, recurved; maxilla 1 inner plate asetiferous, palp article 2 with 4 distal spines; maxilla 2 outer plate with distal but no lateral setae; maxilliped palp article 3 posterodistal margin produced into rounded lobe, article 4 dactyliform, falcate; gnathopod 1 coxa with small posterodistal tooth, carpus and propodus slender, propodus slightly the longer, palm oblique defined by two spines, dactylus fitting palm; male gnathopod 2 coxa untoothed, basis slender, carpus short, cup-shaped, propodus enlarged, broader distally, palm variable, complexly toothed, with deep medioproximal sinus and 1–2 posterodistal teeth, posterior margin almost straight, dactylus large, falcate, fitting palm; female gnathopod 2 similar to gnathopod 1, but carpus much shorter, propodus stouter, palm distinct, less oblique; pereopods 3–4 similar, normal; pereopod 5–7 basis posterior margin toothed; pereopod 5 basis posterior margin convex; male pereopod 6 basis posterior margin proximally and distally convex, medially concave, merus stout; female pereopod 6 basis posterior margin evenly convex; pereopod 7 basis posterior margin weakly convex; epimera 1–3 with tooth at posterodistal corner, urosome segment 1 with small, distal, dorsal tooth on either side; uropod 1 peduncle a little longer than rami with inter-ramal tooth, one third length of peduncle, inner ramus longer than outer; uropod 2 peduncle shorter than rami, lacking inter-ramal tooth; uropod 3 peduncle a little shorter than rami, inner ramus a little longer than outer ramus; telson with a very stout spine on each dorsolateral crest.

Etymology. From the Latin *excavo* = to hollow out, referring to the concave basis of pereopod 6.

Remarks. This species differs from its congener *F. latipalma* (Ledoyer, 1979b) from Madagascar in the quite different configuration of the male gnathopod 2 palm, the more elongate mandibular palp article 3 and in the excavate posterior margin of the male pereopod 6.

Habitat. On rubble bottoms, in 1 m to at least 36 m, among dead coral, *Halimeda* or in anastomosing red algae.

Gammaropsella n.gen.

Diagnosis. Like basic *Gammaropsis*, but antenna 1 peduncular article 3 much longer than peduncular article 1; mandibular palp article 3 slender, narrowing distally, maxilla 1 inner plate asetiferous or with a few setae; coxa 2 the largest, male gnathopod 2 propodus enlarged, but lacking any significant palmar ornamentation.

Type species. *Gammaropsella simplex* n.sp.

Included species. *Gammaropsella pilosa* n.sp., *G. simplex* n.sp.

Etymology. Diminutive of *Gammaropsis*.

Remarks. This genus appears to be related to *Megamphopus* Norman in having coxa 2 the largest. The remarkably elongate peduncular article 3 of antenna 1 is very similar to that of *Megamphopus brevidactylus*. *Gammaropsella* differs however from *Megamphopus* by the non-clavate mandibular palp article 3.

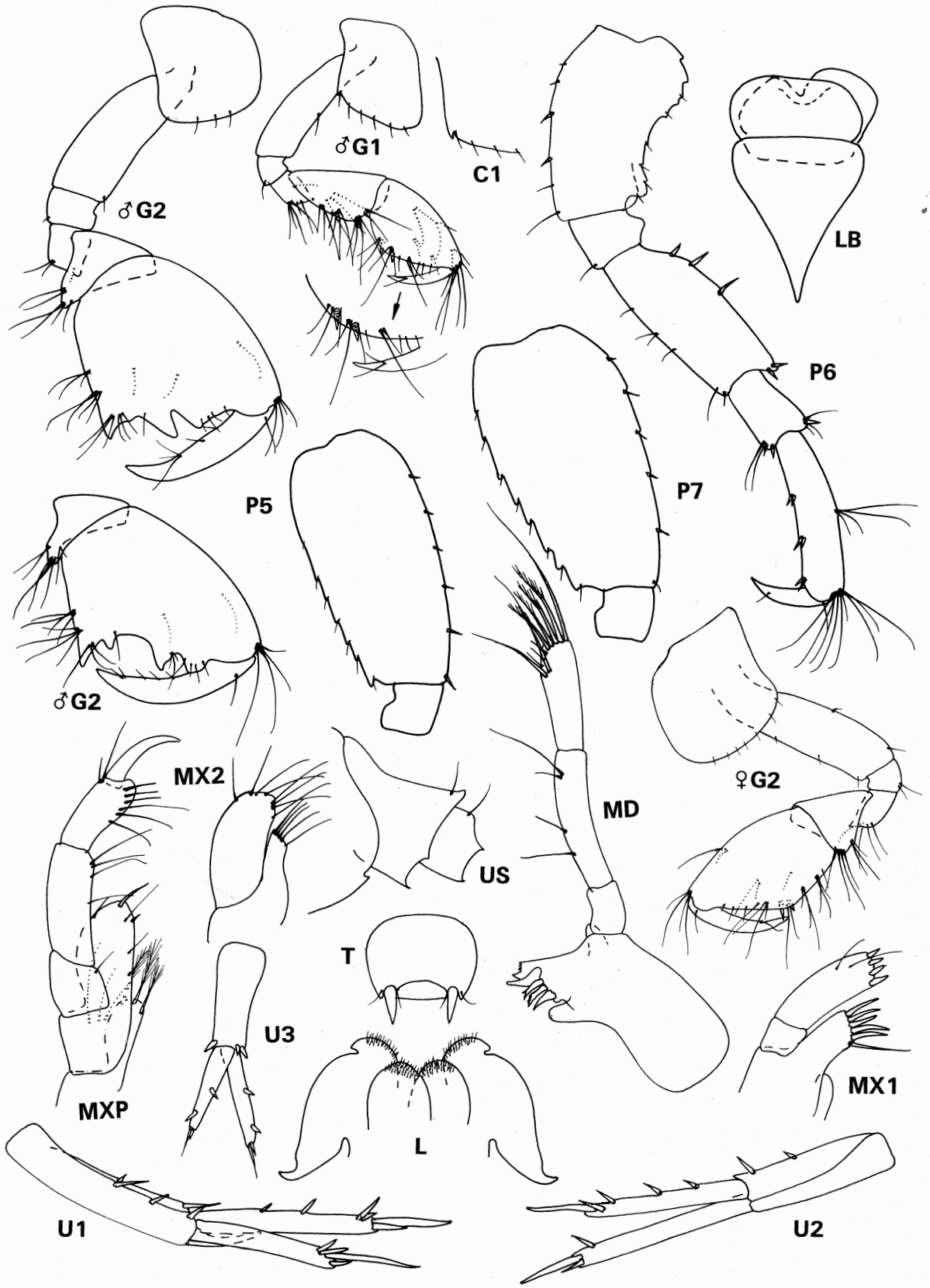

Fig. 14. *Falcigammaropsis excavata* n.sp., barrier reef near Wongad, Madang Lagoon, Papua New Guinea, JDT/PNG-59.

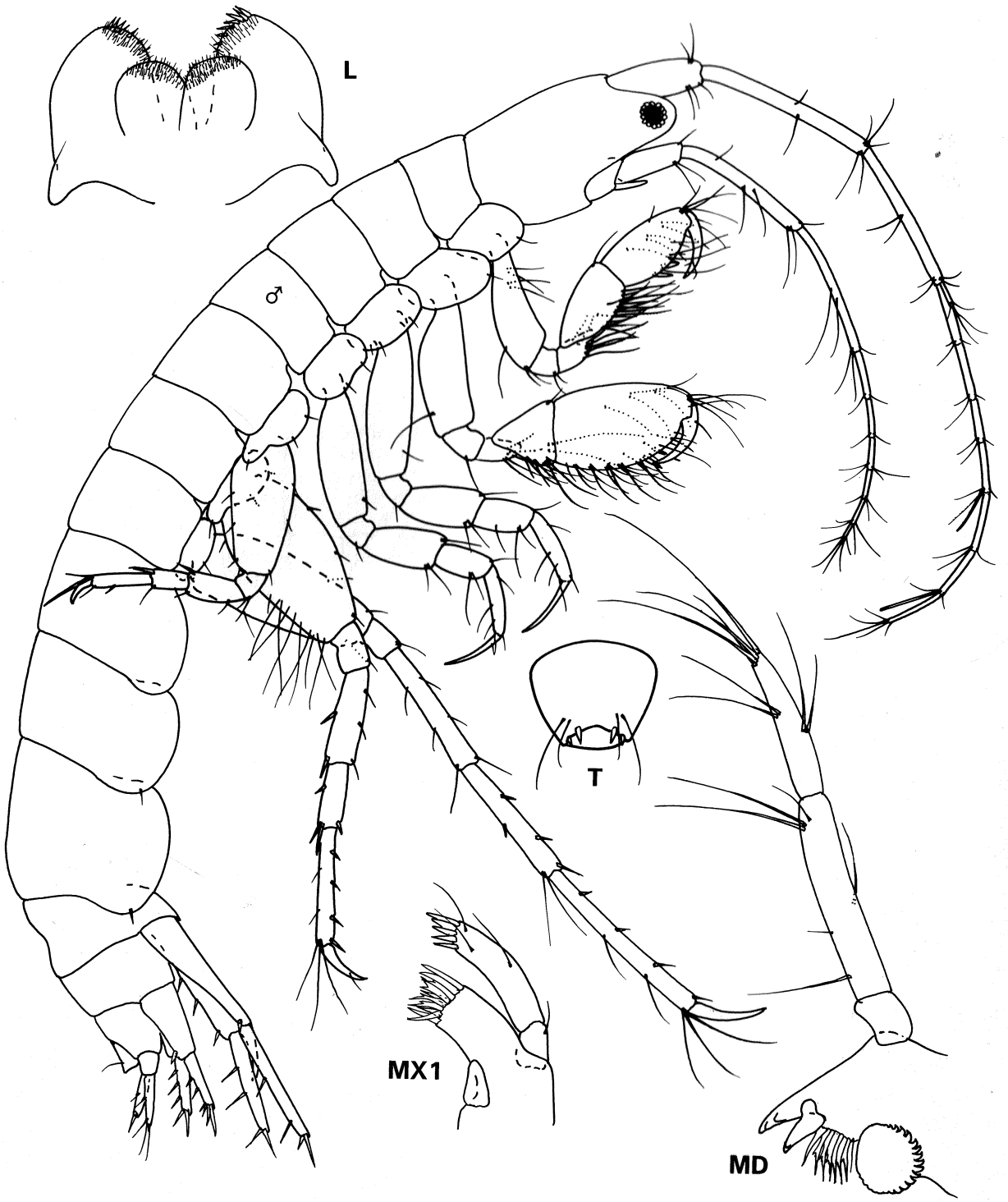

Fig. 15. *Gammaropsella simplex* n.sp., Padoz Natun reef, Madang Lagoon, Papua New Guinea, JDT/PNG-67.

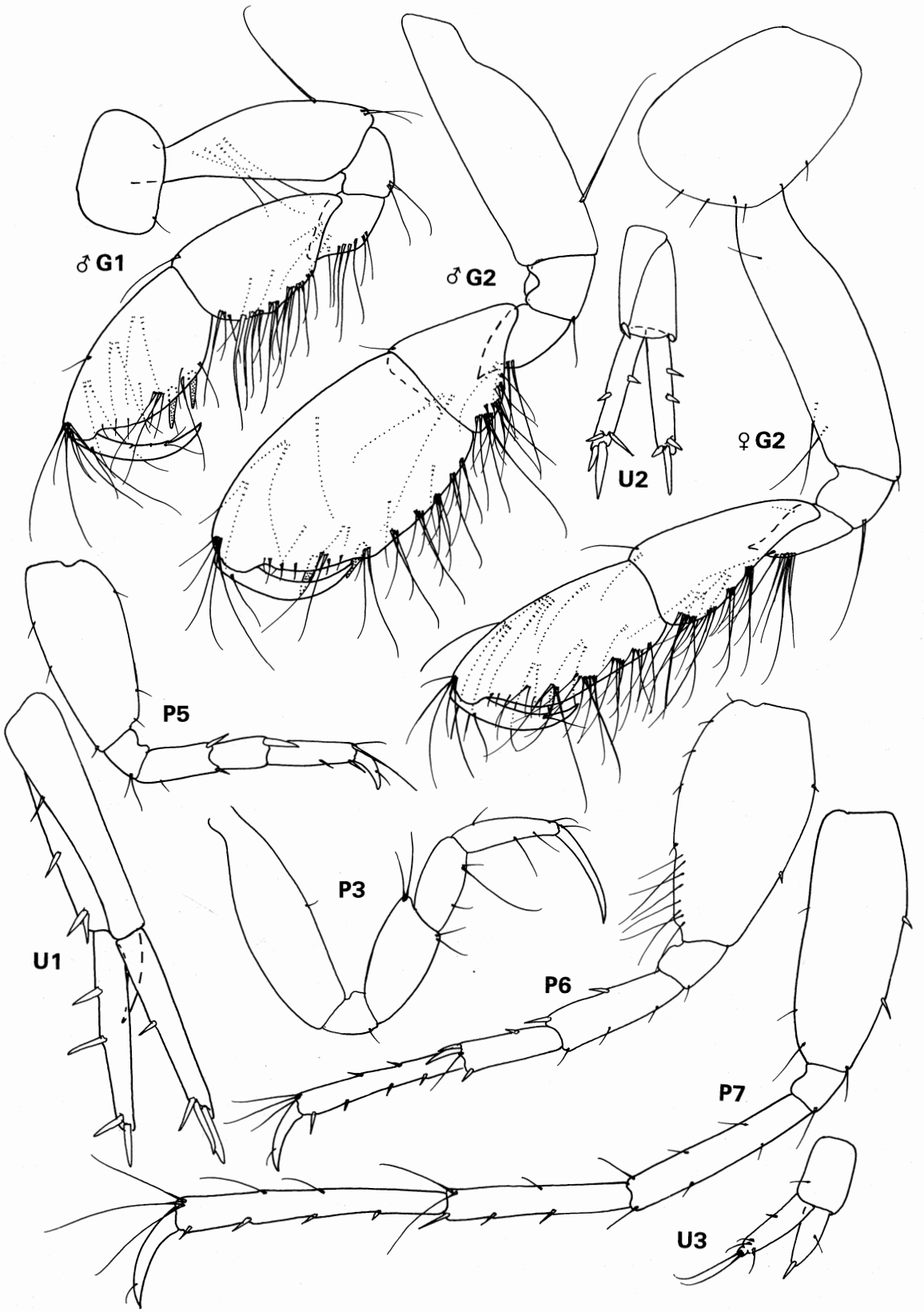

Fig. 16. *Gammaropsella simplex* n.sp., Padoz Natun reef, Madang Lagoon, Papua New Guinea, JDT/PNG-67.

Gammaropsella simplex n.sp.

Figs 15, 16

Type material. HOLOTYPE male, 4.0 mm, AM P42448, PARATYPE female, AM P42449; Padoz Natun reef (5°09.60'S 145°48.77'E), formalin wash of cemented rubble in shallow part of reef near centre and northern edge, J.D. Thomas, 28 February 1990, stn JDT/PNG-67.

Diagnosis. Length 4.0 mm. Head elongate, eye lobes strongly produced, eye red, round, small; antenna 1 a little over half body length, peduncular articles in the ratio 2:4:3, flagellum shorter than peduncle with about 8 articles, the terminal articles with aesthetascs, accessory flagellum composed of one long and one rudimentary article; antenna 2 shorter than antenna 1, peduncular articles 4 and 5 subequal, flagellum longer than peduncular article 5 with about 7 articles; mandible palp article 3 slender, shorter than article 2, narrowing distally, with 4 long distal setae and a pair of setae on the posterior margin; labium outer plate with strong distal spines, mandibular processes short, subacute; maxilla 1 inner plate asetiferous; coxae small, weakly overlapping; gnathopod 1 basis flask-shaped, propodus scarcely longer than carpus, subovoid, palm evenly continuous with posterior margin, but defined by two strong spines, dactylus slender, fitting palm; male gnathopod 2 enlarged, moderately setiferous, carpus short, triangular, propodus twice length of carpus, palm oblique, weakly sinuous, defined by a spine, dactylus fitting palm; female gnathopod 2 much more slender than that of male, propodus only a little longer than elongate carpus, palm evenly convex, distinct from posterior margin and defined by a spine, dactylus overlapping palm; pereopods 3–4 normal, dactylus slender, equal in length to propodus; pereopods 5–7 normal, in the length ratios 2:3:4; pereopod 6 basis, posterior distal margin with long setae; epimera 1–3 rounded, epimera 2–3 with posterodistal seta; uropod 1 peduncle longer than rami, with stout, inter-ramal tooth about one third length of peduncle, rami subequal in length; uropod 2 peduncle shorter than rami, lacking an inter-ramal tooth, rami subequal; uropod 3 peduncle subequal with inner ramus, outer ramus longer than inner with a small second article tipped with two long setae; telson with each dorsolateral crest bearing two spines and two unequal setae.

Etymology. From the Latin *simplex* = simple, referring to the male gnathopods.

Remarks. This species differs from *G. pilosa* principally in its shorter antennae and much less setose gnathopods.

Habitat. On cemented rubble bottoms in shallow water.

Gammaropsella pilosa n.sp.

Figs 17, 18

Type material. HOLOTYPE male, 2.4 mm, AM P42450; Barracuda Point, reef just east of Tab (Pig Island), (5°10.26'S 145°50.61'E), moderate current flow, extensive coral cover in shallower depths, sediment sample from isolated accumulations of *Halimeda*/mud, 36 m, and rubble sample from underlays and rubble, 27–30 m, J.D. Thomas, 8 February 1990, stn JDT/PNG-37.

Other material examined. AM P42451, JKL/PNG-67 (1 male mounted on 6 slides).

Diagnosis. Length 2.4 mm. Head with well-developed eye lobes, eyes large, filling and entirely situated within the head lobes; antennae very slender only a little shorter than body length; antenna 1 peduncular article 3 twice length of article 1, article two only a little longer than article 3, flagellum a little longer than the peduncle, with 14 articles, some with aesthetascs; accessory flagellum with three articles, the terminal article rudimentary; antenna 2 peduncular article 5 longer than 4, flagellum a little shorter than the combined length of peduncular articles 4 and 5 with 9 articles; mandible palp article 3 shorter than article 2, widest medially, posterodistal margin straight, setose, posteroproximal margin weakly concave, asetiferous; labium outer plate with fine distal setae, mandibular processes acute; maxilla 1 inner plate with three short marginal setae; maxilliped palp article 3 with posterodistal margin produced forward into a rounded lobe, article 4 with very short distal spine; gnathopod 1 basis posterodistal margin bearing a brush of long setae, carpus and propodus setose, subequal, propodus palm very oblique, dactylus overlapping palm; gnathopod 2 coxa enlarged, basis stout, anterior margin and posterodistal margin with very long setae, carpus short, triangular, propodus nearly three times length of carpus, palm very oblique, defined by a small hump and a spine, posterior margin of carpus and anterior and posterior margins of carpus and propodus with long setae, dactylus shorter than palm; pereopods 3–7 normal, slender, pereopods 5–7 in the length ratios 7:11:15; epimera 1–3 rounded; uropod 1 peduncle longer than rami with inter-ramal tooth about one third length of peduncle, rami subequal in length; uropod 2 peduncle and inner ramus subequal in length, outer ramus a little shorter than inner ramus; uropod 3 peduncle shorter than rami, outer ramus a little shorter than inner ramus, with a small second article bearing two setae, article 1 also with a distal seta; telson with a strong seta on each dorsolateral crest.

Etymology. From the Latin *pilosa* = hairy, referring to the highly setose gnathopods.

Remarks. *Gammaropsella pilosa* appears to be quite similar to *Megamphopus brevidactylus* from the Medi-

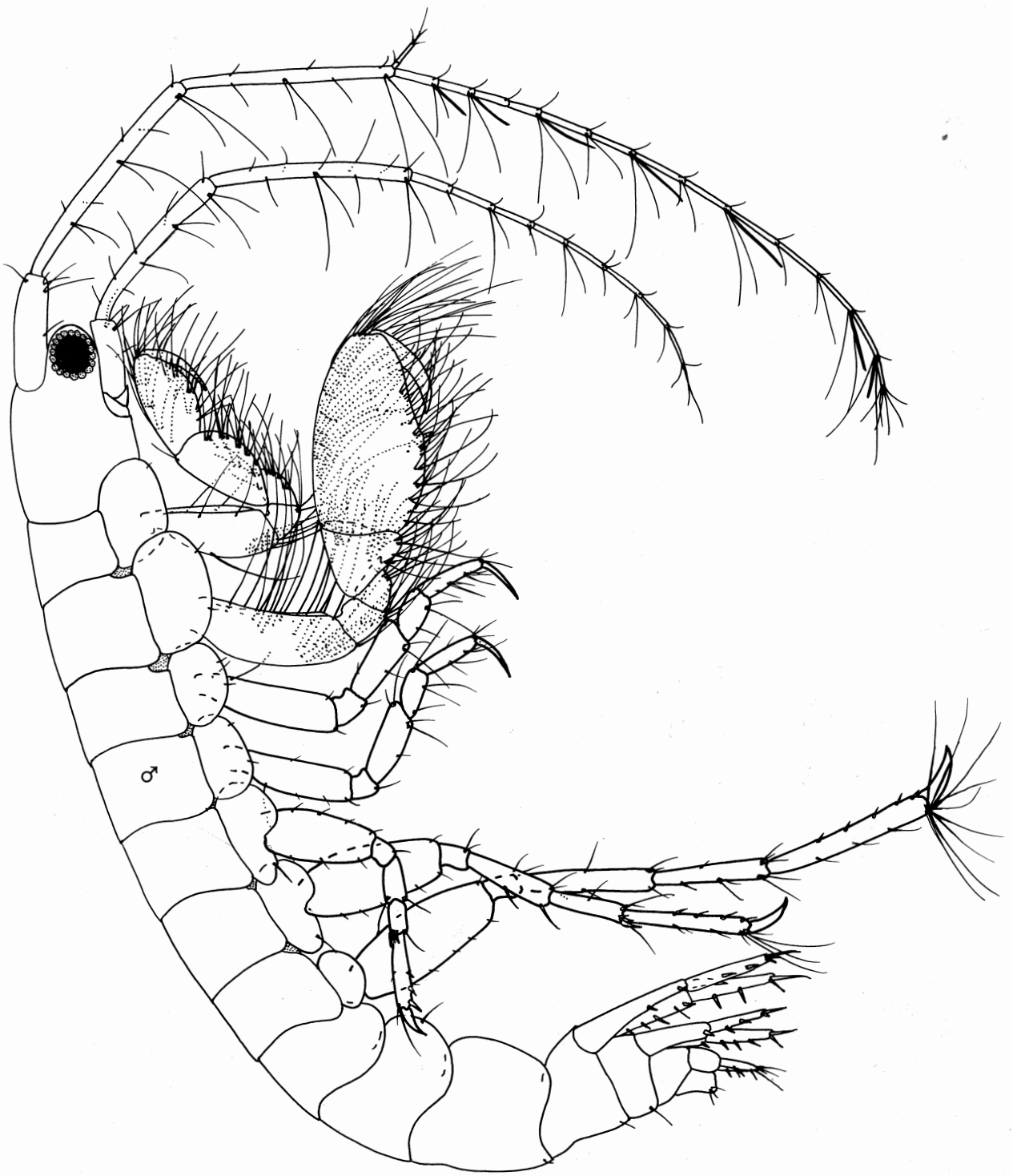

Fig. 17. *Gammaropsella pilosa* n.sp., Padoz Natun reef, Madang Lagoon, Papua New Guinea, JDT/ PNG-67.

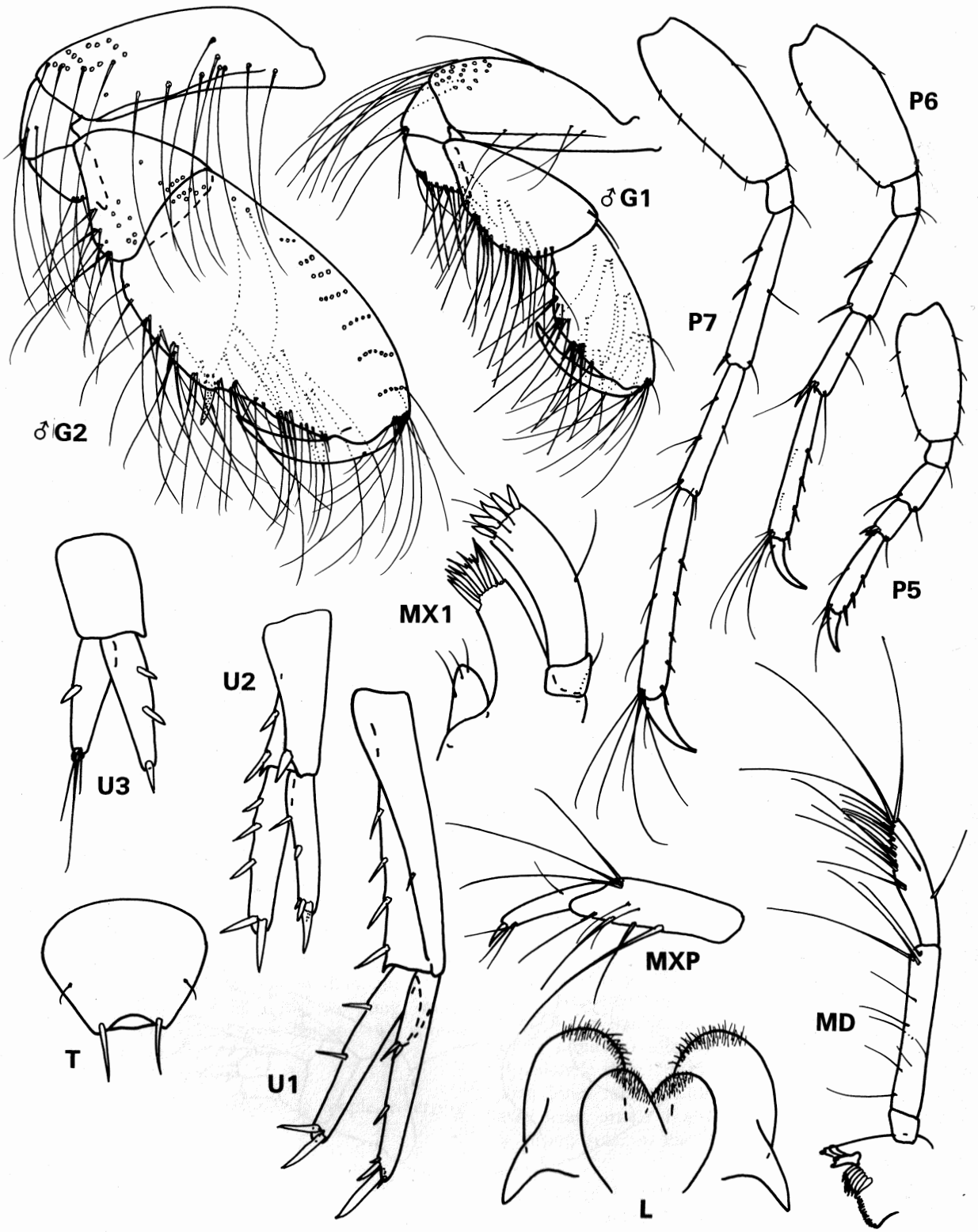

Fig. 18. *Gammaropsella pilosa* n.sp., Padoz Natun reef, Madang Lagoon, Papua New Guinea, JDT/PNG-67.

