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Amphipoda from the South Pacific: the Society Islands

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ABSTRACT. Thirty two species of gammaridean Amphipoda are recorded from 0 to 1 m depth in the Society Islands. Six species in the genera *Elasmopus*, *Maera*, *Cheiriphotis*, *Polynesoecetes* n.gen. and *Jassa* are new to science and are described and figured. Based on the shallow-water Amphipoda, the Society Islands show their closest biogeographic relationship with Tonga, Fiji and New Caledonia to the west.

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Collections of gammaridean Amphipoda (0 to 1 m depth) were made by the writer in 1986, at the Society Islands of Tahiti, Moorea (Windward Islands), Huahine and Bora Bora (Leeward Islands) and are reported on here. There appear to be no previous published records of marine amphipods from these islands, but a terrestrial species, *Talorchestia rectimana* (Dana) is known from the interior of Tahiti. Pacific islands, atolls or archipelagos from which amphipods have been described include: Caroline Islands (Barnard, 1965), Fiji (Myers, 1985c), Gambier and Tuamotu (Chevreux, 1908), Hawaii (Barnard, 1970), Kapingamarangi (Barnard, 1965), Kiribati and Tuvalu (Schellenberg, 1938), Marshall Islands (Schellenberg, 1938, Barnard, 1965), New Caledonia (Ledoyer, 1984), Niue (Myers, 1986a), and Tonga (Myers, 1986b).

Present work revealed a low biomass of marine amphipods in the Society Islands when compared with other well studied Pacific Islands. This was also noted by Ledoyer (personal communication). Chevreux (1908)

reported low amphipod density in the Gambier and Tuamotu archipelagos. Myers (1985c) recorded amphipod densities of over 4,000 m⁻² in *Sargassum* on a fringing reef on Viti Levu, Fiji. In the Society Islands, maximum densities of amphipods in similar habitats rarely exceeded 400 m⁻².

Biogeographically, the shallow-water amphipod fauna of the Society Islands can be seen to be most closely allied to that of Fiji, Tonga and New Caledonia (five uniquely shared species) and only remotely to that of Hawaii (one uniquely shared pair of sister species). Omitting the new species currently unknown outside the Society Islands, the remainder are broadly central west Pacific or Indo-Pacific, one (*Hyale affinis*) is eastern Polynesian (Niue, Society Islands, Gambier, Hawaii) and one (*Bemlos dentischium*) is Atlanto-west Pacific (Florida, Bahamas, Tonga, Western Samoa, Society Islands).

Figures and descriptions of five species and one subspecies new to science are provided, along with figures and comments on five species which either show variation

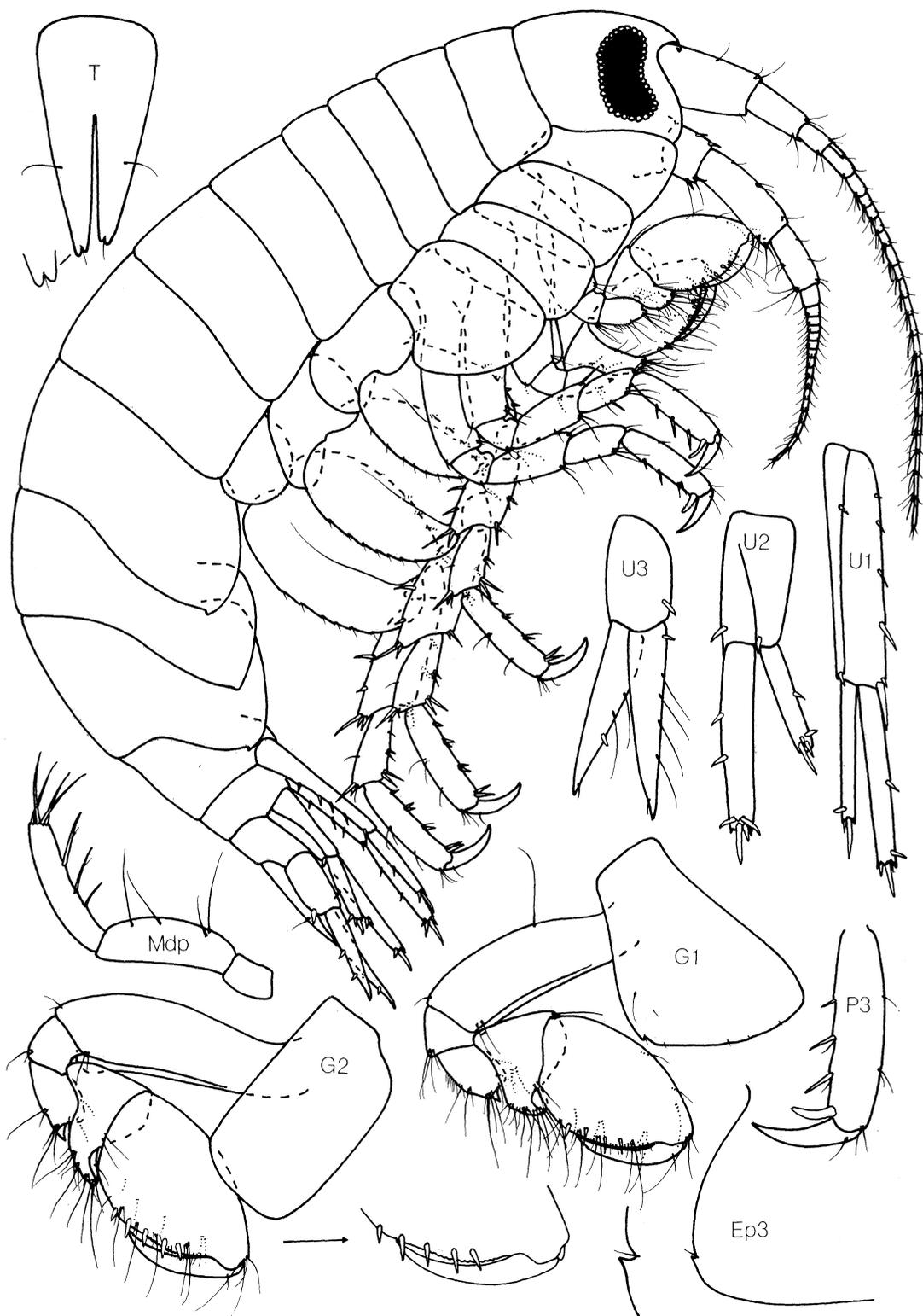


Fig.1. *Ronco sosa* Barnard, male, 2.5 mm, Bora Bora.

from previously described material, are new to the South Pacific or have not been fully figured before. Species previously figured and described from Fiji (Myers, 1985c), Niue (Myers, 1986a) or Tonga (Myers, 1986b) and which show no significant differences are simply recorded in Table 1. All material is deposited in the collections of the Australian Museum, Sydney.

Abbreviations used in figures. A1-A2 = Antenna 1-2; C3-4 = Coxa 3-4; Ep1-3 = Epimera 1-3; G1-G2 = Gnathopods 1-2; Hd = Head; J = Juvenile; L = Labium; Mdp = Mandible palp; Mx1 = Maxilla 1 inner plate; p3-7 = Pereopods 3-7; PER = Pereon; T = Telson; U1-3 = Uropods 1-3.

Eusiridae

Ronco sosa Barnard

Fig. 1

Ronco sosa Barnard, 1965: 494, fig. 8.

Remarks. Present material agrees well with the description by Barnard (1985) of material from Micronesia. It appears to differ only in the more indented telsonic apices.

Tethygeneia pacifica (Schellenberg)

Fig. 2

Pontogeneia pacifica Schellenberg, 1938: 35, fig. 17. -Barnard, 1955: 5. -Barnard, 1970: 110, fig. 62-64. -Ledoyer, 196: 127,fig. 6.
Tethygeneia pacifica. -Barnard, 1972: 198. -Ledoyer, 1982: 415,fig. 157. -Ledoyer, 1984: 59, fig. 28.

Remarks. This species appears to have a wide Indo-Pacific distribution, but has been recorded from few, widely separated localities. The only previous record of the species from the South Pacific is that of Ledoyer (1984) from New Caledonia.

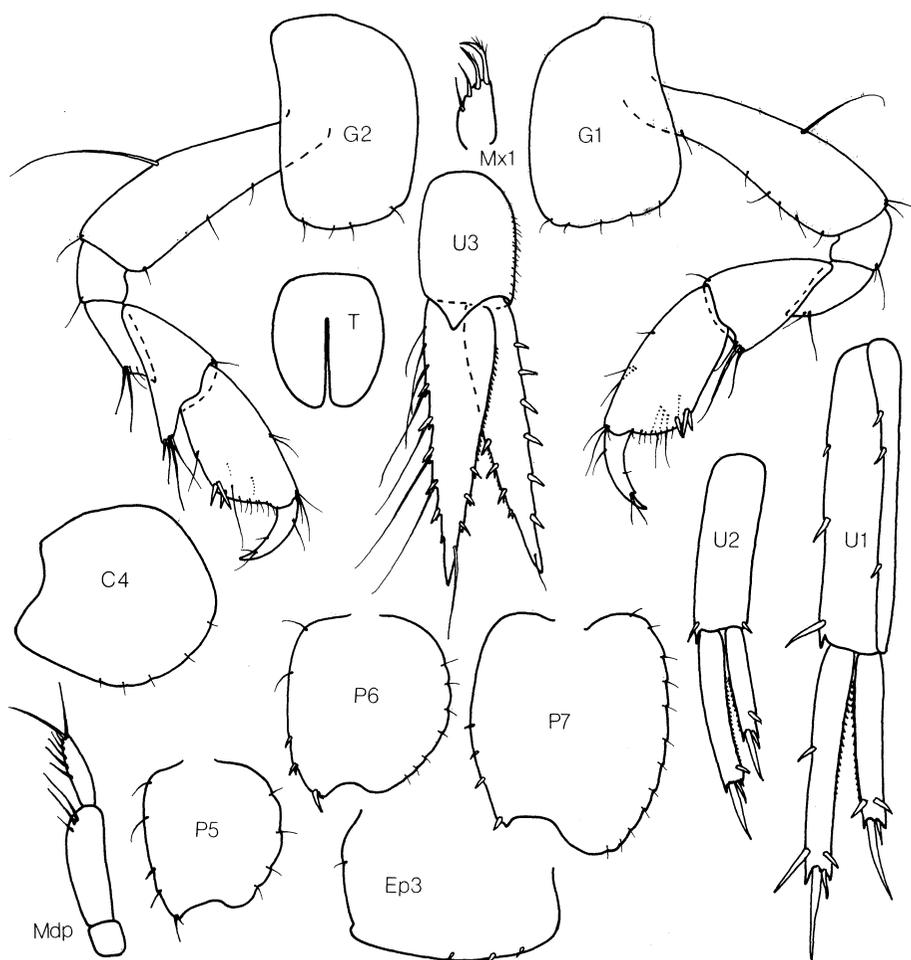


Fig. 2. *Tethygeneia pacifica* (Schellenberg), male, 5.0 mm, Tahiti.

