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Kamakidae*

ALAN A. MYERS
Department of Zoology, Ecology and Plant Science, National University of Ireland Cork, Enterprise Centre, Lee Fields, Cork, Ireland. (bavayia@googlemail.com)

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Abstract

Two new species of kamakids are reported from Lizard Island, Great Barrier Reef, Australia. One is attributed to the genus *Gammaropsella* Myers, the other to *Kamaka* Derzhavin.

Key words: Crustacea, Amphipoda, Kamakidae, Great Barrier Reef, Australia, taxonomy, new species, *Gammaropsella saepta*, *Kamaka silvana*

Introduction

The Kamakidae are found primarily in tropical seas but also in the Mediterranean and in the deep sea. The family Kamakidae was erected by Myers & Lowry (2003). The two genera reported here belong to the subfamily Kamakinae, which is characterised by strongly produced head lateral lobes that completely enclose the eye. They are tube-dwelling corophioid amphipods, but we know little about their way of life.

Material and methods

The descriptions were generated from a DELTA database (Dallwitz 2005) to kamakid species. Material was hand-collected on scuba and by kick-net sampling in mangroves. All material is lodged in the Australian Museum, Sydney (AM). A set of colour plates, a list of standard abbreviations and detailed station data is available in Lowry & Myers (2009). A CD (*Benthic Amphipoda (Crustacea: Peracarida) of the Great Barrier Reef: Interactive Keys*) is available with the book, or the keys can be accessed at the crustacea.net website.

Kamakidae Myers & Lowry, 2003

Remarks. The family Kamakidae includes genera with fused urosomites (*Kamaka*) as well as genera with free urosomites (*Gammaropsella*). The diagnosis in Myers & Lowry (2002) is in error and should be corrected in this respect.

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***Gammaropsella* Myers, 1995**

***Gammaropsella saepta* sp. nov.**
(Figs 1, 2)

Type Material. Holotype, male, 2.7 mm, AM P71483, Yonge Reef, Half Mile Opening, Lizard Island (14º34'19"S 145º36'51"E), *Halimeda opuntia* (green coralline alga), 10 m, I. Takeuchi, R.T. Springthorpe & O. Coleman, 5 March 2005 (QLD 1823). Paratypes: 5 females, same data as holotype, AM P71483 (QLD 1823).

Additional material examined. 2 females, AM P71404 (QLD 1806); 1 female, AM P71512 (QLD 1829); 4 females, AM P71573 (QLD 1829).

