

Pontoniine Shrimps (Crustacea: Decapoda: Palaemonidae) from the CReefs 2009 Heron Island Expedition, with a review of the Heron Island pontoniine fauna

A. J. BRUCE

Crustacea Section, Queensland Museum, P. O. Box 3300, South Brisbane, Queensland, Australia 4101.
E-mail: abruce@broad.net.au.

Abstract

Recent collections of pontoniine shrimps from Heron Island, southern Great Barrier Reef, have provided further additions to the Australian marine fauna. A new species, *Periclimenes poriphilus* sp. nov., is described and illustrated. It is the first species of its genus to be found actually in a sponge host. Several other *Periclimenes* species have been reported as associates of sponges. *Periclimenaeus arthroductylus* Holthuis, 1952, is reported for the second time only, previously known only from a single specimen collected in the Pulau Sailus Ketjil, Java Sea, Indonesia, in 1899, and new to the Australian fauna. Further specimens of *Typton wasini* Bruce, 1977 are recorded and *Typton nanus* Bruce, 1987 is re-assessed as a junior synonym of *T. wasini*, having been based on a juvenile specimen. An up-dated checklist of the Heron Island pontoniine fauna is also provided.

Key words: Crustacea, Decapoda, Pontoniinae, *Periclimenes poriphilus* sp. nov., *Periclimenaeus arthroductylus* Holthuis, 1952, first Australian record, *Typton nanus* Bruce, 1987, synonymized with *T. wasini* Bruce 1977, revised checklist of Heron Island pontoniine shrimps, Great Barrier Reef

Introduction

During the years 1975–1980 an intensive study of the pontoniine shrimp fauna of Heron Island and the adjacent Wistari Reef was carried out and the results summarised in a report by Bruce (1981a). This study indicated the presence of 100 species on two small reefs in the Capricorn Islands at the southern end of the Great Barrier Reef, with a combined area of some 53 km². Two of these species, *Anchistioides compressus* Paulson and *A. willeyi* (Borradaile) have since been transferred to the family Anchistioididae. Also, *Periclimenes brockettii* Borradaile 1915 has been revised as a junior synonym of *P. affinis* (Zehntner 1895) by Bruce (2008), leaving a total of 97 pontoniine species. *Periclimenaeus quadridentatus* (Rathbun) was included in a tabulation (p. 27) summarizing the results but unfortunately lost from the main text. Since that publication a number of other species, some new taxa, have been added to the list clearly indicating that the fauna is still far from completely known. These include:

Periclimenaeus rastrifer Bruce, 1980 (Bruce 1983a)

Platypontonia brevisrostris (Miers, 1884) (Bruce 1990b)

Onylocaris spinosa Fujino & Miyake, 1969 (Bruce 1990b)

Onylocaridella prima Bruce, 1981 (type locality) (Bruce 1981b, 1983a)

Epipontonia anceps Bruce, 1983 (type locality) (Bruce 1983b)

Fennera chacei Holthuis, 1951 (Bruce 1983a)

Typton capricorniae Bruce, 2000 (type locality) (Bruce 2000)

Ancylomenes speciosus (Okuno, 2004) (Coleman 1988, as *Periclimenes holthuisi*)

Coralliocaris sandyi Mitsuhashi & Takeda, 2008 (Mitsuhashi & Takeda 2008)

These additions raise the number of pontoniine shrimp species known from Heron Island to 106. Heron Island is the type locality for seven of the originally listed species and also for 4 of the additional species.

Recent further collections made in the course of the CReefs Heron Island Biodiversity Expedition during November 2009 have provided further specimens of pontoniine shrimps that are new to the Heron Island and Australian fauna, three of which are reported on below. The present report increases the number of species known from Heron Island to 108. The specimens are held in the collections of the Museum of Tropical Queensland, Townsville.

Since the publication of Bruce (1981a) there have been numerous changes to pontoniine shrimp names. A revised check-list is now provided with the currently valid species names.

Abbreviations used: CL, post-orbital carapace length in millimetres; QM, Queensland Museum.

Systematics

Palaemonidae Rafinesque, 1815

Pontoniinae Kingsley, 1879

Genus *Periclimenaeus* Borradaile, 1915

Periclimenaeus arthrodactylus Holthuis, 1952

(Fig. 1)

Periclimenaeus arthrodactylus Holthuis, 1952: 122–125, figs. 51–53. — Bruce, 2006: 14–15, fig. 7G–I.

Material examined. 1 ♂, CL 1.4 mm, Heron Island reef, north-eastern side, stn HI09-76A, 23°29.990'S, 151°55.601'E, 12 m, 22 November 2009, from dead *Acropora* and rubble, coll. N. Bruce & K. Schnabel (QM W31895).

Diagnosis. A small *Periclimenaeus* species with rostral dentition 5/0; with small supraorbital tubercle; ambulatory dactyls biunguiculate, greater than half propod length, unguis ventrally finely denticulate, corpus with 1–4 proximal ventral teeth; propods and third pereopod merus ventrally spinulate.

Description. Male. *Rostrum* (Fig. 1B) slender, slightly up-turned distally, dorsally dentate, with 4 well developed acute teeth, 1 small distal denticle, each with single short seta distally, about 0.6 of CL, reaching to middle of intermediate antennular peduncular segment, slightly exceeding anterovered eyes.

Carapace (Fig. 1A) with small subacute supraorbital tubercle, antennal spine small, acute, marginal; cornea oblique, about 0.32 of CL.

Major second pereopod missing.

Minor second pereopod (Fig. 1C) with chela (Fig. 1D) about 1.5 times CL. Palm 1.8 times longer than central depth, oval in section, compressed, about half as thick as central depth, ventral margin with minute acute tubercles, each with a slender seta distally. Fingers (Fig. 1E) 0.57 of palm length; dactyl 3.5 times longer than maximal depth, dorsal margin convex, setose, cutting edge mainly straight with deep marginal lamella, tip acute, feebly hooked; fixed finger 1.7 times longer than proximal depth, cutting edge deeply grooved, medial margin with small acute anterovered tooth proximally. Carpus about half palm length, distally expanded, unarmed. Merus about 0.6 of palm length, 2.2 times longer than central width, with 4 small acute ventral marginal tubercles. Ischium 0.5 of palm length, 2.5 times longer than distal width, tapering proximally, with smaller ventral tubercles.

Ambulatory pereopods slender. Third pereopod (Fig. 1F) with dactyl (Fig. 1I) elongate, slender, biunguiculate, 0.5 of propod length, unguis (Fig. 1J) about 4.5 times longer than basal width, curved, with 13 small acute ventral denticles along its length, 0.25 of corpus length, corpus 4.8 times longer than basal width, curved, tapering distally, with 4 small acute anterovered teeth on proximal half of ventral margin. Propod (Fig. 1G) about 0.58 of CL, 7.0 times longer than proximal depth, tapering slightly, with pair of short

distoventral spines, 6 equally spaced ventral spines, with pair of proximal ventral spines. Carpus 0.75 of propod length, unarmed; merus (Fig. 1H) 1.2 times propod length, 4.6 times longer than central width, with 6 small acute anterovertd ventral tubercles. Ischium 0.75 of propod length, with 3 very small acute tubercles.

Fourth pereiopod similar to third, dactyl slightly longer, unguis with 7 ventral denticles, corpus with 2 proximal ventral teeth (Fig. 1K). Propod with single small distoventral spinule, 2 short, more robust spines on proximal fifth. Merus with 5 minute tubercles, ischium with 2 only.

