

Colomastigidae*

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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

The family Colomastigidae is represented on the Great Barrier Reef by a total of six species, all members of the genus *Colomastix*, three of which are new to science. Ranges of the three known species, *C. japonica* Bulycheva, 1955, *C. lunalilo* J.L. Barnard, 1970 and *C. plumosa* Ledoyer, 1979, are extended to include the Great Barrier Reef. Of the three new species, two are found only on the Reef and the third also occurs near Port Jackson, New South Wales. All six species are fully described and illustrated.

Key words: Crustacea, Amphipoda, Colomastigidae, Great Barrier Reef, Australia, taxonomy, new species, commensal, *Colomastix dentipalma*, *Colomastix japonica*, *Colomastix lunalilo*, *Colomastix plumosa*, *Colomastix processa*, *Colomastix thomasi*

Introduction

The Colomastigidae is a small family, comprising only two genera worldwide. The smaller of these genera, *Yulumara*, contains only five species, three of which occur in shallow, temperate and subtropical Australian waters and tend to be associated with marine algae or seagrasses (Lowry & Stoddart 2003). These include *Y. armadillicta* Moore, 1982 from Tasmania (Moore 1982), *Y. wallangar* J.L. Barnard, 1972 from South Australia (J.L. Barnard 1972) and *Y. tricuspidis* Moore, 1988 from Western Australia (Moore 1988). None have been reported from the tropical waters of the Great Barrier Reef to date.

The second colomastigid genus, *Colomastix*, is much more widespread, occurring in all oceans with the exception of the Arctic. Members of this genus are typically commensals of marine sponges, although they are also reported from coral rubble, algae and grass-bed habitats. Some species are known to be host specific, whereas others occur in a wide variety of host taxa (LeCroy 1995, 2004). The genus is currently represented by 41 species worldwide; however, only one of these species is currently known from Australia and that one, *C. brazieri* Haswell, 1879 from Port Jackson, New South Wales (Haswell 1879, Lowry & Stoddart 2003), is poorly known. Although they are often quite common in tropical waters because of the high diversity of sponges in these regions, prior to this study, no species of *Colomastix* had been reported from the Great Barrier Reef. However, a number of regional works include descriptions of *Colomastix* species potentially occurring in these waters (J.L. Barnard 1970, Hirayama & Kikuchi 1980, Myers 1985, Kim & Kim 1987, Hirayama 1990, Myers 1990, Kim & Kim 1991, Müller 1992, Ariyama 2005, Ren 2006).

As a result of this study, a total of six species of *Colomastix*, three of them new, are now known to occur on the Great Barrier Reef.

Materials and methods

The material examined herein came from several different islands or island groups on the Great Barrier Reef and also from New South Wales on the mainland. The islands include Lizard Island, on the northern part of the reef, Orpheus Island on the central part and Heron Island to the south. The vast majority of the material was collected on Lizard Island and is contained in the collections of the Australian Museum (AM) in Sydney. The Heron Island material is also from the Australian Museum collections, as is a small amount of material from New South Wales, included because it represents taxa that also occur in the Great Barrier Reef collections. Material from Orpheus Island and several Lizard Island samples are from the collection of James D. Thomas. The majority of this material is also deposited in the Australian Museum, Sydney, although material of several species is deposited at the Gulf Coast Research Laboratory Museum (GCRL), Ocean Springs, Mississippi, U.S.A. as well. The descriptions were generated from a DELTA database (Dallwitz 2005) of the colomastigid species occurring on the Great Barrier Reef. 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.

Colomastigidae Chevreux, 1899

Colomastix Grube, 1861

Colomastix dentipalma sp. nov.

(Figs 1, 2, Pl. 2E)

Type material. Holotype, male, 4.9 mm, AM P78981, Blue Lagoon Bommie, Lizard Island (14°41.24'S 145°27.93'E), unidentified sponge, 8 m, K. Klebba, 4 March 2005 (QLD 1804). Paratypes: 1 male, AM P78982, North Point, Lizard Island, rubble at base of rock cliff, 12 m, J. D. Thomas, 28 January, 1989 (JDT/LIZ 13); 1 male, 1 female, AM P71339 (QLD 1804), same data as holotype; 4 males, 7 females, AM P71429 (QLD 1804), same data as holotype.

Additional material examined. 1 male, 1 female, AM P27022 (QLD 2017).

Type locality. Blue Lagoon Bommie, Lizard Island, Queensland, Australia (14°41.24'S 145°27.93'E).

Etymology. From the Latin '*dentis*', meaning 'tooth', and '*palma*', meaning 'hand', referring to the acute processes at the palmar angle of the propodus of the female.

Description. Based on holotype male, 4.9 mm, AM P78981 and 4 paratype males, AM P71429.

Head. Head as long as deep, subequal in length to pereon segment 1 and half of pereon segment 2 combined; rostrum subacute; interantennal plate with anteroventral angle extending far beyond anterodorsal angle, anterior margin straight to slightly concave, weakly serrate, with 2 ventral teeth. *Antennae* 1–2, marginal robust setae elongate. *Antenna 1* peduncle article 1, dorsomedial margin with 3–5 robust setae. *Antenna 2* peduncle articles 3–5, ventrolateral margin without small, triangular robust setae; peduncle article 3, distomedial angle with 1 robust seta, without slender setae or process, dorsomedial margin with 2 robust setae, ventromedial surface with 2 robust setae; peduncle article 5, dorsal margin without stubby robust setae. *Mouthparts* other than maxilliped moderately reduced. *Maxilliped* inner plates completely fused, basal shell expanded to form a ventral keel, keel distally flattened.

Pereon. *Coxa 1* anterior margin strongly concave, anteroventral angle narrowly produced. *Coxae 1–4* with small anteroventral cusp. *Coxal gills* 2–5 gradually increasing in size, gill 6 smaller than gill 5. *Gnathopod 1* elongate, slender; propodus with pectinate apical setae. *Gnathopod 2* basis broadly expanded distally, anterior margin entire, with anterodistal notch, without anterodistal process; ischium with inner anterodistal lobe not expanded; carpus much shorter than propodus, inner ventral surface without patch of

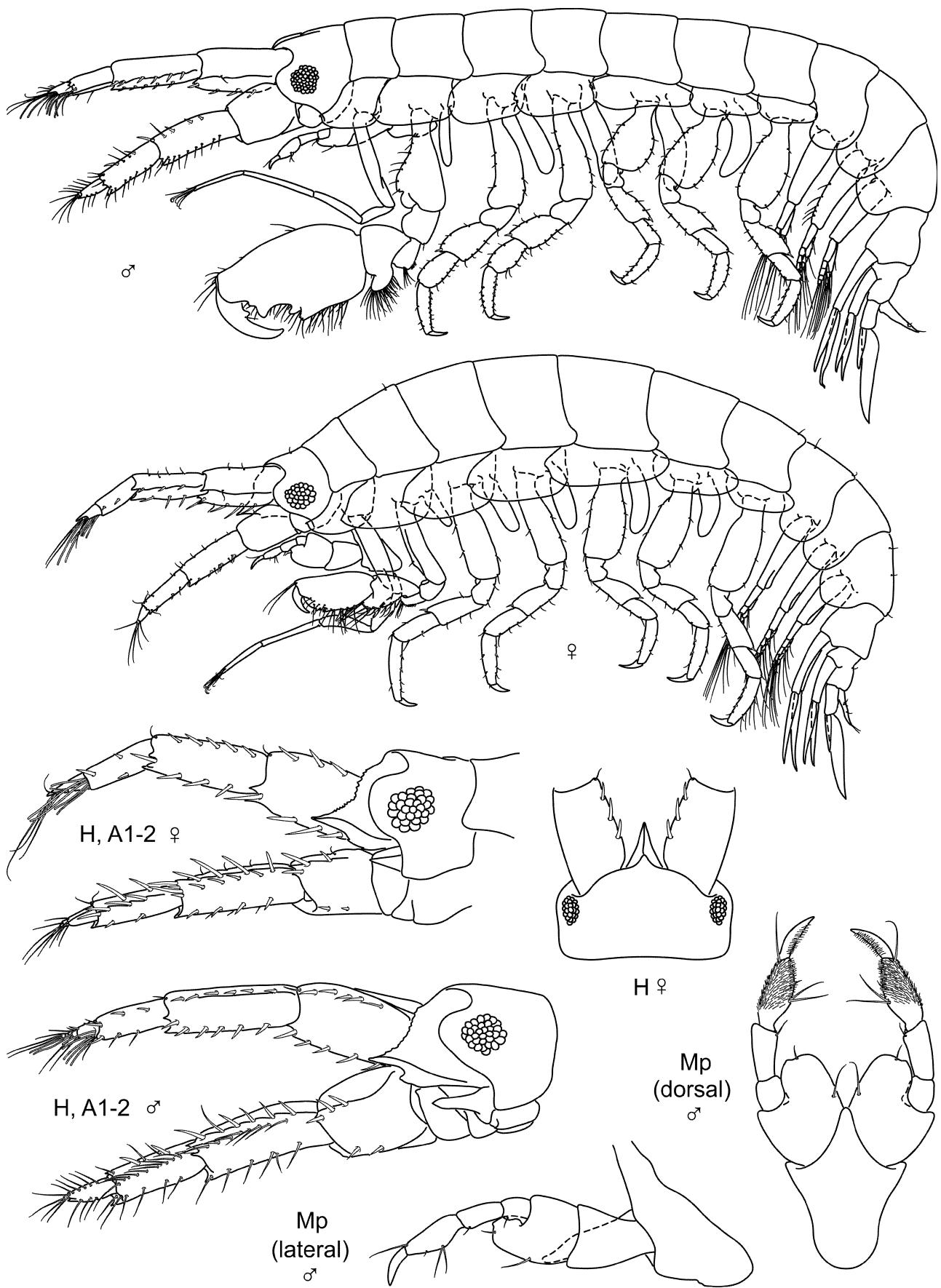


FIGURE 1. *Colomastix dentipalma* sp. nov., paratype, male, 5.2 mm, paratype, female, 3.7 mm, AM P71429, Blue Lagoon Bommie, Lizard Island, Great Barrier Reef.