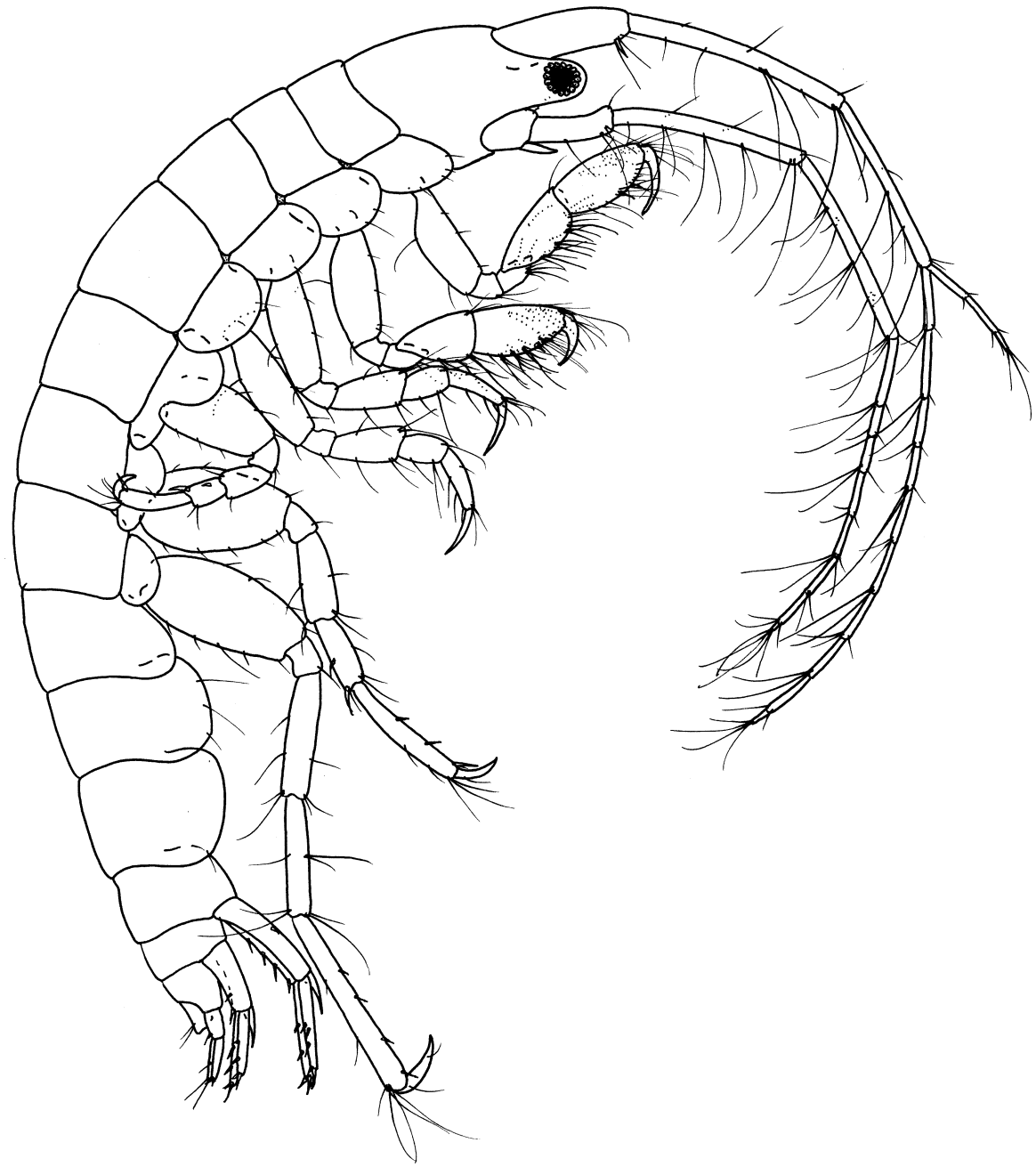

FIGURE 1. *Gammaropsella saepta* **sp. nov.**, holotype, male, 2.7 mm, AM P71483, Yonge Reef, Half Mile Opening, Great Barrier Reef.

