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Stenothoidae*

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* *In*: Lowry, J.K. & Myers, A.A. (Eds) (2009) Benthic Amphipoda (Crustacea: Peracarida) of the Great Barrier Reef, Australia. *Zootaxa*, 2260, 1–930.

Abstract

Two genera and two species of Stenothoidae are reported from the Great Barrier Reef.

Key words: Crustacea, Amphipoda, Stenothoidae, Great Barrier Reef, Australia, taxonomy, *Stenothoe miersii*, *Wallametopa cabon*

Introduction

Only two stenothoid genera, each with one species, have been recorded from the Great Barrier Reef. One belongs to the widely distributed genus *Stenothoe* Dana, 1852, the other, *Wallametopa* J.L. Barnard, 1974, is reported only from Victoria (Australia) and Madagascar. This latter genus combines a 1-articulate palp on maxilla 1 with a simple gnathopod 1. This combination of characters is otherwise seen only in the Arctic-boreal cold-water genera (*Metopa* Boeck, 1871, *Hardametopa* Barnard & Karaman, 1991, *Mesometopa* Gurjanova, 1938, *Mesostenothoides* Gurjanova, 1938, *Metopella* Sars, 1895, *Parametopa* Chevreux, 1901, *Prometopa* Schellenberg, 1926, *Pycnopyge* Krapp-Schickel, 2000, *Vonimetopa* Barnard & Karaman, 1987 and *Zaikometopa* Barnard & Karaman, 1987) and with the warm-temperate genus *Parametopella* Gurjanova, 1938, from North America. There is no other stenothoid with this character combination in Australia.

Materials and methods

The descriptions were generated from a DELTA database (Dallwitz 2005) of the stenothoid genera and species of the world. Material was hand-collected on scuba and is lodged in the Australian Museum, Sydney (AM). A set of colour plates, a list of standard abbreviations and detailed station data are 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.

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Stenothoidae Boeck, 1871

***Stenothoe* Dana, 1852**

***Stenothoe miersii* (Haswell, 1879)**
(Figs 1, 2)

Montagua Miersii Haswell, 1879: 323, pl. 24, fig. 4.
Montagua longicornis Haswell, 1879: 323, pl. 24, fig. 5.
Stenothoe miersi. —Stebbing, 1906: 200 (in part). —Stebbing, 1910: 637 (in part).
Stenothoe ?*miersii*. —J.L. Barnard, 1974: 120, figs 75–76.
Stenothoe miersi. —Lowry & Stoddart, 2003: 260.
Stenothoe valida. —Sheard, 1937: 21 (=*S. miersii*, but confused with other species).
not *Montaguana miersii*. —Chilton, 1883: 79 (part =*S. moe*, J.L Barnard, 1972).
not *Montagua miersii*. —Chilton, 1884: 1043 (part =*S. moe*, J.L Barnard, 1972).
not *Probolium miersii*. —Thomson & Chilton, 1886: 150 (=*S. valida*).

Material examined. 1 female, incomplete, AM P71403 (QLD 1806); 1 female, AM P71495 (QLD 1819); 1 female, 1 juvenile male, 3.5 mm, slides, AM P71536 (QLD 1820); 1 female, incomplete, AM P71546 (QLD 1823).

Type locality. Port Jackson, New South Wales, Australia (~33°51'S 151°15'E).

Description. Based on juvenile male, 3.5 mm, AM P71536.

Head. *Antenna 1* longer than head and pereonites 1–4, longer than antenna 2; peduncle not geniculate; peduncular article 1 without anterodistal or posterodistal lobes; peduncular article 2 without anterodistal lobe; flagellum with 11 articles; accessory flagellum present and minute, 1–articulate. *Mandible* palp absent, with conical hump where insertion of a palp would normally occur. *Maxilla 1* palp 2–articulate. *Maxilla 2* outer plate sitting upon inner one. *Maxilliped* inner plate subquadrate, with 0–1 distal seta; outer plate lacking.