Table 1. Annotated list of species recorded from the Society Island.

Species	Stn	Male	Female	Juv	Distrib.	Species	Stn	Male	Female	Juv	Distrib.
EUSIRIDAE							15	2	1	-	
<i>Ronce sosa</i> Barnard, 1965	11	1	-	1	F		19	-	2	-	
<i>Tethygeneia pacifica</i> (Schellenberg, 1938)	1	1	-	-	F		20	2	3	-	
AMPHILOCHIDAE							24	2	2	4	
<i>Amphilochus menehune</i> Barnard, 1970	6	-	3	-	C	<i>Paragrubia vorax</i> Chevreux, 1901	1	-	1	-	CE
	10	-	1	-			17	-	1	-	
	11	3	5	3			18	1	7	-	
	22	4	4	2			20	1	6	-	
<i>Gitanopsis tai</i> Myers, 1985c	23	1	-	-	C		22	-	1	-	
	24	16	7	7		<i>Pleonexes auriculata</i> Rabindranath, 1972	1	13	37	-	F
	25	1	-	-			2	6	18	-	
ANAMIXIDAE							3	3	6	-	
<i>"Leucothoides"</i>	7	-	1	-	F		4	1	2	-	
	23	-	1	-			11	28	66	-	
	24	1	-	-			17	7	14	-	
HYALIDAE							18	20	48	-	
<i>Hyale affinis</i> Chevreux, 1907	1	12	30	24	D		19	1	-	-	
	2	19	17	6			20	3	8	-	
<i>Hyale galateae distorta</i> Myers, 1985c	22	65	29	2	CE		21	1	3	-	
TALITRIDAE							22	6	21	-	
<i>Platorchestia platensis</i> (Kroyer, 1845)	12	2	8	3	C		24	1	-	-	
PHLIANTIDAE							26	1	-	-	
<i>Pereionotus alaniphias</i> Barnard, 1970	23	1	2	-	C	<i>Pleonexes kulafi</i> Barnard, 1965	5	4	5	-	CE
	24	-	2	-			6	10	24	-	
	26	-	1	-			7	2	6	-	
LYSIANASSIDAE							8	21	43	-	
<i>Parambasia nui</i> Myers, 1985c	20	1	-	-	C		9	3	6	-	
MELITIDAE							10	2	7	-	
<i>Elasmopus integer</i> n.sp.	10	4	3	-	F		11	3	2	-	
<i>Elasmopus setnicarpus</i> Myers, 1985c	7	3	13	-	C		16	4	3	-	
	25	1	1	-			26	2	3	-	
<i>Maera lindsae</i> n.sp.	7	-	6	2	F	ISAEIDAE					
<i>Maera mooreana</i> n.sp.	24	-	-	1	F	<i>Cheiriphotis rotui</i> n.sp.	16	-	1	-	F
	25	2	2	-			26	-	1	-	
	27	-	1	-			27	1	4	1	
<i>Maera octodens</i> Sivaprakasam, 1968	23	1	1	-	C	<i>Chevalia aviculae</i> Walker, 1904	23	1	1	-	C
<i>Maera pacifica</i> Schellenberg, 1938	10	-	1	-	C		24	2	2	3	
	11	-	1	-		<i>Gammaropsis digitata</i> (Schellenberg, 1938)	1	-	3	1	C
<i>Maera serrata</i> Schellenberg, 1938	6	1	-	-	C		4	-	-	1	
	14	-	1	-		<i>Gammaropsis setifera</i> (Schellenberg, 1938)	17	-	1	-	C
	19	-	1	-			18	1	1	2	
	25	3	7	-			20	-	1	-	
<i>Pareiasmopus suensis</i> (Haswell, 1880)	6	1	1	-	C	ISCHYROCERIDAE					
	7	8	13	2		<i>Jassa socia</i> n.sp.	6	5	4	-	F
	15	2	2	5			7	1	1	-	
	23	4	6	6			8	2	1	-	
	24	4	9	9			9	16	26	3	
	25	4	11	2			11	16	17	2	
	26	3	1	-			17	-	1	-	
AMPITHOIDAE							20	-	2	-	
<i>Ampithoe ramondi</i> (Audouin, 1826)	2	1	3	-	CD		21	-	1	-	
	4	-	3	-			24	1	3	-	
	6	6	13	-			26	-	1	-	
	7	3	12	-		AORIDAE					
	8	3	11	-		<i>Bemlos dentischium taparum</i> (Myers, 1985b)	4	-	1	-	BE
	11	5	9	-			6	4	5	-	
	13	1	1	-			7	8	12	3	
	16	2	8	-			13	1	1	-	
	17	3	5	-			18	1	-	-	
	18	17	23	-			23	1	2	-	
	19	3	7	-			24	-	2	-	
	20	9	13	-		<i>Globosolembos ovatus</i> Myers, 1985a	23	4	5	-	AC
	21	2	9	-			24	1	1	-	
	22	-	1	-			25	2	-	-	
	23	-	3	2			26	8	6	-	
	24	4	8	-			27	-	1	-	
	26	8	22	-		COROPHIIDAE					
	27	3	6	-		<i>Polynesocetes kekeae</i> n.sp.	26	1	-	-	F
<i>Cymadusa brevidactyla</i> (Chevreux, 1907)	3	1	6	-	CE	See A: Myers, 1985a, B: Myers, 1985b, C: Myers, 1985c, D: Myers, 1986a, E: Myers, 1986b, F: Present paper					
	10	3	10	8							
<i>Cymadusa pilipes</i> (Ledoyer, 1984)	2	-	1	-	CE						

Anamixidae

"Leucothoides"

Fig.3

Remarks. Three specimens of a *"Leucothoides"* were collected at Huahine and Moorea, but were not accompanied by hyperadult male *Anamixis* or *Paranamixis*. In general they most closely resemble the presumed *"Leucothoides"* - form of *Paranamixis madagascarensis* Ledoyer (see Myers, 1985c) but the basis of pereopod 7 is unscalloped, and the larger of the two basally immersed spines on the distal end of the carpal prolegation is somewhat more strongly serrated.

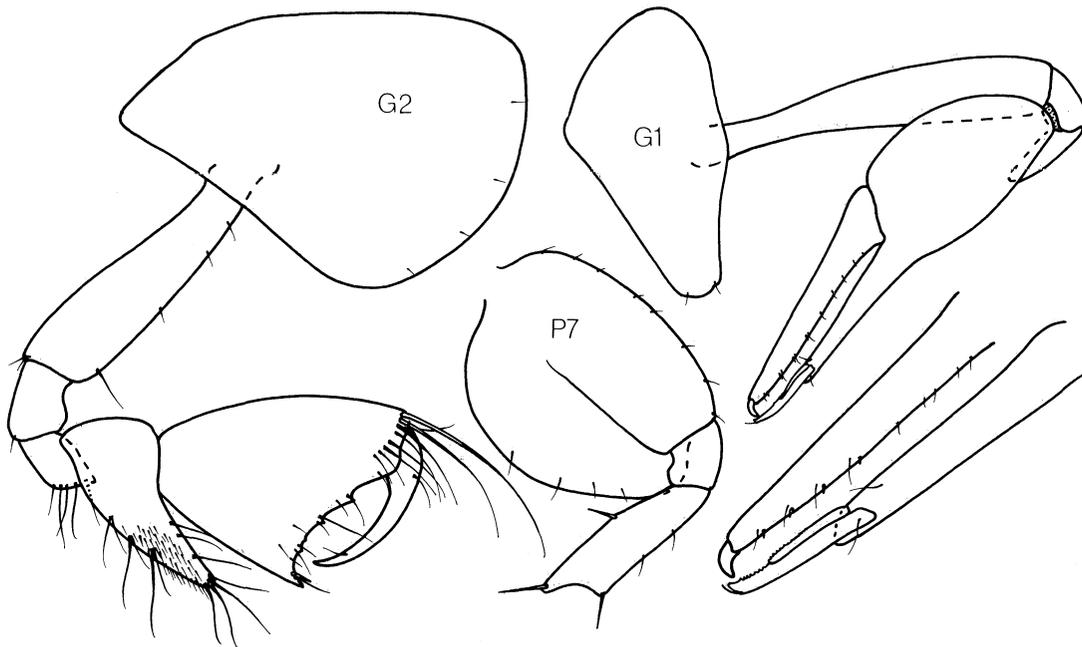


Fig.3. *"Leucothoides"* female, 2.0 mm, Huahine.

Phliantidae

Pereonotus alaniphlias (Barnard)

Fig.4

Palinotus alaniphlias Barnard, 1970: 227, fig. 148-150.
Pereonotus alaniphlias. -Ledoyer, 1978: 309. -Ledoyer, 1979 : 122,fig.78. -Myers, 1985c: 130, fig. 103.
 -Ledoyer, 1986: 869, fig. 342.

Remarks. The male of this species is recorded for the first time from the Pacific. It differs from the female in the structure of pereonite 1, pereopod 7 and uropods 1-2. The anterior lobe of pereonite 1 is truncated and overhangs the

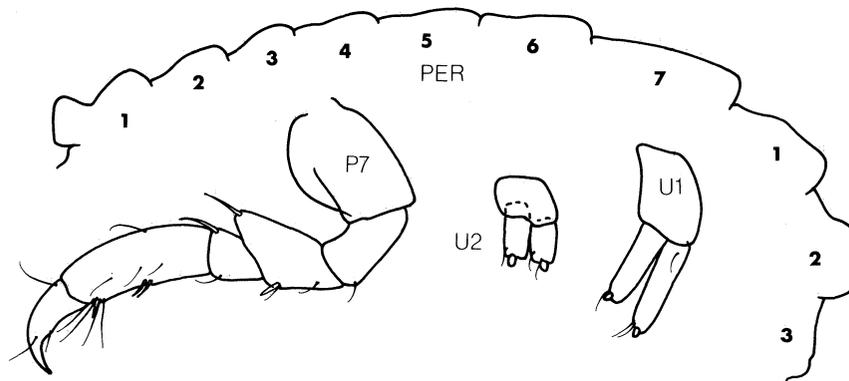


Fig.4. *Pereonotus alaniphlias* (Barnard), male, 3.5 mm, Moorea.

head, pereopod 7 basis has an evenly convex posterior margin, uropod 1 bears shorter rami than the female, and uropod 2 is biramous, with short, stout rami. The male of this species has recently been figured from Madagascar by Ledoyer (1986), but in that material, pereonite 1 has an evenly rounded anterior lobe, and the basis of pereopod 7 is ovatoquadrate in the male, and has a rounded posterior margin in the female, i.e. the reverse of the situation shown here.

Melitidae

Elasmopus integer n.sp.

Figs 5--6

Type material. HOLOTYPE male 4.8 mm. AM P38607, Bora Bora, 1 km north of Paoaoa, among *Padina* in sheltered lagoon, 29 Nov 1986. PARATYPES (6)

AM P38608 same data as above.