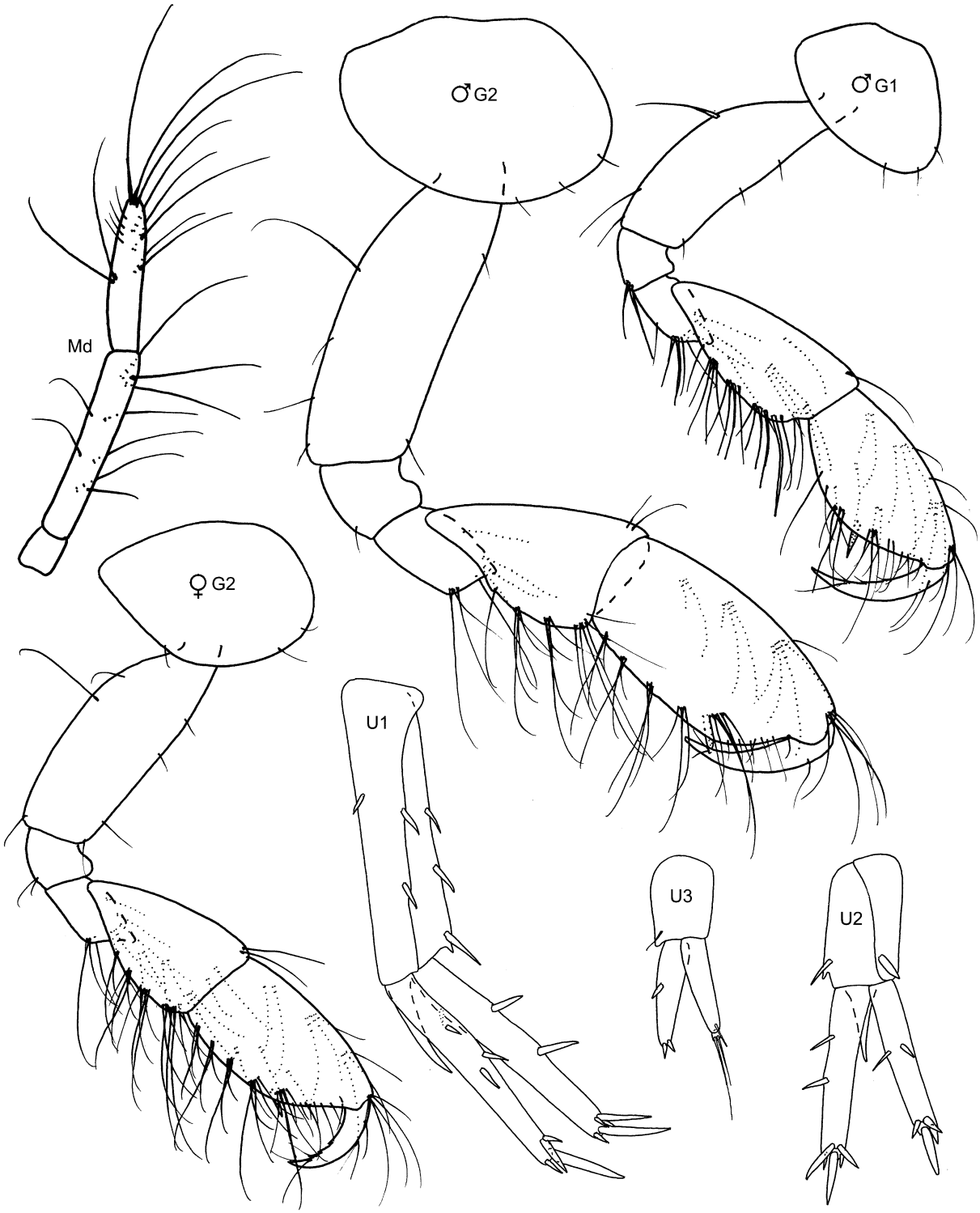

FIGURE 2. *Gammaropsella saepta* sp. nov., holotype, male, 2.7 mm, paratype, female 2.6 mm, AM P71483, Yonge Reef, Half Mile Opening, Great Barrier Reef.

Type locality. Yonge Reef, Half Mile Opening, Lizard Island, Queensland, Australia (14º34'19"S 145º36'51"E).

Etymology. From the Latin *saeptum* meaning 'barrier' pertaining to the Great Barrier Reef.

Description. Based on holotype, male, 2.7 mm, AM P71483.

Head. *Head* lateral cephalic lobe very extended; eye situated entirely within lobe. *Antennae* slender. *Antenna 1* only a little shorter than body length; peduncular article 3 longer than article 2; flagellum with 11 articles; accessory flagellum with 3 articles. *Antenna 2* a little shorter than antenna 1; peduncular articles 4

and 5 very slender, unornamented; flagellum with 7 articles. *Mandible* palp article 3 shorter than article 2, not expanded distally, setae on distal portion of posterior margin.

Pereon. *Gnathopod 1* subchelate; coxa 1 subequal with coxa 2; carpus and propodus subequal. *Gnathopod 2* subchelate; carpus a little shorter than propodus; propodus palm oblique without excavation or spine; dactylus weakly overlapping palm. *Pereopod 4* coxa without posteroventral lobe. *Pereopods 5–7* basis evenly weakly expanded, posterior margin weakly convex.

Pleon. *Epimeron 3* posteroventral corner rounded. *Urosomites 1–2* not coalesced. *Urosomite 3* not coalesced with telson. *Uropods 1–2* peduncle with distoventral spine; inner rami with marginal robust setae. *Uropod 2* inner ramus longer than outer ramus. *Uropod 3* biramous; peduncle a little shorter than rami; rami subequal in length; outer ramus with small second article.

Female (sexual dimorphic characters). Based on paratype, female 2.6 mm, AM P71483. *Gnathopod 2* propodus a little longer than carpus.

Habitat. Among coralline algae on reef.