Pereon. *Pereonite 4* not elongate, similar in length to pereonite 3; without dorsal carina. *Gnathopods 1–2* dissimilar in shape. *Gnathopod 1* subchelate; merus enlarged, little produced distally; carpus short, triangular; propodus about 2 x as long as broad. *Gnathopod 2* propodus posterior margin oblique/rounded, with or without posterodistal expansion, about 3 x as long as broad, not transverse, posterior margin without corner, with small or no sinus, evenly rounded, with dense row of fine setae; dactylus reaching distinctly further than half length of propodus, posterior margin not or minutely serrate. *Pereopod 4* coxa ventral margin convex. *Pereopod 5* basis not expanded, but linear. *Pereopod 6* basis fully expanded. *Pereopod 7* basis fully expanded; merus distally twice as wide as ischium, with scattered robust setae on posterior margin, expansion reaching to or past mid length of carpus; dactylus large (subequal or larger than carpus).

Pleon. *Pleonite 3* without dorsal elevation. *Epimeron 3* posteroventral corner subquadrate/rounded. *Urosomites* free. *Urosomite 1* without dorsal carina. *Uropod 1* peduncle with distoventral spine. *Uropods 1–2* inner rami well developed, subequal in length to outer rami. *Uropod 3* with peduncle and single ramus; ramus longer than peduncle, 2 articulate, article 2 subequal in length or shorter than article 1. *Telson* laminar, with dorsolateral robust setae, apically acute or subacute.

Female (sexually dimorphic characters). Based on female, AM P71536. *Antennae* subequal. *Gnathopod 2* palm regularly rounded and shorter than in male.

Habitat. Marine; among algae, colonial and stalked ascidians, bryozoans, plate corals, gorgonaceans, sponges, spirorbid and *Diopatra* worm tubes and rocks. Littoral, intertidal to 15 m.

Remarks. In Haswell (1879) two species of *Montagua* were described from Port Jackson: *M. miersii* followed directly by *M. longicornis*. It appears that the first was the female, the latter the male of the same species, belonging to *Stenothoe*. J.L. Barnard (1974) described four species of *Stenothoe* from Australia. One of these he called *S.* ?*miersi*. Haswell's types come from the east coast of Australia, but Barnard's material was from Cottesloe Beach and Middleton Beach in south-western Australia. Barnard's description matches with different populations around most of the Australian coastline, and also with the Lizard Island specimens. This

species seems to be Haswell's species and *S. miersii* is therefore the most wide-spread Australian stenothoid species.

This species shows a clear sexual dimorphism and its maxilla 2 has the outer lobe sitting upon the inner one. These two characters are not always combined among species in the genus. On the Great Barrier Reef it is the only species of *Stenothoe* found to date.

Distribution. *Australia*. Queensland: Lizard Island (current study). New South Wales (Haswell 1879). Western Australia (J.L. Barnard 1974).