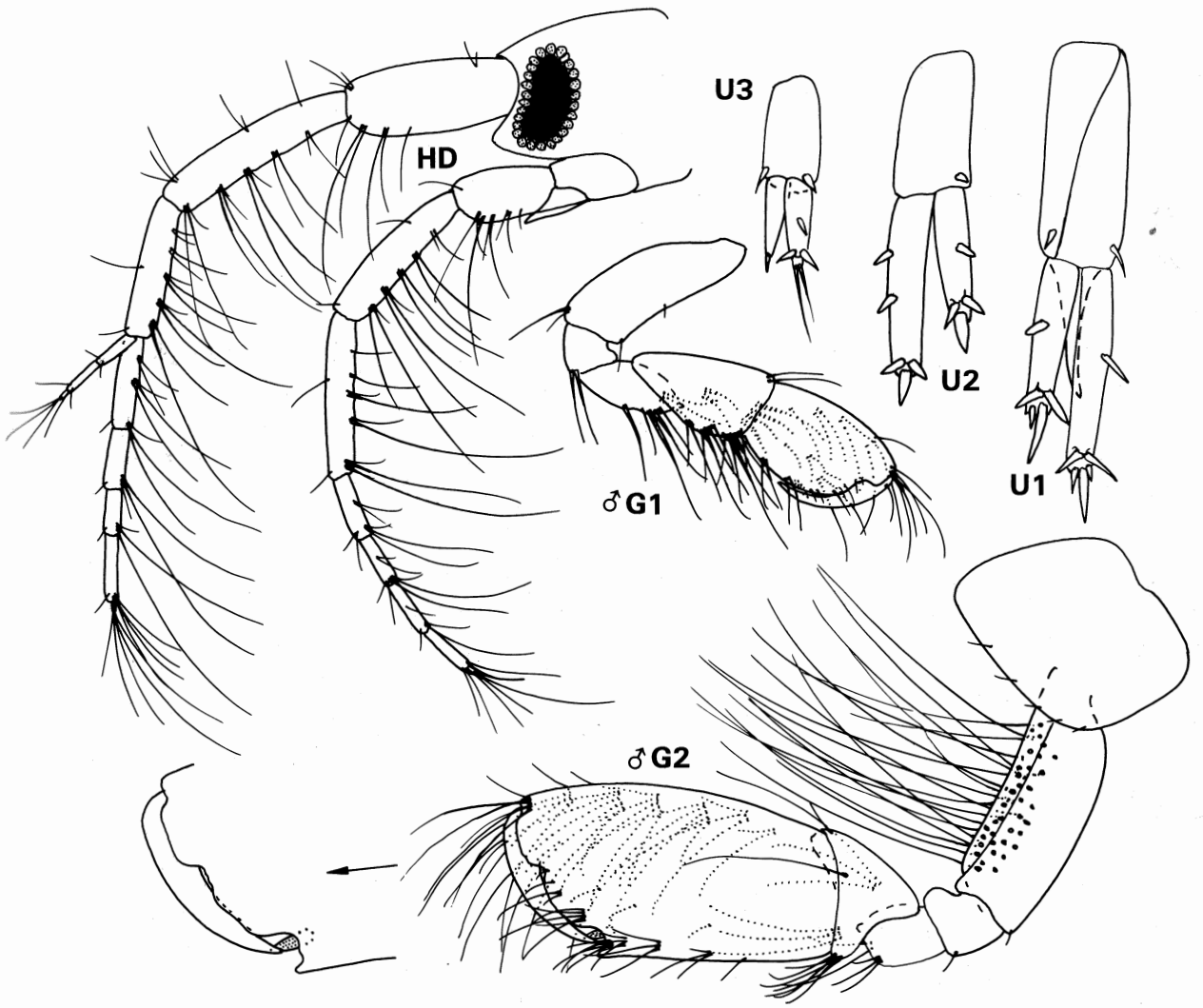

Fig. 19. *Gammaropsis afra* Stebbing, Barracuda Point, Tab, Madang Lagoon, Papua New Guinea, JDT/PNG-66.

terranean Sea. However, *G. pilosa* differs from that species and all other *Megamphopus* species by the non-clavate mandible palp article 3.

Habitat. Among *Halimeda*, rubble and mud in 36 m.

Gammaropsis Liljeborg

Gammaropsis abbotti (Barnard)

Megamphopus abbotti Barnard, 1965: 537, fig. 32.
Gammaropsis abbotti.–Ledoyer, 1972: 237, pl. 50.–Ledoyer, 1978: 238.–Ledoyer, 1979a: 155.–Ledoyer, 1979b: 31.–Ledoyer, 1982: 211, fig. 73.

Material examined. AM P42473 to P42474; JDT/PNG-66 (1 female), JDT/PNG-67 (3 males).

Habitat. Among coral rubble in 1–13 m.

Distribution. Indo-west Pacific.

Gammaropsis afra Stebbing

Fig. 19

Gammaropsis afra Stebbing, 1888: 1097, pl. 113.–Barnard, 1970: 170, fig. 108.–Ledoyer, 1978: 239, fig. 16 (form "A").–Ledoyer, 1982: 214, fig. 74.
Eurystheus afer Stebbing, 1906: 612.–Stebbing, 1908: 87.–Barnard, 1916: 249, pl. 28.–Pillai, 1957: 55, fig. 13.–Sivaprakasam, 1970: 568, fig. 9.–Rabindranath, 1971: 79, figs 7, 8.

Material examined. AM P42475 to P42476; JDT/PNG-66 (2 males), JDT/PNG-67 (1 male, 1 female).

Habitat. Among coral rubble in 1–13 m.

Distribution. Indo-west Pacific.

? *Gammaropsis atlantica* Stebbing

Fig. 20

Material examined. AM P42477 to P42491; JDT/PNG-47 (3 females), JDT/PNG-55 (1 male, 1 female), JDT/PNG-59 (10 males, 12 females), JDT/PNG-66 (6 males, 6 females), JDT/PNG-67 (2 females), JDT/PNG-68 (2 males, 2 females), JKL/PNG-182 (1 male, 1 female), JKL/PNG-183 (3 males, 1 female), JKL/PNG-184 (5 males, 10 females), JKL/PNG-185 (1 male, 1 female), JKL/PNG-212 (14 males, 24 females), JKL/PNG-213 (18 males, 23 females), JKL/PNG-239 (1 male), JKL/PNG-240 (1 male, 2 females), JKL/PNG-258 (6 males, 8 females), JKL/PNG-259 (7 males, 8 females).

Remarks. It is probable that a number of species currently exist under the name *G. atlantica* (see under *G. gemina* n.sp.). Resolution of the problem will only emerge after detailed study of materials of world-wide origin. Figures are here provided of Papua New Guinean material for comparison with *G. gemina* n.sp. and with other "*G. atlantica*" materials. No attempt at synonymy is made.

Habitat. On rubble and sand/mud bottoms, often with *Halimeda, Padina* or anastomosing red algae, in depths of 3 m to at least 36 m.

Gammaropsis christenseni n.sp.

Figs 21, 22

Type material. HOLOTYPE male, 2.1 mm, AMP42806; PARATYPE female AM P42493; Padoz Natun reef (5°09.60'S 145°48.77'E), formalin wash of cemented rubble in shallow part of reef near centre and northern edge, J.D. Thomas, 28 February 1990, stn JDT/PNG-67.

Other material examined. AM P42492 AAM/PNG-11 (1 male).

Diagnosis. Length 2.1 mm. Head with well-developed eye lobes, eyes sub-round; antenna 1 and 2 setose, subequal, over half body length; antenna 1 peduncular articles in the basi-distal ratios 2:4:3; flagellum shorter than peduncle with about 6 articles; accessory flagellum with three articles the terminal article rudimentary; antenna 2 peduncular article 4 rather short, article 5 distinctly the longer, flagellum only a little shorter than combined lengths of peduncular article 4 and 5, with about 6 articles; mandible palp article 3 only a little shorter than 2, strongly clavate; labium inner plate with three long marginal setae; labium outer plate mandibular processes subacute; gnathopod 1 slender, coxa produced forward, anterior margin evenly rounded, basis unexpanded, propodus a little shorter than carpus, palm evenly continuous with posterior margin, dactylus elongate, four-fifths length of propodus; male gnathopod 2 basis stout, anterior margin excavate for reception of carpus when folded, carpus subtriangular, propodus almost three times length of carpus, palmar platform short, cut-away distally to posterior margin, which is delimited by a stout spine, dactylus short, but overlapping palmar platform and opposable to delimiting spine; female gnathopod 2 scarcely differing from that of male, but basis a little less stout, propodus a little broader and dactylus somewhat longer; pereopods 3–7 normal; epimera 1–3 rounded; uropod 1 peduncle longer than rami with stout inter-ramal tooth less than half length of peduncle, rami subequal; uropod 2 peduncle shorter than rami, lacking an inter-ramal tooth, inner ramus a little longer than outer; uropod 3 peduncle shorter than rami, rami subequal in length, inner ramus with small second article bearing a pair of long setae, outer ramus with a single small distal spine and a single marginal spine; telson with each dorsolateral crest bearing a spine and a pair of unequal length setae.

Etymology. Named after the Research Institute at Madang from which the work was carried out.

Remarks. This rather unremarkable species lacks very distinctive characters. It shows some similarity to *Gammaropsis pali* Barnard, 1970, but that species has a much more well developed palmar excavation on gnathopod 2 and is generally much more stout, with short, compact urosome and uropods, much shorter antennae and notched epimera. In the shape of gnathopod 2 it also resembles sub-mature male *G. togoensis* (Schellenberg, 1925a), but that species has quite different head shape and antennae and strongly sexually dimorphic gnathopod 2.

Habitat. On cemented rubble bottoms in shallow waters, to about 2 m, sometimes among *Halimeda*.

Gammaropsis gemina n.sp.

Figs 23, 24

Eurystheus atlanticus Stebbing, 1906: 611.–Barnard, 1965: 534, fig. 29 (aberrant form);
not *Gammaropsis atlanticus* Stebbing, 1888: 1101, pl. 114.

Type material. HOLOTYPE male, 5.0 mm, AM P42495; PARATYPES, 10 males, 15 females, AM P42496; Planet Rock (5°15.48'S 145°49.14'E), dead *Acropora* plates with epiphytes, about 6 m, J.K. Lowry & S.J. Keable, 16 March 1991, stn JKL/PNG-213.

Other material examined. AM P42497 to P42504; AAM/PNG-6 (5 males, 6 females), JDT/PNG-47 (2 males, 5 females), JDT/PNG-57 (6 males, 4 females), JDT/PNG-59 (5

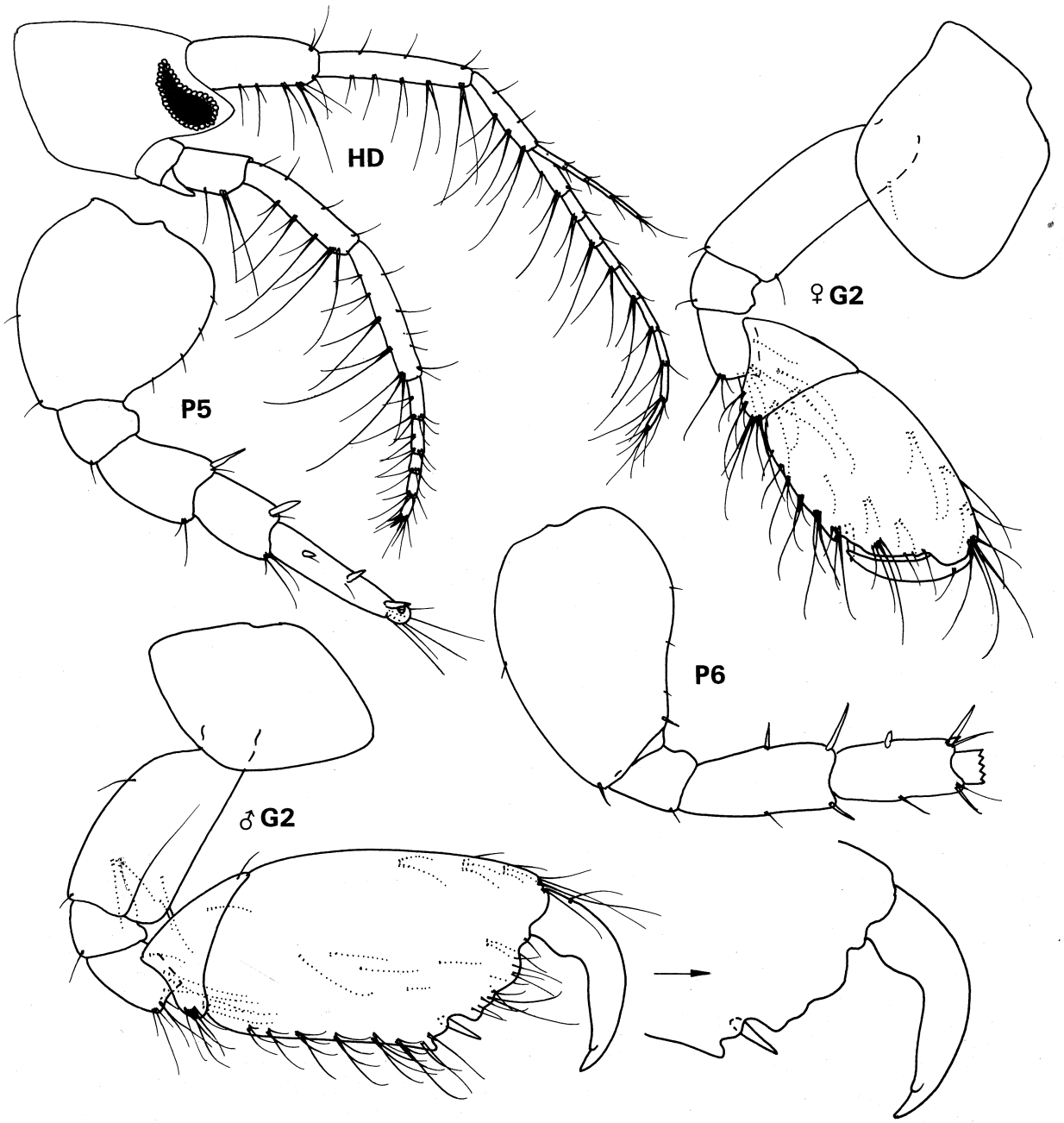

Fig. 20. ? *Gammaropsis atlantica* Stebbing, barrier reef near Wongad, Madang Lagoon, Papua New Guinea, JDT/PNG-59.

males), JDT/PNG-66 (1 male), JDT/PNG-67 (7 males, 10 females), JKL/PNG-212 (3 males, 4 females), JKL/PNG-238 (1 male).

Diagnosis. Length 5.0 mm. Head with rather slender eye lobes, eyes oval, red, situated entirely in head lobes; antennae setose, antenna 1 two-thirds body length, peduncular articles 1 and 3 subequal, flagellum shorter than peduncle with about 14 articles, accessory flagellum with 4 articles the terminal article rudimentary; antenna 2 shorter than antenna 1, peduncular article 5 longer than 4, flagellum longer than peduncular article 5 with about 8 articles; mandible palp articles in the basi-distal ratios 4:10:9, article 3 weakly spatulate; maxilla 1 inner plate with numerous setae; gnathopod 1 small, slender, carpus and propodus subequal in length, propodus subovoid, palm evenly continuous with posterior margin, dactylus slender, curved; gnathopod 2 alike in both

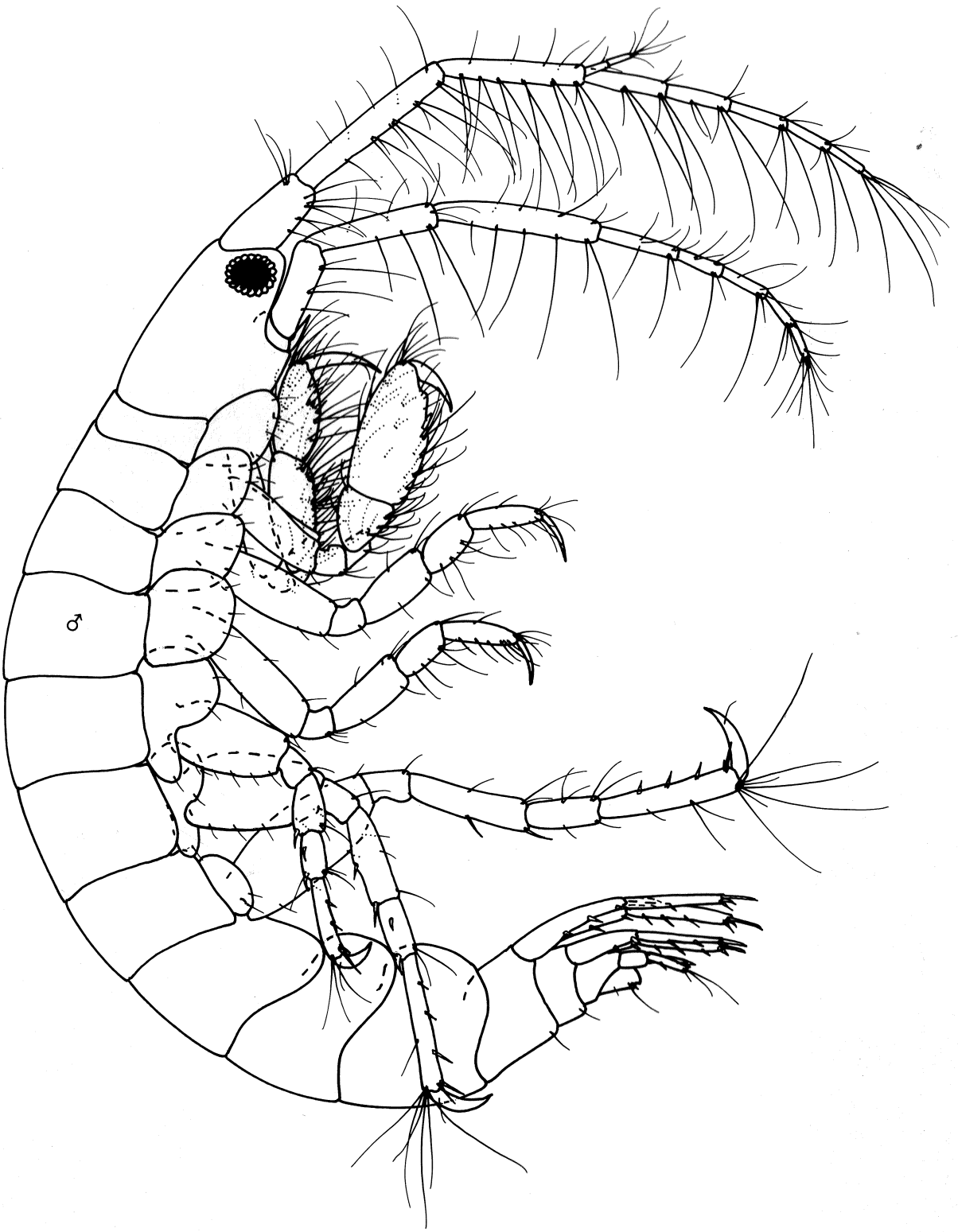

Fig. 21. *Gammaropsis christenseni* n.sp., Padoz Natun reef, Madang Lagoon, Papua New Guinea, JDT/PNG-67.

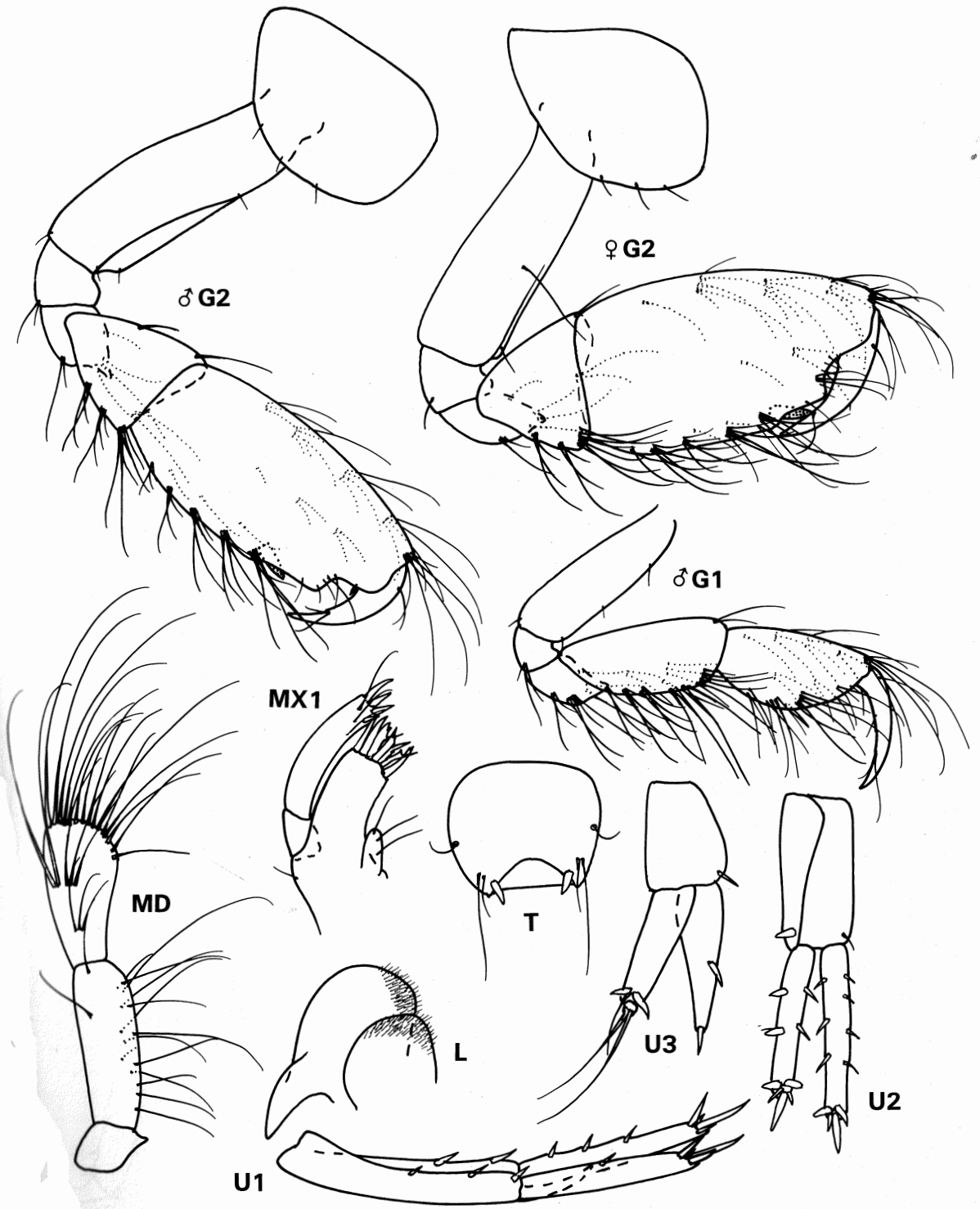

Fig. 22. *Gammaropsis christenseni* n.sp., Padoz Natun reef, Madang Lagoon, Papua New Guinea, JDT/PNG-67.