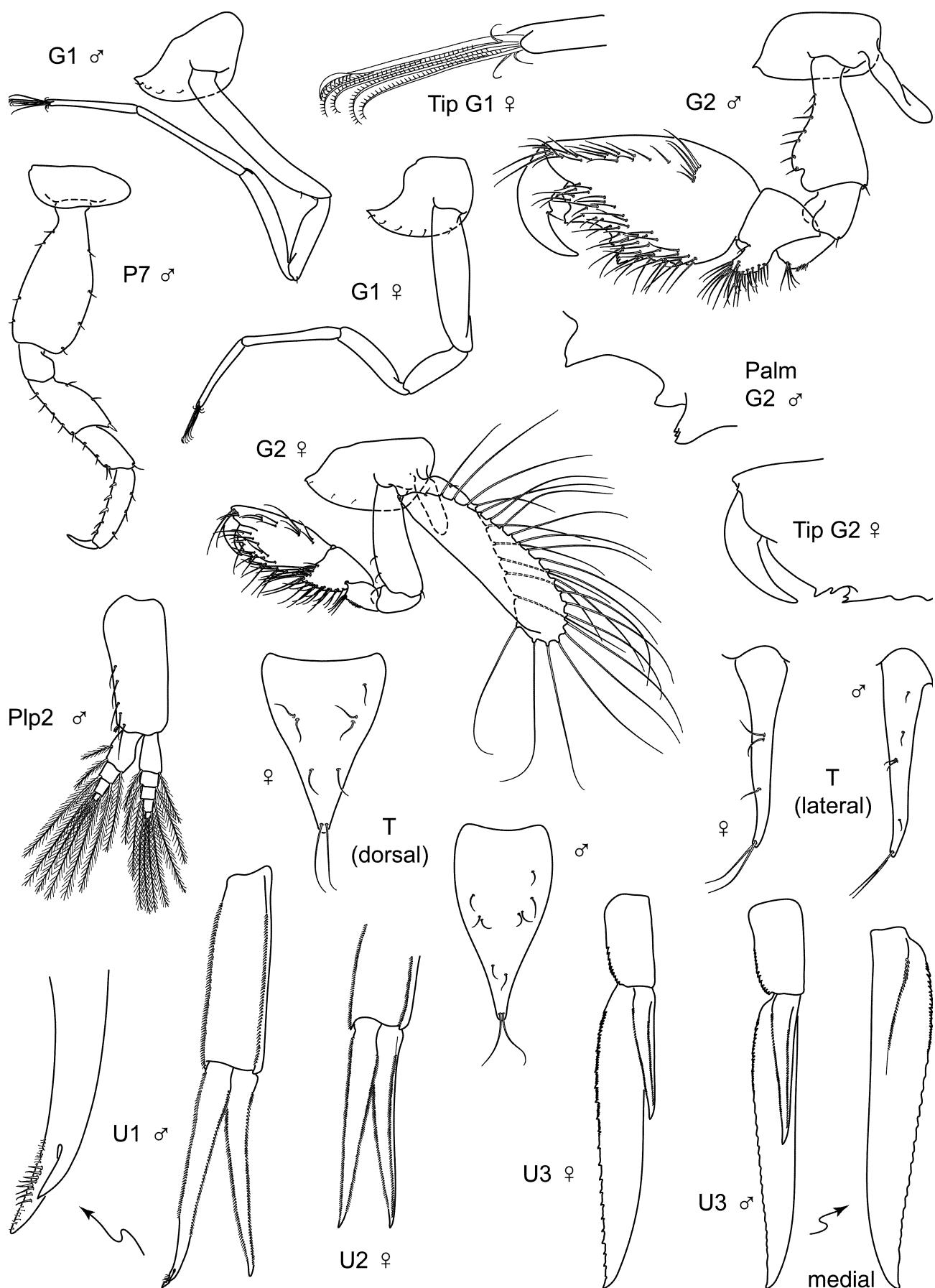


FIGURE 2. *Colomastix dentipalma* sp. nov., paratype, male, 5.2 mm, paratype, female, 3.7 mm, AM P71429, Blue Lagoon Bommie, Lizard Island, Great Barrier Reef.

setae; propodus greatly enlarged, inner ventral surface with patch of setae, setae elongate, slender, palm not excavate, with 3 dissimilar, unequally spaced processes, palmar angle with 2 processes, proximal process distinctly larger than middle process, subtruncate, apical margin minutely serrate, middle process small, subacute, process at dactylar hinge broad, subtriangular; dactylus, insertion on propodus apical, with small process on posterior margin, tip lanceolate, subacute. *Pereopods* 3–4 basis produced anterodistally to form rounded lobe. *Pereopods* 3–7 basis slightly expanded. *Pereopod* 7 propodus, anterior margin with 3–4 robust setae.

Pleon. *Pleopods* 1–3 inner ramus with 4 articles, outer ramus with 5 articles. *Pleopod* 2, peduncle, anteromedial surface with 5 slender setae. *Uropod* 1 inner ramus modified, not strongly falcate, not expanded proximally, ventral margin straight, tip minutely bifurcate, dorsal branch of bifurcation longer than ventral branch, both branches straight; outer ramus slightly shorter than inner ramus, tip lanceolate, subacute. *Uropod* 2 both rami, ventral margin lacking setae. *Uropod* 3 peduncle less than twice as long as deep; inner ramus blade-like, approximately twice length of outer ramus, medial surface with proximal, curved diagonal ridge, ridge lined with minute robust setae. *Telson* narrowly subtriangular, dorsal surface flat, tip subtriangular, without lobes or processes, with 2 apical elongate slender setae.

Female (sexually dimorphic characters). Based on 7 paratype females, AM P71429. *Oostegite* 2 subovate (length:width ratio approximately 2:1), approximately twice as long as basis of gnathopod 2. *Gnathopod* 2, basis linear, unexpanded distally, without anterodistal notch; propodus slightly enlarged, palm with 2 processes, processes subequal in size, margins serrate distally; dactylus without process on posterior margin. *Pereopods* 3–4 basis not produced anterodistally. *Pleopod* 2 peduncle, anteromedial surface without slender setae. *Uropod* 1, inner ramus unmodified, lanceolate.

Adult body length. 3.4–5.2 mm. Males attain slightly larger sizes than females.

Colour in life. Eyes red. Antennae 1–2 banded with rose pink and pale grey or white; body and pereopods with a faint rose pink wash over translucent grey. Eggs lime green.

Host. Unknown.

Habitat. Sponges, coral rubble.

Depth range. 8–13 m.

Remarks. *Colomastix dentipalma* sp. nov. belongs to the group of species with an elongate, blade-like inner ramus on uropod 3 in both sexes. This group also includes *C. brazieri* from south-eastern Australia; *C. magnirama* Hurley, 1954 from New Zealand; *C. lunalilo* J.L. Barnard, 1970 from Hawaii; *C. japonica* Bulycheva, 1955 from the Sea of Japan (Russia); and *C. laminosa* Lyons & Myers, 1990 from the Red Sea. It differs from all of the above species by having a moderately enlarged propodus with palmar ornamentation on gnathopod 2 of the female and very elongate apical slender setae on the telson in both sexes. It also differs from all except *C. japonica* by the presence of a large anterodistal notch in the basis of gnathopod 2 in the male. *Colomastix dentipalma* sp. nov. can be further distinguished from *C. japonica*, which it closely resembles, by the presence of a second ventral tooth and a less concave anterior margin on the interantennal plate and by the distally expanded basis and minutely serrate palmar process on gnathopod 2 of the male. In addition, the modification of the tip of the inner ramus of the male uropod 1 differs between the two species.

Distribution. Australia: Queensland: Lizard and Heron Islands (current study).

Colomastix japonica Bulycheva, 1955

(Figs 3, 4)

Colomastix japonica Bulycheva, 1955: 197–200, fig. 3.—Ariyama, 2005: 8–15, figs 5–9.

Colomastix lunalilo.—Hirayama, 1990: 21–24, figs 1–3 (not *Colomastix lunalilo* J.L. Barnard, 1970: 96–100, figs 51, 52).

?*Colomastix lunalilo*.—Kim & Kim, 1987: 9, fig. 8 (not *Colomastix lunalilo* J.L. Barnard, 1970: 96–100, figs 51, 52).

Material examined. 5 males, 6 females, 3 juveniles, AM P37542 (QLD 1); 1 male, AM P78987 (JDT/LIZ 7).

Type locality. Peter the Great Bay, Russia.

Description. Based on 5 males, 3 juveniles, AM P37542.

Head. Head as long as deep, subequal in length to pereon segment 1 and half of pereon segment 2 combined; rostrum subacute; interantennal plate with anteroventral angle extending far beyond anterodorsal angle, anterior margin strongly concave, weakly serrate, with 1 ventral tooth. *Antennae* 1–2 marginal robust setae moderately long. *Antenna 1* peduncle article 1, dorsomedial margin with 5–6 robust setae. *Antenna 2*, peduncle articles 3–5, ventrolateral margin without small, triangular robust setae; peduncle article 3, distomedial angle with 1 robust seta, without slender setae or process, dorsomedial margin with 2 robust setae, ventromedial surface with 2–3 robust setae; peduncle article 5, dorsal margin without stubby robust setae. *Mouthparts* other than maxilliped moderately reduced. *Maxilliped* inner plates completely fused, basal shell expanded to form a ventral keel, keel distally flattened.

Pereon. *Coxa 1* anterior margin strongly concave, anteroventral angle narrowly produced. *Coxae 1–4* with small anteroventral cusp. *Coxal gills 2–5* subequal in size, gill 6 subequal to gill 5. *Gnathopod 1* elongate, slender; propodus with pectinate apical setae. *Gnathopod 2*, basis moderately expanded distally, anterior margin crenulate, with anterodistal notch, without anterodistal process; ischium with inner anterodistal lobe expanded; carpus much shorter than propodus, inner ventral surface without patch of setae; propodus greatly enlarged, inner ventral surface with patch of setae, setae elongate, slender, palm not excavate, with 3 dissimilar, unequally spaced processes, palmar angle with 2 processes, proximal process distinctly larger than middle process, subtriangular, apical margin entire, middle process very small, rounded, process at dactylar hinge broad, subtruncate; dactylus, insertion on propodus apical, with small process on posterior margin, tip lanceolate, subacute. *Pereopods 3–4* basis not produced anterodistally. *Pereopods 3–7* basis slightly expanded. *Pereopod 7* propodus, anterior margin with 3 robust setae.

Pleon. *Pleopods 1–3* inner ramus with 4 articles, outer ramus with 5 articles. *Pleopod 2* peduncle, anteromedial surface with 7 slender setae. *Uropod 1* inner ramus modified, not strongly falcate, not expanded proximally, ventral margin straight, tip minutely attenuate or subacute, straight, with 2–5 subapical robust setae dorsally; outer ramus slightly shorter than inner ramus, tip lanceolate, subacute. *Uropod 2* both rami, ventral margin lacking setae. *Uropod 3* peduncle approximately 3.5 x as long as deep; inner ramus blade-like, approximately twice length of outer ramus, medial surface with proximal, slightly curved diagonal ridge, ridge lined with minute robust setae. *Telson* narrowly subtriangular, dorsal surface flat, tip subtriangular, without lobes or processes, with 2 apical short slender setae.

Female (sexually dimorphic characters). Based on 6 females, AM P37542. Head deeper than long, subequal in length to pereon segment 1. *Antennae* 1–2 marginal robust setae elongate. *Oostegite 2* subovate (length:width ratio approximately 2:1), approximately twice as long as basis of gnathopod 2. *Gnathopod 2* basis linear, unexpanded distally, anterior margin entire, without anterodistal notch; ischium with inner anterodistal lobe not expanded; propodus unenlarged, palm without teeth or processes; dactylus, insertion on propodus subapical, without process on posterior margin. *Uropod 1* inner ramus unmodified, lanceolate; outer ramus subequal to inner ramus.

Adult body length. 4.0–10.3 mm. Males attain slightly larger sizes than females.

Colour in life. Unknown.

Host. The sponges *Callyspongia confoederata* (Ridley, 1884); *Callyspongia elegans* (Thiele, 1899); *Haliclona permollis* (Bowerbank, 1866); *Myxilla setoensis* Tanita, 1961; *Siphonocholina* sp. (Kim & Kim 1987, Hirayama 1990, Ariyama 2005).

Habitat. Coral rubble and patch reefs.

Depth range. 1–18 m.

