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Articullichirus, a new genus of ghost shrimp (Crustacea: Axiidea: Callichiridae) with one new species

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Abstract Poore, G.C.B., Dworschak, P.C., and Schnabel, K.E. 2022. *Articullichirus*, a new genus of ghost shrimp (Crustacea: Axiidea: Callichiridae) with one new species. *Memoirs of Museum Victoria* 81: 123–133.

Articullichirus gen. nov., close to *Corallianassa* Manning, 1987 and *Calliapagurops* de Saint Laurent, 1973, is diagnosed to include *Callianassa articulata* Rathbun, 1906 from Hawaii and French Polynesia, *Callianassa collaroy* Poore and Griffin, 1979 from southern Australia and *Articullichirus chiltoni* sp. nov. from northern New Zealand. Previous records of the two described species from the Indo-West Pacific are reassigned.

Keywords Crustacea, Decapoda, Axiidea, Callichiridae, *Articullichirus*, taxonomy, new genus, new species, Pacific Ocean, taxonomy

Introduction

Callichiridae Manning and Felder, 1991 is one of seven families of callianassid-like Axiidea de Saint Laurent, 1979, most recently reviewed by Poore et al. (2019), whose classification was based on their molecular phylogeny (Robles et al., 2020). *Corallianassa* Manning, 1987, one of its 17 genera, has proved problematic. The question of differences between *Corallianassa*, *Corallichirus* Manning, 1992 and *Glypturus* Stimpson, 1866 was settled by Komai et al. (2015). Manning (1987) was uncertain whether to include *Callianassa articulata* Rathbun, 1906 in *Corallianassa*; this question is investigated here by re-examining this species and two similar others. During this study, it was realised that *Calliapagurops* de Saint Laurent, 1973, a small genus with exceptionally long eyestalks, shares several features with *Corallianassa*. Here, we erect a new genus for *Callianassa articulata* and two others, one new.

Material is lodged in Museums Victoria, Melbourne, Australia (NMV), Canterbury Museum, Christchurch, New Zealand (CMNZ), Muséum national d'Histoire naturelle, Paris, France (MNHN) and Naturhistorisches Museum, Vienna, Austria (NHMW), Bernice P. Bishop Museum, Honolulu, USA (BPBM), and National Museum of Natural History, Washington, D.C., USA (USNM). Size is expressed as carapace length (cl.), including rostrum, in mm. The diagnosis of the new genus is derived from the same DELTA database (Dallwitz, 2018) used by Poore et al. (2019).

Family Callichiridae Manning and Felder, 1991

Articullichirus gen. nov.

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Type species. *Callianassa articulata* Rathbun, 1906 by present designation.

Diagnosis. Anterior branchiostegal lobe sclerotised, well-produced anteriorly beyond junction with oblique branchiostegal ridge with which it articulates by means of a virtual condyle; rostrum spine-like; anterolateral spines prominent. Pleomere 1 tergite undivided or with weak transverse step. Antennal scaphocerite acute. Maxilliped 3 ischium and merus together ovoid, axial length slightly greater than width at their articulation; crista dentata of few separate spines proximally and toothed ridge distally overlapping proximal margin of merus; propodus about as wide as long, propodus free distal margin nearly transverse. Male major cheliped merus with 3 proximal sharp oblique spines, 1 or more distally along length of lower margin; without spines on upper margin of merus and propodus or lower

margin of carpus. Minor cheliped of male slightly more than half wide as major, carpus slightly shorter than palm, fingers as long as palm; merus lower margin with row of spines. Pereopod 3 propodus subpentagonal, with strong broad proximal lobe on lower margin, lower margin straight. Pereopod 4 subchelate, fixed finger shorter than dactylus. Male pleopod 1 of 2 articles. Male pleopod 2 appendix interna absent. Pleopods 3–5 appendices internae longer than broad, clearly emerging from margin of endopod. Uropodal endopod with convex anterior margin, acute-rounded apex, slightly curved posterior margin, longer than wide; exopod with elevated dorsal plate with row of setae diverging from row of setae on distal margin. Telson wider than long, convex-sided, widest near midpoint, posterior margin concave between rounded posterolateral corners, with transverse row of spiniform setae at midpoint.

Etymology. Alliteration of *articulata*, specific name of the type species, and *Callichirus*, type genus of the family.

Included species. *Callianassa articulata* Rathbun, 1906; *Callianassa collaroy* Poore and Griffin, 1979; *Articullichirus chiltoni* sp. nov.

Remarks. *Callianassa articulata* Rathbun, 1906 was provisionally included in *Corallianassa* by Manning (1987) and Dworschak (1992) and without qualification by Poore et al. (2019). Poupin (1998) argued for its inclusion in *Cheramus* Bate, 1888, a genus now belonging in another family, Callianassidae Dana, 1852. Sakai (1999, 2005, 2011) included the species in *Glypturus* Stimpson, 1866. Dworschak (1992) noted how the telson, without a median posterior prominence, and the more operculiform maxilliped differed from other species of *Corallianassa* (see figures here and in Rathbun, 1906; Edmondson, 1944). *Callianassa collaroy* Poore and Griffin, 1979 has been variously included in *Glypturus* (Sakai, 1988, 2011), *Corallianassa* (Tudge et al., 2000; Davie, 2002; Komai et al., 2015; Poore et al., 2019) and *Neocallichirus* Sakai, 1988 (Sakai, 1999). It was included in Komai et al.'s (2015) thorough review of differences between *Glypturus* and *Corallianassa*, but differences between *C. articulata* and both these genera were not commented on. The discovery of new material of *C. articulata* from French Polynesia, of *C. collaroy* in Australia, and of a similar species from New Zealand, stimulated a reappraisal of specimens from throughout the Pacific identified as one or the other of these two species. Several are misidentified and a new genus is warranted.