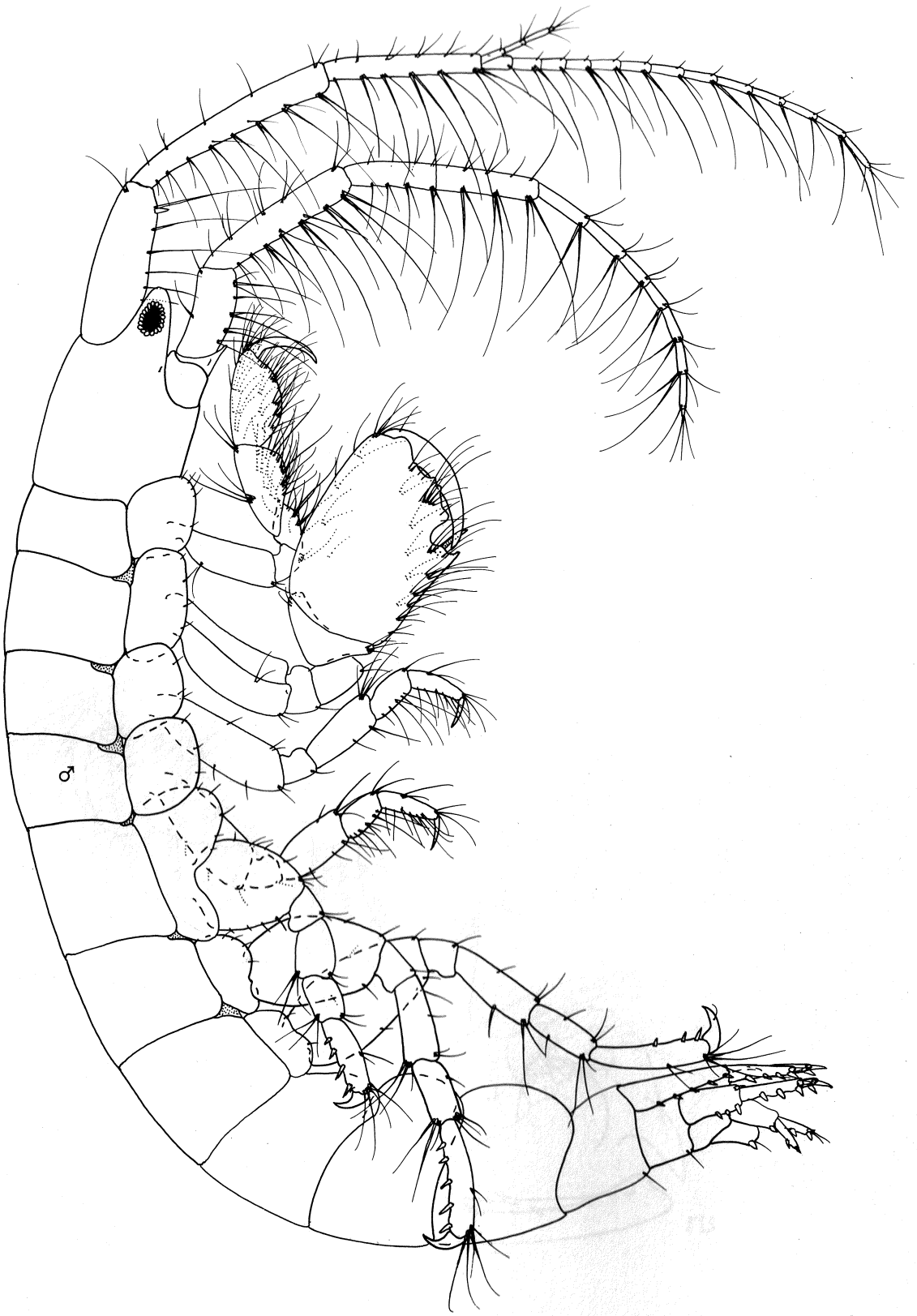

Fig. 23. *Gammaropsis gemina* n.sp., Kranket lagoon, Madang Lagoon, Papua New Guinea, AAM/PNG-6.

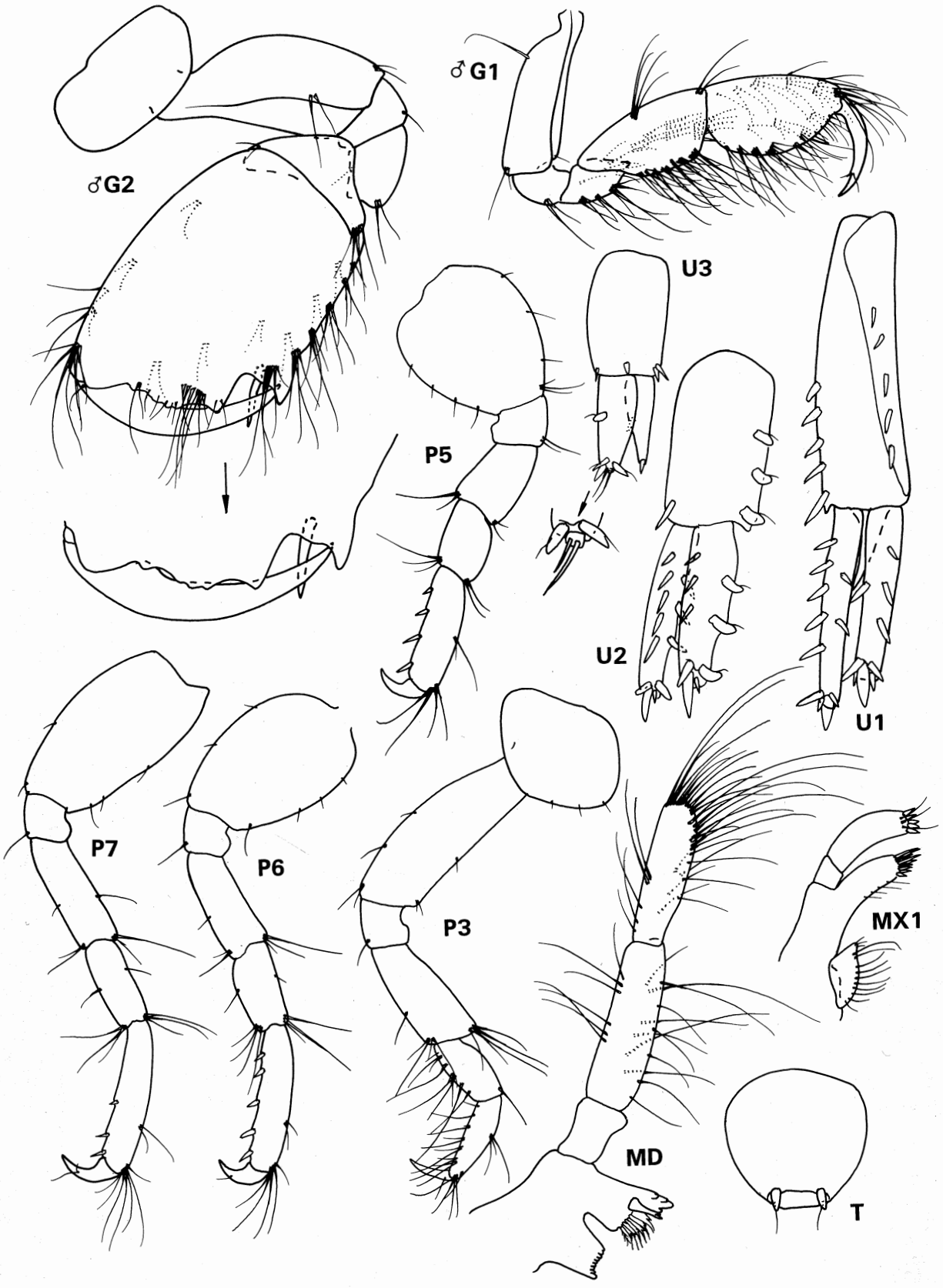

Fig. 24. *Gammaropsis gemina* n.sp., Kranket lagoon, Madang Lagoon, Papua New Guinea, AAM/PNG-6.

sexes, basis stout, excavate on anterior margin for reception of carpus when folded, carpus very short, cup-shaped, propodus massive, palm irregular, a strong posterodistal tooth separated from the palmar platform by a deep, flat-bottomed excavation bearing a spine, dactylus opposable to posterodistal tooth; pereopods 3–7 normal for the genus, pereopods 5–7 in the length ratios 7:9:10; epimera 1–3 rounded; uropod 1 spinose, peduncle longer than rami with an inter-ramal tooth, inner ramus longer than outer; uropod 2 spinose, peduncle subequal with rami, lacking an inter-ramal process, inner ramus a little longer and more slender than outer; uropod 3 peduncle longer than rami, inner ramus a little longer and broader than outer, with a small second article; telson with a stout spine on each dorsolateral crest.

Etymology. From the Latin *geminus* = twin, referring to the geminate nature of this species and *G. atlantica sensu lato*.

Remarks. The *Gammaropsis atlantica* complex has caused considerable difficulties to taxonomists and has led to a number of "forms" being described (see Barnard, 1965, 1970 and Ledoyer, 1982, forms "A" and "B"). Barnard (1970) also describes *afra-atlantica* hybrids. Barnard (1965) noted the occurrence (in Micronesia) of a phenotype in which the females had gnathopods identical to those of the males. Present material appears to be identical to that described by Barnard (1965), in having similar, non sexually-dimorphic gnathopods. The consistent differences between present material and ? *G. atlantica*, which has sexually-dimorphic gnathopods and which frequently occurs in the same samples, merits recognition of the above material as a distinct species. In mixed fresh samples they are readily distinguished without dissection by the red oval eye when compared with the yellow lageniform eye of *G. atlantica* and this is not size related and therefore not due to differences in growth stage. In preserved samples, when the eye pigments have faded, separation requires closer examination. A more extensive study of the *G. atlantica* complex is required before any full resolution of its taxonomy. No attempt is made here, therefore, to determine the full synonymy of *G. gemina*. Only the Micronesian material of Barnard (1965) is placed with confidence in the synonymy.

Habitat. On rubble and sand/mud bottoms, sometimes with *Halimeda* or sponges from 1m to at least 36 m.

Gammaropsis lacinia n.sp.

Figs 25, 26

Type material. HOLOTYPE female, 3.0 mm, AM P42505; barrier reef near Wongad (5°08.11'S 145°49.53'E), rubble, encrusted dead *Acropora* plates, also some pieces from caves and overhangs, 36 m and 21 m, J.D. Thomas, 22 February 1990, stn JDT/PNG-59. PARATYPE female, AM P42506; Planet Rock, (5°15.48'S 145°49.14'E), dead *Acropora* plates with epiphytes, about 10 m, M. Jebb, 15 March 1991, stn JKL/PNG-212.

Other material examined. AM P42507 to P42508; JKL/PNG-213 (1 female), JKL/PNG-240 (1 female).

Diagnosis. Length 3.0 mm. Head lobes only moderately produced, eye of medium size; antennae stout, setiferous; antenna 1 less than half body length, peduncular articles 1 and 3 subequal, article 2 only slightly longer, flagellum short, less than half length of peduncle, with 4–5 articles; accessory flagellum composed of one long and one rudimentary article; antenna 2 longer than antenna 1, peduncular articles 4 and 5 subequal, flagellum longer than peduncular article 5 with 4–5 articles; labrum with short epistome; mandible spine row of 4 spines, palp article 3 spatulate, three quarters length of article 2; labium outer plates with moderately produced, rounded mandibular processes; maxilla 1 inner plate with one distal seta; maxilla 2 normal; maxilliped palp article 4 with two strong unequal distal spines and two smaller sub-distal setae; gnathopod 1 slender, propodus only slightly shorter than carpus, palm convex, evenly continuous with posterior margin, dactylus overlapping palm; male gnathopod 2 unknown; female gnathopod 2 coxa subquadrangular, basis anterodistal margin produced into a rounded lobe overlapping ischium, carpus short, cup-shaped, inner face with anterodistal extension extending at right-angles to face of propodus, anterodistal margin of carpus and distal extremity of extension, each with a stout spine, propodus enlarged, anterior margin with flange, widest proximally, narrowing distally, which extends at right-angles to face of propodus and joins proximally with similar extension on carpus, palm oblique, with three triangular teeth, one sub-distally (the longest), one medioproximally and one proximally with defining spine, dactylus stout, fitting palm; pereopods 3–4 normal, articles 4–7 short; pereopod 5 basis expanded on posterior margin, largest proximally with a weak, rounded posterodistal lobe; pereopod 6 basis evenly expanded with strong, acute, posterodistal lobe; pereopod 7 basis expanded, broadest medially, with strong acute posterodistal lobe; epimera 1–3 subquadrate with small posterodistal notch bearing a fine seta; uropod 1 peduncle elongate, with strong inter-ramal tooth, rami short, scarcely half length of peduncle, the inner ramus the longer; uropod 2 peduncle with strong but short inter-ramal tooth, rami shorter than peduncle, with stout spines, inner ramus the longer; uropod 3 peduncle elongate, rami short, only a little more than half length of peduncle, lacking marginal spines, inner ramus slightly the longer with a single terminal spine but no setae, outer ramus with one marginal seta, and a single terminal spine; telson with each dorsolateral crest bearing a single long sub-distal seta and a small medial seta.

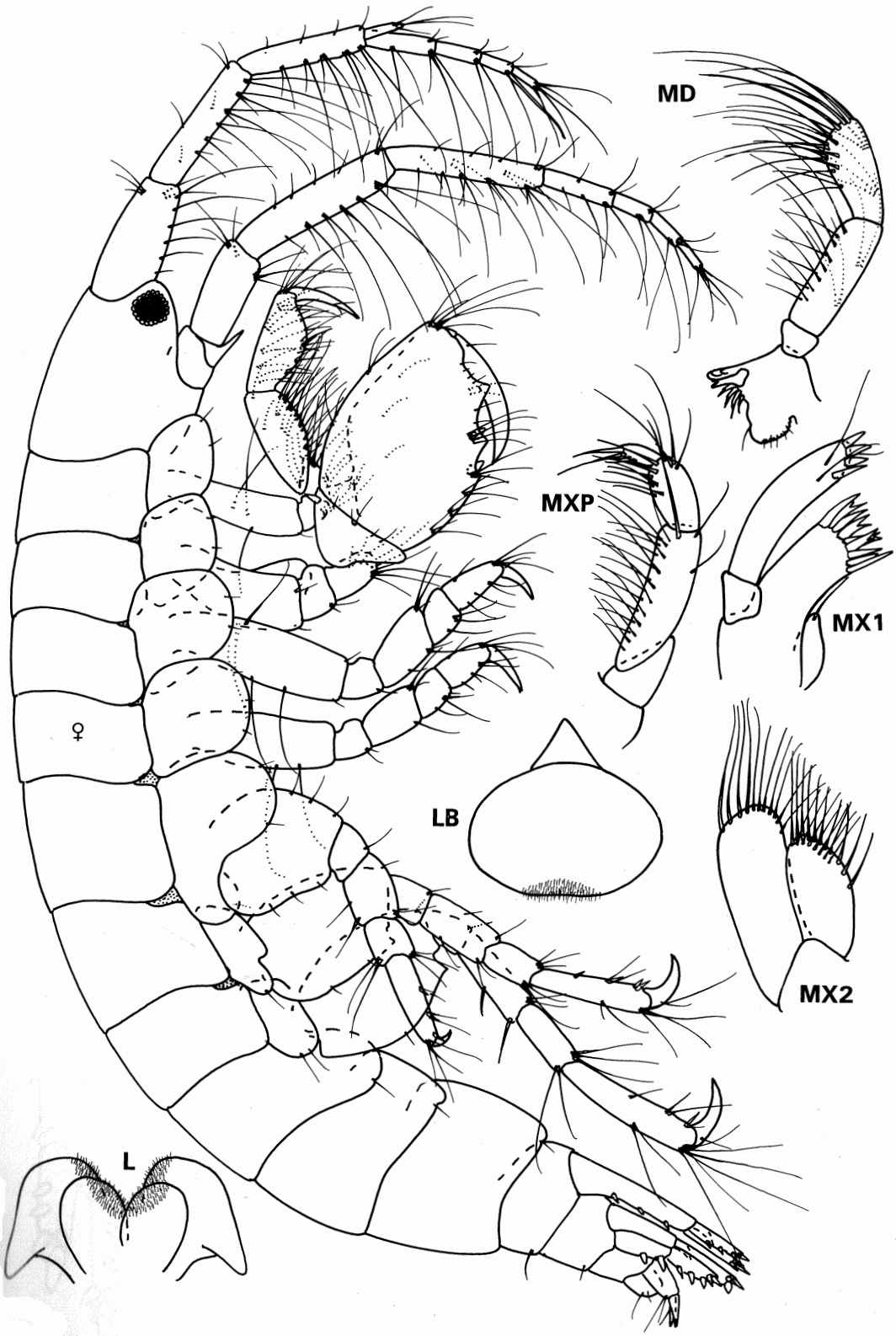

Fig. 25. *Gammaropsis lacinia* n.sp., Planet Rock, Astrolabe Bay, Papua New Guinea, JKL/PNG-213.

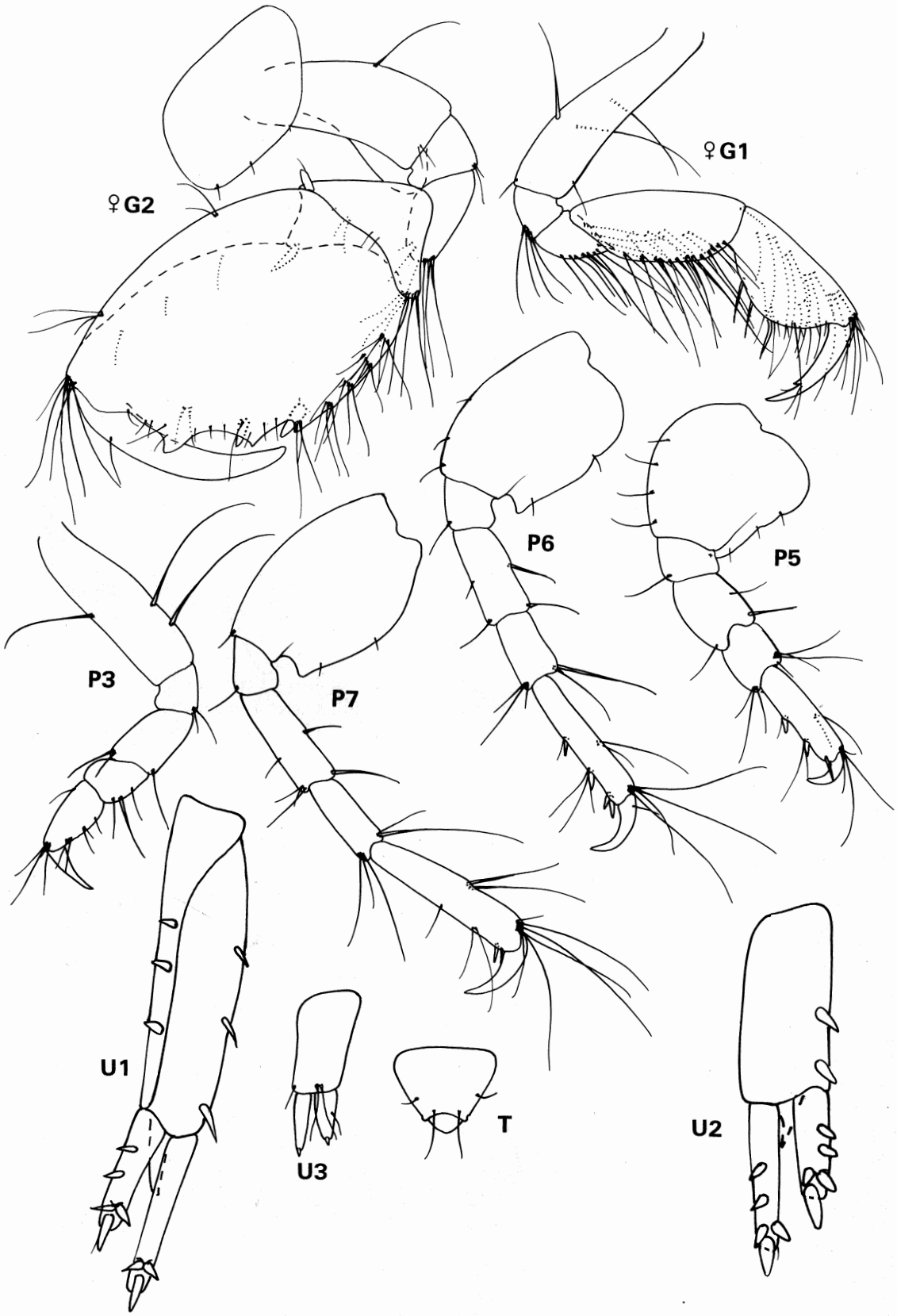

Fig. 26. *Gammaropsis lacinia* n.sp., Planet Rock, Astrolabe Bay, Papua New Guinea, JKL/PNG-213.

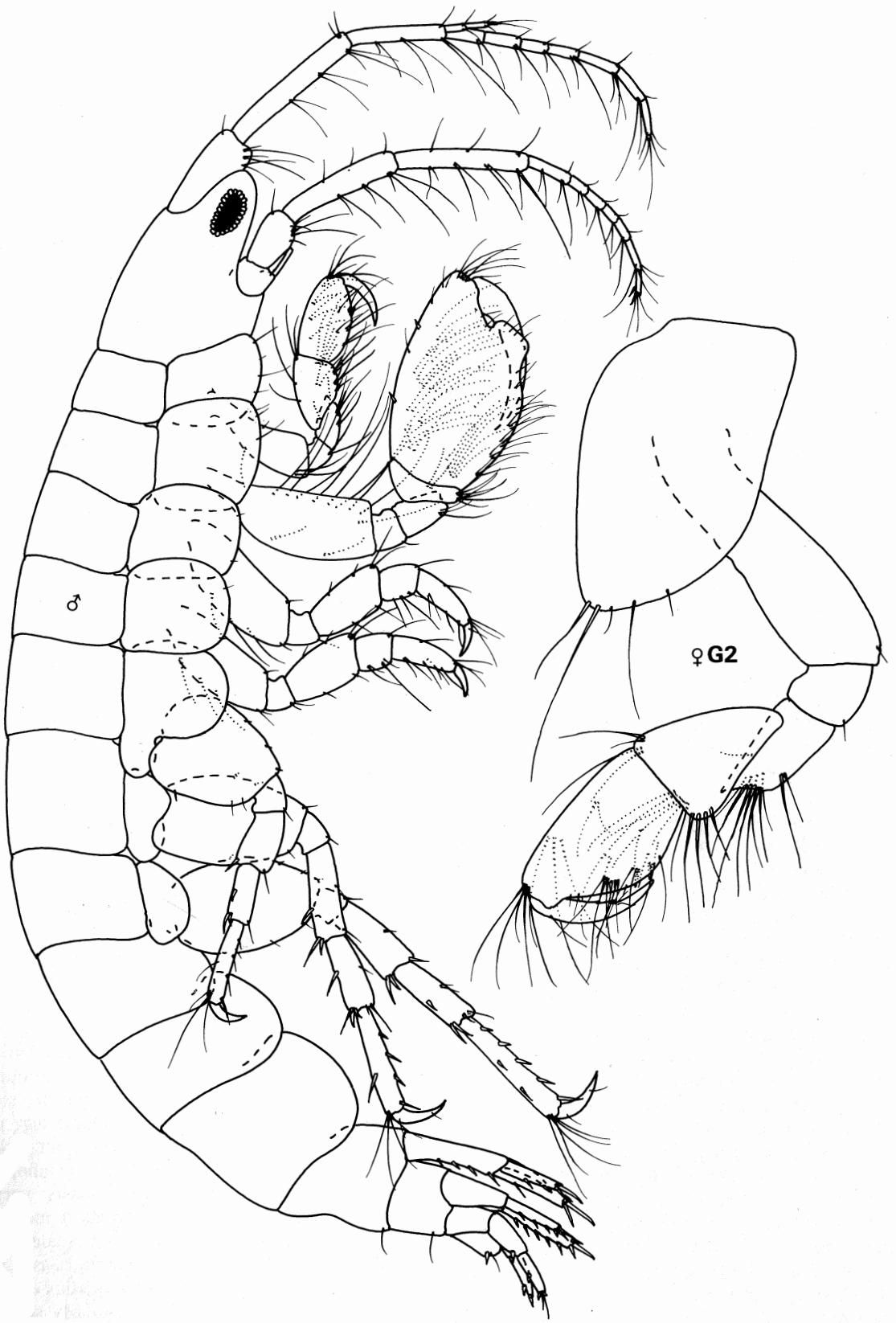

Fig. 27. *Gammaropsis planodentata* n.sp., Kranket, Madang Lagoon, Papua New Guinea, AAM/PNG-1.

Etymology. Noun in apposition from the Latin *lacinia* = the flap of a garment, referring to the extension on the gnathopod 2 carpus and propodus.

Remarks. The most remarkable feature of this species is the curious gnathopod 2 with the anterior margins of the carpus and propodus produced into a flange which curves over at right angles to the inner faces of these podomeres. It can only be seen clearly by manipulation of the specimen under the dissecting microscope since the flange becomes deformed when the appendage is mounted on a slide. It is a stout species with a compact urosome and with short, spiny uropods. Males of this species have not yet been collected.

Habitat. Among rubble and dead coral, from 1m to at least 36 m.

Gammaropsis planodentata n.sp.

Figs 27, 28

Type material. HOLOTYPE male, 3.0 mm, AM P42513; PARATYPES, 8 males, 13 females, AM P42514; channel at north end of Jais Aben Resort (5°09.06'S 145°48.20'E), coral rubble, A.A. Myers, 2 April 1991, stn AAM/PNG-16.

Other material examined. AM P42515 to P42523; AAM/PNG-1 (7 males, 12 females), AAM/PNG-13 (2 males, 2 females), AAM/PNG-17 (4 males, 18 females), JDT/PNG-47 (1 female), JDT/PNG-57 (1 male, 4 females), JDT/PNG-59 (1 female), JDT/PNG-68 (7 males, 7 females), JDT/PNG-70 (1 male), JKL/PNG-261 (2 males, 8 females).

Diagnosis. Length 3.1 mm. Head with well-developed eye lobes, eye elongate-ovate; antennae subequal, short, much less than half body length; antenna 1 peduncular articles in the ratios 2:3:2, flagellum shorter than peduncle with 8–9 articles, accessory flagellum composed of three articles, the terminal article rudimentary; antenna 2 peduncular article 5 a little longer than 4, flagellum shorter than the combined length of peduncular articles 4 and 5, with 8–9 articles; mouthparts typical of the genus; gnathopod 1 coxa anterodistal corner produced, subacute, basis lageniform, propodus longer than carpus, palm evenly convex, defined by a spine, dactylus overlapping palm; male gnathopod 2 coxa subquadrangular, basis stout, anterior margin with an array of long setae, carpus extremely reduced, propodus more than ten times length of carpus, palm with small, round-bottomed sinus near dactylus hinge, followed by a large flat-topped tooth, followed by a shallow concavity at junction with posterior margin, inner face of propodus densely setose, dactylus strongly falcate, overlapping palm and closing over inner face of posterior margin; female gnathopod 2 coxa deeper than broad, basis without long setae, carpus triangular, propodus about 25% longer than carpus, palm evenly rounded, defined by two small spines, dactylus fitting palm; pereopods 3–4 stout, dactylus short about half length of propodus; pereopod 5 basis posterior margin expanded into flange, broadest proximally; pereopods 6–7 normal, basis only moderately expanded proximally; epimera 1–3 rounded; uropod 1 peduncle longer than rami with an extremely long inter-ramal tooth, almost two-thirds length of peduncle, inner ramus longer than outer; uropod 2 peduncle shorter than inner ramus, with a strong inter-ramal tooth nearly two-thirds length of peduncle, inner ramus spinose, much longer and stouter than outer ramus; uropod 3 peduncle longer than rami, outer ramus the longer, with a small second article; telson with each dorsolateral crest bearing a stout spine and a small seta.

