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REVISION OF THE ICILIIDAE (CRUSTACEA: AMPHIPODA)

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***ABSTRACT.* –** Little is known about the taxonomy, phylogeny or ecology of members of the family Iciliidae Dana, 1849, which has not been revised since 1910. In this paper we redefine the only genus *Icilius*, redescribe the known species, *Icilius australis* Haswell, 1879, *I. danae* Stebbing, 1888, *I. ovalis* Dana, 1852 and *I. punctatus* Haswell 1879, and describe the new species, *I. caledoniana*, *I. crinocolus* and *I. pulchellus*. We present new information on cuticular structures that appear to be similar to those found in calliopiid and oedicerotid amphipods. We also present new evidence that indicates precopulatory behavior in iciliids may involve enlarged male pereopods 3 and 4, an independently derived mechanism for mate guarding, and we show for the first time that iciliids are suspension feeders that live in association with sponges, gorgonaceans, echinoderms, soft corals and algae.

***KEY WORDS.* –** Amphipoda, Iciliidae, taxonomic revision, *Icilius*, cuticular structures.

INTRODUCTION

The genus *Icilius* was originally described by Dana (1849). The type species, *I. ovalis* (Dana, 1852a), was described later from Balabac Strait off the northern tip of Borneo. In Australia, Haswell (1879a, b) described two species (*I. australis* and *I. pulchellus*) from Port Jackson, New South Wales, which he soon (Haswell, 1882) synonymised, and Stebbing (1888) described *I. danae* from off Melbourne, Victoria. Della Valle (1893) synonymised all four species into *I. ovalis*, a decision which Stebbing (1906) was willing to accept. Stebbing (1910) revised *Icilius* in his report on the amphipods of the *Thetis* Expedition. He re-established the four known species and, based on fresh material, he re-illustrated and re-described the three Australian species. Unfortunately none of his specimens was complete and as Laubitz (1983) points out "current knowledge of this genus is no further advanced than in Stebbing's day".

This study is based on new collections of *Icilius* made during the Australian Museum Shelf Benthic Survey (AMSBS) during 1973, in New Caledonia during a survey of the South-east Lagoon by Lowry, Myers and Takeuchi in 1995; off Coffs Harbour, New South Wales, during the field studies by Lowry and Dempsey for the SEAS Project, 1993 – 1994, and in Botany Bay during an ecological study of amphipods associated with sponge communities by Watson in 1998. In this paper we redescribe the three known Australian species and describe three new species (*I. caledoniana*, *I. crinocolus* and *I. pulchellus*). We introduce new information on the morphology and ecology of *I. australis* and new information on the phylogenetic placement of iciliids within the Amphipoda.

***Cuticular structures in* Icilius -** Cuticular structures are known for most groups of peracaridans (Klepal & Kastner, 1980; Myer-Rochow, 1980; Halcrow & Bousfield, 1987) and scales often dominate the surface. Halcrow & Bousfield (1987) have surveyed a range of cuticular structures of selected amphipod families. Among the common types were polygons, lanceolate scales and shelf-like scales, all of which occur in *Icilius*. However the cuticular structures on *Icilius* show variations not seen in Halcrow & Bousfield (1987).

Table 1. Cuticular structures in *Icilius*

*Refers to areas that are covered with tiny granulated serrations

Description	Location and species
Regular triangular (one or more scales connected as a row)	*I. australis:* telson, gnathopods, uropods *I. caledoniana:* P7 coxae, gnathopods* *I. crinocolus:* P7 coxa* *I. danae:* P7 basis*, uropods* *I. pulchellus:* P6, propodus *I. punctatus:* uropods
Shelf like (Halcrow and Bousfield, 1987)	*I. caledoniana:* pleonites *I. crinocolus:* gnathopod* *I. pulchellus:* pereopod 3 carpus *I. danae:* gnathopods*
Simple lanceolate - one or more scales connected as a row (Halcrow and Bousfield, 1987)	*I.australis:* pereopod 7 coxa, uropods *I.danae:* uropod 3 ramus* *I. punctatus:* uropods
Shredded (always connected as a row)	*I. crinocolus:* telson and uropods*

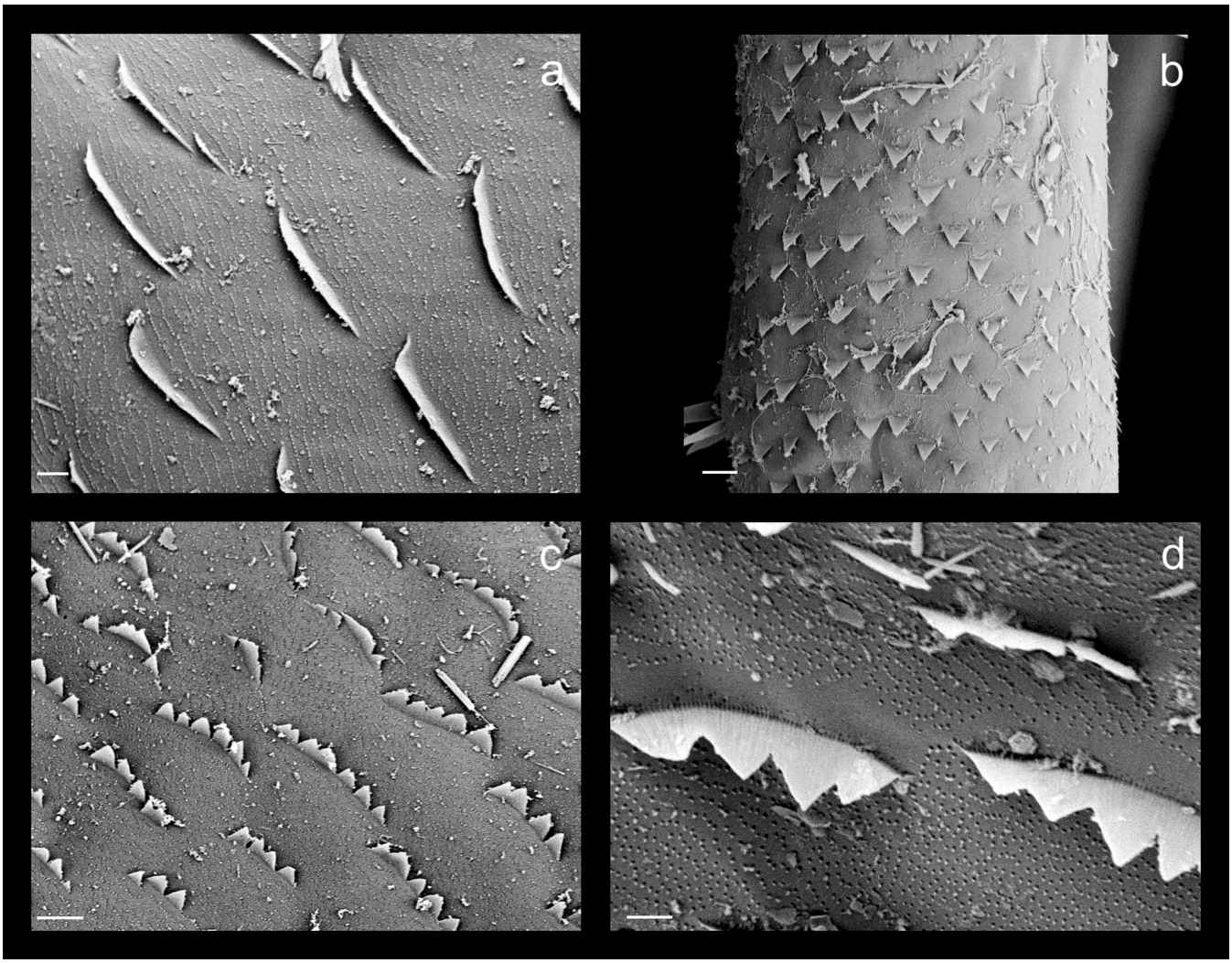

Fig. 1. (a) Shelf like scales *I. danae* G1; (b) Regular triangular scales (single) *I. pulchellus* P6 carpus; (c) Regular triangular scales (connected as a row) *I. crinocolus* P7 coxae; (d) Regular triangular scales (connected as a row) showing small pores at base, P7 basis. Scale bar (a) & (d) 2µm; (b) 10µm; (c) 5µm

Halcrow & Bousfield (1987) reported cuticular polygons which produced a honey-combed affect on the surface of most species in their study. They also reported the presence of apolygonal cuticles in genera such as *Hornellia*. *Icilius* has an apolygonal cuticle in most cases, but we have seen evidence for possible polygon formation in some areas, for example on coxa 7 of *I. australis* (Fig. 2a).

In *Icilius* cuticular microstructures consist primarily of scales and granulations. We observed four types of scales. Table 1 describes them and summarises their distribution and location among species in the genus. Some species have, in addition to a range of scale types, a granulated surface which does not seem to be associated with any particular type of scale. Regular triangular scales occur as one or more scales connected in a row (Fig. 1b & c). Simple lanceolate (Fig. 2a) and shelf-like scales (Fig. 1a) occur in isolation and shredded scales almost always occur as a row (Fig. 2b).

There appears to be no pattern to scale type or distribution within *Icilius*. However regular triangular scales occurred in all species in a range of locations and shredded scales were only observed on the telson of *I. crinocolus* (Table 1).

According to Halcrow & Bousfield (1987: 279) the large shelf-like scales such as those seen in *Icilius* (Fig. 1a) "are apparently derived from the fusion of adjacent microtrichs to form shelf-like cuticular extensions". No pore is associated with more than one scale (microtrich of Halcrow & Bousfield, 1987), therefore these large shelf-like scales must develop from many small pores and this is seen in the regular triangular scales in *Icilius* (Fig. 1d). The simple lanceolate scales in *Icilius* are probably unfused and associated with a single pore.

Pore sizes apparently vary. *Icilius* seems to have small pores and *Iphimedia* and *Oradarea* (Lowry & Myers, 2003) appear to have large pores. The large scales in *Iphimedia* are associated with large pores and appear to be unfused.

It is not known to what extent these types of microstructures provide evidence for determining phylogenetic relationships. However, the shelf-like scales observed in *Icilius* were also reported by Halcrow and Bousfield (1987) from the calliopiid genus *Calliopius* and the simple lanceolate scales found on *I. australis* and *I. danae* were reported to occur on the oedicerotid genus *Metoedicerous*.

ECOLOGY

Icilius australis *abundance and distribution on sponges.* – *Icilius australis* is among the most abundant amphipod species that occur on sponges in Botany Bay and in Port Jackson (Fig. 3a). *I. australis* was unevenly distributed among the twelve sponge species sampled (Fig. 3b): it was most abundant on *Phorbas* sp., *Antho (Isopenectya) chartacea*, *Mycale (Carmia)* sp. and *Callyspongia* sp 1., a few individuals were found on *Iotrochopsamma arbuscula*, *Callyspongia* spp 2 and 3, *Cymbastella concentrica*, *Holopsamma lamiaefavosa*, *Halichondria* sp. and *Phoriospongia* cf. *kirki* and none were found on *Raphyoxa* sp. In spite of obvious differences in abundance on hosts, it does not appear that the association between *I. australis* and host sponges is a specialist interaction. *Icilius australis* was collected from every sponge species sampled, with the exception of *Raphyoxa* sp. The sponges on which *I. australis* are most abundant are not taxonomically related, being from two different orders and five different families. At a higher taxonomic level, phylogenetic tracking between the family Iciliidae and sponge families does not occur. Phylogeny is well known in dictating some specialist interactions (eg. Janz & Nylin, 1998). However, members of *Icilius* are associated with sponges, gorgonaceans, echinoderms, soft corals and algae. Clearly, associations between amphipods in the Iciliidae family and their hosts are not phylogenetically determined.

***Feeding behaviour and gut contents analysis.* –** Laboratory observations of the feeding behaviour of *Icilius australis* revealed the following characteristic behaviour. The flattened body of *I. australis* is held closely to the surface of the sponge. The urosome is tucked beneath the body, and beats rapidly at all times. Beating pleopods pull water into a channel under the body and through the setose gnathopods. The gnathopods

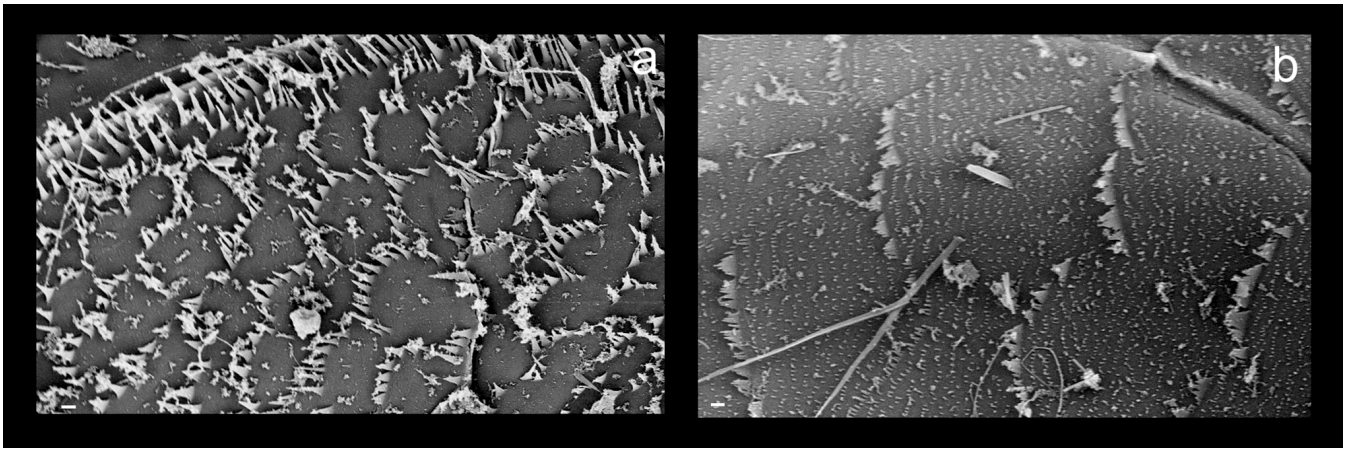

Fig. 2. (a) Simple lanceolate scales *I. australis* P7 coxae; (b) Shredded scales *I. crinocolus* Telson. Scale bar (a) and (b) 3µm

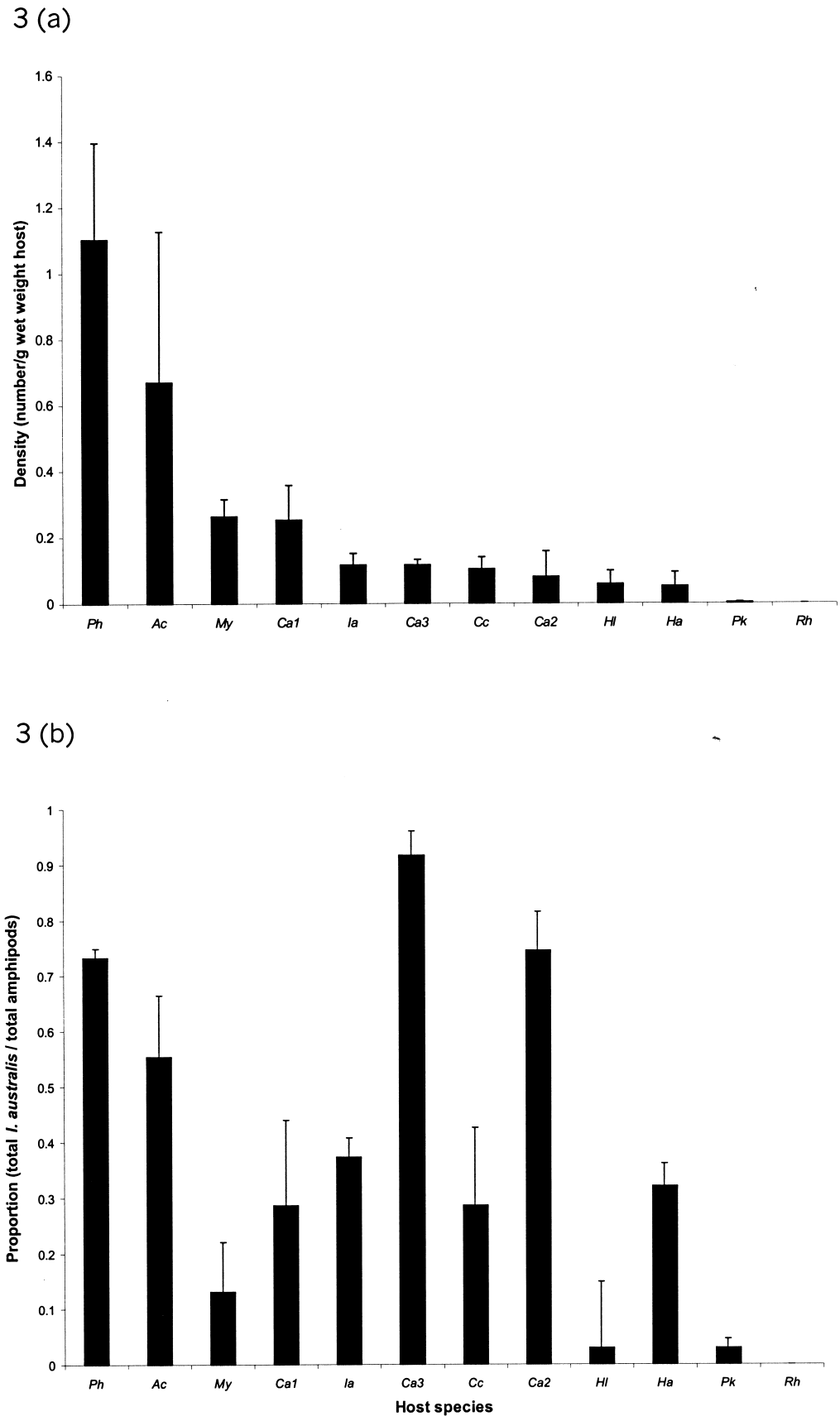

Fig. 3. (a) Density of *Icilius australis* and (b) proportion of *I. australis* of total amphipod community, associated with 12 sponge species at Bare Island, N.S.W., Australia. Data are means (± SE) of (a) density (number per g wet weight host, n = 5 for each host) and (b) proportion (total number of *I. australis* divided by total number of all amphipods, n = 5 for each host). Ph, *Phorbas* sp.; Ac, *Antho (Isopenectya) chartacea*; My, *Mycale (Carmia)* sp.; Ca1, *Callyspongia* sp.1; Ia, *Iotrochopsamma arbuscula*; Ca3, *Callyspongia* sp. 3; Cc, *Cymbastella concentrica*; Ca2, *Callyspongia* sp. 2; Hl, *Holopsamma lamiaefavosa*; Ha, *Halichondria* sp.; Pk, *Phoriospongia* cf. *kirki;* Rh, *Rhaphoxya* sp. Density data adapted from Poore et al, 2000.

filter particulate matter from the water that is then processed by the mouthparts and either rejected or eaten. Gnathopods are held anteriorly, beneath the mouthparts. Sudden movement of the antennae is followed by rapid activity of gnathopods and mouthparts, even when the stimulus of the antennae is not readily apparent. Gnathopods occasionally comb the dorsal surface of the body. When a sand grain or other particle is encountered on the sponge surface, it is picked up by the gnathopods and worked over by the mouthparts, before being accepted or rejected.

