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The squat lobsters of the genus *Sadayoshia* Baba, 1969 (Crustacea: Decapoda: Anomura: Munididae): new records including six new species from the Pacific Ocean

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Abstract

Careful examination of the morphology of recently obtained specimens as well as previously reported specimens of the genus *Sadayoshia*, initiated by unpublished molecular data that suggest the existence of several different species, led us to describe six new species. The species are very similar to one another and distinguished by very slight morphological differences. Some of the characters that were previously considered as intraspecifically variable in some species, proved to be valid for species discrimination. A dichotomous key to all species of the genus is provided.

Key words: Squat lobsters, cryptic species, *Sadayoshia*, new species, Pacific Ocean.

Introduction

The genus *Sadayoshia* Baba, 1969 (Family Munididae Ah Yong et al. 2010) contains eight species distributed in the Pacific and Indian Oceans (Macpherson & Baba 2010). The species are usually found in shallow waters (>100 m), but often range from shallow to deep waters, e.g. *S. latisternata* in 80–238 m, *S. lipkei* in 5–500 m, and *S. tenuirostris* in 1–217 m. The morphological differences among the known species are very slight but the colorations where available are largely different (Macpherson & Baba 2010).

During phylogenetic and phylogeographic studies of the genus (Macpherson, in preparation), molecular analyses of both recently obtained material and previously reported specimens by Macpherson & Baba (2010) support the validity of the color differences and subtle morphological differences that were previously used, but also suggest the existence of additional new species. At present, only a few papers, i. e. Ah Yong et al. (2009), Schnabel et al. (2011), contain a gene sequence of the genus *Sadayoshia* (as *Sadayoshia* sp. = *S. edwardsii*, unpublished data). It is well accepted that molecular data provide a complementary approach to discriminate species separated by subtle morphological characters (Knowlton 2000; Mathews et al. 2008). The squat lobsters of some genera also have benefited from molecular data to discriminate sibling or cryptic species, e. g. *Munida* (Macpherson & Machordom 2001, 2005), *Paramunida* and *Allogalathea* (Cabezas et al. 2010, 2011, 2012), *Agononida* and *Uroptychus* (Poore & Andreakis 2011, 2012), *Eumunida* (Puillandre et al. 2011), among others.

This study was thus initiated by the preliminary results of molecular analyses and led us to find six additional new species, resulting in validating subtle morphological characters that were previously considered individual variations.

The sizes of the specimens examined are indicated by the postorbital carapace length. Pereopod 1 was measured along the dorsal midline, and pereopods 2–4 along the lateral midline. The terminology follows Baba et al. (2011). The abbreviations used include: Mxp3 = third maxilliped, P1 = pereopod 1 (cheliped), P2–4 = pereopods 2–4 (walking legs 1–3); MNHN = Muséum national d'Histoire naturelle, and UF Florida Museum of Natural History, Gainesville.

SYSTEMATIC ACCOUNT

Key to species of the genus *Sadayoshia*

1. Abdominal somite 2 with spines on anterior ridge 2
– Abdominal somite 2 unarmed 5
2. Abdominal somite 2 with 4 spines on anterior ridge *S. balica* (Boone, 1935) 3
– Abdominal somite 2 with 2 spines on anterior ridge 3
3. Rostrum with dorsal longitudinal carina *S. moorei* n. sp. 4
– Rostrum without dorsal longitudinal carina, convex from side 4
4. Posterior branchial region with 10 or 11 transverse ridges (counting along lateral margin; exclusive of mid-transverse ridge directly behind cervical groove and posteriormost ridge anterior to posterior margin of carapace) *S. aludra* n. sp. 3
– Posterior branchial region with 3 or 4 transverse ridges (counting along lateral margin; exclusive of mid-transverse ridge directly behind cervical groove and posteriormost ridge anterior to posterior margin of carapace) ... *S. acroporae* Baba, 1972 3
5. Antennular article 1 with accessory spine on lateral margin, proximal to distolateral spine 6
– Antennular article 1 with lateral margin unarmed 9
6. One (rarely 2) spine mesial to anterolateral spine of carapace. Rostrum with dorsal longitudinal carina
..... *S. edwardsii* (Miers, 1884) 7
– No spine mesial to anterolateral spine of carapace. Rostrum without dorsal longitudinal carina 7
7. Postcervical spine absent *S. miyakei* Baba, 1969 8
– Postcervical spine present 8
8. Flexor margin of Mxp 3 merus with 2 well-developed spines of subequal size, distally bearing small or obsolete spine. P2 merus more than 3.5 times as long as broad *S. acamar* n. sp. 8
– Flexor margin of Mxp 3 merus usually with 3 well-developed spines. P2 merus less than 3.5 times as long as broad.
..... *S. lipkei* Macpherson & Baba, 2010 8
9. Sternite 3 more than 3 times as broad as long; sternite 4 about twice as broad as sternite 3. Abdominal somites 2–4 without transverse ridges other than anterior ridge 10
– Sternite 3 at most twice as broad as long; sternite 4 about 3 times as broad as sternite 3. Abdominal somites 2–4 with 1–3 transverse ridges in addition to anterior ridge. 11
10. Anterior branchial spine absent. Rostral spine 2 times longer than wide (measured at sinus between rostral and anterior lateral spines) *S. actaea* n. sp. 11
– Anterior branchial spine present. Rostral spine 3 times longer than wide (measured at sinus between rostral and anterior lateral spines) *S. latisternata* Macpherson & Baba, 2010 11
11. Postcervical spine absent 12
– Postcervical spine present 13
12. Rostral spine less than 2 times as long as wide (measured at sinus between rostral and anterior lateral spines). Mxp3 merus usually with 2 flexor marginal spines *S. adaro* n. sp. 12
– Rostral spine 2.5–3 times as long as wide (measured at sinus between rostral and anterior lateral spines). Mxp3 usually with 3 or 4 flexor marginal spines *S. inermis* Macpherson & Baba, 2010 12
13. Rostral spine more than 3.5 times as long as wide (measured at sinus between rostral and first lateral spine)
..... *S. tenuirostris* Macpherson & Baba, 2010 13
– Rostral spine less than 2.5 times as long as wide (measured at sinus between rostral and first lateral spine) ... *S. savali* n. sp. 13

Sadayoshia acamar n. sp.

(Figs. 1, 7A)

Sadayoshia lipkei Macpherson & Baba 2010: 436 (in part, specimens from Chesterfield Islands and some from New Caledonia).

Material examined. *Holotype*: Chesterfield Islands. CHALCAL 1984, Stn DC45, 20°48.93'S, 158°30.21'S, 50 m, 23 July 1984: ov. ♀ 5.1 mm (MNHN-IU-2010-5377).

Paratypes: New Caledonia. Grotte Merlet, 20–30 m, 19–21 January 1993: 2 ♂ 4.7–5.0 mm, 1 ♀ 3.1 mm (MNHN-IU-2010-5383).

Chesterfield Islands. CHALCAL 1984, Stn DC45, 20°48.93'S, 158°30.21'S, 50 m, 23 July 1984: 2 ov. ♀ 5.0–5.1 mm (MNHN-IU-2010-5378, MNHN-IU-2010-5379).—Stn DC51, 21°13.21'S, 158°42.50'E, 55 m, 24 July 1984: 8 ♂ 3.5–5.4 mm, 1 ov. ♀ 4.7 mm, 1 ♀ 4.0 mm (MNHN-IU-2010-5380, MNHN-IU-2010-5381).

Etymology. The name *acamar* refers to one of the stars of the southern hemisphere (constellation Eridanus). The name is considered as a substantive in apposition.

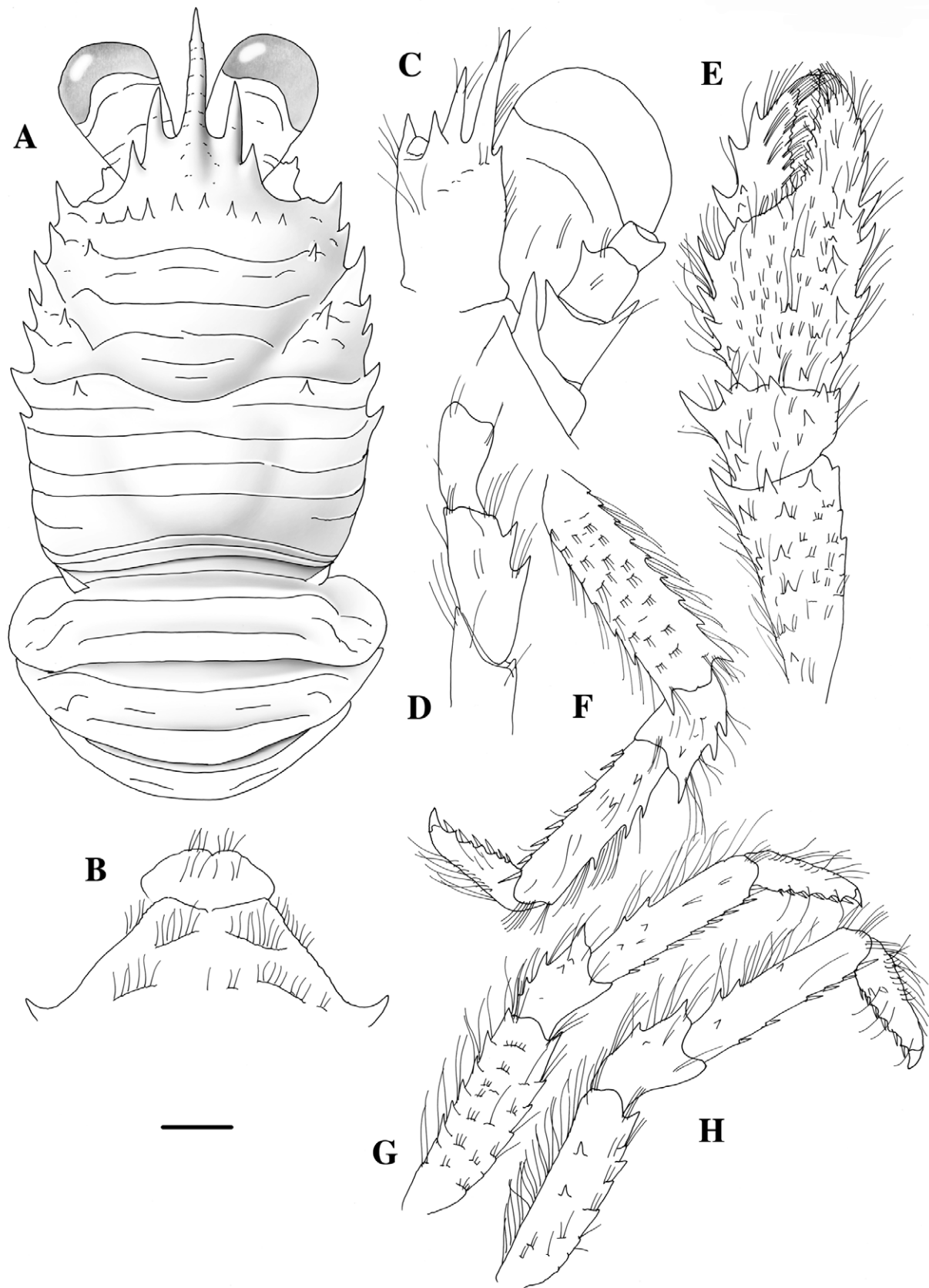


FIGURE 1. *Sadayoshia acamar* n. sp., holotype, ovigerous female, 5.1 mm, Chesterfield Islands, CHALCAL 1984, Stn DC45 (MNHN-IU-2010-5377). A, carapace and abdomen, dorsal view; B, sternal plastron, sternites 3 and 4; C, left cephalic region, showing antennular and antennal peduncles, ventral view; D, right Mxp3, lateral view; E, right P1, dorsal view; F, right P2, lateral view; G, right P3, lateral view; H, right P4, lateral view. Scale: A, E–H = 1 mm; B–D = 0.5 mm.