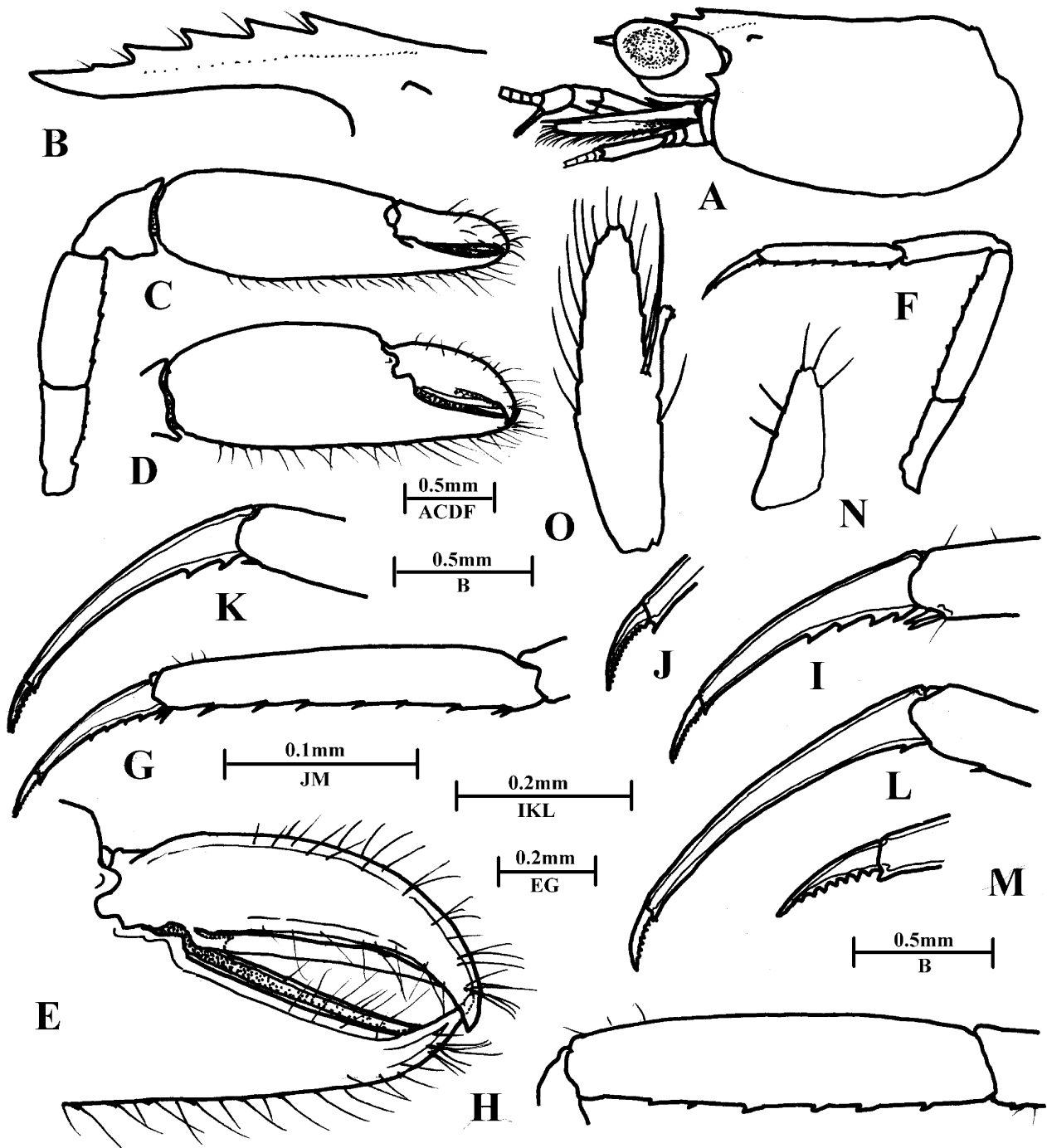


FIGURE 1. *Periclimenaeus arthrodactylus* Holthuis, 1952, male, Heron Island, QM W31895. A, carapace and anterior appendages. B, rostrum. C, minor second pereiopod. D, same, chela, lateral. E, same, fingers. F, third pereiopod. G, same, propod and dactyl. H, same, merus. I, same, distal propod and dactyl. J, same, unguis. K, fourth pereiopod, distal propod and dactyl. L, fifth pereiopod, distal propod and dactyl. M, same, unguis. N, first pleopod, endopod. O, second pleopod, endopod.

Fifth pereopod similar, with dactyl (Fig. 1L) 0.62 of propod length, 1.3 times third pereopod dactyl length, unguis (Fig. 1M) 0.14 of corpus length with 7 ventral denticles. Propod with small preterminal ventral spine only. Merus and ischium unarmed.

First pleopod endopod (Fig. 1N) 3.0 times longer than proximal width, tapering distally, medial margin straight, with 2 short spiniform setae, lateral margin feebly convex, converging to rounded distal border with 3 short plumose setae, without accessory lobe.

Second pleopod endopod (Fig. 1O) 0.8 of exopod length, with appendices at about 0.5 of medial margin length, corpus of appendix masculina obsolete, with single long slender simple spiniform seta extending beyond end of ramus; appendix interna normal, with sparse distal cincinnuli.

Distribution. Known only from the Pulau Sailus Ketjil, Java Sea, Indonesia, and from Heron Island, Australia.

Remarks. The single specimen is in good condition although lacking the major second pereopod and with most of the ambulatory pereopods detached. It agrees well with the original description and the additional data on the holotype provided by Bruce (2006). All ambulatory dactyls are preserved, mainly detached. The ambulatory dactyls are remarkable and diagnostic of the species.

Periclimenaeus arthrodactylus was collected by the *Siboga* Expedition in 1899 and described by Prof. L. B. Holthuis in 1952, since when there have been no further reports of this species. The discovery of a second specimen on Heron Island, after over a century, indicates a considerable extension of its known range. It was collected from amongst coral rubble and is most probably from a sponge host damaged in the collection process. The holotype was collected from between 0 m and 18 m, similar in depth to the present specimen at 12 m.

Genus *Periclimenes* Costa, 1844

Periclimenes poriphilus sp. nov.

(Figs 2–6)

Material examined. ovig. ♀, holotype, QM W31897; ♂ allotype, QM W31898; 1 ovig. ♀ paratype (dissected), QM W31899; 3 ♀, QM W31900; Heron Island reef, north-eastern side, stn HI09-076E, 23°25.990'S, 151°55.601'E, 10 m, 22 November 2009, coll. N. Bruce & K. Schnabel.

Diagnosis. A small species of *Periclimenes* Costa of the *P. diversipes* species group. Rostrum straight, slender, reaching to end of antennular peduncle, dentition 6–8/1, all pre-orbital. Fourth thoracic sternite with low transverse plate without median notch. Second pereopods unequal, dissimilar; fingers strongly gaping distally, dactyl with single small tooth proximally, fixed finger with two larger acute teeth; minor chela with fingers with 5 dactylar teeth, 3 on fixed finger, without distal gape. Ambulatory dactyl simple, not elongate; propod with single preterminal acute ventral spine, without transverse setal rows.

Description. Ovigerous female (Fig. 2). A small sized slender species of typical *Periclimenes* form.

Rostrum (Fig. 3B) well developed, extending to end of antennular peduncle, straight, horizontal, about 0.71 of CL, dorsal carina well developed, extending onto anterior sixth of carapace, with 8 small acute equally spaced teeth, with short interdental setae, proximal tooth situated post-orbitally; ventral carina obsolete, margin straight, sparsely setose, with single small acute tooth at 0.8 of length.

Carapace (Fig. 3A) smooth, glabrous, without epigastric or supraorbital spines or ridges; inferior orbital angle (Fig. 3C) acute, with small inner flange; antennal spine well developed, slender, marginal, exceeding inferior orbital angle; hepatic spine (Fig. 3D) well developed, similar to antennal spine, at lower level, feebly articulate, about at level of first dorsal rostral tooth; anterolateral angle of branchiostegite bluntly angular.

Abdominal segments smooth, glabrous. Third tergite not posteriorly produced, posterior margin entire. Sixth segment 0.75 of CL, 1.5 times longer than deep, 1.9 times fifth segment length; posterolateral angle acute; posteroventral angle slightly produced, semi-acute. Pleura of first three segments broadly rounded, fifth and sixth (Fig. 2) posteriorly produced, rounded.

Telson about 0.85 of CL (Fig. 3I), 3.4 times longer than anterior width; lateral margins posteriorly convergent, straight, with 2 pairs of small dorsal spines, about 0.02 of telson length at 0.5 and 0.75 of telson length; posterior margin (Fig. 3J) about 0.4 of anterior margin width, rounded, without median process; lateral spines small, subequal to dorsal spines; intermediate spines long, slender, about 0.25 of telson length; submedian spines shorter, robust, sparsely setulose, about 0.45 of intermediate spine length.

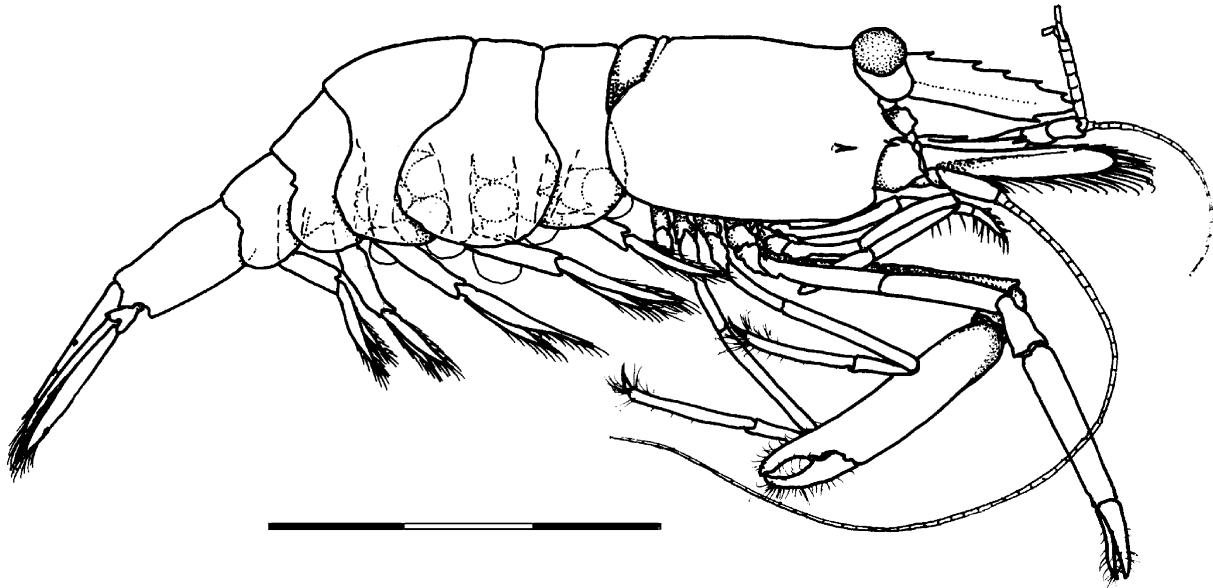


FIGURE 2. *Periclimenes poriphilus* sp. nov., ovigerous female holotype, QM W31897. Scale bar in millimetres.

Antennule of normal form (Fig. 3E), proximal segment about 2.0 times longer than central width, tapering slightly distally; median margin straight, setose, with small acute ventromedial tooth at about 0.3 of length; lateral margin feebly convex, sparsely setose; anterolateral margin (Fig. 6A) produced with small bluntly angular medial lobe and acute lateral tooth, distinctly exceeding medial lobe, reaching to about middle of intermediate segment length; stylocerite slender, acute, reaching to about 0.5 of segment length, proximal lateral margin non-setose, statocyst normally developed, with granular statolith. Upper flagellum biramous, proximal 5 segments fused; shorter free ramus with 4 segments, about 12 groups of aesthetascs; longer ramus slender, short, filiform; lower flagellum longer, slender, filiform.

Antenna of normal form (Fig. 3F); basicerite robust, with strong acute distolateral tooth. Ischiocerite and merocerite without special features. Carpcerite about 0.33 of scaphocerite length, 4.0 times longer than central width, reaching to about 0.37 of scaphocerite length. Flagellum well developed. Scaphocerite well exceeding antennular peduncle, about 0.85 of CL, 3.0 times longer than central width, tapering slightly distally; anterior margin bluntly angular; lateral margin straight, with well developed distolateral tooth, about 0.14 of scaphocerite length, at 0.77 of length.

Ophthalmic somite without median process, with small black median pigment spot.