The feeding behaviour of *Icilius australis* is similar to other filter feeding amphipods such as *Leptocheirus pinguis*. *Leptocheirus pinguis* pumps water through its burrow and suspended particles are filtered out with highly setose gnathopods (Theil, 1997).

Gut contents analysis revealed several spicules in the gut of *Icilius australis* individuals. Some spicules were similar in morphology to spicules from the host sponge suggesting that *I. australis* feeds on its host. However, other shapes of spicules within the gut were unlike those of the host, suggesting that *I. australis* can feed on both its host, as well as other non-host sponge tissues in the water column. Other matter also present in the gut, such as filamentous algae, indicated that *I. australis* also feeds on non-sponge matter. In conjunction with the behavioural observations we made, the gut contents analysis strongly suggests that *I. australis* is a filter feeding amphipod. Feeding methods of other amphipods within the genus are unknown, but the similar morphology of gnathopods of all members of the family indicates a comparable feeding method across the group.

Sexual dimorphism. **–** In amphipods where precopulatory amplexus occurs it is usually accomplished by the first or second gnathopods of the males. In Iciliids there is sexual dimorphism in pereopods 3 and 4 in all species of *Icilius*. It is most pronounced in *I. australis* where the third and fourth legs become extremely broadened in the male and the propodi become expanded distally so that a strongly setose palm develops. The dactylus closes on the palm to form a prehensile structure that may be used to grasp a female in a precopulatory position. Iciliids occur in high densities on their hosts and competition for mates may become intense. This is the first time that apparent precopulatory behavior involving pereopod 3 and 4 has been suggested. It appears to be an independently derived mechanism for mate guarding.

MATERIALS AND METHODS

The taxonomic descriptions and diagnoses presented in this paper were generated from a DELTA (Dallwitz et al., 1993) database of Australian iciliid amphipod species. Bolded phrases in the descriptions indicate diagnostic characters. Material included in this study is lodged in the Australian Museum, Sydney (AM), Museum Victoria, Melbourne (NMV) and the Natural History Museum, London (BMNH). The following abbreviations are used on the plates: **A**, antenna; **G**, gnathopod; **LL**, lower lip; **MD**, mandible; **MP**, maxilliped; **MX**, maxilla; **P**, pereopod; **Pl**, pleonite; **T**, telson; **U**, uropod; **UL**, upper lip; **UR**, urosomite; **l**, left; **r**, right.

TAXONOMY

FAMILY ICILIIDAE DANA 1849

Diagnosis. **–** Head longer than deep; rostrum short; eyes round. Body dorsoventrally flattened; smooth or processiferous. Antenna 1 shorter than or subequal to antenna 2; peduncular article 1 subequal to, or longer than article 2; article 2 longer than article 3; article 3 shorter than article 1; primary flagellum 5- or more articulate; callynophore absent. Antenna 2 medium length or long; flagellum longer than peduncle; 5- or more articulate. Mandible incisor dentate; lacinia mobilis present on both sides; molar fully triturating. Maxilla 1 inner plate strongly setose along medial margin. Maxilliped inner plates well developed; outer plates small. Coxae 1-4 longer than broad or as long as broad, overlapping. Gnathopod 1 not sexually dimorphic; subequal to gnathopod 2; simple; coxa subequal to coxa 2; carpus subequal to propodus. Gnathopod 2 not sexually dimorphic; simple; coxa smaller than but not hidden by coxa 3; ischium short; carpus long, subequal to propodus. Pereopod 3 coxa broader than long or as long as broad; carpus shorter than propodus, not produced. Pereopod 4 coxa larger than coxa 3, acuminate ventrally, with well developed posteroventral lobe; carpus shorter than propodus, not produced. Pereopod 5 shorter than pereopod 6; coxa subequal to coxa 4, without posterior lobe or equilobate; basis linear, without posteroventral lobe; carpus linear. Pereopod 6 shorter than pereopod 7; basis linear. Pereopod 7 longer than pereopod 5; basis linear. Urosome dorsoventrally flattened; urosomite 1 longer or much longer than urosomite 2. Uropods 1-2 apices of rami with robust setae. Uropod 3 biramous; peduncle short, with medial process; rami lanceolate; outer ramus shorter than, subequal to, or longer than peduncle; inner ramus not apically setose. Telson laminar; entire; longer than broad or as long as broad; dorsal robust setae absent; apical robust setae present.

Remarks. **–** The Iciliidae is one of the most enigmatic amphipod families. Its relationship to other amphipod groups is virtually unknown. The only attempt to place it has been the study of Laubitz (1983) who considered that, based on acuminate coxae, vestigial accessory flagellum, and a combination of mouthpart morphology and simple first gnathopods, it was most similar to the Paramphithoidae (=Iphimediidae) which she considered as part of the Eusiroidea. Barnard & Karaman (1991) implied that some species of another eusiroid, *Oradarea*, may be linked to iphimediids because of their "incipient acuminate coxae". In his original illustrations of *I. danae*, Stebbing (1888) depicted scale setae on the basis and ischium of gnathopod 1. Lowry & Myers (2003) have considered shelf-like scales as a potential new synapomorphy known in at least all known species of the iphimediids *Colboldus*, *Djerboa* and *Iphimedia*, the eusirid *Oradarea* and now *Icilius*. The combination of characters proposed by Laubitz (1983) with the presence of shelf-like scales presented here may indicate that the family Iciliidae is part of the iphimedioid superfamily group.

Icilius Dana, 1849

Icilius Dana, 1849: 140; 1852a: 220; 1852b: 309; 1853: 833, 844; Gerstecker, 1886: 497; Stebbing, 1888: 1202; 1906: 706; 1910: 624; Della Valle, 1893: 327, 344; J. L. Barnard, 1969: 427; Barnard & Karaman, 1991: 375.

Type species. – *Icilius ovalis* Dana, 1849: 140, by monotypy.

***Diagnosis.* –** With the characters of the family.

***Species composition.* –** *Icilius* contains seven species: *I. australis* Haswell, 1879; *I. danae* Stebbing, 1888; *I. caledoniana*, new species; *I. crinocolus*, new species; *I. ovalis* Dana, 1852a; *I. pulchellus*, new species; *I. punctatus* Haswell, 1879.

Icilius australis Haswell, 1879
(Figs. 4-6)

Icilius australis Haswell, 1879: 274, pl. 12, fig 2; Stebbing, 1910: 628, pl. 59c.

Icilius ovalis - Della Valle, 1893: 345 (part); Stebbing, 1906: 707 (part).

not *Icilius australis* - Barnard & Karaman, 1991: 376, fig. 73, 658, fig. 119c (after Stebbing, 1910, =*Icilius danae* Stebbing, 1888), 658, fig. 119h (after Stebbing, 1910, =*Icilius punctatus* Haswell, 1879).

***Type material.* –** Syntypes (probable). 4 ex., AM G5386 (Springthorpe & Lowry, 1994).

***Material examined.* –** New South Wales: 49 ex., AM P54396, on the sponge, *Clathria macropora* with crinoids; 30 ex., AM P54397, on a sponge; 105 ex., AM P54398, on sponges; 7 ex., AM P54399, on a sponge; many ex., AM P54400, on the sponge, *Chondropsis* sp.; 31 ex., AM P54401, on a sponge; 1 ex., AM P54402, on the crinoid, *Ptilometra australis*; 53 ex., AM P54403, on a sponge; 25 ex., AM P54404, on the sponge, *Echinoclathria* sp.; 38 ex., AM P54405, on the crinoid, *Ptilometra australis*, 15 m; 8 ex., AM P54406, on bryozoans on rocky substrate, small crinoid, *Antedon incomoda*, 15 m, west side of Box Head, Broken Bay, 33º33'S 151º21'E, coll. J. K. Lowry & R.T. Springthorpe, 22 Nov.1982. 6 ex., AM P22230, 32 m; 7 ex., AM P22231, 32 m; 2 ex., AM P22232, many ex., AM P22233, many ex., AM P22234, 3 ex., AM P22235, 4 ex., AM P22236, 21 ex., AM P22237, 42 m, east of Long Reef, 33º44'S 151º22'E, AMBS, 2 Feb. 1973. 6 ex., AM P22249, 36 m, 11 May.1972; 10 ex., AM P22250, east of Long Reef, 33º44'S 151º22'E, 38 m, AMBS, 24 Aug.1972. 2 ex., AM P22248, 43 m; 3 ex., AM P22251, 2 nautical miles east of Long Point, Long Reef, 33º44.54'S 151º21.30'E, 43 m, AMBS, 27 Apr.1972. 1 ex., AM P22252, 30 m, 25 May 1972; 2 ex., AM P22253, east of North Head, Port Jackson, 33º49.5'S 151º18'E, 20 m, AMBS, 20 Sep.1972. Many ex., AM P22240, 27 m; 2 ex., AM P22241, 27 m; 30 ex., AM P22239, 19 m; many ex., AM P22244, 19 m; many ex., AM P22246, 19 m; many ex., AM P22247, 19 m; 2 ex., AM P22255, 21 m; many ex., AM P22256, 21 m; 24 ex., AM P22242, 21 m; 3 ex., AM P22245, 21 m; 1 ex., AM P22254, east of North Head, Port Jackson, 33º49'S 151º20'E, 21 m, Feb.1973. 3 ex., AM P22238, 8 ex., AM P22243, east of North Head, Port Jackson, 33º49'S 151º21'E, 42 m, AMBS, Feb.1973. Many ex., AM P3429, Port Jackson, 33º51'S 151º16'E. 1 ex., AM P54154; 1 ex., AM P54155; 11 ex., AM P54160; Bare Island, Botany Bay, 33º59.6'S 151º13.9'E, orange sponge, 9 m, coll. A.G.B. Poore, 4 Nov.1997. 13 ex., AM P54161, Cape Banks, Botany Bay, 34º0.2'S 151º14.9'E, white sponge, 12 m, coll. A.G.B. Poore, 4 Nov.1997. 2 ex., AM P54200, Jibbon Point, Port Hacking, 34º05'S 150º22'E, sponge, rocky substrate, 15 m, coll. J. K. Lowry & R.T. Springthorpe, 13 Aug.1981. 1 ex., AM P2545, 5.5-6.5 km off Wattamolla, 34º10'S 151º11'E, mud, 108 m, E.R. Waite on HMCS *Thetis*, 22 Mar.1898. 6 ex., AM P5925, Shoalhaven Bight, 34º52'S 151º00'E, 82 m, FIS *Endeavour*, 1909-1914. 1 ex., AM G933, Jervis Bay, 35º03'S 150º44'E, coll. T. Whitelegge. 1 ex., AM P54152, on an orange sponge; 1 ex., AM P54153, on an orange sponge; 7 ex., AM P54221, on an orange sponge; 16 ex., AM P54222, on a red sponge; 5 ex., AM P54388, on an orange sponge; Burrill Rocks, 35º23.39'S 150º28.24'E, 22 m, coll. A.G.B. Poore & J. K. Lowry, 2 Nov.1997. 1 ex., AM P54201, east of Snapper Point, near Kiola, 35º34.5'S 150º22'E, on the gorgonacean *Mopsella* sp., 20 m, coll. J. K. Lowry & R.T. Springthorpe, 26 Apr.1981. 3 ex., AM P52776, Merimbula Wharf, Merimbula, 36º53.92'S 149º55.64'E, on a yellow-orange erect multilamellate sponge, 9 m, coll. R.T. Springthorpe, 18 May.1995. Victoria: 1 ex., NMV J44962, near South Channel Fort, Port Phillip Bay. 4 ex., NMV J44937, 15 km south of Port Fairy, 38°32.0'S, 142°28.6'E, 52 m depth, Western Bass Strait, medium sand, grab, sled or trawl, coll. R.S. Wilson on RV *Tangaroa*, 20 Nov.1981. 1 ex., NMV J26802, 15.5 km southwest of Point Ricardo, 37°53.14'S, 148°28.94'E, 45 m depth, Eastern Bass Strait, medium sand, Smith-McIntyre grab, coll. N. Coleman on RV *Sarda*, Feb.1991. 2 ex., NMV J44934, 35 km south southwest of Cape Otway, 39°06'S, 143°21'E, Western Bass Strait, 59 m, coarse sand, Smith-McIntyre grab/naturalist's dredge, coll. G.C.B. Poore on HMAS *Kimbla*, 8 Oct.1980. 3 ex., NMV J44961, Westernport Bay. South Australia: 15 ex., AM E4852, 64 km west of Kingston, 36º50'S 139º05'E, 55 m, FIS *Endeavour*, 1909-1914. 5 ex., AM P5926, 64 km west of Kingston, 36º50'S 139º05'E, 54.8 m, FIS *Endeavour*, 1909-1914. 1 ex., AM E4842, 24 km north west of Cape Jervis, 31 m, FIS *Endeavour*, 16 Mar. 1909. 2 ex., AM E4855, Sanders Bank, Kangaroo Island, 35º50'S 137º15'E, 51 m, FIS *Endeavour*, 1909-1914.

***Type locality.* –** Port Jackson, New South Wales, Australia.

***Description.* –** (based on female, AM P54154). Head: length 3 x width; rostrum subacute. Antenna 1 shorter than antenna 2; peduncular article 1 subequal to article 2; accessory flagellum present, accessory flagellum 1-articulate; flagellum 28+ articles. Antenna 2 flagellum 35+ articles. Mandible left incisor with 8 serrations, right incisor with 6 serrations; accessory setal rows: left with 9 setae, right with 9 setae; molar, triturating surface well developed basally; palp article 2 slender, length 3 x breadth, 1.17 x article 3; article 3 slender, straight, not distally falcate. Upper lip apically notched, setose. Lower lip inner lobes present; outer lobes entire; mandibular lobes rounded apically. Maxilla 1 inner plate with 3 apical pappose setae; outer plate with 11 setal-teeth; palp with 11 apical robust setae and many subapical slender setae.

Pereon. Pereonite 7 posterodorsal margin curved, with setae along posterior margin. Gnathopods 1 and 2 not sexually dimorphic; simple with long, slender setae along posterior margin. Gnathopod 1 basis 0.61 x carpal length; carpus 1.05 x propodal length. Gnathopod 2 basis 0.67 x carpal length; carpus 1.05 x propodal length. Pereopods 3–4 sexually dimorphic; similar in size to pereopods 5–6; weakly prehensile; basis without midmedial row of vertical pappose setae, without submarginal row of robust setae, with marginal row of pappose setae. Pereopod 3 carpus length 1.84 x

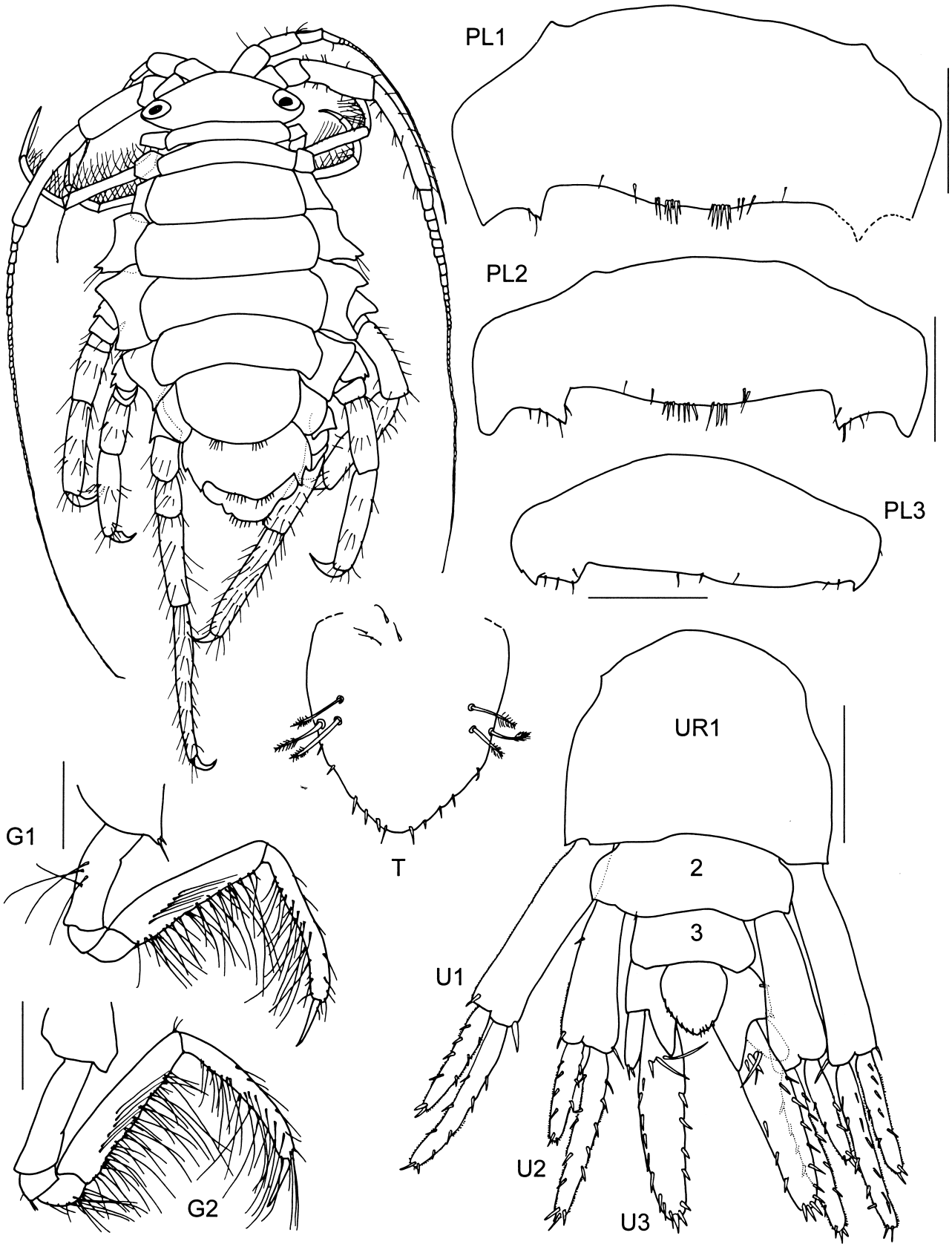

Fig. 4. *Icilius australis* Haswell, 1879: male AM P54152, Burrill Rocks, Ulladulla, N.S.W., Australia. Scales represent 0.5 mm.