Remarks. *Colomastix japonica* was originally described by Bulycheva (1955) from Peter the Great Bay in Russia and was recently redescribed by Ariyama (2005) based on material from several locations in Japan. Ariyama (2005) compares *C. japonica* with *C. lunulilo* and notes that material reported as the latter species from Cheju Island, Korea (Kim & Kim 1987) and Noumea, New Caledonia (Hirayama 1990) actually

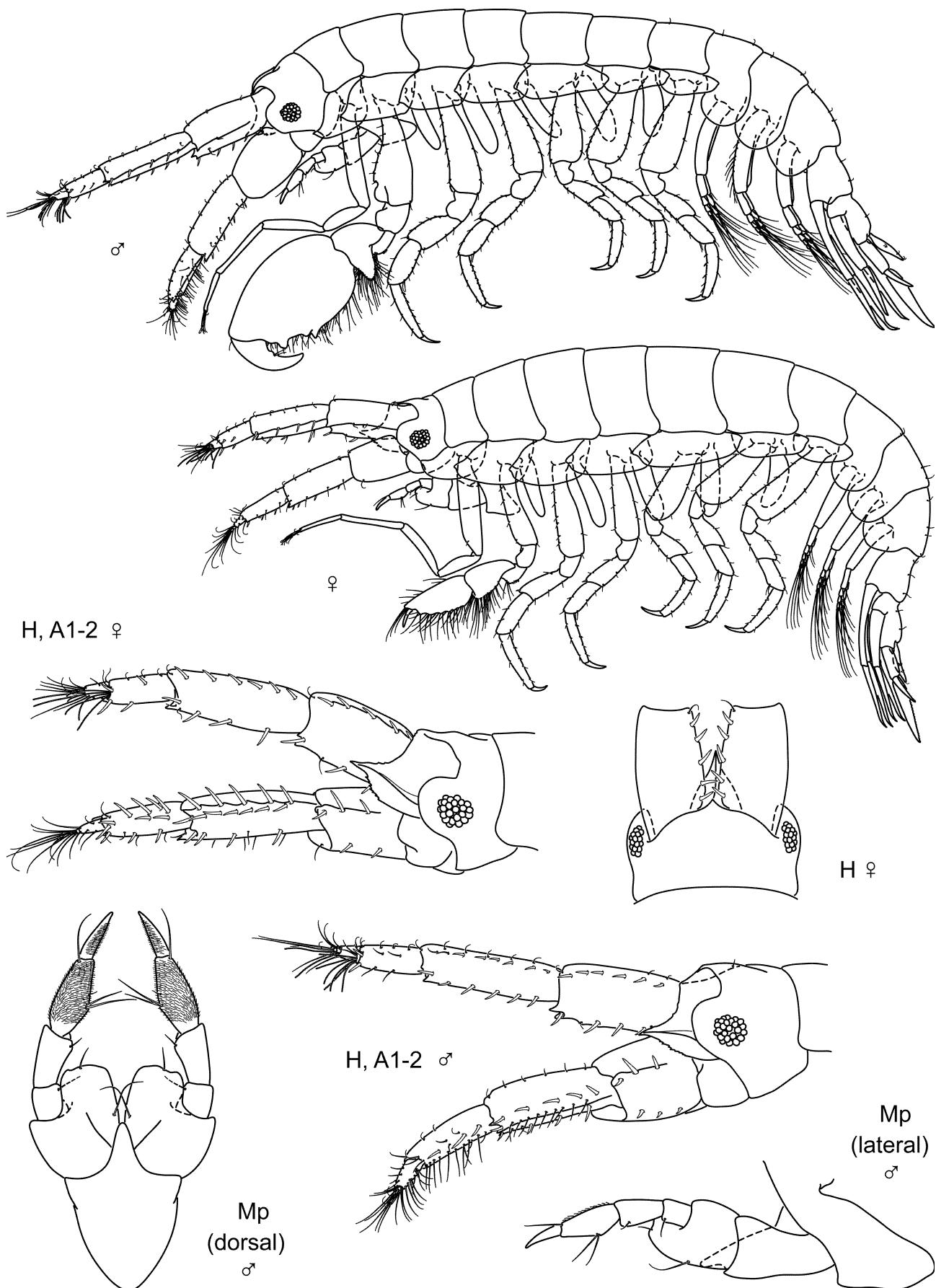


FIGURE 3. *Colomastix japonica* Bulycheva, 1955, male, 4.5 mm, female, 4.0 mm, AM P37542, Watsons Bay, Lizard Island, Great Barrier Reef.

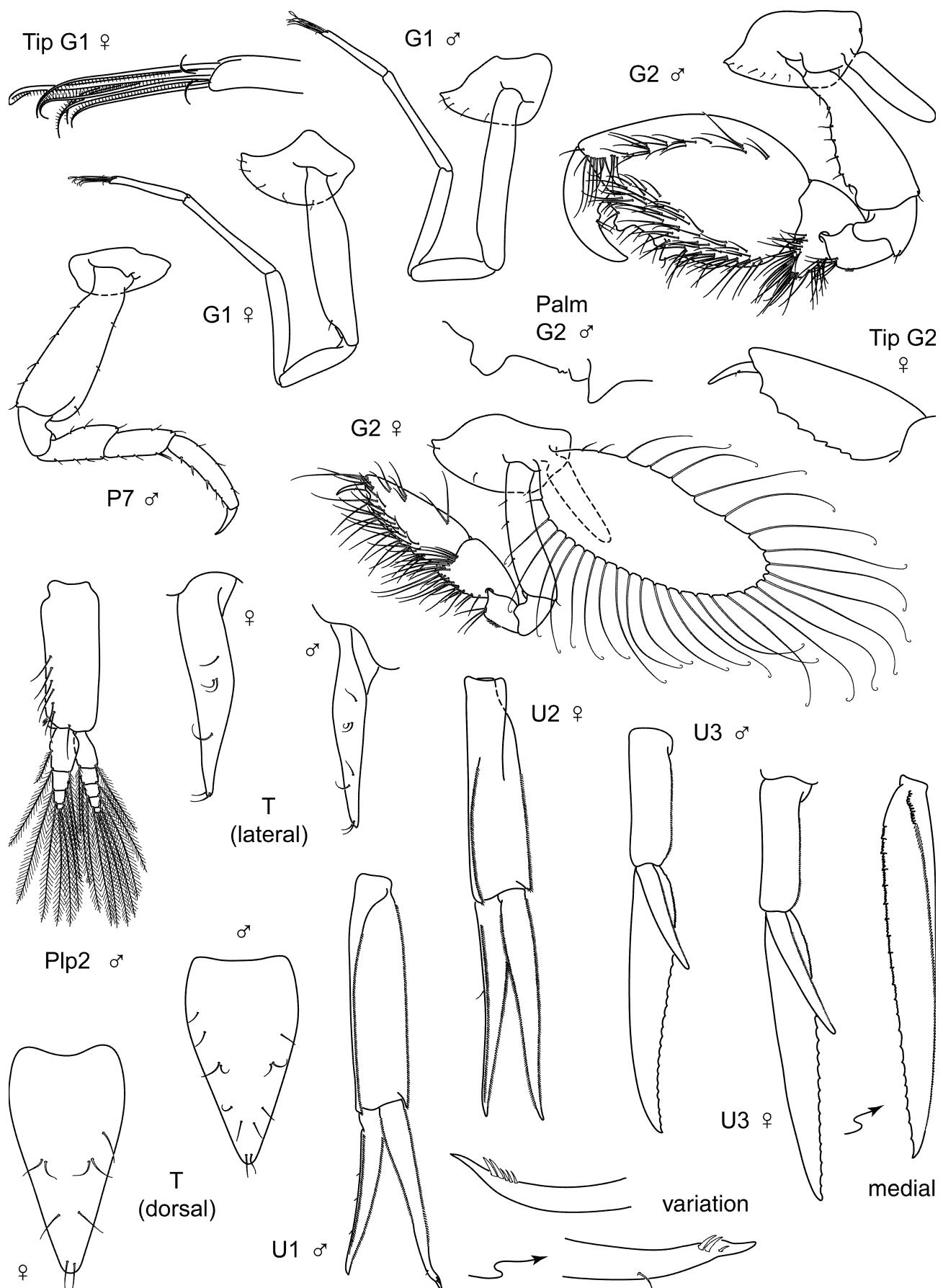


FIGURE 4. *Colomastix japonica* Bulycheva, 1955, male, 4.5 mm, female, 4.0 mm, AM P37542, Watsons Bay, Lizard Island, Great Barrier Reef.

represents *C. japonica* based on body size (*C. lunalilo* is a much smaller species) and morphology. The Korean material is somewhat problematic because it is fairly sketchily described and illustrated, but it does appear closer to *C. japonica* than *C. lunalilo* based on body size and the relative lengths of the rami of uropod 3. However, based on the information provided in Kim & Kim (1987), *C. dentipalma* sp. nov. and *C. brazieri* cannot be completely ruled out as possibilities because they are similar in size and have similar pereopod and uropod 3 morphologies to *C. japonica*. The Korean material appears to differ from both *C. japonica* and *C. dentipalma* sp. nov. in the relatively unexpanded basis of gnathopod 2 in the male, resembling *C. brazieri* in this regard. The New Caledonian material is fully illustrated (Hirayama 1990) and is clearly *C. japonica*. Material from Lizard Island agrees well with the descriptions and illustrations in Bulycheva (1955), Hirayama (1990) and Ariyama (2005) and extends the known range of this species to the Great Barrier Reef.

Colomastix japonica can be distinguished from all other known species in the genus by the combination of a crenulate anterior margin and an anterodistal notch on the basis of gnathopod 2 of the male, an elongate peduncle and a blade-like inner ramus on uropod 3 that is approximately twice the length of the outer ramus, a narrowly subtriangular telson and the modification of the tip of the inner ramus of uropod 1 in the male.

Distribution. Australia: Lizard Island, Queensland (current study). New Caledonia: Noumea (Hirayama 1990, as *C. lunalilo*). Korea: ?Cheju Island (Kim & Kim 1987, as *C. lunalilo*). Japan: Shirahama and Oura, Wakayama; Tanigawa, Osaka; and Iwagi Island, Ehime (Ariyama 2005). Russia: Peter the Great Bay (Bulycheva 1955).

Colomastix lunalilo J.L. Barnard, 1970

(Figs 5, 6)

Colomastix lunalilo J.L. Barnard, 1970: 96–100, figs 51, 52. — J.L. Barnard, 1971: 55, figs 24, 25. — Ledoyer, 1979: 26, fig. 9(2). — Ledoyer, 1982: 156–157, fig. 54. — Myers, 1985: 56, fig. 41. — Lyons & Myers, 1990: 1222, fig. 20. — Müller, 1992: 426.

?*Colomastix lunalilo* — Ledoyer, 1978: 233, fig. 15(2).

Not *Colomastix lunalilo* — Hirayama, 1990: 21–24, figs 1–3 (= *Colomastix japonica* Bulycheva, 1955).

Not *Colomastix lunalilo* — Kim & Kim, 1987: 9, fig. 8 (= ?*Colomastix japonica* Bulycheva, 1955).

Material examined. 1 female, AM P78984 (JDT/LIZ 3); 2 males, GCRL 2872 (JDT/LIZ 14); 1 female, GCRL 2871 (JDT/LIZ 15); 1 male, AM P78985 (JDT/OPH 1); 2 males, AM P37540 (QLD 11); 1 male, 1 female, AM P70801 (QLD 1649); 1 male, 1 female, AM P70967 (QLD 1687); 1 female, AM P70998 (QLD 1707); 1 female, AM P71139 (QLD 1707).

Type locality. Kaneohe Bay, Oahu, Hawaii.

Description. Based on 1 male, AM P70801 and 1 male, AM P70967.

Head. Head as long as deep, subequal in length to pereon segment 1 and half of pereon segment 2 combined; rostrum subacute; interantennal plate with anteroventral angle extending slightly beyond anterodorsal angle, anterior margin straight to slightly concave, without serrations, with 2 ventral teeth. *Antennae* 1–2 marginal robust setae elongate. *Antenna 1* peduncle article 1, dorsomedial margin with 4 robust setae. *Antenna 2* peduncle articles 3–5, ventrolateral margin without small, triangular robust setae; peduncle article 3, distomedial angle with 1 robust seta, without slender setae or process, dorsomedial margin with 1 robust seta, ventromedial surface with 2 robust setae; peduncle article 5, dorsal margin without stubby robust setae. *Mouthparts* other than maxilliped moderately reduced. *Maxilliped*, inner plates completely fused, basal shell expanded to form a ventral keel, keel distally flattened.

Pereon. *Coxa 1* anterior margin strongly concave, anteroventral angle narrowly produced. *Coxae 1–4* with small anteroventral cusp. *Coxal gills* 2–5 gradually increasing in size, gill 6 subequal to gill 5. *Gnathopod 1* elongate, slender; propodus with pectinate apical setae. *Gnathopod 2* basis moderately expanded distally, anterior margin entire, without anterodistal notch, without anterodistal process; ischium with inner anterodistal lobe expanded; carpus much shorter than propodus, inner ventral surface with patch of setae,

setae short, very fine; propodus greatly enlarged, inner ventral surface with patch of setae, setae elongate, slender, palm not excavate, with 2 dissimilar processes, palmar angle with 1 short subtriangular process, apical margin of process entire, middle process absent, process at dactylar hinge broad, rounded; dactylus, insertion on propodus apical, with small process on posterior margin, tip lanceolate, subacute. *Pereopods* 3–4 basis not produced anterodistally. *Pereopods* 3–7 basis slightly expanded. *Pereopod* 7 propodus, anterior margin with 2 robust setae.

