



Two new species of *Sphaeromopsis* (Crustacea: Isopoda: Sphaeromatidae) from the Persian Gulf

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Abstract

Two new species of *Sphaeromopsis* (Sphaeromatidae: Isopoda) from Iran are described based on light and electron-microscope study: *Sphaeromopsis sarii* **sp. nov.** from the coasts of Kish and Qeshm Islands, and *S. persikolpos* **sp. nov.** from Kish Island, Qeshm Islands and the southern coasts of Iran. The two species are sympatric in most areas. *Sphaeromopsis sarii* is distinct among other species in the genus for having a pleotelson with a faint dorsomedial furrow and a broadly rounded apex. *Sphaeromopsis persikolpos* **sp. nov.** is unique for the single suture at either side of the posterior margin of the pleon, a narrow pleotelsonic apex, and the uropodal exopod extensions that reach well beyond the pleotelsonic apex.

Key words: Crustacea, Isopoda, Sphaeromatidae, *Sphaeromopsis*, SEM, Persian Gulf, Iran

Introduction

The isopod fauna along the Iranian coasts of the Persian Gulf is very poorly known. Only sporadic studies have been carried out along the south-western coasts of the Persian Gulf, and there are only a few records of Isopoda from this region (Kensley & Reid 1984; Kensley 2001, Schotte & Kensley 2005).

Sphaeromopsis is a small genus of 10 described species, with a wide distribution in warm and tropical waters of the Pacific Ocean (Holdich & Harrison 1981), the Atlantic and Caribbean (Loyola e Silva 1960: Brazil; Kensley & Schotte 1994: Dominica; Kensley & Schotte 1999: Florida; Ortiz et al. 2004: Cuba) and from the Indian Ocean (Holdich & Jones 1973; Javed & Yousuf 1995, 1997). Six species of *Sphaeromopsis* have been described from the Indian Ocean (*S. reticulata* Stebbing, 1910: Red Sea; *S. amathitis* Holdich & Jones, 1973: East Africa; *S. minutus* Javed & Yousuf, 1995: Pakistan; *S. petita* Javed & Yousuf, 1997: Pakistan; *S. sei* Storey, 2002: Thailand; *S. sulcifera* Schotte & Kensley, 2005: Seychelles). *Sphaeromopsis* has not previously been reported from the Persian Gulf. The two new species described below constitute the first record of the genus from the Persian Gulf.

Methods

Appendages were dissected and fixed in stained antibacterial glycerine–gelatine (Merck). Pencil drawings were made using a compound microscope with camera lucida (Olympus BX 51).

Scanning electron microscopy (SEM) objects were cleaned by ultrasonic cleaner. Specimens were dehydrated in an ethanol series and air-dried overnight. The samples were then mounted on stubs using double adhesive carbon spots before being coated with gold in a sputter coater to 40 nanometers thickness. SEM micrographs were taken using a Hitachi S–2460N SEM.

Abbreviations:

ZFMK: Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany; **ZMUC:** Zoological Museum, University of Copenhagen, Denmark.

ZMH: Zoologisches Museum Hamburg, Germany

Genus *Sphaeromopsis* Holdich & Jones, 1973

Sphaeromopsis Holdich and Jones 1973: 386.— Holdich & Harrison, 1981: 287.— Schotte & Kensley, 2005: 1275.

Type species: *Sphaeromopsis amathitis* Holdich & Jones 1973; by monotypy; type locality: Watamu Marine Park, Kenya.

Diagnosis. Diagnoses to the genus are to be found in Holdich & Jones (1973) and Schotte & Kensley (2005).

Remarks. Diagnoses of this genus were provided by Holdich & Jones (1973) and later by Holdich & Harrison (1987), and Schotte & Kensley (2005). In contrast to the generic diagnosis given by these authors and based on examination of several species, we found that the sutures of the coxal plate are not visible in some species (e.g., *Sphaeromopsis sei* Storey, 2002, *S. mourei* Loyola e Silva, 1960, and *S. persikolpos* sp. nov). We also found that pleonal sutures vary in morphology and number; thus for example, in *S. sulcifera* Schotte & Kensley, 2005, the sutures are not clearly visible, whereas in *S. persikolpos* sp. nov., there is a single suture on either side of the posterior margin of the pleon. Although the pereon and pleon of most species in the genus do not exhibit any dorsal ornamentation, *S. heardi* Kensley & Schotte, 1994 has obvious sculpturing on the pleotelson, and *S. persikolpos* sp. nov. has some foraminate scattered setae on the surface of these sclerites. Moreover, the pleotelson varies in shapes from broadly truncate in *S. amathitis* Holdich & Jones, 1973 to broadly rounded in *S. minutus* Javed & Yousuf, 1995, to elongated with a narrow apex in the Persian Gulf's species *S. persikolpos* sp. nov.

***Sphaeromopsis sarii* sp. nov.**

(Figs 1–5)

Material examined. All material from the Iranian shores of the Persian Gulf.

Holotype: male (2.6 mm), Kish Island, Kish Hospital, sandy beaches, 24 June 2006, 26°30'109" N, 53°57'386" E, coll. V. Khalaji (ZMH-42315).

Paratypes: 1 male (2.5 mm); 3 subadult males (up to 2.3 mm); 3 juveniles (up to 2.1mm); 1 ovigerous female (2.8 mm); 2 non-ovigerous females (up to 2.4 mm), same data as holotype (ZMH-42316); Kish Gas, 10 December 2008, 26°29'416" N, 53°59'494" E, sandy beaches; 2 male (up to 2.5 mm); 6 subadult males (up to 2.4 mm); 2 juveniles (up to 2.2 mm); 11 non-ovigerous females (up to 2.4 mm), coll. Lotfallah & Ismaeil Khalaji (ZMH-42317); Harrireh, in clumps of algae, 26 Jun 2009, 26°34'203" N, 53°57'444" E, 10 adult male (up to 2.9 mm); 6 non-ovigerous female (up to 2.4 mm), coll. Reza & Valiallah Khalaji (ZMH-42318); Qeshm Island, Sea Cinema, 08 December 2007, 26°56'136" N, 56°58'296" E, in the tide pools; 1 adult male; 3 subadult males; 3 juveniles; 5 non-ovigerous females, coll. V. Khalaji & A. Bahpouri (ZMH-42319).

Diagnosis. Body 2.2 times as long as wide; head with trapeziform rostrum; eyes large, postero-laterally located; pereonite 2–7 with coxal plate sutures clearly visible on lateral sides; pleon with posterior margin bearing 2 short, separate sutures at either side; pleotelson with faint medial furrow in dorsal view, posterior margin produced to broadly rounded apex; pereopods 1–3 with setulose fringe on inferior margins of ischium, merus, carpus and propodus; uropod exopod lateral margin and endopod distolateral margin serrate.

Description of male. *Body* 2.2 times as long as greatest width; *head* smooth, with 2 clear and some faint tubercles in dorsal view, moderately convex with trapeziform rostrum barely visible in dorsal view. Pereonites

1–7 smooth, or with some very faint tubercles; pereonite 1 with convex depression on each dorsal side anteriorly into which the posterior eye borders fit; pereonites 2–7 with coxal plate sutures clearly visible on lateral sides; coxae 2–7 subequal, ventral margin with short setae, coxae 2–3 subtruncate and lateral margin narrower than others, more rounded laterally in pereonites 4–6. *Pleon* posterior margin bearing two separate sutures on either side. *Pleotelson* wider than long, forming a dorsal arch in posterior view and with faint tubercles over surface, bearing in anterior half a faint dorsomedial furrow; posterior margin produced to broadly rounded apex, lateral margins folded ventrally.

Antennule basal article about 2 times as long as article 2, article 3 about 1.4 as long as article 2; flagellum 8-articled, extending to posterior margin of pereonite 1, articles 2–5 each bearing aesthetascs. *Antenna* peduncle article 5 about 1.2 times as long as article 4; flagellum extending to level of pereonite 2, with 11 articles.

Epistome (Fig. 6A) with narrowly rounded sub-triangular apex, lateral margins concave, posterolateral lobes extending to mid-length of labrum.

Maxillule lateral lobe mesial margin with some simple setae, apical margin with 8 robust setae, some inferiorly serrate, mesial lobe with 4 comb and 2 simple setae. *Maxilla* lateral and middle lobes with 4 curved nodular serrate robust setae; mesial lobe with 2 serrate robust and 4 stout simple setae, mesial margin with many short simple setae. *Right mandible* incisor with 4 cusps, lacinia mobilis with 3 cusps; spine row of 4 curved, serrate spines; molar process round, crushing surface ridged; palp article 2 longer than 1, article 2 distolateral margin with 5 biserrate setae becoming progressively longer distally; article 3 with 7 biserrate setae, terminal seta being longest. *Maxilliped* endite lateral margin weakly sinuate, distal margin with 3 blunt robust setae, set in amongst 5 distal and 1 sub-distal circumplumose robust setae; mesial margin with 1 coupling hook and 2 simple setae; palp articles 1–5 with about 1, 7, 8, 3 and 6 setae respectively.