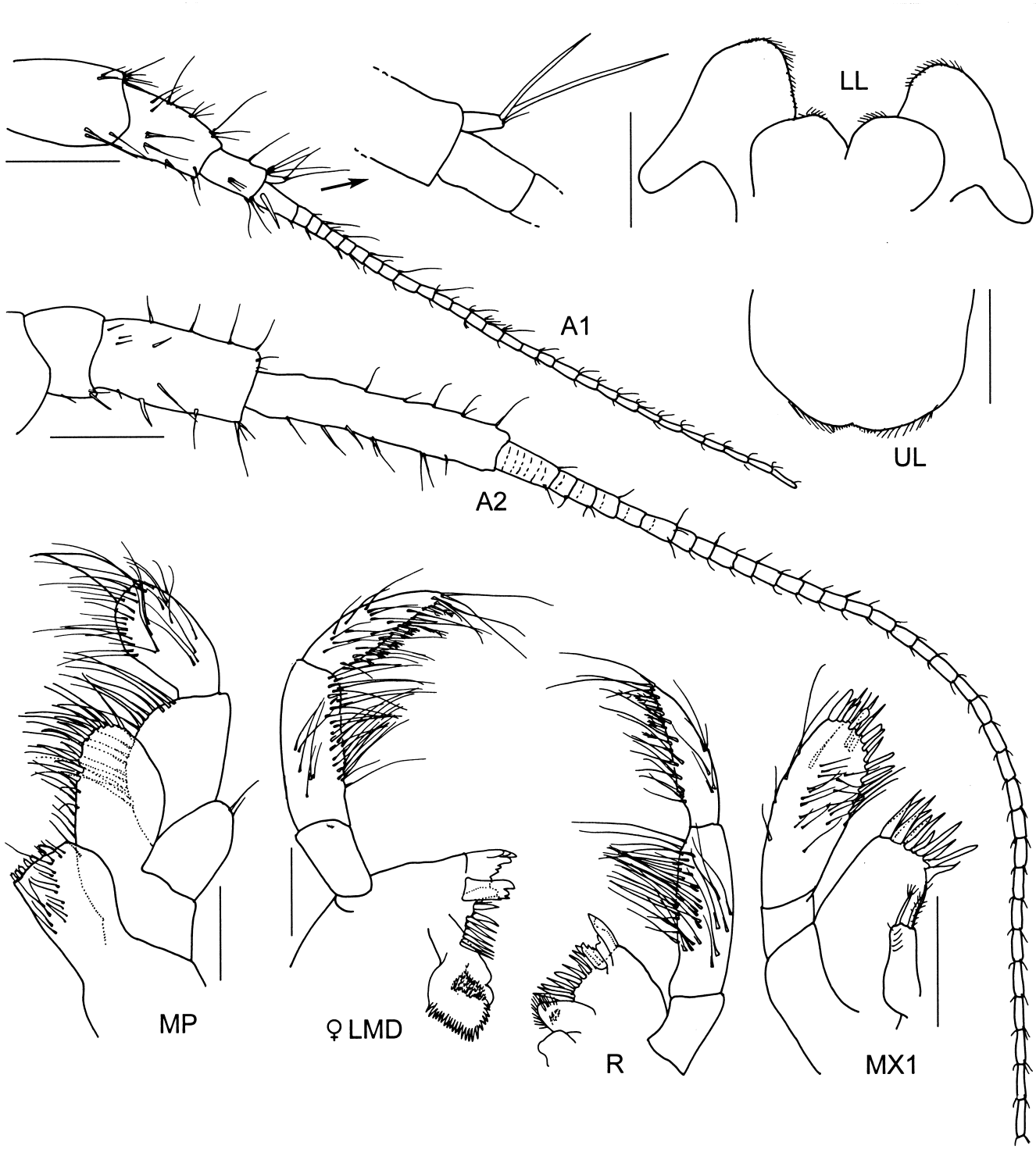

Fig. 5. *Icilius australis* Haswell, 1879: male AM P54152; female AM P54154; Burrill Rocks, Ulladulla, N.S.W., Australia. Scales for A1-2 represent 0.5 mm, remainder represent 0.2 mm.

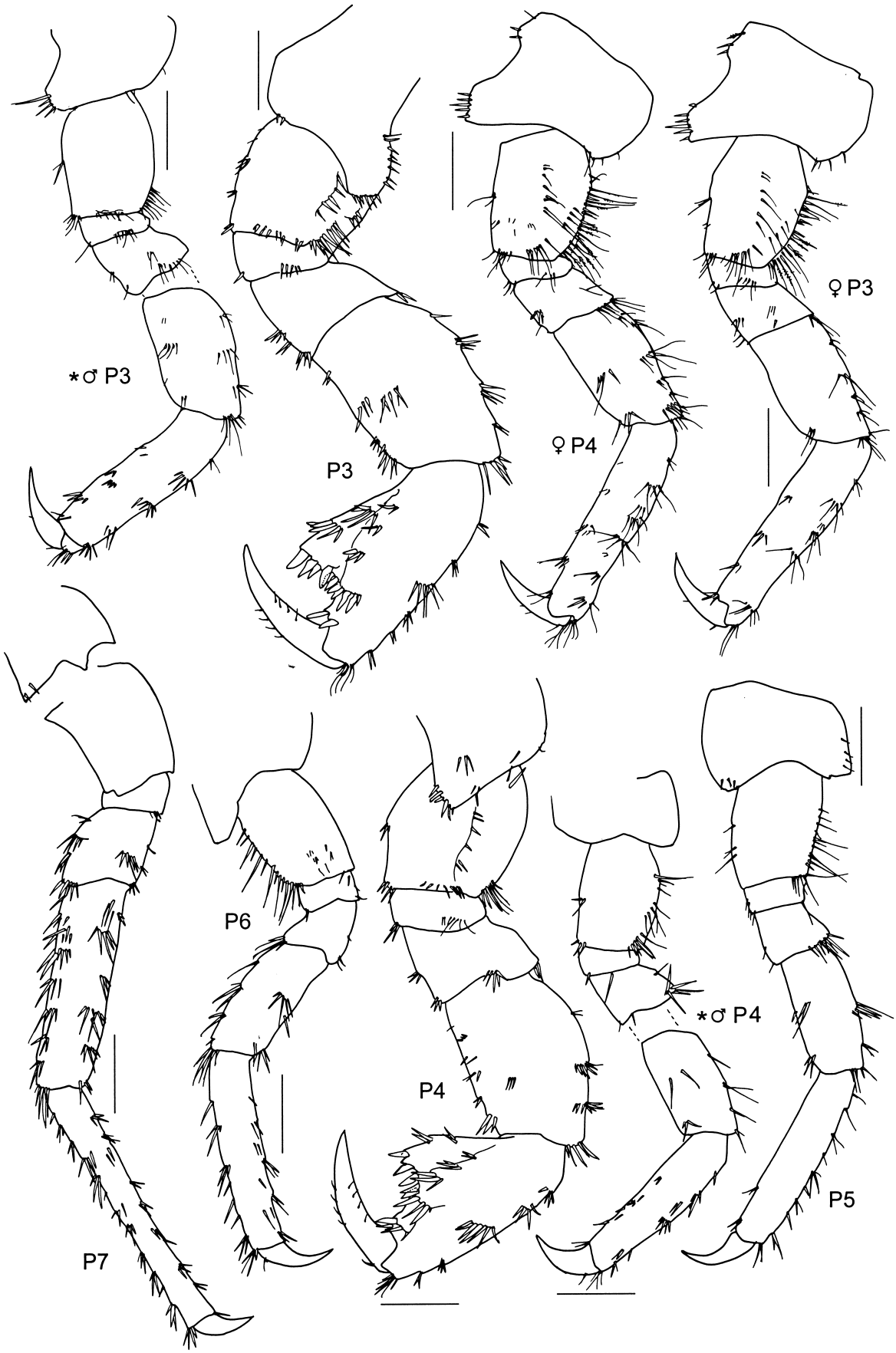

Fig. 6. *Icilius australis* Haswell, 1879: female AM P54154; immature male (marked by an asterisk) AM P54152; mature male AM P54153; Burrill Rocks, Ulladulla, N.S.W., Australia. Scales represent 0.5 mm.

breadth; propodus length 3.74 x breadth, 1.53 x carpal length, with 1 row of posterodistal robust setae. Pereopod 4 carpus length 1.79 x breadth; propodus length 3.96 x breadth, propodus 1.75 x carpal length, with 4 rows of posterodistal robust setae. Pereopod 5 coxa with subacute posterodistal corner; basis length 1.49 x breadth, basis with strongly setose posterior margin; carpus without anterodistal bump, with strongly setose posterior margin; propodus length 4.68 x breadth, propodus with strongly setose posterior margin. Pereopod 6 coxa with subacute posterodistal corner; basis length 1.48 x breadth, basis with strongly setose posterior margin; carpus without anterodistal bump, with strongly setose posterior margin; propodus length 4.77 x breadth, propodus with strongly setose posterior margin. Pereopod 7 basis length 0.97 x breadth, with projecting acute posterodorsal corner, with strongly setose posterior margin, posteroventral corner bicuspidate, cusps subequal in size; carpus without anterodistal bump, with strongly setose posterior margin; propodus length 7.14 x breadth, propodus with strongly setose posterior margin.

Pleon. Pleonite 1 posterodorsal margin smooth, without spines or bulges, pleonite 1 with setae along posterior margin, posterolateral margins with two strong spines. Pleonite 2 smooth, without spines or bulges, with setae along posterior margin, posterolateral margin with two strong spines. Pleonite 3 with setae along posterior margin, posterolateral margin with one small lateral spine. Urosomite 1 short, less than 2 x length of urosomite 2. Uropod 1 outer ramus 0.72 x inner ramus. Uropod 2 outer ramus 0.63 x inner ramus. Uropod 3 peduncle with well developed distomedial flange; outer ramus 0.26 x inner ramus; inner ramus with proximal setal fan. Telson longer than broad, tapering distally, with large apical setae.

***Male dimorphic characters.* –** (based on males AM P54152 and P54153). Pereopods 3-4: enlarged, larger than pereopods 5-6; strongly prehensile; basis with midmedial row of vertical pappose setae, with submarginal row of robust setae, with marginal row of pappose setae. Pereopod 3: carpus length 1.6 x breadth; propodus length 1.9 x breadth, 1.2 x carpus length, with 5 rows of posterodistal robust setae. Pereopod 4: carpus length 0.7 x breadth; propodus length 1.8 x breadth, propodus 1.8 x carpus length, with 5 rows of posterodistal robust setae.

***Habitat.* –** *Icilius australis* occurred most frequently living on sponges such as *Iotrochopsamma arbuscula, Antho (Isopenectya) chartacea, Callyspongia* sp., and *Phorbas* sp. It also occurs on the gorgonacean *Mopsella* sp. and the crinoids *Ptilometra australis* and *Antedon incomoda*.

***Depth range.* –** 9 to 108 m depth

***Remarks.* –** At maturity, *Icilius australis* is the largest species in the genus. Male dimorphism is most pronounced in this species, particularly pereopods 3 and 4 which are greatly enlarged and prehensile, with multiple rows of robust setae on the propodus. *Icilius australis* varies in colour (purple, orange and white), according to the substrata.

Icilius australis is apparently the least specialised taxon in the genus and does not appear to be closely related to other species. It is the only species with setae along the posterior margin of pereonite 7 and pleonites 1 to 2, the only species with two strong spines on the posterolateral margin of pleonites 1 and 2, with a strongly setose posterior margin of the basis, carpus and propodus of pereopods 5, 6 and 7 and with a proximal setal fan on uropod 3. Only *I. australis* and *I. pulchellus* have a projecting acute posterodorsal corner on the basis of pereopod 7, but this appears to be a homoplasy.

***Distribution.* –** New South Wales: inside Box Head, Broken Bay; east of Long Reef; east of North Head, Port Jackson; Bare Island, Botany Bay; Cape Banks, Botany Bay; Jibbon Point, Port Hacking; off Wattamolla; Shoalhaven Bight; east of Burrill Rocks; east of Snapper Point, near Kiola; Merimbula (all AM). Victoria: South Channel Fort, Port Phillip Bay; south of Port Fairy; southwest of Point Ricardo; southwest of Cape Otway; Westernport Bay (all NMV). South Australia: west of Kingston; off Cape Jervis; Sanders Bank, Kangaroo Island (all AM).

Icilius caledoniana, new species

(Figs. 7-8)

***Material examined.* –** Holotype - female, AM P54156.

Paratypes – 2 females, P54157, 1 male, P54158 (all from type locality).

Others – 12 ex., P47351; 1 ex., AM P54158; 1 male and 1 juvenile, P54159; off Ilot Maitre, New Caledonia, 22°19.61' S 166°24.7'E, living on the calcareous green alga *Halimeda* sp., 10.5 m depth, coll. I. Takeuchi, 14 Nov.1995.

***Type locality.* –** Off Ilot Maitre, New Caledonia, 22°19.61' S 166°24.7'E, living on the calcareous green alga *Halimeda* sp., 10.5 m depth

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***Description.* –** (based on female holotype, P54156 and female paratypes P54157). Head rostrum rounded. Antenna 1 peduncular article 1 longer than (1.19 x) article 2; accessory flagellum present, accessory flagellum 1-articulate; flagellum 29+ articles. Antenna 2 flagellum 28+ articles. Mandible left incisor with 5 serrations, right incisor with 6 serrations; accessory setal rows: left with 8 setae, right with 9 setae; molar, triturating surface well developed basally; palp article 2 slender, length 4 x breadth, 1.14 x article 3; article 3 slender, straight, slightly falcate distally. Upper lip apically notched, setose. Lower lip inner lobes present; outer lobes entire; mandibular lobes rounded apically. Maxilla 1 inner plate with 4 apical pappose setae; outer plate with 11 setal-teeth; palp with 8 apical robust setae and many subapical slender setae.

Pereon. Pereonite 7 posterodorsal margin with large mid-dorsal bulge, without setae along posterior margin. Gnathopods 1 and 2 not sexually dimorphic; simple with long, slender setae along posterior margin. Gnathopod 1 basis 0.86 x carpus length; carpus 0.96 x propodus length. Gnathopod 2 basis 0.78 x carpus length; carpus 1.18 x propodus length.