Pleon. *Pleopods* 1–3 inner ramus with 4 articles, outer ramus with 5 articles. *Pleopod* 2 peduncle, anteromedial surface with 3 slender setae. *Uropod* 1 inner ramus modified, not strongly falcate, not expanded proximally, ventral margin straight, tip minutely attenuate, recurved, with 2–4 subapical robust setae dorsally; outer ramus slightly shorter than inner ramus, tip lanceolate, subacute. *Uropod* 2 both rami, ventral margin lacking setae. *Uropod* 3 peduncle less than twice as long as deep; inner ramus blade-like, approximately 3 x length of outer ramus, medial surface with proximal, curved diagonal ridge, ridge entire, without minute robust setae. *Telson* broadly subtriangular, dorsal surface flat, tip subtruncate, without lobes or processes, with 2 apical short slender setae.

Female (sexually dimorphic characters). Based on 1 female, AM P70801 and 1 female, AM P70967. *Head* deeper than long, subequal in length to pereon segment 1. *Oostegite* 2 subovate (length:width ratio approximately 2:1), approximately one-third longer than basis of gnathopod 2. *Gnathopod* 2, basis weakly expanded distally, ischium with inner anterodistal lobe not expanded; carpus slightly shorter than propodus; propodus unenlarged, inner ventral surface with patch of setae, setae short, very fine or setae elongate, slender, palm without teeth or processes; dactylus, insertion on propodus subapical, without process on posterior margin. *Pleopod* 2 peduncle, anteromedial surface without slender setae. *Uropod* 1 inner ramus unmodified, lanceolate; outer ramus subequal to inner ramus.

Adult body length. 1.9–3.0 mm. There appears to be little difference in size between males and females in this species.

Colour in life. Eyes red. Antennae 1–2 with faint bands of rusty orange; body with a very faint rusty orange wash over translucent grey, darkest anteriorly; pereopods with very faint banding.

Host. Unknown.

Habitat. Corals, coral rubble, algae (*Caulerpa*, *Sargassum*, *Halimeda*) and coralline algae in reef flat and patch reef habitats.

Depth range. 1–24 m.

Remarks. *Colomastix lunulilo* appears to be one of the most widely distributed of the *Colomastix* species, occurring from the Central Pacific through the Indian Ocean to the Red Sea. However, although it has been reported from Bora Bora in the Society Islands (Müller 1992) and from Fiji (Myers 1985), this constitutes the first record of this species from the Great Barrier Reef.

Colomastix lunulilo can be distinguished from all but five other species in the genus by the elongate, blade-like inner ramus of uropod 3. Of these five, *C. brazieri* from south-eastern Australia is the most poorly known, but is readily distinguished from *C. lunulilo* by its larger size (10 mm) and the longer outer ramus of uropod 3. *Colomastix magnirama*, a New Zealand species, differs from *C. lunulilo* in the tiny, almost vestigial, outer ramus of uropod 3 and the presence of a large posteroventral carpal lobe on pereopods 5–7. The Red Sea species, *C. laminosa*, differs from *C. lunulilo* in the longer outer ramus of uropod 3, the lack of robust setae on the anterior margins of pereopod propodi 5–7 and the produced, acutely pointed anterior lobe of coxa 5. The remaining two species, *C. japonica* and *C. dentipalma* sp. nov., also occur on the Great Barrier Reef, but are distinguished from *C. lunulilo* by the more anteriorly extended ventral angle of the interantennal plate, the presence of an anteroventral notch on the basis of gnathopod 2 in the male, the longer outer ramus of uropod 3 and the more narrowly subtriangular telson.

Distribution. U.S.A. Hawaii (Barnard 1970, 1971). Fiji. Nasese and Momi Bay, Viti Levu (Myers 1985). Australia. Lizard and Orpheus Islands, Queensland (current study). French Polynesia. Bora Bora, Society Islands (Müller 1992). Indian Ocean. Mauritius (Ledoyer 1978). Madagascar. Grand Récif de Tuléar (Ledoyer 1979, 1982). Red Sea. Gulf of Aqaba (Lyons & Myers 1990).

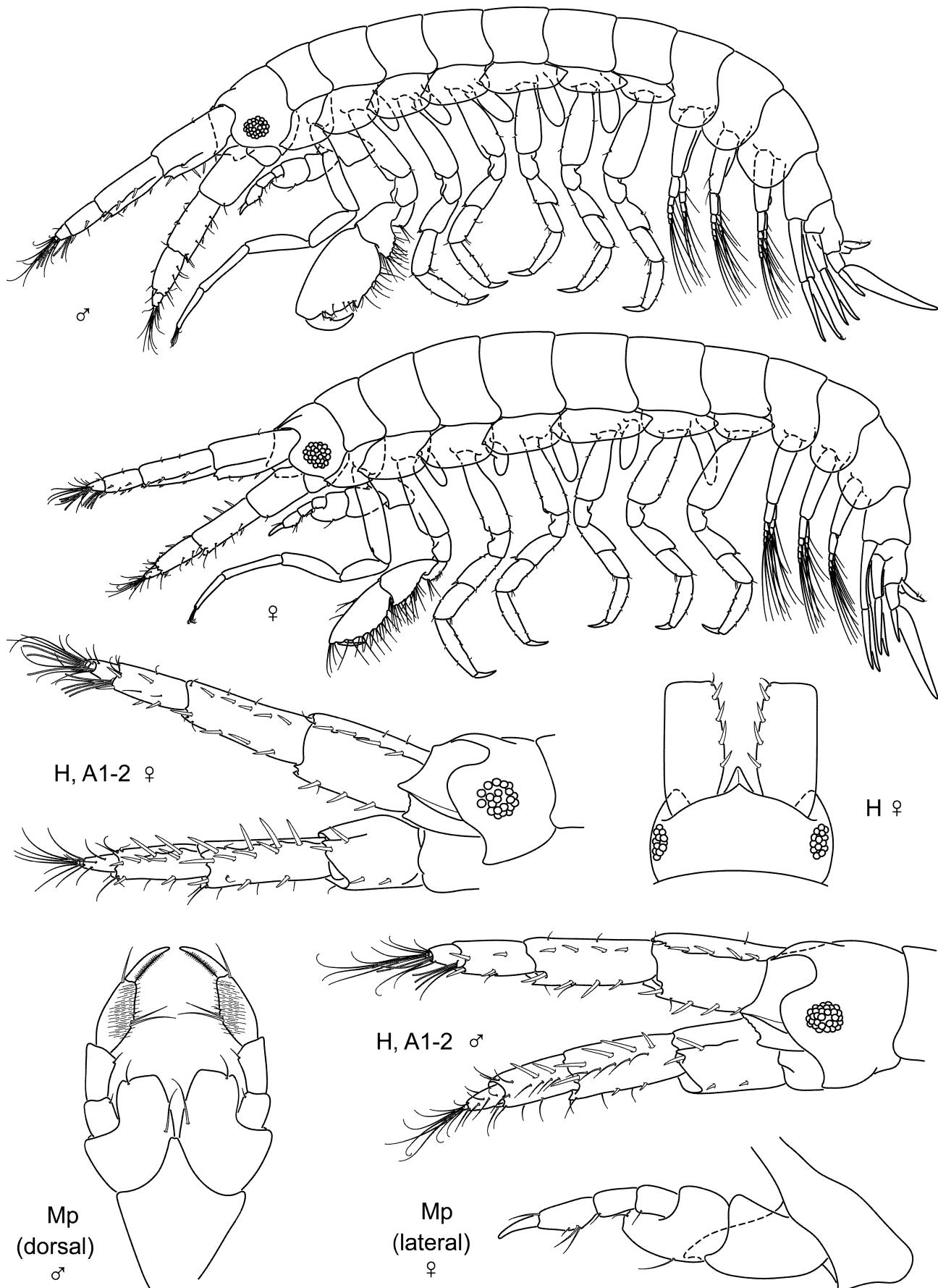


FIGURE 5. *Colomastix lunulilo* J.L. Barnard, 1970, male, 3.4 mm, female, 3.0 mm, AM P70967, 200 m north of Bird Islet, Lizard Island, Great Barrier Reef.

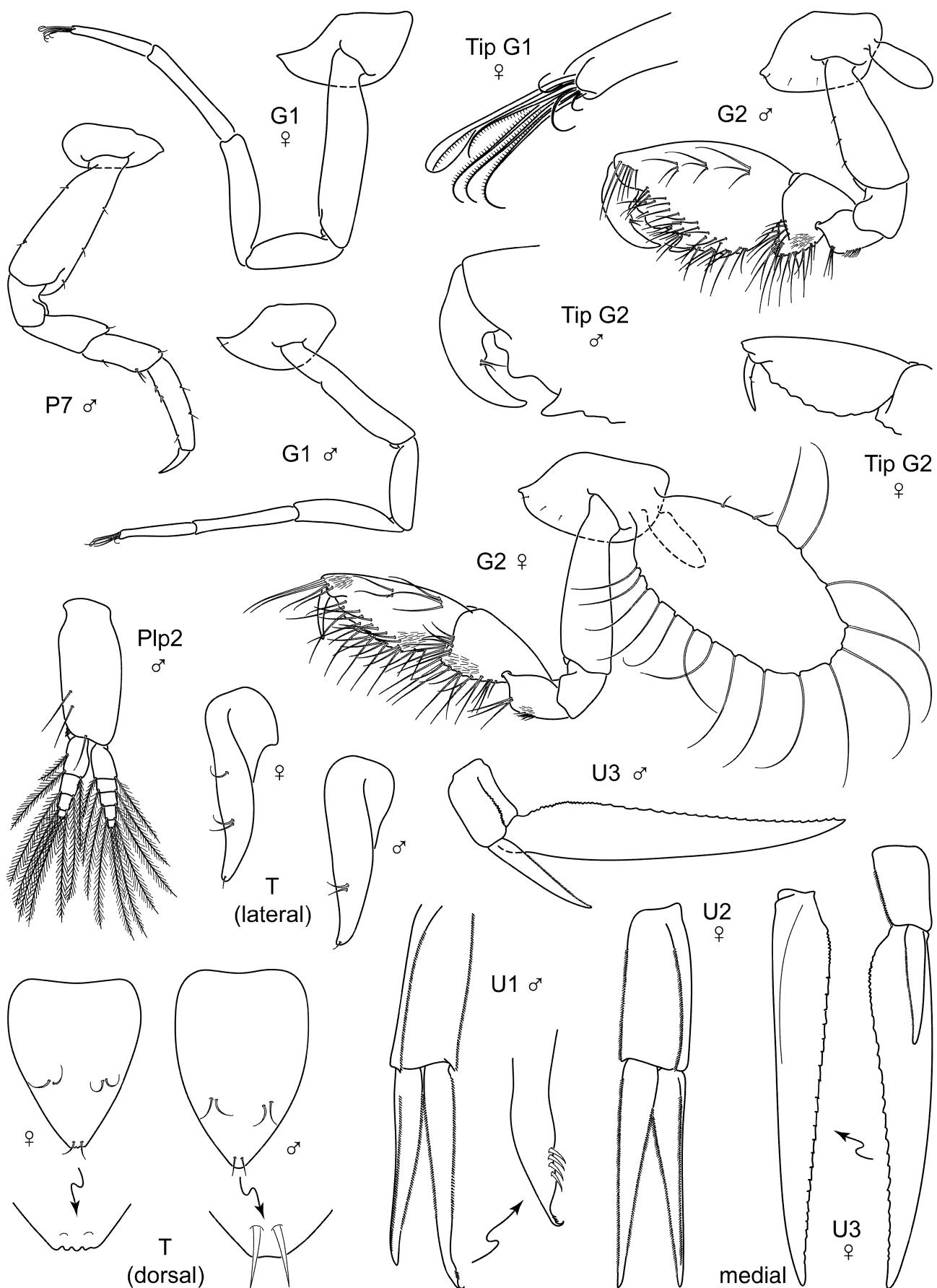


FIGURE 6. *Colomastix lunulilo* J.L. Barnard, 1970, male, 3.4 mm, female, 3.0 mm, AM P70967, 200 m north of Bird Islet, Lizard Island, Great Barrier Reef.