Description. *Carapace*: Slightly longer than broad; dorsal surface nearly horizontal from anterior to posterior; anterior cervical groove distinct. Dorsal surface with 4 pairs of epigastric spines, 1 parahepatic, 1 anterior branchial and 1 postcervical spine on each side; ridges with numerous short uniramous and some scattered long iridescent setae. Gastric region with 6 transverse ridges: first uninterrupted, second interrupted into 3 or 4 more or less scale-like ridges, third uninterrupted, fourth medially interrupted, fifth and sixth uninterrupted but short. Mid-transverse ridge uninterrupted, preceded by cervical groove. Posterior branchial region laterally with 5 ridges (excluding mid-transverse ridge and posteriormost transverse ridges directly anterior to posterior margin of carapace). Lateral margins slightly or moderately convex, with 7 spines: first anterolateral and well developed; second smaller than first, situated at midlength between anterolateral spine and anterior cervical groove; third to fifth on anterior branchial margin, and sixth and seventh on posterior branchial margin. Rostrum 1.3 times as long as broad, length 0.6 that of carapace, rostral spine about 5.0 times longer than wide (measured at sinus between rostral and anterior lateral spines); dorsal surface convex from side to side, horizontal in profile; lateral margin with 2 spines. Pterygostomial flap rugose with sparse small ridges, ending in acute point.

Sternum: Sternal plastron as long as broad, lateral limits divergent posteriorly. Sternite 3 2.3 times as broad as long, anterior margin strongly convex, with small median notch. Sternite 4 1.9 times as long as and 2.7 times broader than preceding sternite, 3.3 times broader than long; surface with 2 medially interrupted, setiferous transverse ridges. Following sternites with 1 or 2 minute ridges. Lateral parts of sternite 7 without granules.

Abdomen: Somite 2 unarmed; somites 2–4 each with 2 uninterrupted transverse ridges and 1 additional interrupted transverse ridge between; ridges with numerous short setae and some scattered long iridescent setae.

Eyes: Ocular peduncles 1.2 times longer than broad; cornea moderately dilated, maximum corneal diameter about 0.4 times distance between bases of anterolateral spines; eyelashes short, not reaching midlength of cornea.

Antennule: Article 1 with 4 distal spines: mesial and medioventral spines clearly smaller than others, lateral largest; lateral margin with accessory small spine proximal to distolateral spine; ventral surface with a few short scales.

Antenna: Article 1 with distomesial spine reaching distal margin of article 2. Article 2 with distolateral spine terminating in midlength of article 3 and longer than distomesial spine. Article 3 with distomesial spine usually small, sometimes absent. Article 4 unarmed.

Mxp3: Ischium with small distal spine on flexor margin, extensor margin bluntly produced distally; crista dentata with 26–30 denticles. Merus subequal in length to ischium; flexor margin with 2 well-developed spines of subequal size, terminally unarmed or with small spine (in a few specimens); extensor margin unarmed. Carpus unarmed.

P1: 1.9 times carapace length, relatively stout, with sparse long uniramous iridescent setae along lateral and mesial margins of merus, palm and fingers; dorsal and ventral surfaces of palm and fingers with scattered short setae. Merus 0.7 times length of carapace, 2.5 times length of carpus, with strong distal spines on dorsal and mesial margins, and a few small spines on dorsal surface. Carpus 0.6 times as long as palm, and 0.7 times as long as broad; dorsal surface with a few small spines; mesial margin with 2–3 well-developed spines. Palm 1.1 times longer than broad; with dorsolateral and mesial rows of spines continued on to fingers; dorsal surface with scattered small spines. Fingers as long as palm, distally spooned; 1 or 2 small spines on dorsal proximal part of movable finger.

P2–4: Somewhat compressed mesiolaterally, sparsely with long uniramous and iridescent setae, and short plumose setae. Meri successively shorter posteriorly; P2 merus 0.8 times carapace length, more than 3.5 times as long as broad, 1.6 times longer than P2 propodus; P3 merus more than 3.5 times as long as broad, 1.4 times length of P3 propodus; P4 merus 3.5 times as long as broad, 1.2 times length of P4 propodus; dorsal margins with row of proximally diminishing spines on P2 and P3, unarmed on P4; ventrolateral margins with strong terminal spine followed by proximally diminishing prominences; dorsolateral surfaces unarmed on P2–4, with 2 spines on P4. Carpi extensor margins with 3–4 spines on P2 and P3, 2 spines on P4, distalmost largest; flexor margins with distal spine; 0–2 small spines on lateral surface. Propodi 3.5–4.0 times as long as broad; extensor margins with 2 or 3 proximal spines, lateral surface with 1 or 2 proximal spines; flexor margins with 7–10 slender movable spines. Dactyli subequal in length, 0.6–0.8 times length of propodi, ending in incurved, strong, sharp spine; flexor margins with 6 seta-like movable spines, each arising from very low tooth.

Remarks. *Sadayoshia acamar* belongs to a group of species having the antennular article 1 with a lateral marginal spine (= accessory spine) proximal to the distolateral spine and no spine mesial to the anterolateral spine of the carapace. The group contains three species: *S. miyakei* Baba, 1969, *S. lipkei* Mapherson & Baba, 2010 and

the present new species. *Sadayoshia miyakei* can be easily distinguished from the other two species by lacking instead of possessing the postcervical spine on each side of the carapace.

Sadayoshia acamar and *S. lipkei* can be distinguished by the number of spines along the flexor margin of Mxp3 merus: 3 three spines in *S. lipkei* and 2 two in *S. acamar*. However, the median spine can be very small in some specimens of *S. lipkei*, and a third small distal spine can be observed in a few specimens of *S. acamar*. Furthermore, P2–4 are slightly more slender in *S. acamar* than in *S. lipkei*. For instance, the P2–3 meri are 3.2–3.3 times as long as broad in *S. lipkei*, instead of being more than 3.5 times longer as in the new species.

Distribution. New Caledonia, and Chesterfield Islands, at 20–55 m.

***Sadayoshia actaea* n. sp.**

(Figs. 2, 7B)

Sadayoshia latisternata Macpherson & Baba 2010: 433 (in part, only specimens from New Caledonia).

Material examined. *Holotype*: New Caledonia, Lifou Island. LIFOU, Stn 1467, 20°46.6'S, 167°05.7'E, 90 m, 20 November 2000: ♀ 3.2 mm (MNHN-IU-2010-5372).

Paratypes: New Caledonia, Lifou Island. LIFOU, Stn DW14 Stn 1467, 20°46.6'S, 167°05.7'E, 90 m, 20 November 2000: 1 ♀ 3.5 mm (MNHN-IU-2010-5373).

Etymology. The name *actaea* refers to one of the Nereids in the Greek mythology. The name is considered as a substantive in apposition.

Description. *Carapace*: As long as broad; dorsal surface nearly horizontal from anterior to posterior; cervical groove distinct. Four pairs of epigastric spines and 1 parahepatic spine on each side; 4 uninterrupted ridges on gastric region behind epigastric spines; mid-transverse ridge of carapace uninterrupted, preceded by cervical groove. Posterior branchial region laterally with 4 ridges (exclusive of mid-transverse ridge and posteriormost transverse ridges directly anterior to posterior margin of carapace). Dorsal surface with short uniramous and a scattered long setae arising from transverse ridges. Lateral margins medially convex, with 7 spines. Rostrum moderately broad, 1.1 times as long as broad, length 0.4 times that of carapace; dorsal surface nearly horizontal in lateral view, slightly convex from side to side, without setiferous striae; rostral spine 2.1 times longer than wide (measured at sinus between rostral and anterior lateral spines). Pterygostomial flap rugose with sparse setae, anterior margin ending in blunt point.

Sternum: Sternal plastron as long as broad, lateral limits divergent posteriorly. Sternite 3 3.2 times as broad as long, anterior margin moderately produced, with small V-shaped median notch. Sternite 4 2.4 times longer and twice as broad as preceding sternite, 3.9 times broader than long; surface with 1 anterior stria flanking midline. Following sternites smooth. Lateral parts of sternite 7 smooth.

Abdomen: Somite 2 unarmed; somites 2–4 without transverse ridges other than anterior one bearing both short and scattered long uniramous setae.

Eyes: Peduncle as long as broad; cornea slightly dilated; maximum corneal diameter about 0.4 times distance between bases of anterolateral spines; eyelashes short, not reaching midlength of cornea.

Antennule: Article 1 with 4 distal spines: mesial and medioventral subequal and clearly smaller than others; lateral margin unarmed; ventral surface with a few short scales.

Antenna: Article 1 with distomesial spine nearly reaching distal margin of article 2. Article 2 with distolateral spine larger than distomesial, reaching midlength of article 3. Articles 3 and 4 unarmed.

Mxp3: Ischium with small distal spine on flexor margin; extensor margin unarmed; crista dentata with 29 denticles. Merus subequal in length to ischium, flexor margin with 2 subequal small spines: distal terminal, proximal at midlength; extensor margin unarmed. Carpus unarmed.