Articullichirus resembles *Corallianassa* and *Glypturus* (but not *Neocallichirus*) in the possession of a pair of sharp anterolateral carapace spines. *Articullichirus* differs from both genera in the much broader oval maxilliped 3 (narrow with an oblique meral margin in *Glypturus* and *Corallianassa*); shape of the telson (evenly convex-sided, with concave posterior margin in *Articullichirus*, with semicircular posterior half in *Glypturus*, tapering from greatest width anteriorly in *Corallianassa*); and an acute scaphocerite (small in *Glypturus*, sometimes absent in *Corallianassa*). In addition, *Articullichirus*, like *Corallianassa*, differs from *Glypturus* in the absence of spines along the upper margin of the chelipeds and in having a horizontal rostrum. Komai et al. (2015) noted that the combined length of pleomeres 1 and 2 of at least four species of *Corallianassa* is greater than or equal to the carapace length, whereas in *G. armatus*, *Corallianassa intesi* (de Saint Laurent and Le Loeuff, 1979) and *Articullichirus collaroy* comb. nov. pleomeres 1 and 2 are shorter than the carapace.

Calliapagurops differs from all callichirids in having exceptionally stout antennae, much more prominent than the antennules; the antennae may be used for suspension feeding (Dworschak and Wirtz, 2010). *Calliapagurops* was placed in its own subfamily Calliapaguropinae by Sakai (1999) but its relationship to Callichiridae was realised by Ngoc-Ho (2002). *Calliapagurops* is notable for exceptionally long eyestalks with terminal cornea, differing from most callichirids that have more or less flattened eyestalks with subterminal cornea and a mesiodistal lobe (Ngoc-Ho, 2002; Dworschak and Wirtz, 2010). While the eyestalks of species of *Corallianassa*, *Glypturus* and *Articullichirus* are much shorter, the cornea is terminal with only a small mesiodistal lobe. *Calliapagurops* and these three genera all have sharp prominent anterolateral carapace spines that, with the sharp rostrum, have more or less weakly calcified bases. Species of *Articullichirus* resemble the two recognised species of *Calliapagurops*. The oval telson with a transverse row of robust setae is similar to that of *Articullichirus*, quite different from those of *Corallianassa* and *Glypturus*. The chelipeds of *Calliapagurops* are generally similar to those of *Articullichirus*; the coxae carry a pair of mesial hooks as in *A. collaroy* and *A. chiltoni*, but these are absent in *A. articulatus*. The uropodal endopod of *Calliapagurops* bears two proximal teeth on the dorsal surface similar to those seen in most species of *Articullichirus*, but not seen in the other two genera. The maxilliped of *Calliapagurops* is operculate as in *Articullichirus*, more so than in the other two genera. Its merus bears four distal teeth, whereas some individuals of *A. articulatus* and all those of *A. collaroy* have a single tooth or tubercle; *A. chiltoni* has a tubercle.

Articullichirus articulatus (Rathbun, 1906) comb. nov.

Figures 1, 2

Callianassa articulata Rathbun, 1906: 892, fig. 47.—Manning, 1987: 396.

Callianassa (*Callichirus*) *articulata*.—De Man, 1928: 28, 94, 108.—Edmondson, 1944: 54, fig. 9.

Corallianassa articulata.—Dworschak, 1992: 210, fig. 14.—Tudge et al., 2000: 144.—Komai et al., 2015: 54.—Poore et al., 2019: 136, 144.

Corallianassa collaroy.—Sakai, 1992: 212, fig. 1.

Glypturus articulatus.—Sakai, 2011: 433 (part).

Cheramus articulatus.—Poupin, 1998: 31.

Not *Callianassa articulata*.—Chilton, 1911: 551–552 = *Articullichirus chiltoni* sp. nov.

Material examined. **Hawaii**, Oahu, Honolulu, Harbour Entrance, coll. V. Pietschmann, 1927, NHMW 6621 (ovigerous female, 7.5 mm). **French Polynesia**, Tuamotu, Mataiva, Hoa Papino platier, coll. Mario Monteforte, 1982, MNHN IU-2013-19994 (=Th1232) (female, 7.3 mm).

Material not examined. **Hawaii**, Oahu, Kahala, coll. C.H. Edmondson, 1930–1933, BPBM S4669, S4670, S4671, S4672, S4673, S4674 (6 specimens); Kawailoa, coll. C.H. Edmondson, 1921, BPBM S4668; Hanauma, coll. C.H. Edmondson, 1933, BPBM S4675, S4676 (2); coll. Banner, 1938, S4677 (1); Waikiki, coll. Simon, 1941, BPBM S4678 (1).

Nihoa Island, RV *Albatross*, 48–60 m, USNM 30532 (female, holotype); Nihoa Island, RV *Albatross*, 42–48 m, USNM 30995 (female). Oahu Island, Waikiki, coll. C.H. Edmondson, 1921 USNM 78119 (1).

Size. Cl. to 7.5 mm.

Type locality. USA, Hawaii, 42–60 m.

Diagnosis. Maxilliped 3 basis without mesial tooth or with 2 small mesial teeth; merus with or without small tooth on distal margin. Pereopod 1 coxa with small mesiodistal process with terminal setae. Uropodal endopod midlength about 1.3–1.4 times as long as wide, with tapering apex, with 2 dorsal clusters of setae, with 2 proximal dorsal teeth. Telson 1.4–1.7 times as wide as long, with sinuous posterior margin; with transverse dorsal row of 2 pairs of spiniform setae.

Description of female from Tuamotu (MNHN IU-2013-19994). Carapace length 0.28 of total length; cervical groove at 0.8 length of carapace; dorsal oval well defined; hepatic region with weakly sclerified line between dorsal oval and linea thalassinica. Rostrum and anterolateral carapace spines with unsclerified basal region; rostrum an anteriorly directed, acute spine as long as eyestalk; anterolateral spines set well back from rostrum, acute, one third as long as rostrum. Anterolateral branchiostegal margin extending dorsal to linea thalassinica, with small separate sclerified plate near beginning of linea thalassinica. Pleomere 1 with weak transverse groove, with dorsolateral longitudinal setal row; pleomere 2 about 1.4 times as long as pleomere 1 tergite; pleomeres 3–5 scarcely expanded laterally, with dense setose areas; pleomere 6 1.2 times as long as pleomere 5, pleomere 6 with posterolateral notch, with pair of lobes on posterior margin.