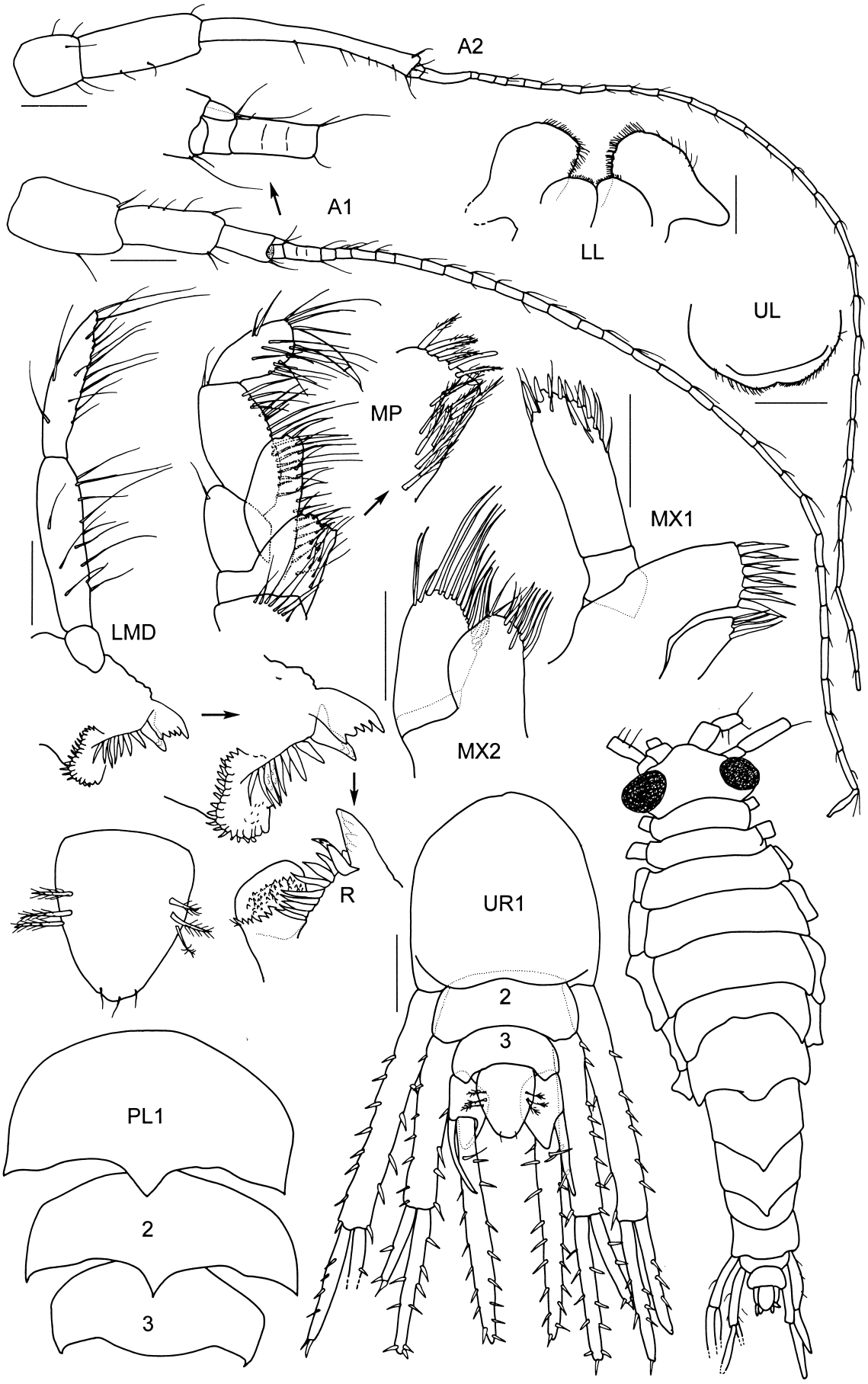

Fig. 7. *Icilius caledoniana*, new species: female holotype AM P54156; female paratype AM P54157, UR, PL; off Ilot Maitre, New Caledonia. Scales for A1-2, LL, PL1-3, UL, UR represent 0.2 mm, remainder represent 0.1 mm.

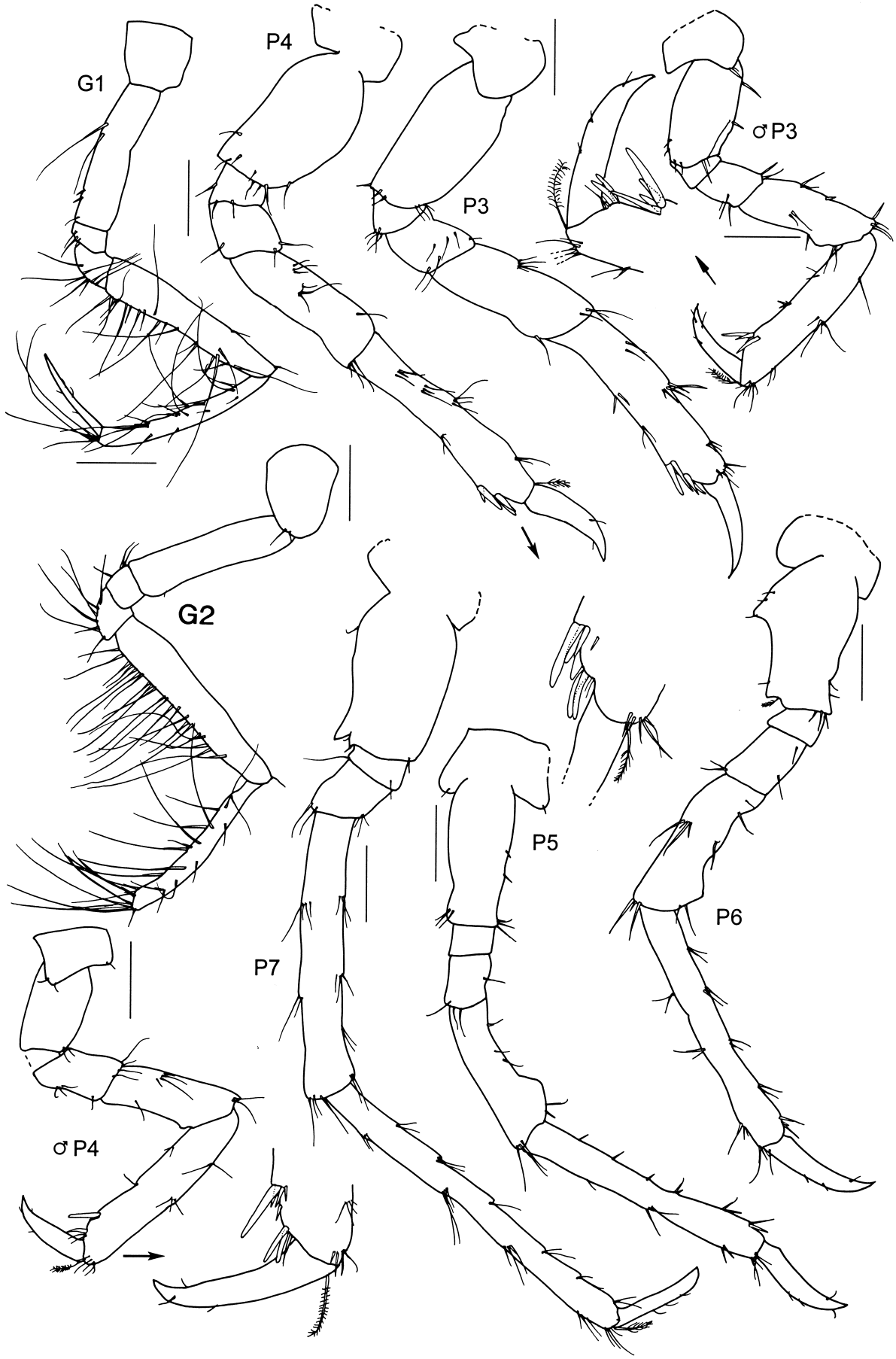

Fig. 8. *Icilius caledoniana*, new species: female paratype AM P54157; mature male AM P54158; off Ilot Maitre, New Caledonia. Scales represent 0.2 mm.

Pereopods 3–4 sexually dimorphic; pereopods 3–4 similar in size to pereopods 5–6; simple; basis without midmedial row of vertical pappose setae, without submarginal row of robust setae, without marginal row of pappose setae. Pereopod 3 carpus length 2.38 x breadth; propodus length 4.29 x breadth, 1.58 x carpus length, with 2 rows of posterodistal robust setae. Pereopod 4 carpus length 3.21 x breadth; propodus length 5.33 x breadth, propodus 1.42 x carpus length, with 2 rows of posterodistal robust setae. Pereopod 5 coxa with rounded posteroventral corner; basis length 2.75 x breadth, basis with weakly setose posterior margin; pereopod 5 carpus with well developed anterodistal bump, with weakly setose posterior margin; propodus length 7.3 x breadth, propodus with weakly setose posterior margin. Pereopod 6 coxa with subacute posterodistal corner; basis length 1.88 x breadth, basis with weakly setose posterior margin; carpus with well developed anterodistal bump, with weakly setose posterior margin; propodus length 3.5 x breadth, propodus with weakly setose posterior margin. Pereopod 7 coxa with rounded posteroventral corner; basis length 1.68 x breadth, basis with rounded posterodorsal corner, with weakly setose posterior margin, posteroventral corner bicuspidate, outer cusp much longer than inner; carpus with well developed anterodistal bump, with weakly setose posterior margin; propodus length 9.38 x breadth, propodus with weakly setose posterior margin.

Pleon. Pleonite 1 posterodorsal margin with mid-dorsal spine, pleonite 1 without setae along posterior margin, posterolateral margins without spines. Pleonite 2 with mid-dorsal spine, without setae along posterior margin, posterolateral margin without spines. Pleonite 3 smooth, without spines or bulges, without setae along posterior margin, posterolateral margin without spines. Urosomite 1 short, less than 2 x length of urosomite 2. Uropod 1 outer ramus 0.85 x inner ramus. Uropod 2 outer ramus 0.56 x inner ramus. Uropod 3 peduncle with well developed distomedial flange; outer ramus 0.37 x inner ramus; inner ramus without proximal setal fan. *Telson* longer than broad, tapering distally, with tiny apical setae.

***Male dimorphic characters.* –** (based on paratype, P54158). Pereopods 3-4: enlarged, larger than pereopods 5-6, strongly prehensile; basis without midmedial row of vertical pappose setae, with submarginal row of robust setae, with marginal row of pappose setae. Pereopod 3: carpal length 2.6 x breadth; propodal length 5.2 x breadth, 1.7 x carpal length, with 2 rows of posterodistal robust setae. Pereopod 4: carpal length 1.6 x breadth; propodal length 4.6 x breadth, propodus 1.7 x carpal length, with 2 rows of posterodistal robust setae.

***Etymology.* –** Named for New Caledonia, the type locality.

***Habitat.* –** Living in association with the calcareous green alga, *Halimeda* sp.

***Depth range.* –** Single collection found at 10.5 m.

***Remarks.* –** This is the first record of *Icilius* from New Caledonia and the only species recorded in association with an alga. *I. caledoniana* and *I. danae* may be sister species. Although all species have a bicuspidate posteroventral corner on the basis of pereopod 7, *I. caledoniana* and *I. danae* are the only species in which the cusp is asymmetrical. It has a mid-dorsal spine on the posterior margin of pleonite 1, a character it shares with *I. ovalis*, *I. crinocolus* and *I. danae* and a mid-dorsal spine on the posterior margin of pleonite 2, a character it shares with *I. ovalis*, *I. crinocolus* and I. danae and *I. pulchellus*.

***Distribution.* –** Off Ilot Maitre, South-east lagoon, New Caledonia.

Icilius crinocolus, new species

(Figs. 9-11)

***Material examined.* –** Holotype - male, P54143, off Coffs Harbour, New South Wales, Australia, 30º17’49’’S, 153º13’90’’E, living on a featherstar, J 23315, 50 m depth, coll. J. K. Lowry & K. Dempsey on MV *Carrie Anne*, 8 Sep.1994.

Paratypes – 2 females, AM P54144 , 1 female, AM P54146 and 2 females, AM P54147 (same collection data as holotype).

Others – 1 female, AM P54145 (illustrated); about 30 ex., AM P54295, 102 ex., P54296, 2 males, AM P54141 (male illustrated), 1 male, AM P54142, off Coffs Harbour, New South Wales, Australia, 30º17’49’’S, 153º13’90’’E, living on a featherstar, J 23315, 50 m depth, coll. J. K. Lowry & K. Dempsey on MV Carrie Anne, 8 Sep.1994.

***Type locality.* –** Off Coffs Harbour, New South Wales, Australia, 30º17’49’’S, 153º13’90’’E, living on a featherstar.

***Description.* –** (based on holotype female, P54147 and paratype females, P54144, P54145). Head rostrum rounded. Antenna 1 shorter than antenna 2; peduncular article 1 shorter than, (0.8 x) article 2; accessory flagellum present, accessory flagellum 1-articulate; flagellum 23 articles. Antenna 2 flagellum 35 articles. Mandible left incisor with 7 or 8 serrations, right incisor with 6 serrations; accessory setal rows: left with 7 setae, right with 8 setae; palp article 2 broad, length 2.6–2.9 x breadth, 0.9–1.1 x article 3; article 3 broad, slightly rounded, slightly falcate distally. Upper lip apically notched, setose. Lower lip inner lobes present; outer lobes entire; mandibular lobes rounded apically. Maxilla 1 inner plate with 2 apical pappose setae; outer plate with 11 setal-teeth; palp with 8 apical robust setae and many subapical slender setae.

Pereon. Pereonite 7 posterodorsal margin with large mid-dorsal bulge, without setae along posterior margin. Gnathopods 1 and 2 not sexually dimorphic; simple with long, slender setae along posterior margin. Gnathopod 1 basis 0.9 x carpus length; carpus 1.1 x propodal length. Gnathopod 2 basis 0.9 x carpal length; carpus 1.1 x propodal length. Pereopods 3–4 sexually dimorphic; similar in size to pereopods 5–6; simple; basis with midmedial row of vertical pappose setae, with submarginal row of robust setae, with marginal row of pappose setae. Pereopod 3 carpus length 1.8 x breadth; propodus length 3.8 x breadth, 1.7 x carpus length, with 2 rows of posterodistal robust setae. Pereopod 4 carpal length 1.8 x breadth; propodus length 3.3 x breadth, propodus 1.5 x carpal length, with 2 rows of posterodistal robust setae.

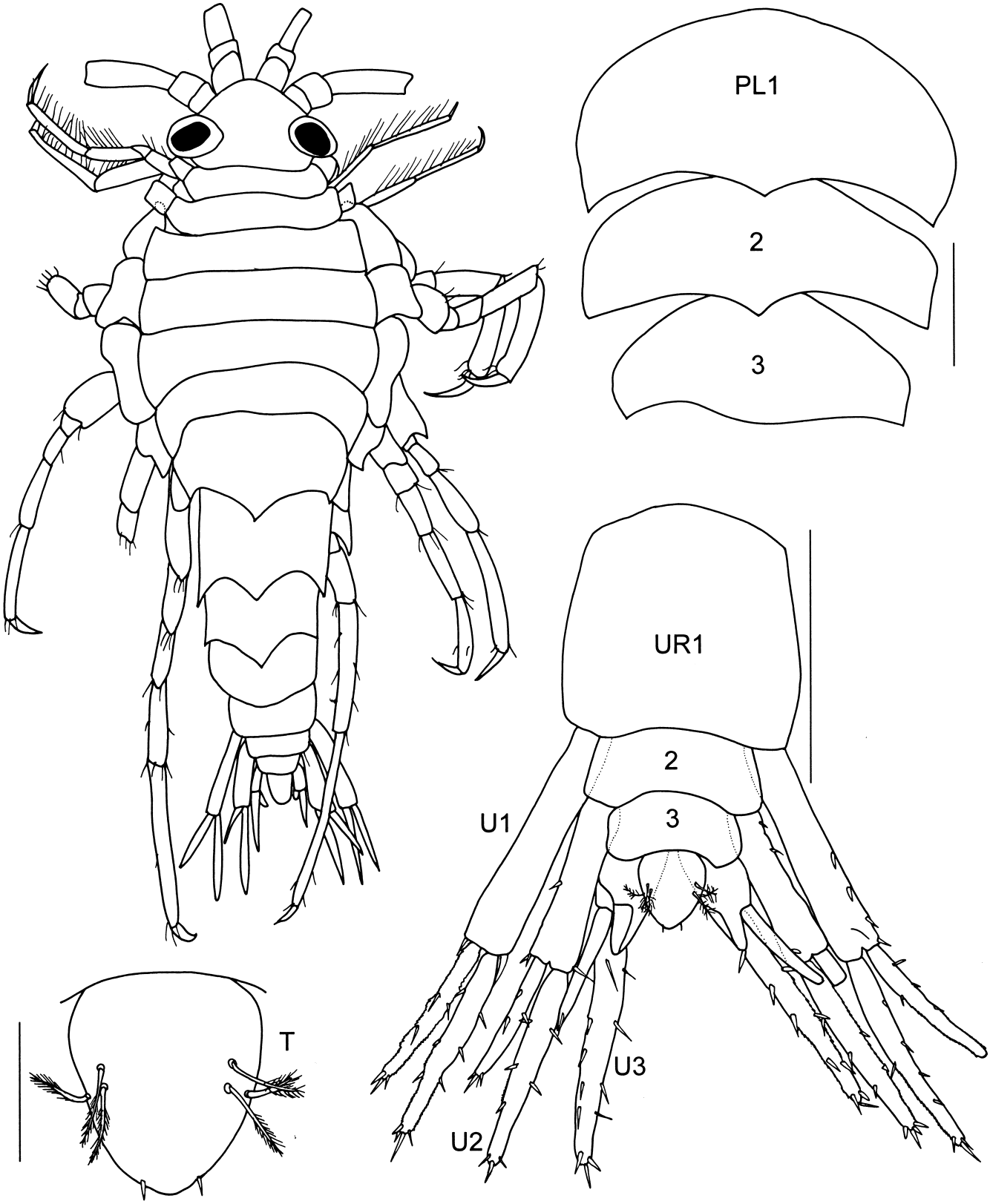

Fig. 9. *Icilius crinocolus*, new species: female holotype AM P54147, Coffs Harbour, N.S.W., Australia. Scale for T represents 0.1 mm, remainder represent 0.5 mm.