P1: 1.2 times carapace length, stout, with long uniramous iridescent setae along lateral and mesial margins of merus, palm and fingers; dorsal and ventral surfaces of palm and fingers with scattered short setae. Merus about 0.4 times length of carapace, 2.5 times as long as carpus, with dorsal and lateral spines, and 1 strong distomesial spine. Carpus 0.5 times length of palm, 0.5 times as long as broad; with small spines on dorsal surface, 2 well-developed spines on mesial margin and a few spines along distal margin. Palm 0.8 times as long as broad; mesial and lateral margins with strong spines continued on to fingers, dorsal surface with sparse spines. Fingers distally spooned; movable finger as long as palm, dorsal surface with 2 proximal spines.

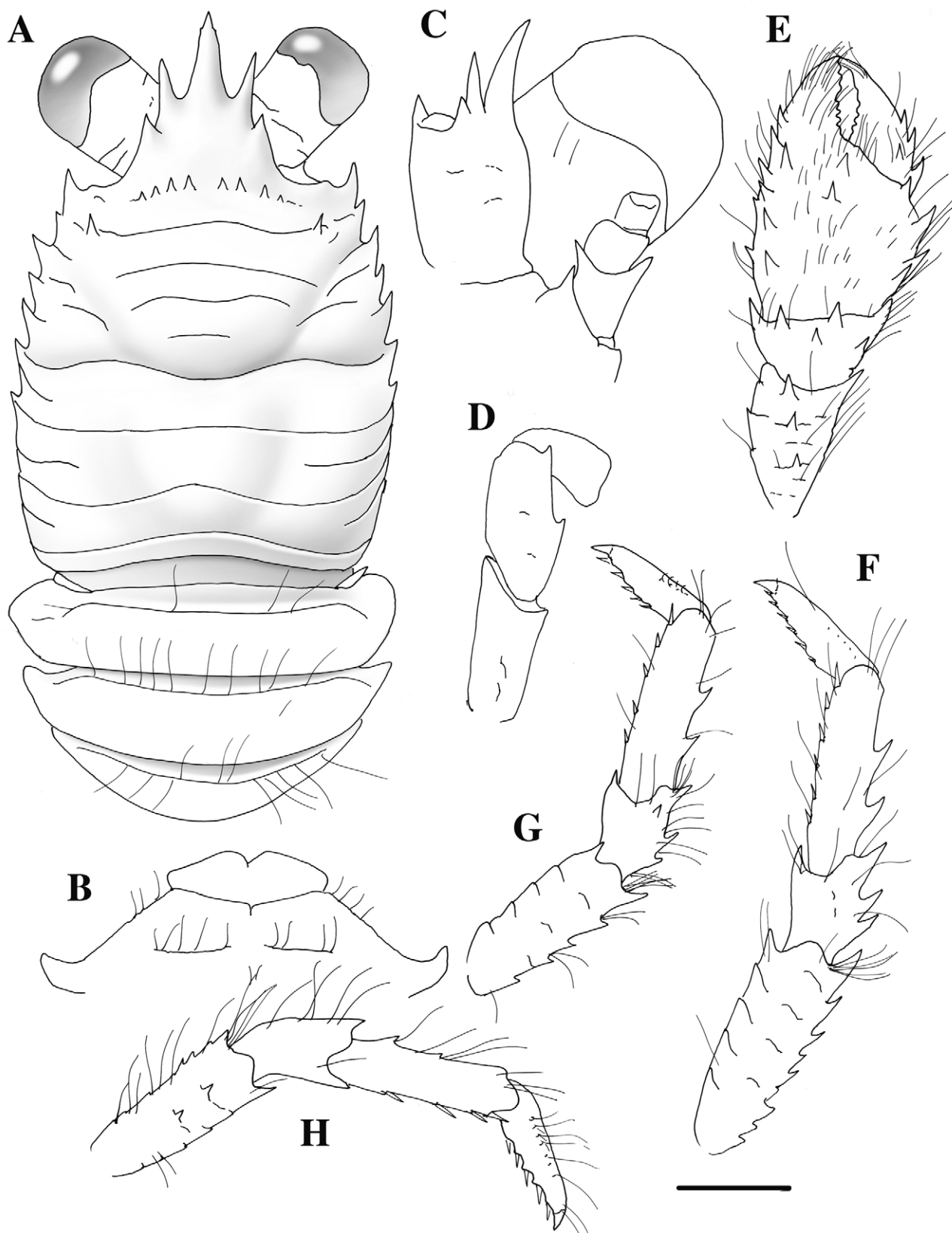


FIGURE 2. *Sadayoshia actaea* n. sp., holotype, female, 3.2 mm, Lifou Island. LIFOU, Stn 1467 (MNHN-IU-2010-5372). A, carapace and abdomen, dorsal view; B, sternal plastron, sternites 3 and 4; C, left cephalic region, showing antennular and antennal peduncles, ventral view; D, right Mxp3, lateral view; E, left P1, dorsal view; F, left P2, lateral view; G, left P3, lateral view; H, right P4, lateral view. Scale: A, E–H = 1 mm; B–D = 0.5 mm.

P2–4: Somewhat compressed mesio-laterally, sparsely with long uniramous iridescent setae and some short plumose setae. Meri successively shorter posteriorly; P2 merus 0.6 times carapace length, 3.0 times as long as broad, 1.4 times longer than P2 propodus; P3 merus 2.9 times as long as broad, 1.2 times length of P3 propodus; P4 merus 3.1 times as long as broad, 1.1 times length of P4 propodus; dorsal margins of meri with row of proximally diminishing spines on P2 and P3, minute spines on P4; dorsolateral surface unarmed on P2 and P3, with 2 spines on P4; ventrolateral margins with well-developed terminal spine. Carpi with 3 spines on extensor margin of P2 and P3, unarmed on P4, distalmost largest; lateral surface unarmed or with 1 spine; flexor margins with distal spine. Propodi subequal in length on P2 and P3, slightly shorter on P4, each about 3 times as long as broad; extensor margin with 1 or 2 proximal spines, lateral side unarmed; flexor margin with 5–7 slender movable spines on P2–4. Dactyli subequal in length, 0.7–0.8 times length of propodi, ending in incurved, strong, sharp spine; flexor margin with 5 or 6 obsolescent teeth, each with seta-like movable spine.

Remarks. The new species strongly resembles *S. latisternata* Macpherson & Baba 2010 in the relatively smooth abdominal somites 2–4 bearing only an anterior ridge and the shape of sternite 3 short relative to breadth. *Sadayoshia actaea* can be distinguished from *S. latisternata* by lacking instead of possessing the anterior branchial spine on the carapace. Furthermore, the rostral spine is about 2.0 times longer than wide (measured at sinus between rostral and anterior lateral spines) in *S. actaea*, whereas it is about 3 times longer in *S. latisternata*.

Distribution. New Caledonia, Lifou Island, at 90 m.

Sadayoshia adaro n. sp.

(Figs. 3, 7C)

Sadayoshia inermis Macpherson & Baba 2010: 428 (in part, specimens from the Solomon Islands).

Sadayoshia tenuirostris Macpherson & Baba 2010: 444 (in part, only one specimen from the Solomon Islands).

Material examined. Holotype: Solomon Islands. SALOMON 1, Stn DW1822, 9°51.8'S, 160°51.8'E, 51–54 m, 03 October 2001: 1 ♀ 3.6 mm (MNHN-IU-2010-5374).

Paratype: Solomon Islands. SALOMON 1, Stn DW1744, 10°32.0'S, 159°38.9'E, 49–55 m, 23 September 2001: 1 ov. ♀ 3.9 mm (MNHN-IU-2010-5376).—Stn DW1822, 9°51.8'S, 160°51.8'E, 51–54 m, 03 October 2001: 1 ov. ♀ broken (MNHN-IU-2010-5375).

Etymology. The name *adaro* refers to a sea-spirit in the Solomon Islands myths. The name is considered as a substantive in apposition.

Description. *Carapace:* As long as broad; dorsal surface nearly horizontal from anterior to posterior; cervical groove distinct. Dorsal surface with 4 pairs of epigastric spines, 1 parahepatic and 1 or 2 anterior branchial spines on each side; ridges with numerous short uniramous setae. Gastric region with 5 transverse ridges behind epigastric spines, first and third to fifth uninterrupted, second interrupted (scale-like median ridge flanked by longer ridge on each side). Mid-transverse ridge of carapace uninterrupted, preceded by cervical groove. Posterior branchial region laterally with 6 ridges (exclusive of mid-transverse ridge and posteriormost transverse ridges directly anterior to posterior margin of carapace). Lateral margins slightly or moderately convex, with 7 spines. Rostrum 1.8 times as long as broad, length 0.4 that of carapace, lateral margin with 2 spines; rostral spine 1.2 times longer than wide (measured at sinus between rostral and anterior lateral spines), dorsal surface flat, with short setiferous striae, nearly horizontal in lateral view, one minute distal tooth on each side. Pterygostomial flap rugose with sparse short ridges, ending in blunt point.

Sternum: Sternite 3 1.6 times as broad as long, anterior margin strongly convex, with small median notch. Sternite 4 1.6 times as long as and 2.7 times broader than preceding sternite, 2.7 times broader than long; surface with 2 transverse ridges, anterior medially interrupted. Sternites 4–6 with 0–2 short ridges. Lateral parts of sternite 7 without granules.

Abdomen: Somite 2 unarmed; somites 2–4 each with 4 transverse ridges, anterior first and third uninterrupted, second and fourth interrupted; ridges with numerous short setae and sparse long iridescent setae.

Eyes: Peduncles 1.4 times longer than broad; cornea moderately dilated, maximum corneal diameter about 0.4 times distance between bases of anterolateral spines; eyelashes short, not reaching midlength of cornea.

Antennule: Article 1 with 4 distal spines: mesial and medioventral smaller than others, lateral largest; lateral margin unarmed; ventral surface smooth.