Eyestalks shorter than first article of antenna 1; with rounded mesiodistal lobe not visible in dorsal view; cornea globular, distally placed. Antennular peduncle reaching two thirds along antennal peduncle article 5. Antennal peduncle with acute scaphocerite. Right maxilliped 3 (left missing) basis with 2 small mesial teeth; ischium with crista dentata of 13 teeth, larger distally; merus width about 0.7 as long as ischium and merus together; merus shorter than ischium, with tooth on free distal margin; carpus articulating distolaterally on merus; propodus as wide as long, expanded as asymmetrical lobe; dactylus one third as wide as propodus, 0.7 times as long.

Pereopods 1 unequal, dissimilar; coxae with small mesiodistal process with terminal setae. Major pereopod 1 (right cheliped) carpus-propodus upper margin 0.8 times carapace length; ischium lower margin with row of 6 spines,

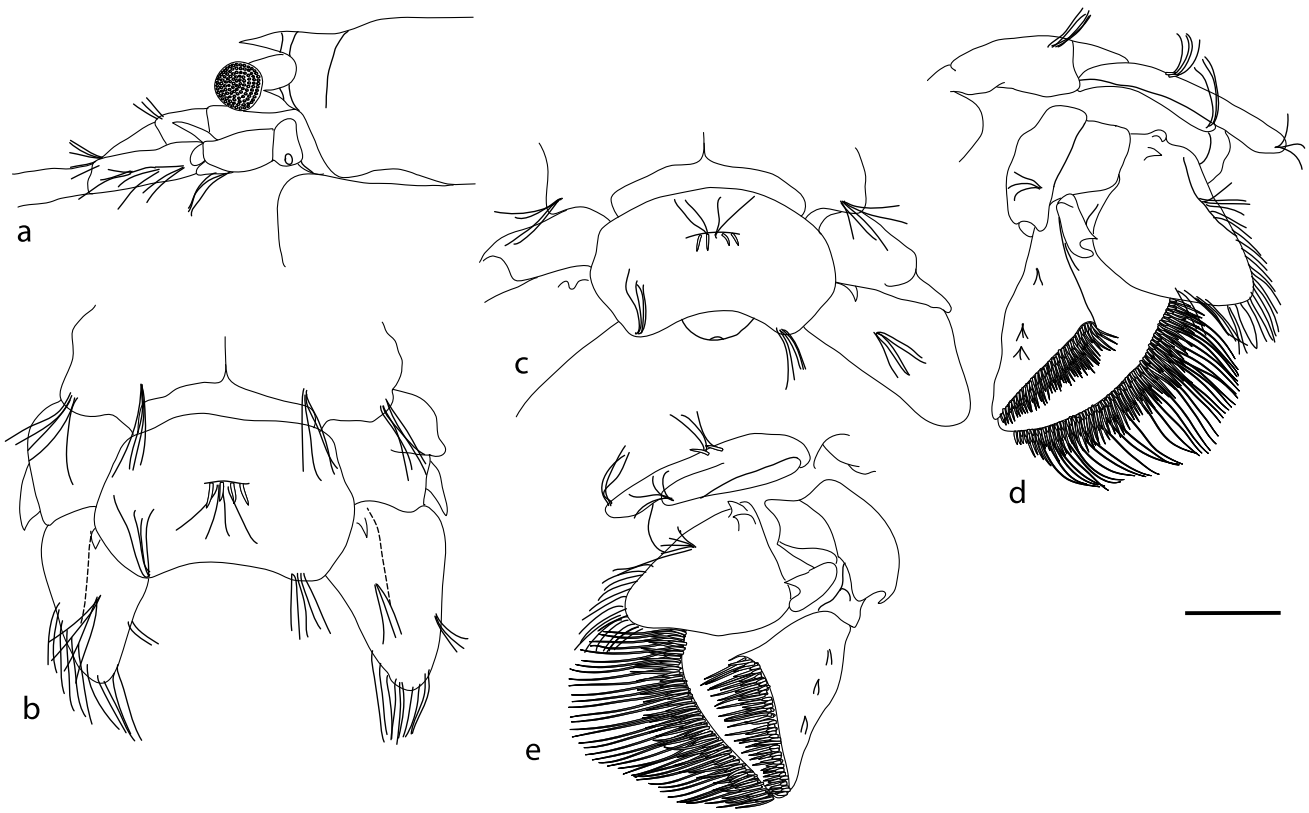

Figure 1. *Articullichirus articulatus* (Rathbun, 1906). Hawaii, NHMW 6621 (ovigerous female, 7.5 mm). a, anterior carapace, eyestalks, antennular peduncle, antennal peduncle; b, c, telson, uropods (depressed); d, left uropod, telson; e, right uropod, telson. Scale bar = 1 mm.