Description. Length 4.8 mm. Head with subocular notch. Eye large, subround. Mandible palp article 3 strongly falcate. Antenna 1 and 2 moderately setose. Antenna 2 about half body length, flagellum with about 17 articles; accessory flagellum with 2 articles, the terminal article rudimentary. Antenna 2 slender, about two thirds antenna 1. Gnathopod 1 coxa anterodistal corner scarcely produced; carpus and propodus subequal. Male gnathopod 2 coxa deeper than broad; basis stout, anterodistal margin with about 6 strong spines; carpus short, cup shaped; propodus over 3 times length of carpus, palm oblique, with 2 submarginal distal humps separated from a submarginal, triangular proximal tooth; dactylus falcate, shorter than palm. Female gnathopod 2 basis more slender; carpus subtriangular; propodus twice length of carpus, palm very oblique without teeth. Pereopods 5-7 basis posterior margin weakly crenulate, with long setae situated in some of the depressions; all articles with long setae on the

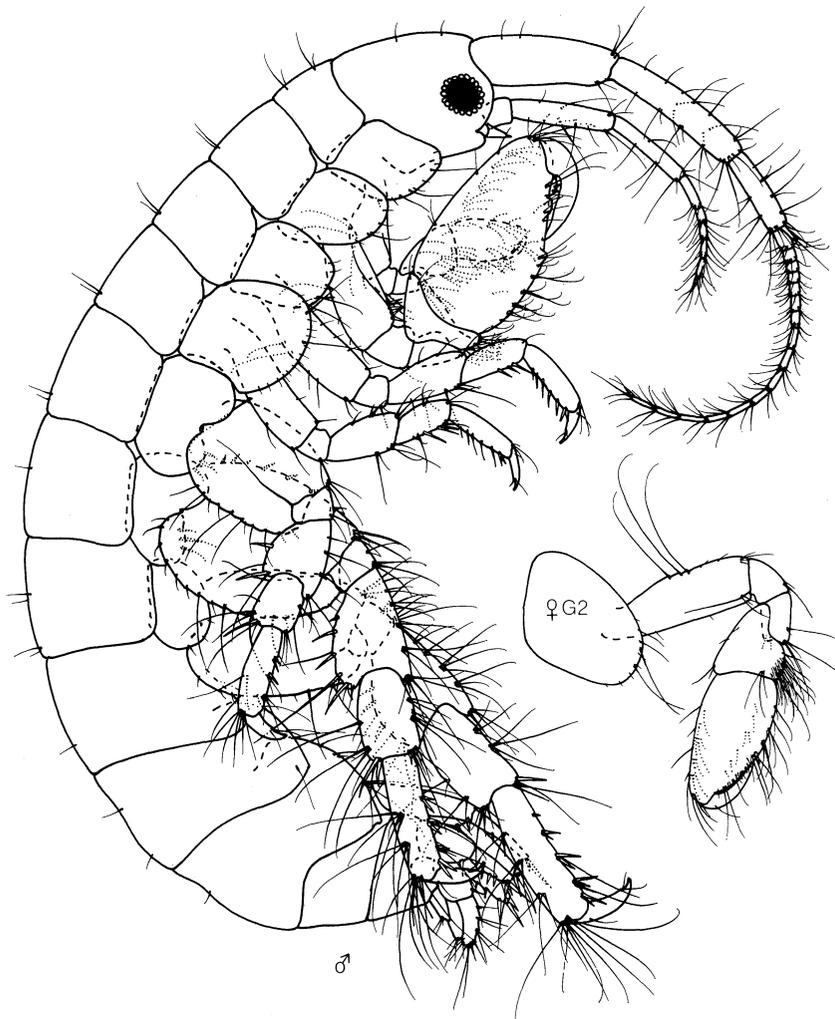


Fig.5. *Elasmopus integer* n.sp. male, Paratype 4.8 mm, Bora Bora, female, 4.6 mm, Bora Bora.

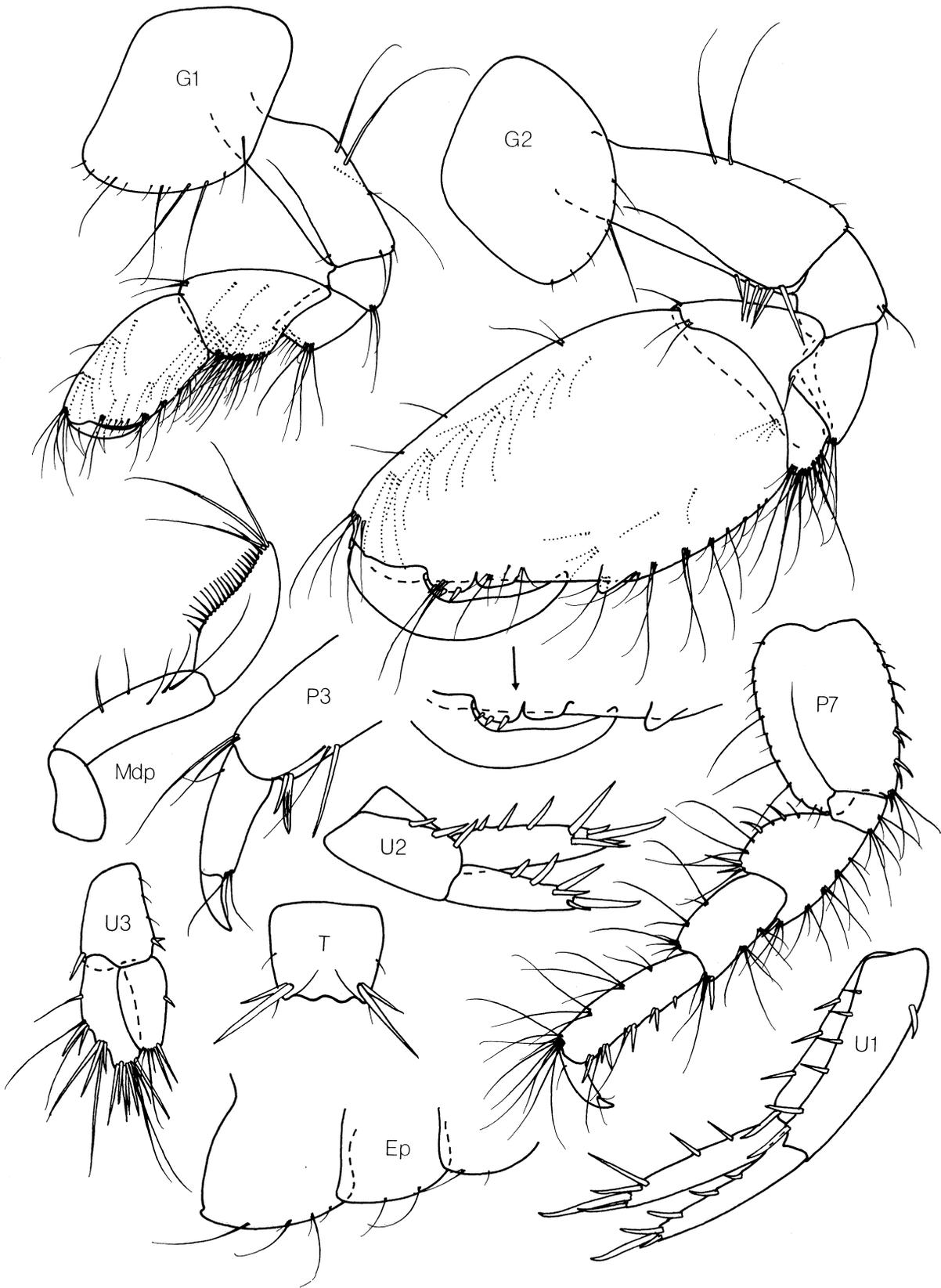


Fig.6. *Elasmopus integer* n.sp. male, Paratype 4.8 mm, Bora Bora.

anterior and posterior margins. Epimera with long setae on lower margins. Epimeron 3 posterodistal corner with small tooth. Uropod 1 slender. Uropod 2 stout, spinous. Uropod 3 outer ramus subequal with peduncle, slightly longer than inner ramus and with long spines and spine setae. Telson subsquare, entire, but with dorsodistal depression, apices each with a pair of unequal spines.

Remarks. This species is very close to *E. hooheno* Barnard, from which it differs in the form of the male gnathopod 2 palm, in the non-spatulate locking spine of pereopods 3-4, unnotched posterior margin of epimeron 3 and entire telson, more strongly setose pereopods 5-7, longer inner ramus of uropod 3 and more elongate spines on uropod 3. An entire telson is known in only one other species of *Elasmopus* viz. *E. takamotus* Myers from Niue Island.

Distribution. Currently known only from the type

locality.

Etymology. From the latin *integer* = entire, referring to the entire telson.

Maera lindsae n.sp.

Figs 7-8

Type material. HOLOTYPE 4.0 mm AM P38623, Huahine, Lagon de Fare, among *Halimeda* from lagoon, 27 Nov 1986. PARATYPES (7) AM P38623 same date as above.

Description. Length 4.0 mm. Head with subocular notch. Eye small, subround. Mandible palp rod-shaped, article 3 the longest, with 4 terminal setae and 1