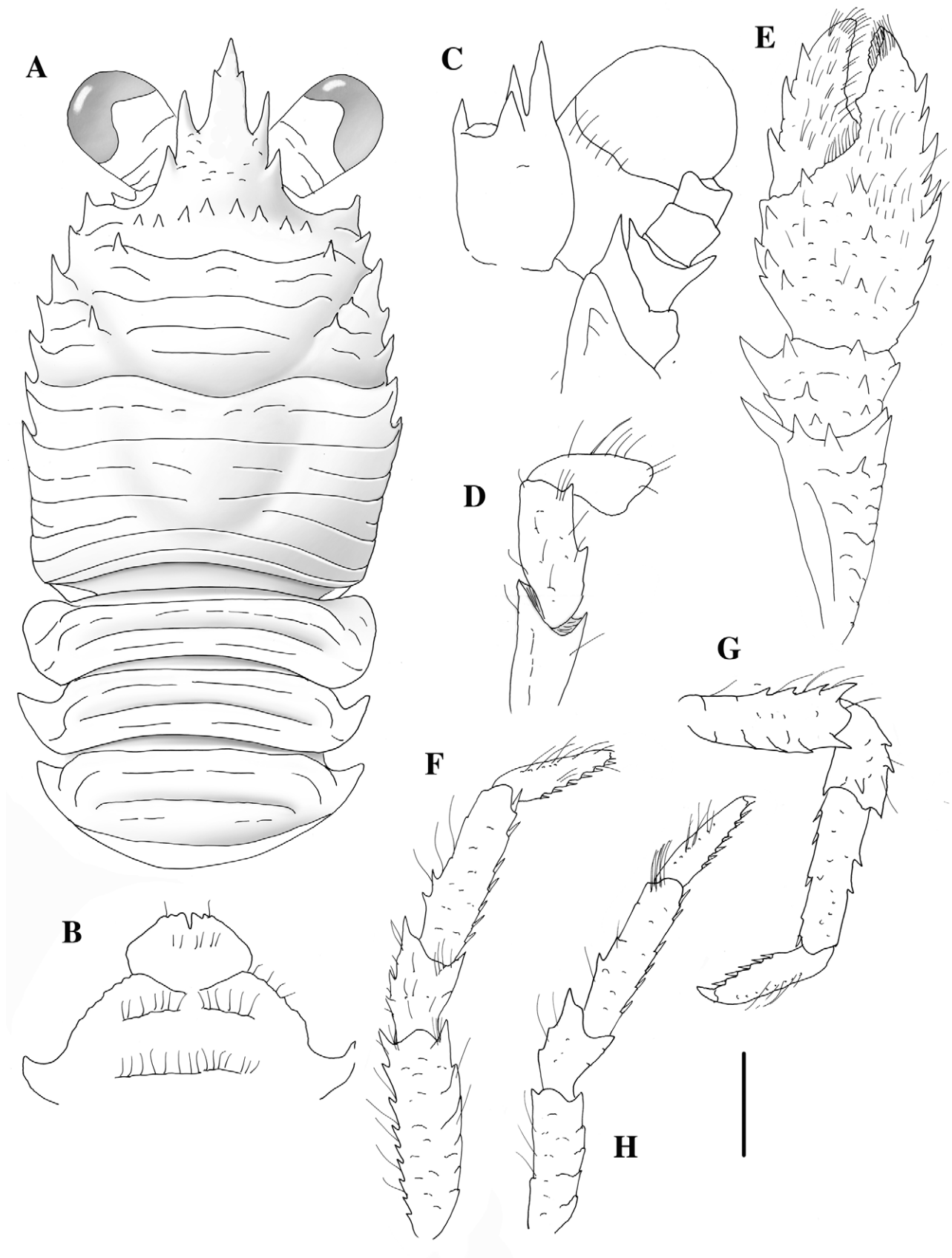


FIGURE 3. *Sadayoshia adaro* n. sp., holotype, female, 3.6 mm, Solomon Islands. SALOMON 1, Stn DW1822 (MNHN-IU-2010-5374). A, carapace and abdomen, dorsal view; B, sternal plastron, sternites 3 and 4; C, left cephalic region, showing antennular and antennal peduncles, ventral view; D, right Mxp3, lateral view; E, right P1, dorsal view; F, right P2, lateral view; G, right P3, lateral view; H, right P4, lateral view. Scale: A, E–H = 1 mm; B–D = 0.5 mm.

Antenna: Article 1 with distomesial spine slightly exceeding distal margin of article 2. Article 2 with distolateral spine longer than distomesial, terminating in midlength of article 3. Articles 3 and 4 unarmed.

Mxp3: Ischium with very small distal spine on flexor margin; extensor margin bluntly produced distally; crista dentata with 23–26 denticles. Merus as long as ischium, flexor margin with 2 subequal spines, distal one terminal, proximal one at midlength; extensor margin unarmed. Carpus unarmed.

P1: 1.8 times carapace length, relatively stout, with long uniramous iridescent setae along lateral and mesial margins of merus, palm and fingers; dorsal and ventral surfaces of palm and fingers with short setae. Merus 0.6 times as long as carapace, 2.2 times as long as carpus, with strong distal spines on dorsal and mesial margins, and a few additional small spines on dorsal surface. Carpus 0.7 times length of palm, and 0.9 times as long as broad; dorsal surface with spines; mesial surface with well-developed spines. Palm 0.9 times longer than broad; with dorsolateral and mesial rows of spines continued on to entire margins of fixed and movable fingers, respectively; dorsal surface with a few spines. Fingers 1.3 times as long as palm, distally spooned.

P2–4: Somewhat compressed mesio-laterally, sparsely with long uniramous iridescent setae, and short setae. Meri successively shorter posteriorly; P2 merus 0.6 times carapace length, 3.1 times as long as broad, 1.2 times longer than P2 propodus; P3 merus 2.7 times as long as broad, 1.2 times length of P3 propodus; P4 merus 3.0 times as long as broad, 1.1 times length of P4 propodus; dorsal margins with row of proximally diminishing spines on P2 and P3, nearly unarmed on P4; ventrolateral margins with strong terminal spine. Carpi with 3 extensor marginal spines distinct on P2 and P3, obsolescent on P4, distalmost larger; flexor margins with distal spine; lateral surface with 0 or 1 small spine. Propodi 3.2–3.6 times as long as broad; extensor margins with 2 proximal spines, lateral side unarmed; flexor margin with 6–8 slender movable spines. Dactyli subequal in length, 0.8–0.9 times length of propodi, ending in incurved, strong, sharp spine; flexor margin with 5 or 6 seta-like movable spines, each arising from obsolescent tooth.

Remarks. The new species is closely related to *S. inermis* Macpherson & Baba, 2010, sharing the thick rostrum and the absence of postcervical spines on the carapace. However, these species can be differentiated by the shape of the rostral spine. This spine is very short and thick, being less than 2 two times longer than wide (measured at the sinus between the rostral and anterior lateral spines) in *S. adaro*, whereas it is 2.5–3.0 times longer in *S. inermis*. Furthermore, the flexor margin of the *Mxp 3* usually has 2 spines in *S. adaro* and usually 3–4 spines in *S. inermis*.

Distribution. Solomon Islands, at 51–54 m.

Sadayoshia aludra n. sp.

(Figs. 4, 7D)

Sadayoshia acroporae Macpherson & Baba 2010: 418 (in part, specimens from the Chesterfield Islands).

Material examined. *Holotype*: New Caledonia. Chesterfield Islands. CORAIL 2, Stn DW106, 19°09'S, 158°43'E, 62 m, 27 July 1988: ov. ♀ 8.1 mm (MNHN-IU-2010-5351).

Paratypes: New Caledonia. Chesterfield Islands. CORAIL 2, Stn DW106, 19°09'S, 158°43'E, 62 m, 27 July 1988: 2 ov. ♀ 8.0–9.1 mm (MNHN-IU-2010-5352, MNHN-IU-2010-5353).—Stn DW118, 19°25'S, 158°28'E, 52 m, 28 July 1988: 1 ov. ♀ 6.8 mm (MNHN-IU-2010-5354).—Stn DW165, 19°41'S, 158°22'E, 45 m, 2 August 1988: 1 ov. ♀ 6.9 mm (MNHN-IU-2010-5355).

Etymology. The name *aludra* refers to one of the stars of the southern hemisphere (constellation Canis Major). The name is considered as a substantive in apposition.

Description. *Carapace*: As long as broad; dorsal surface nearly horizontal from anterior to posterior; cervical groove distinct. Dorsal surface with 4 pairs of epigastric spines, 1 parahepatic, 1 anterior branchial, and 1 postcervical spine on each side; ridges with numerous short setae and scattered long iridescent setae. Gastric region with numerous transverse ridges behind epigastric spines, 8 or 9 uninterrupted ridges and 3 or 4 scale-like or interrupted ridges. Mid-transverse ridge of carapace interrupted, preceded by cervical groove; lateral part of posterior branchial region with 10 ridges (exclusive of mid-transverse ridge and posteriormost transverse ridges directly anterior to posterior margin of carapace). Lateral margins slightly convex, with 7 spines. Rostrum 1.3 times as long as broad, length 0.6 times that of carapace; rostral spine 4.5 times longer than wide (measured at sinus

between rostral and anterior lateral spines), dorsal surface horizontal in lateral view, convex from side to side, with numerous short setiferous striae. Pterygostomial flap rugose with sparse setae, anterior margin ending in acute spine.