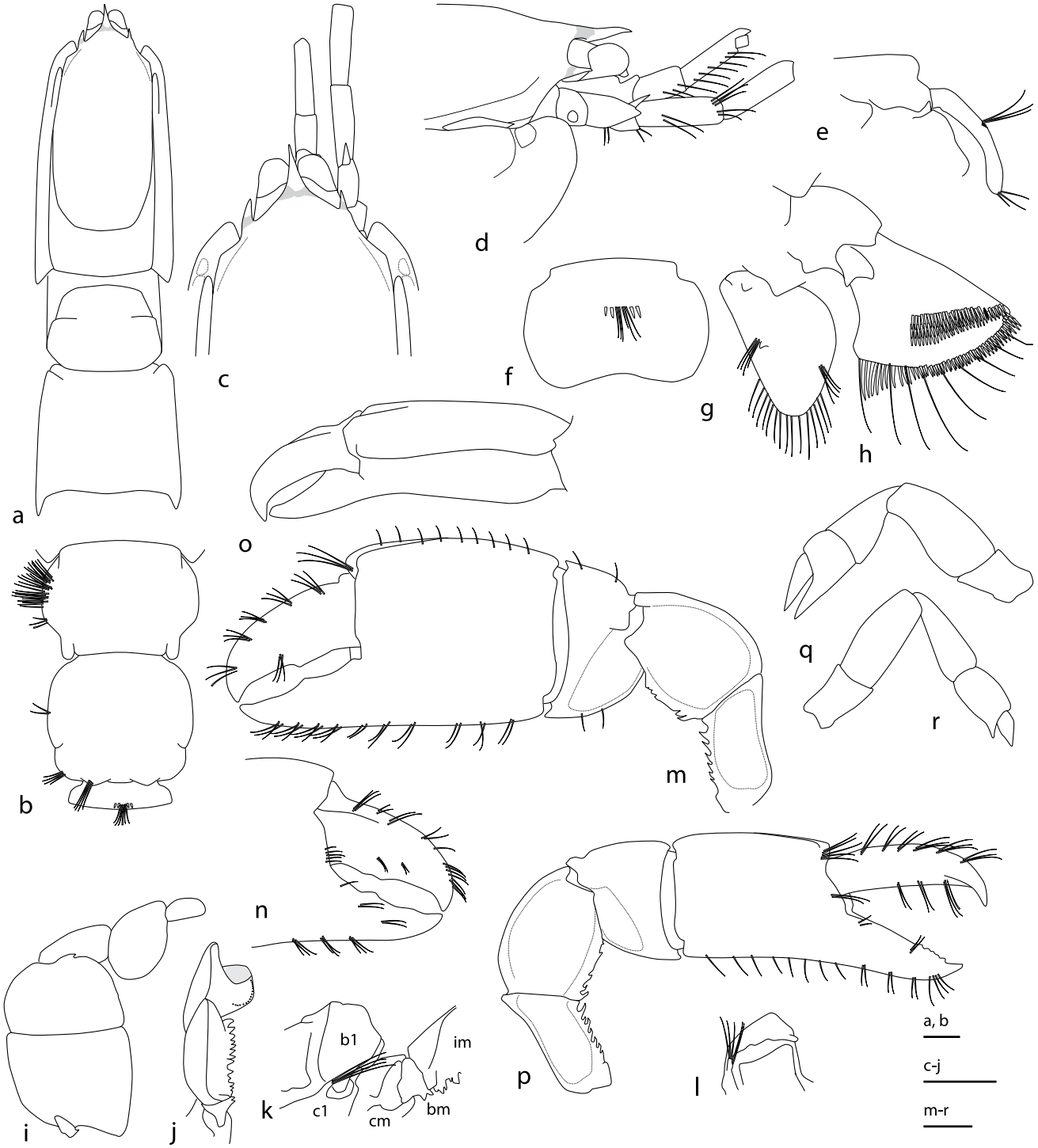

Figure 2. *Articullichirus articulatus* (Rathbun, 1906). French Polynesia, MNHN IU-2013-19994 (female, 7.3 mm). a, carapace, eyestalks, pleomeres 1, 2; b, pleomeres 5, 6, telson (depressed); c, d, anterior carapace, eyestalks, antennular peduncle, antennal peduncle; e, pleomere 6, telson, lateral view; f, telson, dorsal view; g, uropodal endopod, dorsal view; h, uropodal exopod, dorsal view; i, maxilliped 3, outer view; j, right maxilliped 3, coxa to merus, mesial view (palp removed); k, proximal articles of left maxilliped 3 and cheliped in situ, ventral oblique view; l, left cheliped coxa, ventral view; m, right cheliped, mesial view; n, right cheliped fingers, lateral view; o, right cheliped propodus, dactylus, upper view; p, left cheliped; q, pereopod 2; r, pereopod 4. Scale bars = 1 mm. c1, b1, coxa, basis of right cheliped; cm, bm, im, coxa, basis, ischium of maxilliped 3. Scale bars = 1 mm.

larger distally; merus lower margin with 2 proximal teeth followed by irregularly toothed blade, upper margin evenly convex; carpus twice as wide as long, with blunt tooth at end of upper and lower margins; propodus upper margin smooth, with submarginal carina on mesial face, most visible distally, palm 1.1 times as long as wide, distomesial edge straight; fixed finger 0.45 times upper margin, cutting edge with broad tooth at midlength; dactylus stout, slightly longer than fixed finger, with terminal tooth, cutting edge with blunt tooth at midlength; ratio of dorsal lengths, merus: carpus: propodus – 1 : 0.5 : 1.45.

Minor pereopod 1 (left cheliped) about as long as major; ischium lower margin with 7 similar spines; merus lower margin with 3 proximal spines followed by irregularly toothed blade; carpus 1.1 times as wide as long, with tooth at end of upper and lower margins; propodus upper margin 1.2 times as long as greatest width; fixed finger 0.8 times upper margin, cutting edge lateral, crenellate over distal third; dactylus overreaching fixed finger, cutting edge smooth; ratio of dorsal lengths, merus: carpus: propodus – 1 : 0.7 : 1.0.

Uropod endopod 1.5 times as long as wide, anterior margin convex, without setae; posterior margin slightly concave, tapering to a narrowly rounded apex; marginal setae confined to distal and posterodistal margins; upper face with cluster of setae close to posterior margin, few scattered setae near anterior margin, with 2 proximal teeth and another at midlength. Exopod subtriangular, anterior margin straight, posterior margin concave, width 0.7 times anterior margin, upper face with proximal tooth; dorsal plate oblique, well separate from distal margin, armed with imbricating robust setae, posterodistal angle rounded, armed with imbricating robust setae, diminishing along posterior margin.