Pereopod 1 robust, *basis* about 2.4 times as long as greatest width, distal superior margin fringed with short scale-setae and 2 small sensory palmate seta, inferodistal angle with single long simple setae; on ischium, merus, carpus and propodus inferior margin fringed with short setae; *ischium* about 2 times as long as greatest width, superior margin with 4 long distally biserrate setae; *merus* 0.5 times as long as ischium, superodistal angle with single long distally biserrate and single biserrate robust setae, *carpus* approximately as long as wide, subtriangular, inferodistal angle with single biserrate robust seta; *propodus* 2.9 times as long as wide, 2 biserrate robust setae, superodistal corner with single sensory palmate seta; *dactylus* inferior margin with cuticular scales, secondary unguis curved, with 3 simple setae at base, superior margin with single seta, distal margin with 2 simple sub-marginal setae.

Pereopod 2 basis about 4 times as long as wide, superior margin fringed with short scale-setae and single small sensory palmate seta; on ischium to propodus inferior margin fringed with short setae; *ischium* about 3.3 times as long as greatest width, superior margin with 4 long distally biserrate setae and single proximal simple seta; *merus* 0.5 times as long as ischium, superodistal angle with 4 long distally biserrate setae; *carpus* superodistal angle with single simple seta; *propodus* 0.7 times as long as ischium, superodistal corner with 2 palmate setae (1 long sensory, 1 short); *dactylus* inferior margin with cuticular scales, secondary unguis curved, with 3 simple setae at base, superior margin with single scale seta, distal margin with 2 simple sub-marginal setae. *Pereopod 3* similar to pereopod 2 as illustrated. *Pereopod 4* ischium without short setae fringe on inferior margin; carpus with 2 palmate setae (1 long sensory, 1 short). *Pereopod 5* similar to pereopod 4 as illustrated.

Pereopod 6 basis about 3.6 times as long as greatest width; *ischium* about 2.6 times as long as greatest width, superior margin with 4 long distally biserrate setae; on merus, carpus and propodus inferior margin fringed with short setae; *merus* 0.5 times as long as ischium, superodistal angle with 6 long distally biserrate setae; *carpus* subequal in length to merus, inferodistal angle with single biserrate robust seta, superodistal angle with 1 biserrate robust and 1 sensory palmate seta; *propodus* superodistal corner with 3 palmate setae (1 long sensory, 2 short); *dactylus* inferior margin with cuticular scales, secondary unguis curved.

Pereopod 7 basis about 3.8 times as long as greatest width, inferodistal angle with 1 simple setae, superior margin with short fringe scale setae, with 2 small sensory palmate seta, dorsal surface with 6 widely spaced small sensory palmate seta; *ischium* 0.7 times as long as basis, 3 times as long as greatest width, superior

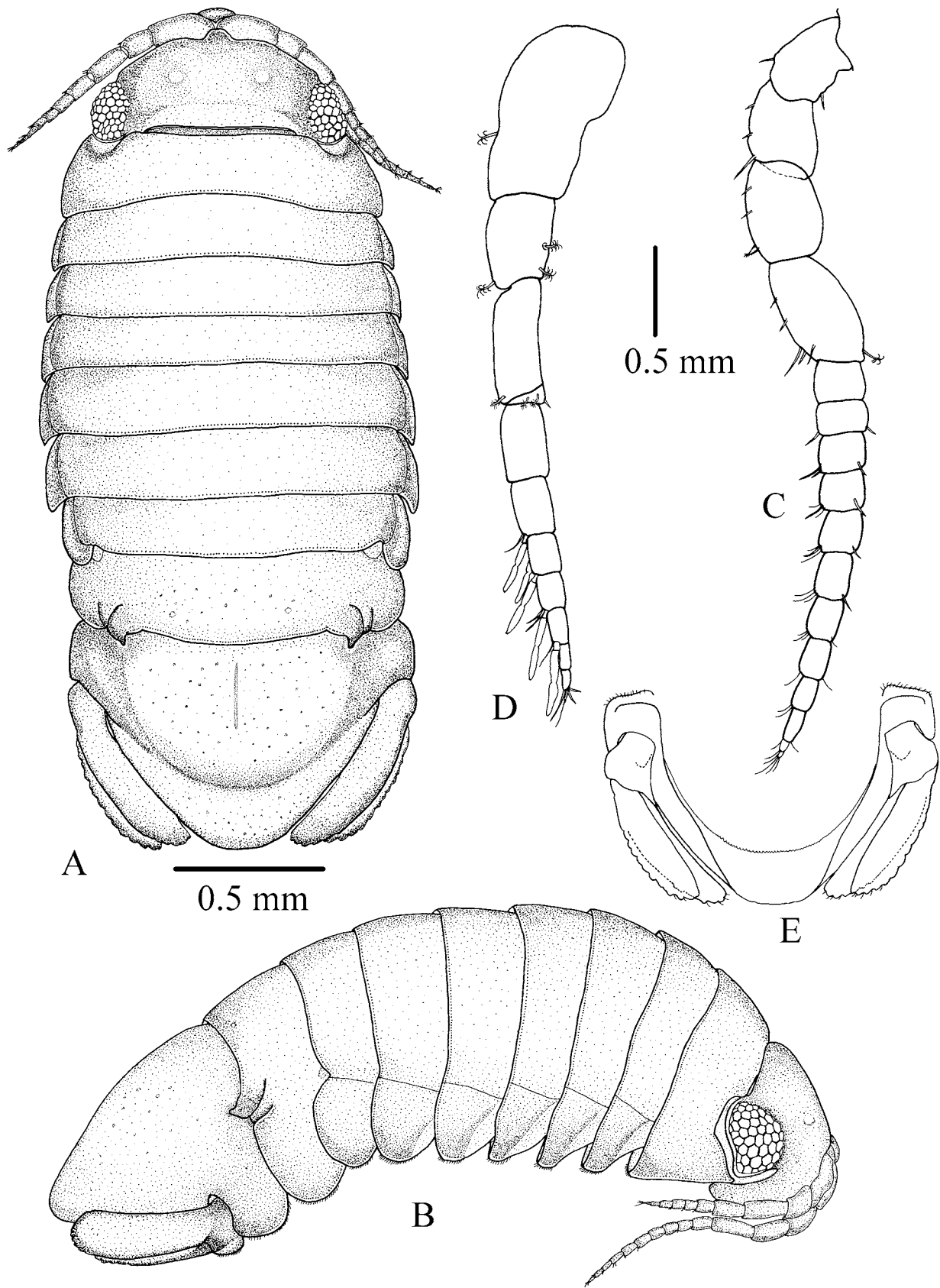


FIGURE 1. *Sphaeromopsis sarii* sp. nov., holotype (male). A, dorsal view; B, lateral view; C, antenna; D, antennule; E, ventral view of pleotelson.