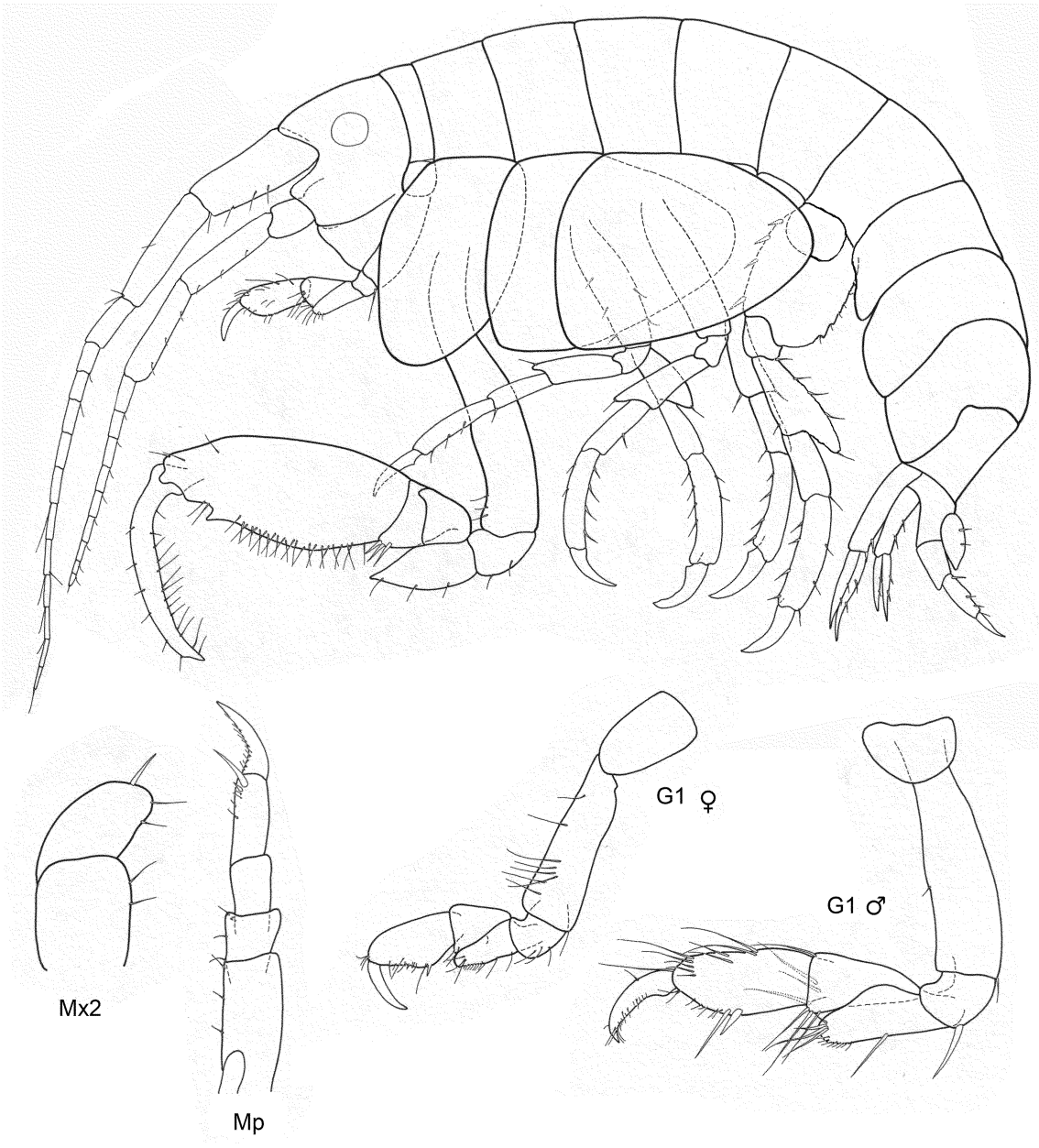

FIGURE 1. *Stenothoe miersii* (Haswell, 1879), juvenile male, 2.5 mm and ovigerous female, 3 mm, both AM P71536, Half Mile Opening, Yonge Reef, Lizard Island, Great Barrier Reef.