Etymology. From the Latin *planus* = flat and *dentatus* = toothed, referring to the shape of the tooth on the male gnathopod 2 propodus.

Remarks. This species is immediately recognisable in mixed samples of *Gammaropsis* from Madang, by the peculiar elongate-oval eye. The male gnathopod 2, with its flat-topped tooth, is also characteristic.

Habitat. In coral rubble and among *Halimeda, Halophila, Padina* and sponges in 1 m to at least 36 m.

Gammaropsis siara n.sp.

Figs 29, 30

Type material. HOLOTYPE male, 2.8 mm, AM P42525; PARATYPES, 3 males, 2 females, AM P42526; Awan Biziwan, (5°11.06'S 145°49.70'E); channel at bottom of reef face, rubble, 27 m, J.K. Lowry & S.J. Keable, 19 March 1991, stn JKL/PNG-258.

Diagnosis. Length 2.8 mm. Head lobes strongly produced, acute; eye reniform; antennae subequal, a little over half body length; antenna 1 peduncular articles in the basi-distal ratios 8:13:10, flagellum shorter than peduncle with about 6 articles, accessory flagellum with three articles; antenna 2 peduncular article 4 a little longer than 5, flagellum longer than peduncular article 5 with 6–7 articles; labrum with strongly produced, acute epistome; mandible palp article 3 clavate, shorter than article 2; labium outer plate mandibular projections moderately produced, acute; maxilla 1 inner plate setose; maxilliped palp article 4 slender; gnathopod 1 coxa distal margin with three teeth, basis very slender, propodus shorter than carpus, broadest medially due to very oblique palm, dactylus falcate; male gnathopod 2 coxa with single posterodistal tooth, basis moderately slender, carpus short triangular, propodus enlarged, three times length of carpus, palm irregularly scalloped, with two excavations, defined by a short, triangular tooth, dactylus strongly falcate, closing over inner face of

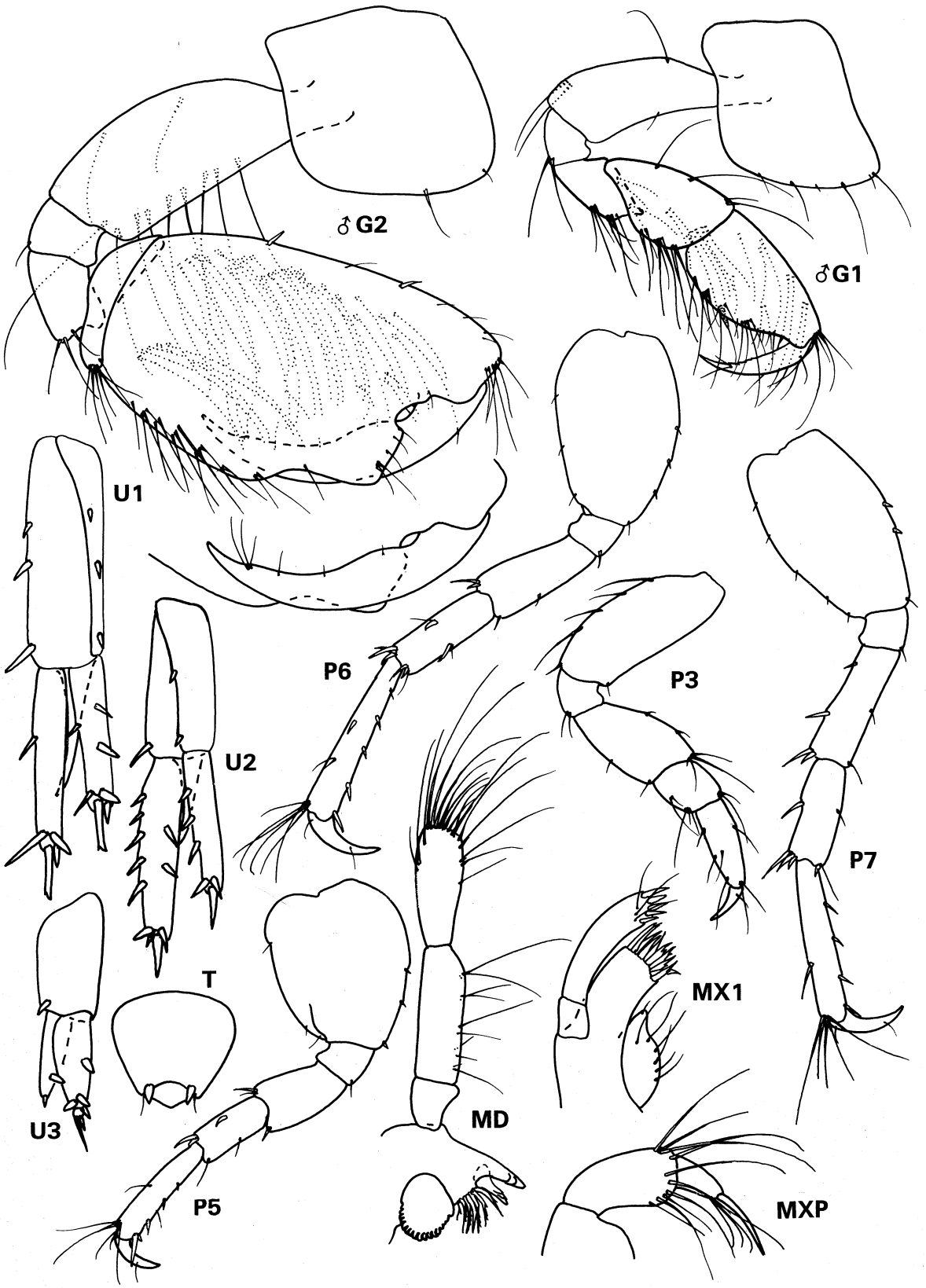

Fig. 28. *Gammaropsis planodentata* n.sp., Kranket, Madang Lagoon, Papua New Guinea, AAM/PNG-1.

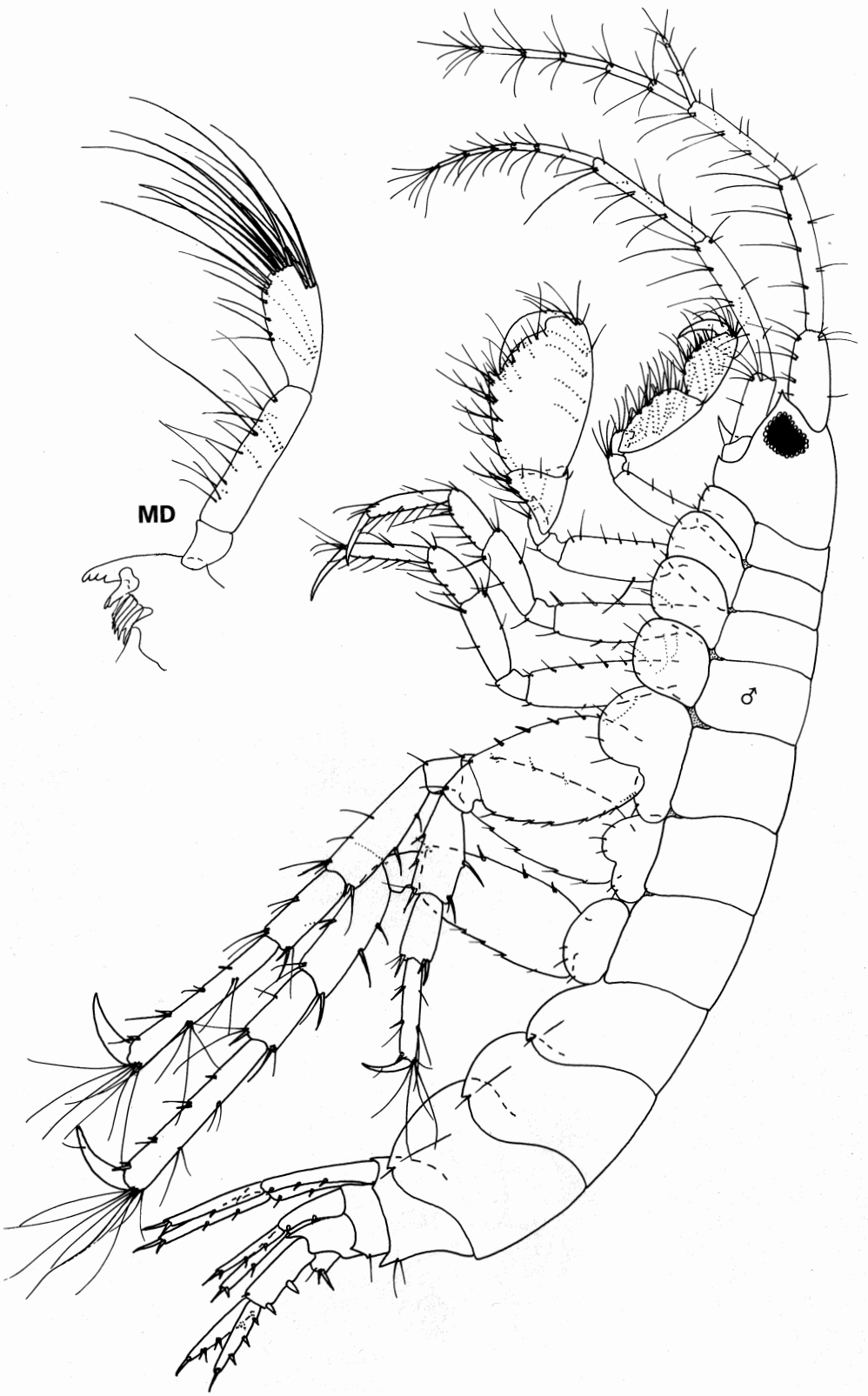

Fig. 29. *Gammaropsis siara* n.sp., Awan Biziwan, Madang Lagoon, Papua New Guinea, JKL/PNG-258.

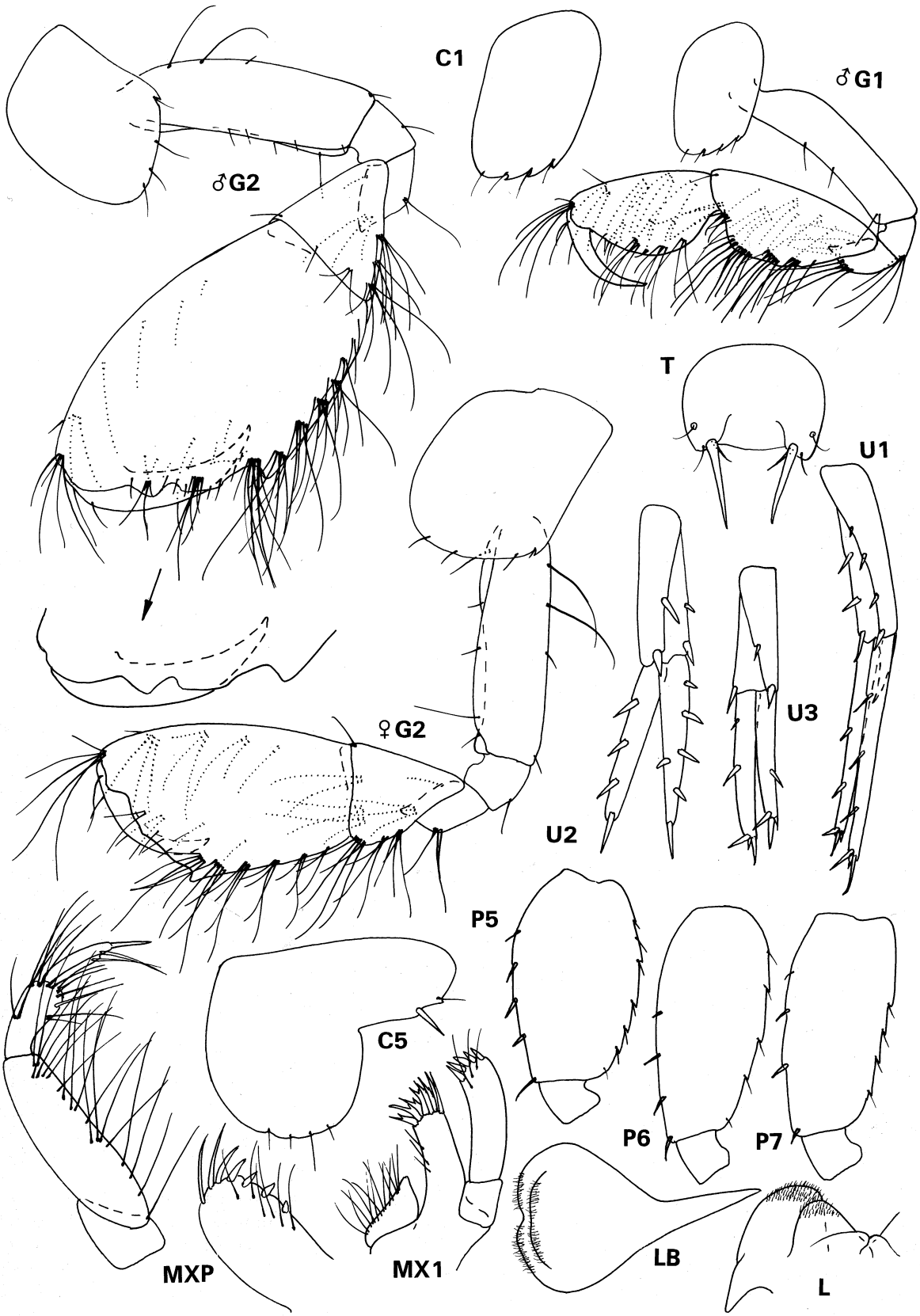

Fig. 30. *Gammaropsis siara* n.sp., Awan Biziwan, Madang Lagoon, Papua New Guinea, JKL/PNG-258.

propodus; female gnathopod 2 similar to that of male, but weaker, palm lacking distinct excavations; pereopods 3–4 normal, dactylus three-quarters length of propodus; pereopods 5–7 basis posterior margin toothed, pereopod 5 basis somewhat expanded, posterior margin convex; pereopods 6–7 basis scarcely expanded; epimera 1–3 with posterodistal tooth; urosome segment 1 with a pair of strong dorsal teeth; urosome segment 2 with a pair of much smaller, dorsolateral teeth; uropod 1 peduncle shorter than rami, with inter-ramal process less than half length of peduncle, rami extremely slender; uropod 2 peduncle a little longer than rami, lacking an inter-ramal process; uropod 3 rami subequal in length with each other and with peduncle, rami spinose, lacking setae; telson with each dorsolateral crest bearing a long, strong spine.

Etymology. Noun in apposition, after the Siar clan of the type locality.

Remarks. This species is clearly very close to *Gammaropsis denticulata* Ledoyer, 1979b from Madagascar, of which it may ultimately prove to be conspecific. It does, however, differ in several ways, in particular, the strongly acute eye lobes, the presence of three teeth on coxa 1, the less oblique palm of both the male and the female gnathopod 2, the convex posterior margin of pereopod 5 basis, and the much more strongly toothed pereopod 5–7 basis. It seems sensible at this time, therefore, to allocate present material to a new taxon.

Habitat. Rubble in 27 m.

Gammaropsis setifera (Schellenberg)

Eurystheus setiferus Schellenberg, 1938: 82, fig. 43.–Myers, 1985b: 84, fig. 65.
Gammaropsis pali.–Ledoyer, 1982: 234, fig. 85;
not *Gammaropsis pali* Barnard, 1970: 183, figs 117, 118.

Material examined. AM P42528 to P42529; JKL/PNG-184 (1 male, 1 female), JKL/PNG-238 (2 males, 2 immature).

Habitat. In rubble and coral debris, sometimes in association with *Padina*, red alga, *Halimeda* or sponges.

Distribution. Kiribati, Fiji, Papua New Guinea.

Papuaphotis n.gen.

Diagnosis. Head ocular lobes well developed, eye entirely within lobes. Antenna 1 and 2 short, subequal, antenna 1 peduncular articles 1 and 3 equal in length, accessory flagellum missing. Mandible palp article 3 parallel-sided, shorter than article 2. Coxae deep, coxa 2 narrower distally, coxa 5 posteriorly unexcavate. Gnathopod 2 enlarged, subchelate, propodus much longer than carpus. Pereopod 5 propodus with stout palmar spine. Uropod 3 with single ramus.

Type Species. *Papuaphotis regis* n.sp. monotypic.

Etymology. Compound name, formed from a cognate genus suffixed by the general locality of capture.

Remarks. This genus shares characteristics of *Photis* Krøyer (Antenna 1, article 1 = 3, no accessory flagellum) and *Microprotopus* Norman (very short, weakly setiferous Antennae 1 and 2, non-clavate mandible palp article 3, Uropod 3 uniramous). It differs from both genera in its non-excavate coxa 5.

Papuaphotis regis n.sp.

Figs 31, 32

Type material. HOLOTYPE male, 1.6 mm, AM P42452, PARATYPES, 1 male, 5 females, P42453; silty clay bottom with about 10% sand near the *Coral Queen*, Madang Lagoon, (5°09.57'S 145°49.93'E), 31 m, J.K. Lowry & S.J. Keable, 26 February 1991, stn JKL/PNG-132.

Other material examined. AM P42454; JKL/PNG-139 (2 males, 2 females).

Diagnosis. Length 1.6 mm. Head ocular lobes well developed, eye round, a central core surrounded by clear ommatidia, situated entirely within head lobe; antennae short, subequal, much less than half body length; antenna 1 peduncular articles 1 and 3 subequal; article 2 the longest, flagellum with 3 articles each bearing an aesthetasc; antenna 2 peduncular article 5 a little longer than article 4, flagellum with three articles; labrum with produced, acute epistome; mandible palp article 3 longer than 2, parallel-sided, with three distal and 2 posterior marginal setae; labium outer plate mandibular processes subacute; maxilla 1 inner plate asetiferous; maxilliped palp article 4 coniform with distal spine seta; gnathopod 1 coxa more than twice as deep as broad, distally crenulate, carpus a little longer than propodus, palm obsolete; male gnathopod 2 coxa more than twice as deep as broad, basis elongate, carpus short, propodus elongate, parallel-sided, slender, more than twice length of carpus, palm very oblique, with one small medial and one small defining tooth, dactylus short, falcate, opposable to defining tooth; female gnathopod 2 less slender, propodus less than twice length of carpus, palm oblique, evenly curved, continuous with posterior margin, but defined by a spine, dactylus short and stout, opposable to spine; coxae 3–4 large, subrectangular; pereopod 3 merus with long setae on the anterodistal margin, dactylus short, about half length of propodus, pereopod 4 similar to pereopod 3 but lacking long setae on merus; coxa 5 the largest, posterior margin unexcavate; pereopod

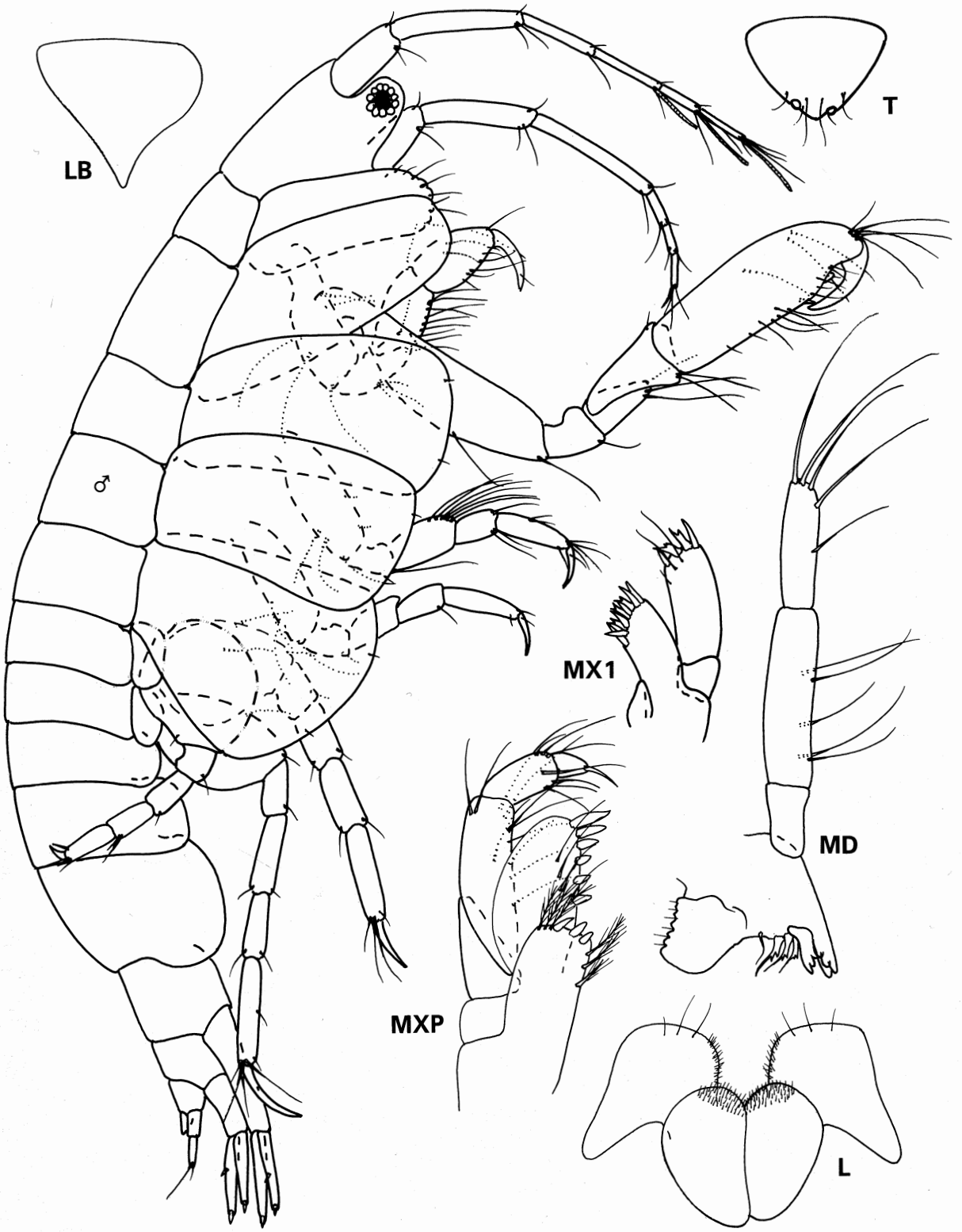

Fig. 31. *Papuaphotis regis* n.sp., hull of "Coral Queen", Madang Lagoon, Papua New Guinea, JKL/ PNG-139.

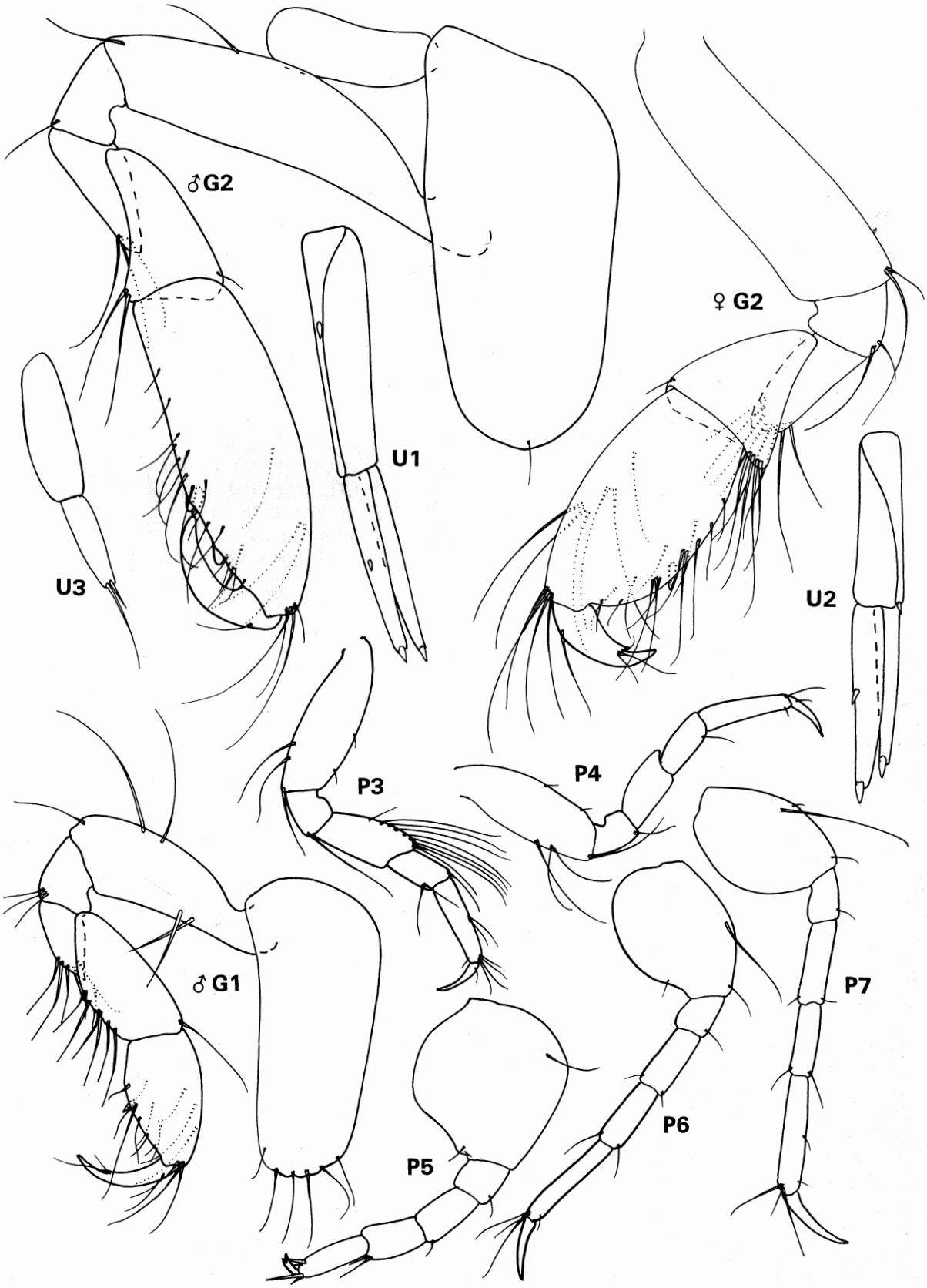

Fig. 32. *Papuaphotis regis* n.sp., hull of "Coral Queen", Madang Lagoon, Papua New Guinea, JKL/PNG-139.