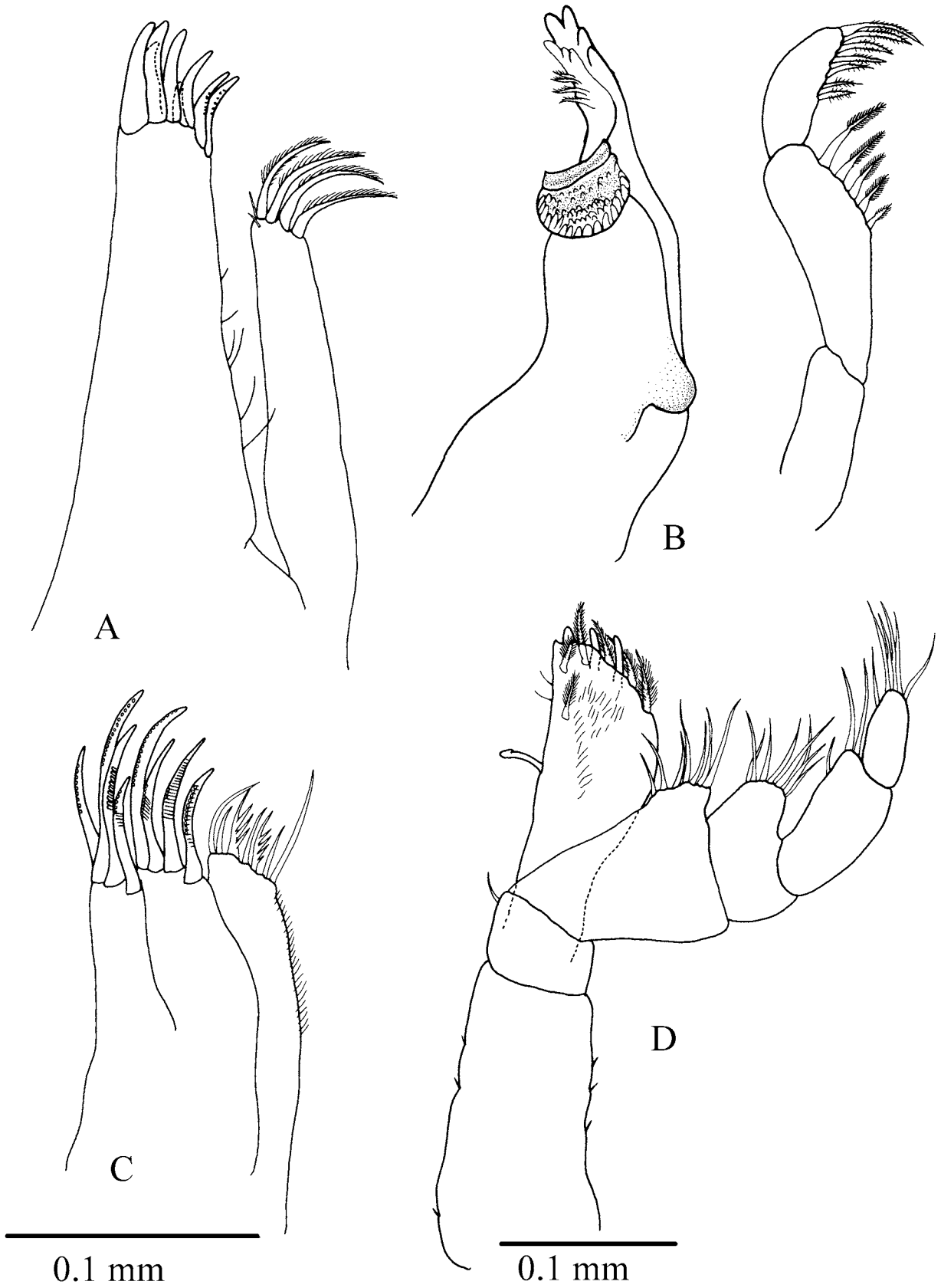


FIGURE 2. *Sphaeromopsis sarii* sp. nov., holotype (male). A, maxillule; B, right mandible; C, maxilla; D, maxilliped.

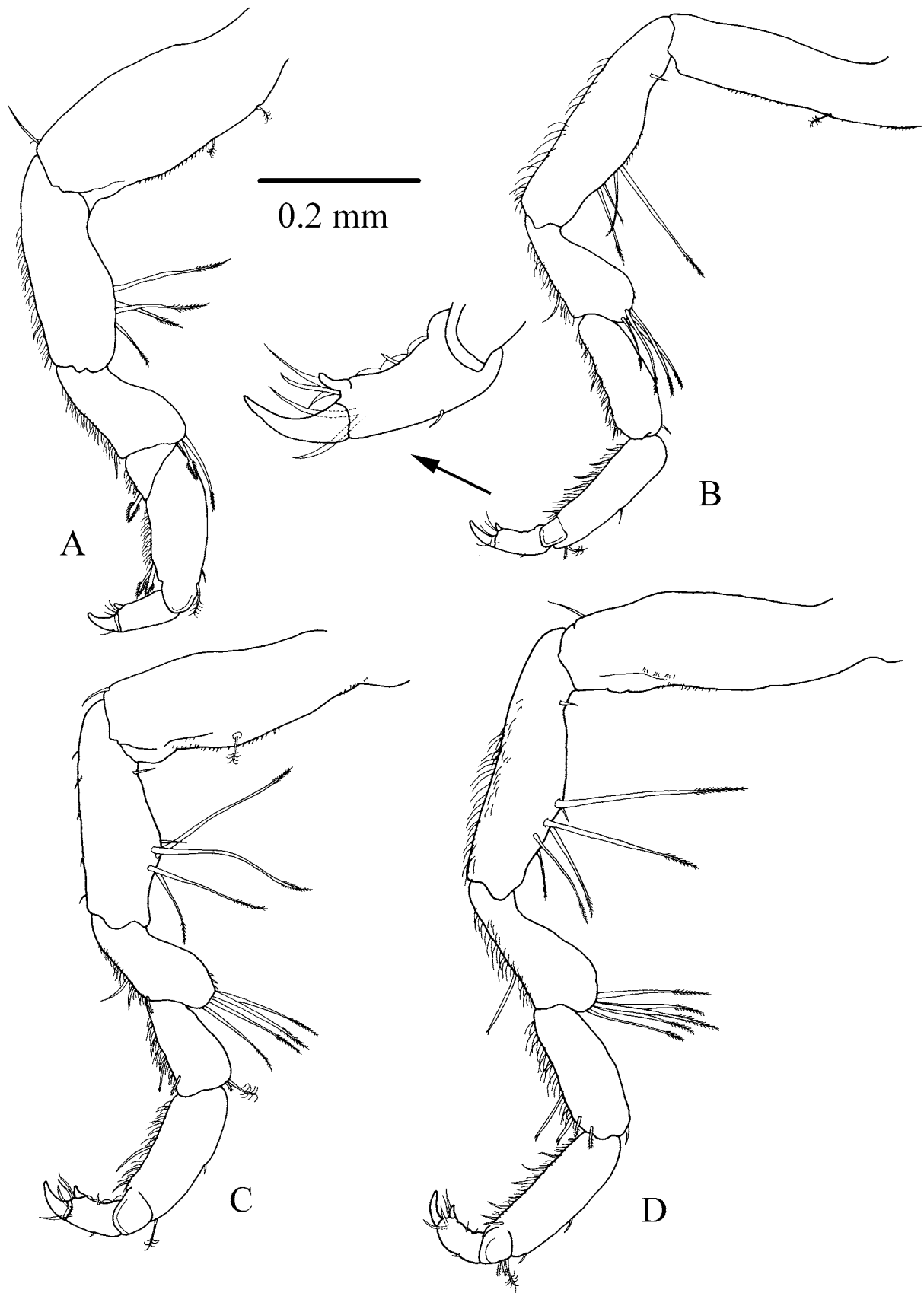


FIGURE 3. *Sphaeromopsis sarii* sp. nov., holotype (male). A–D, pereopods 1–4, respectively.

margin with 4 long distally biserrate setae; on merus to propodus inferior margin fringed with short setae; *merus* 0.5 times as long as *ischium*, superior distal margin with 3 long distally biserrate setae; *carpus* subequal in length to *merus*, inferodistal angle with 2 biserrate robust seta, superodistal angle with 2 biserrate robust setae; *propodus* superodistal corner with 3 palmate setae (1 long sensory, 2 short); *dactylus* inferior margin with cuticular scales, secondary unguis curved, with 3 simple setae at base, superior margin with single scale seta, distal margin with 2 simple sub-marginal setae.