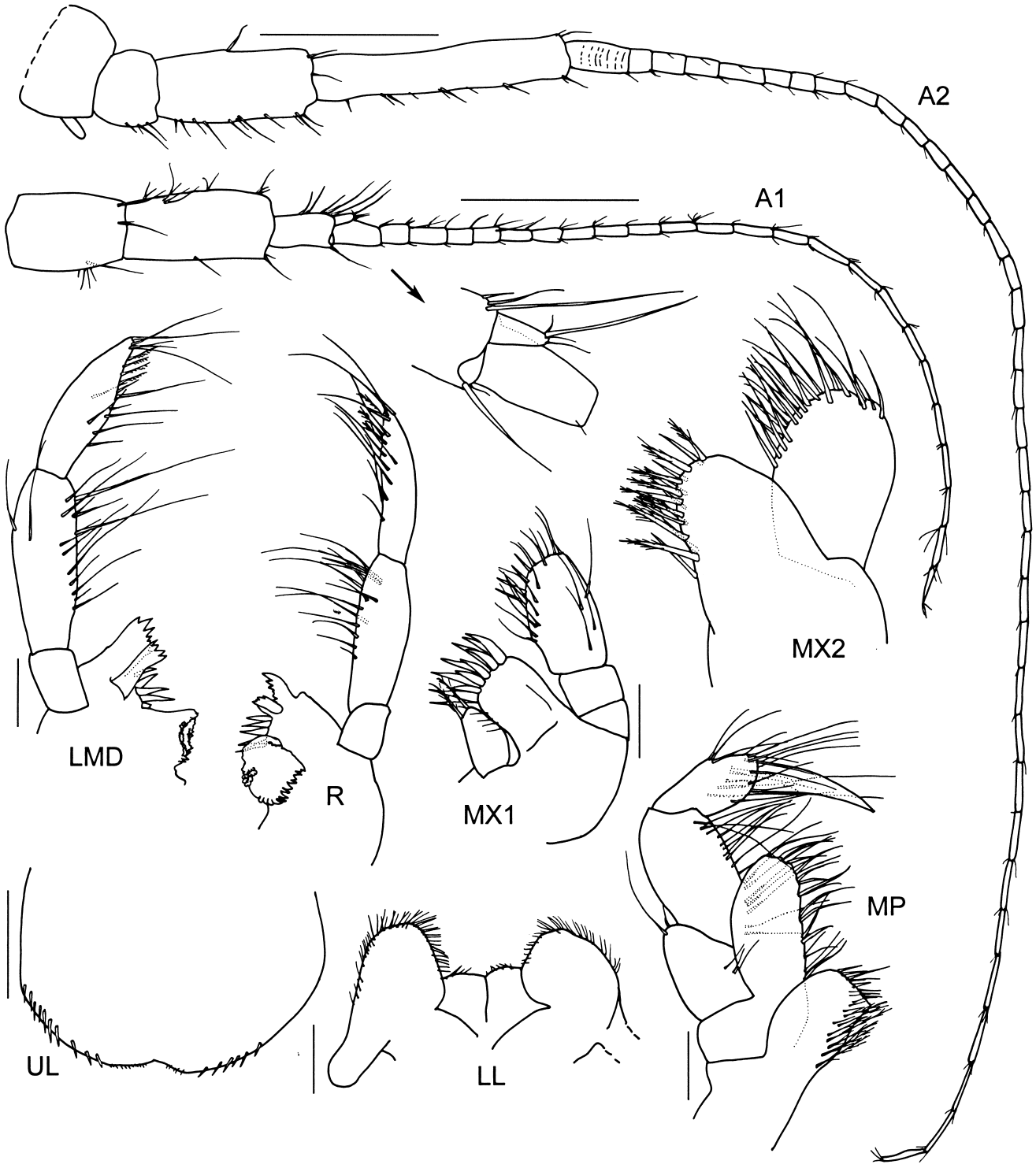

Fig. 10. *Icilius crinocolus*, new species: female holotype AM P54147, MD; female paratype AM P54146, A1-2; female paratype AM P54144, MX1-2, MP, UL, LL; Coffs Harbour, N.S.W., Australia. Scales for A1-2 represent 0.5 mm, remainder represent 0.1 mm.

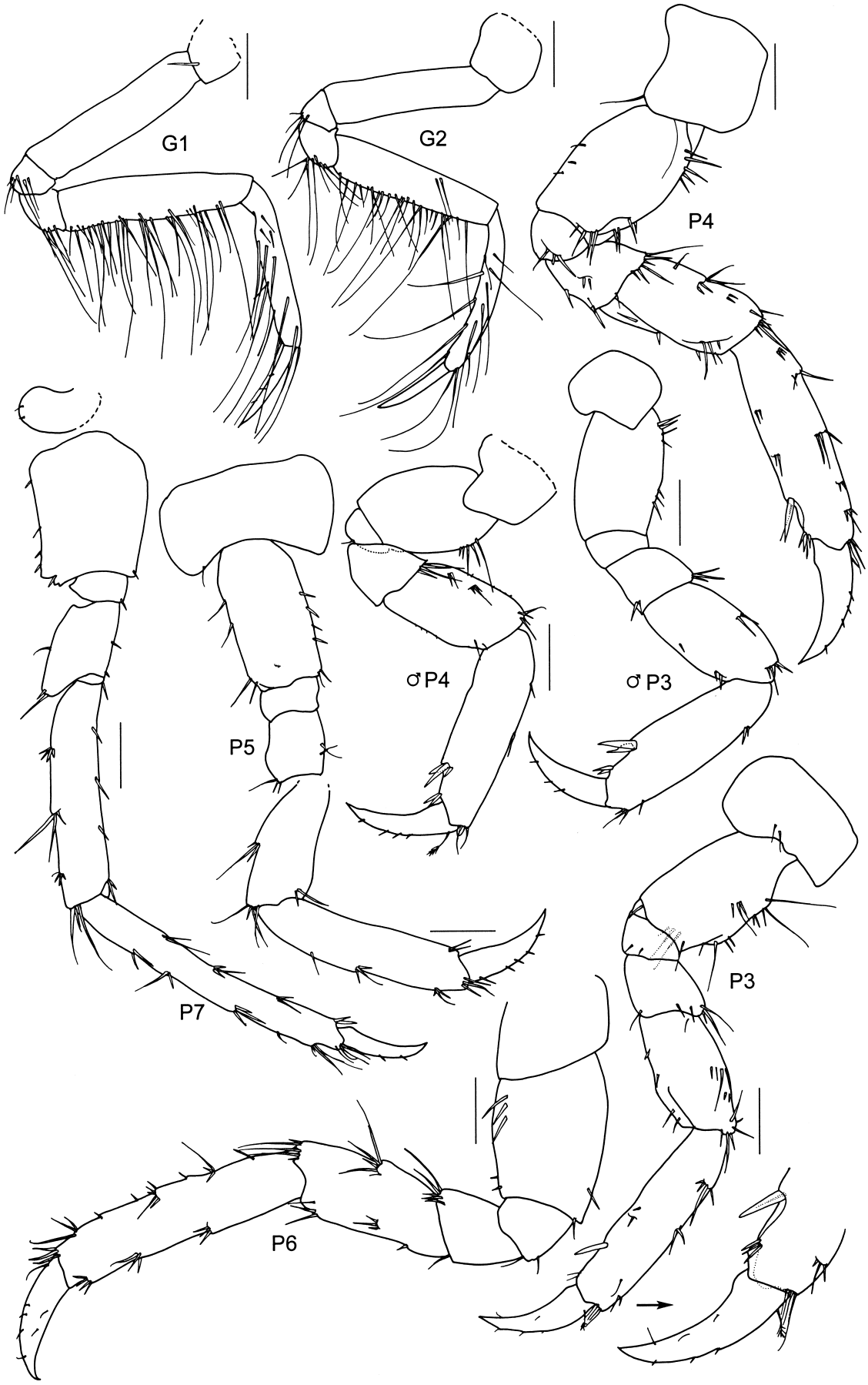

Fig. 11. *Icilius crinocolus*, new species: female paratype AM P54144, G1-2, P3-6; female paratype AM P54145**,** P7; male paratype AM P54141, P3-4; Coffs Harbour, N.S.W., Australia. Scales represent 0.2 mm.

Pereopod 5 coxa with rounded posteroventral corner; basis length 1.9 x breadth, basis with weakly setose posterior margin; carpus with weakly developed anterodistal bump, with weakly setose posterior margin; propodus length 3.6 x breadth, propodus with weakly setose posterior margin. Pereopod 6 basis length 1.5 x breadth, basis with weakly setose posterior margin; carpus with weakly developed anterodistal bump, with weakly setose posterior margin; propodus length 4.5 x breadth, propodus with weakly setose posterior margin. Pereopod 7 coxa with rounded posteroventral corner; basis length 1.2 x breadth, basis with rounded posterodorsal corner, with weakly setose posterior margin, posteroventral corner bicuspidate, cusps subequal in size; carpus without anterodistal bump, with weakly setose posterior margin; propodus length 8.4 x breadth, propodus with weakly setose posterior margin.

Pleon. Pleonite 1 posterodorsal margin with mid-dorsal spine, without setae along posterior margin, posterolateral margins without spines. Pleonite 2 with mid-dorsal spine, without setae along posterior margin, posterolateral margin without spines. Pleonite 3 smooth, without spines or bulges, without setae along posterior margin, posterolateral margin without spines. Urosomite 1 long, more than 2 x length of urosomite 2. Uropod 1 outer ramus 0.8 x inner ramus. Uropod 2 outer ramus 0.6 x inner ramus. Uropod 3 peduncle with well developed distomedial flange; outer ramus 0.47 x inner ramus; inner ramus without proximal setal fan. Telson longer than broad, tapering distally, with tiny apical setae.

***Male dimorphic characters.* –** (based on paratype, P54143). *Pereopods 3-4*: similar in size to pereopods 5-6, weakly prehensile; basis without midmedial row of vertical pappose setae, without submarginal row of robust setae, with marginal row of pappose setae. *Pereopod 3*: carpal length 1.6 x breadth; propodal length 2.5 x breadth. *Pereopod 4*: carpal length 1.6 x breadth; propodal length 2.8 x breadth.

***Etymology.* –** From the echinoderm order Crinoidea, to which feather stars belong, and the Latin word *cola*, meaning to inhabit.

***Habitat.* –** Living in association with a featherstar.

***Remarks.* –** *Icilius crinocolus* is coloured deep red. Females were larger than males in most cases. Throughout the genus males mature at a smaller size than females, but size difference between sexes is most pronounced in this species.

This species belongs in the group that also includes *I. pulchellus* and *I. punctatus*. It appears to be the sister species of *I. punctatus*. They both have a marginal row of pappose setae on the basis of pereopods 3 and 4, an anterodistal bump on the carpus of pereopods 5 and 6.

***Distribution.* –** New South Wales: inner continental shelf east of Coffs Harbour.

Icilius danae Stebbing, 1888
(Fig. 12)

Icilius danae Stebbing, 1888: 1202, pl. 133; 1910: 625, pl. 59a; Barnard, 1969: 427, fig. 156i (after Stebbing, 1910); Barnard & Karaman, 1991: 375, fig 73.

Icilius ovalis - Della Valle, 1893: 345 (part); Stebbing, 1906: 707 (part).

Icilius australis - Barnard & Karaman, 1991: 376, fig. 73 (after Stebbing, 1888), 658, fig. 119c (after Stebbing, 1910).

***Type material.* –** Holotype - female, BMNH 1889.5.15.155.

***Material examined.* –** Queensland: 1 ex., AM P27293, east of Lady Elliot Island, 24º00'S 153º06'E, fine grey ooze, sand with pteropod shells, 500 m, HMAS *Kimbla*, coll. P. Colman & F. Rowe, 17 Nov.1977. New South Wales: 19 ex., AM P2540, 6.5-10.5 km off Manning River, 31º57'S 152º46'E, fine grey sand, 40 m, E.R. Waite on HMCS *Thetis*, 5 Mar.1898. 1 ex., AM P54305, Cape Banks, 34º00'S 151º16'E, 50 m, coll. The Ecology Lab, 29 Oct.1990. 1 ex., AM P54378, 30 m; 3 ex., AM P54369, 40 m; 1 ex., AM P54315, 40 m; 2 ex., AM P54297, 40 m; 1 ex., AM P54367, 50 m; 2 ex., AM P54381, 50 m; 1 ex., AM P54371, 50 m; 6 ex., AM P54361, 50 m; 2 ex., AM P54363, 50 m; 1 ex., AM P54298, 50 m; 1 ex., AM P54359, 70 m; Cobblers (Bate Bay), 34º07'S 151º10'E, coll. The Ecology Lab, 24 Jan.1990 to 3 Jan.1991. 1 ex., AM P46421, 40 m; 1 ex., AM P54301, 40 m; 2 ex., AM P54364, 40 m; 1 ex., AM P54299, 50 m; 5 ex., AM P54300, 50 m; 3 ex., AM P54302, 50 m; 1 ex., AM P54384, 50 m; 1 ex., AM P54376, 50 m; 2 ex., AM P54356, 50 m; 1 ex., AM P54386, 70 m; 1 ex., AM P54360, 70 m; 1 ex., AM P54365, 70 m; 1 ex., AM P54357, east of Providential Head, Wattamolla, 34º08'S 151º08.5'E, 70 m, coll. The Ecology Lab, 11 Jan.1990 to 3 Jan.1991. 1 ex., AM P2541; 1 ex., AM P2542, 5.5-6.5 km off Wattamolla, 34º10'S 151º11'E, mud, 108 m, E.R. Waite on HMCS *Thetis*, 22 Mar.1898. 1 ex., AM P54379, 40 m; 5 ex., AM P54366, 40 m; 1 ex., AM P54374, 40 m; 2 ex., AM P54375, 50 m; 5 ex., AM P54380, 50 m; 2 ex., AM P54370, 50 m; 1 ex., AM P54372, 50 m; 4 ex., AM P54373, 50 m; 2 ex., AM P54303, 50 m; 1 ex., AM P54358, 50 m; 1 ex., AM P54377, 50 m; 2 ex., AM P54382, 50 m; 1 ex., AM P54368, 70 m; 1 ex., AM P54304, 70 m; 1 ex., AM P54362, 70 m; 1 ex., AM P54306, 70 m; 1 ex., AM P54311, 70 m; 3 ex., AM P54312, 70 m; 3 ex., AM P54313, 70 m; 4 ex., AM P54314, 70 m; 1 ex., AM P54383, 70 m; 1 ex., AM P54385, Bass Point, 34º36'S 150º54'E, 70 m, The Ecology Lab, 25 Jun.1990 to 3 Jan.1991. Victoria: More than 20 ex., NMV J44954, South of Point Hicks, 38º17.70'S, 149º11.30'E, 400 m, coarse sand, gravel, mud, many sponges, WHOI epibenthic sled, coll. M.F. Gomon *et al*. on RV *Franklin*, 24 Jul.1986. 1 ex., NMV J44956, South of Point Hicks, 38º14.80'S, 149º9.30'E, 200 m, coarse sand, gravel, WHOI epibenthic sled, coll. M.F. Gomon et al. on RV *Franklin*, 24 Jul.1986. 1 ex., NMV J26800, 15.5 km southwest of Point Ricardo, Eastern Bass Strait, 37º53.14'S, 148º28.94'E, 45 m, medium sand, Smith-McIntyre grab, coll. N. Coleman on RV *Sarda*, Feb.1991. 1 ex., NMV J26864, 13.1 km east of eastern edge of Lake Tyers, Eastern Bass Strait, 37º49.90'S, 148º14.00'E, 21 m, coarse sand, Smith-McIntyre grab, coll. N. Coleman on RV *Sarda*, Feb.1991. 2 ex., NMV J44959, 8 km south of South East Point, Wilsons Promontory, Eastern Bass Strait, 39º12.9'S, 146º27.3'E, 65 m, coll. R.S. Wilson on RV *Tangaroa*, 18 Nov.1981. 3 ex., NMV J44935, 57 km south of Rodondo Island, Central Bass Strait, 39º43.5'S, 146º18.8'E, 80 m, coll. R.S. Wilson on RV *Tangaroa*, 13 Nov.1981. About 13 ex., NMV J44952, 45 km south southwest of Cape Otway, Western Bass Strait, 39º15'S,

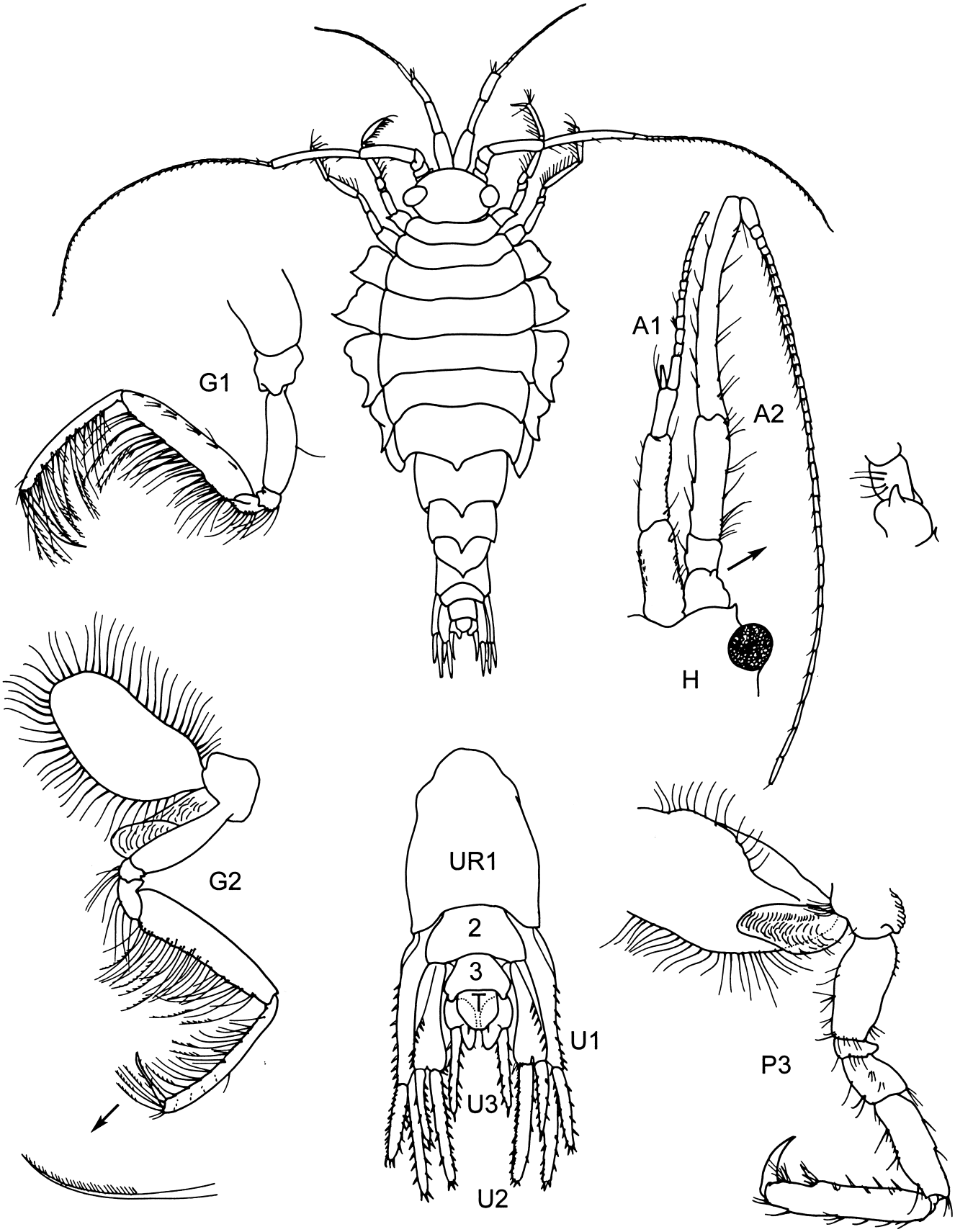

Fig. 12. *Icilius danae* Stebbing, 1888: female holotype BMNH 1889.5.15.155, off Melbourne, Vic., Australia. After Stebbing, 1888, plate 133.