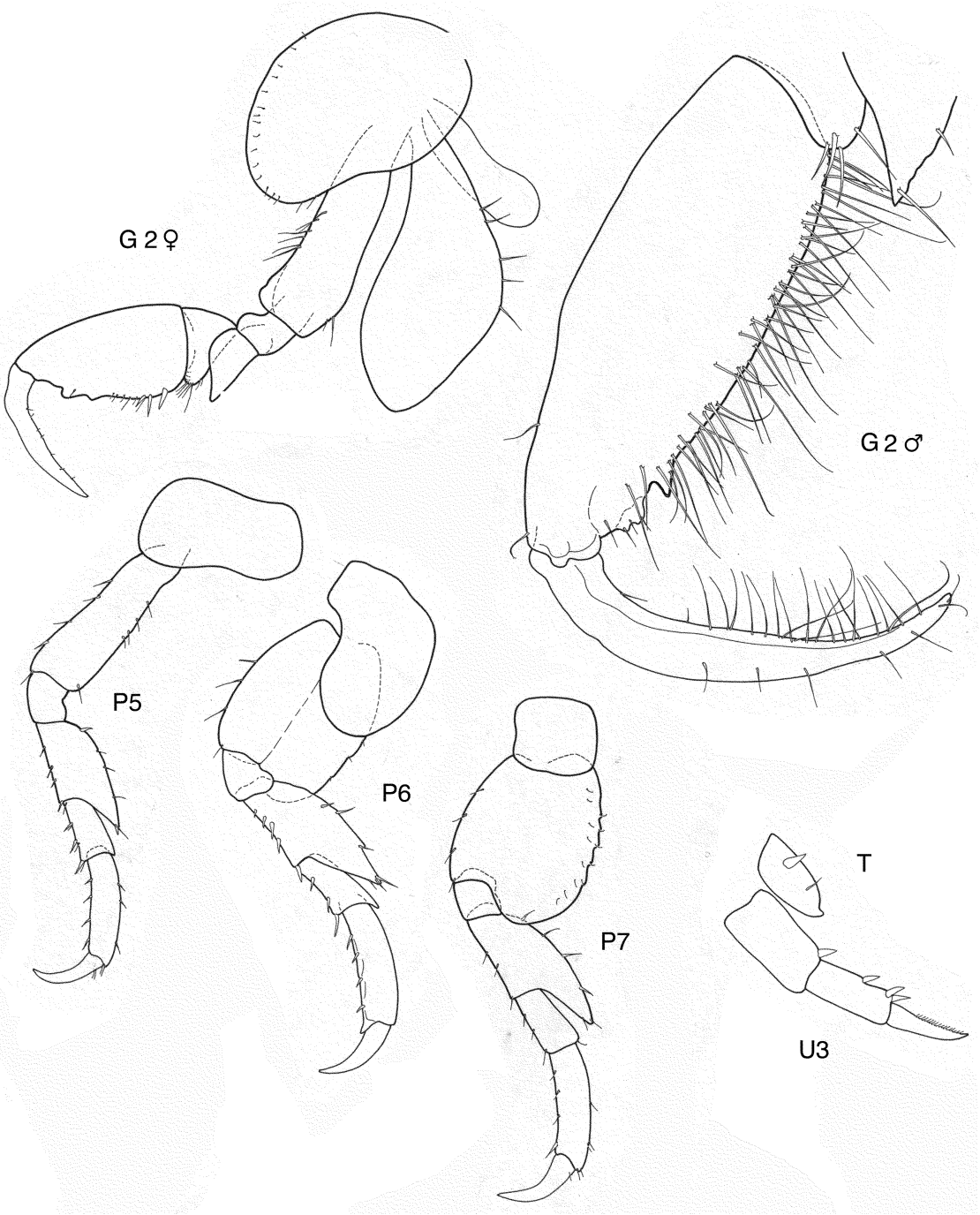

FIGURE 2. *Stenothoe miersii* (Haswell, 1879), juvenile male, 2.5 mm and ovigerous female, 3 mm, both AM P71536, Half Mile Opening, Yonge Reef, Lizard Island, Great Barrier Reef.

***Wallametopa* J.L. Barnard, 1974**

***Wallametopa cabon* J.L. Barnard, 1974**
(Figs 3, 4, Pl. 6C, D)

Wallametopa cabon J.L. Barnard, 1974: 132, figs 82, 83. —Ledoyer, 1979: 132, fig. 85. —Ledoyer, 1986: 977, fig. 386.