5 basis expanded, almost as broad as long, propodus with two strong palmar spines, dactylus with accessory tooth on anterior margin; pereopods 6–7 similar, basis expanded, anterior margin with long medial seta, dactylus elongate, simple; epimera 1–3 rounded; uropod 1 peduncle longer than rami, rami slender, subequal, with terminal spine, outer ramus with one medial spine; uropod 2 similar to uropod 1, but peduncle shorter than inner ramus, outer ramus shorter than inner; uropod 3 peduncle longer than single ramus, ramus lacking spines and terminating in two unequal length setae; telson sub-triangular, with a small knob on either side.

Etymology. From the Latin *regis* = royal, referring to the collection site near the hull of the sunken vessel *Coral Queen*.

Habitat. On silty-sand bottom in about 30 m.

Paraloiloi n.gen.

Diagnosis. Head with ocular lobes strongly extended, narrow, eye situated entirely in ocular lobe; mandible palp article 2 the longest, article 3 straight, rod-shaped; maxilla 1 inner plate with several setae; maxilliped palp article 4 elongate; antennae slender, subequal, flagellum subequal with peduncle; antenna 1 peduncular article 3 longer than 1, accessory flagellum 3-articulate; male gnathopod 1 much larger than 2, subchelate, male gnathopod 2 basis expanded, carpus and propodus small, subequal; uropods 1–2 with strong inter-ramal tooth; uropod 3 rami subequal, longer than peduncle.

Type species *Paraloiloi vaga* n.sp., monotypic.

Remarks. This genus is closest to *Aloiloi* Barnard, but differs in a number of ways, notably in its much more elongate eye lobes, rod-shaped mandible palp article 3, elongate maxilliped palp article 4, slender antennae with flagellum equal in length to peduncle; enlarged basis and small, subequal carpus and propodus of the male gnathopod 2; uropod 2 with inter-ramal tooth and uropod 3 with rami longer than peduncle.

Etymology. From the Latin *para* = similar (to *Aloiloi* Barnard).

Paraloiloi vaga n.sp.

Figs 33, 34

Type material. HOLOTYPE male, 4.1 mm, AM P42461, PARATYPES, 2 males, 11 females, AM P42462; Planet Rock (5°15.48'S 145°49.14'E), dead *Acropora* plates with epiphytes, about 6 m, J.K. Lowry & S.J. Keable, 16 March 1991, stn JKL/PNG-213.

Other material examined. AM P42463; JDT/PNG-40 (1 male).

Diagnosis. Length 4.1 mm. Head with strongly projecting, slender eye lobes; eye mottled brown and white, situated entirely in eye lobe; antenna 1 slender, two-thirds body length, peduncular articles in the basi-distal ratios 2:4:3, flagellum subequal with peduncle, with about 12 articles, accessory flagellum 3-articulate; antenna 2 slender, subequal in length with antenna 1, peduncular articles 4 and 5 subequal, flagellum a little shorter than peduncle, with about 10 articles; mandible palp articles in the basi-distal ratios 2:7:5, article 3 rod-shaped with distal and marginal setae; maxilla 1 inner plate with about 7 setae, inner plate with 10 spines, palp with 5 spines and several fine setae; maxilliped palp article 3 with hook-shaped tooth, article 4 elongate bearing short apical spine; male gnathopod 1 coxa smaller than the following three coxae, basis with anterior margin concave, carpus small, cup-shaped, propodus three times length of carpus, palm short, straight, a shallow concavity on the posterodistal margin forming a sharp tooth, delimiting the concavity from the palmar shelf above it, dactylus strongly overlapping reduced palm; female gnathopod 1 slender, carpus and propodus subequal, propodus subovoid, palm continuous with posterior margin, dactylus opposable to two spines on posterior margin of propodus; male gnathopod 2 coxa much larger than coxa 1 and only a little shorter than coxae 3–4, basis enlarged, anterior margin straight, carpus and propodus small, subequal, propodus with palm very oblique, dactylus fitting palm; female gnathopod 2 basis slender, carpus a little longer than propodus, dactylus slightly overlapping poorly defined palm; pereopods 3–4 slender, coxae enlarged; pereopods 5–7 in the length ratios 3:5:6, basis weakly expanded; epimera 1–3 rounded; uropod 1 peduncle longer than rami, with strong inter-ramal tooth, rami subequal; uropod 2 peduncle shorter than rami, with strong inter-ramal tooth, inner ramus a little longer than outer; uropod 3 peduncle expanded proximally shorter than rami, inner ramus longer than outer with a small second article bearing a pair of long, unequal setae, inner ramus with an apical spine; telson lacking spines, each dorsolateral crest with one long and one very short seta.

Etymology. From the Latin *vaga* = wandering, used to describe a planet and referring to the collection site (Planet rock) of some of the material.

Habitat. On dead *Acropora* and cemented coral rubble in shallow water, to 6 m.

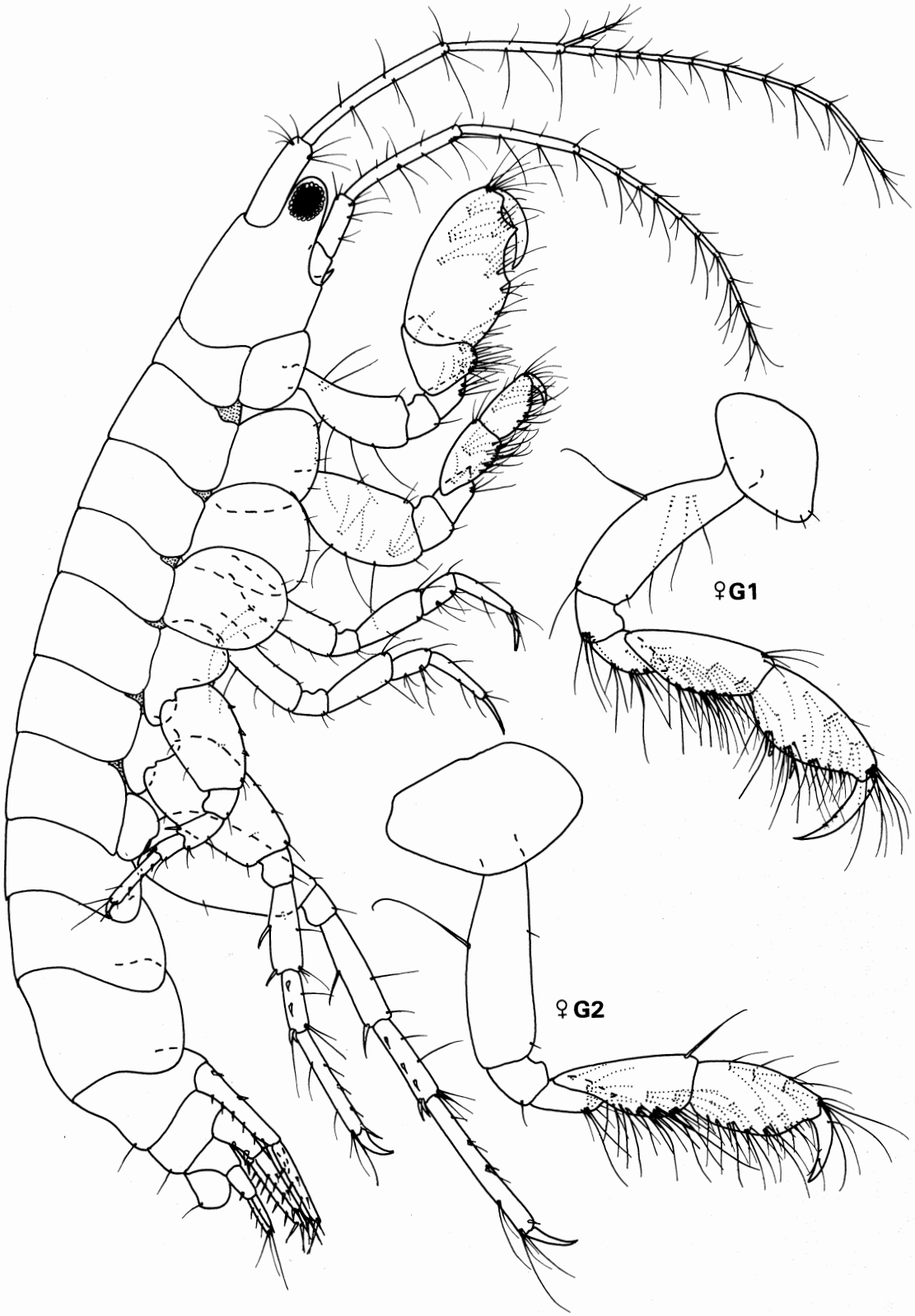

Fig. 33. *Paraloiloi vaga* n.sp., Planet Rock, Astrolabe Bay, Papua New Guinea, JKL/PNG-213.

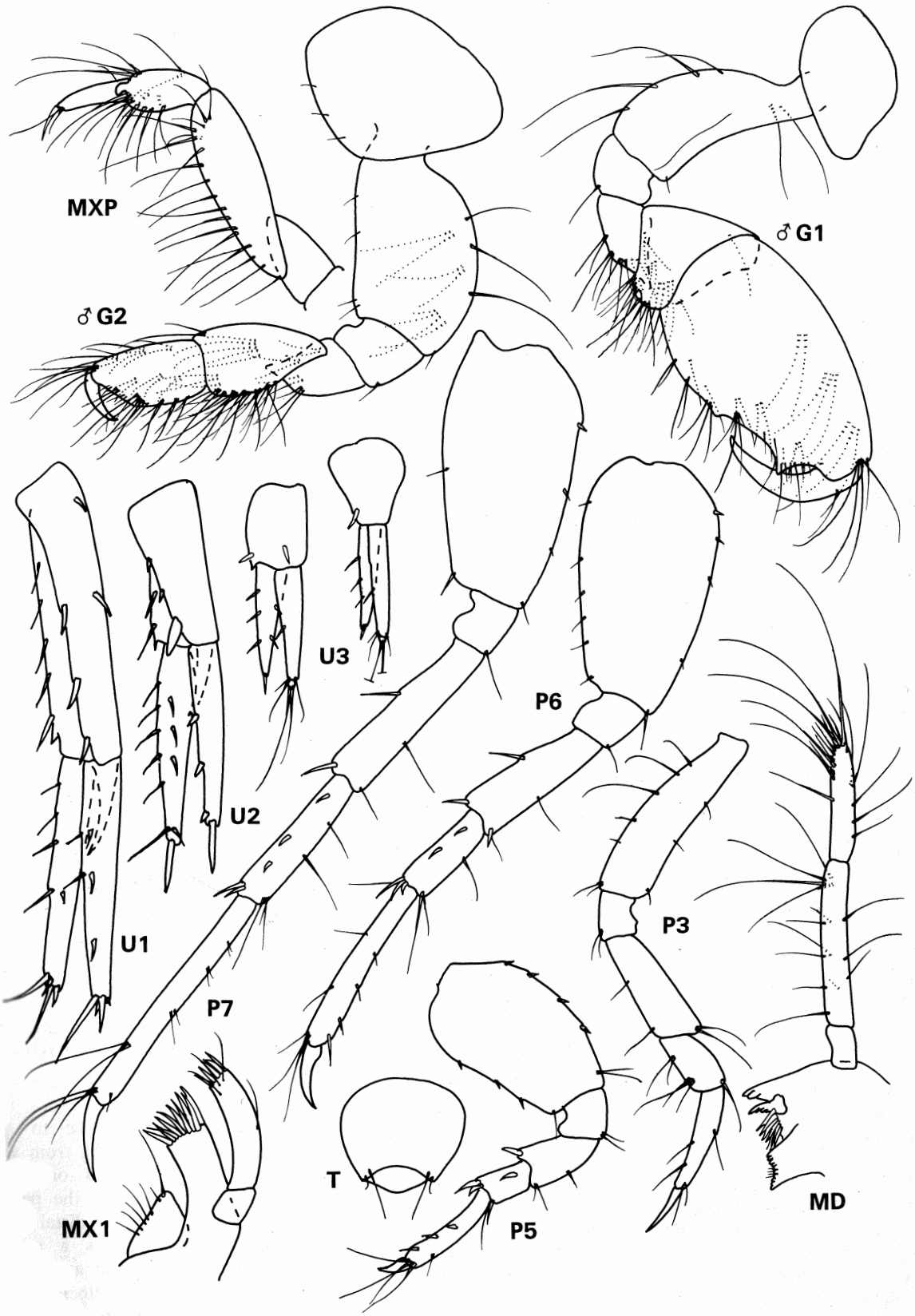

Fig. 34. *Paraloiloi vaga* n.sp., Planet Rock, Astrolabe Bay, Papua New Guinea, JKL/PNG-213.

Photis Krøyer

Photis kapapa Barnard

Photis kapapa Barnard, 1970: 192, figs 124, 125.–Myers, 1985b: 88, fig. 67.
? *Photis kapapa*.–Griffiths, 1973: 299, fig. 8.–Ledoyer, 1979b, 45, fig. 23II.

Material examined. AM P42464 to P42466; JDT/PNG-57 (1 male), JKL/PNG-258 (1 male), JKL/PNG-259 (6 males, 7 females).

Habitat. Among rubble, 3–27 m.

Distribution. Hawaii, Fiji, Papua New Guinea, ?South Africa and ?Madagascar.

Photis paeowai n.sp.

Figs 35, 36

Photis sp. Pirlot, 1938: 337, figs 151–153.

Type Material. HOLOTYPE male, 2.9 mm, AM P42467; PARATYPES, 6 males, 21 females, AM P42468; off the front face of Padoz Natun reef towards Paeowai (5°09.60'S 145°49.77'E), diver dredge for 40 m on soft mud bottom with small cones, many burrows and *Ampelisca* tubes on the surface, 35 m, J.K. Lowry & S.J. Keable, 17–18 March 1991, stn JKL/PNG-257.

Diagnosis. Length 2.9 mm; head lobes moderately strongly produced, eye large, chocolate brown; antennae slender, weakly setiferous, antenna 1 about two-thirds body length, antenna 2 a little longer; antenna 1 peduncular articles in the basi-distal ratios 2:4:3, flagellum equal in length to the combined length of peduncular articles 2 and 3, with 10 articles, alternate articles with aesthetascs; accessory flagellum minute, tipped with two setae; antenna 2 peduncular article 5 a little longer than 4, flagellum equal to combined length of peduncular articles 4 and 5, with 9 articles; mandible palp article 3 spatulate, shorter than 2; maxilla 1 inner plate asetiferous; maxilliped palp with long distal spine; gnathopod 1 slender, carpus and propodus subequal in length, palm very oblique, evenly continuous with posterior margin; male gnathopod 2 basis stout, inner margin excavate and produced into an anterodistal lobe, carpus triangular, propodus longer than carpus, palm very oblique, delimited by a spine and two teeth, the inner tooth recurved, posterior margin strongly convex, dactylus stout, fitting palm; female gnathopod 2 basis more slender than that of male, carpus very short, cup-shaped, propodus palm very oblique, broadly scalloped, dactylus slender, fitting palm; pereopods 3–4 coxae with stridulating ridges, all articles slender, propodus up to eight times as long as broad, dactylus a little over half length of propodus; pereopods 5–7 normal; epimera 1–3 rounded; uropod 1 peduncle longer than rami, inner ramus a little longer than outer, outer ramus with a single small medial spine; uropod 2 peduncle shorter than inner ramus, rami lacking marginal spines; uropod 3 peduncle shorter than inner ramus, which bears a small second article; outer ramus about one quarter length of inner; telson broader than long, lacking spines, but with a long seta on each dorsolateral crest.

Etymology. Named after Paeowai near the site of collection.

Remarks. This species shows good agreement with the male described by Pirlot (1938) as *Photis* sp. It can now be seen that Myers (1985b) was incorrect in attributing a single female specimen from Fiji to Pirlot's species.

Habitat. In soft mud in 40 m.

Photis pirloti Myers

Figs 37, 38

Photis pirloti Myers, 1985b: 88, fig. 68.

Material examined. AM P42469 to P42472; AAM/PNG-13 (2 males, 4 females), AAM/PNG-16 (2 females), JDT/PNG-47 (1 female), JDT/PNG-57 (3 females), JDT/PNG-59 (2 males, 3 females), JKL/PNG-258 (3 males, 1 female), JKL/PNG-260 (1 female). Author's collection: AAM/PNG-13, AAM/PNG-16 and JDT/PNG-57.

Description. Antennae relatively stout, subequal, setose, a little over half body length; antenna 1 peduncular articles in the basi-distal ratios 5:7:5, flagellum shorter than peduncle with about 9 articles bearing long aesthetascs, accessory flagellum absent; antenna 2 peduncular articles 4 and 5 subequal, flagellum longer than combined length of peduncular articles 4 and 5; male gnathopod 2 basis with well-developed anterodistal lobe bearing stridulating ridges; carpus triangular, propodus twice length of carpus, palm deeply excavate, delimited from posterior margin by rounded, ninety degree corner, dactylus stout, toothed, overlapping palmar corner.

Remarks. This species is very close to *Photis longicaudata* (Bate & Westwood, 1862), from which it differs in the more rounded process on the male gnathopod 2 propodus, which delimits the palm from the posterior margin. It also lacks the distal triangular process on the telson and possesses a more well developed brush of long setae on the anterior margin of the pereopod 3 merus. It is possible that all Indo-Pacific material previously ascribed to *P. longicaudata* is referable to the present species and that *P. longicaudata* is restricted to the North Atlantic-Mediterranean. *Photis*

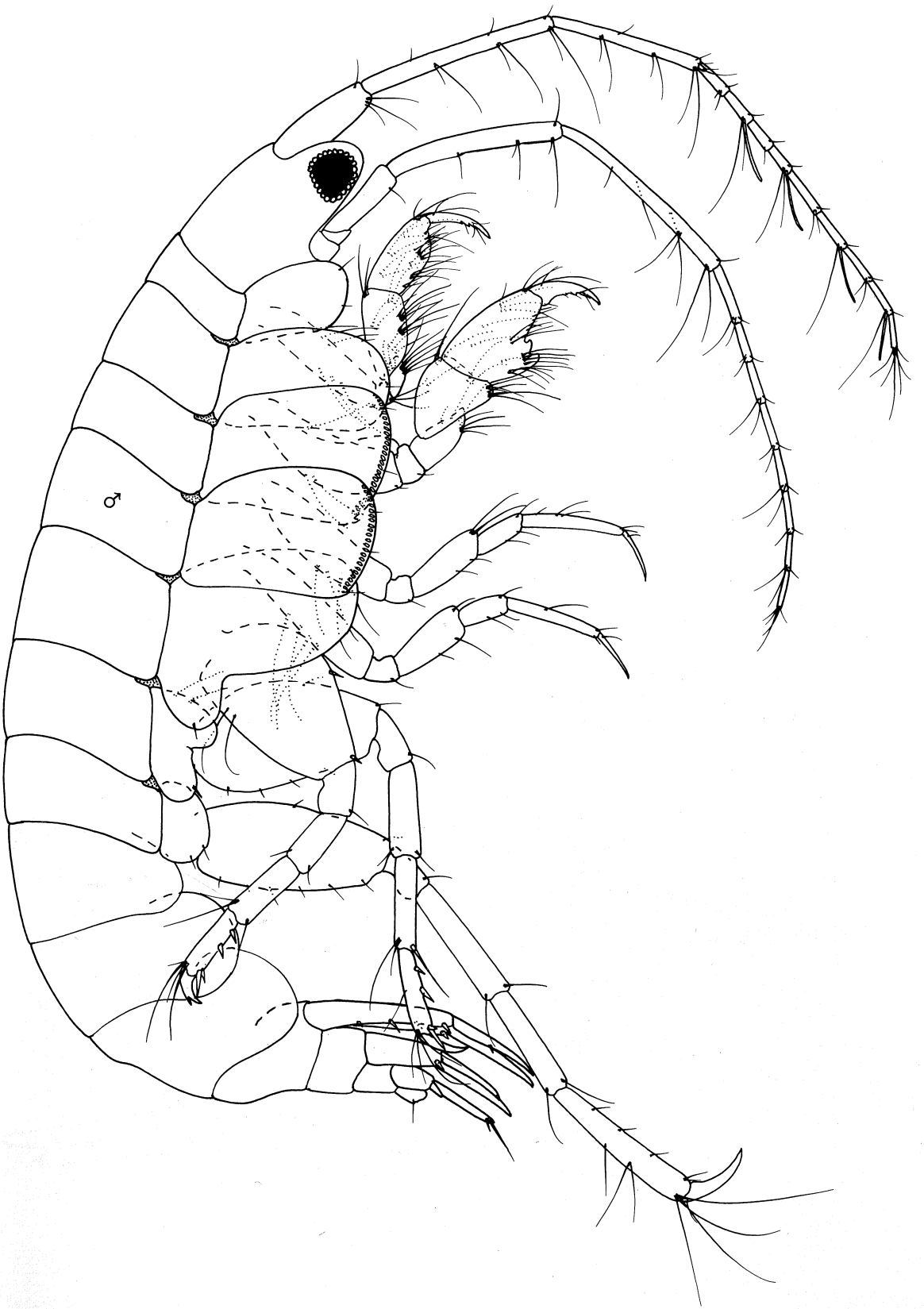

Fig. 35. *Photis paeowai* n.sp., Padoz Natun reef, near Paeowai, Madang Lagoon, Papua New Guinea, JKL/PNG-257.

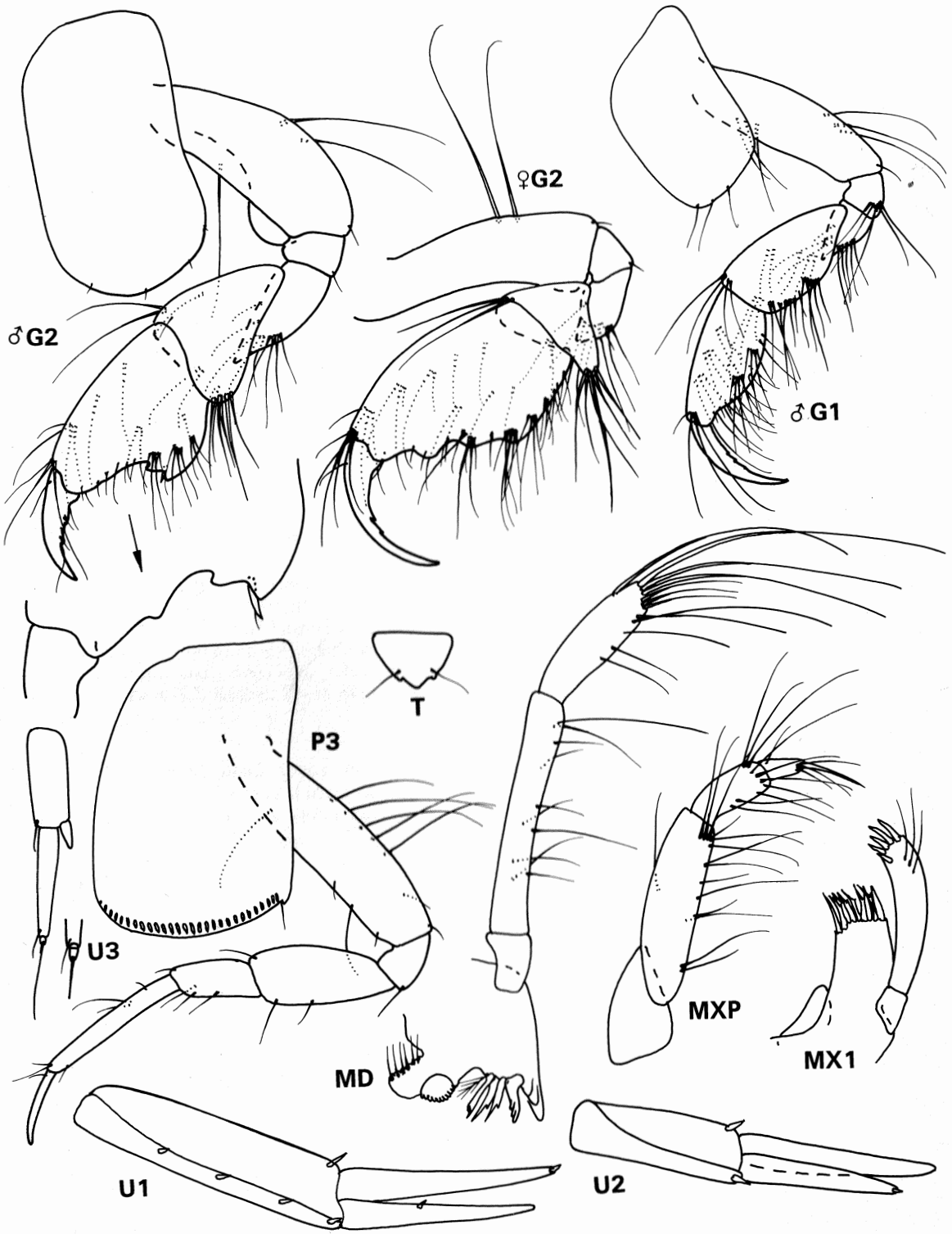

Fig. 36. *Photis paeowai* n.sp., Padoz Natun reef, near Paeowai, Madang Lagoon, Papua New Guinea, JKL/PNG-257.