***Colomastix plumosa* Ledoyer, 1979**

(Figs 7, 8)

Colomastix plumosa Ledoyer, 1979: 26, fig. 8(1). —Ledoyer, 1982: 158–159, fig. 55. —Lyons & Myers, 1990: 1220–1221, fig. 18. —Ariyama, 2005: 27–31, figs 19–22.

?*Colomastix pusilla*. —Nayar, 1966: 145, fig. 7 (not *Colomastix pusilla* Grube, 1861: 137).

Material examined. 1 male, AM P79275 (JDT/LIZ 3); 1 male, AM P79276 (JDT/LIZ 5); 1 male, GCRL 2873 (JDT/LIZ 5); 1 male, AM P79277 (JDT/LIZ 7); 1 male, AM P79278 (JDT/LIZ 12); 3 males, 1 female, AM P79279 (JDT/LIZ 13); 1 female, GCRL 2874 (JDT/LIZ 13); 1 male, AM P79280 (JDT/LIZ 14); 2 males, 1 female, AM P79281 (JDT/OPH 1); 1 juvenile, AM P79282 (QLD 11); 1 juvenile, AM P37541 (QLD 27); 1 female, AM P70593 (QLD 1622); 1 female, AM P70709 (QLD 1643); 1 juvenile, AM P70735 (QLD 1643); 1 female, AM P79283 (QLD 1760); 1 female, AM P79284 (QLD 1760); 1 juvenile, AM P71325 (QLD 1786); 1 male, AM P71434 (QLD 1792).

Type locality. Grand Récif de Tuléar, Madagascar ($23^{\circ}20' S$ $43^{\circ}41' E$).

Description. Based on 1 male, AM P79278 (JDT/LIZ 12); 2 males, AM P79281 (JDT/OPH 1).

Head. Head longer than deep, slightly longer than first two pereon segments combined; rostrum narrowly rounded; interantennal plate with anterodorsal and anteroventral angles extending forward subequally, anterior margin straight to slightly concave, without serrations, without ventral teeth. *Antennae* 1–2 marginal robust setae short. *Antenna 1* peduncle article 1, dorsomedial margin with 2 robust setae. *Antenna 2* peduncle articles 3–5, ventrolateral margin with small, triangular robust setae; peduncle article 3, distomedial angle with 1 robust seta and 1 elongate slender seta, without process, dorsomedial margin and ventromedial surface without robust setae; peduncle article 5, dorsal margin with stubby robust setae. *Mouthparts* other than maxilliped greatly reduced or vestigial. *Maxilliped*, inner plates completely fused, basal shell not expanded to form a ventral keel.

Pereon. *Coxa 1* anterior margin convex, anteroventral angle rounded. *Coxae 1–4* without small anteroventral cusp. *Coxal gills 2–5* gradually increasing in size, gill 6 smaller than gill 5. *Gnathopod 1* vestigial, exact morphology individually variable; propodus without setae. *Gnathopod 2* basis broadly expanded distally, anterior margin entire, without anterodistal notch, without anterodistal process; ischium with inner anterodistal lobe not expanded; carpus much shorter than propodus, inner ventral surface with patch of setae, setae short, very fine; propodus greatly enlarged, inner ventral surface with patch of setae, setae elongate, slender, palm not excavate, with 3 similar, equally spaced processes, palmar angle with 1 short subtriangular process, apical margin of process entire, middle process slightly smaller than proximal process, subacute, process at dactylar hinge medium, subtriangular; dactylus, insertion on propodus apical, with small process on posterior margin, tip lanceolate, subacute. *Pereopods 3–4* basis not produced anterodistally. *Pereopods 3–7* basis slightly expanded. *Pereopod 7* propodus, anterior margin without setae.

Pleon. *Pleopods 1–3* inner ramus with 4 articles, outer ramus with 4 articles. *Pleopod 2* peduncle, anteromedial surface with 3 slender setae. *Uropod 1* inner ramus modified, not strongly falcate, expanded proximally, ventral margin straight, tip subtruncate; outer ramus three-fourths length of inner ramus, tip lanceolate, subacute. *Uropod 2* both rami, ventral margin lacking setae. *Uropod 3* peduncle less than twice as long as deep; inner ramus lanceolate, subequal to outer ramus, ventral margin lacking setae. *Telson* broadly subtriangular, dorsal surface flat, tip subtruncate, without lobes or processes, with 2 subapical short slender setae.

Female (sexually dimorphic characters). Based on 1 female, GCRL 2874 and 1 female, AM P79281 (JDT/OPH 1). *Head* as long as deep, subequal in length to pereon segment 1 and half of pereon segment 2 combined. *Antenna 2* peduncle article 5, dorsal margin without stubby robust setae. *Mouthparts* other than maxilliped moderately reduced. *Oostegite 2* narrowly subovate (length:width ratio 3:1 or greater), slightly longer than basis of gnathopod 2. *Gnathopod 1* elongate, slender; propodus with simple apical setae. *Gnathopod 2* basis weakly expanded distally; carpus subequal to propodus in length, inner ventral surface

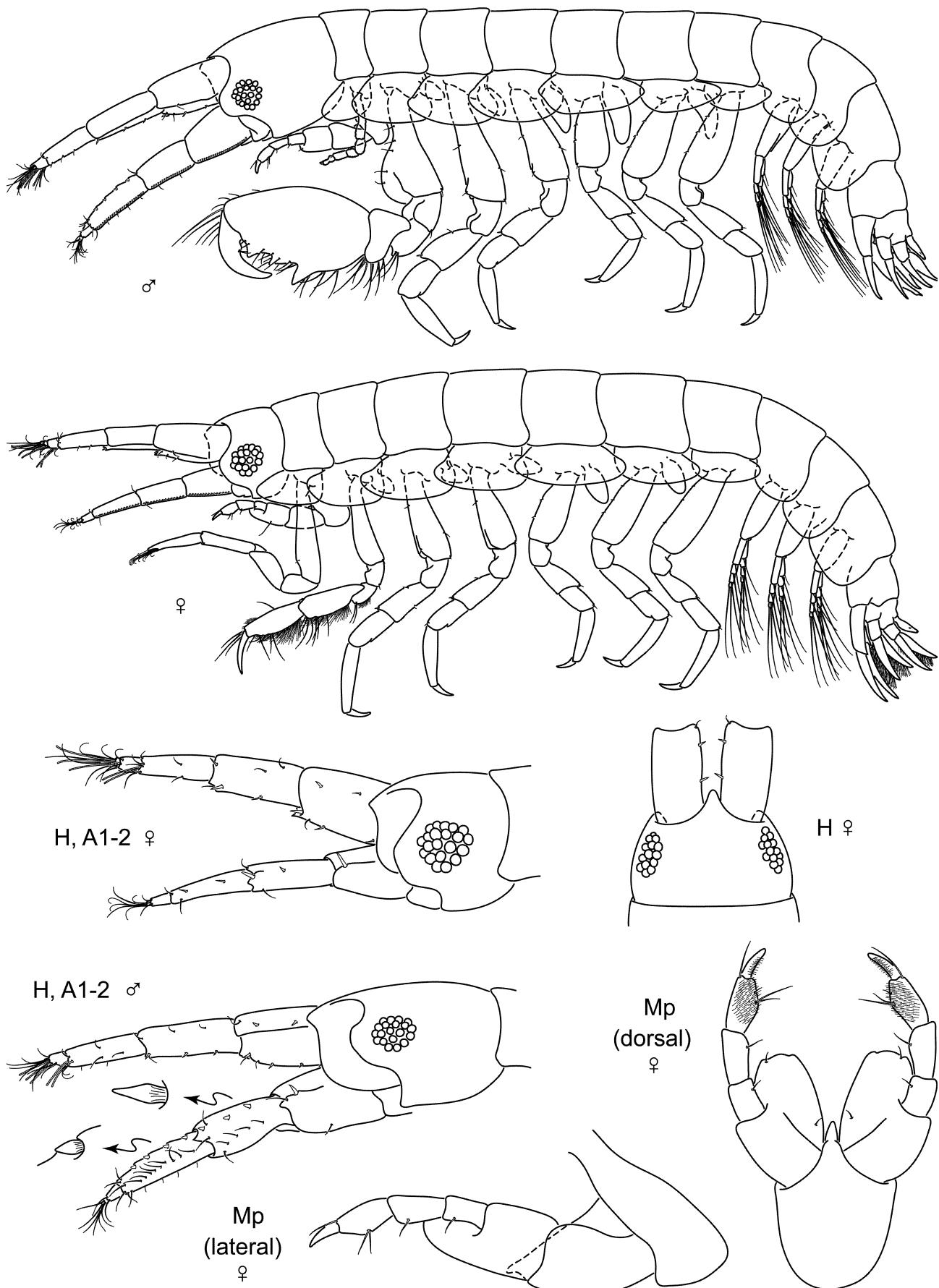


FIGURE 7. *Colomastix plumosa* Ledoyer, 1979, male, 2.7 mm, AM P79278, north shore of Palfrey Island, Lizard Island; female, 2.3 mm, AM P79281, cove south of Orpheus Island Resort, Orpheus Island, Great Barrier Reef.

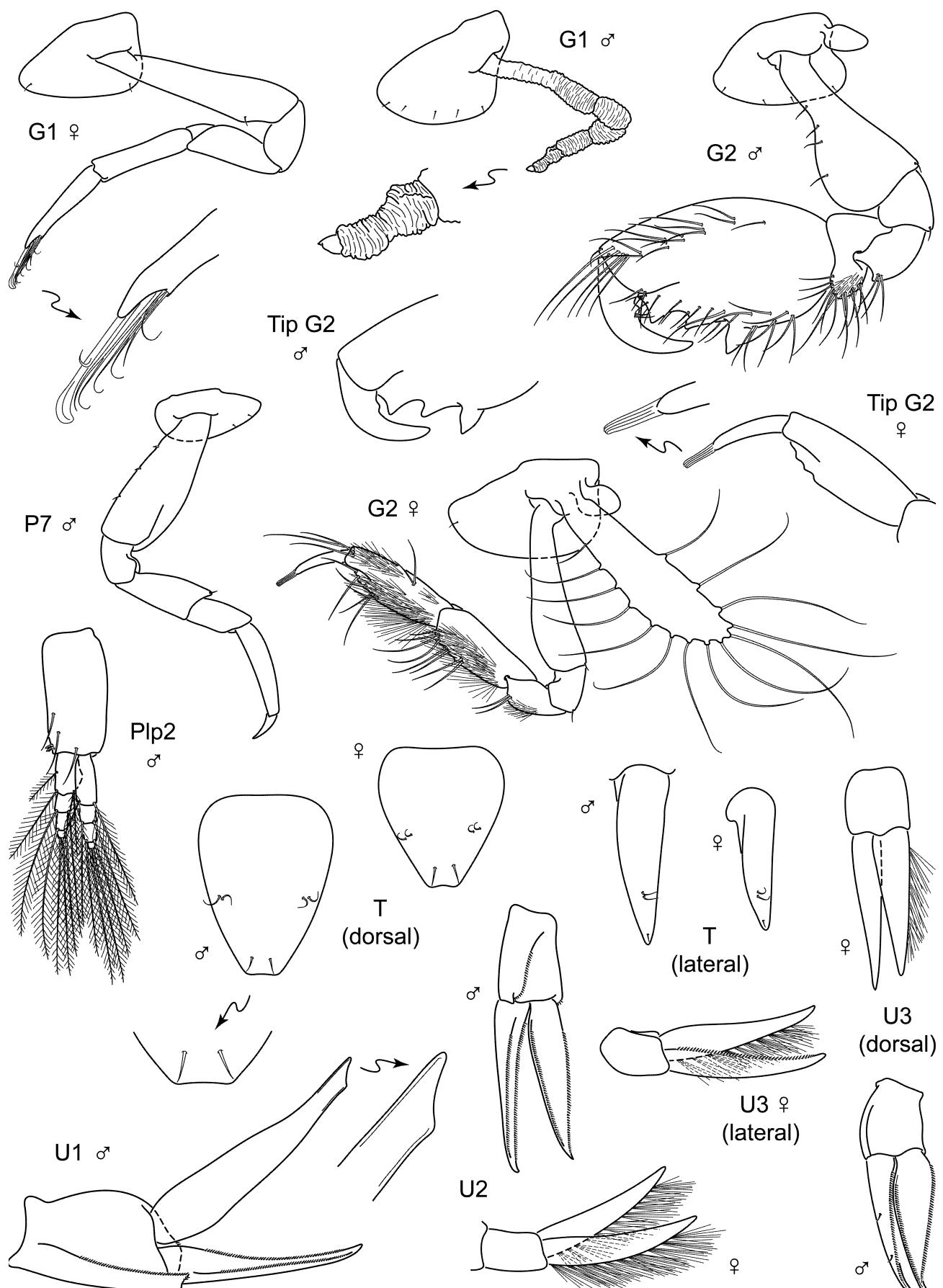


FIGURE 8. *Colomastix plumosa* Ledoyer, 1979, male, 2.7 mm, AM P79278, north shore of Palfrey Island, Lizard Island; female, 2.3 mm, AM P79281, cove south of Orpheus Island Resort, Orpheus Island, Great Barrier Reef.