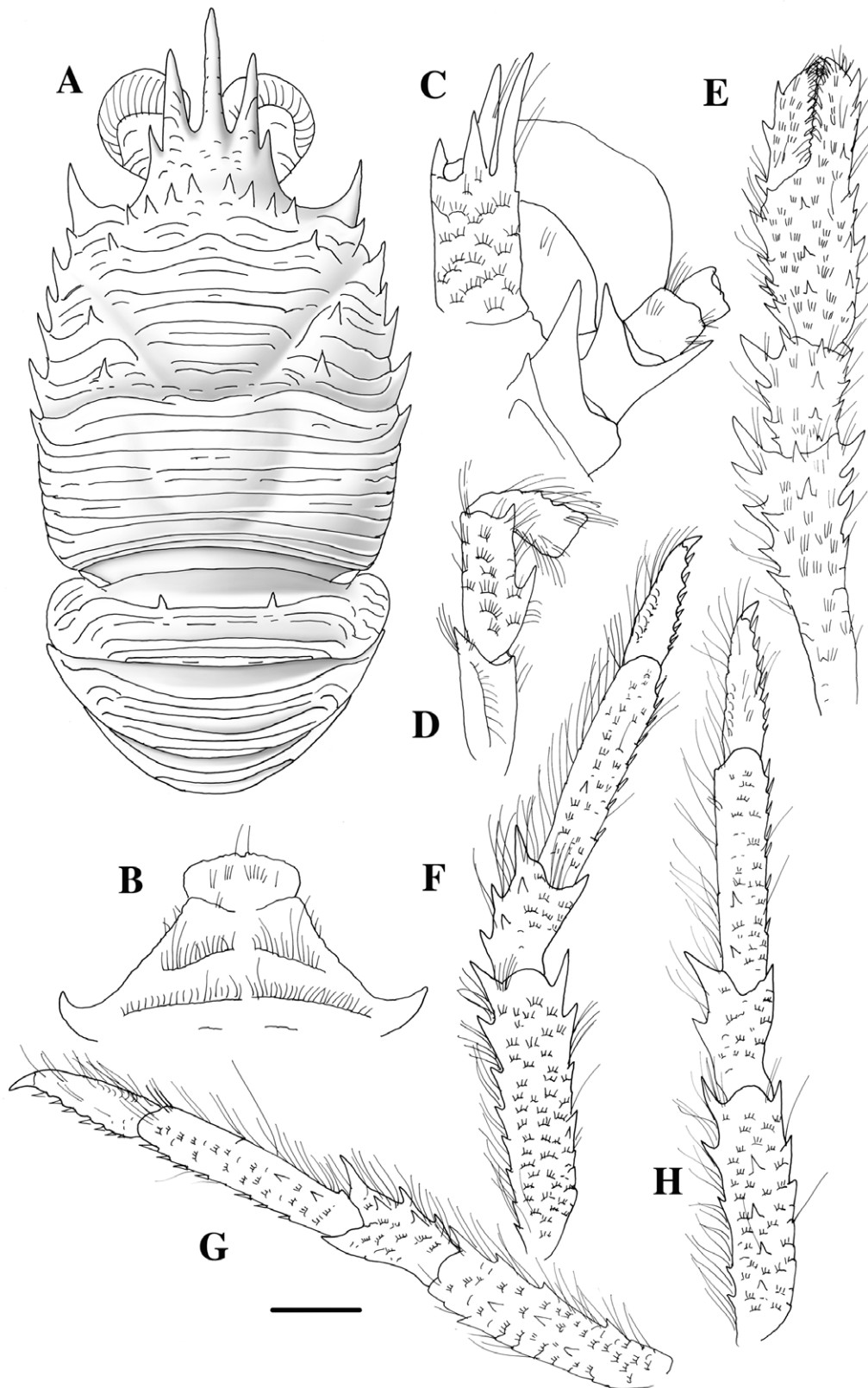


FIGURE 4. *Sadayoshia aludra* n. sp., holotype, ovigerous female, 8.1 mm, Chesterfield Islands. CORAIL 2, Stn DW106 (MNHN-IU-2010-5351). A, carapace and abdomen, dorsal view; B, sternal plastron, sternites 3 and 4; C, left cephalic region, showing antennular and antennal peduncles, ventral view; D, right Mxp3, lateral view; E, right P1, dorsal view; F, right P2, lateral view; G, left P3, lateral view; H, right P4, lateral view. Scale: A, E–H = 2 mm; B–D = 1 mm.

Sternum: As long as broad, lateral limits divergent posteriorly. Sternite 3 1.9 times broader than long, anterior margin slightly convex, with small but distinct median notch. Sternite 4 2.2 times longer and 3.1 times broader than preceding sternite, 0.4 times as long as broad. Surface of sternites 3-7 with some short ridges. Lateral parts of sternite 7 with some granules.

Abdomen: Somite 2 with 2 submedian spines on anterior transverse ridge; somites 2-3 with 5 uninterrupted or interrupted ridges in addition to uninterrupted anterior ridge.

Eyes: Ocular peduncles short; cornea dilated, maximum corneal diameter about 0.4 times distance between bases of anterolateral spines; eyelashes long, exceeding midlength of cornea.

Antennule: Article 1 with 4 distal spines: mesial smaller than medioventral, and clearly smaller than mediodorsal and lateral; lateral margin unarmed; ventral surface with numerous scale-like, setiferous ridges.

Antenna: Article 1 with distomesial spine slightly exceeding distal margin of article 2. Article 2 with distolateral spine longer than distomesial spine and nearly reaching end of article 3. Articles 3 and 4 unarmed.

Mxp 3: Ischium with small distal spine on flexor margin; extensor margin distally produced to distinct spine; crista dentata with 28-30 denticles. Merus subequal in length to ischium, with 2 or 3 spines on flexor margin, distal terminal, median occasionally obsolete, proximal slightly larger than distal; extensor margin unarmed. Carpus unarmed.

P1: About twice carapace length, with numerous long uniramous iridescent setae along lateral and mesial margins of merus, palm and fingers; dorsal and ventral surfaces with numerous scales bearing short setae. Merus 0.8 times length of carapace, 2.3 times as long as carpus, with strong distal spines on lateral and mesial margins, and a few additional spines on dorsal surface. Carpus 1.6 times longer than broad, with spines on dorsal and lateral surfaces and well-developed spines on mesial margin, distal second prominent. Palm 1.6 times longer than broad; with dorsolateral and mesial rows of spines continued on entire margins of fixed and movable fingers, respectively; dorsal surface with row of spines. Fingers as long as palm, distally spooned.

P2-4: Relatively slender, somewhat compressed mesio-laterally, sparsely with long uniramous iridescent setae, and numerous short plumose setae. Meri successively shorter posteriorly; P2 merus 0.8 length of carapace, 3.9 times as long as broad, 1.3 times longer than P2 propodus; P3 merus 3.7 times as long as broad, 1.2 times length of P3 propodus; P4 merus 3.8 times as long as broad, 1.2 times length of P4 propodus; dorsal margins with row of proximally diminishing spines on P2-4; ventrolateral margins with a few spines, terminal spine strong; 3 or 4 spines on lateral sides of P3 and P4. Carpi with 2 or 3 spines on extensor margin, distalmost largest; flexor margins with distal spine; lateral side with 0-2 small spines. Propodi successively shorter posteriorly, each 3.9-4.5 times as long as broad; extensor margin unarmed; 1 or 2 spines on each lateral side; flexor margin with 8 or 9 slender movable spines. Dactyli subequal in length, 0.6-0.7 times length of propodi, ending in incurved, strong, sharp spine; flexor margin with 6 or 7 seta-like movable spines, each arising from low tooth.

Remarks. The new species resembles *S. acroporae* Baba 1972 in having a pair of spines on the abdominal somite 2 and the dorsal surface of the rostral spine not carinate but convex from side to side. However, they can be easily distinguished by the number of ridges on the carapace and abdominal somites. *Sadayoshia acroporae* has 4 or 5 ridges (excluding posterior transverse ridge) on the posterior branchial margin behind the mid-transverse ridge, instead of 10 ridges as in the new species. The number of transverse ridges on the abdominal somites 2-3 is 4 in *S. acroporae* but 6 in the new species. The antennal article 2 has the distolateral spine distinctly longer than the distomesial spine, nearly reaching the distal end of article 3 in *S. aludra*, whereas the distolateral spine is subequal to or slightly smaller than the distomesial spine, terminating in the midlength of article 3 in *S. acroporae*.

Distribution. Chesterfield Islands, at 45-62 m.

***Sadayoshia miyakei* Baba, 1969**

Sadayoshia miyakei Baba 1969: 19, figs 5, 6.

Sadayoshia miyakei Macpherson & Baba 2010: 442, fig. 10.

Sadayoshia lipkei Macpherson & Baba 2010: 436 (in part; specimens from the Solomon Islands and part of specimens from Lifou Island).

Not *Sadayoshia miyakei*.—Poupin 1996: 20 (= *S. lipkei* Macpherson & Baba 2010).

Dubious identification:

Sadayoshia miyakei.—Baba 1988: 185 (Sibuyan Sea, off N Luzon, between Burias and Luzon, 37–410 m).—Kamezaki et al. 1988: 100, with fig. (Ryukyu Islands, reefs).

Material examined. Solomon Islands. SALOMON 1, Stn DW1744, 10°32.0'S, 159°38.9'E, 49–55 m, 23 September 2001: 1 ♂ 4.2 mm, 3 ov. ♀ 3.6–4.7 mm (MNHN-IU-2010-5400, MNHN-IU-2010-5401, MNHN-IU-2010-5402, MNHN-IU-2010-5403).

New Caledonia. Lifou Island. LIFOU, Stn 1434, 20°52.5'S, 167°08.1'E, 5–20 m, 06 November 2000: 1 ov. ♀ 3.2 mm (MNHN-IU-2010-5389).—Stn 1436, 20°55.5'S, 167°04.2'E, 10–20 m, 10 November 2000: 1 ov. ♀ 2.9 mm (MNHN-IU-2010-5390).—Stn 1446, 20°50.8'S, 167°09.7'E, 36–40 m, 16 November 2000: 3 M 3.0–4.3 mm, 1 ov. ♀ 4.0 mm (MNHN-IU-2010-5391, MNHN-IU-2010-5392, MNHN-IU-2010-5393, MNHN-IU-2010-5394, MNHN-IU-2010-5395).—Stn 1447, 20°45.8'S, 167°01.65'E, 17–31 m, 22 November 2000: 1 ov. ♀ 4.3 mm (MNHN-IU-2010-5396).—Stn 1453, 20°54.6' S, 167°02.1' E, 21–30 m, 22 November 2000: 1 ♂ 3.6 mm, 1 ov. ♀ 3.4 mm, 1 F 3.4 mm (MNHN-IU-2010-5399).—Stn 1464, 20°54'S, 167°05.9'E, 35–50 m, 14 November 2000: 4 ♂ 2.8–4.1 mm (MNHN-IU-2010-5397, MNHN-IU-2010-5398).

Remarks. The specimens agree with the type specimen, confirming that the absence of the postcervical spine on each side of the carapace, previously considered as intraspecifically variable in most species (Macpherson & Baba 2010), is a valid character.

Distribution. Japan from Tanegashima (southern Kyushu) (type locality) and the Ryukyu Islands, at 20–40 m, and now Solomon Islands and New Caledonia (Lifou Island), at 5–55 m.

***Sadayoshia moorei* n. sp.**

(Figs. 5, 7E, 8B)

Material examined. *Holotype*: French Polynesia, Society Islands, 17°30.87'S, 149°45.70'W, 20 m, 23 October 2008: ov. ♀ 4.1 mm (UF16050).

Etymology. This species is dedicated to the Moore family for their enormous dedication and generous support to marine conservation worldwide.