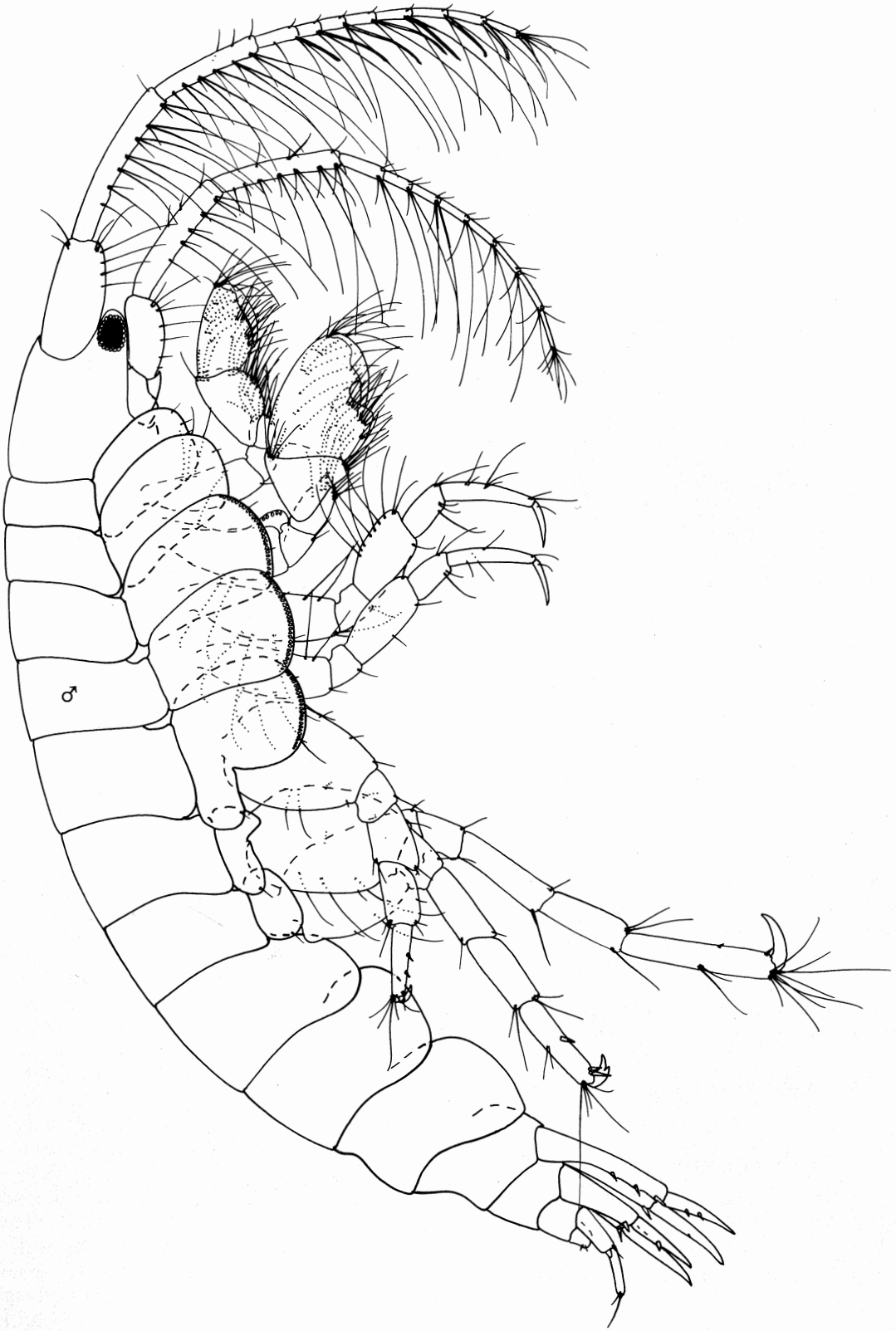

Fig. 37. *Photis pirloti* Myers, channel between Riwo village and Riwo island, Madang Lagoon, Papua New Guinea, AAM/PNG-13.

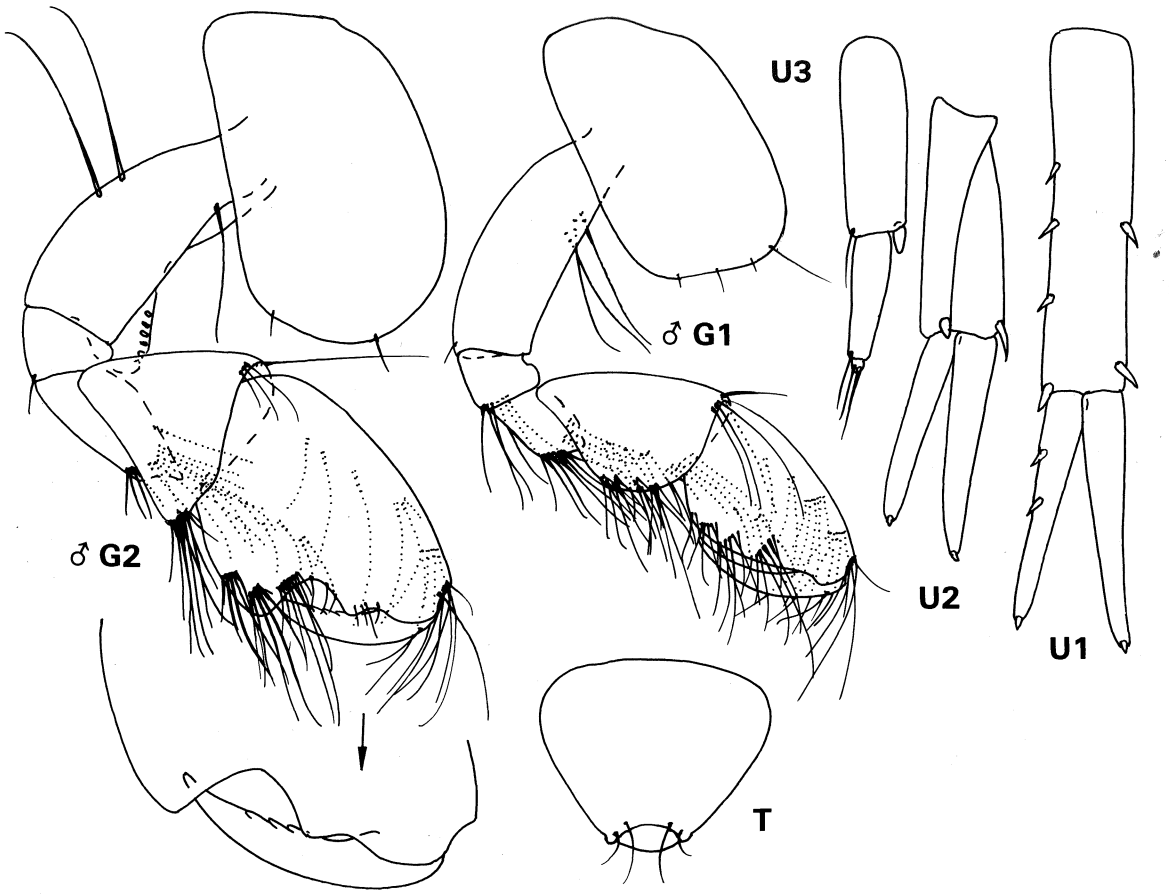

Fig. 38. *Photis pirloti* Myers, channel between Riwo village and Riwo island, Madang Lagoon, Papua New Guinea, AAM/PNG-13.

pirloti was previously known only from an incomplete female specimen. The original diagnosis has been amplified above, to include details of the male gnathopod 2 and the previously unknown antennae.

Habitat. Coral rubble, sand and mud bottoms, with dead *Acropora*, sponges or *Halimeda*.

Distribution. Fiji, Papua New Guinea.

Ischyroceridae

Borneoecetes Barnard & Thomas

Borneoecetes wongi Barnard & Thomas

Fig. 39

Borneoecetes wongi Barnard & Thomas, 1984, 873, figs 6–9.

Material examined. AM P42416; JDT/PNG-58 (20 males, 51 females).

Description. Length 2.7 mm. Head with well-developed slender rostrum extending beyond eye lobes, eyes small; antenna 1 slender, peduncular articles in the basi-distal ratios 4:4:3, flagellum shorter than peduncle with 7 articles; antenna 2 stout, longer than antenna 1, peduncular article 3 elongate, peduncular article 4 longer than 5, flagellum shorter than peduncular article 5 with two long and one short article; mandible palp composed of one long slender article tipped with long setae and with two marginal setae; gnathopod 2 coxa with extremely long setae, basis stout, propodus twice length of carpus, palm weakly excavate, with two strong spines; uropod 1 peduncle lateral margins finely setulose, distal lamella strongly fimbriate, inner ramus shorter and slimmer than outer, lacking marginal spines and terminating in one stout spine and one small accessory spine, outer ramus about two thirds length of peduncle with three marginal spines and two equal-sized distal spines and a small accessory spine; uropod 2 peduncle

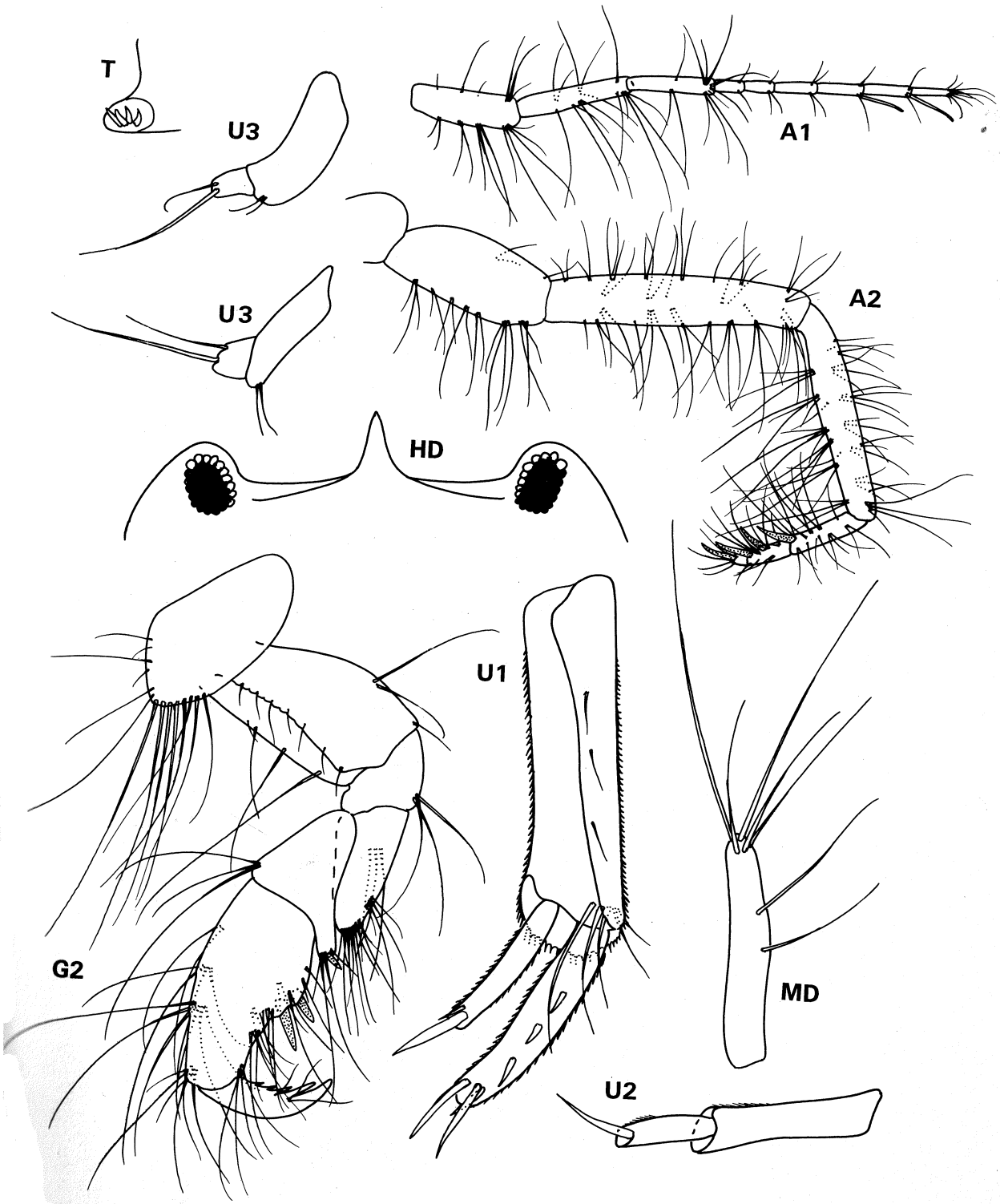

Fig. 39. *Borneoecetes wongi* Barnard & Thomas, Dam Awan, Madang Lagoon, Papua New Guinea, JDT/PNG-58.

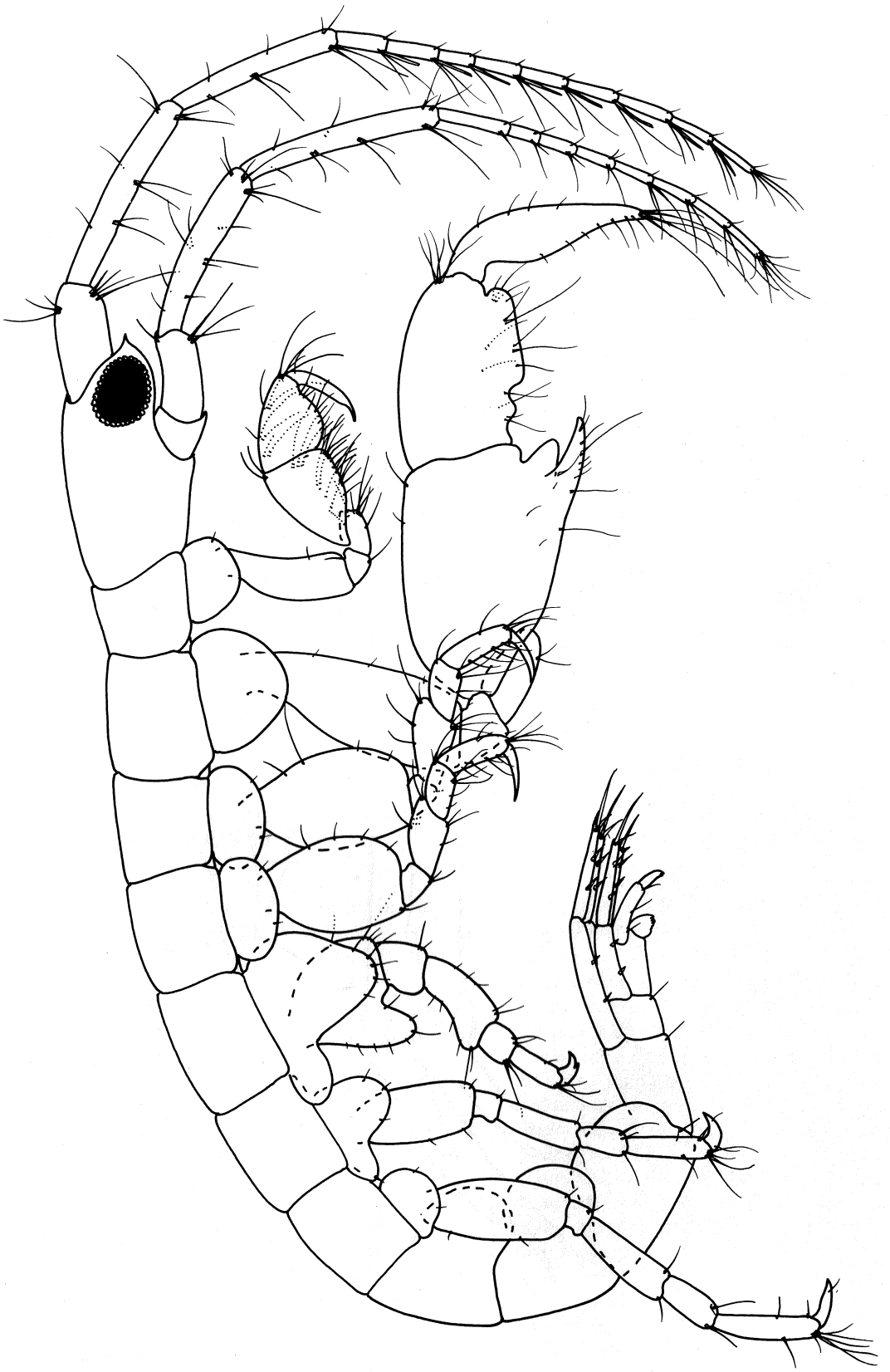

Fig. 40. *Ericthonius pugnax* Dana, near jetty of Christensen Research Station, Madang Lagoon, Papua New Guinea, AM/PNG-5.

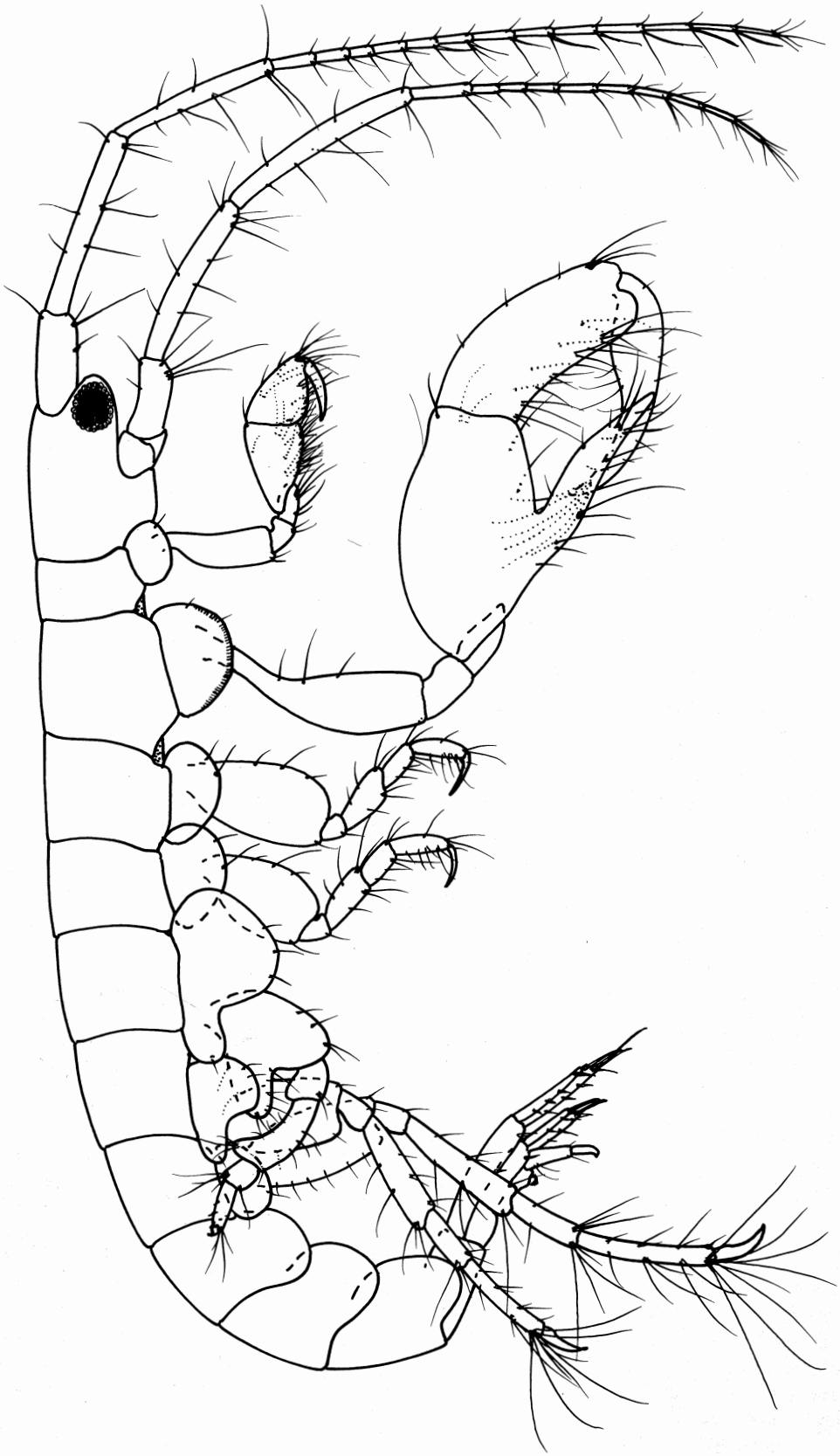

Fig. 41. *Ericthonius pugnax* Dana, near jetty of Christensen Research Station, Madang Lagoon, Papua New Guinea, AM/PNG-5.

without spines or setae but inner margin apically setulose, inner ramus absent, outer ramus without marginal spines, but with one distal spine; uropod 3 peduncle elongate and slender with a pair of distal setae, ramus short, about one quarter peduncle length, terminating in two long setae as long as or longer than peduncle.

Remarks. Present material agrees quite well with the descriptions of Barnard and Thomas (1984), although there are differences. It differs in the strong acute rostrum, which extends well beyond the eye lobes, in the more slender uropod 3 peduncle and longer ramus, in the slightly longer and more slender mandible palp, and in the somewhat shorter antenna 2. The differences are not great, however, and the overall similarity between the two materials suggest that present material is no more than a clinal variation of *B. wongi*.

Habitat. In soft sediments in 12–21 m.

Ericthonius Milne Edwards

Ericthonius pugnax Dana

Figs 40–42

Erichthonius [sic] *pugnax* Dana, 1852, 213.
Ericthonius pugnax.–Stebbing, 1906: 672.–Pirlot, 1938: 352.–Nagata, 1960: 179, pl. 17.–Nagata, 1965: 320, fig. 40.–Ledoyer, 1969: 179, fig. 1.–Ledoyer, 1986: 628, fig. 239.
Erichthonius [sic] *macrodactylus* Dana, 1852: 218.
Pyctilus pugnax Dana, 1853: 975, pl. 67, fig. 4a–d.
Pyctilus macrodactylus Dana, 1853: 974, pl. 67, fig. 3a–c.

Material examined. AM P42409 to P42415; AAM/PNG-1 (1 male, 1 female), AAM/PNG-5 (6 males, 12 females), AAM/PNG-10 (4 females), AAM/PNG-12 (1 male, 1 female), JDT/PNG-56 (1 female), JKL/PNG-182 (4 females), AAM/PNG-211 (23 males, 41 females), JKL/PNG-213 (1 male) JDT/PNG-258 (1 male, 2 females), JKL/PNG-259 (1 male), JKL/PNG-261 (11 males, 16 females).

Remarks. As pointed out by Ledoyer (1986), there is a need to examine *Ericthonius* material from diverse tropical localities to determine the relationships of the described taxa. He noted that Malagasy material ascribable to *E. pugnax* Dana was always smaller than that ascribable to *E. macrodactylus* Dana, and on the assumption that one was a growth stage of the other, synonymised these two taxa. The present study supports Ledoyer's view that "*E. macrodactylus*" is the hyperadult male of *E. pugnax* Dana. In addition to the changes in the male gnathopod 2 which are readily seen in the accompanying figures (Figs 40 and 41), the antennae become progressively more slender with more flagellar articles, the eye lobe becomes rounded, the sharp point disappearing, coxa 5 anterior lobe becomes more rounded and the stridulating ridges on male coxa 2 become more pronounced.

Habitat. In muds and silty rubble, among dead coral, seagrasses and *Caulerpa* from 1 m to at least 30 m.

Distribution. Indo-west Pacific, but apparently not recorded from the Pacific plate.

Ischyrocerus Krøyer

Ischyrocerus parma n.sp.

Figs 43, 44

Type material. HOLOTYPE male, 2.2 mm, AM P42417; PARATYPES, 5 males, 1 female, AM P42418; Mizegwadan reef, 5°09.57'S 145°49.36'E, formalin wash of rubble, bottom mostly rubble and soft corals, very little live coral cover, 3–4 m, J.D. Thomas, 2 February 1990, stn JDT/PNG-32.

Other material. Author's collection. JDT/PNG-48 (1 male), JDT/PNG-57 (1 male, 1 female).

Diagnosis. Length 2.2 mm, eye large; antenna 1 stout, peduncular article basi-distal ratios 5:9:6, flagellum equal to length of peduncular articles 2 and 3 combined, with 4 articles bearing numerous aesthetascs; antenna 2 subequal with antenna 1, peduncular article 5 a little longer than 4, flagellum with 4 articles; mandible palp with three stout articles in the basi-distal ratios 2:5:3, article 3 clavate; gnathopod 1 coxa sub-square, propodus longer than carpus, subovoid, palm continuous with posterior margin, delimited by a spine, dactylus elongate, slightly overlapping palm; male hyperadult gnathopod 2 coxa sub-triangular, the anterodistal corner subacute, basis flask-shaped, about three times as long as broad, ischium with large shield-like anterior expansion bearing recurved spines, merus very reduced, carpus tiny, slender, propodus elongate, nearly three times as long as broad, anterior margin evenly convex, posterior margin weakly concave and with weak sub-distal tooth, dactylus enlarged, strongly curved, with medial expansion of posterior margin, juvenile male propodus posterior margin with mediodistal excavation only, dactylus opposable to a spine; female gnathopod 2 with shorter, more slender basis, ischium lacking flange, merus normal, carpus moderately large, cup-shaped, propodus subovoid, palm continuous with posterior margin delimited by three strong spines, dactylus slender, fitting palm; pereopods 3–4 moderately stout, pereopods 5–7 increasing slightly in length anteroposteriorly, basis expanded with rounded or weakly crenulate posterior margin; epimera 1–3 rounded; uropods 1–2 elongate, uropod 3 peduncle five times length of rami, rami subequal, outer ramus with 5–6 recurved teeth, inner ramus without teeth, but terminating in two setae; telson with a pair of stout spines.

Etymology. From the latin "parma" = a small shield referring to the shield-like ischial flange.