Eye. Cornea globular (Fig. 3G), oblique, diameter about 0.33 of CL, appearing whitish, poorly pigmented, with dorsal accessory spot, stalk subcylindrical, about as long as corneal diameter.

Epistome unarmed (Fig. 4H), with sub-median hemispherical lateral bosses.

Labrum rounded (Fig. 4H), without median carina.

Mandible (Fig. 4A). Corpus slender, without palp; incisor process (Fig. 6C) slender, tapering distally, obliquely truncate, with 3 acute teeth, single central tooth smallest (left) or 2 small central teeth (right), medial margin unarmed; molar process (Fig. 6B) stout, subcylindrical, distally oblique, with 2 blunt teeth and numerous rows of short stout setae.

Maxillula (Fig. 4B) of normal form, palp (Fig. 6D) feebly bilobed, lower lobe with small ventral tubercle with minute terminal seta; upper lacinia distally rounded (Fig. 6E) with about 10 stout simple spines, several simple spiniform setae, sparse plumose setae proximally; lower lacinia subcylindrical, tapering distally, with numerous simple spiniform setae.

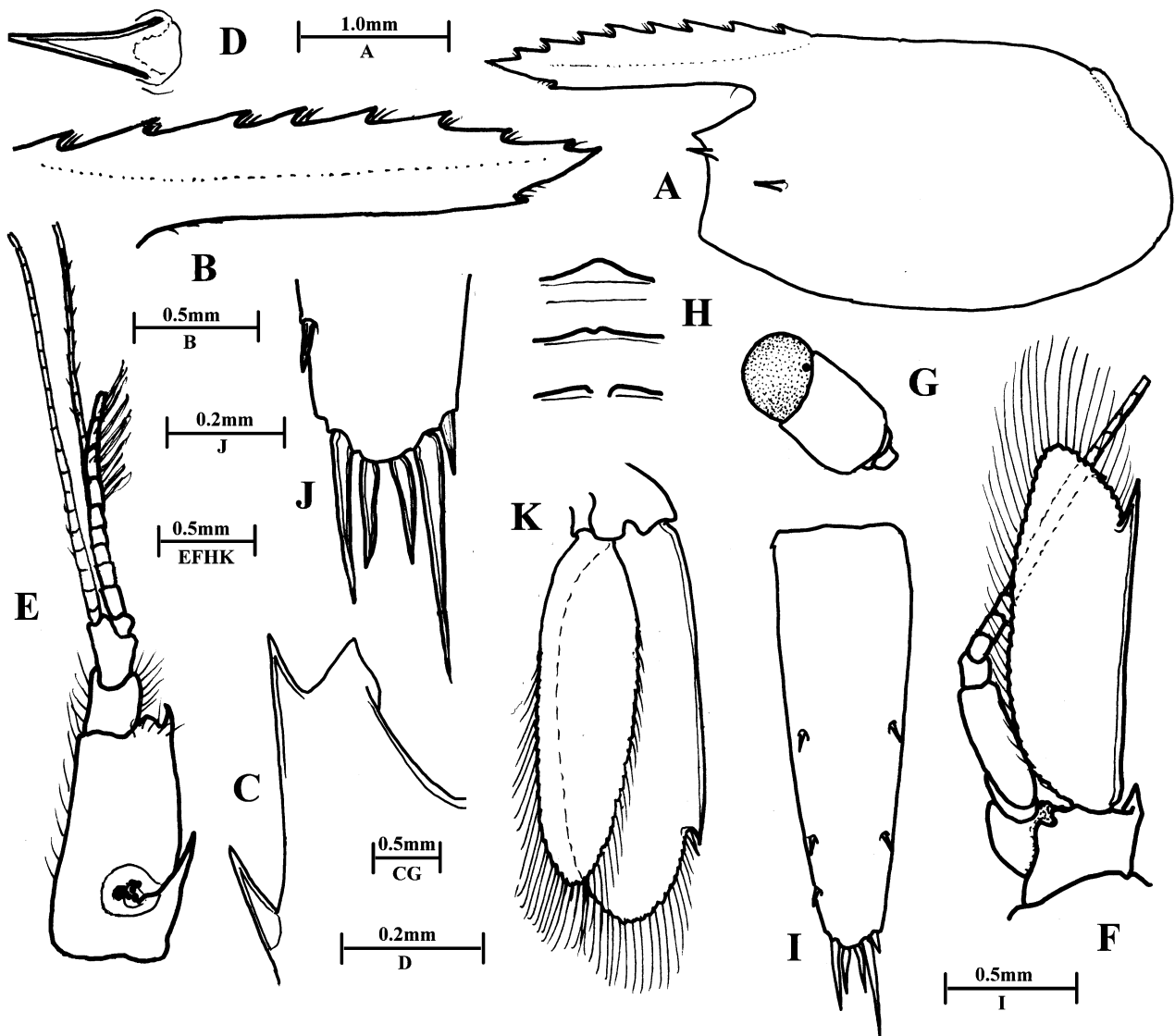


FIGURE 3. *Periclimenes poriphilus* sp. nov., ovigerous female paratype, QM W31899. A, carapace and rostrum. B, rostrum. C, inferior orbital region, dorsal aspect. D, hepatic spine. E, antennule. F, antenna. G, eye. H, third to sixth thoracic sternites. I, telson. J, same, posterior spines. K, uropod.

Maxilla (Fig. 4C) with flattened tapering, non-setiferous palp, about 2.5 times longer than basal width, basal endite bilobed, lobes short, dorsal lobe slightly stouter than ventral, each with about 15 slender simple terminal setae; coxal endite obsolescent, margin convex, scaphognathite well developed, about 2.8 times longer than wide, posterior lobe about 2.0 times longer than basal width, anterior lobe about 1.3 times, distally narrow, medial margin feebly concave.

First maxilliped (Fig. 4D) with simple setose palp, about 4.0 times longer than wide; basal endite well developed, broadly rounded, medial margin straight, with sparse, slender simple marginal setae; coxal endite rounded, non-setose, exopod with well developed flagellum, with 4 plumose distal setae; caridean lobe large; epipod well developed, triangular, feebly bilobed.

Second maxilliped (Fig. 4E) of normal form, dactylar segment about 3.0 times longer than wide, medial margin straight, densely provided with serrulate spines. Propodal segment with anterior margin broadly rounded, not medially produced, with numerous spiniform setae. Carpus, ischiomerus and basis without special features, exopod with well developed flagellum, with 4 plumose terminal setae. Coxa with medial margin convex, non-setose, with sub-rectangular epipod laterally, without podobranch.

Third maxilliped (Fig. 4F) with endopod extending to slightly exceed the carpoperite. Ischiomerus completely fused with basis, combined segment bowed, about 5.5 times longer than central width, margins

sub-parallel, sparsely setose disto-medially, with palisade of about 14 short submarginal plumose setae proximally, distolateral border with 3 small spinules. Basal region medially rounded, non-setose. Exopod well developed, flagellum slender, not exceeding antepenultimate segment of endopod, with 4 terminal plumose setae; penultimate endopod segment about 0.7 of antepenultimate segment length, sub-cylindrical, 5.3 times longer than central width, sparsely setose, with 5 long spiniform setae along medial margin, with sparse spiniform setae laterally; terminal segment tapering, about 4.0 times as long as basal width, with sparse long spiniform setae medially, short transverse rows of serrulate spines laterally. Coxa with small rounded medial margin, with semicircular lateral plate, without arthrobranch.

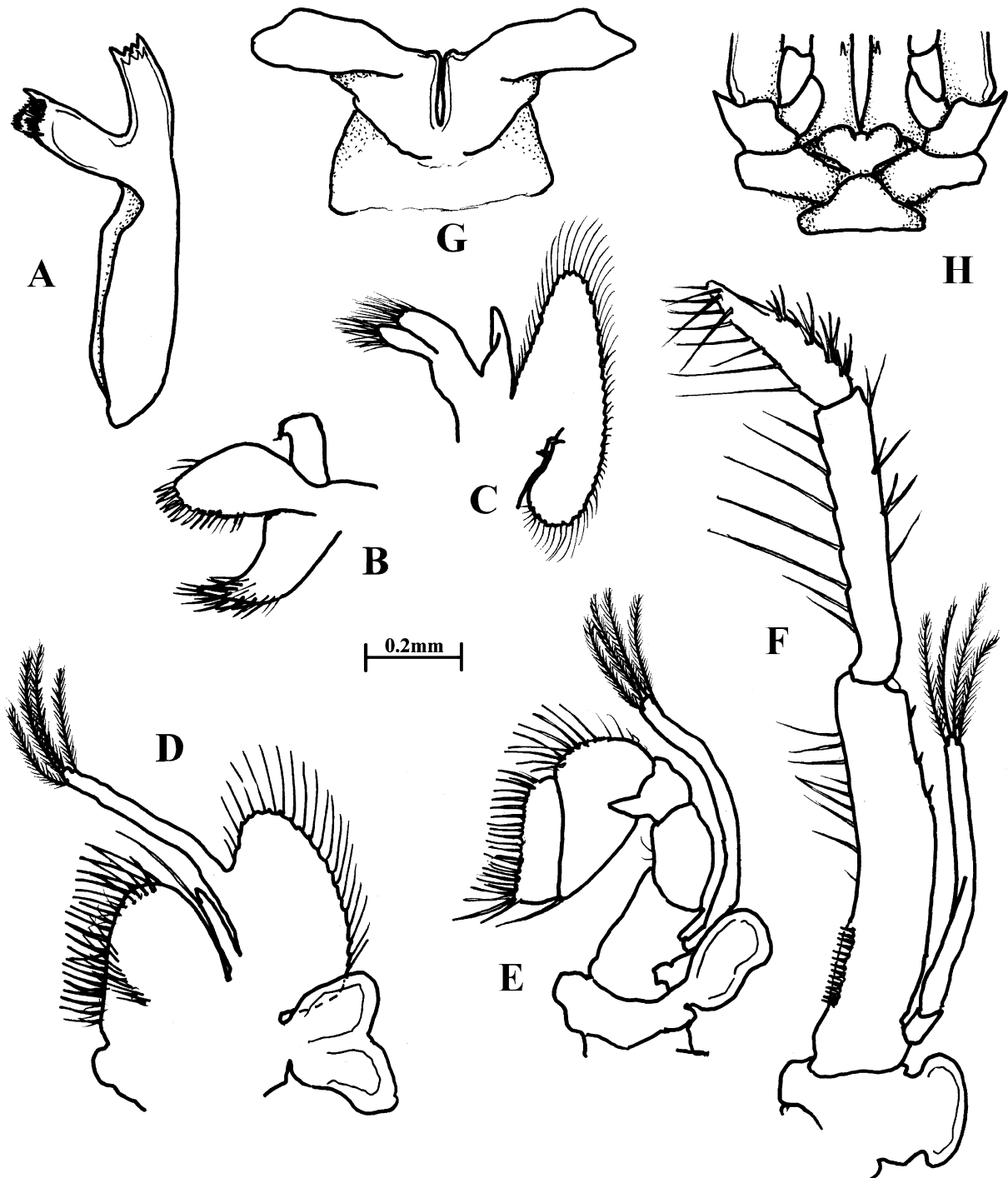


FIGURE 4. *Periclimenes poriphilus* sp. nov., ovigerous female paratype, QM W31899. Mouthparts. A, mandible. B, maxillula. C, maxilla. D, first maxilliped. E, second maxilliped. F, third maxilliped. G, paragnaths. H, epistome and labrum.