Description. *Carapace*: As long as broad; dorsal surface nearly horizontal from anterior to posterior; cervical groove distinct. Dorsal surface with 3 pairs of epigastric spines, 1 parahepatic, 1 anterior branchial and 1 postcervical spine on each side; ridges with numerous short setae and scattered long iridescent setae. Gastric region with 8 transverse ridges behind epigastric spines: first, third and fifth interrupted and scale-like, others uninterrupted. Mid-transverse ridge of carapace interrupted, preceded by cervical groove; lateral part of posterior branchial region with 7 ridges (exclusive of mid-transverse ridge and posteriormost transverse ridges directly anterior to posterior margin of carapace). Lateral margins slightly convex, with 7 spines. Rostrum horizontal in lateral view, 1.4 times as long as broad, length 0.7 that of carapace; rostral spine nearly 4.0 times longer than wide (measured at sinus between rostral and anterior lateral spines), dorsal surface strongly carinated in midline, with short setae along each side of dorsal carina; lateral margin with anterior pair of spines lanceolate and dorsally flatish. Pterygostomian flap rugose with sparse setae, anterior margin ending in blunt point.

Sternum: Sternal plastron 0.8 times as long as broad, lateral limits divergent posteriorly. Sternite 3 1.5 times broader than long, anterior margin strongly convex, with small but distinct median notch. Sternite 4 2.1 times longer and 3.8 times broader than preceding sternite, 0.4 times as long as broad. Surface of sternites 4–6 with 2 or 3 transverse ridges each flanking midline. Lateral parts of sternite 7 with a few granules.

Abdomen: Somite 2 having anterior transverse ridge with 2 distinct submedian spines; somites 2–3 with 3 additional uninterrupted or interrupted ridges.

Eyes: Ocular peduncles short; cornea dilated, maximum corneal diameter about 0.4 times distance between bases of anterolateral spines; eyelashes long, reaching midlength of cornea.

Antennule: Article 1 with 4 distal spines: mesial smaller than medioventral and mediodorsal, lateral spine clearly longer than others; lateral margin unarmed; ventral surface with a few short scales.

Antenna: Article 1 with distomesial spine nearly reaching distal margin of article 2. Article 2 with distolateral spine longer than distomesial spine, terminating in midlength of article 3. Articles 3 and 4 unarmed.

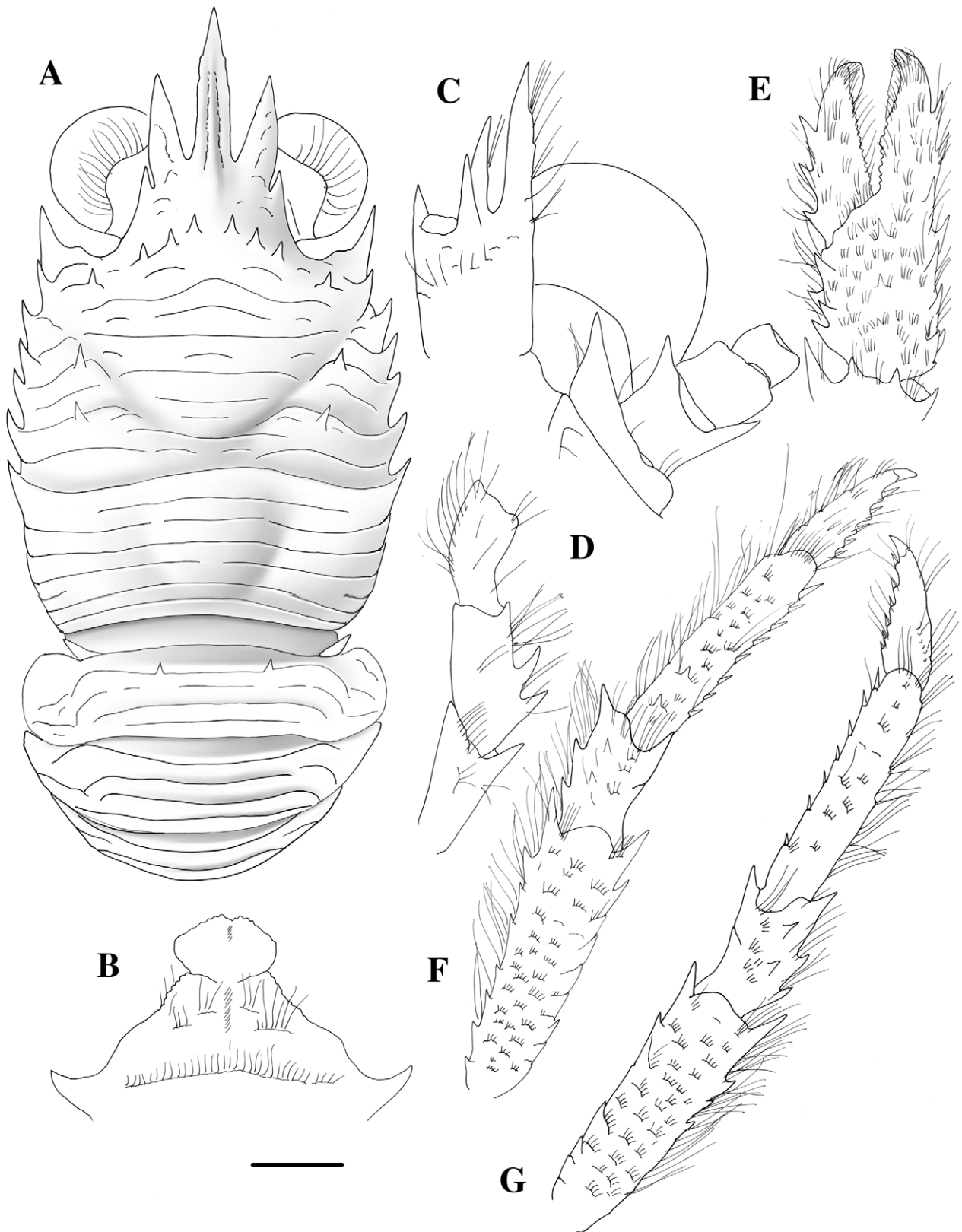


FIGURE 5. *Sadayoshia moorei* n. sp., holotype, ovigerous female, 4.1 mm, French Polynesia, Society Islands (UF16050). A, carapace and abdomen, dorsal view; B, sternal plastron, sternites 3 and 4; C, left cephalic region, showing antennular and antennal peduncles, ventral view; D, right Mxp3, lateral view; E, right P1, distal part, dorsal view; F, right P2, lateral view; G, left P3, lateral view. Scale: A, E–G = 1 mm; B–D = 0.5 mm.

Mxp 3: Ischium with well-developed distal spine on flexor margin; extensor margin unarmed; crista dentata with 30 denticles. Merus subequal in length to ischium, with 3 strong spines on flexor margin, proximal 2 subequal in size and larger than distal spine; extensor margin unarmed. Carpus unarmed.

P1: Twice carapace length, relatively stout; with numerous long uniramous iridescent setae along lateral and mesial margins of merus, palm and fingers; dorsal and ventral surfaces of palm and fingers with scales bearing short setae. Merus 0.8 times length of carapace, 3.4 times as long as carpus, with strong distal spines on lateral and mesial margins, and a few additional spines on distal part of dorsal surface. Carpus as long as broad, with spines on dorsal and lateral surfaces and well-developed spines on mesial margin. Palm 1.3 times longer than broad; with dorsolateral and mesial rows of spines continued on to entire margins of fixed and movable fingers, respectively; dorsal surface with row of spines in midline. Fingers slightly longer than palm, distally spooned.

P2–4: Relatively slender, somewhat compressed mesio-laterally, sparsely with long, uniramous, iridescent setae, and short plumose setae. Meri successively shorter posteriorly; P2 merus 0.8 length of carapace, 3.4 times as long as broad, 1.3 times longer than P2 propodus; P3 merus 3.4 times as long as broad, 1.2 times length of P3 propodus; P4 missing; dorsal margins with row of proximally diminishing spines on P2 and P3; ventrolateral margins with a few spines, terminal spine strong. Carpi with 3 spines on extensor margin, distalmost largest; flexor margins with distal spine; lateral side with 1–4 small spines. Propodi nearly subequal in length, 4.0–4.4 times as long as broad; extensor margin unarmed; 0–2 spines on each lateral side; flexor margin with 8–9 slender movable spines. Dactyli subequal in length, 0.6–0.7 times length of propodi, ending in incurved, strong, sharp spine; flexor margin with 5 or 6 seta-like movable spines, each arising from low tooth.

Colour: Rostrum and lateral spines reddish. Carapace transversely whitish between second and fourth lateral spines and behind last lateral spines; transversely brownish between base of rostrum and second lateral spines and behind fourth lateral spines; ridges reddish brown. Abdomen brownish, tergite 2 laterally whitish. P1 pale brown, with dark spots on merus and carpus (with dorsal spines basally dark, distally whitish); fingers dark brown on proximal half, whitish on distal half. P2–4 with whitish and brownish bands; meri with red spot on distal part of lateral side.

Remarks. The new species belongs to a group of species bearing two spines on the anterior ridge of the abdominal somite 2. The group contains three species: *S. acroporae* Baba 1972, *S. aludra* n. sp. (see above) and *S. moorei*. The new species is readily differentiated from the congeners by the shape of the rostrum: the rostrum is dorsally carinate in *S. moorei*, whereas it is smoothly convex from side to side in *S. acroporae* and *S. aludra*.

Furthermore, *Sadayoshia moorei* is distinguished from *S. aludra* by the following: the anterior lateral spines of the rostrum are flattish and lanceolate, instead of spiniform and convex from side to side; the posterior branchial region laterally bears 7 instead of 10 ridges (excluding mid-transverse and posterior transverse ridges); the number of transverse ridges on the abdominal somites is 4 instead of 6.

The color patterns are different between the new species and *S. acroporae* (Fig 8A & 8B; see also Macpherson & Baba 2010). *Sadayoshia acroporae* has the carapace and abdomen orangish or brownish and P2–4 with reddish or brownish bands, without red spots on meri. On the other hand, *S. moorei* has the carapace with two transverse whitish bands and P2–4 meri each with a red spot on the distolateral portion.

Distribution. French Polynesia, Society Islands, at 20 m.

Sadayoshia savali n. sp.

(Figs. 6, 7F)

Sadayoshia inermis Macpherson & Baba 2010: 428 (in part, some specimens from New Caledonia and Vanuatu).

Sadayoshia tenuirostris Macpherson & Baba 2010: 444 (in part, some specimens from New Caledonia and Vanuatu).