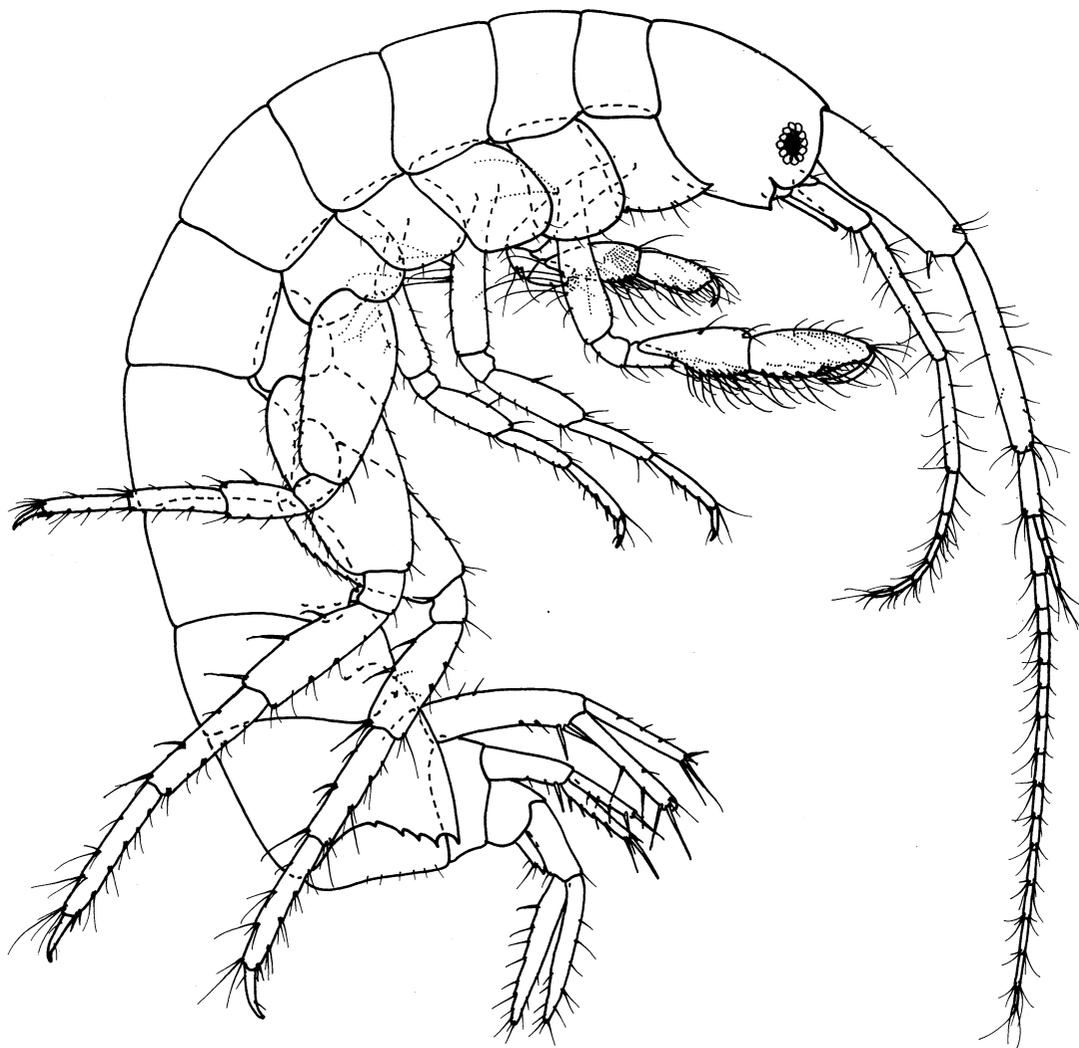


Fig.7. *Maera lindsae* n.sp. female, Paratype 4.0 mm, Huahine.

medioposterior seta. Antenna 1 elongate, slender, two thirds body length, flagellum with about 15 articles; accessory flagellum with 4 articles, the terminal article rudimentary. Antenna 2 slender, about two thirds antenna 1. Gnathopod 1 coxa anterodistal corner strongly produced, very acute, posterodistal corner with small tooth; carpus and propodus slender, carpus distinctly the longer. Female gnathopod 2 coxa deeper than broad; merus with small, acute posterodistal tooth; carpus and propodus slender, propodus the longer with very oblique unornamented palm; dactylus fitting palm. Epimera 1-2 with small posterodistal tooth. Epimera 3 posterior margin scalloped, with 5 acute teeth. Uropods 1-2 slender. Uropod 3 rami elongate, subequal, over one and a half times length of peduncle, with slender marginal spines, peduncle with strong spines. Telson deeply divided, lobes divergent, acute, with medioposterior tooth on inner margin bearing a

stout spine at its base. Male unknown.

Remarks. This species shows affinity with *Maera hamigera* Haswell, but differs from that species in its more elongate antenna 1, smaller eye, more strongly scalloped epimera 3, single toothed epimera 1-2, and more widely separated and unequal telsonic teeth. It also shows some similarity to *Maera* sp. A of Barnard (1970) but differs from that species in the strongly acute coxa 1, unexcavate palm of gnathopod 2 and in having mandible palp article 3 longer than article 2.

Distribution. Currently known only from the type locality.

Etymology. Named after my daughter Lindsay in appreciation for her help in the field.

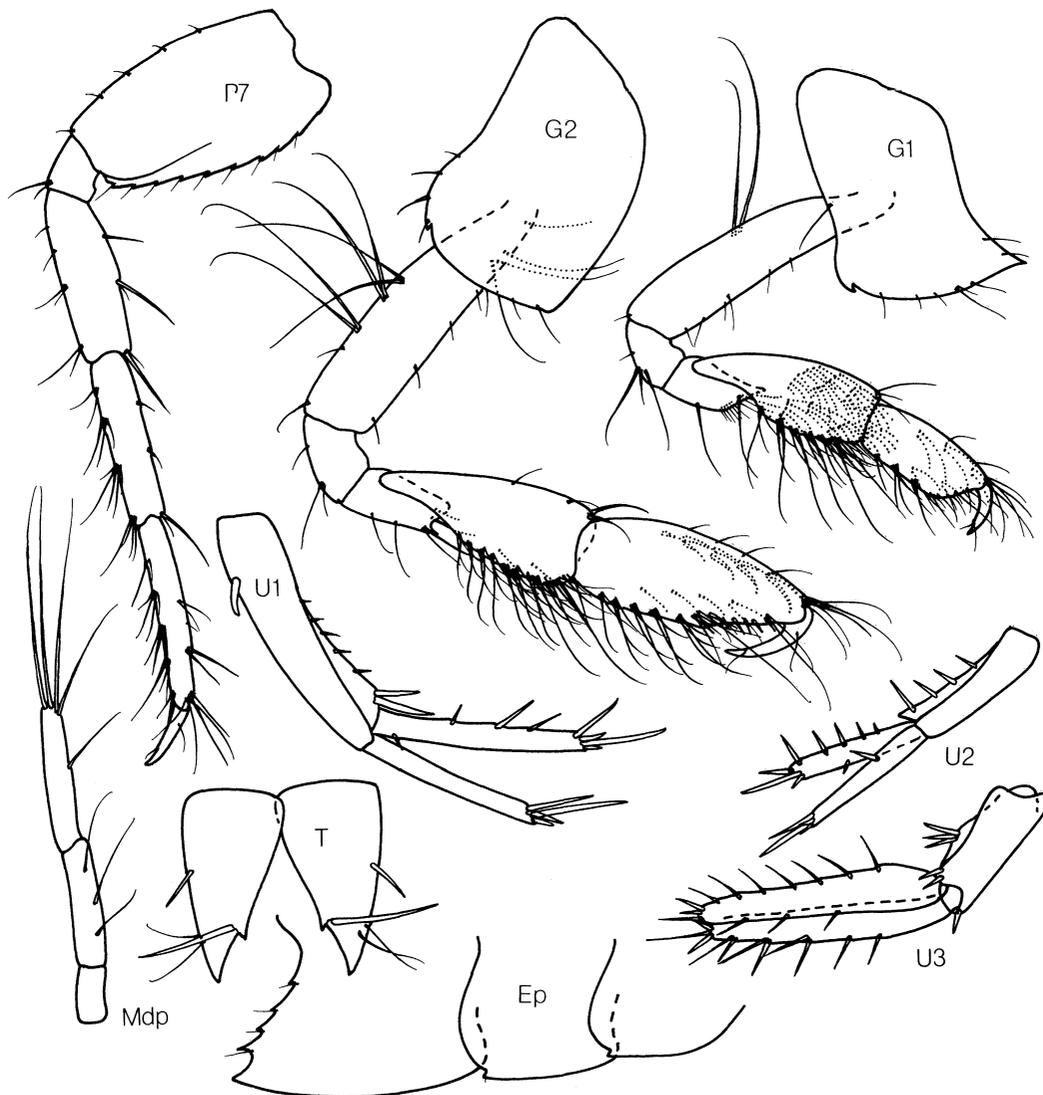


Fig.8. *Maera lindsae* n.sp. female, Paratype 4.0 mm, Huahine.

***Maera mooreana* n.sp.**

Figs 9-10

Type material. HOLOTYPE male 3.0mm AM P38625, Moorea, north-east entrance to Cook's Bay, coral rock and *Porolithon* from lagoon, 11 Dec 1986. PARATYPES (3) AMP38626 same data as above. Other material. 1 female

AM P38627 Moorea, north-east entrance to Cook's Bay, *Padina* from jetty, 11 Dec 1986; 1 immature, AM P38628, same locality and date, in *Pocillopora* from lagoon.

Description. Length 3.0 mm. Head without subocular notch. Eye large, subround. Mandible palp article 3 approximately parallel sided, slightly shorter than article 2, with 3 terminal setae and 1 medioposterior seta. Antenna 1

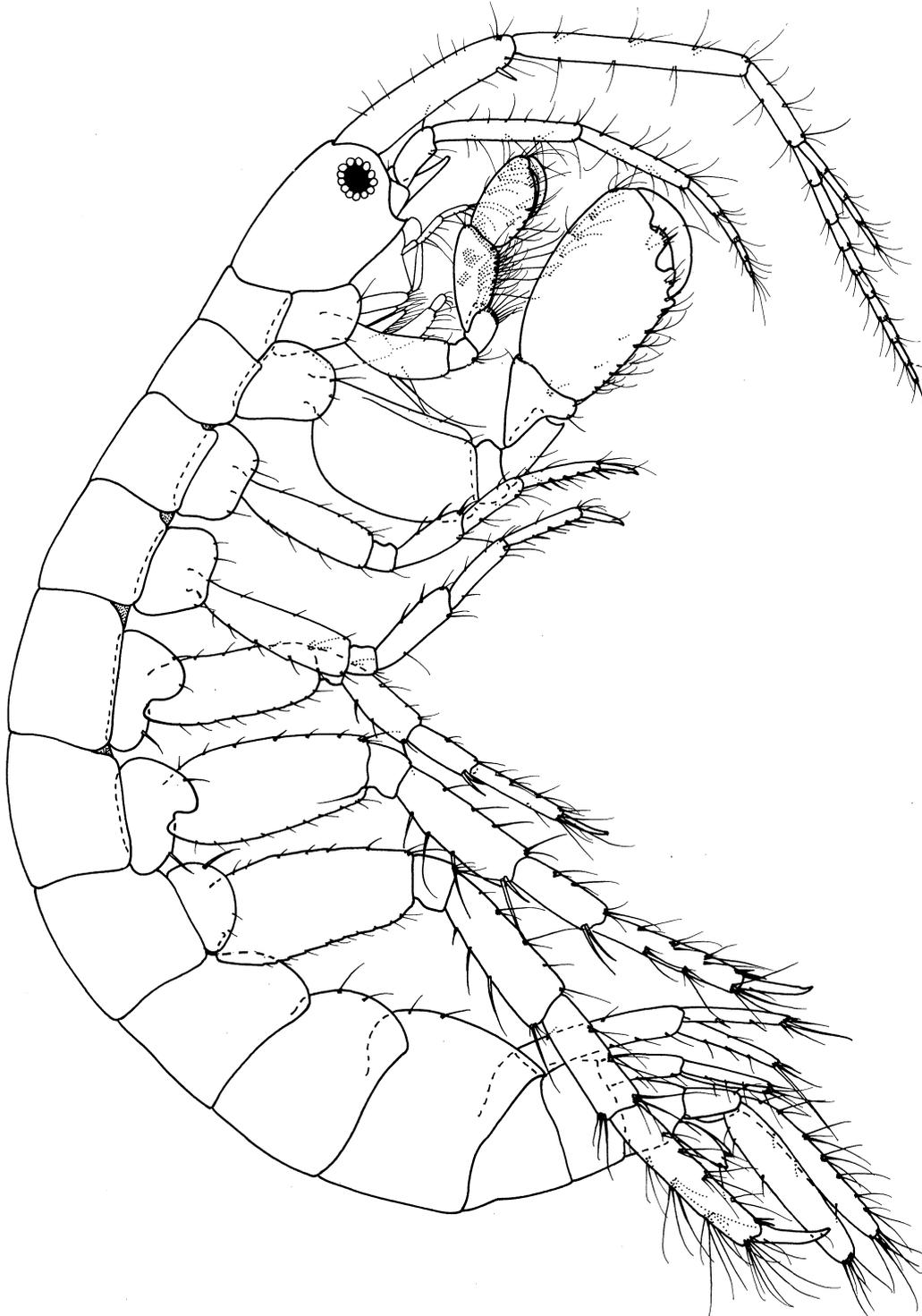


Fig.9. *Maera mooreana* n.sp. male, Holotype 3.0 mm, Moorea.