Material examined. 1 female, 2.4 mm AM P71316 (QLD 1782); 1 ?male, 2.0 mm AM P71326 (QLD 1780), both from North Point, Lizard Island (14°38.760'S 145°27.31'E).

Type locality. Western Port, Victoria, Australia (~38°22'S 145°20''E).
Description. Based on female, 2.4 mm, AM P71316.

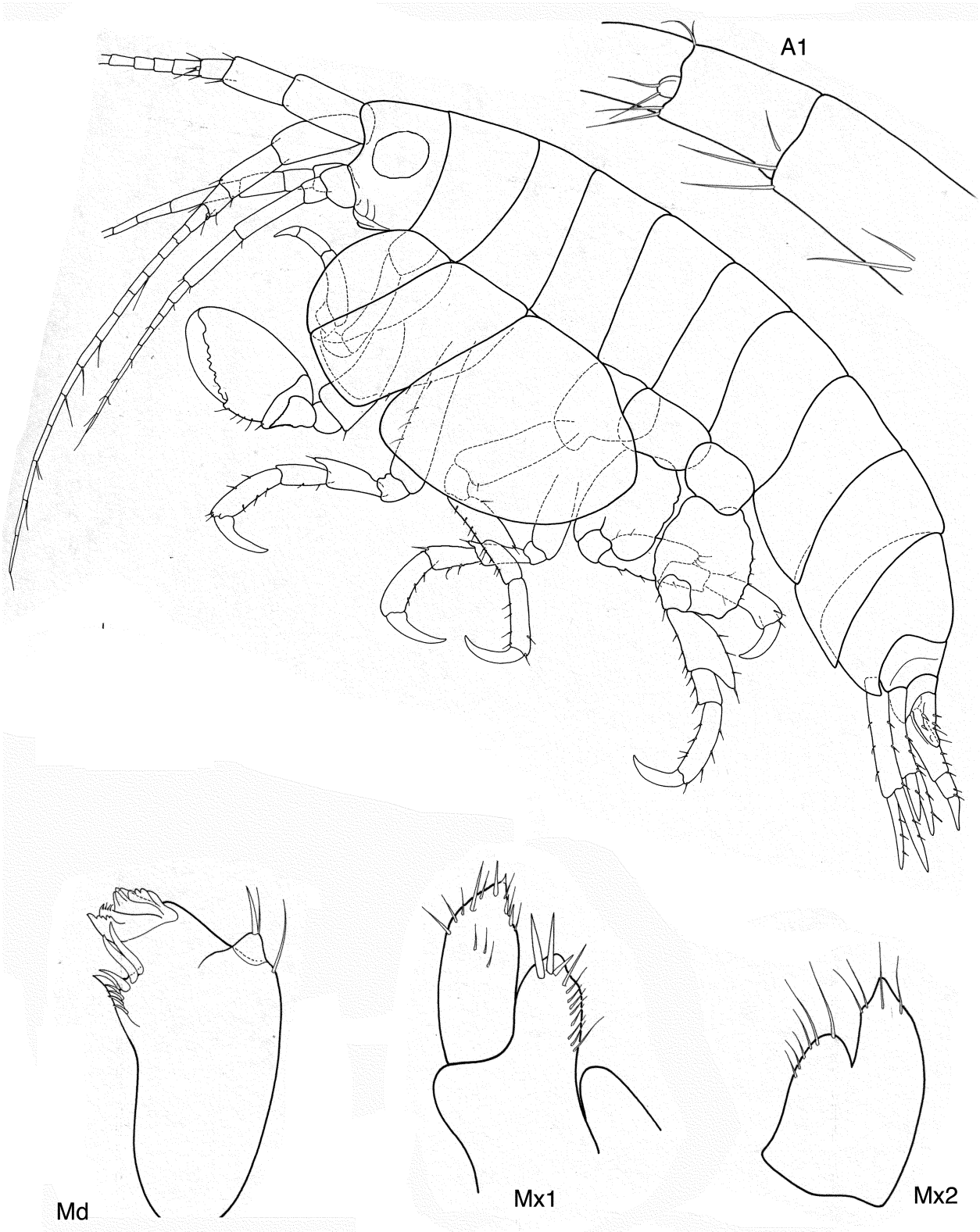

FIGURE 3. *Wallametopa cabon* J.L. Barnard, 1974, female, 2.4 mm, AM P71316, North Point, Lizard Island, Great Barrier Reef.