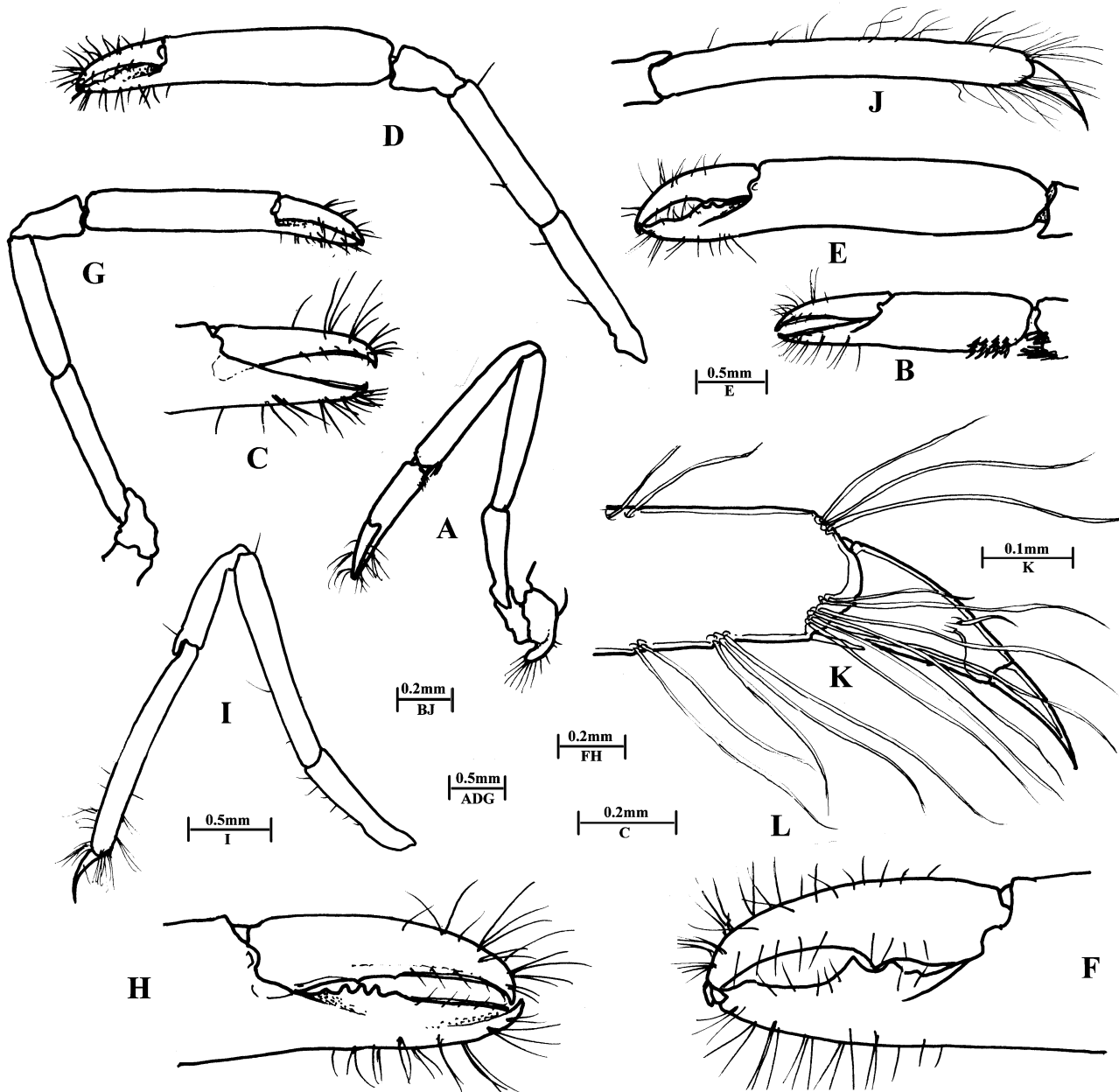


FIGURE 5. *Periclimenes poriphilus* sp. nov., ovigerous female paratype, QM W31899. A, first pereiopod. B, same, chela. C, same, fingers. D, major second pereiopod. E, same, chela. F, same, fingers. G, minor second pereiopod. H, same, fingers. I, third pereiopod. J, same, propod and dactyl. K, same, distal propod and dactyl. [There is a letter 'L' in the figure that does not refer to a drawing]

Paragnath (Fig. 4G). Corpus with deep non-setose median fissure, alae narrow, somewhat pointed laterally.

Second thoracic sternite (Fig. 3H) with low broad triangular median ridge; third obsolete; fourth with lower transverse ridge with small blunt submedian teeth separated by small notch; fifth with small transverse ridges laterally, posterior segments unarmed.

First pereiopod (Fig. 5A) moderately slender, slightly exceeding scaphocerite carpus. Chela (Fig. 5B) about 0.4 of CL; palm oval in section, tapering slightly distally, about 2.6 times longer than depth, with 4 transverse rows of short serrulate spinules proximally; fingers (Fig. 5C) slender, subequal, dactyl about 0.66 of palm length, about 4.5 times longer than proximal depth, with numerous long setae, with small hooked terminal spine, cutting edges concave, laminar over distal half, entire; fixed finger similar. Carpus about 1.3

times chela length, 6.0 times longer than distal width, tapering slightly proximally, with distoventral cleaning setae; merus subequal to carpus length, subcylindrical, 6.0 times longer than width. Ischium about 0.6 of merus length, basis short, without special features. Coxa with well developed setose distoventral process (Fig. 6F).

Major second pereiopod (Fig. 5D) well developed. Chela (Fig. 5E) slender, about 1.1 of CL. Palm subcylindrical, smooth, 3.7 times longer than depth, tapering slightly distally, fingers (Fig. 5F) slender, slightly more than half palm length. Dactyl about 0.4 of palm length, slender, about 3.8 times longer than proximal depth, tapering distally to stout terminal unguis, distal half of cutting edge concave (Fig. 6G), without lamina, proximal half thickened, with single strong acute tooth distally. Fixed finger (Fig. 6G) with 2 large teeth distally, separated by small notch, with smaller tooth proximally, distal half biconcave, with larger deeper concavity proximally and smaller shallower concavity distally, both fingers with numerous long setae. Carpus about 0.3 of palm length, 1.7 times longer than distal width, tapering proximally, unarmed. Merus 0.73 of palm length, 5.0 times longer than width, uniform, unarmed, sparsely setose. Ischium slender, subequal to merus length, about 0.7 of palm length, 5.4 times longer than distal width, tapering slightly proximally, unarmed. Basis and coxa robust, without special features.

Minor second pereiopod (Fig. 5G) smaller than major pereiopod. Chela about 1.04 of CL, 0.86 of major chela length. Palm 4.8 times longer than depth. Fingers (Fig. 5H) 0.5 of palm length, slender. Dactyl 3.6 times longer than proximal depth, with stout hooked tip, proximal half of cutting edge (Fig. 6H) with 2 low blunt teeth proximally, and similar tooth more distally; distal cutting edge entire, concave. Fixed finger with proximal half of cutting edge (Fig. 6H) with 5 small teeth, central 3 larger than others, distal half entire, unarmed, proximally with small concavity, distally convex. Carpus 0.4 of palm length, 2.0 times longer than distal width, tapering proximally, unarmed. Merus 0.75 of palm length, 5.0 times longer than distal width, tapering slightly proximally, unarmed. Ischium slender, slightly longer than merus, basis and coxa robust, without special features.