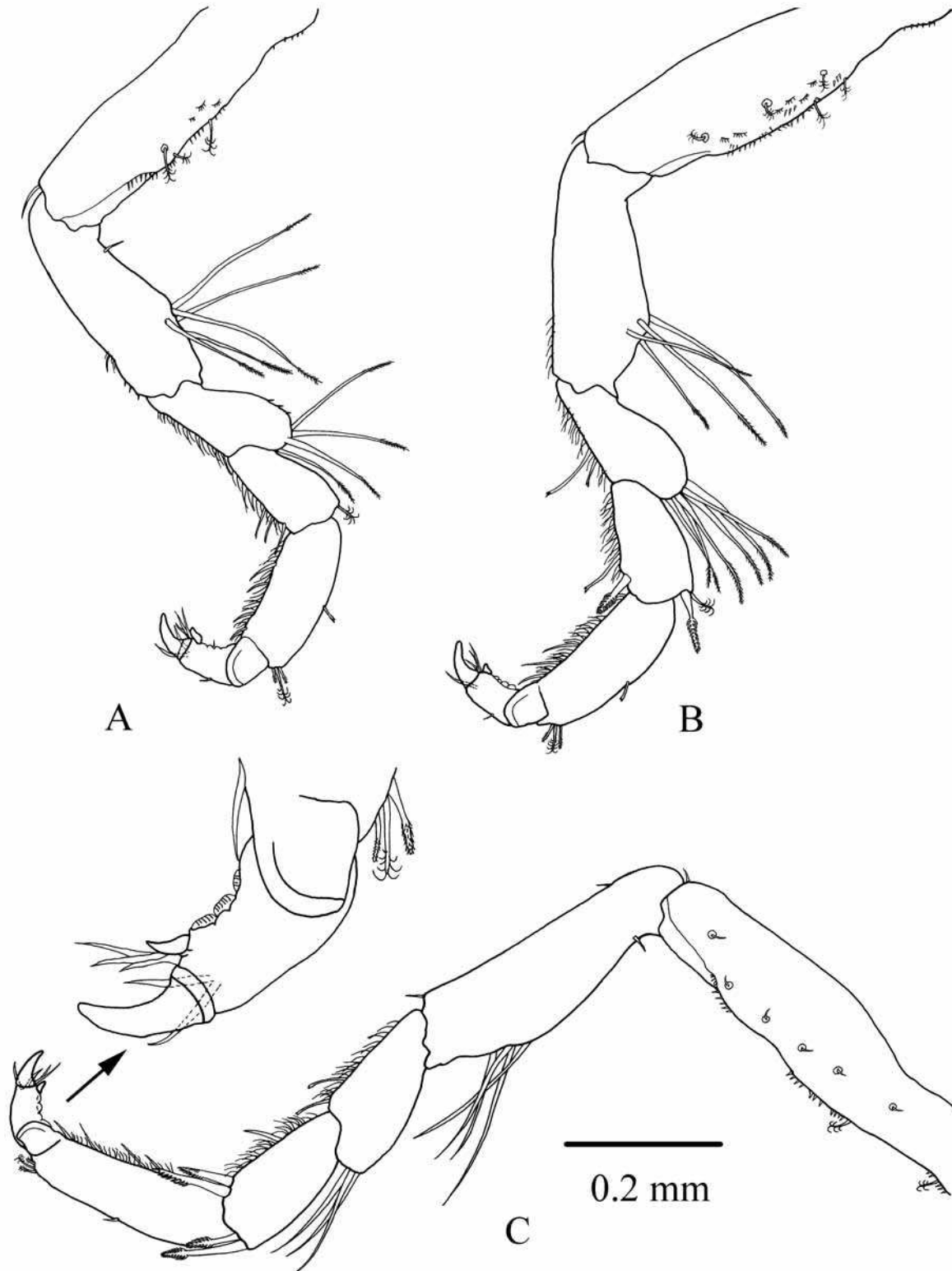


FIGURE 4. *Sphaeromopsis sarii* sp. nov., holotype (male). A–C, pereopods 5–7, respectively.

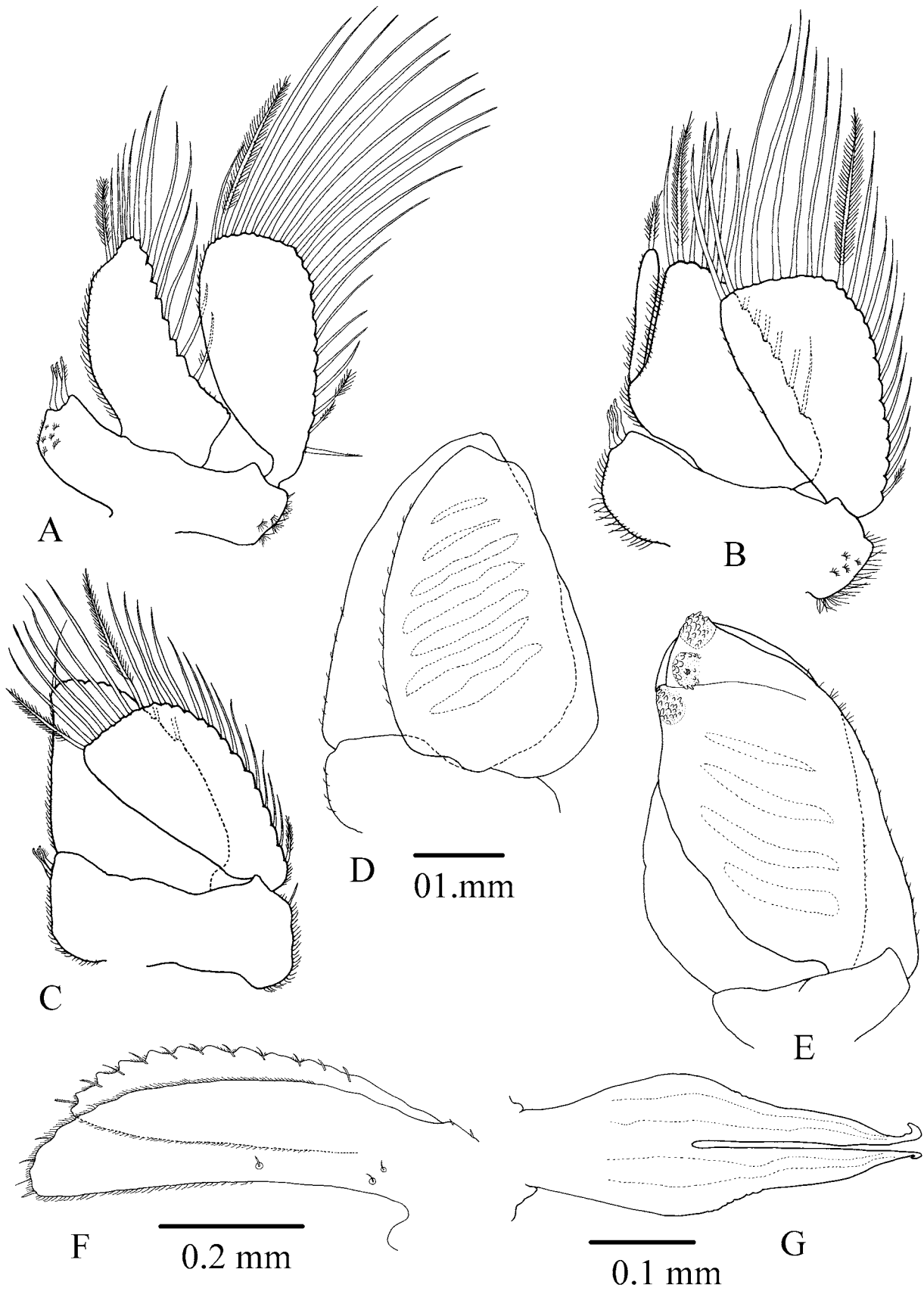


FIGURE 5. *Sphaeromopsis sarii* sp. nov., holotype (male). A–E, pleopods 1–5, respectively; F, uropod; G, penes.

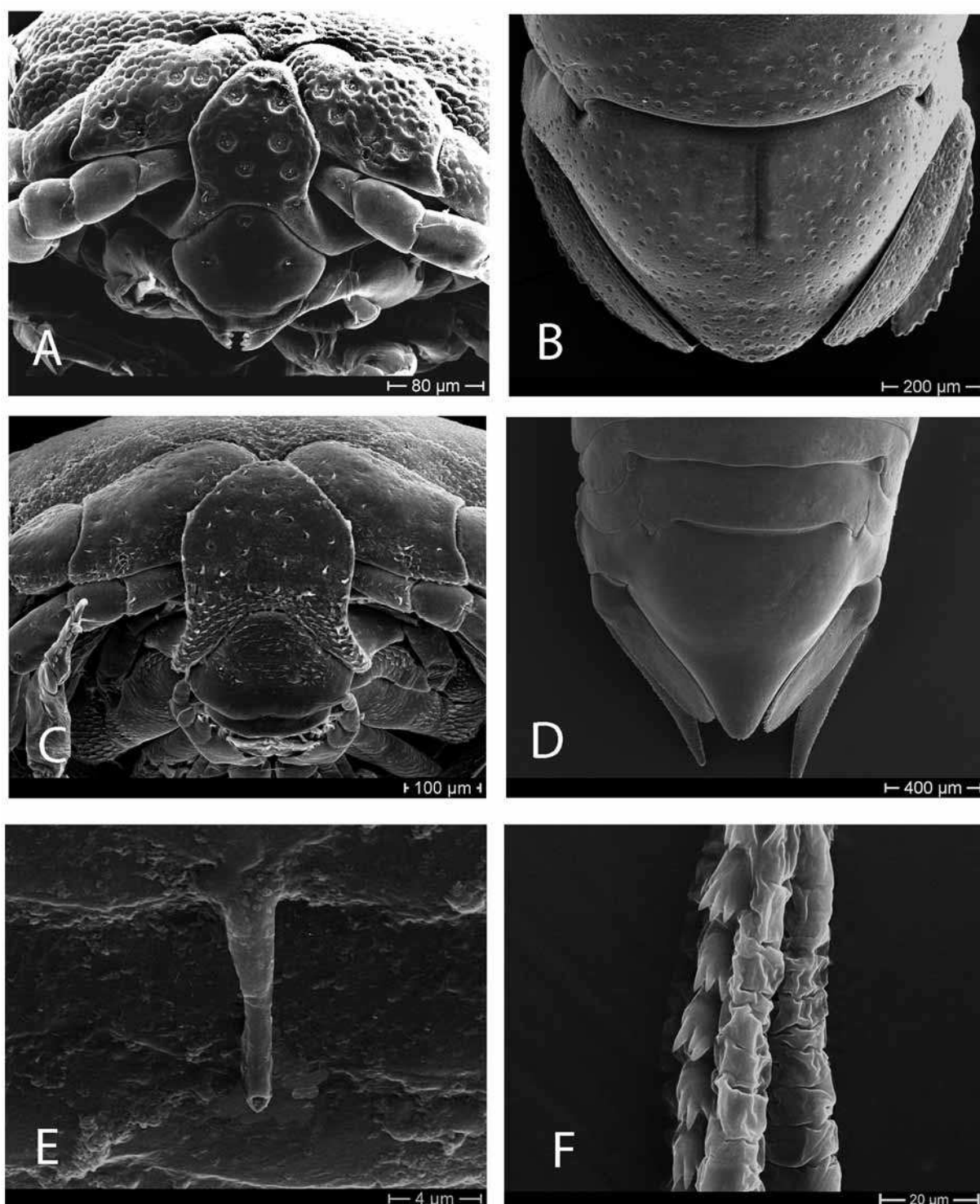


FIGURE 6. A–B, *Sphaeromopsis sarii* sp. nov. (paratype); A, frons and anterior of head in ventral view; B, dorsal view of pleotelson. C–F, *Sphaeromopsis persikolpos* sp. nov. (paratype); C, frons and anterior of head in ventral view; D, dorsal view of pleotelson; E, a foraminate tubular seta on pleotelson; F, hand-like scales on distal third of penes rami.