143º19'E, 94 m, coarse sand, carbonate, Smith-McIntyre grab/pipe dredge, coll. G.C.B. Poore on HMAS Kimbla, 10 Oct.1980. *Tasmania*: 16 ex., NMV J2438 63 km east of North Point, Flinders Island, Eastern Bass Strait, 39º44.8'S, 148º40.6'E, 124 m, fine sand, WHOI epibenthic sled, coll. R.S. Wilson, RV *Tangaroa*, 14 Nov.1981. 1 ex., NMV J2437, 42 km southwest of Babel Island, Eastern Bass Strait, 40º13.8'S, 148º39.6'E, 60 m, muddy sand, WHOI epibenthic sled, coll. R.S. Wilson on RV *Tangaroa*, 14 Nov.1981. More than 10 ex., NMV J44953, 60 km east of North Point, Flinders Island, Eastern Bass Strait, 39º41.7'S, 148º39.5'E, 115 m, muddy sand, naturalist's dredge, coll. G.C.B. Poore on HMAS Kimbla, 27 Mar.1979. More than 20 ex., NMV J44960, 60 km east of North Point, Flinders Island, Eastern Bass Strait, 39º41.7'S, 148º39.5'E, 115 m, muddy sand, naturalist's dredge, coll. G.C.B. Poore on HMAS *Kimbla*, 27 Mar.1979. 1 ex., NMV J44948, 15 km east of Maria Island, Tasman Sea, 42º37'S, 148º20'E, 102 m, WHOI epibenthic sled, coll. R.S. Wilson on RV *Soela*, 9 Oct.1984. 1 ex., NMV J44942, 25 km southwest of Cape Frankland, Flinders Island, Central Bass Strait, 40º09.4'S, 147º32.6'E, 51 m, coll. R.S. Wilson on RV *Tangaroa*, 14 Nov.1981. 1 ex., NMV J44947, 30 km north northwest of Cape Sorell, 42º10.9'S, 144º48.9'E, 160 m, WHOI epibenthic sled, coll. R.S. Wilson on RV *Soela*, 20 Oct.1984. 3ex., NMV J2439, 35 km east of Cape Farewell, King Island, Central Bass Strait, 39º32.8'S, 144º21'E, 27 m, fine sand, WHOI epibenthic sled, coll. M.F. Gomon & G.C.B. Poore, RV *Sarda*, 1 Nov.1980. 3 ex., NMV J44941, 35 km north of Cape Wickham, King Island Central Bass Strait, 39º13.6'S, 143º55.6'E, 85 m, fine sand, Epibenthic Sled, coll. R.S. Wilson on RV *Tangaroa*, 23 Nov.1981. 2 ex., NMV J44933, 70 km west of Cape Farewell, King Island, Western Bass Strait, 39º38.2'S, 143º07.2'E, 127 m, coll. R.S. Wilson on RV *Tangaroa*, 21 Nov.1981. *Tasmania*: 6 ex., AM P54203, north side of Esperance Point, D'Entrecasteaux Channel, Tasmania, Australia, 43º19.5'S 147º5.5'E, 13 m, coll. J. K. Lowry & S.J. Keable on the *Flying Scud*, 18 Apr.1991.

Type locality. – Off Melbourne, Victoria, 38º22´30''S 144º36´30''E, *Challenger* Station 161.

Description. – (based on Stebbing, 1888: 1202, pl. 132). Head length 2 x width; rostrum rounded. Antenna 1 shorter than antenna 2; peduncular article 1 subequal to (1 x) article 2; accessory flagellum present, accessory flagellum 1-articulate; flagellum 13+ articles. Antenna 2 flagellum 38+ articles. Mandible left incisor with 7 serrations, right incisor with 7 serrations or 8 serrations; accessory setal rows: left with 8 setae, right with 6 setae; palp article 2 slender, length 6.3 x breadth, 1.5 x article 3; article 3 slender, straight, not distally falcate. Upper lip apically notched, setose. Lower lip inner lobes present; outer lobes entire; mandibular lobes rounded apically. Maxilla 1 inner plate with 4 apical pappose setae; palp with 9 apical robust setae and many subapical slender setae.

Pereon. Pereonite 7 posterodorsal margin with mid-dorsal spine, without setae along posterior margin. Gnathopods 1 and 2 not sexually dimorphic; simple with long, slender setae along posterior margin. Gnathopod 1 basis 0.56 x carpus length; carpus 1.2 x propodal length. Gnathopod 2 basis 0.56 x carpal length; carpus 1.1 x propodal length. Pereopods 3–4 sexually dimorphic; pereopods 3–4 similar in size to pereopods 5–6; weakly prehensile; basis without midmedial row of vertical pappose setae, without submarginal row of robust setae, with marginal row of pappose setae. Pereopod 3 carpus length 3.3 x breadth; propodus length 5.3 x breadth, 1.6 x carpal length, with 2 rows of posterodistal robust setae. Pereopod 7 posteroventral corner bicuspidate, outer cusp much longer than inner.

Pleon. Pleonite 1 posterodorsal margin with mid-dorsal spine, pleonite 1 without setae along posterior margin, posterolateral margins without spines. Pleonite 2 with mid-dorsal spine, without setae along posterior margin, posterolateral margin without spines. Pleonite 3 smooth, without spines or bulges, without setae along posterior margin, posterolateral margin without spines. Urosomite 1 long, more than 2 x length of urosomite 2. Uropod 1 outer ramus 0.65 x inner ramus. Uropod 2 outer ramus 0.6 x inner ramus. Uropod 3 peduncle with well developed distomedial flange. Telson as long as broad, rounded distally, without apical setae.

Male dimorphic characters. – (based on Stebbing, 1888: 1202, pl. 132). Pereopods 3–4 enlarged, larger than pereopods 5–6. Pereopod 3 carpus length 4.17 x breadth; propodus length 4.57 x breadth, 1.1 x carpal length, with 1 rows of posterodistal robust setae.

Habitat. – *Icilius danae* is the most widely collected species, but most samples have been collected using a dredge and the habitat has usually been recorded as shell, gravel, fine sand or mud. There is one collection from south of Point Hicks, Victoria where sponges were recorded as a possible host.

Depth range. – 40 m to 500 m.

Remarks. – *Icilius danae* is the most widespread species. It occurs from southern Queensland to Tasmania living on the inner continental shelf to the continental slope. *Icilius danae* may be the sister species of *I. caledoniana*. Although all species have a bicuspidate posteroventral corner on the basis of pereopod 7, only *I. danae* and *I. caledoniana* have an asymmetrical cusp. *I. danae* has a mid-dorsal spine on the posterior margin of pleonite 1, a character it shares with *I. caledoniana*, *I. crinocolus* and *I. ovalis*, and a mid-dorsal spine on the posterior margin of pleonite 2, a character it shares with *I. caledoniana*, *I. crinocolus*, *I. ovalis*, and *I. pulchellus*.

Distribution. – *Queensland*: east of Lady Elliot Island (AM). New South Wales: off Manning River; Cape Banks; Bate Bay; Wattamolla; Bass Point (AM). Victoria: South of Point Hicks, southwest of Point Ricardo, off Lake Tyers, off Wilsons Promontory, south of Rodondo Island, off Cape Otway (all NMV); off Melbourne (Stebbing, 1888). Tasmania: off Flinders Island, off Babel Island, off Maria Island, off Cape Sorell, off King Island (all NMV); D'Entrecasteaux Channel (AM).

Icilius ovalis Dana, 1852

Icilius ovalis Dana, 1852a: 844 pl. 212, fig 4; 1852b: 220; Della Valle, 1893: 345 (part); Stebbing, 1906: 707 (part); 1910: 625.
Icilius ellipticus Dana, 1853: 844, pl. 56, fig. 4a-g; Della Valle, 1893: 345 (part); Stebbing, 1906: 707 (part).

Type material. – ***Lost.***

Material examined. **–** The figures of Dana, 1852a.

Type locality. **–** Balabac Strait, Northern Borneo.

Description. **–** Head length 2.6 x width; rostrum subacute. Antenna 1 shorter than antenna 2; peduncular article 1 longer than, (1.33 x) article 2; flagellum 19+ articles. Mandible left incisor with 3 serrations; accessory setal rows: left with 7–8 setae; palp article 2 broad, length 4.4 x breadth, 1.1 x article 3; article 3 slender, straight, not distally falcate. Maxilla 1 inner plate with 3 apical pappose setae; outer plate with 11 setal-teeth; palp with 8 apical robust setae and many subapical slender setae.

Pereon. Pereonite 7: posterodorsal margin with mid dorsal spine, without setae along posterior margin. Gnathopods 1 and 2 not sexually dimorphic. Pereopods 3-4: basis with midmedial row of vertical pappose setae, with submarginal row of robust setae, with marginal row of pappose setae. Pereopod 5: Unknown. Pereopod 6: Unknown. Pereopod 7: basis with posterodorsal corner bicuspidate, outer cusp much longer than inner.

Pleon. Pleonite 1: posterodorsal margin: with mid dorsal spine, without setae along posterior margin; posterolateral margins: without spines. Pleonite 2: with mid dorsal spine, without setae along posterior margin; posterolateral margin without spines. Pleonite 3: smooth, without spines or bulges, without setae along posterior margin. Urosomite 1: short, less than 2 x length of urosomite 2. Uropod 3: rami unknown. Telson: longer than broad, tapering distally.

Habitat. **–** Coralline algae.

Remarks. **–** Dana appears to have mentioned *I. ovalis* for the first time in 1849, and then published a description (Dana, 1853) under the name *I. ellipticus*. It appears that the second name has not been used since 1853.

Icilius ovalis is a poorly described species. This is unfortunate because it is the type species of the genus. We tried to recollect this species in Sabah in Dec. of 1998, but the areas where we were able to dive, Tunku Abdul Rahman National Park, were so degraded that there was little chance of the host or the species being present.

Icilius ovalis appears to be a basal taxon with no clear sister species. It is the only *Icilius* with a spine on the posterodorsal margin of pleonite 3. It shares a broad mandibular palp with *I. crinocolus*, *I. pulchellus* and *I. punctatus*, but this may be a homoplasy. It has a mid-dorsal spine on the posterior margin of pleonite 1, a character it shares with *I. caledoniana*, *I. crinocolus* and *I. danae*, a mid-dorsal spine on the posterior margin of pleonite 2, a character it shares with *I. caledoniana*, *I. crinocolus* and *I. danae* and *I. pulchellus*.

Distribution. **–** Balabac Strait, Northern Borneo.

Icilius pulchellus, new species

(Figs. 13-15)

Material examined. **–** Holotype - female, AM P54148, Burrill Rocks, New South Wales, Australia., 35º23.39'S 150º28.24'E, on the soft coral, *Capnella gaboensis*, 22 m, coll. A.G.B. Poore & J. K. Lowry, 1 Nov.1997.

Paratypes – 2 specimens (including 1 male), AM P54150, 2 specimens (including 1 female), AM P54151, Bare Island, Botany Bay, New South Wales, Australia, 33º59.6'S 151º13.9'E, on the soft coral, *Capnella gaboensis*, 9 m, coll. A.G.B. Poore, 4 Aug.1998.

Others – New South Wales: 2 ex., AM P54198, east of Long Reef, 33º44'S 151º22'E, 32 m, AMBS, 28 May.1972. 16 ex., AM P24241; 13 ex., AM P22438, east of South Head, Sydney, 33º50'S 151º18'E, on the sponge, *Halme gigantea* (h20002), 21 m, AMBS, Feb.1973. 3 ex., AM P54149, Bare Island, Botany Bay, 33º59.6'S 151º13.9'E, on the soft coral, *Capnella gaboensis*, 9 m, A.G.B. Poore, 4 Aug.1998. Several ex., AM P57896, Bare Island, Botany Bay, 33º59.53'S 151º13.83'E, on the soft coral, *Capnella gaboensis*, 12 m, coll. M. J. Huggett & R. De Nys, 13 Aug.1998. 1 ex., AM P54199, Green Point, Jervis Bay, 35º01.0'S 150º45.2'E, unvegetated sediment, 12 m, coll. P. Hutchings & party, 17 Aug.1989. Many ex., AM P54387, Jervis Bay, 35º03'S 150º44'E, sponge scallop beds, 17 m, P. Berents, 13 Aug.1981. 9 ex., AM P54389, Ulladulla, 'home bommie', 35º22'S 150º30'E, on the soft coral, *Capnella gaboensis*, 15 m, coll. A.G.B. Poore & J. K. Lowry, 1 Nov.1997. 5 ex., AM P54390, Burrill Rocks, 35º23.39'S 150º28.24'E, on the soft coral, *Capnella gaboensis*, 22 m, coll. A.G.B. Poore & J. K. Lowry, 1 Nov.1997.

Type locality. **–** Burrill Rock, Ulladulla, New South Wales, Australia, 35º59.6'S, 151º13.9'E, living on the soft coral *Capnella gaboensis*, 9-30 m depth.

Description. **–** (based on female holotype P54148). Head length 1.4 x width; rostrum rounded. Antenna 1 shorter than antenna 2; peduncular article 1 longer than (1.6 x) article 2; accessory flagellum present, accessory flagellum 1-articulate; flagellum 29+ articles. Antenna 2 flagellum 30+ articles. Mandible left incisor with 5 serrations, right incisor with 6 serrations; accessory setal rows: left with 8 setae, right with 7 setae; molar, triturating surface well developed basally; palp article 2 broad, length 2.2 x breadth, 1.2 x article 3; article 3 broad, slightly rounded, slightly falcate distally. Upper lip apically notched, setose. Lower lip inner lobes present; outer lobes entire; mandibular lobes rounded apically. Maxilla 1 inner plate with 3 apical pappose setae; outer plate with 11 setal-teeth; palp with 8 apical robust setae and many subapical slender setae.