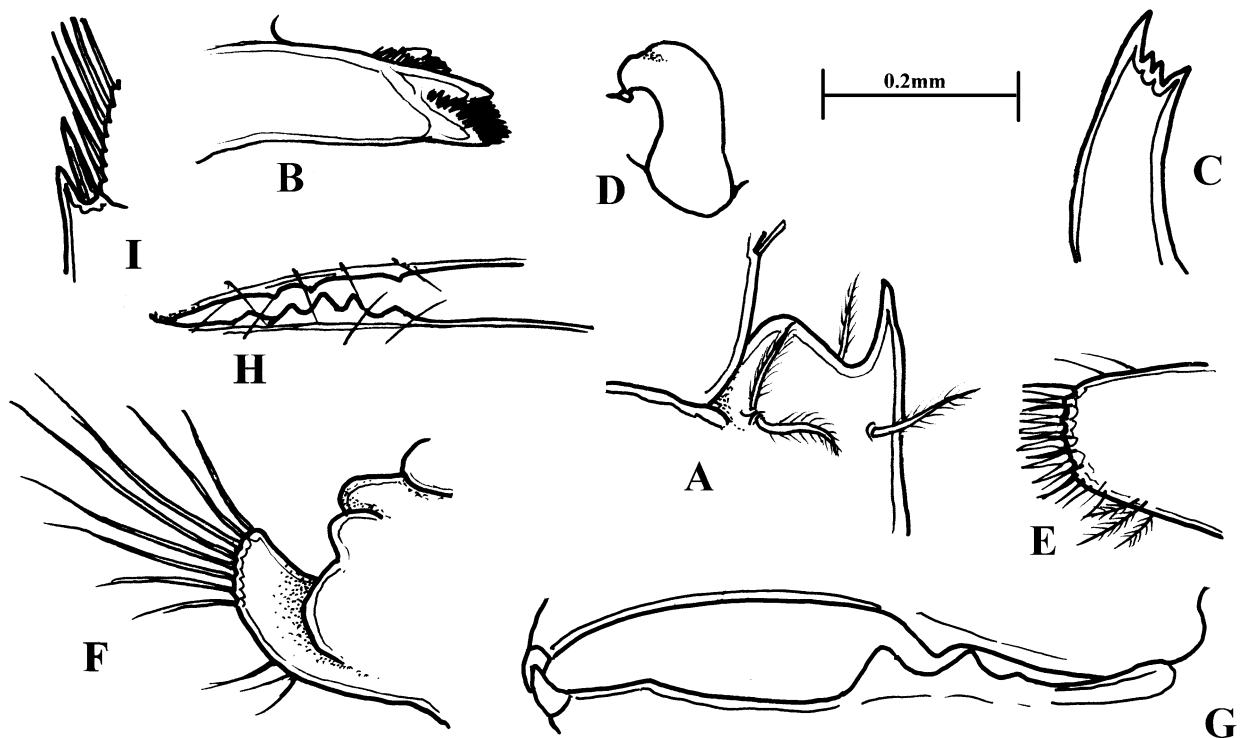


FIGURE 6. *Periclimenes poriphilus* sp. nov., ovigerous female paratype, QM W31899. A, antennule, distolateral angle of proximal segment. B, mandible, molar process. C, same, incisor process. D, maxillula, palp. E, same, distal upper lacinia. F, first pereiopod, distoventral coxal process. G, major second pereiopod, cutting edges of fingers. H, minor second pereiopod, cutting edges of fingers. I, uropod, distolateral angle of exopod.

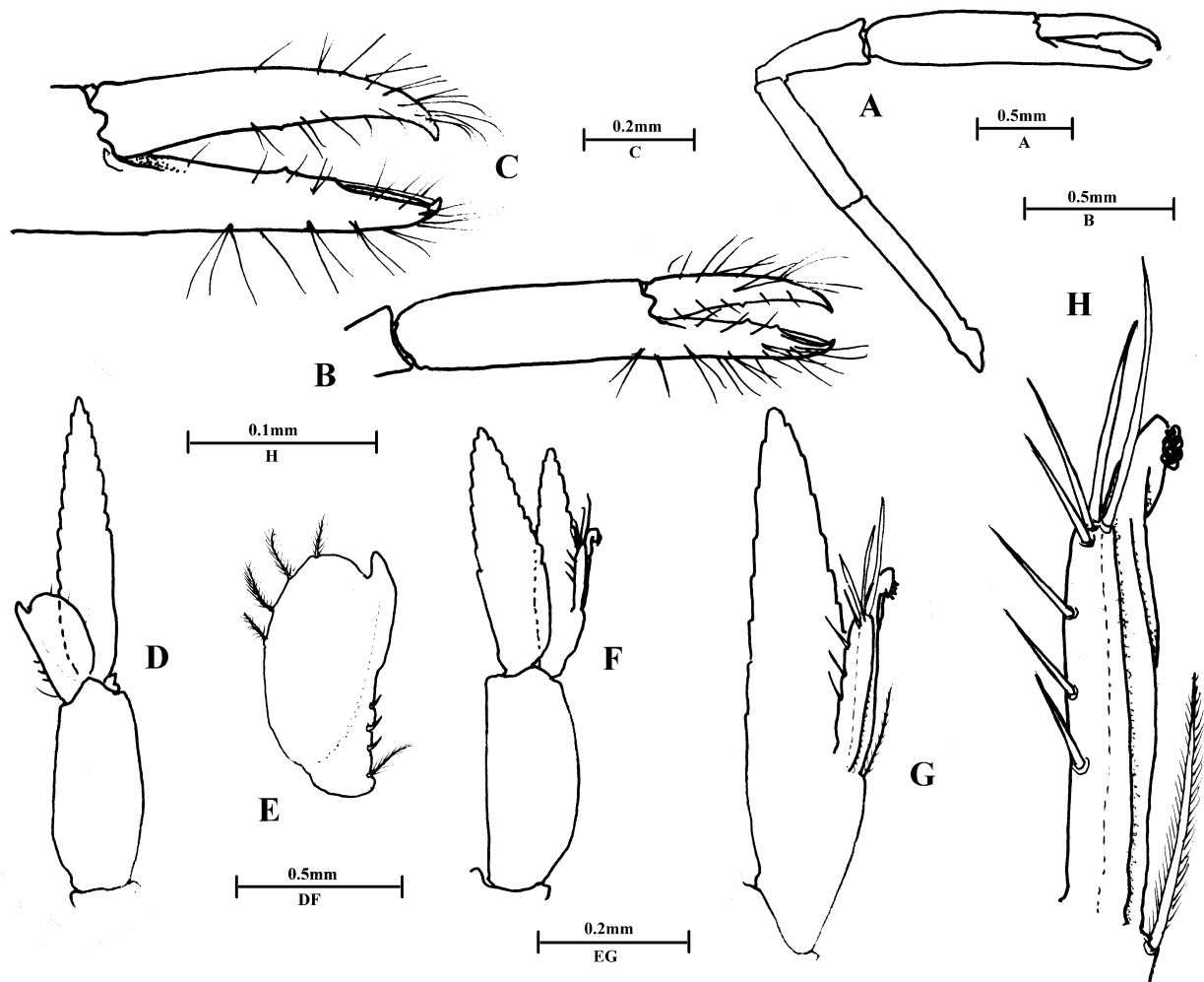


FIGURE 7. *Periclimenes poriphilus* sp. nov., allotype male, QM W31898. A, second pereopod. B, same, chela. C, same, fingers. D, first pleopod. E, same, endopod. F, second pleopod. G, same, endopod. H, same, appendix masculina and appendix interna.

Third pereopod (Fig. 5I) slender, slightly exceeding scaphocerite. Dactyl (Fig. 5K) slender, about 0.25 of propod length, corpus and unguis clearly demarcated, unguis simple, slender, curved, about 3.5 times longer than basal width, 0.62 of corpus length, corpus compressed, about 2.0 times longer than proximal depth, dorsal margin feebly convex, ventral margin almost straight, unarmed, with paired distolateral sensory seta. Propod (Fig. 5J) about 0.65 of CL, 10.0 times longer than wide, uniform, mainly sparsely setose, with single short simple distoventral spine, about 0.4 of unguis length, 0.4 of distal propod width; with single similar distal ventral spine; with numerous groups of long slender setae distally. Carpus about 0.5 of propod length, 4.0 times longer than wide, unarmed. Merus equal to 0.95 of propod length, 7.0 times longer than wide, unarmed. Ischium subequal to carpal length, 0.8 of meral length, unarmed. Basis and coxa without special features.

Fourth pereopod similar to third, propod about 0.9 times length of third propod, spinulation and dactyl as in third pereopod.

Fifth pereopod similar to third. Propod about 1.2 times length of third propod, otherwise similar to third, with numerous spiniform cleaning setae; with short distoventral spine and 2 distal ventral spines, largely obscured by setae.

Uropod with protopodite posterolaterally rounded (Fig. 3K). Exopod reaching well beyond telson, 2.8 times longer than broad, lateral margin straight, non-setose, with small acute distolateral tooth, with larger mobile spine medially (Fig. 6I); diaeresis obsolete. Endopod about 0.9 of exopod length, 3.6 times longer than broad.

Ova small, about 40.

Male. Generally similar to female but slightly smaller and more slender.

Rostral dentition 8/1.

One second pereopod (Fig. 7A) only, chela (Fig. 7B) about 1.2 times CL. Palm 3.3 times longer than deep. Dactyl (Fig. 7C) 0.72 of palm length, 5.0 times longer than basal width, cutting edge mainly straight, distally concave, with small tooth at about 0.5 of length, distal cutting edge without marginal lamella, with small acute hooked tip. Fixed finger similar, proximal two-thirds straight, with small acute tooth at about half length, distal edge with minute tooth at 0.25 distally concave with laminar cutting edge. Carpus about 0.66 of palm length, 2.6 times longer than distal width, tapering proximally, unarmed. Merus 0.88 of palm length, 5.0 times longer than wide, unarmed. Ischium 1.24 times palm length, 9.0 times longer than distal width.

First pleopod (Fig. 7D) with basipodite 2.3 times longer than wide, glabrous. Exopod (Fig. 7E) 1.4 times longer than basipodite, 5.5 times longer than broad. Endopod 0.5 of basipodite length, with small sub-acute disto-medial accessory lobe; medial margin straight, with 3 small curved simple marginal spinules; distolateral border rounded, with sparse short plumose setae.

Second pleopod (Fig. 7F) with basipodite 1.1 times first basipodite length, 2.3 times longer than broad. Exopod 1.15 times basipodite length, 4.0 times longer than wide. Endopod (Fig. 7G) 0.9 of exopod length 5.3 times longer than wide, with appendices at 0.33 of medial margin length. Appendix masculina (Fig. 7H) 0.28 of endopod length, subcylindrical, 6.5 times longer than wide, with 3 long simple terminal spines, longest about 0.55 of corpus length; with ventrolateral row of 4 simple spines of decreasing size proximally. Appendix interna (Fig. 7H) 1.25 times length of appendix masculina with small group of cincinnuli distomedially.

Variations. Non-ovig. ♀♀, CL 1.6 mm, 1.5 mm and 1.2 mm, rostral dentitions 7/1, 6/1, 6/1 respectively.