Remarks. This species differs from the two other described species in the genus, *Gammaropsella simplex* Myers, 1995 and *G. pilosa* Myers, 1995, in having a distoventral spine on the uropod 2 peduncle. It most closely resembles *G. simplex* Myers, 1995, from Papua New Guinea, but the male gnathopod 2 is even less enlarged than in that species. It also differs from *G. simplex* in its multi-articulate accessory flagellum and unenlarged male coxa 2.

Distribution. *Australia*. Queensland: Lizard Island (current study).

Kamaka Derzhavin, 1923

Kamaka silvana sp. nov.

(Figs 3, 4)

Type Material. Holotype, male, 2.4 mm, AM P70896, Ferriers Creek, Lizard Island (14°39’56”S 145°27’03”E), 50 m up mangrove creek (*Rhizophora stylosa*) kick-net (1 mm mesh), 0.5 m, C. Rakocinski & S.E. LeCroy, 25 February 2005 (QLD 1678). Paratypes: 2 females, same data as holotype, AM P70896 (QLD 1678).

Additional material examined. 100+ males & females, AM P73191 (QLD 42); 50+ males and females, AM P73190 (QLD 42); 2 males, 4 females, AM P70586 (QLD 1631).

Type locality. Ferriers Creek, Lizard Island, Queensland, Australia (14°39’56”S 145°27’03”E).

Etymology. From Roman mythology, *Sylvanus*, the god of trees and forests, referring to the habitat of this species among mangroves.

Description. Based on holotype, male, 2.4 mm, AM P70896.

Head. *Head* lateral cephalic lobe very extended; eye situated entirely within lobe. *Antenna 1* about one third body length; flagellum with 8 articles; accessory flagellum absent. *Antenna 2* longer than antenna 1; peduncular articles 4 and 5 enlarged, unornamented; flagellum with 7 articles. *Mandible* palp article 3 shorter than article 2, weakly expanded distally, setae distal.

Pereon. *Gnathopod 1* subchelate; coxa 1 larger than coxa 2; carpus longer than propodus, posterior margin with stout setae. *Gnathopod 2* subchelate; carpus not lobate, enclosed by merus, about one quarter length of propodus; propodus palm broad, with deep v-shaped excavation and acute posterodistal spine, extending beyond apex of propodus; dactylus overlapping palm. *Pereopod 4* coxa without posteroventral lobe. *Pereopods 5–7* basis evenly expanded, posterior margin substraight.

Pleon. *Epimeron 3* posteroventral corner rounded. *Urosomites 1–2* coalesced. *Urosomite 3* coalesced with telson. *Uropods 1–2* inner rami with marginal robust setae. *Uropod 1* peduncle with distoventral spine. *Uropod 2* peduncle without distoventral spine; outer ramus much longer than inner ramus. *Uropod 3* uniramous; peduncle scarcely longer than ramus, without distomedial lobe.

Female (sexual dimorphic characters). Based on paratype, female, 2.4 mm, AM P70896. *Gnathopod 2* carpus three quarters length of propodus; propodus subovoid, with neither palmar excavation nor posterodistal spine; carpus and propodus with long, sparse setae along the anterior margin.

Habitat. In mud and mangrove litter, brackish.