Penes 5.3 as long as basal width, fused along basal 0.37 of length, widening slightly, reaching maximum width at two-fifth length and then tapering to acute and curved apices.

Pleopod 1 exopod and endopod with 20 and 14 plumose marginal setae respectively; endopod lateral margin proximally truncate and rest of margin concave, mesial margin with short fringe setae; exopod lateral margin proximally with single long, distally biserrate seta, distal margin subtruncate; sympodite mesial

margin extended, with 3 coupling hooks and some toothed scales. *Pleopod 2* exopod and endopod equal in length, margin with 21 and 13 plumose setae respectively; *appendix masculina* bearing tiny short setae on proximal medial margin, arising sub-basally, single plumose seta on narrowly rounded apex; sympodite with 3 distomesial coupling hooks. *Pleopod 3* exopod and endopod with 22 and 12 plumose marginal setae respectively; sympodite with 3 distomesial coupling hooks, lateral margin with fringe of thin setae and single long simple seta on distolateral corner; endopod mesial margin straight with fringe of thin setae. *Pleopod 4* both rami subequal in length, mesial margins with some fine simple setae. *Pleopod 5* exopod with 3 scale patches (2 distally of and 1 under transverse suture), mesial margin with some fine simple setae.

Uropod extending to distal margin of pleotelson; endopod longer than exopod, lateral and medial margins with fringe of fine short setae and some long simple seta on apical margin, distolateral margin serrate; exopod lateral margin serrate bearing some simple or palmate setae (single seta on each notch), medial margin with fringe of fine short setae.

Etymology. This species is named for Dr. Alireza Sari, to acknowledge many years of contributions to the zoology of Iran, especially his work on crustaceans.

Remarks. This species can be easily recognized by the dorsomedial furrow on the pleotelson. Among all known *Sphaeromopsis* species, only *S. sulcifera* Schotte & Kensley, 2005 has a faint longitudinal, dorsomedial furrow on the pleotelson. *Sphaeromopsis sarii* **sp. nov.**, is the second species exhibiting this feature, but is readily distinguished from *S. sulcifera* by its long, slender penes that are fused basally, tapering to rounded apices with patches of tiny setules around the margins of their anterior half. Both species differ also in the shape and setation of pleopods 2, 4 and 5.

Sphaeromopsis sarii **sp. nov.** is closely related to *S. amathitis* Holdich & Jones, 1973. Based on the description of *S. amathitis* given by Holdich and Harrison (1981) and on examination of topotypic material (MTQ W14091, Museum of Tropical Queensland), the new species differs from *S. amathitis*, which has a broadly truncate pleotelson, an epistome with a trapezoid apex and more foraminate tubular setae, as well as differently shaped penes. *Sphaeromopsis sarii* differs from *S. minutus* Javed & Yousuf, 1995 (from Pakistan), which has a broadly rounded pleotelson with setules on the apex, an epistome with a subacute apex, and penes with curved rami, that taper inwards in their proximal part and form narrow and outwardly directed apices.

***Sphaeromopsis persikolpos* sp. nov.**

(Figs 7–11)

Material examined. All material from the Iranian shores of the Persian Gulf.

Holotype: male (3.1 mm), Kish Island, Harrireh, in filamentous algal turf mats on shore rocks, 05 December 2007, 26°34'082" N, 53°58'296" E, coll. Reza Khalaji (ZMH-42320).

Paratypes: 6 adult males (up to 3.2 mm); 5 non-ovigerous females (up to 2.4 mm), same data as holotype (ZMH-42321); Kish Island, Forest Park, in the tide pools, 26 Jun 2006, 26°30'473" N, 54°02'680": 6 adult males (up to 3.3mm), coll. V. Khalaji (ZMH-42322); Qushm Island, Ramchah, in the tide pools, 08 December 2007, 26°51'234" N, 56°08'462" E: 9 adult males (up to 3.2mm); 5 subadult (2.8 mm); 5 juveniles (up to 1.8 mm); 4 non-ovigerous females (up to 2.6 mm), V. Khalaji & A. Bahpour (ZMH-42323); Qeshm Island, Shibderaz, 08 December 2007, 26°41'177" N, 55°56'051" E, sandy beaches, low algal turfs: 5 adult males (up to 2.9 mm); 2 non-ovigerous females (up to 2.3mm); 2 juveniles (1.8 mm), coll. V. Khalaji (ZMH-42324); Qeshm Island, Sea Cinema, 08 December 2007, 26°56'136" N, 56°58'296" E, in the tide pools: 6 adult males (up to 3mm); 5 subadult (up to 2.4mm); 5 juveniles (up to 1.4mm); 4 non-ovigerous females (up to 1.8mm), coll. V. Khalaji (ZMH-42325). Ziarat village, 04 December 2007, 27°05'403" N, 53°05'082" E, sandy beaches: 2 females (up to 2.5 mm); 2 adult males (3 and 3.5mm); 1 juvenile (1.6 mm), coll. V. Khalaji (ZMH-42326).

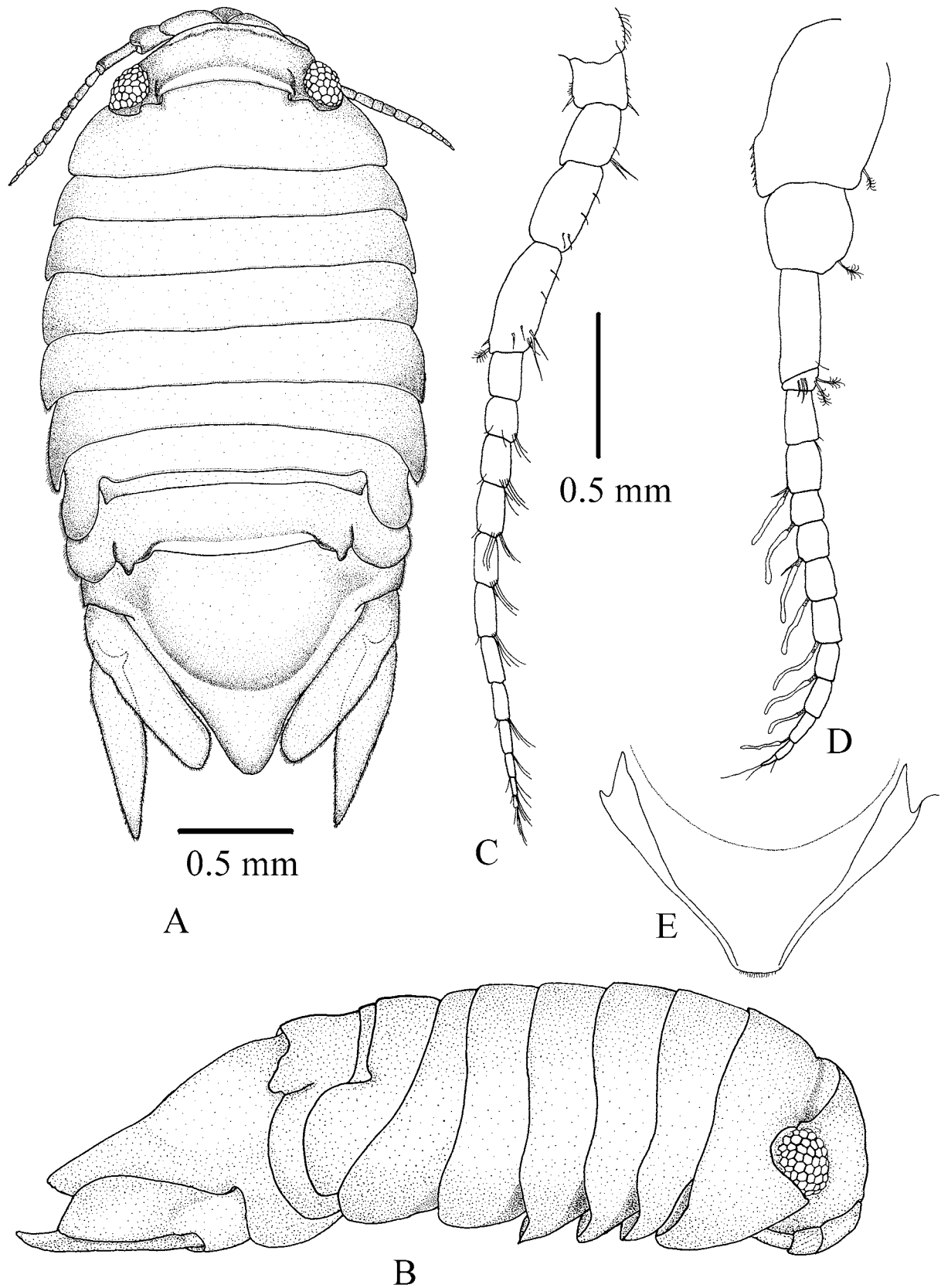


FIGURE 7. *Sphaeromopsis persikolpos* sp. nov., holotype (male). A, dorsal view; B, lateral view; C, antenna; D, antennule; E, ventral view of pleotelson.