Measurements. Holotype female: post-orbital carapace length, 1.75 mm; carapace and rostrum, 3.8 mm; total body length (approx.), 9.0 mm; major second pereopod chela, 2.3 mm; minor second pereopod chela, 1.9 mm; length of ovum, 0.5 mm. Allotype male: post-orbital carapace length, 1.7 mm; carapace and rostrum, 3.1 mm; total body length (approx.), 9.0 mm; major second pereopod chela, missing; minor second pereopod chela, 1.7 mm.

Colouration. No data.

Etymology. From *pori-* (Latin) from the association with a poriferan host, and *φιλία*, *philia* (Greek), suffix meaning attraction to.

Systematic position. *Periclimenes poriphilus* is a member of the *Periclimenes diversipes* species group, designated by Bruce (1989). This group included *P. jugalis* Holthuis, *P. madreporae* Bruce, *P. diversipes* Kemp, *P. goniopora* Bruce, *P. mahei* Bruce, *P. watamuae* Bruce and *P. difficilis* Bruce. The latter is probably incorrectly placed in this group as it possesses a linguiform median plate on the fourth thoracic sternite, a feature lacking in the other species and of generic importance in some other pontonine taxa. A key to these species is provided by Bruce (1989).

Periclimenes poriphilus most closely resembles *P. goniopora* Bruce, 1983, sharing the following features with that species: second pereopod chelae unequal, dissimilar; fingers of major second pereopod chela dentate, non-spatulate, with the fixed finger without a single large tooth at 0.8 of its length.

Periclimenes poriphilus may be readily distinguished from *P. goniopora* by the presence of a normal, non-spatulate chela on the minor second pereopod with proximally dentate cutting edges; and the dentition of the fingers of the major second pereopod with a pair of robust teeth posterior to a deep preterminal concavity, unlike the single large tooth, with the distal concavity extending to the tip of the dactyl as in *P. goniopora*. Also, *P. poriphilus* is an associate of Porifera whereas *P. goniopora* is associated with scleractinian corals.

Host. *Dysidea* sp., [Dysideidae: Demospongiae] (J.N.A. Hooper, pers. com., 2 March 2010).

Remarks. The association of *Periclimenes poriphila* with a sponge host is of particular interest. The species of the genus *Periclimenes* are well known as associates with a wide variety of invertebrate hosts, including many cnidarians, molluscs, echinoderms, and a few decapod crustaceans. Only one Indo-West Pacific species, *P. incertus* Borradaile, 1915, has been repeatedly reported in association with sponges. Little detail is available on the association, but specimens collected by the author have usually been found on the external surfaces of the host. *Periclimenes poriphila* is the first Indo-West Pacific species to have been found

living in the cavity of the sponge host. The host, an undescribed species, is reported to be common on the reefs around Heron Island (J.N.A. Hooper, pers. com.).

Genus *Typton* Costa, 1844

Typton wasini Bruce, 1977

(Fig. 8)

Typton wasini Bruce, 1977: 272–285, figs. 1–6.

Typton nanus Bruce, 1987: 49–56, figs. 1–5. — Davie, 2002: 339.

Typton sp. — Bruce, 2000: 98, fig. 9.

Material examined. (1) 1 ov. ♀, 1 juv. ♀, 2 juv. ♂, CLs 3.8, 1.6, 1.7, 1.4, QM W31916; Heron Island reef, north-eastern side, stn HI09-076E, 23°25.990'S 151°55.601'E, 10m, 22 November 2009, coll. N. Bruce & K. Schnabel (QM W38196). (2) 1 ♀, 1, juv. ♀, 2 juv., CL 1.3 mm, 1.5 mm, 0.8 mm, 0.8 mm, data as above (QM W31896).

Diagnosis. The only Indo-West Pacific *Typton* species, with a dorsally dentate rostrum. Rostrum with 2–4 acute dorsal teeth; carapace with acute paraorbital spine. Sixth abdominal segment without posteromedian tooth. Scaphocerite less than half carapocerite length, acuminate, with or without obsolescent lamina. Mandible without incisor process. First pereopod chela fingers subspatulate. Second pereopods unequal, dissimilar, major chela and merus with ventral denticles in juveniles. Ambulatory dactyls biunguiculate, ventral corpus with 5–8 teeth. Exopod of uropod with distoventral tooth and spine.

Host. *Dysidea* sp., [Dysideidae: Demospongiae] (J.N.A. Hooper, pers. com., 2 March 2010).

Parasites. *Orophryxus shiinoi* Bruce, 1972, [Hemiarthrinae: Bopyridae], immature female, attached to host's oral region. The association with *Orophryxus shiinoi* represents a new host record.

Distribution. First reported from Kenya, Wasin Channel (type locality) by Bruce (1977) and subsequently from Heron Island, Queensland (Bruce 1981a). Also known from La Réunion (Bruce 1983d), from Western Australia at 16°34' S 121°27' E, from 40–46 m, as *Typton nanus* Bruce, 1987, and Abbot Point, Queensland, as *Typton* sp. (Bruce 2000).

Remarks. From lot (1), the ovigerous female specimen (Fig. 8), CL 3.8 mm, agrees precisely with the original description and has the rostrum about 0.26 of CL, reaching almost to end of proximal antennular segment, with 3 small acute teeth. The corneal diameter is about 0.14 of CL. The major second pereopod merus has two minute denticles on the ventral border.

The three smaller specimens agree closely with the description of *Typton nanus* Bruce, 1987. This description was based on a single small specimen, CL 1.05 mm, considered to be a female of a small species due to the apparent presence of a single ovigerous seta distomedially on the basipodite of the first pleopod. Characteristic morphological features were the presence of three acute dorsal rostral teeth, a small acute antennal spine, a small acicular scaphocerite with the lamella obsolescent and the minor second pereopod with a single small acute tooth at about 0.6 of the length of the ventral palmar margin, and with a similar tooth at 0.5 of the meral ventral length. The major second pereopod was not preserved. The three small Heron Island specimens consist of a female, CL 1.8 mm, rostral dentition 3/0, with major second pereopod only, merus with two ventral meral teeth, without ventral palmar teeth; juvenile male, CL 1.6 mm, rostral dentition 2/0, with both second pereopods, major second pereopod with two ventral meral teeth, without ventral palmar teeth, minor second pereopod with minute ventral palmar tooth only; juvenile male, CL 1.5 mm, rostral dentition 2/0, with major second pereopod only, merus and palm without ventral teeth. The male second pleopod appendix masculina is a single long spiniform seta.

These specimens show that the small ventral teeth on the second pereopods are variable and decrease with growth, becoming virtually indiscernible in well grown adults. *Typton nanus* is clearly an early juvenile of *T. wasini*. *Typton nanus* Bruce, 1987 is now relegated to the status of a junior synonym of *T. wasini* Bruce, 1977. From lot (1), the specimens had rostral dentitions of 3/0, 3/0, 2/0, 2/0 respectively. From lot (2), the

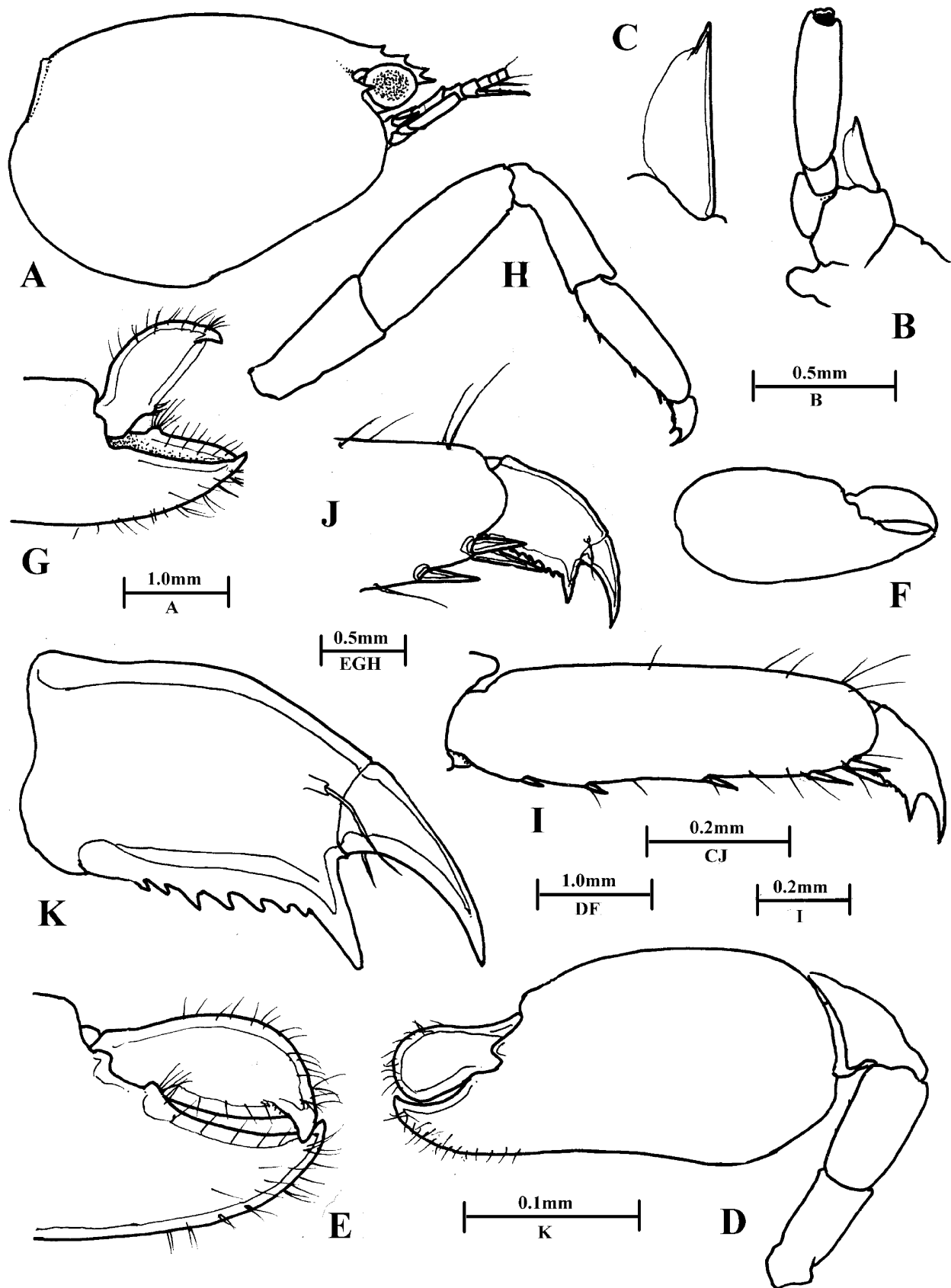


FIGURE 8. *Typton wasini* Bruce, 1977, ovigerous female, Heron Island, QM W31916. A, carapace and rostrum. B, antennular peduncle. C, scaphocerite. D, major second pereiopod. E, same, fingers. F, minor second pereiopod chela. G, same, fingers. H, third pereiopod. I, same, propod and dactyl. J, same, distal propod and dactyl. K, dactyl.

larger specimens had rostral dentitions of 2/0, 2/0 and the smaller 1/0 and 3/0 respectively. Five specimens had both second pereopods attached, one had neither, and two only a single second pereopod attached, with two detached second pereopods unattributable.