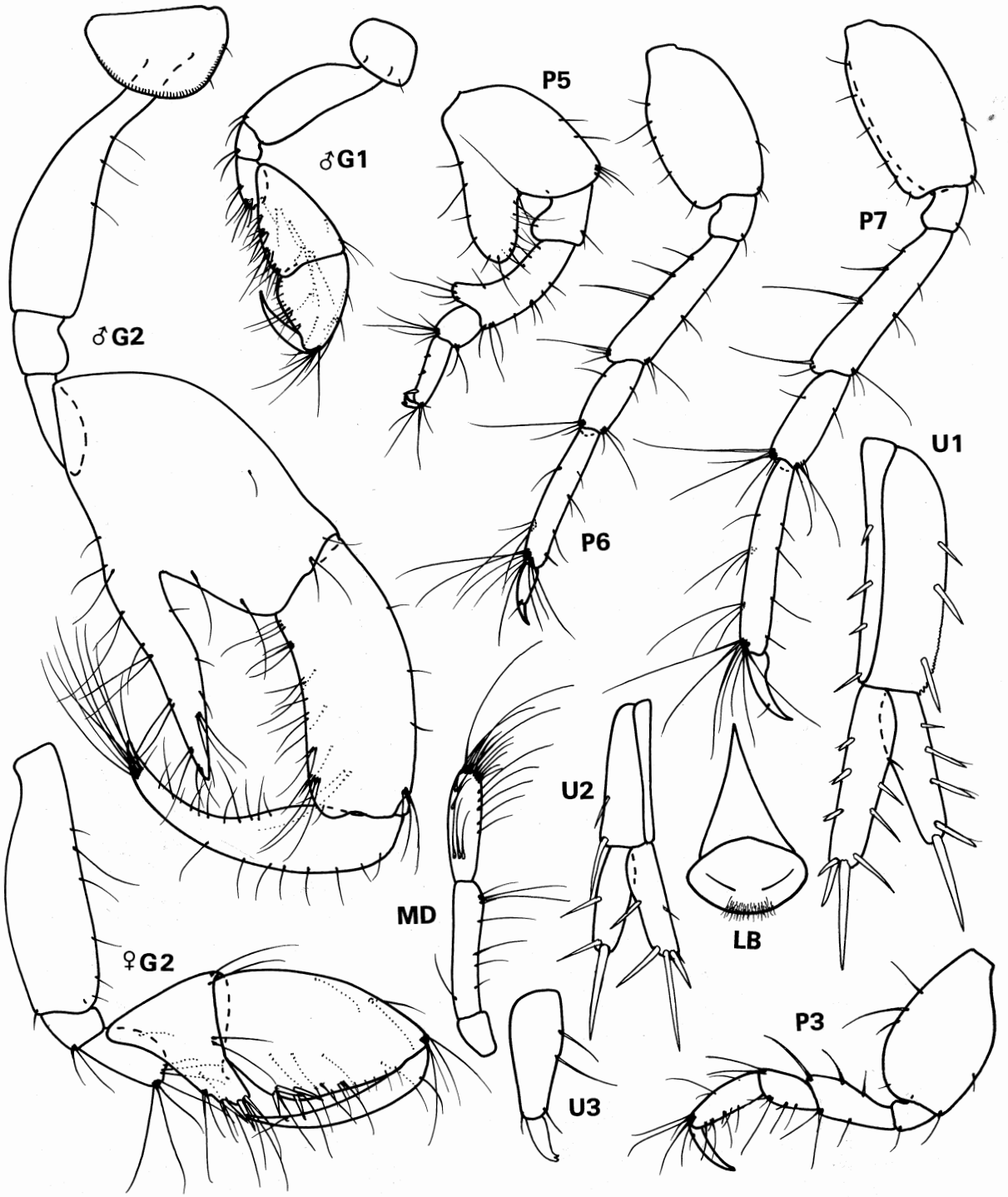

Fig. 42. *Ericthonius pugnax* Dana, near jetty of Christensen Research Station, Madang Lagoon, Papua New Guinea, AM/PNG-5.

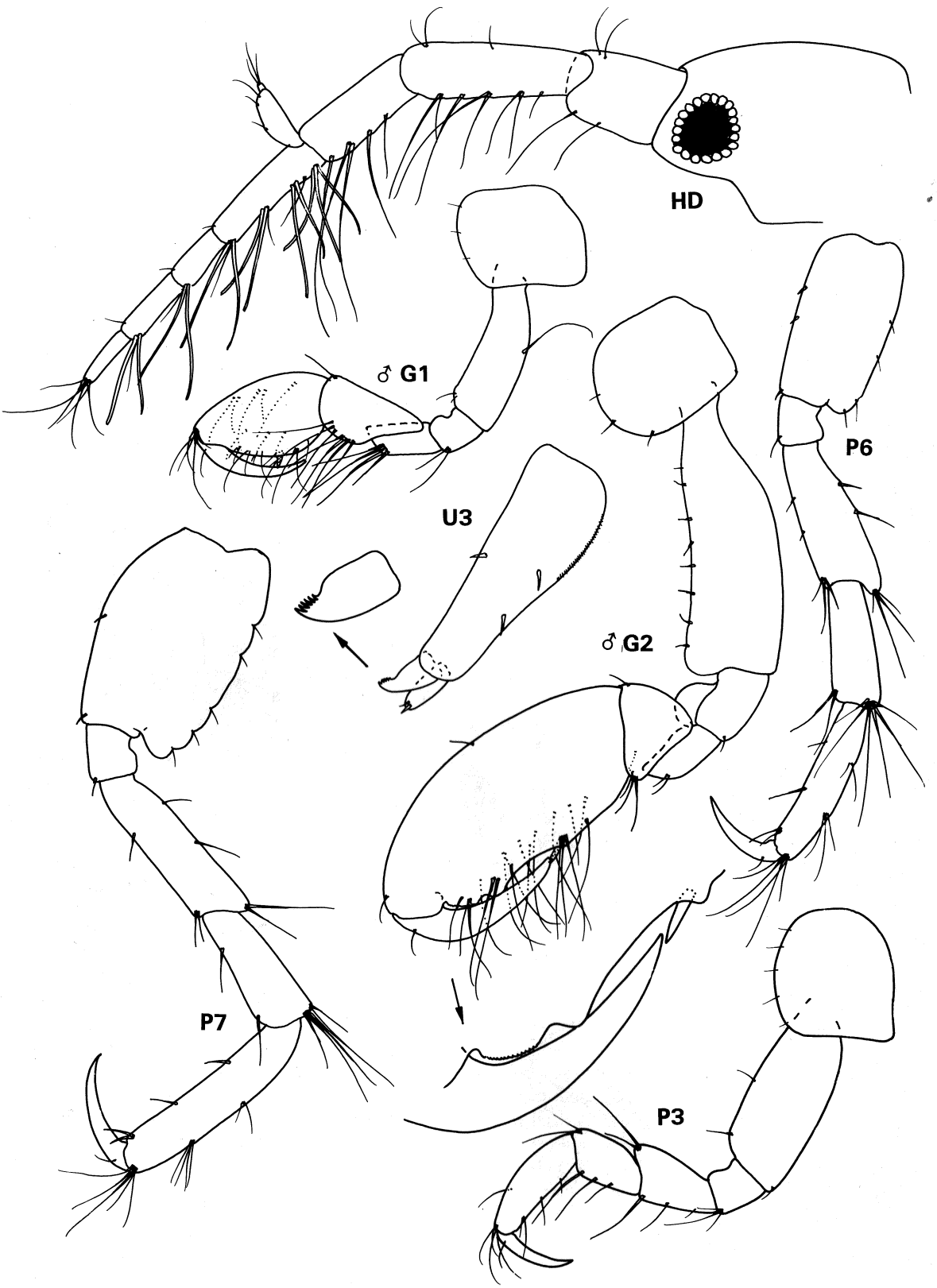

Fig. 43. *Ischyrocerus parma* n.sp., Mizegwadan reef, Madang Lagoon, Papua New Guinea, JDT/PNG-32.

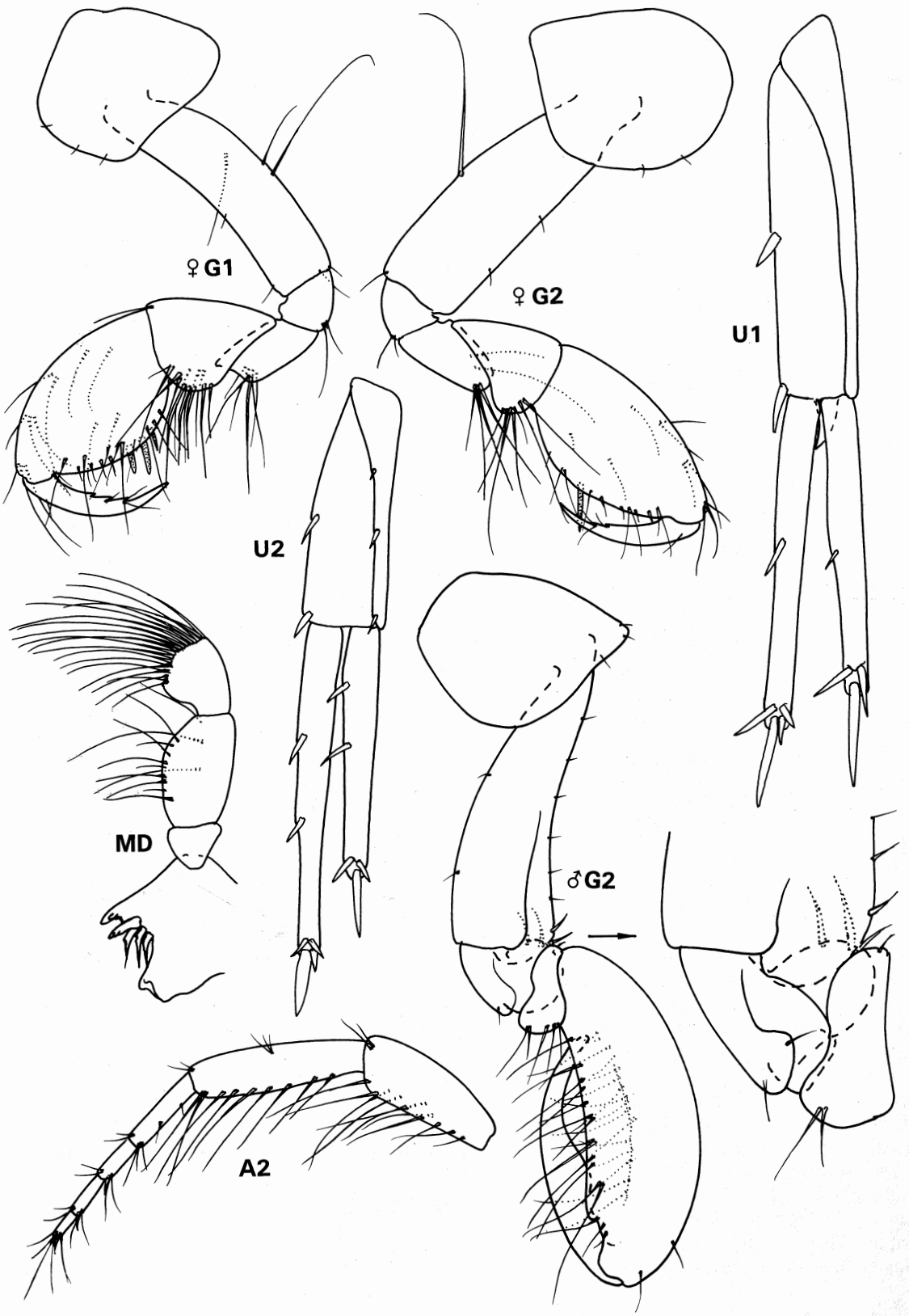

Fig. 44. *Ischyrocerus parma* n.sp., Mizegwadan reef, Madang Lagoon, Papua New Guinea, JDT/PNG-32

Remarks. This species is closest to the Hawaiian *Ischyrocerus oahu* Barnard, 1970. It differs from that species in the expansion of the posterior margin of the basis of pereopods 6 and 7, that of pereopod 7 being crenulate, and in the shorter, stouter, rami of uropod 3. There is a superficial similarity between the present material and that described by Ledoyer (1979b, 1986) from Madagascar, under the name *Ischyrocerus oaku* [sic] *armatus* Ledoyer. The different head shape and narrow mandible palp article 3 suggest that this latter material is not referable to *I. oahu*.

Habitat. In coral rubble in shallow water.

Ischyrocerus mediodens n.sp.

Fig. 45

Type material. HOLOTYPE male, AM P42420, 2.0 mm, Guzem reef, in portion of reef closest to Guzem, 5°09.35'S 145°48.43'E, formalin wash of rubble, partially cemented rubble, broken pieces of overturned *Acropora* and partially cemented rubble pieces from shallowest section of reef, J.D. Thomas, 10 February 1990, stn JDT/PNG-40.

Diagnosis. Length 2.0 mm. Eye large; antenna 1 stout, peduncular article basi-distal ratios 3:5:4, flagellum a little shorter than peduncular articles 2 and 3 combined, with 5 articles bearing numerous aesthetascs; antenna 2 a little longer than antenna 1, peduncular article 5 longer than 4, flagellum shorter than peduncular article 5, with 4 articles; mandible palp with three stout articles in the basi-distal ratios 2:5:3, article 3 clavate; gnathopod 1 coxa elongate, twice as deep as broad, narrowing distally, propodus larger than carpus, subovoid, palm continuous with posterior margin, defined by a spine, dactylus slightly overlapping palm; male gnathopod 2 coxa broader then deep, posterior margin sinuous, basis five times as long as broad, slender, anterior margin concave, merus blunt, carpus short, cup-shaped, propodus very elongate, inner face of posterior margin with medial tooth opposable to dactylus tip, dactylus short, adze-shaped; female gnathopod 2 like that of *I. parma* n.sp.; pereopods 3–4 stout, basis flask-shaped, propodus posterior margin with three strong spines; pereopods 5–7 increasing slightly in length anteroposteriorly, basis with well-developed posterior flange; pereopod 5 with anteroproximal margin of merus expanded into crenulate lobe bearing three strong spines; epimera 1–3 rounded, uropods 1–2 elongate and slender; uropod 3 peduncle elongate, five times length of rami, rami subequal, outer ramus with 4–5 recurved teeth, inner ramus slender; telson with a pair of stout spines.

Etymology. From the latin medio = middle, dens = tooth, referring to the tooth on the male gnathopod 2 propodus.

Remarks. This species is known to date from just a single specimen, but it differs significantly from any described species. In the presence of a tooth on the male gnathopod 2 propodus it resembles *Jassa lilipuna* Barnard, 1970 and *J. socia* Myers, 1989, but in both those species the tooth is proximal in position. The taxonomy of Pacific-plate *Ischyrocerus-Jassa* species requires revision (see Conlan, 1989, 1990). *Jassa lilipuna, J. socia, Ischyrocerus kapu* Barnard, 1970, *I. oahu, I. parma* n.sp. and *I. mediodens* are almost certainly congeneric. *Ischyrocerus mediodens* differs from described *Jassa* Leach and *Ischyrocerus* species by the curiously swollen and spinous proximal region on the anterior margin of the pereopod 5 merus.

Habitat. In rubble and coral debris in shallow water.

Parajassa Stebbing

Parajassa spinipalma Ledoyer

Figs 46, 47

Parajassa spinipalma Ledoyer, 1979b: 98, fig. 59.–Ledoyer, 1986: 639, fig. 243.

Material examined. AM P42407 to P42408; JDT/PNG-66 (2 males, 3 females), JDT/PNG-67 (22 males, 27 females).

Remarks. Present material agrees quite well with the description and figures of Malagasy specimens by Ledoyer (1979b, 1986). Minor differences are, the shape of the propodus of gnathopod 1 (in Ledoyer's figures, the propodus palm is almost sinuous, and the propodus is widest proximally, whereas in present material the palm is almost straight and the propodus is widest mediodistally and constricted proximally), the shape of the basis of pereopod 5 (much more expanded on the posterior margin in present material) and the distinctly less slender pereopod 7 basis of Papua New Guinea specimens. The shape of the propodus of gnathopod 1 is subtlety different also. The differences between the two materials are small and there does not appear to be good reason to erect a new species for the Papua New Guinea material at this point in time.

Habitat. In coral rubble in shallow water.

Distribution. Madagascar, Papua New Guinea.

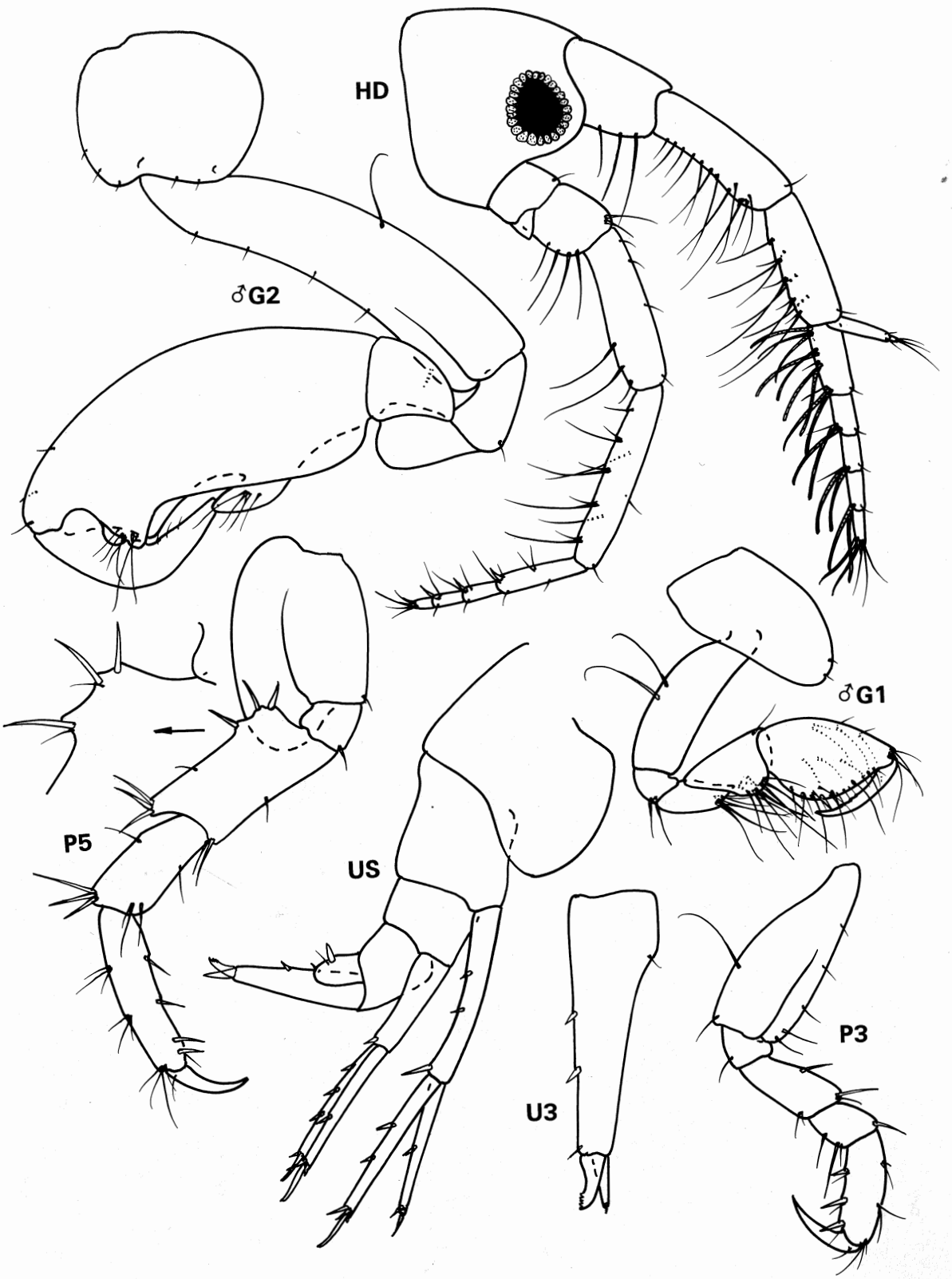

Fig. 45. *Ischyrocerus mediodens* n.sp., Guzem Natun, Madang Lagoon, Papua New Guinea, JDT/PNG-40

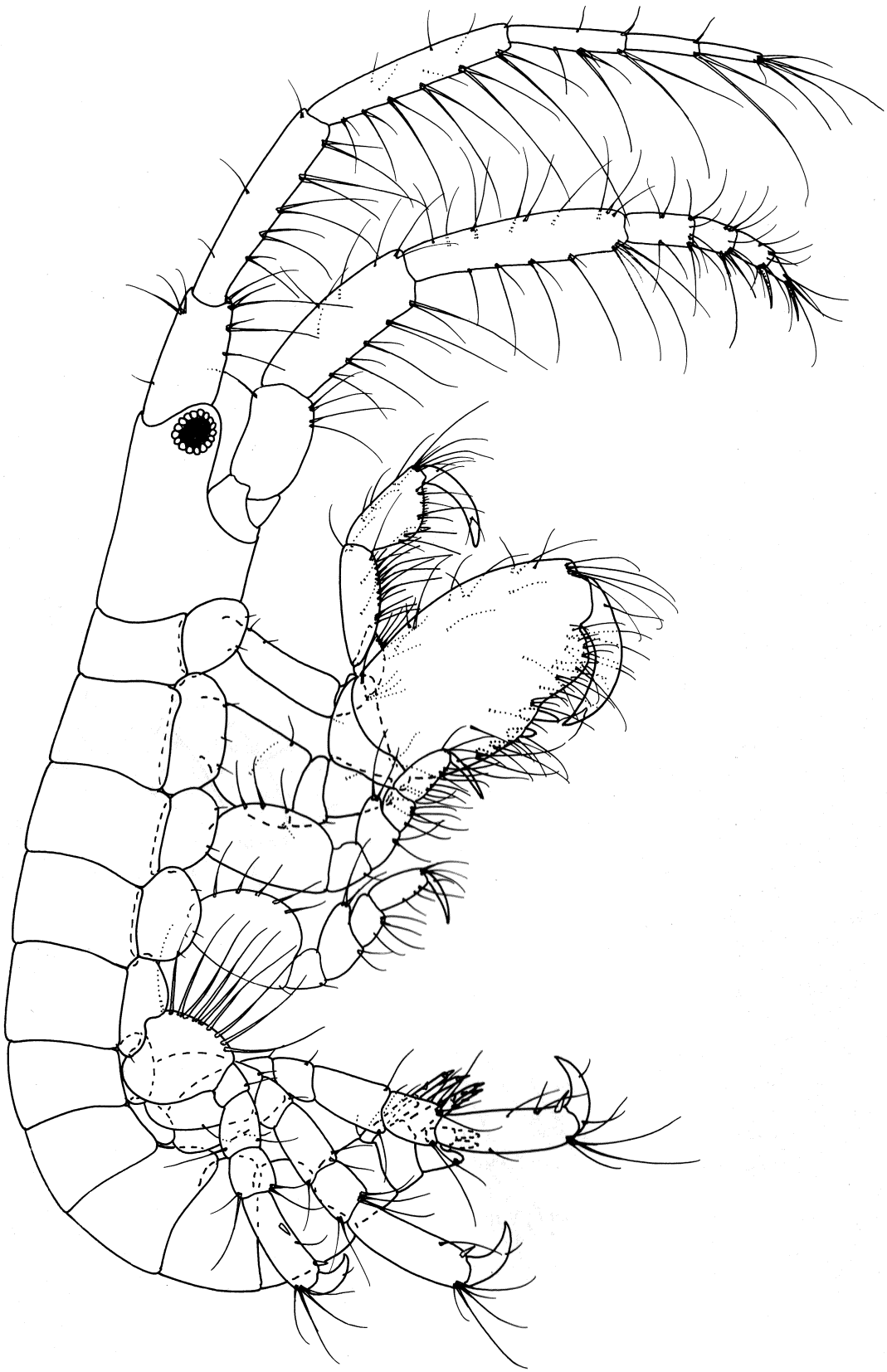

Fig. 46. *Parajassa spinipalma* Ledoyer, Padoz Natun reef, Madang Lagoon, Papua New Guinea, JDT/PNG-67.

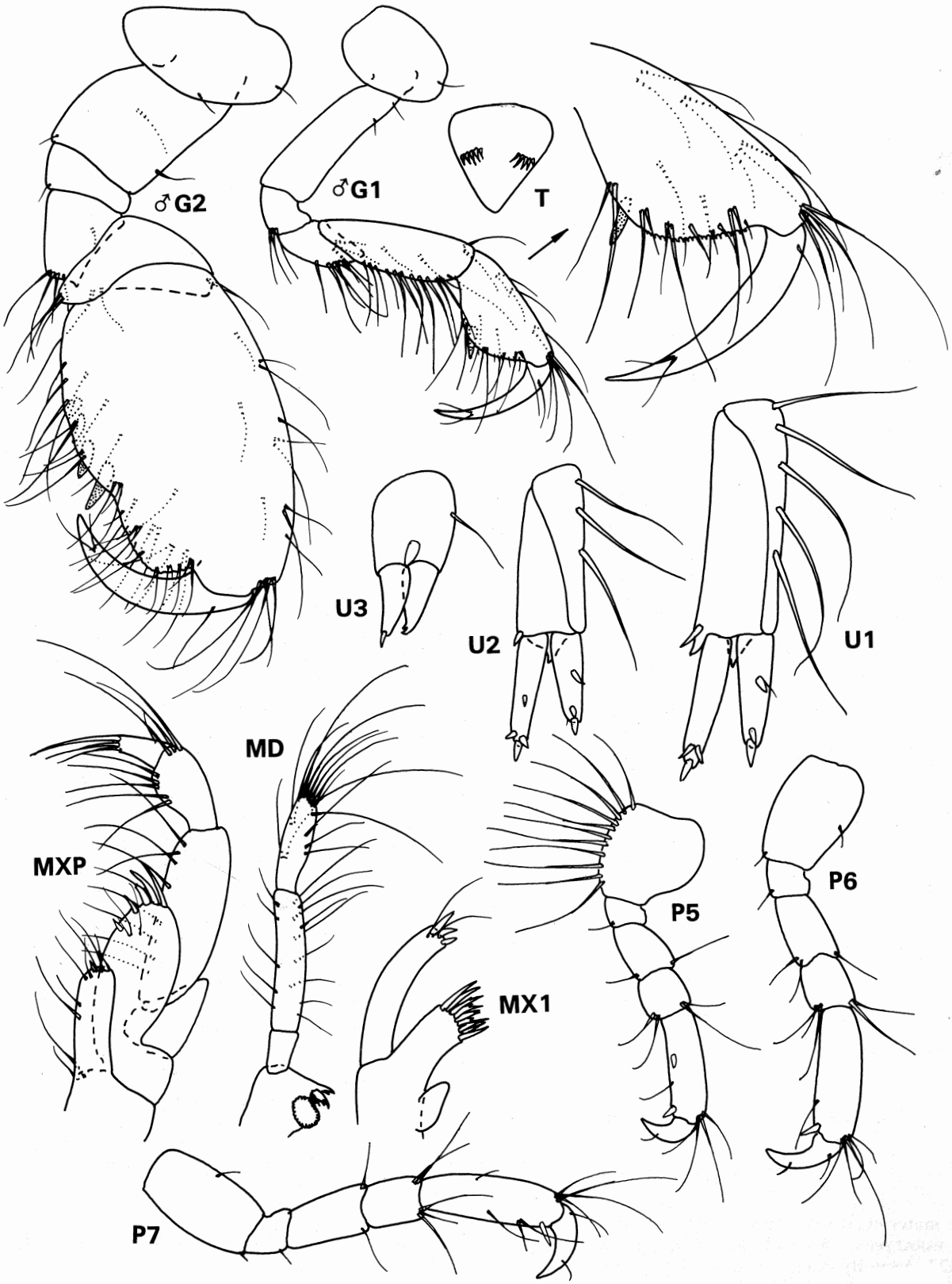

Fig. 47. *Parajassa spinipalma* Ledoyer, Padoz Natun, Madang Lagoon, Papua New Guinea, JDT/PNG-67.