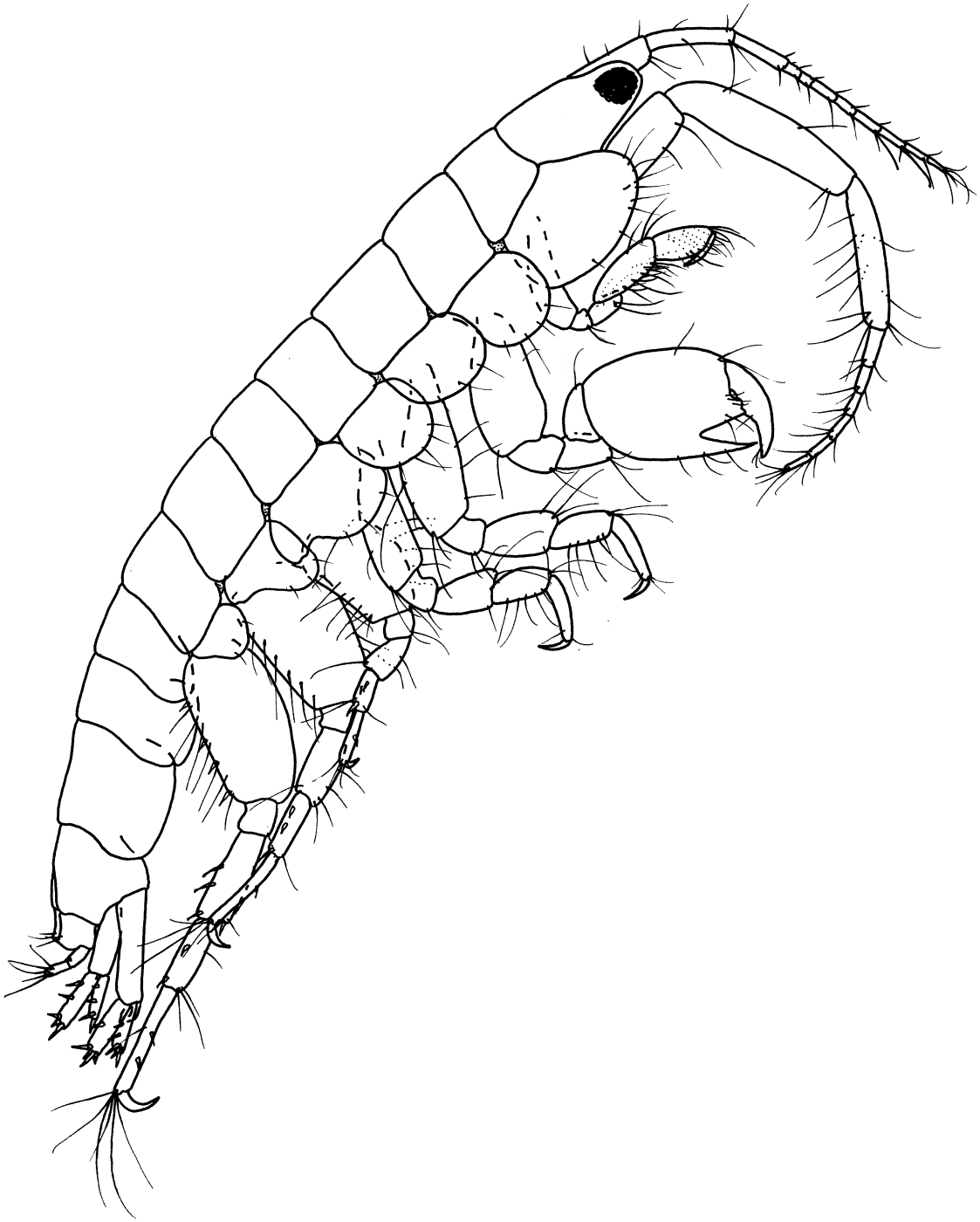

FIGURE 3. *Kamaka silvana* **sp. nov.**, holotype, male, 2.4 mm, AM P70896, Ferriers Creek, Lizard Island, Great Barrier Reef.

Remarks. *Kamaka silvana* **sp. nov.** is undoubtedly very similar to *K. littoralis* Ren, 2006, with which it may ultimately prove to be synonymous. Material from the Great Barrier Reef differs from *K. littoralis* in the much less proximal position of the spine on the posterior margin of the male gnathopod 2. This spine, however, is known to migrate proximally with age. Present material is 2.4 mm and that of Ren is 2.7 mm, so

Ren's material may simply be more mature. Present material also differs, however, in a few other subtle ways, such as in the short distoventral spur on uropod 1 as opposed to a long distoventral spine in *K. littoralis,* and in the more elongate carpus and propodus of the male gnathopod 1. For the moment, present material is allocated to a new species.

Kamaka silvana is also similar to *K. taditadi* Thomas & Barnard, 1991, from Papua New Guinea. It differs markedly from that species, however, in the very reduced carpus and much longer propodus of the male gnathopod 2. Peduncular article 4 of the male antenna 2 is also much less expanded in *K. silvana* than it is in *K. taditadi*.

Distribution. *Australia*. Queensland: Lizard Island (current study).