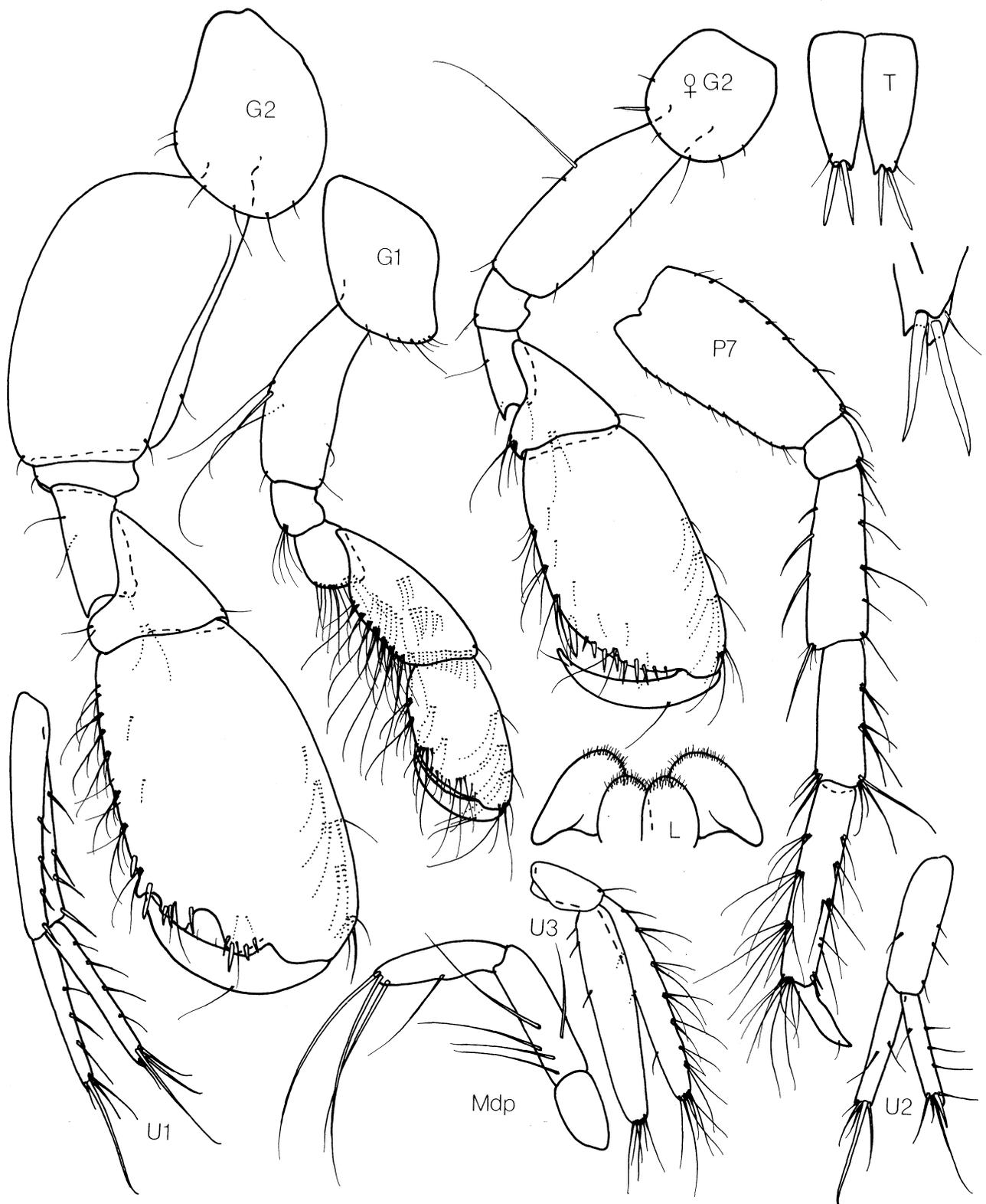


Fig.10. *Maera mooreana* n.sp. male, Holotype 3.0 mm, Moorea, female, 3.0 mm, Moorea.

short, less than half body length; peduncular articles 1 and 2 elongate; flagellum shorter than combined length of peduncular articles 2+3, with up to 10 articles; accessory flagellum elongate with 5 articles, the terminal article rudimentary. Antenna 2 slender, about two thirds length of antenna 1, with up to 5 articles. Gnathopod 1 coxa subsquare, slightly produced anterodistally, obtuse; carpus and propodus subequal. Male gnathopod 2 coxa as broad as deep; basis robust, less than twice as long as broad; merus with acute tooth at posterodistal corner; carpus short subtriangular; propodus almost three times length of carpus, palm spinous, with broad round-bottom excavation and small defining tooth; dactylus fitting palm. Female gnathopod 2 basis slender, almost 3 times as long as broad; carpus and propodus similar to that of male, but palm lacking excavation or tooth. Pereopods 3-4 slender. Pereopods 5-7 basis posterior margin very weakly toothed. Epimera 1-2 rounded. Epimeron 3 posterior margin smooth, with acute posterodistal tooth. Uropods 1-2 slender. Uropod 3 rami greatly elongated, almost 3 times length of peduncle, outer ramus setose. Telson deeply divided, lobes weakly divergent, distally bifid, each lobe bearing strong, subequal spines.

Remarks. This species shows some similarities with *Maera inaequipes* (Costa), in its unnotched head, and broadly similar male gnathopod 2. It differs from that species however, in its non acute coxa 1, weakly setiferous mandible palp article 3, totally different uropod 3 and unexpanded posterodistal margin of pereopods 5-7, as well as in the untoothed palm of the female gnathopod 2.

Distribution. So far recorded only from Moorea.

Etymology. Named after the type locality.

Ampithoidae

Pleonexes auriculata Rabindranath

Figs 11-12

Ampithoe (Pleonexes) auriculata Rabindranath, 1972: 171, fig. 7.

Remarks. Present material agrees well with the description of Rabindranath (1972) from the coast of India and represents the first record from the Pacific.

Isaeidae

Cheiriphotis rotui n.sp.

Figs 13-14

Type material. HOLOTYPE male 2.0 mm AM P38629, Moorea, north-east entrance to Cook's Bay, *Padina* from jetty, 11 Dec 1986. PARATYPES (5) AM P38630 same data as above. Other material. 1 female AM

P38631, Moorea, north-east entrance to Cook's Bay, *Padina* on bed of sea urchin spines, 2 Dec 1986. 1 female AM P38632, Moorea, north-east entrance to Cook's Bay, *Padina*-covered rocks from lagoon, 13 Dec 1986.

Description. Length 2.6 mm. Head lateroventral margins moderately recessed in female, very recessed in male for accommodation of enlarged antenna 2 peduncle. Mandible palp article 2 the longest; article 3 clavate with very long distal setae. Antenna 1 a little less than two thirds body length, primary flagellum a little longer than peduncle with up to 12 articles; accessory flagellum with 4 articles, the terminal article rudimentary. Male antenna 2 peduncular article 2 massive; articles 3 and 4 enlarged, each with posterodistal tooth; article 5 subequal in length with article 4 but a little more slender; flagellum with 5 articles, article 1 enlarged. Female antenna 2 slender; flagellum with 6 articles. Coxa 1 the largest, produced forward, distally setiferous. Gnathopod 1 basis, carpus and propodus slender; carpus a little longer than propodus, palm oblique defined by a spine; dactylus elongate and slender. Male gnathopod 2 basis stout; carpus short, cup shaped; propodus enlarged, anterior and posterior margins approximately parallel, palm with 2 teeth, separated by a flat-bottomed excavation, the proximal tooth the larger; dactylus overlapping proximal tooth. Female gnathopod 2 coxa deep; basis moderately stout; propodus more than 3 times length of cup-shaped carpus, palm sinuous defined by a spine. Pereopods 3-4 basis broad. Pereopods 5-7 basis, ischium and merus setose. Epimera 1-2 with a small posterodistal tooth. Epimeron 3 rounded. Uropod 1 elongate. Uropod 2 short, peduncle subsquare, rami subequal, shorter than peduncle. Uropod 3 peduncle expanded, broader than long, outer ramus short, a little shorter than peduncle, inner ramus rudimentary with a single distal spine. Telson broader than long.

Remarks. Present material most closely resembles *Cheiriphotis durbanensis* K.H. Barnard, but differs from that species and indeed all known species of the genus by the secondary sexual enlargement of the peduncular articles of antenna 2 in the male.

Distribution. So far known only from Moorea.

Etymology. Named after Mount Rotui which overlooks Cook and Opunohu Bays, Moorea.

Ischyroceridae

Jassa socia n.sp.