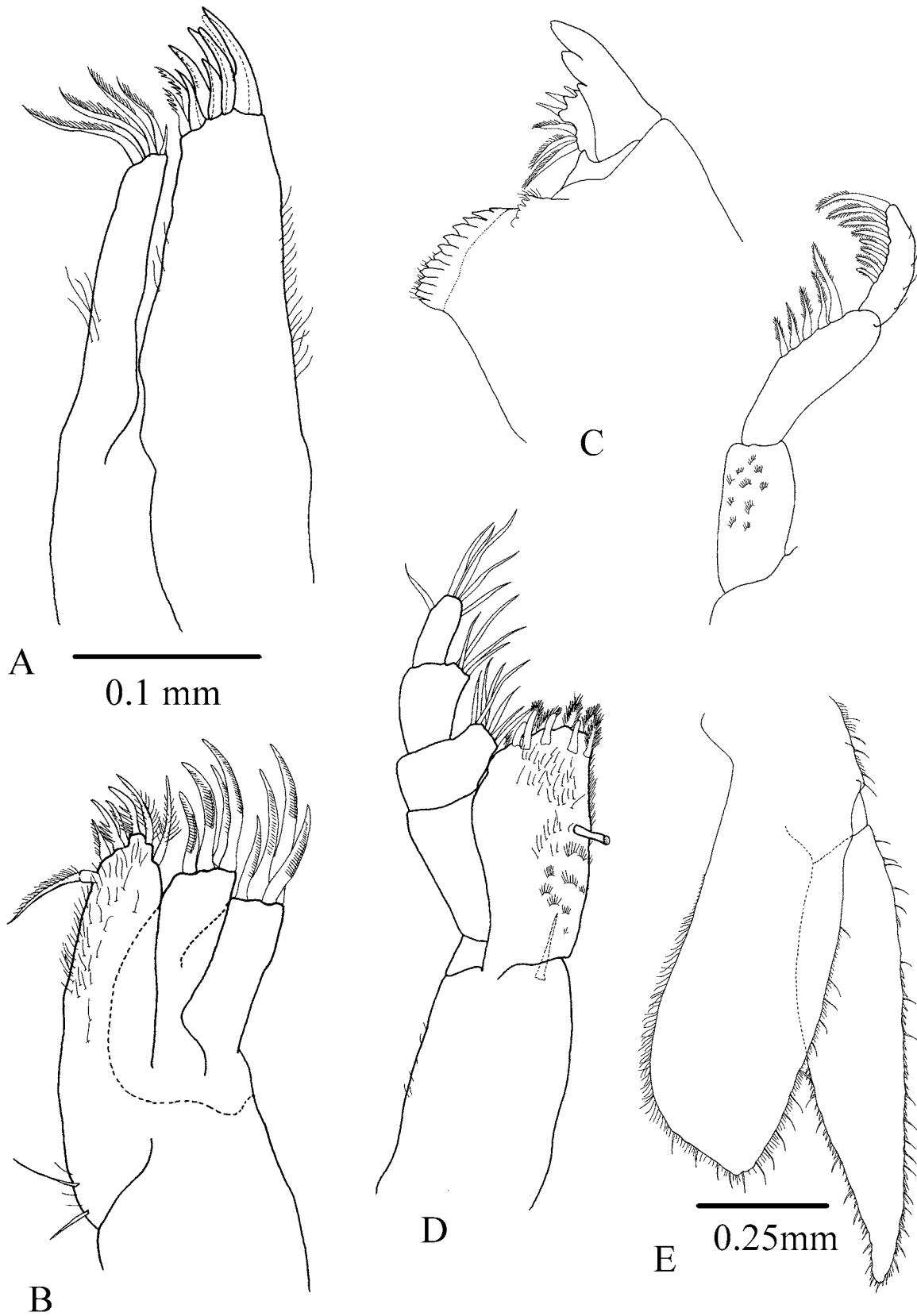


FIGURE 8. *Sphaeromopsis persikolpos* sp. nov., holotype (male). A, maxillule; B, maxilla; C, right mandible; D, maxilliped; E, uropod.

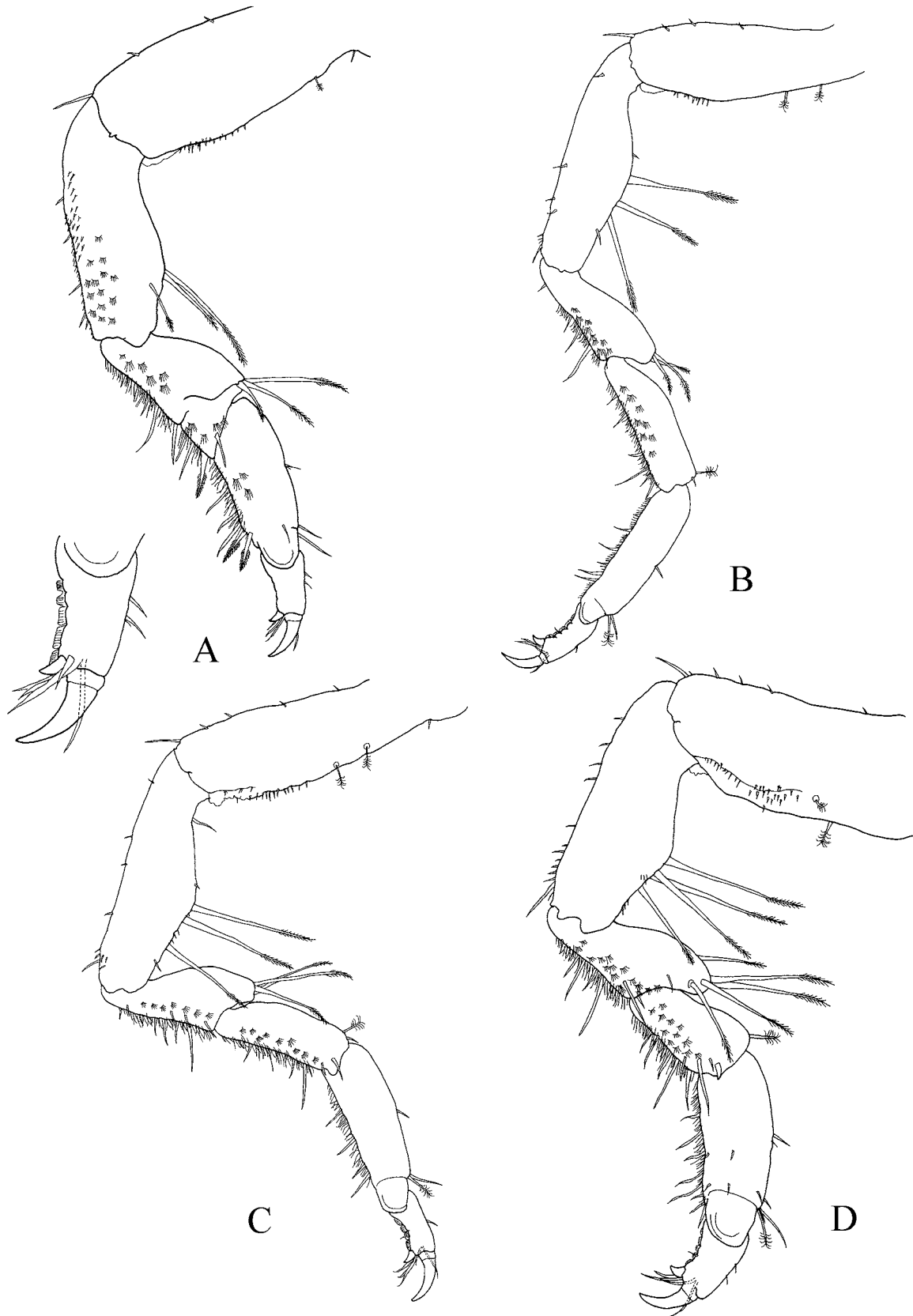


FIGURE 9. *Sphaeromopsis persikolpos* sp. nov., holotype (male). A–D, pereopods 1–4, respectively.