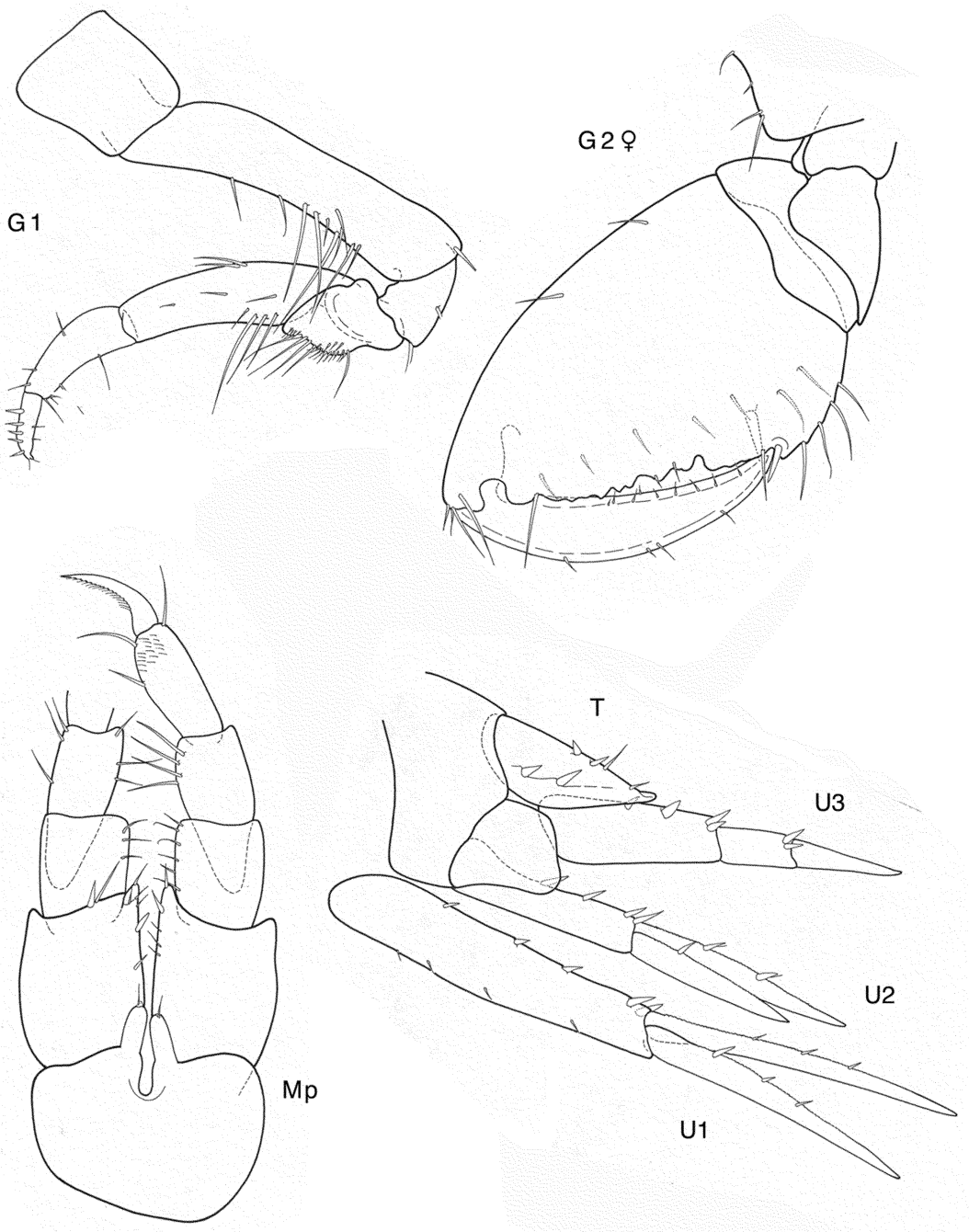

FIGURE 4. *Wallametopa cabon* J.L. Barnard, 1974 , female, 2.4 mm, AM P71316, North Point, Lizard Island, Great Barrier Reef.

Head. *Eyes* large. *Antenna 1* long (distinctly longer than head and pereonites 1–4), distinctly longer than antenna 2; peduncle not geniculate; peduncular article 1 without anterodistal lobe, without posterodistal lobe; peduncular article 2 without anterodistal lobe; flagellum 14-articulate; accessory flagellum present and minute, 1 - articulate (hidden under distal margin of peduncular article 3). *Mandible* palp 1-articulate, very short. *Maxilla 1* palp 1-articulate, about 3–4 times as long as wide. *Maxilla 2* plates not sitting one upon the other, but next to each other, inner plate distinctly shorter than outer one.

Pereon. *Pereonite 4* similar in length to pereonite 3, without dorsal carina. *Gnathopods 1–2* dissimilar in shape. *Coxa* 1 subquadrate. Gnathopod *1* simple; merus not enlarged or produced distally; carpus elongate,

wider distally than proximally; propodus 3–4 x as long as broad; dactylus outer margin with many robust setae. *Gnathopod 2* propodus oblique/rounded, with posterodistal expansion, about 2 x as long as broad, not transverse, posterior margin without or with scarcely developed corner, evenly rounded, crenulate along most of the palmar margin, with scattered or no fine setae; dactylus reaching distinctly further than half length of propodus, posterior margin not or minutely serrate. *Pereopod 3* coxa rectangular. *Pereopod 4* coxa ventral margin convex. *Pereopod 5* basis not expanded. *Pereopod 6, 7* basis fully expanded; merus distally twice as wide as ischium, with row of robust setae on posterior margin, expansion reaching to or past mid length of carpus; dactylus large (subequal or longer than carpus).