Fig. 15

Type material. HOLOTYPE male 1.8 mm AM P38633, Bora Bora, 1 km north of Paoaoa, in *Turbinaria ornata* from a sheltered lagoon, 29 Nov 1986. PARATYPES (44) AM P38634, same data as above. Other material. 1 male, 3 females, AMP38635, Moorea, north-east entrance

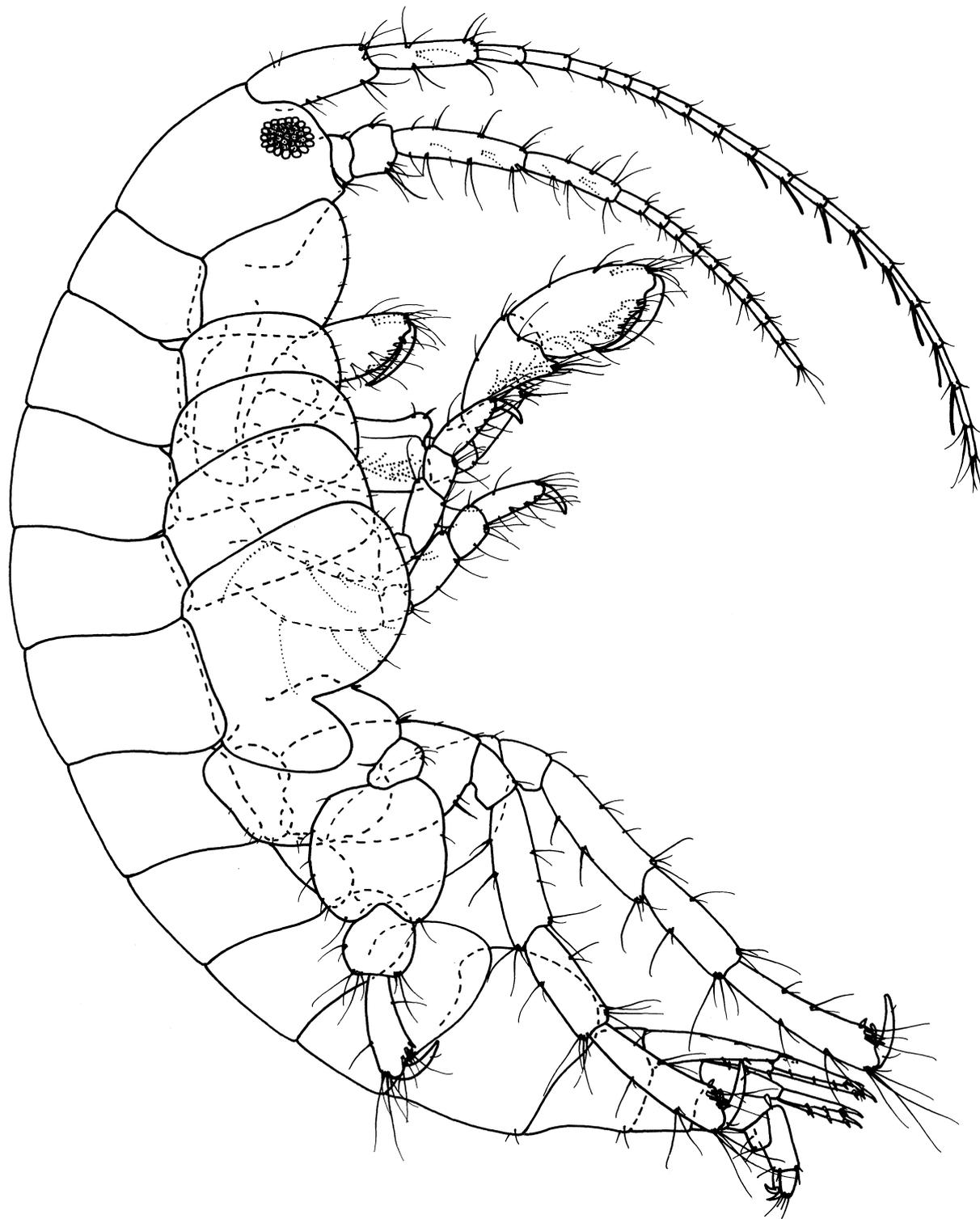


Fig.11. *Pleonexes auriculata* Rabindranath, male, 5.0 mm, Moorea.

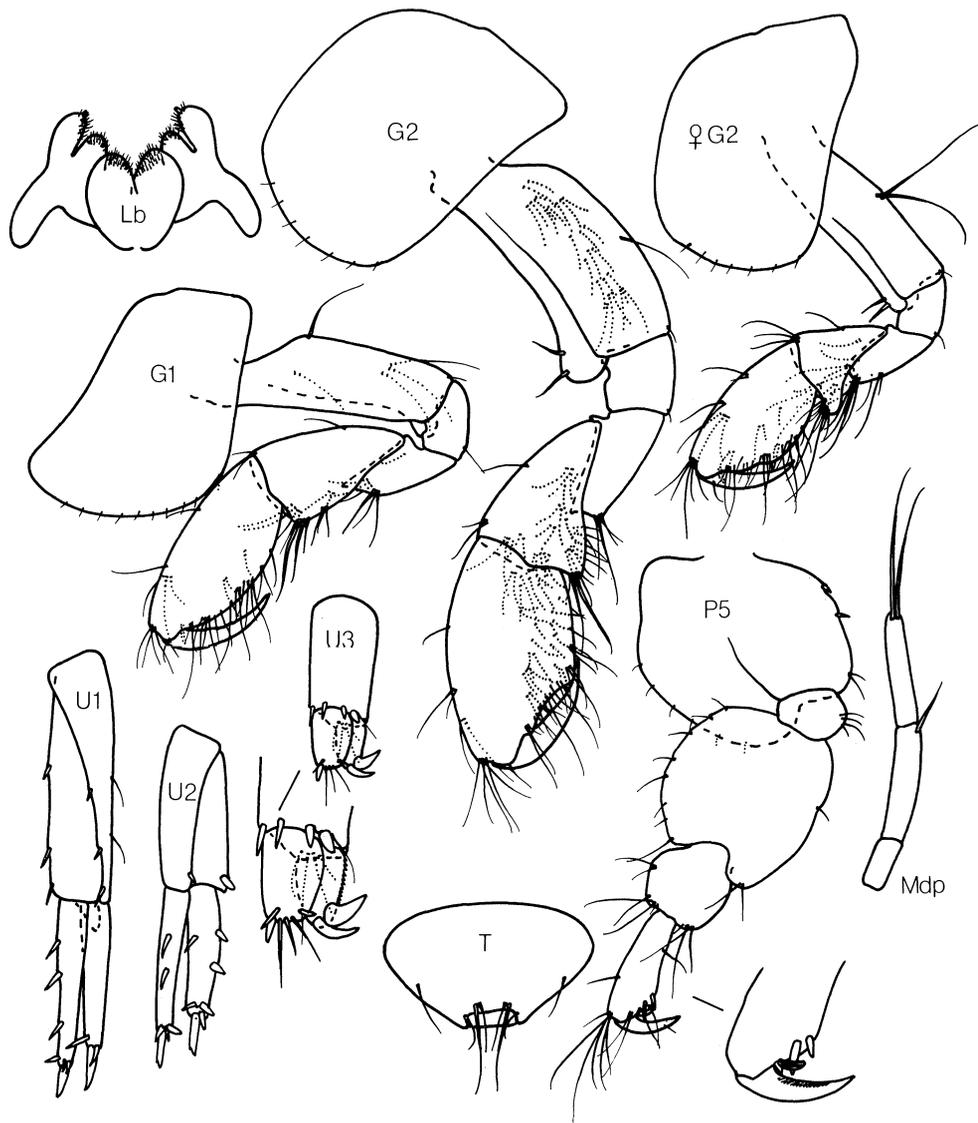


Fig.12. *Pleonexes auriculata* Rabindranath, male, 5.0 mm, female, 5.4 mm, Moorea.

to Cook's Bay, *Pocillopora*, 11 Dec 1986; 1 male, 1 female, AM P38636, Huahine, Lagon de Fare, *Halimeda* from lagoon, 27 Nov 1986; 5 males, 4 females, AM P38637, Huahine, Lagon de Fare, *Turbinaria ornata* from lagoon, 27 Nov 1986; 30, AM P38638, Bora Bora, Viatape, *Sargassum* from lagoon, 29 Nov 1986; 1 female, AM P38639, Moorea, north-east entrance to Cook's Bay, *Padina*-covered rocks from lagoon, 11 Nov 1986; 2 males, 1 female, AM P38640, Huahine, Lagon de Fare, *Padina*-covered rocks from lagoon, 27 Nov 1986; 1 female, AM P38641, Moorea, near Ilot Tiahura, *Dictyota* in lagoon, 4 Dec 1986; 2 females, AM P38642, Moorea, near Ilot Tiahura, *Turbinaria ornata* with epiphytes from lagoon, 4 Dec 1986; 1 female, AM P38643, Moorea, near Ilot Tiahura, *Sargassum* on inner side of barrier reef, 4 Dec 1986.

Description. Length 1.8 mm. Lateral cephalic lobes mammiliform. Antenna 1 article 1 short, article 2 and 3

subequal, primary flagellum shorter than combined length of peduncular articles 2 and 3, accessory flagellum with 1 long and 1 rudimentary article. Antenna 2 a little longer than antenna 1. Mandible palp article 1 with anterodistal rounded lobe, article 3 strongly clavate. Gnathopod 1 in both sexes and gnathopod 2 of female similar, propodus larger than carpus, subovoid. Male gnathopod 2 basis with flange on anterior margin, merus blunt, carpus small, cup shaped, propodus becoming elongate with maturity, posterior margin with stout, thumb-like proximal process and smaller distal process, dactylus elongate and falciform, opposable to proximal process of propodus. Pereopods 3-7 propodus with weakly developed locking spines. Uropod 3 outer ramus with 6 scarcely reverted cusps, inner ramus with a single, basally immersed spinule. Telson pointed with a stout spine on each side.