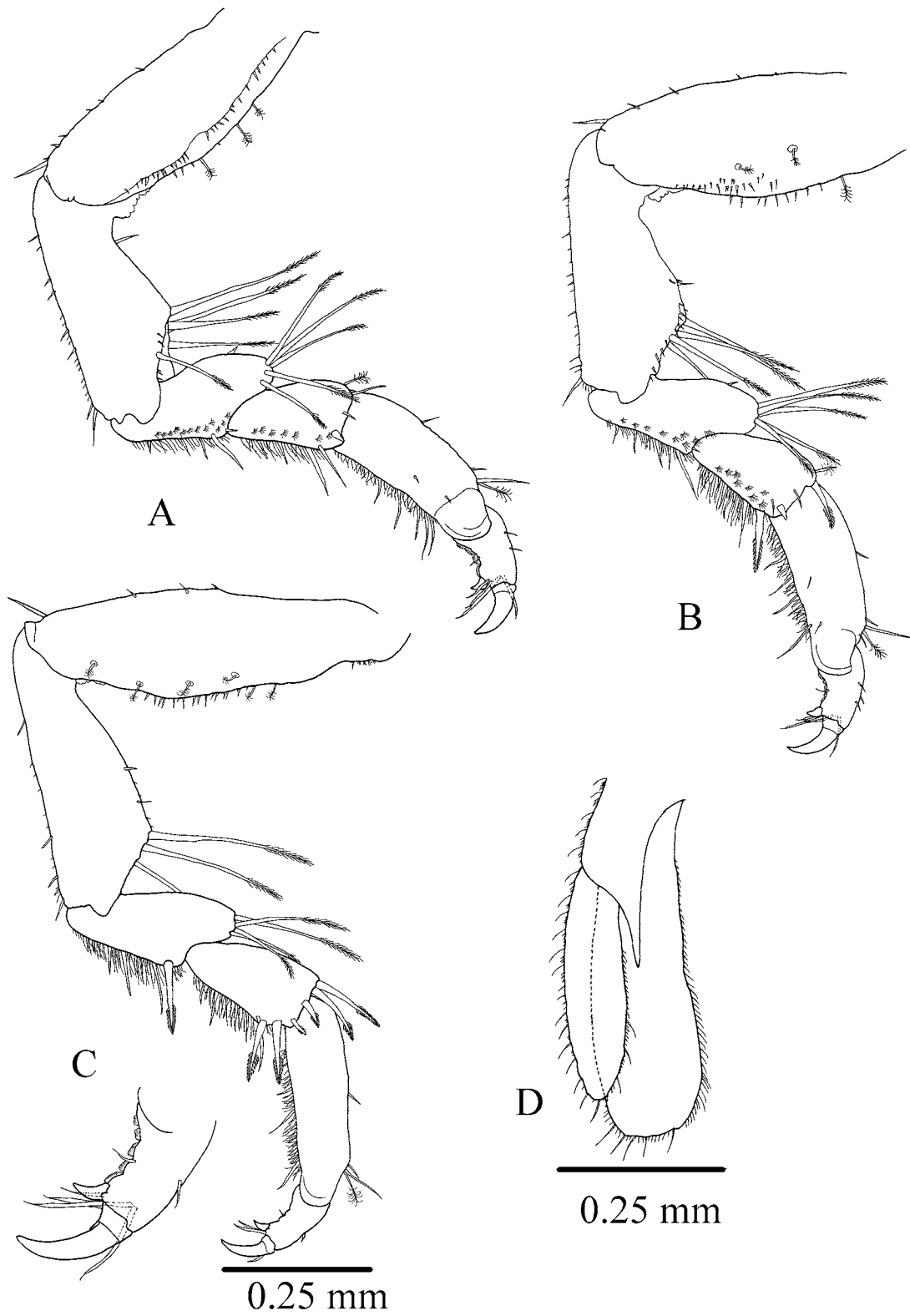


FIGURE 10. *Sphaeromopsis persikolpos* sp. nov., holotype (male). A–C, pereopods 5–7, respectively; D, female uropod.

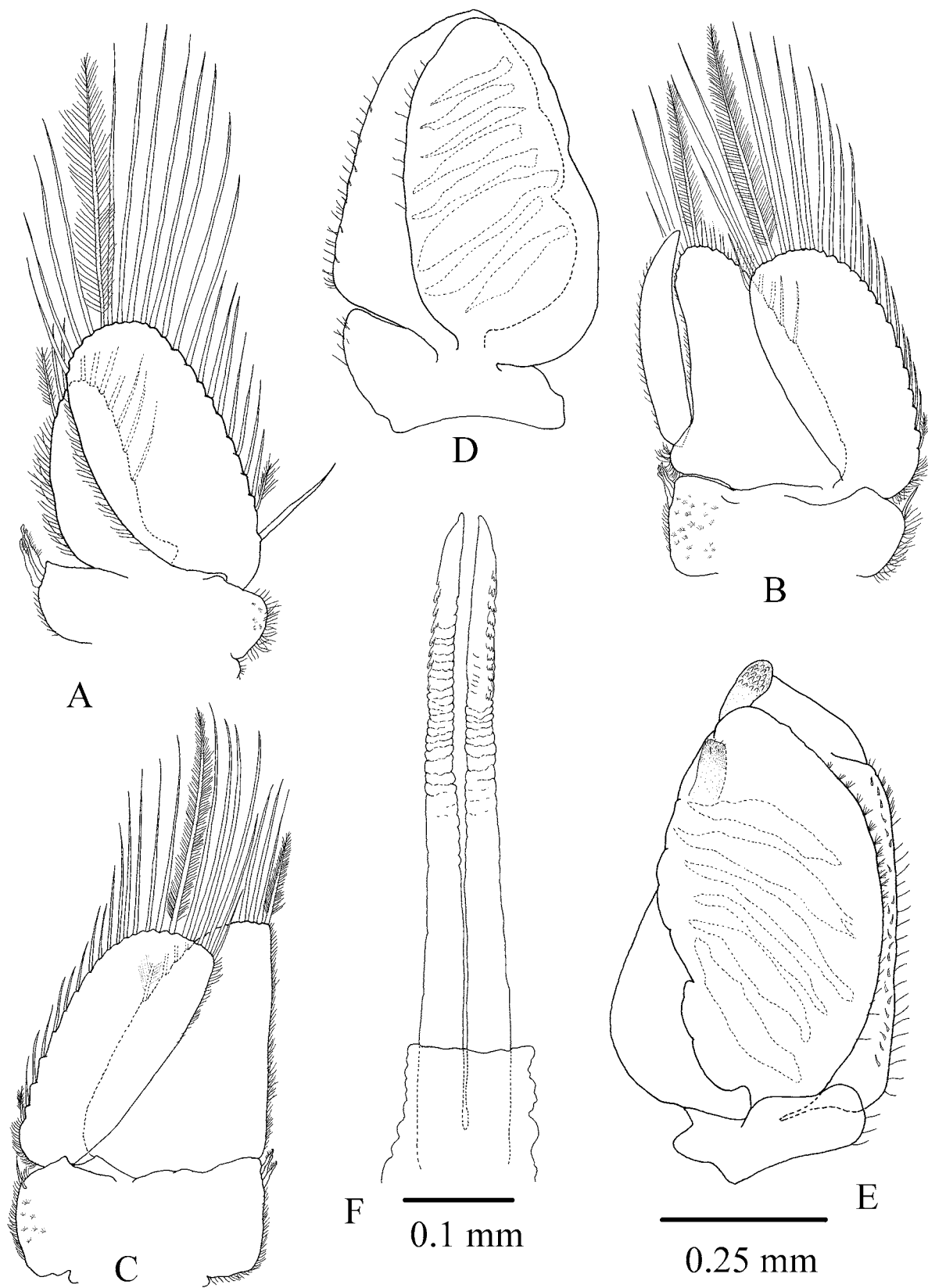


FIGURE 11. *Sphaeromopsis persikolpos* sp. nov., holotype (male). A–E, pleopods 1–5, respectively; F, penes.

Diagnosis. Head with a small rostrum point, not visible in dorsal view; antennule basal article robust; pereonites 2–7 without coxal sutures; pleon with posterior margin bearing single suture at either side; pleotelson elongated, nearly triangular, with a narrow pleotelson apex; areas of coxal plates 6 and 7 broad, extending backwards and overlapping the most lateral part of the following segment; exopod of uropod extending well beyond pleotelsonic apex, tapering to narrow apex.

Description of male. Body twice as long as greatest width; *head* smooth, rostral process weakly developed. Pereonites 1–7 smooth; pereonite 1 with widest coxal area; pereonites 2–7 without coxal sutures; coxal areas 2–4 triangular; coxal area 4 with more acute angle, 6 broad, extending backwards and overlapping the most part of the one behind; 7 shorter than 6, wide, lobate, extending backwards and overlapping laterally part of pleon; *pleon* posterior margin bearing single suture on either side. *Pleotelson* wider than long, with a clear dorsal dome, some foraminate scattered setae over surface (Figs. 6D, 6E); posterior margin produced to narrow apex, bearing some short fine setae, lateral margins folded ventrally.

Antennule basal article subequal in length to articles 2 and 3 together, article 3 about 1.4 as long as article 2, with 2 small sensory palmate setae on ventro-distal corner; flagellum 12-articled, extending to posterior of pereonite 2, articles 2–9 each bearing a single aesthetasc. *Antenna* peduncle article 5 longer than others; flagellum extending slightly beyond pereonite 3, with 12 setose articles.