Telson 1.4 times as wide as long, lateral margins strongly evenly convex, posterior margin concave; with dorsal transverse row of 2 pairs of spiniform setae separated medially by cluster of fine setae; posterolateral margin with row of setae.

Distribution. Eastern Indo-Pacific (Hawaii, French Polynesia); upper shelf.

Remarks. We were unable to examine the holotype at the USNM but have illustrated others. *Articullichirus articulatus* is distinguished from the other two species by its tapering uropodal endopod, narrower in published figures (Rathbun, 1906; Edmondson, 1944) than in our figures. Rathbun (1906) and Edmondson (1944: fig. 9d) noted a meral tooth on maxilliped 3 of specimens from Hawaii, also present on the female from French Polynesia examined by GCBP, but the tooth is absent on NHMW 6621 from Hawaii examined by PCD. Both specimens examined have a submarginal mesial crest on the major cheliped propodus, two pairs of short spiniform setae on the telson and a sharp scaphocerite. The mesial hook on the pereopod 1 coxa (present in *A. collaroy* and *A. chiltoni*) is absent or replaced in the French Polynesian female by a short fingerlike process.

The description above is based on the specimen reported by Poupin (1998). We have not examined the individual from Moorea now in the Senckenburg Museum, Frankfurt, illustrated by Sakai (1992), which we assume to belong to this species.

Articullichirus chiltoni sp. nov.

Figures 3, 4

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Callianassa articulata.—Chilton, 1911: 551–552.

? *Glypturus articulatus*.—Sakai, 1999: 76–78, fig. 15 (Gilbert Is, Kiribati).

Glypturus collaroy.—Sakai, 2005: 139–141, fig. 29 (New Zealand).

Material examined. Holotype. **New Zealand**, Kermadec Is, Sunday I. [now Raoul I.], rockpool, Captain Bollons, 1907, CMNZ AQ3372 (male, 14.7 mm).

Diagnosis. Maxilliped 3 basis with mesial spine; merus with tubercle on distal margin. Pereopod 1 coxa with mesiodistal hook. Uropodal endopod midlength about 1.5 times as long as wide, with broadly rounded apex, with submarginal dorsal cluster of setae midway along posterior margin, with 1 proximal tooth. Telson 1.4 times as wide as long, with excavate posterior margin; with transverse dorsal row of 12 or 13 pairs of contiguous spiniform setae plus 1 or 2 more lateral.

Description of holotype. Carapace length 0.28 of total length; cervical groove at 0.8 length of carapace; dorsal oval well defined; hepatic region with weakly sclerified line between dorsal oval and linea thalassinica. Rostrum and anterolateral carapace spines with unsclerified basal region; rostrum an anteriorly directed, acute spine nearly as long as eyestalk; anterolateral spines acute, set slightly back from rostrum, half as long as rostrum. Anterolateral branchiostegal lobe margin extending dorsal to linea thalassinica, with sclerified plate below linea thalassinica. Pleomere 1 (damaged) with weak transverse groove, with dorsolateral longitudinal setal row; pleomere 2 about 1.5 times as long as pleomere 1 tergite; pleomeres 3–5 scarcely expanded laterally, with dense setose areas; pleomeres 5 and 6 subequal in length, with posterolateral notch.

Eyestalks shorter than first article of antennular peduncle, without produced mesiodistal apex; cornea globular, distally placed. Antennular peduncle little shorter than antennal peduncle. Antennal peduncle with acute scaphocerite. Right maxilliped 3 (left missing) basis with recurved mesial hook; ischium with distinct crista dentata, teeth diminishing distally; merus width about 0.8 as long as ischium and merus together; merus slightly shorter than ischium, with blunt tooth on free distal margin; carpus articulating distolaterally on merus; propodus slightly wider than long, expanded as round lobe on lower margin; dactylus one third as wide as propodus, 0.7 times as long.

Pereopods 1 unequal, dissimilar; coxae with strong mesial hook. Major pereopod 1 (left cheliped) carpus-propodus upper margin 0.9 times carapace length; ischium lower margin with row of 6 spines, larger distally; merus lower margin with 3 proximal spines, upper margin strongly convex proximally; carpus 1.6 times as wide as long, with blunt tooth at end of upper and lower margins; propodus upper margin smooth, with submarginal carina on mesial face, palm slightly longer than wide, distomesial edge convex; fixed finger 0.5 times upper margin, cutting edge with broad tooth at midlength, proximally serrated; dactylus stout, slightly longer than fixed finger, with terminal tooth, cutting edge slightly concave, with