Remarks. *Jassa socia* differs from *Jassa lilipuna*

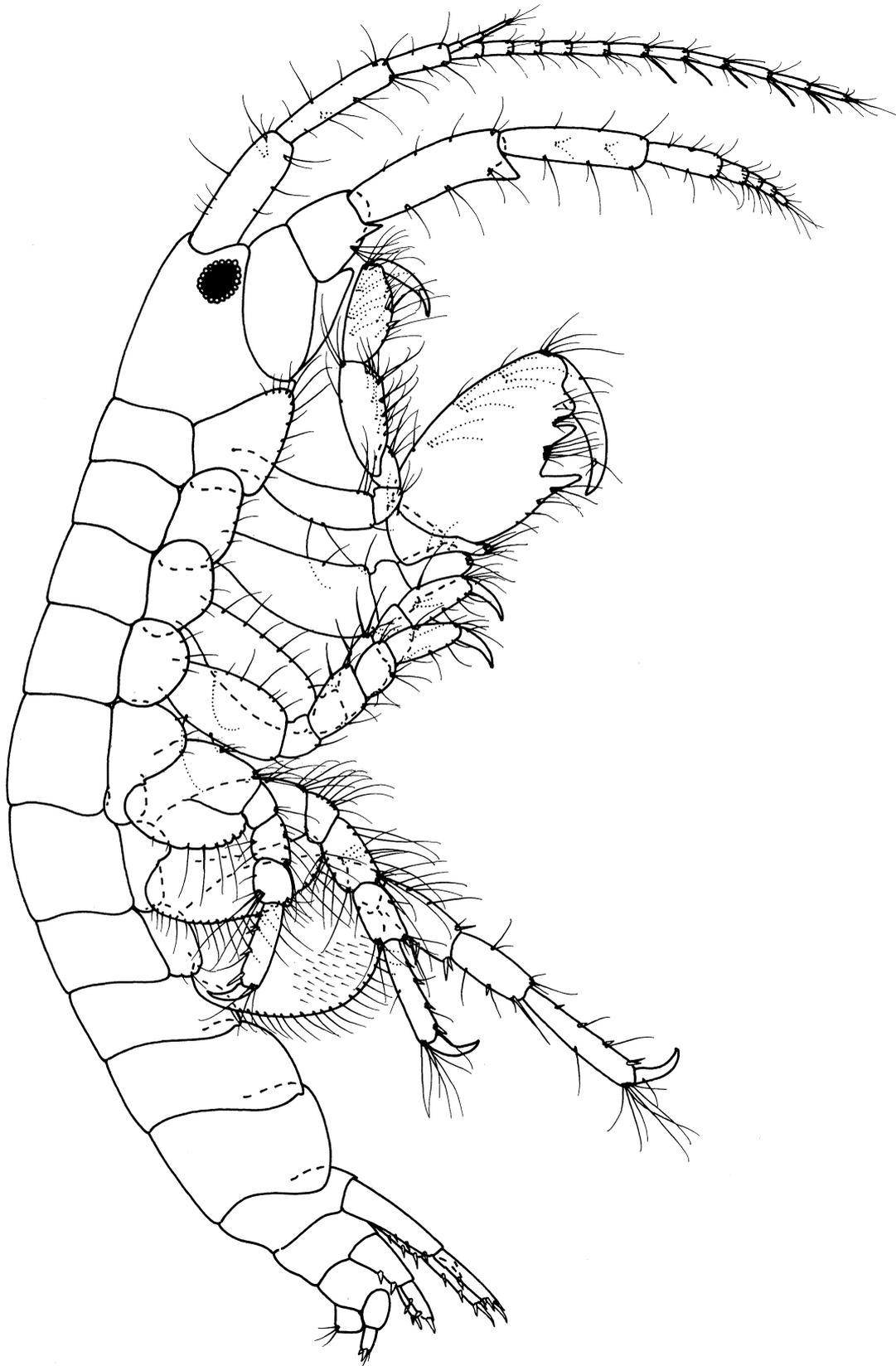


Fig.13. *Cheiriphotis rotui* n.sp. male, Holotype 2.0 mm, Moorea.

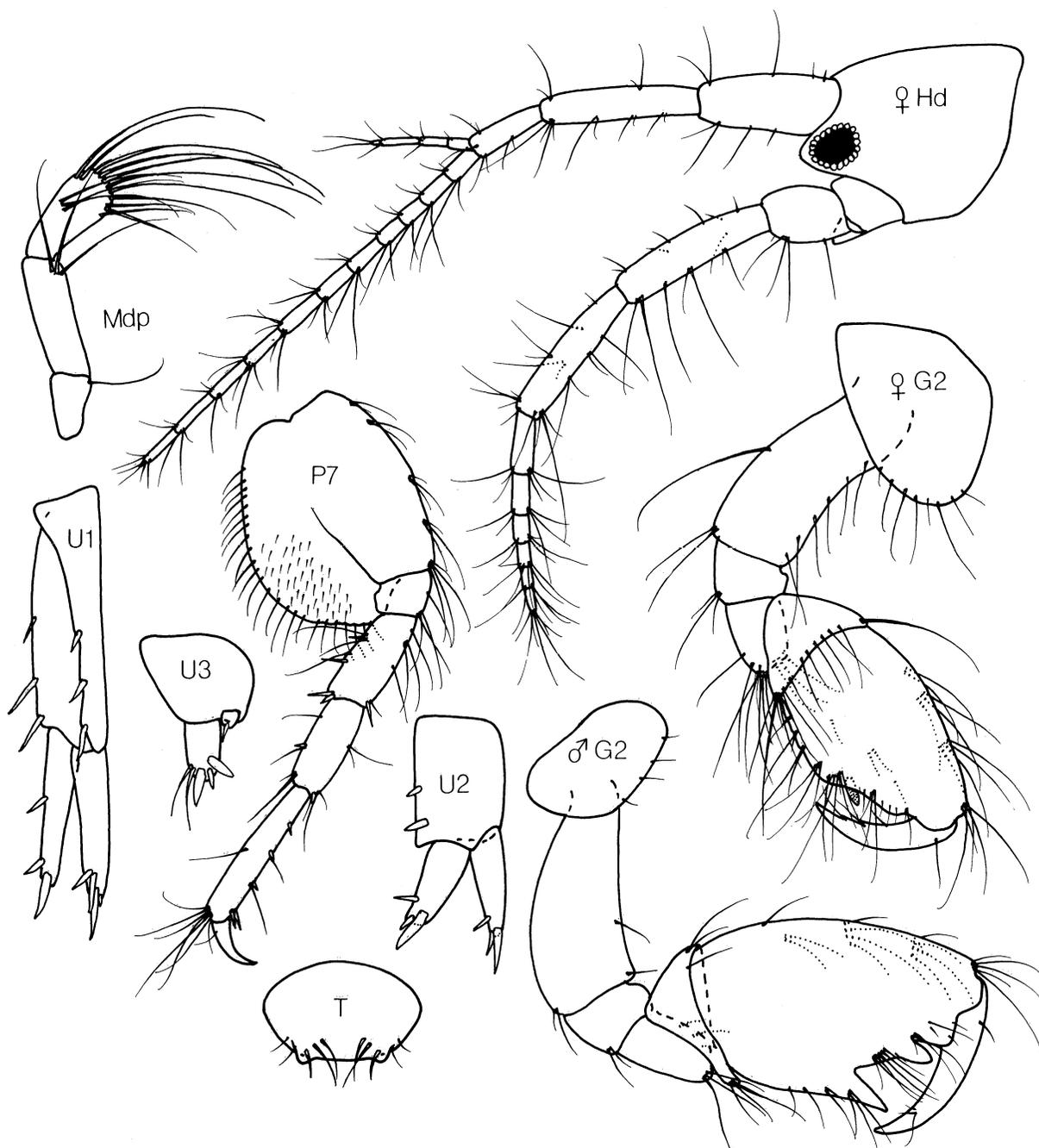


Fig.14. *Cheiriphotis rotui* n.sp. male, Holotype 2.0 mm, female, 2.0 mm, Moorea.

Barnard (1970) from Hawaii in the short article 1 of antenna 1, the stronger flange on the basis and smaller proximal process on the propodus of the male gnathopod 2, the weak locking spines on the propodus of pereopods 3-7, in the presence of 6 cusps on the outer ramus of uropod 3 and in the somewhat shorter uropod 3 peduncle. Coxa 2 is not bilobed in any of the material examined, as it is in hyperadult male *J. lilipuna*. According to Conlon (personal communication) *J. lilipuna* requires a new genus.

Distribution. Huahine, Bora Bora, Moorea.

Etymology. From the latin *socius* = allied.

Corophiidae

Polynesoecetes n.gen.

Diagnosis. Urosomite 2 free, produced ventrally into a rounded plate. Urosomite 3 and telson fused dorsally. Uropod 1 biramous, inner ramus less than one third length of outer ramus. Uropod 2 absent, uropod 3 with

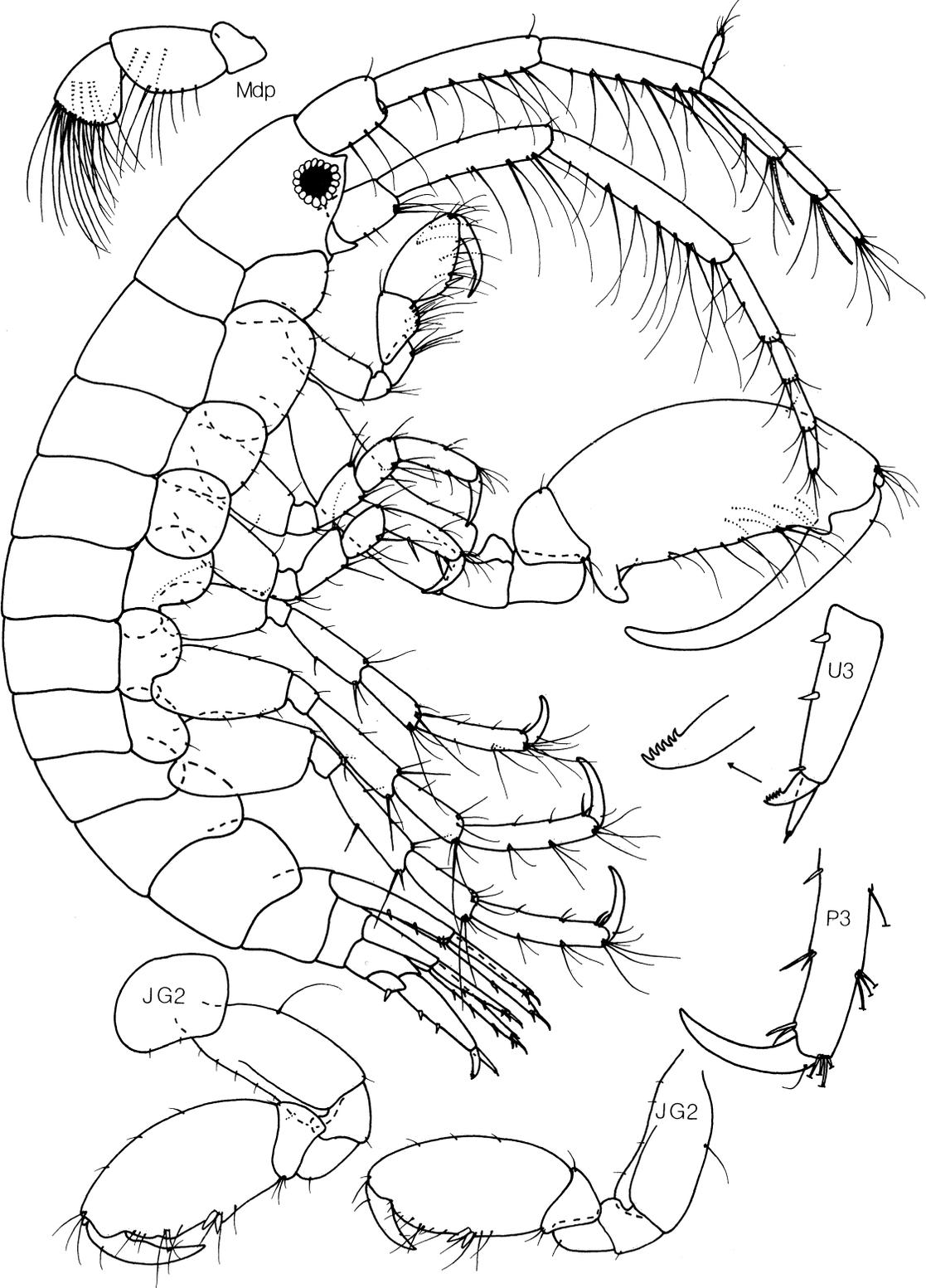


Fig.15. *Jassa socia* n.sp. male, Paratype 1.8 mm, Bora Bora.