with patch of setae, setae elongate, very fine; propodus unenlarged, inner ventral surface with patch of setae, setae elongate, very fine, palm without teeth or processes; dactylus without process on posterior margin, tip pleated, subtruncate. *Pleopod* 2 peduncle, anteromedial surface without slender setae. *Uropod* 1 inner ramus unmodified, lanceolate; outer ramus subequal to inner ramus. *Uropod* 2 both rami, ventral margin densely setose. *Uropod* 3 inner ramus, ventral margin densely setose.

Adult body length. 2.3–3.0 mm. There appears to be little difference in size between males and females in this species.

Colour in life. Eyes red. Antennae banded with reddish pink, pereon and pleon with large reddish pink blocks of pigment on translucent grey background, coxae each with a single large pigment spot proximally. This pattern is similar to that of *Colomastix processa* sp. nov. (see **Colour in life** section of *C. processa* sp. nov. for a comparison of the two species).

Host. The sponges *Spirastrella insignis* Thiele, 1898 and *Clathria fasciculata* Wilson, 1925 (Ariyama 2005).

Habitat. Corals, coral rubble, algae (*Caulerpa racemosa* J. Agardh, 1873; *Halimeda micronesica* Yamada, 1941) and algal turf in reef slope, reef flat and patch reef habitats.

Depth range. 1–28 m.

Remarks. *Colomastix plumosa* is a fairly widespread species in the Indian Ocean and Red Sea, although it has not previously been reported from the Indo-Pacific or Pacific Oceans south of Japan. Nayar's (1966) report of *C. pusilla* Grube, 1861 from India may actually refer to this species. He does not illustrate uropod 2 of his specimen, which appears to be either a female or a small subadult male and has a setose inner ramus on uropod 3, as do *C. plumosa*, *C. semiplumosa* Ariyama, 2005 and *C. minispinosa* Ren, 2006 (possibly a synonym of *C. semiplumosa*). However, uropod 1 of Nayar's material has subequal rami, resembling that of *C. plumosa* rather than *C. semiplumosa* or *C. minispinosa*, both of which have distinctly unequal rami on uropod 1 in the female. The adult male of *C. plumosa* was unknown prior to the current study.

Although there are several other species of *Colomastix* that have a setose inner ramus on uropod 3 in the female, including the Atlantic species *C. bousfieldi* LeCroy, 1995, *C. heardi* LeCroy, 1995 and *C. falcirama* LeCroy, 1995, as well as *C. semiplumosa* from Japan and *C. minispinosa* from China, *C. plumosa* can be distinguished from these and all other known species of *Colomastix* by the setose inner and outer rami of uropod 2 in the female and by the simple, subtruncate tip of the inner ramus of uropod 1 in the male. It appears to be most similar to *C. semiplumosa*, which it further resembles in having a pleated tip on the dactylus of gnathopod 2 in the female. This structure appears to be unique to these two species, as well as *C. azumai* Hirayama & Kikuchi, 1980 and *C. littoralis* Ariyama, 2005, also from Japan, and *C. thomasi* sp. nov. from Lizard Island.

Distribution. *Australia.* Queensland: Lizard and Orpheus Islands (current study). *Japan.* Oura and Hikigawa, Wakayama (Ariyama 2005). *?India.* Gulf of Mannar: Tuticorin (Nayar 1966). *Madagascar.* Grand Récif de Tuléar (Ledoyer 1979, 1982). *Red Sea.* Gulf of Aqaba (Lyons & Myers 1990).

Colomastix processa sp. nov.

(Figs 9, 10, Pl. 2F)

Type material. Holotype, male, 4.1 mm, AM P71208 (QLD 1755), Horseshoe Reef, Lizard Island (14°41.21'S 145°26.49'E), large coral bommies surrounded by sand and rubble, ex. sponge *Spirastrella vagabunda* Ridley, 1884, 8–12 m, K. Klebba & L. Hughes, 2 March 2005. Paratypes: 1 female, AM P71215 (QLD 1760), Horseshoe Reef, Lizard Island (14°41.21'S 145°26.49'E), large coral bommies surrounded by sand and rubble, unidentified sponge, 9–10 m, C. Serejo, 2 March 2005. 4 males, 4 females, AM P71235, same data.

Additional material examined. 1 female, AM P24201 (SBS 1013005); 4 males, 2 females, AM P24203 (SBS 76320); 2 males, AM P24205 (SBS 1013005); 1 female, AM P24200 (SBS 0913006); 1 male, AM P24207 (SBS 0913006); 1 male, AM P78983 (SBS 0913006); 1 male, 6 females, AM P37536 (NSW 169).

Type locality. Horseshoe Reef, Lizard Island, Queensland, Australia (14°41.21'S 145°26.49'E).

Etymology. From the Latin '*processus*', meaning 'go forward, advance', referring to the anteriorly directed spur on the anteroventral margin of the basis of gnathopod 2 in the male.

Description. Based on holotype, male, 4.1 mm, AM P71208 and paratype series of 4 males, AM P71235.

Head. Head as long as deep, subequal in length to pereon segment 1 and half of pereon segment 2 combined; rostrum absent; interantennal plate with anteroventral angle extending slightly beyond anterodorsal angle, anterior margin straight to slightly concave, weakly serrate, with 1 ventral tooth. *Antennae* 1–2 marginal robust setae moderately long. *Antenna* 1 peduncle article 1, dorsomedial margin with 4–5 robust setae. *Antenna* 2 peduncle articles 3–5, ventrolateral margin without small, triangular robust setae; peduncle article 3, distomedial angle with 2 robust setae, without slender setae or process, dorsomedial margin with 1–2 robust setae, ventromedial surface without robust setae; peduncle article 5, dorsal margin without stubby robust setae. *Mouthparts* other than maxilliped moderately reduced. *Maxilliped* inner plates completely fused, basal shell expanded to form a ventral keel, keel distally rounded.

Pereon. *Coxa* 1 anterior margin strongly concave, anteroventral angle narrowly produced. *Coxae* 1–4 with small anteroventral cusp. *Coxal gills* 2–5 gradually increasing in size, gill 6 subequal to gill 5. *Gnathopod* 1 elongate, slender; propodus with pectinate apical setae. *Gnathopod* 2 basis moderately expanded distally, anterior margin entire, without anterodistal notch, with anterodistal process; ischium with inner anterodistal lobe expanded; carpus slightly shorter than propodus, inner ventral surface with patch of setae, setae short, very fine; propodus slightly enlarged, inner ventral surface with patch of setae, setae short, very fine or setae elongate, slender, palm not excavate, with 4 dissimilar, unequally spaced processes, palmar angle with 2 processes, proximal process subequal to adjacent middle process, subtriangular, apical margin entire, both middle processes broad, rounded, process at dactylar hinge small, subtriangular; dactylus, insertion on propodus apical, with small process on posterior margin, tip lanceolate, subacute. *Pereopods* 3–4 basis not produced anterodistally. *Pereopods* 3–7 basis slightly expanded. *Pereopod* 7 propodus, anterior margin without setae.

Pleon. *Pleopods* 1–3 inner ramus with 4 articles, outer ramus with 4 articles. *Pleopod* 2 peduncle, anteromedial surface without slender setae. *Uropod* 1 inner ramus modified, not strongly falcate, not expanded proximally, ventral margin straight, tip bulbous, with small subapical slender seta, with acute triangular dorsoapical process (may occasionally be absent or broken); outer ramus three-fourths length of inner ramus, tip lanceolate, subacute. *Uropod* 2 both rami, ventral margin lacking setae. *Uropod* 3 peduncle twice as long as deep; inner ramus lanceolate, slightly longer than outer ramus, ventral margin lacking setae. *Telson* broadly subtriangular, dorsal surface convex, tip rounded, with 3 lobes or processes, with 1–2 apical minute slender setae.

Female (sexually dimorphic characters). Based on paratype series of 4 females, AM P71235. *Oostegite* 2 narrowly subovate (length:width ratio 3:1 or greater), approximately twice as long as basis of gnathopod 2. *Gnathopod* 2 basis linear, unexpanded distally, with anterodistal notch, without anterodistal process; ischium with inner anterodistal lobe not expanded; carpus subequal to propodus in length; propodus unenlarged, inner ventral surface with patch of setae, setae short, very fine, palm without teeth or processes; dactylus, insertion on propodus subapical, without process on posterior margin. *Pereopods* 3–7 basis unexpanded. *Uropod* 1 inner ramus unmodified, lanceolate; outer ramus slightly shorter than inner ramus. *Uropod* 3 inner ramus approximately one-third longer than outer ramus. *Telson* tip without lobes or processes.

Adult body length. 3.2–6.4 mm. Males attain slightly larger sizes than females.

Colour in life. Eyes with small, discrete, red spots on a white background. Antennae banded with reddish pink in the male, banding pale or absent in the female; pereon and pleon with large reddish blocks of pigment on a translucent grey or whitish background, coxae each with a single large pigment spot anterodistally. This pattern is similar to that of *Colomastix plumosa*, but the lateral pigment blocks on the pereon segments are single in *C. plumosa* rather than double as in *C. processa* sp. nov. and the placement of the coxal spots is proximal vs. anterodistal. Also, the antennae are more strongly banded in the female and there is lateral pigmentation on pleon segment 3 in *C. plumosa*.