Material examined. *Holotype*: New Caledonia, Lagoon Est. Stn DW692, 21°32'S, 166°12.3'E, 44–48 m, August 1986: 1 ♂ 6.0 mm (MNHN-IU-2010-5362).

Paratypes: New Caledonia, Lagoon Est. Stn DW635, 21°57.7'S, 166°44.5'E, 45–52 m, August 1986: 1 ♂ 5.0 mm, 1 ♀ 4.1 mm, 1 ♀ broken (MNHN-IU-2010-5357).—Stn DW639, 21°55.5'S, 166°44.1'E, 50 m, August 1986: 1 ♂ 4.2 mm, 1 ♀ 4.0 mm (MNHN-IU-2010-5358).—Stn DW651, 21°48.0'S, 166°36.4'E, 48 m, August 1986: 1 ♂ 4.7 mm (MNHN-IU-2010-5359).—Stn DW657, 21°48.2'S, 166°33.8'E, 40–42 m, August 1986: 1 ♂ 4.8 mm, 1 ov. ♀ 5.5 mm, 1 F 3.7 mm (MNHN-IU-2010-5360).—Stn DW671, 21°38.1'S, 166°25.5'E, 36–39 m, August 1986: 1 ♂ 6.2 mm (MNHN-IU-2010-5361).

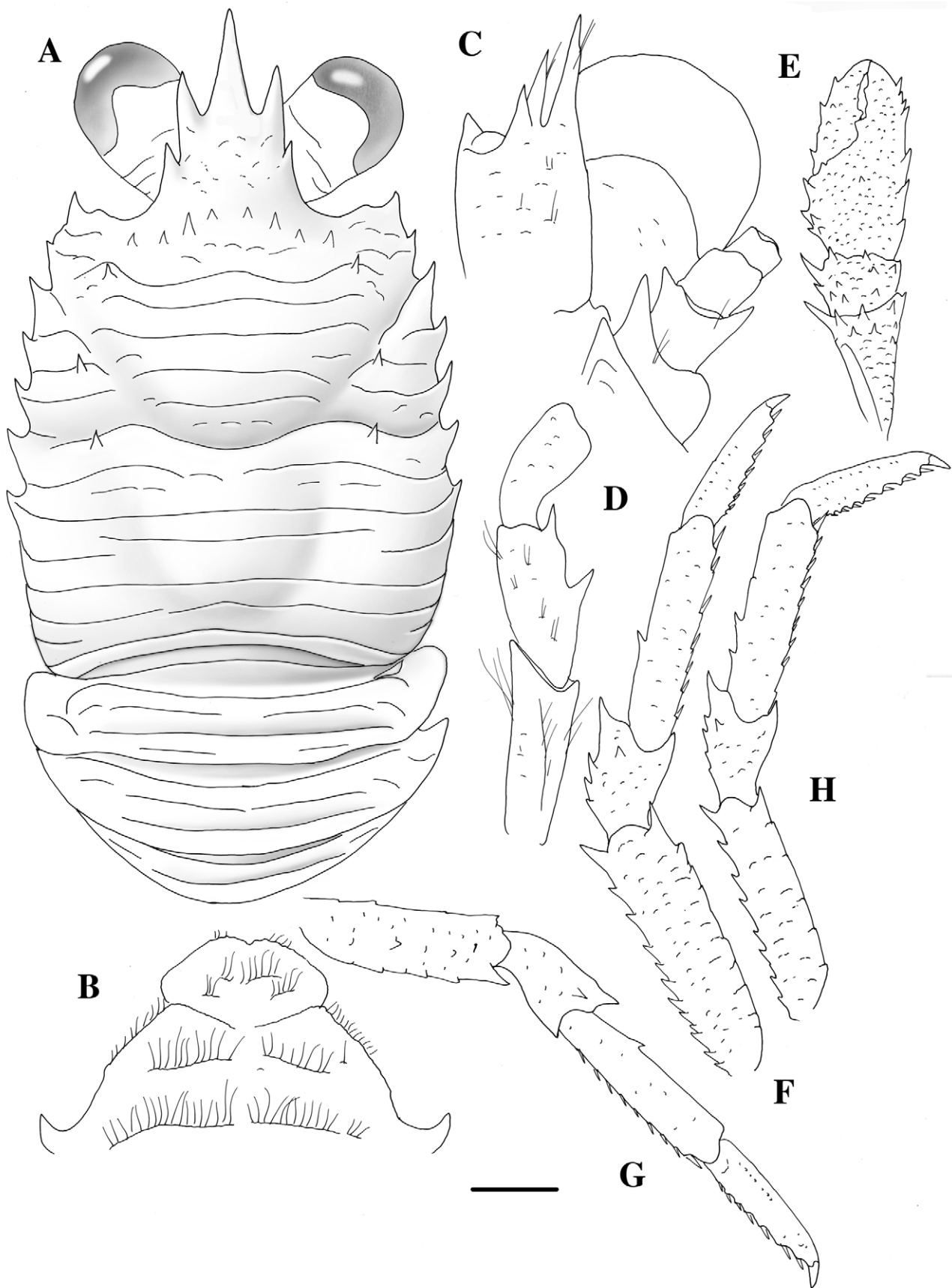


FIGURE 6. *Sadayoshia savali* n. sp., holotype, male, 6.0 mm, New Caledonia, Lagoon Est. Stn DW692 (MNHN-IU-2010-5362). A, carapace and abdomen, dorsal view; B, sternal plastron, sternites 3 and 4; C, left cephalic region, showing antennular and antennal peduncles, ventral view; D, right Mxp3, lateral view; E, right P1, dorsal view; F, right P2, lateral view; G, right P3, lateral view; H, right P4, lateral view. Scale: A, F–H = 1 mm; B–D = 0.5 mm; E = 2 mm.

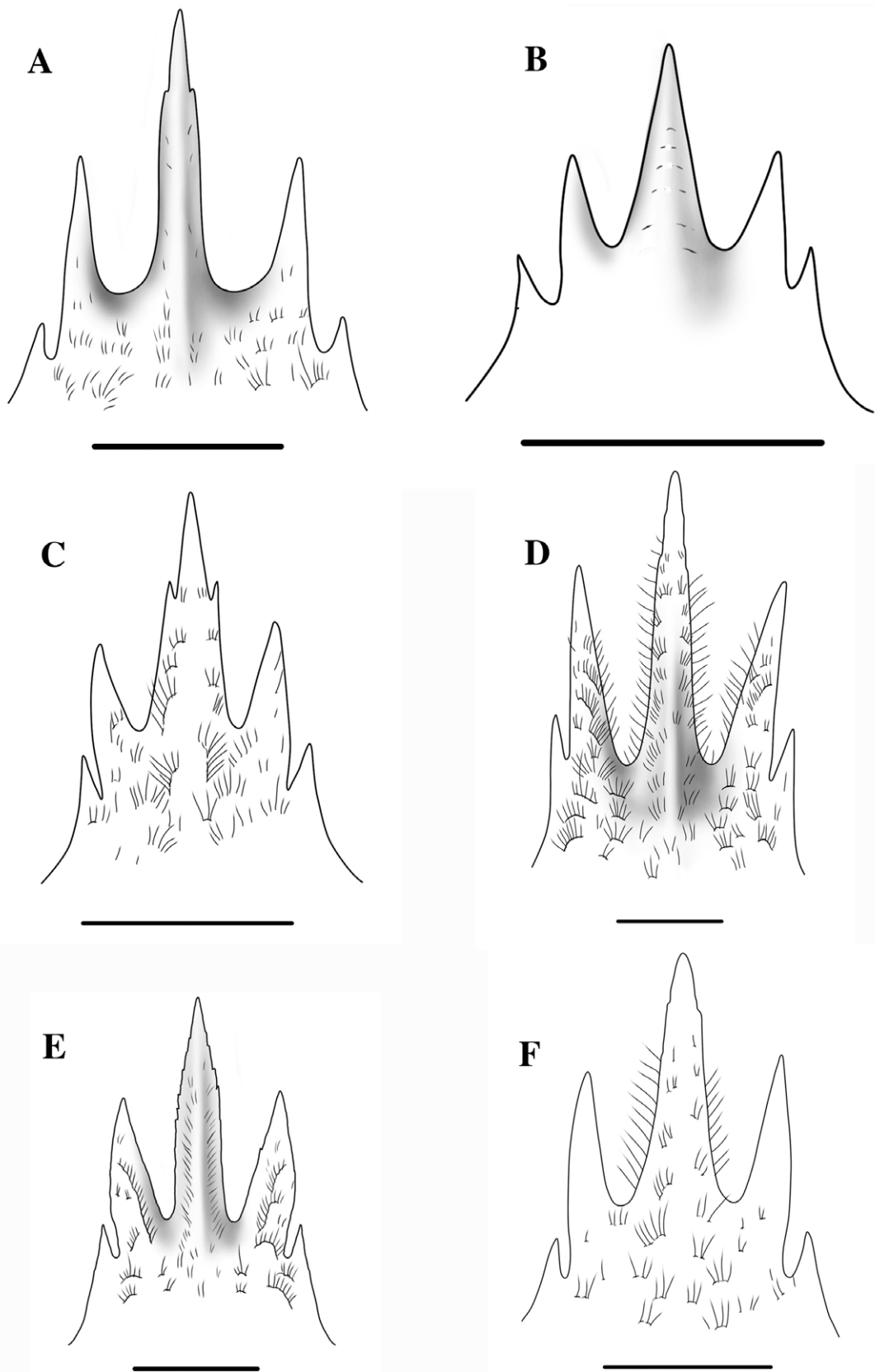


FIGURE 7. Rostrum, dorsal view. A, *Sadayoshia acamar* **n. sp.**, ovigerous female, 5.0 mm, Chesterfield Islands, CHALCAL 1984, Stn DC45 (MNHN-IU-2010-5378). B, *S. actaea* **n. sp.**, holotype, female, 3.2 mm, Lifou Island. LIFOU, Stn 1467 (MNHN-IU-2010-5372). C., *S. adaro* **n. sp.**, ovigerous female, 3.9 mm, Solomon Islands. SALOMON 1, Stn DW1744 (MNHN-IU-2010-5376). D, *S. aludra* **n. sp.**, ovigerous female, 9.1 mm, Chesterfield Islands. CORAIL 2, Stn DW106 (MNHN-IU-2010-5353). E, *S. moorei* **n. sp.**, holotype, ovigerous female, 4.1 mm, French Polynesia, Society Islands (UF 16050) F, *S. savali* **n. sp.**, ovigerous female, 5.4 mm, Lifou Island, Stn 1450. Scale = 1 mm.