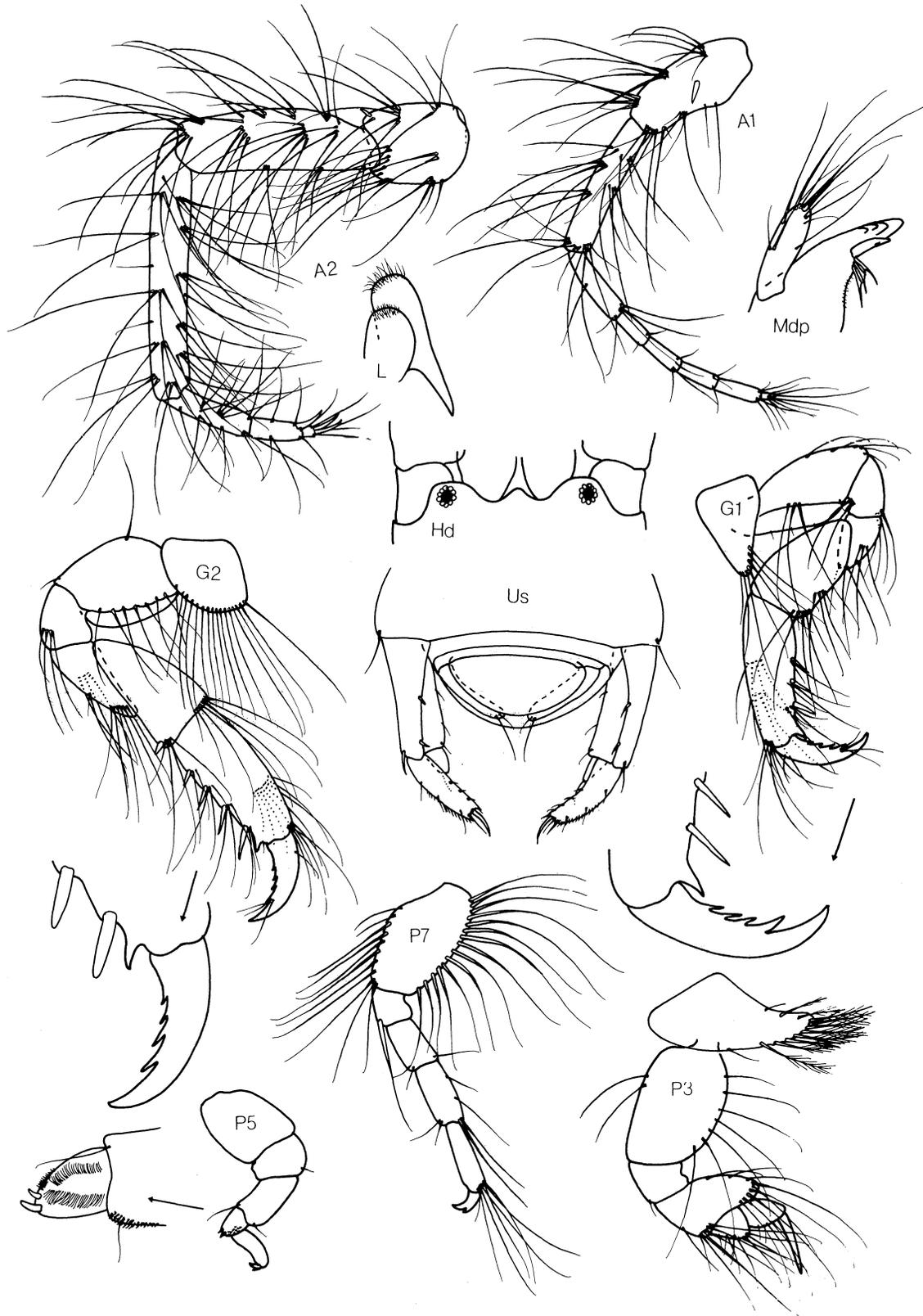


Fig.16. *Polynesoectes kekeae* n.sp. male, Holotype, 1.8 mm, Moorea.

unexpanded peduncle, ramus absent. Rostrum rounded. Gnathopods 1-2 simple with small palmar tooth. Pereopods 5-7 dactylus with accessory tooth. Coxal plates 3 and 4 with weakly notched distal margin bearing slender plumose setae.

Polynesoecetes kekeae n.sp.

Fig. 16

Type material. HOLOTYPE male 1.8 mm AMP38645, Moorea, north-east entrance to Cook's Bay, *Padina*-covered rocks from lagoon, 11 Dec 1986.

Description. Length 1.8 mm. Head with weak rounded rostrum, eyes small. Head and cephalon lacking rows of dorsal setules. Mandible palp 1-articulate, subovoid, setiferous. Labium with mandibular projections of outer plate elongate, acute. Antennae densely setose. Antenna 1 article 1 much longer than article 3 and only a little shorter than article 2; flagellum with 6 articles, the penultimate article greatly reduced, the terminal article rudimentary. Antenna 2 stout, equal in length to head and pereon combined, article 5 longer than article 4, flagellum shorter than article 5 with 3 articles, the first article the longest, the third article reduced. Gnathopod 1 coxa triangular, distally setose; propodus longer than carpus, almost simple, but made subchelate by a strong, acute, posterodistal tooth, posterior margin with 3 strong equidistant spines; dactylus stout, posterior margin with 4 strong teeth. Gnathopod 2 similar to gnathopod 1 but larger, coxa broadly rounded and distally setose; carpus with small spine at posterodistal angle; propodus with acute posterodistal tooth and 4 equidistant spines on posterior margin. Pereopods 3-4 coxa with distal margin weakly notched bearing slender, plumose setae, basis broad, merus anterior margin expanded, overlapping carpus and propodus which are telescoped together; dactylus almost straight. Pereopods 5-6 short, carpus subconiform, with 2 distal spines and numerous posterior marginal denticles. Pereopods 5-7 dactylus with accessory tooth. Pereopod 7 elongate, basis anterior and posterior margins with long setae. Epimera rounded. Urosome reduced. Urosomite 2 free, produced ventrally into a rounded plate. Urosomite 3 and telson fused. Uropod 1 biramous, outer ramus over two thirds length of peduncle, inner ramus less than one third length of outer ramus. Uropod 2 absent. Uropod 3 composed of elongate slender peduncle only, which bears two distal setae. Telson evenly rounded, unarmed.

Remarks. This species does not readily fit the key to *Siphonoecetes* published by Just (1983). The absence of uropod 2 fits the key couplet leading to *Concholestes* and *Caribboecetes*, but the presence on the dactylus of pereopods 5-7 of an accessory tooth is incongruent and leads from the other half of the primary couplet to alternative taxa. If this latter character were ignored, the present species would key out to *Caribboecetes*. Just (1984) provided a key to this genus, but again difficulty is

experienced in attempting to key the present taxon to the proximity of a sister-species. Couplet 1 of the key differentiates taxa with (a) antenna 2 longer than head and cephalon combined, and cephalon and first 3-5 pereonites with transverse rows of dorsal setules from (b) antenna 2 shorter than head and cephalon combined, and cephalon and pereon at most with scattered dorsal setules. Present material has antenna 2 equal to head and cephalon combined and lacks transverse setule rows. In general appearance it seem closest to the taxa with long antenna 2 and setule rows, especially *C. barbadensis*. It differs from that species in its rounded rostrum, less produced ocular lobes, more setiferous mandible palp article, shorter antenna 1 flagellum, toothed palm of gnathopod 1, accessory tooth on the dactylus of pereopods 5-7 and weakly spinous inner ramus of uropod 1. It seems most sensible to create a new genus for this species. *Polynesoecetes* appears to be closest to *Caribboecetes* but its true phylogenetic relations cannot be ascertained until further detailed analysis of the Siphonoecetinae is carried out (Just, personal communication).

Habitat. Unknown, but presumed like its congeners to live in the empty shells of a species of gastropod.

Distribution. Known only from the type locality.

Etymology. Named after the vessel *Keke* III which plies between Cook's Bay and Papeete.

ACKNOWLEDGEMENTS. I am grateful to Dr Jean Just for helpful comments concerning the new genus *Polynesoecetes*.

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APPENDIX 1

Station data

- Station 1. Tahiti, Pte Urareva, 17°32'S 149°23'W, 21 Nov 1986, *Sargassum* from lagoon.
- Station 2. Tahiti, Near Hitiaa, 17°36'S 149°17'W, 21 Nov 1986, *Sargassum* from lagoon.
- Station 3. Tahiti, same locality and date, arborescent red alga from lagoon.
- Station 4. Tahiti, same locality and date, *Padina* and coral rubble from lagoon.
- Station 5. Huahine, 16°45'S 151°01'W, 26 Nov 1986, *Halimeda* and shell gravel from sheltered, silty inlet.
- Station 6. Huahine, Lagon de Fare, 16°43'S 151°02'W, 27 Nov 1986, *Turbinaria ornata* from lagoon.
- Station 7. Huahine, same locality and date, *Halimeda* from lagoon.
- Station 8. Huahine, same locality and date, *Padina*-covered rocks from lagoon.
- Station 9. Bora Bora, 1 km north of Paoaoa, 29 Nov 1986, *Turbinaria ornata* from sheltered lagoon.
- Station 10. Bora Bora, same locality and date, *Padina* from lagoon.
- Station 11. Bora Bora, Vaitape, 16°30'S 151°45.5'W, 29 Nov 1986, *Sargassum* from lagoon.
- Station 12. Bora Bora, same locality and date, beach strand-line debris.
- Station 13. Moorea, north-east entrance to Cook's Bay, 17°29'S 149°49.5'W, 2 Dec 1986, branching brown alga from lagoon.
- Station 14. Moorea, same locality and date, *Halimeda* from lagoon.
- Station 15. Moorea, same locality and date, coral rubble from lagoon.
- Station 16. Moorea, same locality and date, *Padina* growing on a bank of sea-urchin spines.
- Station 17. Moorea, near Ilot Tiahura, 17°29'S 149°54.5'W, 4 Dec 1986, *Sargassum* on inner side of barrier reef.
- Station 18. Moorea, same locality and date, *Turbinaria ornata* from lagoon.
- Station 19. Moorea, same locality and date, *Halimeda* from lagoon.
- Station 20. Moorea, same locality and date, *Turbinaria ornata* with epiphytes in lagoon.
- Station 21. Moorea, same locality and date, *Dictyota* in lagoon.
- Station 22. Moorea, near Pte Faupo, 17°30'S 149°46'W, 9 Dec 1986, *Sargassum* on wave-planated reef crest unprotected by barrier reef.
- Station 23. Moorea, north-east entrance to Cook's Bay, 17°29'S, 149°49'W, 11 Dec 1986, coral rubble from lagoon.
- Station 24. Moorea, same locality and date, living *Pocillopora* from lagoon.
- Station 25. Moorea, same locality and date, coral rock and *Porolithon* from lagoon.
- Station 26. Moorea, same locality and date, *Padina*-covered rocks from lagoon.
- Station 27. Moorea, same locality and date, *Padina* from jetty.
- Station 28. Moorea, same locality and date, dead coral with epiphytes from lagoon.