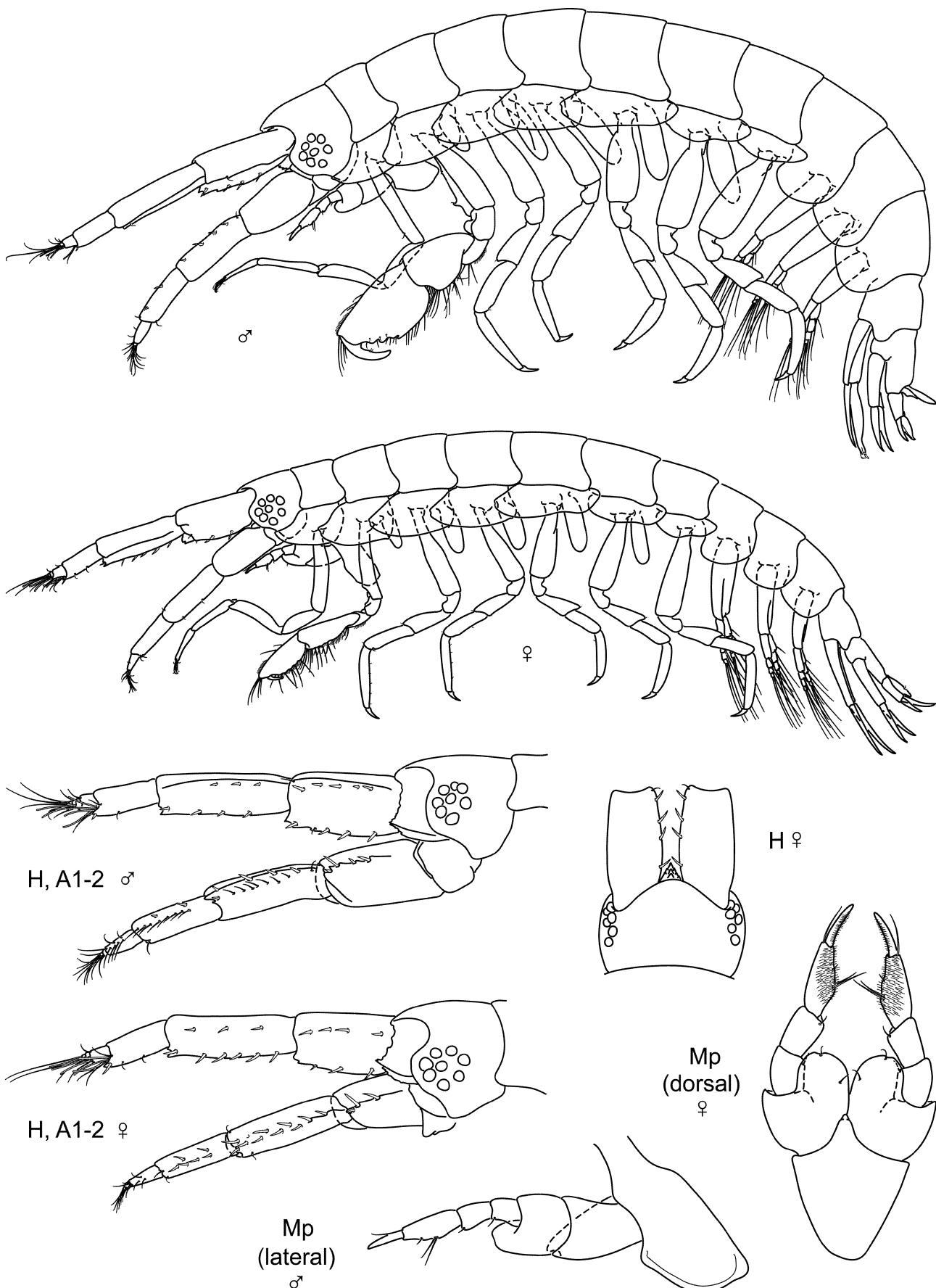


FIGURE 9. *Colomastix processa* sp. nov., paratype, female, 3.2 mm, paratype, male, 4.2 mm, AM P71235, Horseshoe Reef, Lizard Island, Great Barrier Reef.

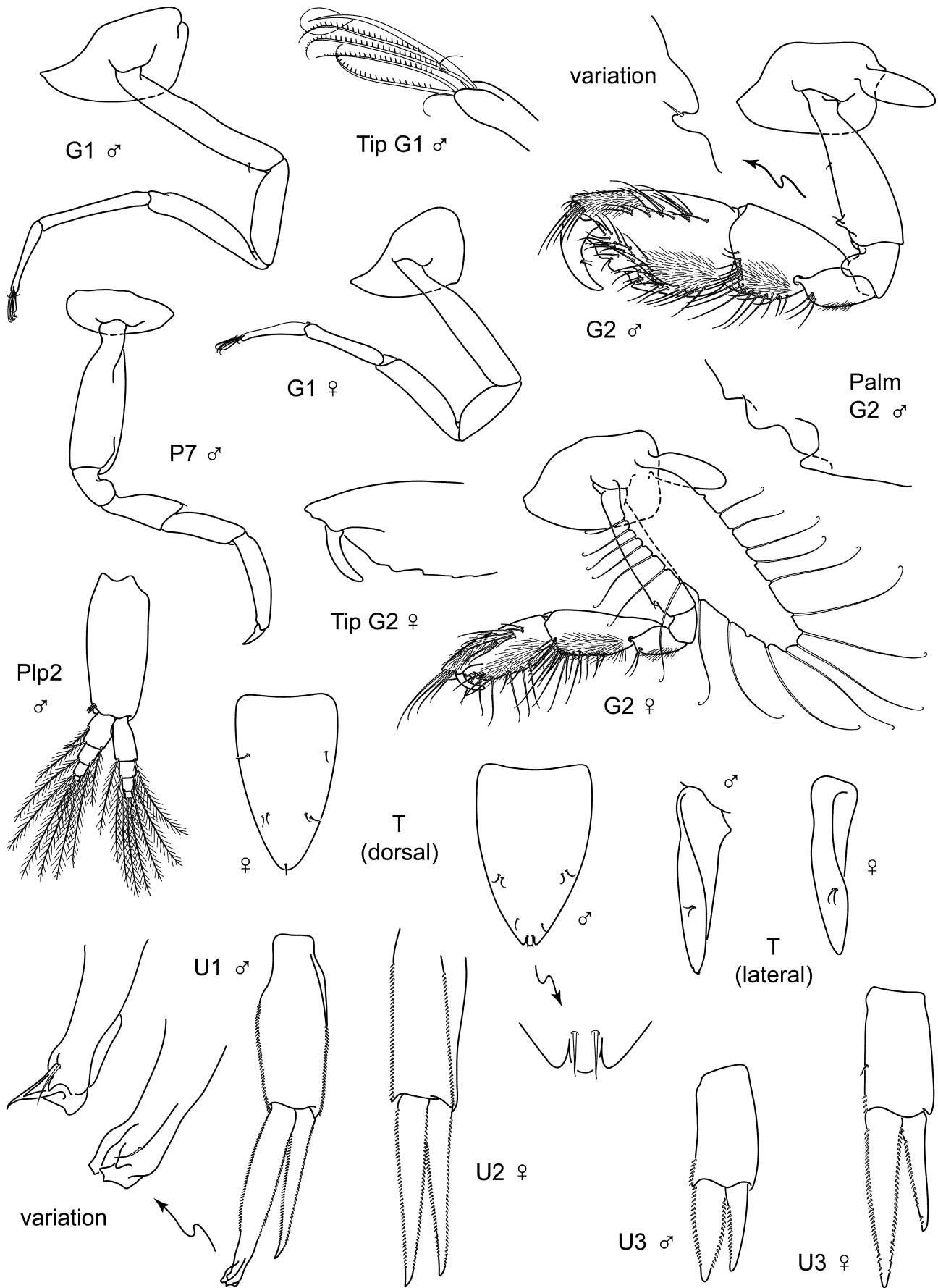


FIGURE 10. *Colomastix processa* sp. nov., paratype, female, 3.2 mm, paratype, male, 4.2 mm, AM P71235, Horseshoe Reef, Lizard Island, Great Barrier Reef.

Host. The sponges *Spirastrella vagabunda* Ridley, 1884; *Polymastia craticia* Hallmann, 1912; and *Teichonopsis labyrinthica* (Carter, 1886).

Habitat. Coral reef, rock and rubble habitats.

Depth range. 8–25 m.

Remarks. *Colomastix processa* sp. nov. differs from all other known species of *Colomastix* in the ornamentation of the anterior margin of the basis of gnathopod 2 in both sexes, with an anterodistal process in the male and an anterodistal notch in the female. It does not appear to be closely similar to any known species of *Colomastix*, although the bulbous modification of the tip of the inner ramus of uropod 1 in the male resembles that of three Atlantic species of the genus, *C. bousfieldi*, *C. heardi* and *C. gibbosa* LeCroy, 1995. However, unlike these three species, there is no subapical dorsal notch on the inner ramus of uropod 1 in *C. processa* sp. nov. and the tip is more highly modified. The broadly rounded frontal margin of the head in this species is similar to that of *C. brevicornis* Ledoyer 1982, but the antennae, gnathopods, uropods and telson are all quite different from those of that species. Gnathopod 2 of the male is quite distinctive as well, with an enlarged carpus and only moderately enlarged propodus. Although *C. laminosa* and *C. azumai* Hirayama & Kikuchi 1980 appear to share this feature based on their original descriptions (Lyons & Myers 1990; Hirayama & Kikuchi 1980), the material on which these descriptions were based appears to be immature and the relative proportions of these articles changes developmentally. The adult male remains unknown for *C. laminosa*, but the adult male of *C. azumai* has a greatly enlarged propodus and a small carpus (Ariyama 2005). *Colomastix processa* is currently only known from its type locality on Lizard Island and from several locations in New South Wales.

Distribution. Australia. New South Wales: Port Jackson, Turrametta Head, Mona Vale and Broken Bay (current study). Queensland: Lizard Island (current study).

Colomastix thomasi sp. nov.

(Figs 11, 12)

Type material. Holotype, male, 2.1 mm, AM P78989, south of Lizard Head, Lizard Island (14°41'S 145°27'E), coral rubble, 2 m, J.D. Thomas, 29 January 1989 (JDT/LIZ 14). Paratypes: 6 males, 1 female, AM P79272, same data; 1 male, AM P78990, off southern tip of island, Lizard Island, coral rubble and algal turf on patch reef, 1 m, J.D. Thomas, 23 January 1989 (JDT/LIZ 3); 5 males, AM P79273, beach at Lizard Head, Lizard Island, coral rubble from rubble beach, J. D. Thomas, 31 January 1989 (JDT/LIZ 15); 2 males, 1 female, AM P79274, south-west of Lizard Head, Lizard Island, algae-covered rubble on carbonate pavement with varying amounts of carbonate sand, 1.5 m, J.D. Thomas, 2 February 1989 (JDT/LIZ 17); 2 males, GCRL 2875, off Lizard Head, Lizard Island, small pieces of coral rubble on sand bottom, J.D. Thomas, 2 February 1989 (JDT/LIZ 19).

Additional material examined. 3 juveniles, AM P78988 (QLD 1).

Type locality. South of Lizard Head, Lizard Island, Queensland, Australia (14°41'S 145°27'E).

Etymology. Named for James D. Thomas, who collected and made available for study all of the adult material of this species.

Description. Based on holotype, male, 2.1 mm, AM P78989 and paratype series of 2 males, AM P79274.

Head. Head as long as deep, subequal in length to pereon segments 1 and 2 combined; rostrum narrowly rounded; interantennal plate with anterodorsal and anteroventral angles extending forward subequally, anterior margin straight to slightly concave, without serrations, without ventral teeth. *Antennae* 1–2 marginal robust setae short. *Antenna 1* peduncle article 1, dorsomedial margin without robust setae. *Antenna 2* peduncle articles 3–5, ventrolateral margin with small, triangular robust setae; peduncle article 3, distomedial angle with 2 robust setae, without slender setae or process, dorsomedial margin without robust setae, ventromedial surface without robust setae; peduncle article 5, dorsal margin without stubby robust setae. *Mouthparts* other than maxilliped greatly reduced or vestigial. *Maxilliped* inner plates completely fused, basal shell not expanded to form a ventral keel.