Pleon. *Pleonite 3* without dorsal elevation. *Epimeron 3* posteroventral corner produced, subacute. *Urosomites* free. *Urosomite 1* without dorsal carina. *Uropod 1* peduncle without a distoventral spine; inner ramus well developed, subequal in length to outer ramus. *Uropod 2* inner ramus well developed, longer than outer ramus. *Uropod 3* with peduncle and single ramus; ramus subequal to peduncle; ramus 2–articulate, article 2 subequal in length or longer than article 1. *Telson* laminar, with dorsolateral robust setae, apically acute or subacute.

Male (sexually dimorphic characters). Based on ? male 2.0 mm AM P71326. Stridulation with scarce ridges on coxa 4; coxa 3 without stridulation ridges.

Habitat. Marine. Hydroids, granite rock face with some corals and turf algae, 6–11 m.

Remarks. This species seems to have a wide distribution. It was described first from Victoria (J.L. Barnard 1974), based on 8 specimens found in 7 samples. The only other report of the species is from Madagascar (Ledoyer 1979). The material from Australia and Madagascar shows no significant morphological differences. In present material, some length ratios do not match perfectly with the type material (maxilla1 palp is somewhat shorter, pereopod 7 basis somewhat smaller), but due to the small sample size these differences cannot be evaluated.

Distribution. *Australia*. Queensland: Lizard Island (current study). Victoria: Western Port (J.L. Barnard 1974). *Madagascar* (Ledoyer 1986).

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