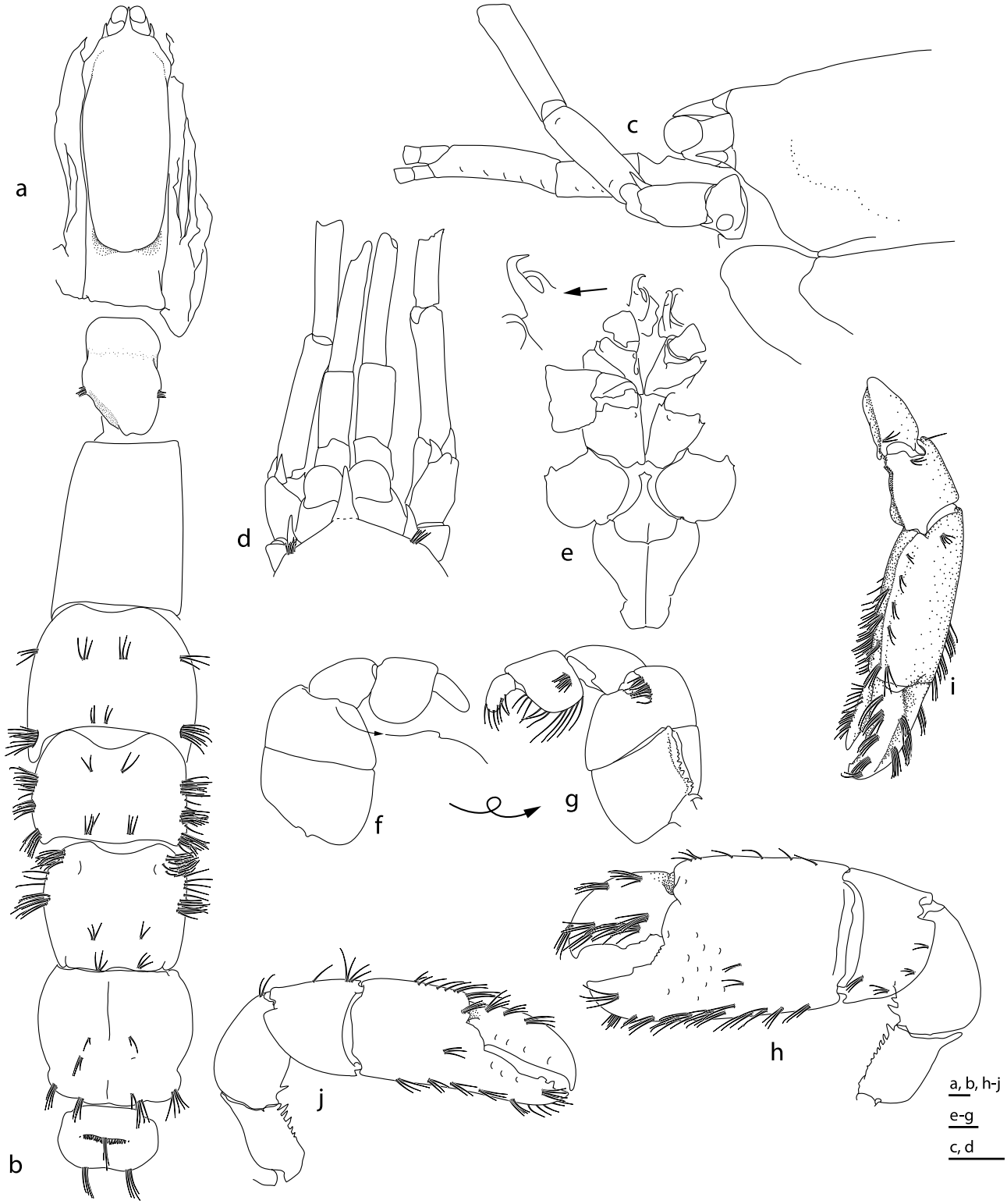

Figure 3. *Articullichirus chiltoni* sp. nov. New Zealand, CMNZ AQ3372 (holotype male, 14.7 mm). a, carapace, eyestalks, dorsal view; b, pleon, telson, dorsal view; c, anterior carapace, pterygostomium, eyestalk, antennular peduncle, antennal peduncle, lateral view; d, anterior carapace, eyestalk, antennular peduncle, antennal peduncle, dorsal view; e, thoracic sternite 7, pereopodal coxae 1–4, detail of right pereopodal coxa 1; f, maxilliped 3, outer view, detail of tooth on upper meral margin; g, maxilliped 3, inner view; h, major cheliped, left, lateral view; i, major cheliped, left,upper view; j, minor cheliped, right, lateral view. Scale bars = 1 mm.

blunt tooth at midlength; ratio of dorsal lengths, merus: carpus: propodus – 1 : 0.76 : 1.38.

Minor pereopod 1 (right cheliped) about 0.8 times length of major; ischium lower margin with 5 spines, larger distally; merus lower margin with 1 proximal spine; carpus subtriangular, 1.2 times as wide as long, with tooth at end of upper and lower margins; propodus upper margin about as long as greatest width; fixed finger 1.1 times upper margin, cutting edge with 2 teeth in distal quarter; dactylus as long as fixed finger, cutting edge smooth; ratio of dorsal lengths, merus: carpus: propodus – 1 : 0.85 : 0.92.

Pereopod 2 chelate. Pereopod 3 ischium slightly longer than wide, about half length of merus; carpus slightly shorter than merus; propodus 0.7 times length of carpus, lower margin broadly expanded proximally, densely setose; dactylus simple, about half length of propodus. Pereopod 4 propodus semichelate, with spiniform seta at base of finger; dactylus simple.