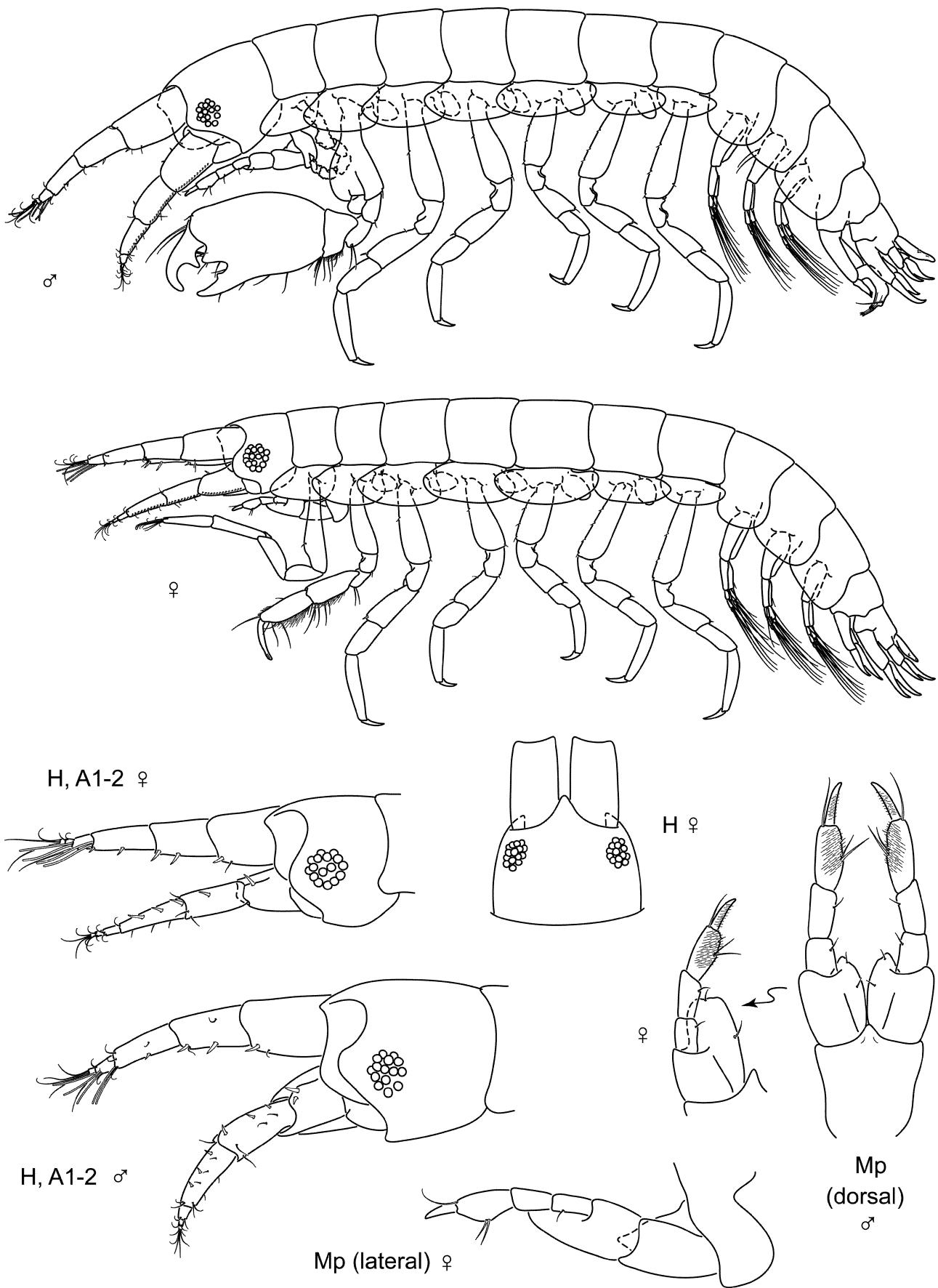


FIGURE 11. *Colomastix thomasi* sp. nov., paratype, male, 2.1 mm, paratype, female, 1.6 mm, AM P79274, south-west of Lizard Head, Lizard Island, Great Barrier Reef.

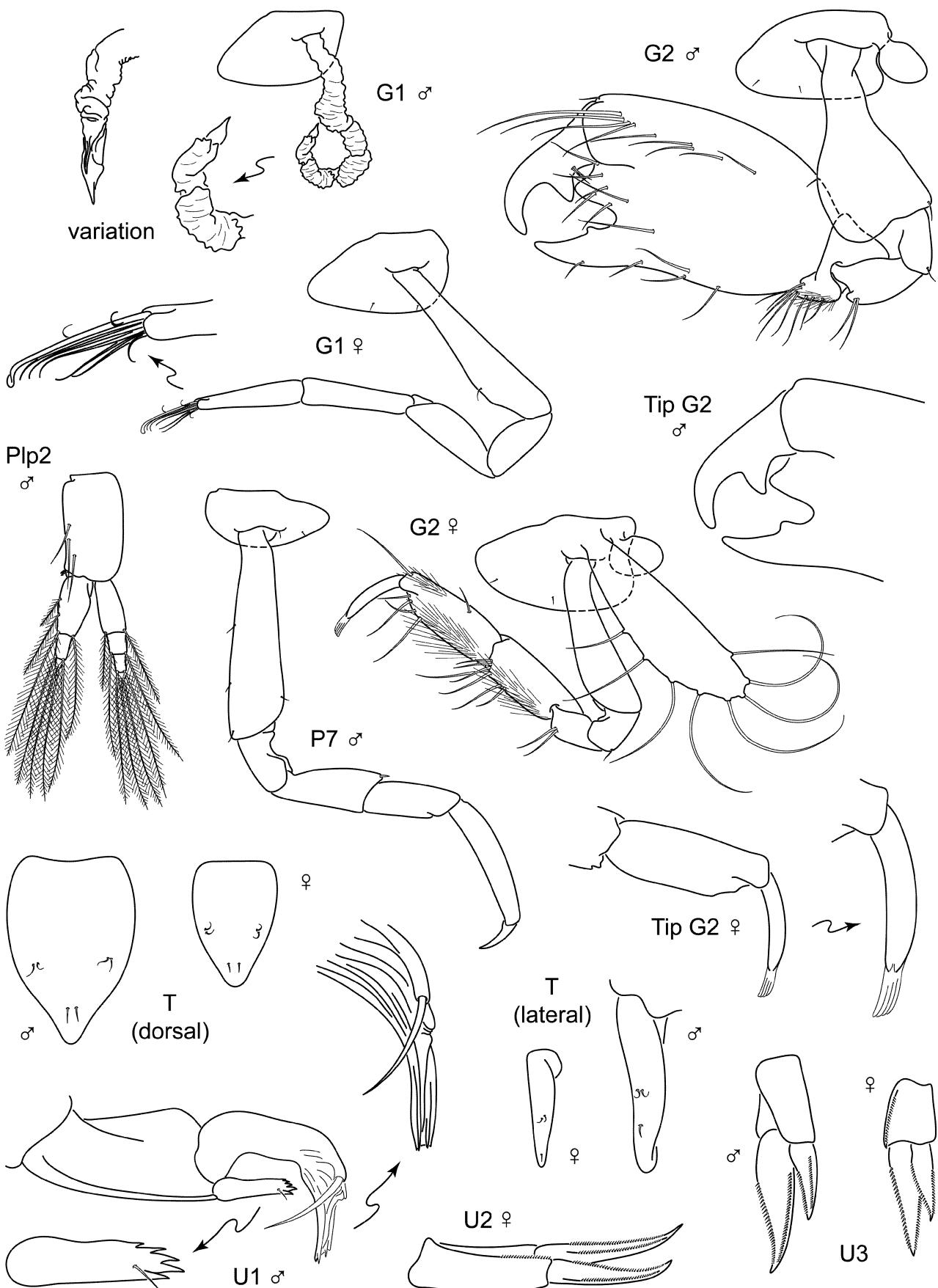


FIGURE 12. *Colomastix thomasi* sp. nov., paratype, male, 2.1 mm, paratype, female, 1.6 mm, AM P79274, south-west of Lizard Head, Lizard Island, Great Barrier Reef.

Pereon. Coxa 1 anterior margin convex, anteroventral angle rounded. Coxae 1–4 without small anteroventral cusp. Coxal gills 2–5 subequal in size, gill 6 subequal to gill 5. Gnathopod 1 vestigial, exact morphology individually variable; propodus without setae. Gnathopod 2 basis broadly expanded distally, anterior margin entire, without anterodistal notch, without anterodistal process; ischium with inner anterodistal lobe not expanded; carpus much shorter than propodus, inner ventral surface with patch of setae, setae short, very fine; propodus greatly enlarged, inner ventral surface without patch of setae, palm deeply excavate, with 3 dissimilar, unequally spaced processes, palmar angle with 1 elongate subtriangular process, apical margin of process entire, middle process very small, rounded, process at dactylar hinge broad, subtriangular; dactylus, insertion on propodus apical, with large process on posterior margin, tip lanceolate, subacute. Pereopods 3–4 basis not produced anterodistally. Pereopods 3–7 basis unexpanded. Pereopod 7 propodus, anterior margin without setae.

Pleon. Pleopods 1–3 inner ramus with 3 articles, outer ramus with 4 articles. Pleopod 2 peduncle, anteromedial surface with 3 slender setae. Uropod 1 inner ramus modified, strongly falcate, not expanded proximally, dorsal margin with large, simple, subapical slender seta, tip narrowing abruptly distal to seta, pleated, subtruncate; outer ramus one half length of inner ramus, tip serrate, subtruncate. Uropod 2 both rami, ventral margin lacking setae. Uropod 3 peduncle twice as long as deep; inner ramus expanded proximally, approximately one-third longer than outer ramus. Telson broadly subtriangular, dorsal surface flat, tip constricted, narrowly rounded, without lobes or processes, with 2 subapical minute slender setae.

Female (sexually dimorphic characters). Based on paratype, female, AM P79274. Head subequal in length to pereon segment 1 and half of pereon segment 2 combined. Antenna 2 peduncle article 3, distomedial angle with 1 robust seta. Mouthparts other than maxilliped moderately reduced. Oostegite 2 narrowly subovate (length:width ratio 3:1 or greater), approximately one-third longer than basis of gnathopod 2. Gnathopod 1 elongate, slender; propodus with simple apical setae. Gnathopod 2 basis weakly expanded distally; carpus subequal to propodus in length, inner ventral surface with patch of setae, setae elongate, very fine; propodus unenlarged, inner ventral surface with patch of setae, setae elongate, very fine, palm not excavate, without teeth or processes; dactylus without process on posterior margin, tip pleated, subtruncate. Pleopod 2 peduncle, anteromedial surface without slender setae. Uropod 1 inner ramus unmodified, lanceolate; outer ramus three-fourths length of inner ramus, tip lanceolate, subacute. Uropod 3 inner ramus lanceolate, ventral margin lacking setae.

Adult body length. 1.5–2.1 mm. There appears to be little difference in size between males and females in this species.

Colour in life. Unknown.

Host. Unidentified sponge.

Habitat. Coral rubble and algal turf on patch reefs, often over sand bottoms.

Depth range. 1–18 m.

Remarks. *Colomastix thomasi sp. nov.* is a tiny, very distinctive species that has, thus far, only been found off Lizard Head and in Watsons Bay on Lizard Island. The morphology of the outer ramus of uropod 1 in the male of *C. thomasi sp. nov.*, with its subtruncate, serrate tip, as well as the unique, complex apical morphology of the inner ramus of that appendage, distinguish this species from all other known species of the genus. The cheliform gnathopod 2 of the male is also unusual, resembling that of only three other species (*C. gibbosa*, an Atlantic species, *C. inaequicornis* Ledoyer, 1979 from Madagascar and *C. minuta* Müller, 1992 from the Society Islands). All three of these species have the large process or "thumb" at the palmar angle of the propodus and the former two species also have the very large process on the posterior margin of the dactylus. However, *C. gibbosa* has a bulbous tip on the inner ramus of uropod 1, *C. inaequicornis* has an elongate, unreduced gnathopod 1 and *C. minuta* has a bifurcate telson tip.

The female of *C. thomasi sp. nov.* has a distinctive pleated tip on the dactylus of gnathopod 2, a feature which, as stated in the remarks for *C. plumosa*, it shares only with *C. plumosa*, *C. semiplumosa*, *C. azumai* and *C. littoralis*. It can be distinguished from the first two of these species by the lack of any densely setose rami on uropods 2 or 3 and from the latter two species by the broadly rounded anteroventral angle of coxa 2,

the lack of setae on the anterior margins of the propodi on pereopods 5–7 (unknown for female *C. azumai* or *C. littoralis*, but setae are present in the males of these species and this is not usually a sexually dimorphic character in *Colomastix*) and the unequal rami of uropod 3. It differs from all four of these species in having only 3 articles rather than 4 on the inner ramus of pleopods 1–3.

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

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