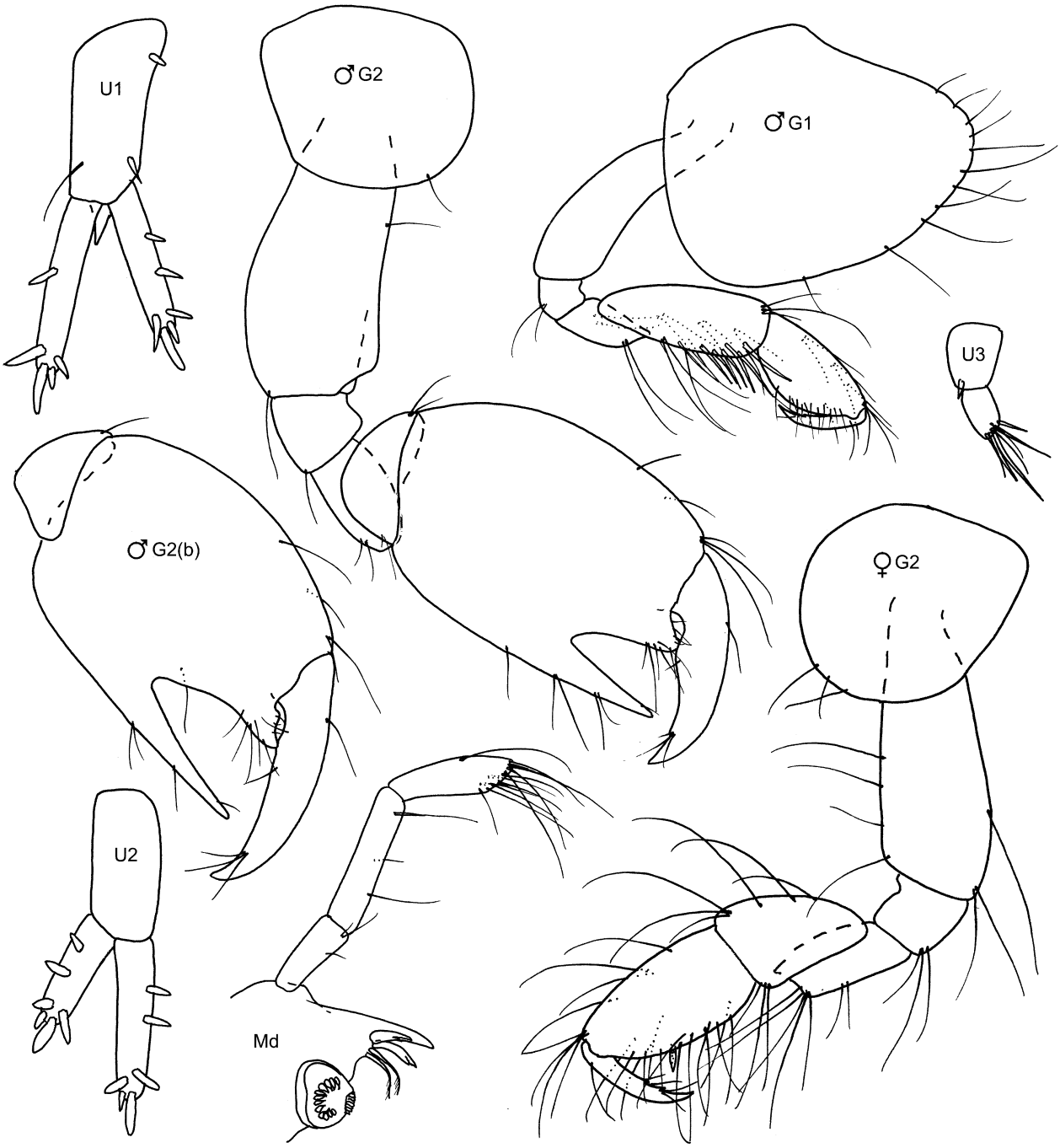

FIGURE 4. *Kamaka silvana* **sp. nov.**, holotype, male, 2.4 mm., (b) paratype, male, 2.5 mm, paratype, female 2.4 mm., AM P70896, Ferriers Creek, L

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