Bruce (2000) has also reported a *Typton* sp. from Abbot Point, Queensland, 15°53'S 148° 05'E (QM W24743), with a CL of 0.85 mm. The minor second pereopod (the major limb is missing) has a minute tooth at the middle of the ventral margin of the merus. There is no reason to doubt that this specimen is also referable to *T. wasini*. The *T. nanus* holotype specimen has a CL of 1.05 mm and is presumably an early juvenile stage. The Abbot Point specimen is even smaller, CL 0.85 mm, and may represent the first post-larval stage.

Typton wasini is particularly remarkable as the only Indo-West Pacific species of the genus with a dorsally dentate rostrum and lacking the mandibular incisor process.

Discussion

It may be noted that the single colony of *Dysidea* sp. that was host for the specimens of *Periclimenes poriphilus* was also the host for the specimens of *Typton wasini*, as well as specimens of *Epipontonia anceps* Bruce, 1983 (18, incl. 5 ov. ♀), *Thaumastocaris streptopus* Kemp, 1922 (4, incl. 1 ov. ♀), and *Anchistioides willeyi* (Borradaile, 1899) (2 ads., 1 juv.). *Epipontonia anceps* was previously known only from the Heron Island type material, which was also found in association with an unidentified species of *Dysidea*.

The pontoniine shrimp fauna of Heron Island and Wistari Reef now stands at 109 species. Since the publication by Bruce (1981a) there have been numerous nomenclatural changes to the names of these shrimps and an up-dated list of the current names is provided below. The recent additions show that the fauna is still not completely known and further study will produce numerous additions. Already some other species have been recorded from elsewhere in the Capricorn Island Group and may be expected to be also present on the Heron Island reefs. Of the 109 species so far recorded, Heron Island is the type locality for 12 species. For comparison, Franssen (1997) listed 114 species from the whole of the Indonesian archipelago, a list that included a number of species from deep water, a habitat not represented near Heron Island.

A checklist of the Heron Island pontoniine fauna

(* type locality: TL; ** Bruce (1981) noted that *Coralliocaris venusta* occurred in two colour patterns. These have now been separated by Mitsuhashi & Takeda (2008) as *C. nudirostris* and *C. sandyi*.)

	NAME IN BRUCE, 1981	CURRENT NAME	TL	CITATION
1.	<i>Allopontonia iaini</i> Bruce, 1972	<i>Allopontonia brockii</i> (De Man, 1888)		Marin & Türkay (2009)
2.	<i>Anchistus custoides</i> Bruce, 1977	<i>Anchistus custoides</i> Bruce, 1977		
3.	<i>Anchistus demani</i> Kemp, 1922	<i>Anchistus demani</i> Kemp, 1922		
4.	<i>Apopontonia falcistrotris</i> Bruce, 1976	<i>Apopontonia falcistrotris</i> Bruce, 1976		
5.	<i>Conchodytes meleagrinae</i> Peters, 1852	<i>Conchodytes meleagrinae</i> Peters, 1852		
6.	<i>Conchodytes tridacnae</i> Peters, 1852	<i>Conchodytes tridacnae</i> Peters, 1852		
7.	<i>Coralliocaris graminea</i> (Dana, 1852)	<i>Coralliocaris graminea</i> (Dana, 1852)		
8.	<i>Coralliocaris venusta</i> Kemp, 1922 **	<i>Coralliocaris nudirostris</i> (Heller, 1861)		Mitsuhashi & Takeda (2008)
	<i>Coralliocaris venusta</i> Kemp, 1922 **	<i>Coralliocaris sandyi</i> Mitsuhashi & Takeda, 2008		Mitsuhashi & Takeda (2008)
9.	<i>Coralliocaris superba</i> (Dana, 1852)	<i>Coralliocaris superba</i> (Dana, 1852)		
10.	<i>Coralliocaris viridis</i> Bruce, 1974	<i>Coralliocaris viridis</i> Bruce, 1974		
11.	<i>Dasella herdmaniae</i> (Lebour, 1938)	<i>Dasella brucei</i> Berggren, 1990	*	Berggren (1990)

12.	<i>Dasycaris ceratops</i> Holthuis, 1952	<i>Dasycaris ceratops</i> Holthuis, 1952	
13.	<i>Hamodactylus aqabai</i> Bruce & Svoboda, 1983	<i>Hamodactylus aqabai</i> Bruce & Svoboda, 1983	
14.	<i>Hamodactylus boschmai</i> Holthuis, 1952	<i>Hamodactylus boschmai</i> Holthuis, 1952	
15.	<i>Hamodactylus noumeae</i> Bruce, 1970	<i>Hamodactylus noumeae</i> Bruce, 1970	
16.	<i>Hamopontonia corallicola</i> Bruce, 1970	<i>Hamopontonia corallicola</i> Bruce, 1970	
17.	<i>Harpiliopsis beaupresii</i> (Audouin, 1825)	<i>Harpiliopsis beaupresii</i> (Audouin, 1825)	
18.	<i>Harpiliopsis depressa</i> (Stimpson, 1860)	<i>Harpiliopsis depressa</i> (Stimpson, 1860)	
19.	<i>Harpiliopsis spinigera</i> (Ortmann, 1890)	<i>Harpiliopsis spinigera</i> (Ortmann, 1890)	
20.	<i>Ischnopontonia lophos</i> (Barnard, 1962)	<i>Ischnopontonia lophos</i> (Barnard, 1962)	
21.	<i>Jocaste japonica</i> (Ortmann, 1890)	<i>Jocaste japonica</i> (Ortmann, 1890)	
22.	<i>Jocaste lucina</i> (Nobili, 1906)	<i>Jocaste lucina</i> (Nobili, 1906)	
23.	<i>Onycocaris amakusensis</i> Fujino & Miyake, 1969	<i>Onycocaris amakusensis</i> Fujino & Miyake, 1969	
24.	<i>Onycocaris monodoa</i> Fujino & Miyake, 1969	<i>Onycocaridella monodoa</i> (Fujino & Miyake, 1969)	Bruce (1981b)
25.	<i>Onycocaris oligodentata</i> Fujino & Miyake, 1969	<i>Onycocaris oligodentata</i> Fujino & Miyake, 1969	
26.	<i>Palaemonella pottsi</i> (Borradaile, 1915)	<i>Palaemonella pottsi</i> (Borradaile, 1915)	
27.	<i>Palaemonella rotumana</i> (Borradaile, 1898)	<i>Palaemonella rotumana</i> (Borradaile, 1898)	
28.	<i>Palaemonella spinulata</i> Yokoya, 1936	<i>Palaemonella</i> aff. <i>dijonesae</i> Bruce, 2010	Bruce (2010)
29.	<i>Paranchistus pycnodontae</i> Bruce, 1978	<i>Paranchistus pycnodontae</i> Bruce, 1978	*
30.	<i>Parapontonia nudirostris</i> Bruce, 1968	<i>Laomenes nudirostris</i> (Bruce, 1968)	Marin (2009)
31.	<i>Paratypton siebenrocki</i> Balss, 1914	<i>Paratypton siebenrocki</i> Balss, 1914	
32.	<i>Periclimenaeus arabicus</i> (Calman, 1939)	<i>Periclimenaeus arabicus</i> (Calman, 1939)	
33.	<i>Periclimenaeus ardeae</i> Bruce, 1979	<i>Periclimenaeus ardeae</i> Bruce, 1979	
34.	<i>Periclimenaeus bidentatus</i> Bruce, 1970	<i>Periclimenaeus bidentatus</i> Bruce, 1970	*
35.	<i>Periclimenaeus diplosomatis</i> Bruce, 1980	<i>Periclimenaeus diplosomatis</i> Bruce, 1980	*
36.	<i>Periclimenaeus djiboutensis</i> Bruce, 1970	<i>Periclimenaeus djiboutensis</i> Bruce, 1970	
37.	<i>Periclimenaeus gorgonidarum</i> Balss, 1913	<i>Periclimenaeus gorgonidarum</i> Balss, 1913	
38.	<i>Periclimenaeus hecate</i> (Nobili, 1904)	<i>Periclimenaeus hecate</i> (Nobili, 1904)	
39.	<i>Periclimenaeus odontodactylus</i> Fujino & Miyake, 1968	<i>Periclimenoides odontodactylus</i> (Fujino & Miyake, 1968)	Bruce (1990)
40.	<i>Periclimenaeus ornatus</i> Bruce, 1969	<i>Orthopontonia ornata</i> (Bruce, 1982)	* Bruce (1982)
41.	<i>Periclimenaeus pachydentatus</i> Bruce, 1969	<i>Periclimenaeus pachydentatus</i> Bruce, 1969	
42.	<i>Periclimenaeus quadridentatus</i> (Rathbun, 1906)	<i>Periclimenaeus quadridentatus</i> (Rathbun, 1906)	
43.	<i>Periclimenaeus rastrifer</i> Bruce, 1980	<i>Periclimenaeus rastrifer</i> Bruce, 1980	
44.	<i>Periclimenaeus rhodope</i> (Nobili, 1904)	<i>Periclimenaeus rhodope</i> (Nobili, 1904)	