New Caledonia, Lagoon. Stn DW247, Ouen Island, Prony Bay, 22°24'S, 166°51'E, 43 m: 1 ♂ 5.6 mm, 3 ov. ♀ 4.3–5.6 mm (MNHN-IU-2010-5356).

New Caledonia, Lifou Island. LIFOU. Stn 1450, 20°45.8'S, 167°01.65'E, 27–31 m, 21 November 2000: 3 ♂ 3.5–3.6 mm, 4 ov. ♀ 3.9–6.1 mm, 1 ♀ 2.6 mm (MNHN-IU-2010-5368), (MNHN-IU-2010-5369).—Stn 1466, 20°46.5'S, 167°06.2'E, 25–45 m, 17 November 2000: 2 ♂ 2.9–3.7 mm, 5 ov. ♀ 3.6–4.4 mm, 1 ♀ 2.2 mm (MNHN-IU-2010-5370, MNHN-IU-2010-5371).

Vanuatu. SANTO. Stn DB77, 15°27.9'S, 167°14.7'E, 42–45 m, 29 September 2006: 1 ♂ 3.1 mm, 1 ov. ♀ 3.6 mm (MNHN-IU-2010-5367, MNHN-IU-2010-5366).—Stn FB47-49, 15°32.4'S, 167°12.7'E, 45–50 m, 02-03 October 2006: 1 ♂ 3.9 mm, 1 ♀ 2.8 mm (MNHN-IU-2010-5364, MNHN-IU-2010-5365).—Stn EP34, 15°33.3'S, 167°12.9'E, 14 October 2006, 40–60 m: 1 ov. ♀ 3.8 mm (MNHN-IU-2010-5363).

Etymology. The name *savali* refers to the messenger of Tagaloa (the Creator) in the Samoan mythology. The name is considered as a substantive in apposition.

Description. *Carapace:* As long as broad; dorsal surface nearly horizontal from anterior to posterior; cervical groove distinct. Dorsal surface with 4 pairs of epigastric spines, 1 parahepatic, 1 anterior branchial and 1 postcervical spine on each side; ridges with short setae and scattered long iridescent setae. Gastric region with scale-like ridge directly behind epigastric spines, followed by 5 uninterrupted ridges, additional scale-like ridge near cervical groove, and a few scattered scales between ridges. Mid-transverse ridge of carapace uninterrupted, preceded by cervical groove; lateral part of posterior branchial region with 6 ridges (exclusive of mid-transverse ridge and posteriormost transverse ridges directly anterior to posterior margin of carapace). Lateral margins slightly convex, with 7 spines. Rostrum 1.4 times as long as broad, length 0.5 that of carapace, dorsal surface flattish, with short setiferous striae, nearly horizontal in lateral view; rostral spine less than 2.5 times as long as wide (measured at sinus between rostral and anterior lateral spines). Pterygostomian flap rugose with sparse setae, anterior margin ending in acute point.

Sternum: Sternal plastron as long as broad, lateral limits divergent posteriorly. Sternite 3 1.8 times as broad as long; anterior margin strongly convex, with small median notch. Sternite 4 1.5 times longer and 2.5 times broader than preceding sternite, 3.5 times broader than long; surface with 2 medially interrupted transverse ridges. Following sternites smooth, with only a few scale-like ridges on sternite 5. Lateral parts of sternite 7 without granules.

Abdomen: Somite 2 unarmed; somites 2–3 each with 4 transverse ridges, first and third uninterrupted, second and fourth interrupted, fourth often obsolete; with scattered long iridescent setae.

Eyes: Peduncles about 1.3 times longer than broad; cornea moderately dilated, maximum corneal diameter 0.4 times distance between bases of anterolateral spines; eyelashes short, not reaching midlength of cornea.

Antennule: Article 1 with 4 distal spines: mesial and medioventral smaller than mediadorsal, lateral spine clearly longer than others; lateral margin unarmed; ventral surface with a few short scales.

Antenna: Article 1 with distomesial spine reaching distal margin of article 2. Article 2 with distolateral spine slightly larger than distomesial spine, terminating in midlength of article 3. Articles 3 and 4 unarmed.

Mxp3: Ischium with obsolescent distal spine on flexor margin; extensor margin distally angular; crista dentata with 27–29 denticles. Merus subequal in length to ischium, with 2 spines on flexor margin, distal one terminal, proximal one slightly stronger than distal one; extensor margin unarmed. Carpus unarmed.

P1: 1.8 times carapace length, relatively stout, with scattered long uniramous iridescent setae along lateral and mesial margins of merus, palm and fingers; dorsal and ventral surfaces of palm and fingers with short setae. Merus 0.7 times length of carapace, 2.2 times as long as carpus, with strong distal spines on dorsal and mesial margins, and a few additional spines on distal part of dorsal surface. Carpus 0.8 times length of palm, 0.8 times as long as broad, lateral and mesial margins subparallel, dorsal surface with small spines; mesial surface with well-developed spines placed dorsally and ventrally. Palm 0.8 times as long as broad; lateral and mesial margins with rows of spines continued on to fixed and movable fingers, respectively. Fingers distally spooned; movable finger 1.5 times longer than palm.

P2–4: Somewhat compressed mesio-laterally, sparsely covered with long uniramous iridescent setae and short plumose setae. Meri successively shorter posteriorly, equally broad on P2–4; P2 merus 0.6 times carapace length, 3.6 times as long as broad, 1.3 times longer than P2 propodus; P3 merus 1.3 times length of P3 propodus; P4 merus 1.1 times length of P4 propodus; dorsal margins with row of proximally diminishing spines on P2 and P3, nearly unarmed on P4; dorsolateral surface unarmed on P2 and P3, with 2 spines on P4; ventrolateral margins with strong

terminal spine. Carpi with 4 or 5 spines on extensor margin of P2 and P3 (distalmost largest), unarmed on P4; lateral surface with 1 or 2 small spines; flexor margins with distal spine. Propodi successively shorter posteriorly, 3.7–3.9 times as long as broad; extensor margin with 1 or 2 proximal spines; flexor margin with 8–10 slender movable spines. Dactyli subequal in length, 0.8–0.9 times length of propodi, ending in incurved, strong, sharp spine; flexor margin with 8 or 9 seta-like movable spines, each arising from low tooth.

Remarks. *Sadayoshia savali* belongs to a group of species having the antennular article 1 without a lateral marginal spine and the sternite 3 at most twice as broad as long. This group includes *S. inermis* Macpherson & Baba 2010, *S. tenuirostris* Macpherson & Baba 2010 and *S. savali*.

Sadayoshia savali and *S. inermis* both have a thick rostral spine less than 3 three times as long as wide (measured at the sinus between rostral and anterior lateral spines). However, *S. savali* can be easily distinguished from *S. inermis* by the presence instead of absence of a pair of postcervical spines on the carapace.

Sadayoshia tenuirostris also bears the postcervical spines on the carapace. However, the rostral spine is very thin, being more than 3.5 times longer than wide, whereas this spine is less than 2.5 times longer in *S. savali*.

Distribution. Vanuatu, New Caledonia, Lifou Island, between 5 and 60 m.

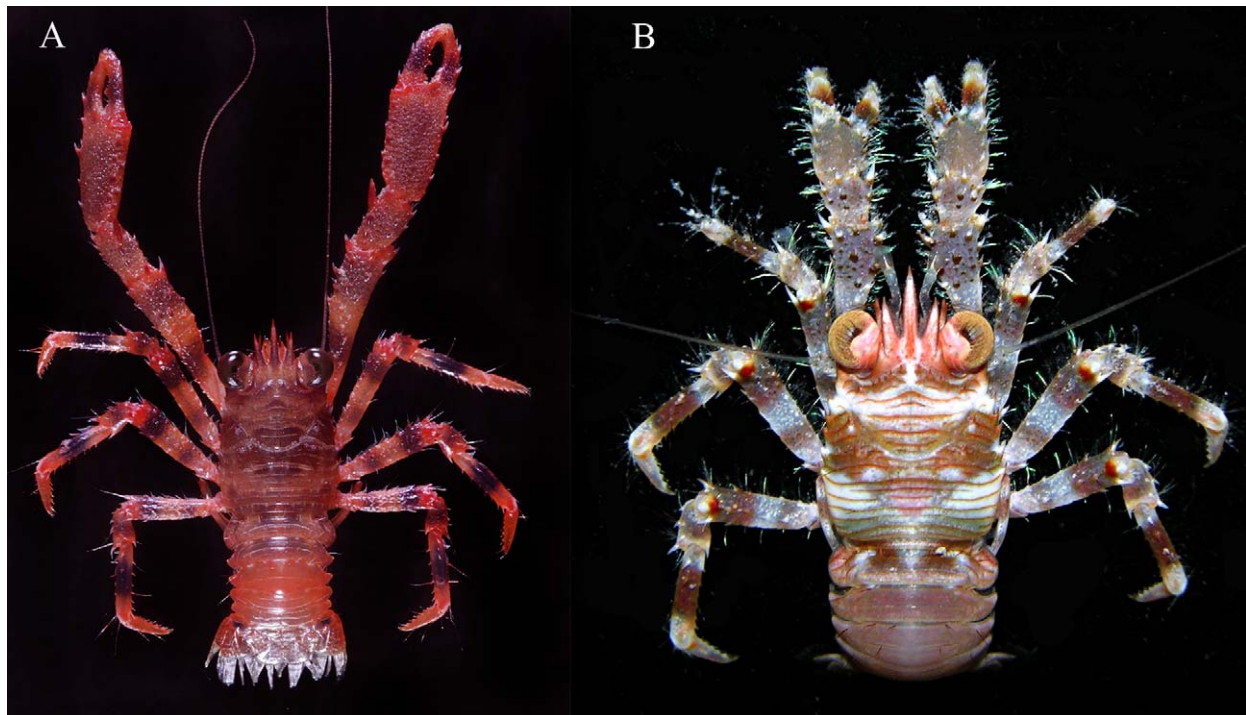


FIGURE 8. A. *Sadayoshia acroporae* Baba 1972, Philippines, PANGLAO Expedition, Stn B36, 9°35.9'N, 123°44.5'E, 24 m, male, 2.8 mm, dorsal view. B. *Sadayoshia moorei* n. sp., French Polynesia, Society Islands, holotype, ovigerous female, 4.1 mm, dorsal view.

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