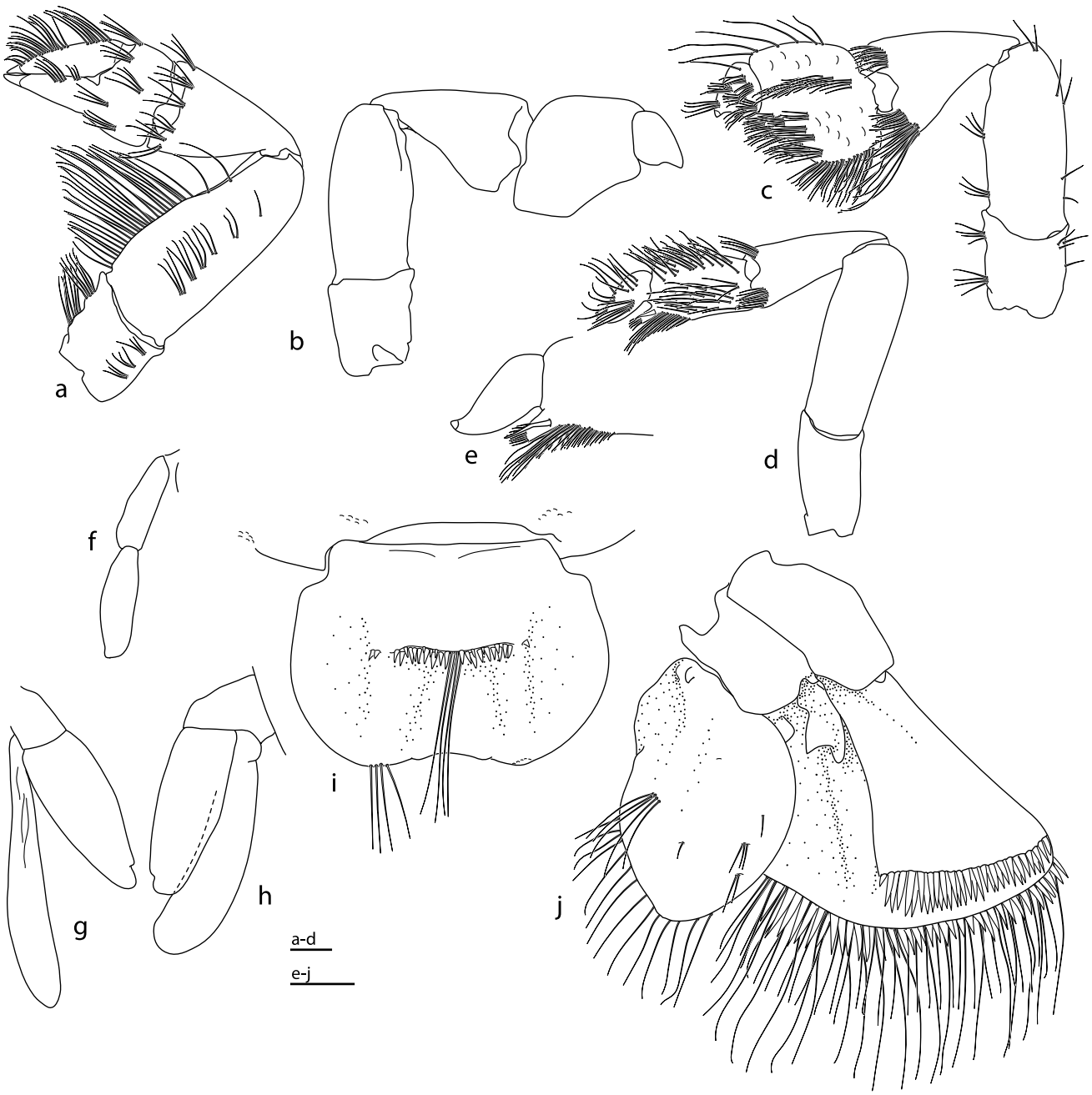

Figure 4. *Articullichirus chiltoni* sp. nov. New Zealand, CMNZ AQ3372 (holotype male, 14.7 mm). a, left pereopod 2, outer view; b, left pereopod 3, inner view (setae not shown); c, left pereopod 3, outer view; d, left pereopod 4; e, left pereopod 4, detail of distal propodus and dactylus; f, pleopod 1; g, h, right and left pleopods 2; i, telson; j, uropodal endopod and exopod. Scale bars = 1 mm.

Male pleopod 1 uniramous, biarticulate; article 2 with small distolateral triangular lobe. Male pleopod 2 biramous; endopod with obsolete distomesial appendix masculina; exopod longer than endopod.

Uropod endopod 1.5 times as long as wide, anterior margin convex, without setae; posterior margin slightly concave, tapering to a narrowly rounded apex; marginal setae confined to distal and posterodistal margins; upper face with cluster of setae close to posterior margin, few scattered setae near anterior margin, with 1 proximal tooth. Exopod longer than endopod, subtriangular, as wide as anterior margin, upper face with proximal tooth; dorsal plate oblique, well separate from distal margin, armed with imbricating robust setae, posterodistal angle rounded, armed with imbricating robust setae.

Telson 1.4 times as wide as long, lateral margins evenly convex, posterior margin concave; with dorsal transverse row of spiniform setae, 1 or 2 robust setae placed laterally, remote from row of 12 (right) and 13 (left), separated medially by cluster of fine setae; posterolateral margin with row of setae.

Etymology. Named after New Zealand carcinologist Charles Chilton (1860–1929) who first reported this specimen from the Kermadec Islands.

Distribution. Kermadec Islands, New Zealand and possibly Kiribati; intertidal.

Remarks. The single specimen collected from the Kermadec Islands is more similar to *Articullichirus collaroy* than to *A. articulatus*. The new species differs from *A collaroy* and *A. articulatus* as follows: the transverse row of 28 spiniform setae on the telson exceeds those of the other species (< 9), and the single or two spiniform setae placed laterally on the outside of the submedian ridges are absent in both *A. collaroy* and *A. articulatus*. The uropodal endopod has one distinct proximal spine on the dorsal surface, rather than two distinct spines as in both other species. *Articullichirus chiltoni* shares the distinct curved spine on the maxilliped 3 basis and the hook on the pereopod 1 coxa with *A. collaroy*; these are absent or reduced in *A. articulatus*.

Sakai (2005) identified and partly illustrated two ovigerous females of "*Glypturus collaroy*" from Flax Bush Bay, New Zealand – these specimens cannot now be found (R. Webber, pers. comm., 14 Dec 2021). Sakai (2005) specifically mentioned a spine on the merus of maxilliped 3 and a telson with a concave posterior margin. These features are consistent with *Articullichirus* but the upturned rostrum is enigmatic, more like that of *Glypturus*. Sakai (1999) recorded a very small male (cl. 4.5 mm) from Gilbert Is (Kiribati) as "*Glypturus articulatus*"; this specimen (Swedish Museum of Natural History, SMNH 16226) cannot now be found (S. Stöhr, pers. comm., 7 Mar 2022). Sakai's illustrations of the short excavate telson, uropodal endopod and maxilliped 3 resemble those of *A. chiltoni*. Minor differences, such as more teeth on the merus of the major cheliped, could be due to this specimen being only one third of the size of the holotype from New Zealand.

Articullichirus collaroy (Poore and Griffin, 1979) comb. nov.