TERMS OF USE

**This pdf is provided by Magnolia Press for private/research use.
Commercial sale or deposition in a public library or website is prohibited.**

45.	<i>Periclimenaeus tridentatus</i> (Miers, 1884)	<i>Periclimenaeus tridentatus</i> (Miers, 1884)	
46.	<i>Periclimenaeus tuamotae</i> Bruce, 1969	<i>Periclimenaeus tuamotae</i> Bruce, 1969	
47.	<i>Periclimenes affinis</i> (Zehntner, 1895)	<i>Periclimenes affinis</i> (Zehntner, 1895)	
48.	<i>Periclimenes amboinensis</i> (De Man, 1888)	<i>Laomenes amboinensis</i> (De Man, 1888)	Marin (2009)
49.	<i>Periclimenes amymone</i> De Man, 1902	<i>Cuapetes amymone</i> (De Man, 1902)	Okuno (2009)
50.	<i>Periclimenes brevicarpalis</i> (Schenkel, 1902)	<i>Periclimenes brevicarpalis</i> (Schenkel, 1902)	
51.	<i>Periclimenes brockettii</i> Borradaile, 1915	Synonym of <i>P. affinis</i> , #47	Bruce (2008)
52.	<i>Periclimenes ceratophthalmus</i> Borradaile, 1915	<i>Laomenes ceratophthalmus</i> (Borradaile, 1915)	Marin (2009)
53.	<i>Periclimenes colemani</i> Bruce, 1975	<i>Periclimenes colemani</i> Bruce, 1975	*
54.	<i>Periclimenes commensalis</i> Borradaile, 1915	<i>Periclimenes commensalis</i> Borradaile, 1915	
55.	<i>Periclimenes consobrinus</i> (De Man, 1902)	<i>Harpilius consobrinus</i> De Man, 1902	Bruce (2004)
56.	<i>Periclimenes cornutus</i> Borradaile, 1915	<i>Laomenes cornutus</i> (Borradaile, 1915)	Marin (2009)
57.	<i>Periclimenes cristimanus</i> Bruce, 1965	<i>Periclimenes cristimanus</i> Bruce, 1965	
58.	<i>Periclimenes diversipes</i> Kemp, 1922	<i>Periclimenes diversipes</i> Kemp, 1922	
59.	<i>Periclimenes elegans</i> Paulson 1875	<i>Cuapetes elegans</i> (Paulson, 1875)	Okuno (2009)
60.	<i>Periclimenes galene</i> Holthuis, 1952	<i>Rapipontonia galene</i> (Holthuis, 1952)	Marin (2007b)
61.	<i>Periclimenes goniopora</i> Bruce, 1989	<i>Periclimenes goniopora</i> Bruce, 1989	
62.	<i>Periclimenes granulimanus</i> Bruce, 1978	<i>Periclimenes granulimanus</i> Bruce, 1978	
63.	<i>Periclimenes holthuisi</i> Bruce, 1969	<i>Ancylomenes holthuisi</i> (Bruce, 1969)	Okuno & Bruce (2010)
64.	<i>Periclimenes imperator</i> Bruce, 1967	<i>Periclimenes imperator</i> Bruce, 1967	
65.	<i>Periclimenes incertus</i> Borradaile, 1915	<i>Periclimenes incertus</i> Borradaile, 1915	
66.	<i>Periclimenes inornatus</i> Kemp, 1922	<i>Periclimenes inornatus</i> Kemp, 1922	
67.	<i>Periclimenes kemp</i> Bruce, 1969	<i>Periclimenes kemp</i> Bruce, 1969	
68.	<i>Periclimenes lanipes</i> Kemp, 1922	Generic change pending.	Bruce & Okuno (in press)
69.	<i>Periclimenes lutescens</i> auct.	<i>Harpilius lutescens</i> Dana, 1852	Bruce (2004)
70.	<i>Periclimenes madreporae</i> Bruce, 1969	<i>Periclimenes madreporae</i> Bruce, 1969	
71.	<i>Periclimenes magnificus</i> Bruce, 1979	<i>Ancylomenes magnificus</i> (Bruce, 1979)	* Okuno & Bruce (2010)
72.	<i>Periclimenes nilandensis</i> Borradaile, 1915	<i>Cuapetes nilandensis</i> (Borradaile, 1915)	Okuno (2009)
73.	<i>Periclimenes ornatus</i> Bruce, 1969	<i>Periclimenes ornatus</i> Bruce, 1969	
74.	<i>Periclimenes ornatellus</i> Bruce, 1979	<i>Periclimenes ornatellus</i> Bruce, 1979	
75.	<i>Periclimenes psamathe</i> (De Man, 1902)	<i>Manipontonia psamathe</i> (De Man, 1902)	Bruce et al. (2005)
76.	<i>Periclimenes seychellensis</i> Borradaile, 1915	<i>Cuapetes seychellensis</i> (Borradaile, 1915)	Okuno (2009)
77.	<i>Periclimenes soror</i> Nobili, 1904	<i>Periclimenes soror</i> Nobili, 1904	
78.	<i>Periclimenes spiniferus</i> (De Man, 1902)	<i>Periclimenella spiniferus</i> (De Man, 1902)	Đuriš & Bruce (1995)
79.	<i>Periclimenes tenuipes</i> Borradaile, 1898	<i>Cuapetes tenuipes</i> (Borradaile, 1898)	Okuno (2009)
80.	<i>Periclimenes tenuis</i> Bruce, 1969	<i>Brucecaris tenuis</i> (Bruce, 1969)	Marin & Chan (2006)

TERMS OF USE

This pdf is provided by Magnolia Press for private/research use.

Commercial sale or deposition in a public library or website is prohibited.

81.	<i>Periclimenes toloensis</i> Bruce, 1969	<i>Periclimenes toloensis</i> Bruce, 1969	
82.	<i>Philarius gerlachei</i> Nobili, 1905)	<i>Philarius gerlachei</i> (Nobili, 1905)	
83.	<i>Philarius imperialis</i> (Kubo, 1940)	<i>Philarius imperialis</i> (Kubo, 1940)	
84.	<i>Philarius lifuensis</i> (Borradaile, 1898)	<i>Philarius lifuensis</i> (Borradaile, 1898)	
85.	<i>Platycaris latirostris</i> Holthuis, 1952	<i>Platycaris latirostris</i> Holthuis, 1952	
86.	<i>Pliopontonia furtiva</i> Bruce, 1973	<i>Pliopontonia furtiva</i> Bruce, 1973	
87.	<i>Pontonia ardeae</i> Bruce, 1981	<i>Bruceonia ardeae</i> (Bruce, 1981	* Fransen (2002)
88.	<i>Pontonia katoi</i> Kubo, 1940	<i>Odontonia katoi</i> (Kubo, 1940)	Fransen (2002)
89.	<i>Pontonia okai</i> (Kemp, 1922)	<i>Dactylonia okai</i> (Kemp, 1922)	Fransen (2002)
90.	<i>Pontonides</i> sp. aff. <i>unciger</i> Calman, 1937	<i>Pontonides ankeri</i> Marin, 2007	Marin (2007a)
91.	<i>Pontoniopsis comanthi</i> Borradaile, 1915	<i>Pontoniopsis comanthi</i> Borradaile, 1915	
92.	<i>Propontonia pellucida</i> Bruce, 1969	<i>Propontonia pellucida</i> Bruce, 1969	
93.	<i>Stegopontonia commensalis</i> Nobili, 1906	<i>Stegopontonia commensalis</i> Nobili, 1906	
94.	<i>Thaumastocaris streptopus</i> Kemp, 1922	<i>Thaumastocaris streptopus</i> Kemp, 1922	
95.	<i>Typton australis</i> Bruce, 1973	<i>Typton australis</i> Bruce, 1973	
96.	<i>Typton bawii</i> Bruce, 1972	<i>Typton bawii</i> Bruce, 1972	
97.	<i>Typton dentatus</i> Fujino & Miyake, 1969	<i>Typtonychus dentatus</i> (Fujino & Miyake, 1969)	Bruce (1995)
98.	<i>Typton wasini</i> Bruce, 1977	<i>Typton wasini</i> Bruce, 1977	
99.	<i>Zenopontonia noverca</i> (Kemp, 1922)	<i>Zenopontonia noverca</i> (Kemp, 1922)	
100.	—	<i>Onycocaridella prima</i> Bruce, 1981	* Bruce (1981b, 1983a)
101.	—	<i>Epipontonia anceps</i> Bruce, 1983	* Bruce (1983b)
102.	—	<i>Fennera chacei</i> Holthuis, 1951	Bruce (1983a)
103.	—	<i>Onycocaris spinosa</i> Fujino & Miyake, 1969	Bruce (1990b)
104.	—	<i>Platypontonia brevirostris</i> (Miers, 1884)	Bruce (1990b)
105.	—	<i>Typton capricorniae</i> Bruce, 2000	* Bruce (2000)
106.	—	<i>Ancylomenes speciosus</i> (Okuno, 2004)	Coleman (1988) as <i>P. holthuisi</i> ; Okuno, 2004
107.	—	<i>Paraclimenaeus spinicauda</i> (Bruce, 1969)	Bruce (2009)
108.	—	<i>Periclimenaeus arthrodactylus</i> Holthuis, 1952	This report
109.	—	<i>Periclimenes poriphilus</i> sp. nov.	* This report

Acknowledgements

Material from Heron Island was collected under the auspices of the CReefs Project organised by the Australian Institute of Marine Science (AIMS). The CReefs Australia Project is generously sponsored by BHP Billiton in partnership with The Great Barrier Reef Foundation, the Australian Institute of Marine Science and the Alfred P. Sloan Foundation; CReefs is a field program of the Census of Marine Life. I am most grateful to Dr N.L. Bruce for providing the opportunity to study these shrimps and Dr J.N.A Hooper for identification of a sponge host. Helpful comments by Dr C.H.J.M. Fransen and Dr S. De Grave on the initial