Pereon. Pereonite 7 posterodorsal margin with large mid-dorsal bulge, without setae along posterior margin. Gnathopods 1 and 2 not sexually dimorphic; simple with long, slender setae along posterior margin. Gnathopod 1 basis 0.79 x carpal length; carpus 0.91 x propodal length. Gnathopod 2 basis 0.83 x carpal length; carpus 0.97 x propodal length. pereopods 3–4 weakly prehensile; basis with midmedial row of vertical pappose setae, with submarginal row of robust setae, without marginal row of pappose setae. Pereopod 3 carpus length 1.58 x breadth; propodus length 3.38 x breadth,

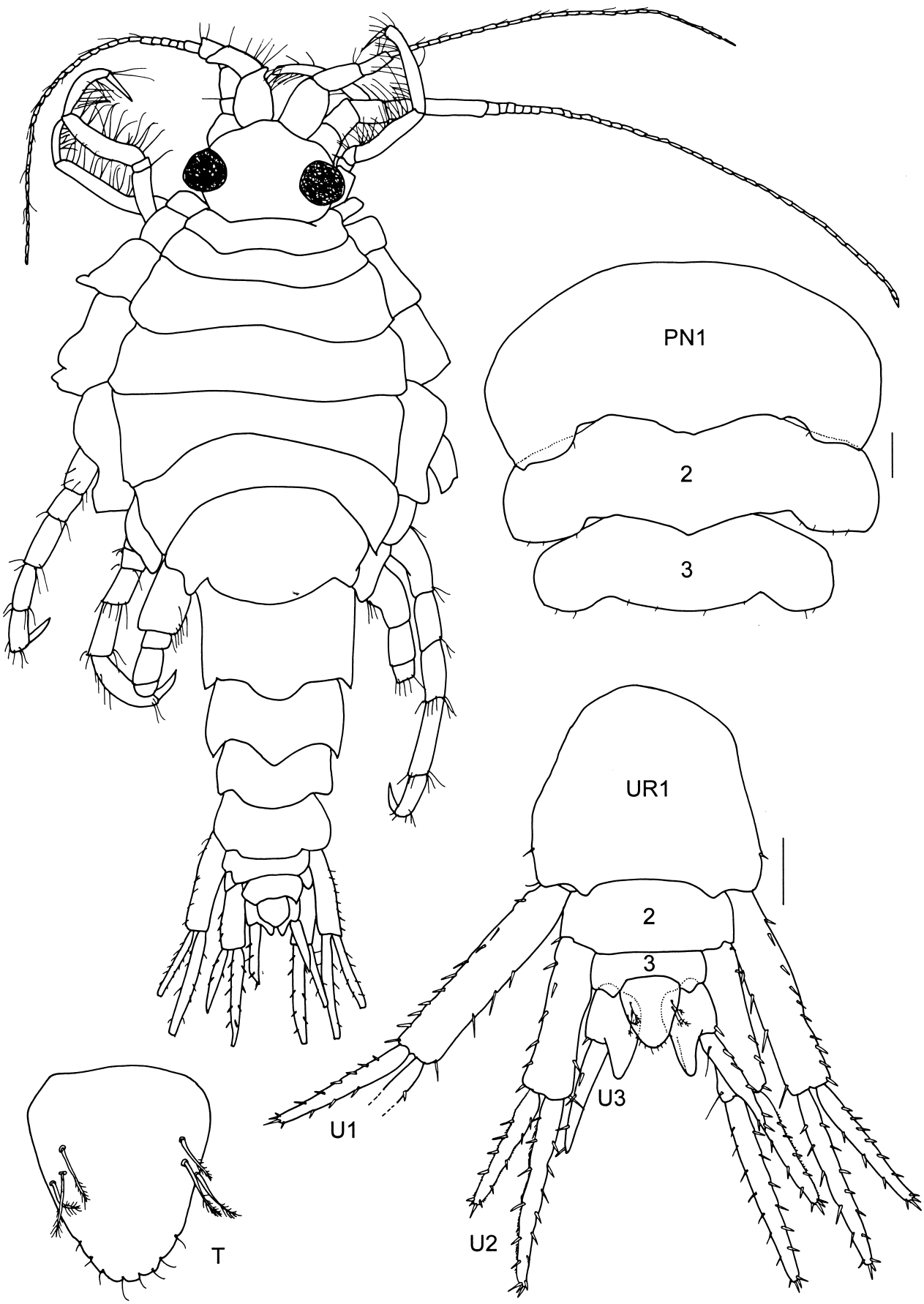

Fig. 13. *Icilius pulchellus*, new species: female holotype AM P54148, Ulladulla, N.S.W., Australia. Scales represent 0.2 mm.

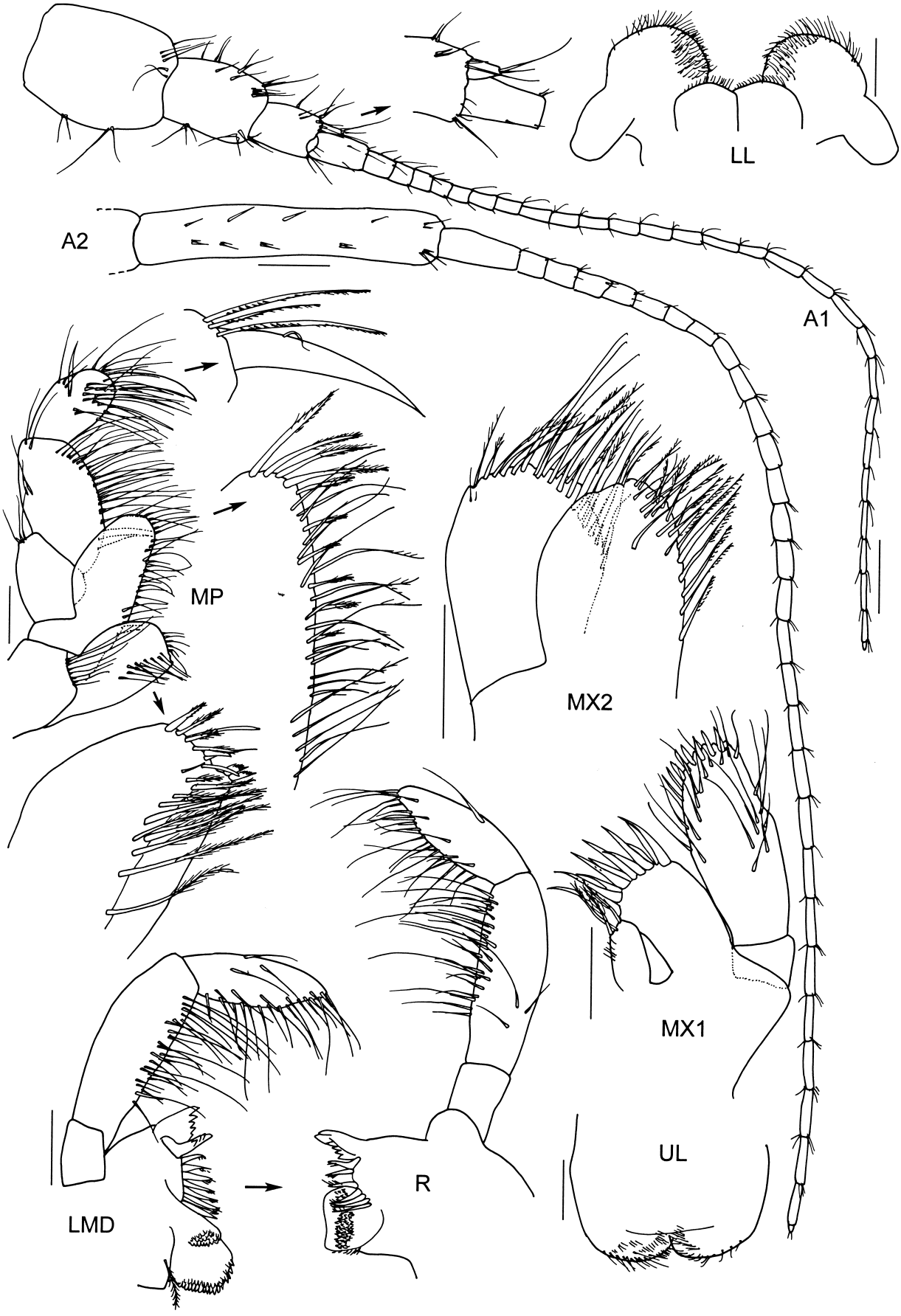

Fig. 14. *Icilius pulchellus*, new species: female holotype AM P54148, Ulladulla, N.S.W., Australia. Scales for A1-2 represent 0.2 mm, remainder represent 0.1 mm.

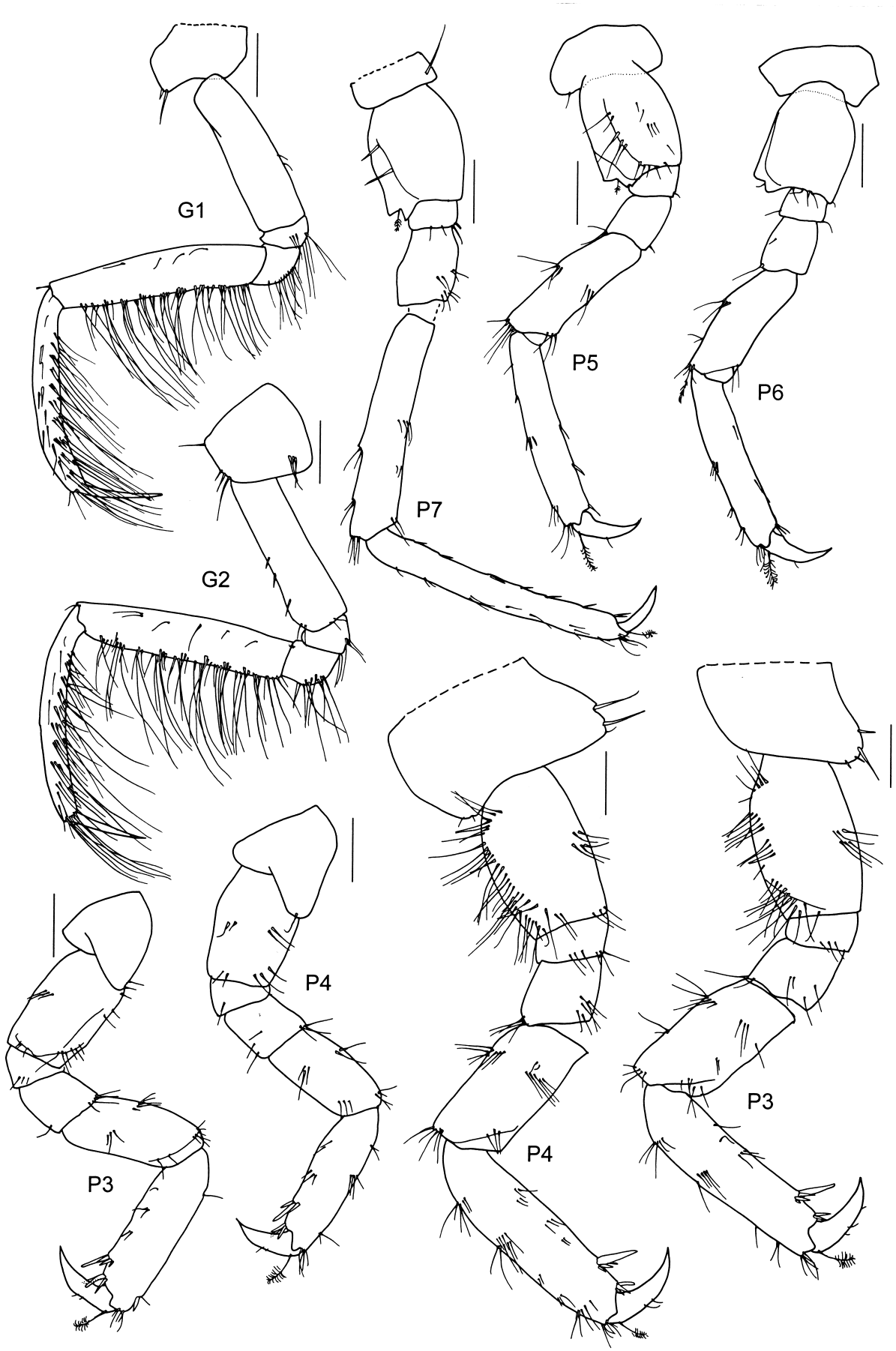

Fig. 15. *Icilius pulchellu*s, new species: female holotype AM P54148, G1-2, P3-4; female paratype AM P54151, P5-7; Ulladulla, N.S.W., Australia. Male paratype, AM P54150, P3-4, Bare Island, Botany Bay, Sydney, N.S.W., Australia,. Scales represent 0.2 mm.

1.58 x carpal length, with 2 rows of posterodistal robust setae. Pereopod 4 carpal length 1.92 x breadth; propodus length 3.3 x breadth, propodus 1.39 x carpal length, with 2 rows of posterodistal robust setae. Pereopod 5 coxa with rounded posteroventral corner; basis length 1.4 x breadth, basis with weakly setose posterior margin; carpus without anterodistal bump, with weakly setose posterior margin; propodus length 6 x breadth, propodus with weakly setose posterior margin. Pereopod 6 coxa with rounded posteroventral corner; basis length 1.25 x breadth, basis with weakly setose posterior margin; carpus without anterodistal bump, with weakly setose posterior margin; propodus length 5.6 x breadth, propodus with weakly setose posterior margin. Pereopod 7 coxa with rounded posteroventral corner; basis length 1.25 x breadth, basis with projecting acute posterodorsal corner, with weakly setose posterior margin, posteroventral corner bicuspidate, cusps subequal in size; carpus without anterodistal bump, with weakly setose posterior margin; propodus length 11.4 x breadth, propodus with weakly setose posterior margin.

Pleon. Pleonite 1 posterodorsal margin smooth, without spines or bulges, pleonite 1 without setae along posterior margin, posterolateral margins without spines. Pleonite 2 with mid-dorsal spine, without setae along posterior margin, posterolateral margin without spines. Pleonite 3 smooth, without spines or bulges, without setae along posterior margin, posterolateral margin without spines. Urosomite 1 short, less than 2 x length of urosomite 2. Uropod 1 outer ramus 0.78 x inner ramus. Uropod 2 outer ramus 0.67 x inner ramus. Uropod 3 peduncle with well developed distomedial flange. Telson longer than broad, tapering distally, without apical setae.

***Male dimorphic characters.* –** (based on male paratype, P54155). Pereopods 3–4 similar in size to pereopods 5–6; without submarginal row of robust setae. Pereopod 3 carpus length 1.2 x breadth; propodus length 3.1 x breadth, 1.4 x carpal length. Pereopod 4 carpal length 2 x breadth; propodus length 2.9 x breadth, propodus 1.6 x carpal length.

***Etymology.* –** *Pulchellus:* from the Latin meaning small and beautiful.

***Habitat.* –** *Icilius pulchellus* is associated with the soft coral, *Capnella gaboensis* and the sponge *Halme gigantea*.

***Depth range.* –** 9 to 22 m.

***Remarks.* –** *Icilius pulchellus* has a restricted distribution and host. It has only been recorded from Port Jackson to Ulladulla, living on the soft coral, *Capnella gaboensis* and the sponge *Halme gigantea*. Individuals vary in colour from deep burgundy to white which may indicate the host they are living on.

Icilius pulchellus appears to be the sister species to *I. crinocolus* and *I. punctatus*. They all have a broadened mandibular palp with a slightly to broadly rounded posterior margin and a slightly to strongly falcate distally. They all have a row of submarginal robust setae on the basis of pereopods 3-4.

***Distribution.* –** New South Wales: east of South Head, Port Jackson; Bare Island, Botany Bay; Jervis Bay; Ulladulla (AM).

Icilius punctatus Haswell, 1879
(Figs. 16-18)

Icilius punctatus Haswell, 1879: 343 Pl. 23, fig 1; Stebbing, 1910: 625, Pl. 109b. Barnard, 1969: 427, figs 155e, 156j (after Stebbing, 1910).

Icilius ovalis - Della Valle, 1893: 345 (part); Stebbing, 1906: 707 (part).

Icilius australis - Barnard & Karaman, 1991: 658, fig. 119h (after Stebbing, 1910).

***Type material.* –** Syntypes (probable). Whereabouts unknown (Springthorpe & Lowry, 1994).

***Material examined.* –** New South Wales: 5 ex., AM P22442; 1 ex., AM P22443; 2 ex., AM P22444, east of Long Reef, 33º44'S 151º21'E, 23 m, AMBS, 24 Apr.1972. 1 ex., AM P22445, east of North Head, Port Jackson, 33º49'S 151º20'E, 21 m, Australian Museum Shelf Benthic Survey, 20 Feb.1973. 1 ex., AM P2543, 8-9.5km off Coogee, 33º57'S 151º21.5'E, fine sand, 91 m, coll. E.R. Waite on HMCS *Thetis*, 15 Mar.1898. 3 ex., AM P49054, Weeney Bay, Botany Bay, 34º01.3'S 151º09.7'E, mud, 1 m, coll. A. Roach & A. Jones, 30 Mar.1995. 2 ex., AM P2544, 1.5 km off Botany Bay, 34º02.5'S 151º12'E, sand to rock, 42 m, coll. E.R. Waite on HMCS *Thetis*, 11 Mar.1898. 1 ex., AM P54196, east of Providential Head, Wattamolla, 34º08'S 151º08.5'E, 50 m, coll. The Ecology Lab, 29 Oct.1990. 1 ex., AM P54197, Bass Point, 34º36'S 150º54'E, 50 m, coll. The Ecology Lab, 3 Jan.1991. 1 ex., AM P42231; 1 ex., AM P54135; 1 ex., AM P54136; 3 ex., AM P54137; 1 ex., AM P54138; 3 ex., AM P54139; 2 ex., AM P54140; many ex., AM P54202, east of Snapper Point, near Kiola, 35º34.5'S 150º22'E, on the gorgonacean, *Mopsella* sp., 20 m, coll. J. K. Lowry & R.T. Springthorpe, 26 Apr.1981. 1 ex., AM P52775, 500 m south of Tathra Head, 36º43.73'S 149º49.76'E, on the gorgonacean, *Mopsella* sp. on top of rock, 13 m, coll. P.B. Berents, 16 May.1995, NSW 1075. 17 ex., AM P52777, 1.5 km south of Tathra Head, 36º43.99'S 149º59.29'E, on a gorgonacean similar to *Mopsella* sp. from side of boulder, 14 m, coll. P.B. Berents, 17 May.1995. Victoria: 3 ex., NMV J44935, 57 km south of Rodondo Island, Central Bass Strait, 39º43.5'S, 146º18.8'E, 80 m, coll. R.S. Wilson on RV *Tangaroa*, 13 Nov.1981. More than 10 ex., NMV J44939, 6 km south of Cape Schanck, Central Bass Strait, 38º33.6'S, 144º54.3'E, 55 m, coll. R.S. Wilson on RV *Tangaroa*, 12 Nov.1981. *Tasmania*: 7 ex., NMV J44945, 37 km north northeast of Eddystone Point, Eastern Bass Strait, 40º43.8'S, 148º37.2'E, 67 m coll. R.S. Wilson on RV *Tangaroa*, 14 Nov.1981. 1 ex., NMV J44938, 15 km east of Cape Connella, Southern Ocean, 43º24.6'S, 147º32.5'E, 82 m, WHOI epibenthic sled, coll. R.S. Wilson on RV *Soela*, 22 Oct.1984. 2 ex., NMV J44933, 70 km west of Cape Farewell, King Island, Western Bass Strait, 39º38.2'S, 143º07.2'E, 127 m, coll. R.S. Wilson on RV *Tangaroa*, 21 Nov.1981.