Figure 5

Callianassa collaroy Poore and Griffin, 1979: 260–263, figs 24, 25.
Glypturus collaroy.—Sakai, 1988: 61.—Sakai, 2011: 434 (part).
Corallianassa collaroy.—Tudge et al., 2000: 144.—Davie, 2002: 460.
Neocallichirus collaroy.—Sakai, 1999: 98.
Corallianassa sp. MoV 4965.—Poore et al., 2008: 95, colour figure.
Not *Glypturus collaroy*.—Sakai, 2005: 139–141, fig. 29 ? = *Articullichirus chiltoni* sp. nov.
Not *Corallianassa collaroy*.—Sakai, 1992: 212, fig. 1 = *Articullichirus articulatus*.

Material examined. **Australia**, Western Australia, Great Australian Bight, 110 nm (204 km) SW of Eucla, 33° 20'S, 127° 45'E, 260 m, SAM C17888 (female, 9.3 mm). Off Bald Island, 35.19°S, 118.649°E, 161–169 m (stn SS10/2005/038), NMV J55438 (female, 13.2 mm). Off Two Rocks, 31.7244°S, 115.244°E, 102 m, NMV J53458 (male, 10.5 mm)

Diagnosis. Maxilliped 3 basis with mesial spine; merus with tooth on distal margin. Pereopod 1 coxa with mesiodistal hook. Uropodal endopod midlength about 1.2 times as long as wide, with semicircular apex, with 5 dorsal clusters of setae in distal half, with 2 proximal dorsal teeth. Telson 1.3 times as wide as long, with excavate posterior margin; with transverse dorsal row of 5 pairs of spiniform setae.

Supplementary description. Carapace length 0.27 of total length; cervical groove at 0.9 length of carapace; dorsal oval well defined; hepatic region with weakly sclerified line between dorsal oval and linea thalassinica. Rostrum and anterolateral carapace spines with unsclerified basal region; rostrum an anteriorly directed, acute spine longer than eyestalk; anterolateral spines set slightly back from rostrum, acute, half as long as rostrum. Anterolateral branchiostegal lobe well defined, margin extending dorsal to linea thalassinica, with sclerified plate below linea thalassinica. Pleomere 1 without transverse groove, with dorsolateral longitudinal setal row followed by cluster of simple setae; pleomere 2 1.8 times as long as pleomere 1 tergite; pleomeres 3–5 scarcely expanded laterally with dense setose areas; pleomere 6 1.3 times as long as pleomere 5, with posterolateral notch.

Eyestalk without produced mesiodistal apex; cornea swollen, distal. Antenna with acute scaphocerite. Antennular peduncle reaching almost to end of antennal peduncle article 5. Antennal peduncle with acute scaphocerite. Maxilliped 3 basis with recurved mesial hook; merus with prominent tooth on free distal margin.

Pereopods 1 coxae each with strong mesial hook. Major pereopod 1 (cheliped) ischium lower margin spinose; merus lower margin with 3 proximal spines, upper margin strongly convex; carpus with tooth at end on upper and lower margins; propodus upper margin rounded, with submarginal carina on mesial face, about as long as greatest width, distomesial edge straight; fixed finger 0.8 times upper margin, cutting edge with small tooth; dactylus as long as fixed finger, cutting edge with triangular tooth.

Minor pereopod 1 (cheliped) 0.8 times length of major; ischium lower margin spinose; merus lower margin with 2 proximal spines; carpus as long as wide; propodus upper margin as long as greatest width; fixed finger 1.3 times upper margin,

Figure 5. *Articullichirus collaroy* (Poore and Griffin, 1979). Western Australia, NMV J53438 (male, 10.5 mm). a, carapace, eyestalks, pleon, telson, dorsal view; b, carapace, eyestalk, pleomere 1, lateral view; c, d, anterior carapace, eyestalk, antennular peduncle, antennal peduncle, lateral and dorsal views; e, pleomere 6, telson, dorsal view; f, right uropod, dorsal view; g, pereopodal coxae 1–4, thoracic sternite 7, ventral view; h, proximal articles of right cheliped and maxilliped 3 in situ, ventral oblique view; i, j, maxilliped 3, inner and outer views; k, major cheliped (left), mesial view; l, major cheliped fingers, lateral view; m, minor cheliped (right), mesial view; n, o, right pleopods 1, 2, posterior views. Scale bars = 1 mm. c1, coxa of right cheliped; cm, bm, im, coxa, basis, ischium of maxilliped 3. Scale bar = 1 mm.

cutting edge smooth; dactylus as long as fixed finger, cutting edge smooth.

Male pleopod 1 biarticulate; article 2 with small distolateral triangular lobe. Male pleopod 2 biramous; endopod with obsolete distomesial appendix; exopod longer than endopod. Uropod endopod 1.6 times as long as wide, with distal marginal setae, upper face with 5 clusters of setae over distal half, with 2 proximal teeth. Exopod about as wide as anterior margin, with proximal tooth on dorsal face, dorsal plate oblique, well separate from distal margin, setose, posterodistal angle rounded, densely setose.

Telson 1.3 times as wide as long, lateral margins strongly convex, posterior margin concave; with 5 pairs of dorsal spiniform setae in transverse row, finer setae mesially.

Size. Cl. to 13 mm.

Type locality. Australia, New South Wales, Long Reef, Collaroy.

Distribution. Temperate Australia (from off Sydney to off Perth); intertidal–260 m.

Remarks. Poore and Griffin's (1979) figures did not show the acute scaphocerite or spiniform setae on the telson that characterise this new genus. This is remedied here.

Sakai's uses of the species name are in error. His "*Glypturus collaroy*" from New Zealand (Sakai, 2005) has an upturned rostrum, not typical of the genus, but could otherwise be synonymous with *A. chiltoni* (see comments under that species above). His "*Corallianassa collaroy*" from French Polynesia (Sakai, 1992) is *A. articulatus*.

The present identifications extend the distribution of this species from the intertidal of central NSW to deep water off southeastern WA, Australia.

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