Ventojassa Barnard

Ventojassa ventosa (Barnard)

Eurystheus ventosa Barnard, 1962: 20, figs 6, 7.
Ventojassa ventosa.–Barnard, 1970: 205, figs 133, 134.–Ledoyer, 1972: 244, pl. 57.–Ledoyer, 1978: 291.–Ledoyer, 1979b: 99, fig. 61(I).–Myers, 1985b: 90, fig. 70.–Ledoyer, 1986: 643, fig. 245.

Material examined. AM P42421; JDT/PNG-57 (2 males, 2 females).

Habitat. In rubble and sediment.

Distribution. Indo-Pacific from Madagascar to California.

Scutischyrocerus n.gen.

Description. Head anteroventral margin deeply recessed; antennae much shorter than body length, weakly setiferous; antenna 1 peduncular article 1 short, articles 2 and 3 elongate, accessory flagellum missing; mandibular palp three articulate, article two the longest, article three rod-shaped; maxilla 1 inner plate asetiferous; coxae 2–4 greatly enlarged, shield-like, coxa 5 with posterior excavation; gnathopod 2 larger than gnathopod 1, subchelate; pereopods 3–4 basis expanded, carpus partially telescoped into merus, dactylus elongate; uropod peduncles elongate, longer than rami, article 3 peduncle expanded, outer ramus with two hooks.

Type species. *Scutischyrocerus scutatus* n.sp.

Species composition. *Scutischyrocerus scutatus*.

Etymology. From the latin scutellum = a shield, referring to the shield-like coxae.

Remarks. This genus is similar to *Pseudischyrocerus* Schellenberg, 1931 from Antarctica and adjacent islands, but differs in a number of ways: the rounded eye lobes, no accessory flagellum, enlarged strongly overlapping coxae 2–5, almost siphonoecetine pereopods 3–4, and elongate uropod peduncles.

Scutischyrocerus scutatus n.sp.

Figs 48, 49

Type material. HOLOTYPE male, 2.6 mm, AM P42422, 2.5 mm; PARATYPES, 25 males, 36 females, 15 immature, AM P42423; Awan Biziwan, 5°11.06'S 145°49.70'E, mat of sand tubes at base of reef, 27 m, J.K. Lowry & S.J. Keable, 19 March 1991, stn JKL/PNG-260.

Diagnosis. Length 2.6 mm. Head elongate, anteroventral margin deeply recessed, eye round, situated close to anterior margin of ocular lobes; mandible palp three-articulate, articles in the basi-distal ratios 1:4:3, article 3 slender parallel-sided with a distal cluster of long setae and with about 3 long setae on the posterior margin; maxilla 1 inner plate asetiferous, palp with 5 distal spines; maxilliped palp with slender distal spine; antennae about half body length, weakly setiferous; antenna 1 a little shorter than antenna 2, peduncular article 1 short, half length of article 2, article 3 elongate only a little shorter than article 2, flagellum shorter than peduncular articles 2 and 3 combined, with 5 articles, the terminal article rudimentary, accessory flagellum missing; antenna 2 peduncular article 5 longer than 4, flagellum subequal with peduncular article 5, with 5 articles; gnathopod 1 coxa small, subtriangular, basis flask-shaped, distally broad, carpus a little longer than subovoid propodus, palm evenly convex, continuous with posterior margin, with three spines; male gnathopod 2 coxa enormously expanded, shield-like, longer than deep, almost covering coxa 1 and strongly overlapping coxa 3, basis flask-shaped with anterior flange, anterior margin straight, carpus short, cup-shaped, propodus more than twice length of carpus, parallel-sided, palm excavated forming triangular shaped depression, palm delimited by two spines, with a further spine on the posterior margin, dactylus moderately stout, evenly convex, fitting palm; female coxa 2 enlarged, but much smaller than that of male, propodus about one and one half times length of carpus, palm evenly convex, continuous with posterior margin, with three spines, dactylus fitting palm; pereopods 3–4 coxae large, shield like, but smaller than coxa 2, basis stout, anterior margin convex, carpus shortened, slightly telescoped into merus, dactylus elongate, much longer than carpus and propodus combined; pereopods 5–7 in the length ratios 14:19:22; epimera 1–3 rounded; uropod 1 peduncle elongate almost twice length of rami with 5 long, evenly spaced setae on the outer margin, rami subequal, inner ramus lacking marginal spines or setae and with a single terminal spine, outer ramus with a terminal cluster of spines and two further spines on the outer margin; uropod 2 similar to uropod 1 but peduncle somewhat less elongate, with only two long outer marginal setae, rami subequal, each with a terminal spine; uropod 3 peduncle expanded a little over twice as long as wide, with three long setae on the outer margin, rami expanded, outer ramus lacking spines or setae, with two strong recurved hooks, inner ramus without hooks and with a single terminal seta; telson short and broad, weak distolateral prominences with numerous short setae.

Etymology. From the latin scutatus = shield bearing, referring to the enlarged coxae.

Habitat. Among a mat of sand tubes at base of reef in 27 m.

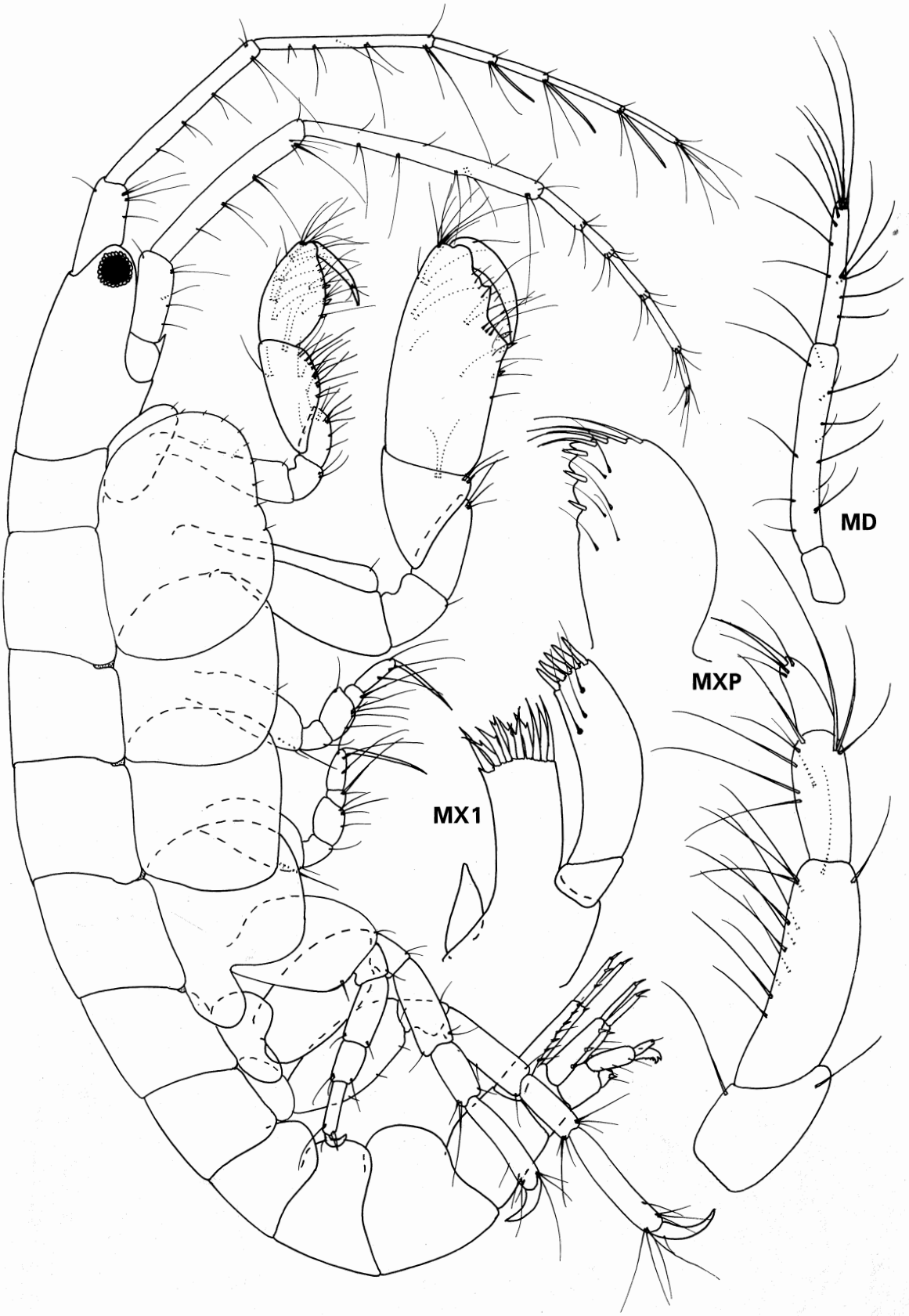

Fig. 48. *Scutischyrocerus scutatus* n.sp., Awan Biziwan, Madang Lagoon, Papua New Guinea, JKL/PNG-260.

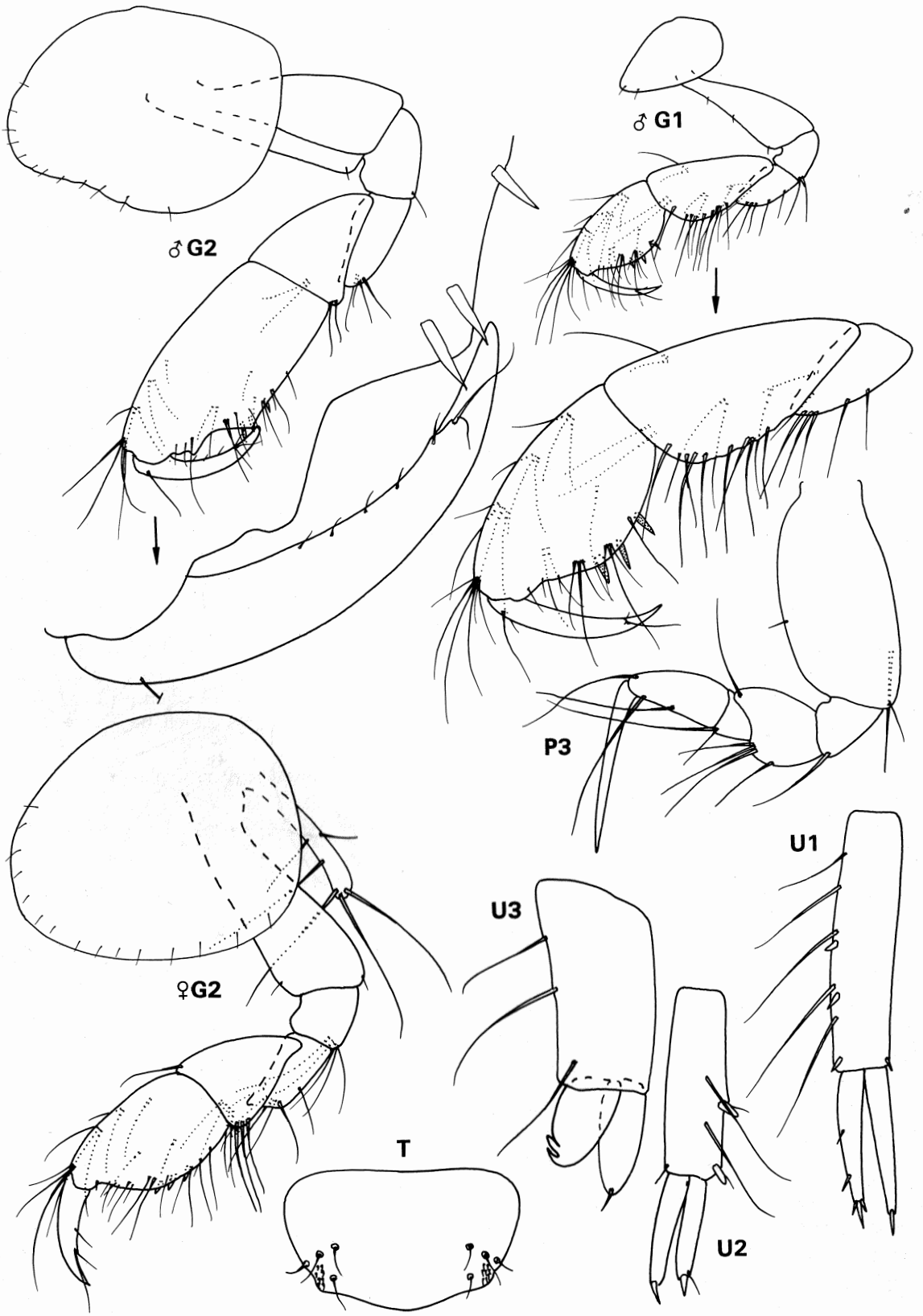

Fig. 49. *Scutischyrocerus scutatus* n.sp., Awan Biziwan, Madang Lagoon, Papua New Guinea, JKL/PNG-260.

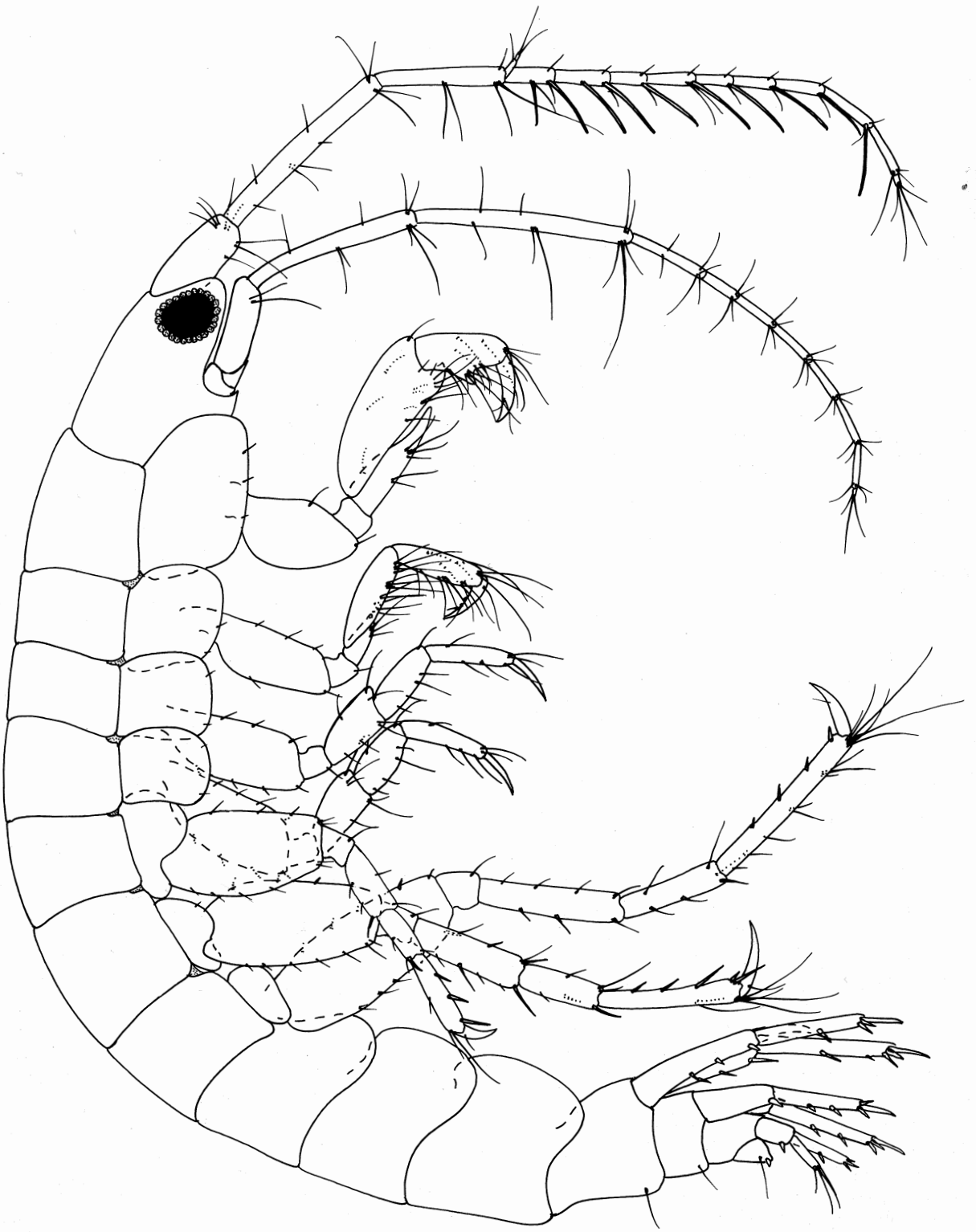

Fig. 50. *Riwomegamphopus bamus* n.sp., eastern face of Wongad Natun reef, Madang Lagoon, Papua New Guinea, JDT/PNG-28.

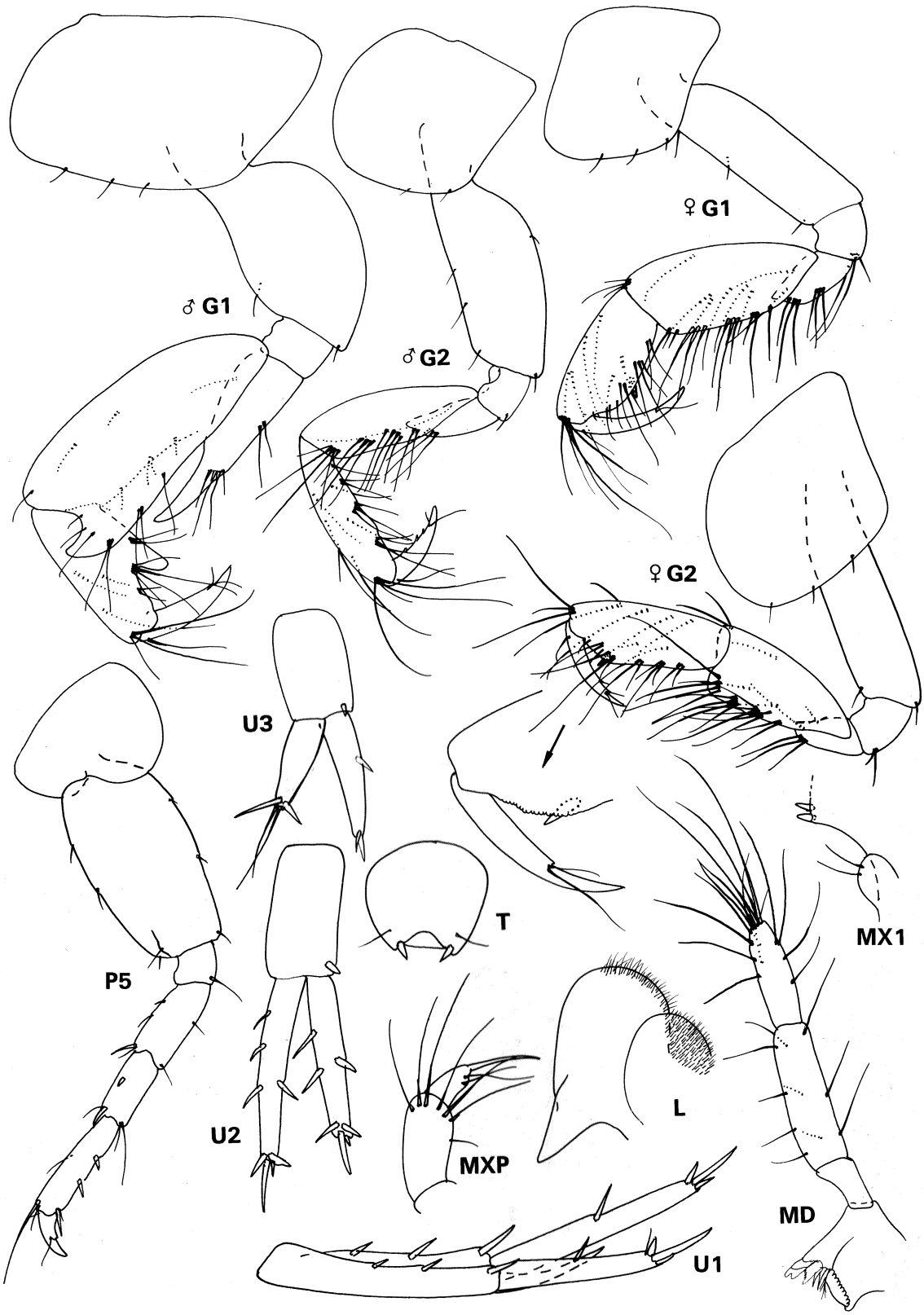

Fig. 51. *Riwomegamphopus bamus* n.sp., eastern face of Wongad Natun reef, Madang Lagoon, Papua New Guinea, JDT/PNG-28.

Neomegamphopidae

Diagnosis. Head ventral margin deeply recessed above insertion of antenna 2; antennae 1 and 2 slender, subequal, about half body length, weakly setiferous; antenna 1 accessory flagellum. variable in length, but always composed of two articles, the terminal article reduced; mandible palp article 2 longer than 3, palp article 3 clavate to ovoid, never falcate; coxa 1 the largest; male gnathopod 1 larger than 2; gnathopod 2 slender; uropod 1 with inter-ramal tooth; uropod 2 lacking inter-ramal tooth; uropod 3 peduncle shorter than rami, inner ramus longer than outer, with 1–2 terminal spines and one or more marginal spines, but never with setae, outer ramus with marginal and distal spines and one or more distal setae.

Remarks. Barnard and Thomas (1987a) discuss the relationships of *Neomegamphopus* Shoemaker, 1942 and of the Neomegamphopidae as a whole. They include *Amphideutopus* Barnard, 1959 in the family Neomegamphopidae by reason of the structure of the male gnathopods, but in doing so take no cognisance of other rather large differences between *Amphideutopus* and all Neomegamphopidae. *Amphideutopus* differs from neomegamphopids in its unique head structure, very elongate unequal antennae, enlarged coxa 2 and quite different uropod 3 with long setae on both inner and outer ramus (the form of the head and uropods is remarkably similar in all neomegamphopids). These authors also include the acuminodeutopine genera *Acuminodeutopus* Barnard, 1959 and *Rudilemboides* in the Neomegamphopidae. The aorid head shape (notwithstanding the acute eye lobes) and the form of the antenna, all point more to aorid relationships than to neomegamphopid relationships. Classifying corophioids on the basis of the structure of the male gnathopods only, is unlikely to result in an effective phylogenetic classification.

Riwomegamphopus n.gen.

Description. Like *Neomegamphopus*, but male gnathopod 1 with long meral, tooth.

Type species. *Riwomegamphopus bamus* n.sp.

Species composition. *Riwomegamphopus* n.gen. is monotypic.

Remarks. This genus shows convergent evolution with *Aora* Krøyer in the Aoridae.

Riwomegamphopus bamus n.sp.

Figs 50, 51

Type material. HOLOTYPE male, AM P42425, PARATYPE female, AM P42426; eastern face of Wongad Natun reef (5°08.31'S 145°49.36'E), sediment sample (24–27 m) and piece of submerged wood (15 m), small sample of wood contained *Tropichelura* and limnoriids, J.D.Thomas, 30 January 1990, stn JDT/PNG-28.

Other material. AM P42427; JDT/PNG-56 (1 male, 6 females).

Diagnosis. Head ocular lobes rounded, eye large; antennae subequal, a little over half body length; antenna 1 peduncular articles basi-distal length ratios 4:7:5, flagellum subequal in length with peduncle, with 10 articles, the terminal article reduced; accessory flagellum with one long and one short article; antenna two peduncular article 5 longer than 4, flagellum longer than peduncular articles 4 and 5 combined; mandible palp articles in the basi-distal ratios 2:5:3, article 3 weakly ovoid; maxilla 1 inner plate with two setae; maxilliped palp dactylus with long seta; labium outer plate mandibular processes short, acute; male gnathopod 1 coxa the largest, longer than deep, anteriorly rounded, basis swollen, anterior and posterior margins convex, merus anterior margin drawn out into an inwardly curved acute tooth, carpus elongate the posterodistal angle produced into a short, stout, recurved tooth, propodus slender, about two thirds length of carpus, with a strong, obtuse, posterodistal tooth delimiting a deep triangular palmar excavation, dactylus stout strongly overlapping palm; female gnathopod 1 slender, carpus and propodus subequal in length, but carpus a little broader, palm oblique, crenulate, defined by a spine, dactylus strongly overlapping palm; gnathopod 2 coxa and basis equal in size to coxae and bases of pereopods 3–4, carpus and propodus subequal, elongate and slender, palm of propodus almost obsolete, dactylus stout about half length of propodus; pereopods 3–7 normal, bases of pereopods 5–7 only moderately expanded; epimera 1–3 rounded; uropod 1 elongate, peduncle with strong, acute, distal inter-ramal tooth, about half length of peduncle, inner ramus subequal with peduncle, outer ramus shorter than inner; uropod 2 lacking an inter-ramal tooth, inner ramus longer than peduncle, outer ramus shorter than inner; uropod 3 peduncle relatively short, inner ramus a little longer than peduncle with one marginal spine and two distal spines, but no setae, outer ramus shorter than inner, lacking marginal spines and with two distal spines and two long distal setae; telson dorsolateral crests each bearing a stout spine.

Etymology. From the Riwo language, bamus = swollen, referring to the gnathopod 1 basis.

Remarks. This species differs from all other described species in the family by the *Aora*-like extension of the merus on the male gnathopod 1.

Habitat. In fine sediments in 6–27 m.

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