***Type locality.* –** Port Jackson, New South Wales, Australia.

***Description.* –** (based on the females, P54138, P15139, P54141, P54202). Head length 2.5 x width; rostrum rounded. Antenna 1 shorter than antenna 2; peduncular article 1 subequal to (1.14 x) article 2; accessory flagellum present, accessory flagellum 1 -articulate; flagellum 25+ articles. Antenna 2 flagellum 39+ articles. Mandible left incisor with

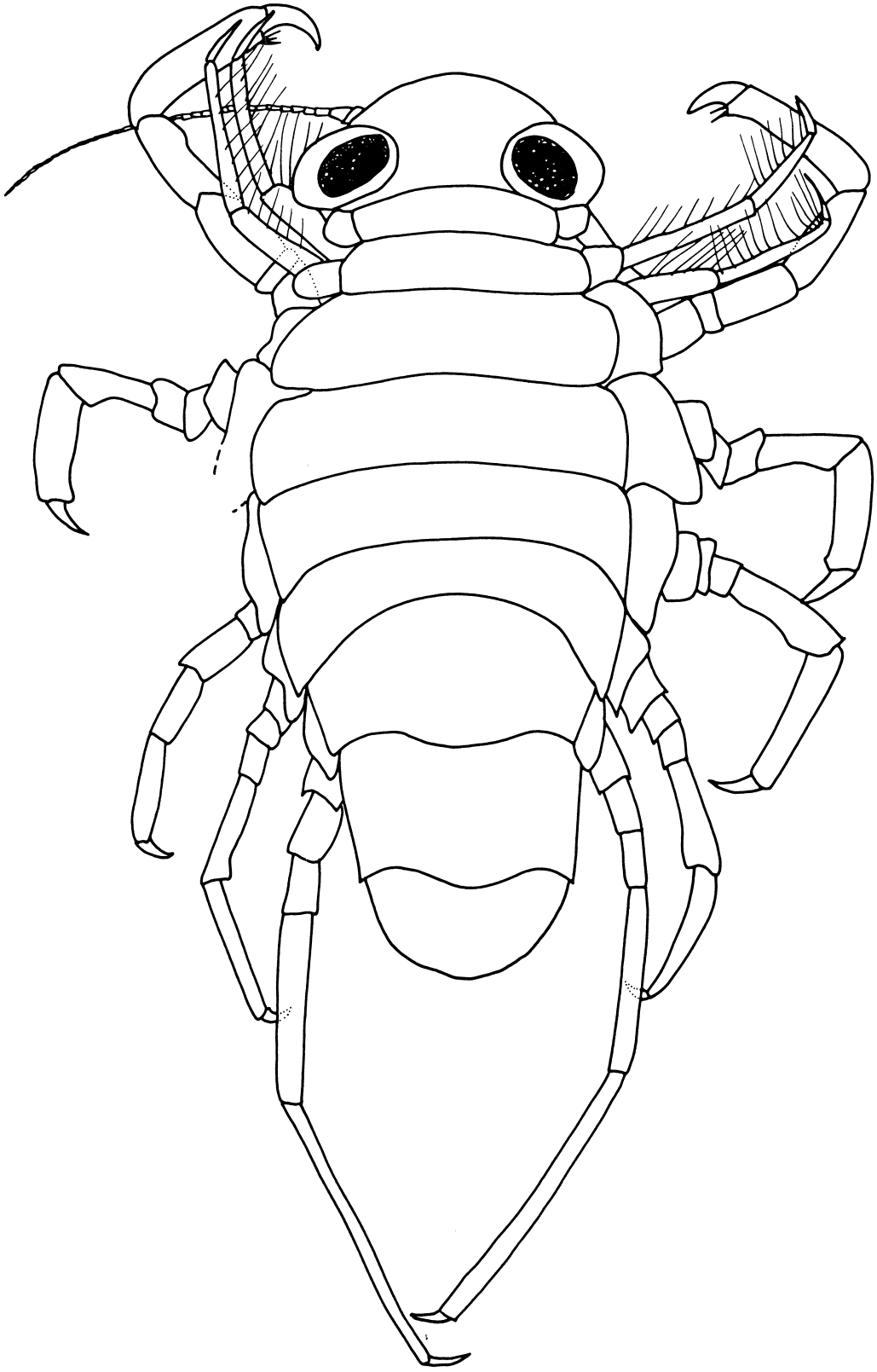

Fig. 16. *Icilius punctatus* Haswell, 1879: female AM P54202, east of Snapper Point, near Kiola, N.S.W., Australia.

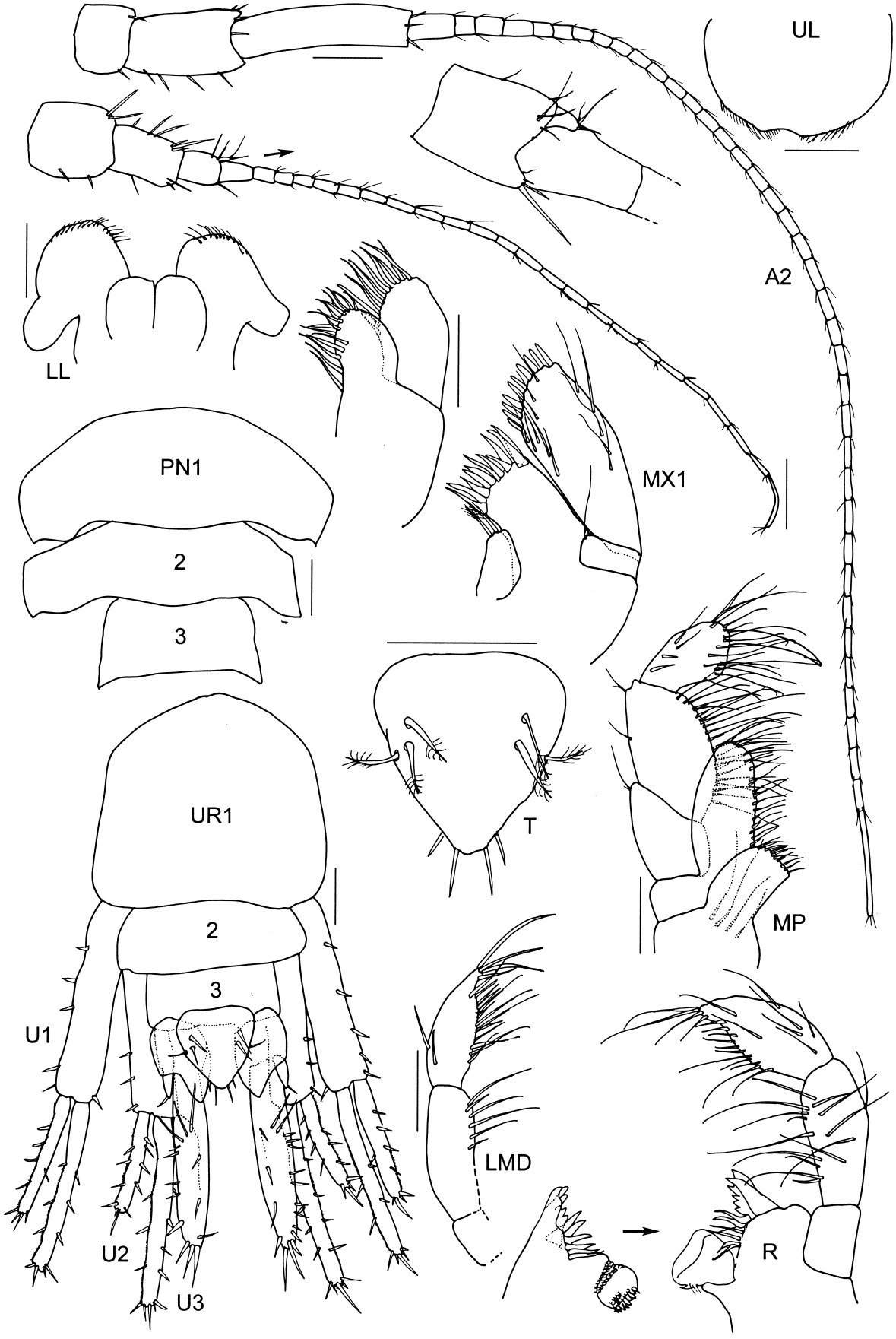

Fig. 17. *Icilius punctatus* Haswell, 1879: female AM P54135; female AM P54136, UR; east of Snapper Point, near Kiola, N.S.W., Australia. Scales for A1-2, UR represent 0.2 mm, remainder represent 0.1 mm.

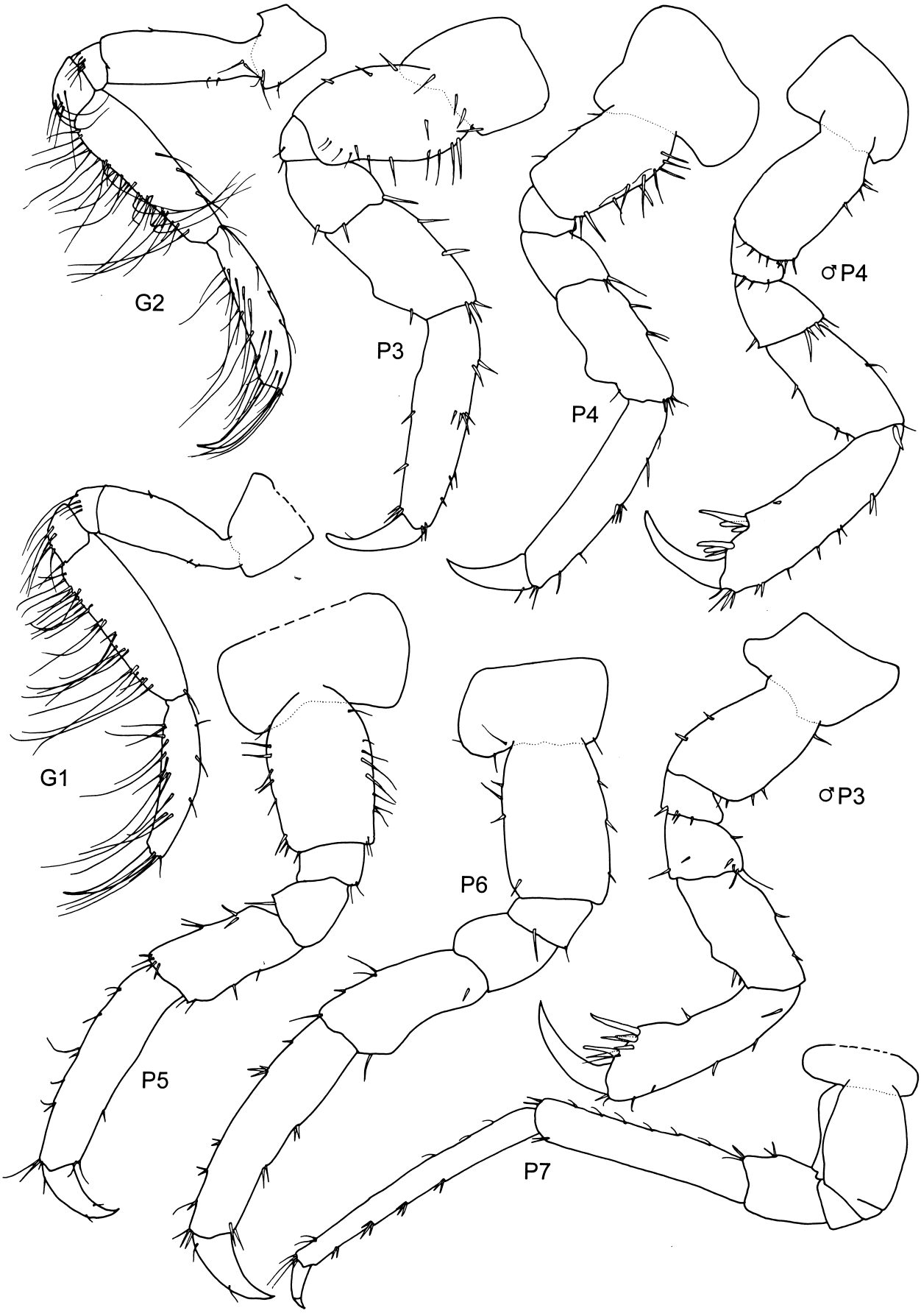

Fig. 18. *Icilius punctatus* Haswell, 1879: female AM P54135, G1-2, P3,5,6; female AM P54140, P4; female AM P54202, P7; male AM P54137, P3-4; east of Snapper Point, near Kiola, N.S.W., Australia. Scales represent 0.2 mm.

6 serrations, right incisor with 6 serrations; accessory setal rows: left with 7 setae, right with 6 setae; palp article 2 broad, length 2.42 x breadth, 2.42 x article 3; article 3 broad, broadly rounded, apically falcate. Upper lip apically notched, setose. Lower lip inner lobes present; outer lobes notched; mandibular lobes rounded apically.

Pereon. Pereonite 7 without setae along posterior margin. Gnathopods 1 and 2 not sexually dimorphic; simple with long, slender setae along posterior margin. Gnathopod 1 basis 0.77 x carpal length; carpus 1.13 x propodal length. Gnathopod 2 basis 0.88 x carpal length; carpus 1.12 x propodal length. Pereopods 3–4 sexually dimorphic; simple; basis without midmedial row of vertical pappose setae, with submarginal row of robust setae, with marginal row of pappose setae. Pereopod 3 carpus length 1.72 x breadth; propodus length 4.11 x breadth, 1.73 x carpal length, with 1 row of posterodistal robust setae. Pereopod 4 carpal length 2.48 x breadth; propodus length 4.61 x breadth, propodus 1.6 x carpal length, with no rows of posterodistal robust setae. Pereopod 5 coxa with rounded posteroventral corner; basis length 11.4 x breadth, basis with weakly setose posterior margin; pereopod 5 carpus with weakly developed anterodistal bump, with weakly setose posterior margin; propodus length 3.89 x breadth, propodus with weakly setose posterior margin. Pereopod 6 coxa with rounded posteroventral corner; basis length 1.44 x breadth, basis with weakly setose posterior margin; carpus with weakly developed anterodistal bump, with weakly setose posterior margin; propodus length 4.59 x breadth, propodus with weakly setose posterior margin. Pereopod 7 coxa with rounded posteroventral corner; basis length 2.19 x breadth, basis with rounded posterodorsal corner, with weakly setose posterior margin, posteroventral corner bicuspidate, cusps subequal in size; carpus with well developed anterodistal bump, with weakly setose posterior margin; propodus length 4.93 x breadth, propodus with weakly setose posterior margin.

Pleon. Pleonite 1 posterodorsal margin smooth, without spines or bulges, pleonite 1 without setae along posterior margin, posterolateral margins without spines. Pleonite 2 smooth, without spines or bulges, without setae along posterior margin, posterolateral margin without spines. Pleonite 3 without setae along posterior margin, posterolateral margin without spines. Urosomite 1 long, more than 2 x length of urosomite 2. Uropod 1 outer ramus 0.68 x inner ramus. Uropod 2 outer ramus 0.52 x inner ramus. Uropod 3 peduncle with well developed distomedial flange; outer ramus 0.16 x inner ramus; inner ramus with proximal setal fan. Telson broader than long, truncated distally, without apical setae.

***Male dimorphic characters.* –** (based on the P54137). Pereopods 3–4 enlarged, larger than pereopods 5–6; pereopods 3–4 weakly prehensile; without submarginal row of robust setae. Pereopod 3 carpus length 2.08 x breadth; propodus length 2.58 x breadth, 1.24 x carpal length, with 2 rows of posterodistal robust setae. Pereopod 4 carpal length 1.85 x breadth; propodus length 3.25 x breadth, propodus 3.25 x carpal length, with 2 rows of posterodistal robust setae.

***Habitat.* –** *Icilius punctatus* lives in association with the gorgonacean *Mopsella* sp. Some specimens have been collected by dredge and are reported from sand and mud substrates.

***Depth range.* –** 1 m to 127 m.

***Remarks.* –** *Icilius punctatus* is the smallest species in the genus, reaching maturity at less than half the size of mature *I. australis* individuals.

This species belongs in the group that also includes *I. crinocolus* and *I. pulchellus*. It appears to be the sister species of *I. crinocolus*. They both have a marginal row of pappose setae on the basis of pereopods 3 and 4, an anterodistal bump on the carpus of pereopods 5 and 6.

***Distribution.* –** *New South Wales*: east of Long Reef (AM); Port Jackson (Haswell, 1879); off North Head, Port Jackson; off Coogee (AM); Weeney Bay, Botany Bay; Bass Point; Snapper Point, near Kiola; Tathra Head (all AM). *Victoria*: off Rodondo Island, off Cape Schanck (all NMV). Tasmania: off Eddystone Point; off King Island, off Cape Connella (all NMV).

Key to the species of *Icilius*

1. Pleonite 1 with posterior margin produced to a point 2
– Pleonite 1 with posterior margin not produced to a point 5
2. Pleonite 3 with posterior margin produced to a point ... *I. ovalis*
– Pleonite 3 with posterior margin not produced to a point 3
3. Pereonite 7 with posterior margin not produced to a point ..... *I. caledoniana*
– Pereonite 7 with posterior margin produced to a point 4
4. Pereopod 7 basis with posteroventral corner bicuspidate, cusps subequal in size ..... *I. crinocolus*
– Pereopod 7 basis with posteroventral corner bicuspidate, outer cusp much longer than inner ..... *I. danae*
5. Pleonite 3 with posterior margin produced to a point ..... *I. pulchellus*
– Pleonite 3 with posterior margin not produced to a point 6
6. Pereonite 7 with setae along posterior margin ..... *I. australis*
– Pereonite 7 without setae along posterior margin ... *I. punctatus*

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