Epistome visible dorsally, about 2 times as long as labrum, with rounded apex and concave lateral margins, some foraminate setae scattered over surface; arms with scale setae, extending beyond mid-length of labrum.

Maxillule lateral lobe mesial margin with a few simple setae, outer margin fringed with simple short setae, apical margin with 9 robust setae, some inferiorly serrate, mesial lobe with 4 comb and 1 simple setae, lateral margin with about 4 simple setae. *Maxilla* lateral and middle lobes with 4 curved robust nodular serrate setae; mesial lobe with 4 serrate robust and 3 stout comb setae, mesial margin with many short simple setae, proximal margin with 2 long and a few short simple setae. *Right mandible* incisor with 3 cusps, lacinia mobilis with 4 cusps; spine row with 3 serrate and 3 simple spines; molar process round; palp articles 1 about 0.8 as long as article 2, article 2 distolateral margin with 5 biserrate setae becoming progressively longer distally; article 3 with 8 biserrate setae, terminal seta being longest, outer margin with several simple fine setae. *Maxilliped* endite lateral margin weakly sinuate, distal margin with 4 stout blunt setae, set in amongst 6 distal circumplumose robust setae, mesial margin with 1 coupling hook and fringed with fine setae, many fine short and several scale setae over surface; palp articles 3–5 with 7, 4 and 6 setae respectively.

Pereopod 1 robust, *basis* about 2.5 times as long as greatest width, superior margin with short acute setae and 1 small sensory palmate seta, inferodistal angle with single long simple setae; *ischium* about 2.7 times as long as greatest width, inferior margin with several simple, many short setae and several toothed scales, superior margin with 3 long distally biserrate setae; on merus, carpus and propodus inferior margin fringed with short setae; *merus* 0.45 times as long as ischium, supero-distal angle with 3–4 long distally biserrate setae, some long setae and several toothed scales; *carpus* about 0.6 as long as wide, subtriangular, inferodistal angle with single biserrate robust seta; *propodus* 2.6 times as long as wide, inferior margin with some long setae and 2 biserrate robust setae, superodistal corner with 2 long simple setae; *dactylus* inferior margin with cuticular scales, secondary unguis curved, with 3 simple setae at base, superior margin with 2 short seta, distal margin with 2 simple sub-marginal setae.

Pereopod 2 *basis* about 4.5 times as long as wide, superior margin with many short acute setae and 2 small sensory palmate setae; *ischium* about 3.4 times as long as greatest width, inferior margin with several short setae, superior margin with 3 long distally biserrate setae and 2 simple seta; on merus, carpus and propodus inferior margin fringed with short setae; *merus* about 0.5 times as long as ischium, superodistal angle with 3 long distally biserrate setae, 3–4 long setae and several toothed scales; *carpus* about 3 times as long as greatest width, inferior margin with some long setae and several toothed scales, superodistal angle with single small sensory palmate seta; *propodus* about 0.7 times as long as ischium, supero-distal corner with single simple and single small sensory palmate seta; *dactylus* inferior margin with cuticular scales, secondary unguis curved, with 3 simple setae at base, superior margin with single short seta, distal margin with 2 simple sub-

marginal setae. *Pereopod 3* similar to pereopod 2 as illustrated. *Pereopod 4* basis about 2.8 times as long as wide, dorsally with many short acute setae and 2 small sensory palmate setae; *ischium* about 2.5 times as long as greatest width, superior margin with 4 long distally biserrate and some simple setae; *merus* about 0.5 times as long as *ischium*, superodistal angle with 5 long distally biserrate setae, inferior margin with 4–5 long setae and several toothed scales; *carpus* about 1.7 times as long as greatest width, supero-distal angle with single small sensory palmate seta; *propodus* about 0.8 times as long as *ischium*. *Pereopod 5* similar to pereopod 4 as illustrated. *Pereopod 6* basis about 3.3 times as long as greatest width, dorsally many acute setae and 1 small sensory palmate seta, medial surface with 2 widely spaced small sensory palmate setae and many short acute setae; *ischium* about 2.4 times as long as greatest width, inferior margin with several short setae, superior margin with 4 long distally biserrate and several short acute setae; on *merus*, *carpus* and *propodus* inferior margin fringed with short setae; *merus* about 0.5 times as long as *ischium*, superodistal angle with 5 long distally biserrate setae; *carpus* subequal in length to *merus*, inferodistal angle with single biserrate robust seta, superodistal angle with 1 biserrate robust and 1 sensory palmate seta; *propodus* about 0.7 times as long as *ischium*, superodistal corner with single sensory palmate, single long and 2 simple short setae; *dactylus* inferior margin with cuticular scales, secondary unguis curved, with 3 simple setae at base, superior margin with 3 short setae, distal margin with 2 simple sub-marginal setae.

Pereopod 7 similar to pereopod 6, however, basis medial surface with 4 widely spaced small sensory palmate setae; *ischium* about 2.8 times as long as greatest width; *carpus* proximal margin with 6 biserrate robust setae.

Penes elongated rami slender, tapering to narrowly rounded apices, length more than 7 times basal width, and lateral margins with proximally directed hand-like scales on distal third (Fig. 6F).

Pleopod 1 exopod and endopod with 21 and 11 plumose marginal setae respectively, endopod narrower and shorter than exopod, lateral margin concave, mesial margin with short setae; exopod proximal lateral corner with single stiff seta; sympodite mesial margin with 3 coupling hooks and some toothed scales. *Pleopod 2* exopod and endopod equal in length, with 23 and 15 plumose marginal setae respectively; *appendix masculina* arising sub-basally, stout, sub-crescentic with medial convex margin, extending somewhat beyond endopod apex; sympodite with 3 distomesial coupling hooks and single distolateral stiff seta. *Pleopod 3* exopod and endopod with 22 and 14 plumose marginal setae respectively; sympodite with 3 disto-mesial coupling hooks, lateral margin with fringe of thin setae and single seta on distolateral corner; endopod mesial margin straight with fringe of thin setae. *Pleopod 4* both rami subequal in length, endopod narrower than exopod, mesial margins with some fine simple setae. *Pleopod 5* exopod with 3 scale patches (2 distally of and 1 under the transverse suture), mesial margin with several fine simple and several acute sub-marginal setae.

Uropodal exopod extending well beyond pleotelsonic apex, tapering to narrowly rounded apex, lateral and medial margins with short simple setae and tricorn marginal setae; endopod mesial margin with simple marginal setae, distal margin sub-truncate and slightly serrate, lateral margin with simple and tricorn marginal setae.

Female. Differs from male in sexual characters, uropod rami and pleotelson: The uropod rami are smaller than in male, exopod subequal or smaller than endopod (Fig. 10D); pleotelson elongation less than in male.

Etymology. The specific name is derived from “Persia”, the ancient Iranian empire, combined with “kolpos”, Gulf, and refers to the type locality (Persian Gulf).

Remarks. Among the Indian Ocean *Sphaeromopsis* species, the new species is most similar to *S. reticulata* Stebbing, 1910, which was described from the Red Sea (Gulf of Aqaba). According to the drawings and comments given by Stebbing (1910) and Holdich & Harrison (1981), in *S. reticulata* the posterior margin of the pleon has two separate sutures on either side, but in *S. persikolpos* **sp. nov.**, there is only a one such suture (Fig. 6D). The lateral margin of the uropodal exopod is crenulated in *S. reticulata*, but nearly smooth in *S. persikolpos* and the exopod in this species is longer with a narrow apex (Figs. 9E, 13C). The new species also differs from *S. reticulata* for its sub-basally arising appendix masculina, the shape and setation of pereopods 1–7, pleopods 1–5, and the shape of the coxal areas of pereonites 6–7. *Sphaeromopsis sei* Storey,

2002 known from the Andaman Sea (Thailand), is the only species in the genus with a narrow pleotelson apex. However, based on the description of this species given by Storey (2002) and based on examination of its paratypes (ZMUC CRU3264, Nai Harn Beach, Thailand), *S. sei* can readily be distinguished from *S. persikolpos* by its longer epistome, a pleon with two sutures along the posterior margin, shorter uropodal exopod with serrated lateral margins, the shape of the shorter penes, the dense tuft of short setae on the inferior margins of the merus, carpus and propodus, and the longer setae along the superior margins of the pereopods. Moreover, the peduncle article 4 of the antenna has 2 long slender setae in *S. sei*.

Acknowledgments

This publication is part of a Ph.D. dissertation on Persian Gulf isopods conducted by VK at the Friedrich-Wilhelm University of Bonn, Germany. This study was supported by the Ministry of Science, Research and Technology of Iran. We thank Dr. Niel Bruce (Museum of Tropical Queensland, Queensland Museum, Townsville), Dr. J. Olesen (Zoolgisk Museum, University of Denmark, Copenhagen), Mr. P. J. F. Davie (Queensland Museum, Brisbane), and Prof. Jayme de Loyola e Silva (Universidade Federal do Paraná, Brazil) for the loan of material. We are also grateful to Mrs. Karin Ulmen (ZFMK, Bonn) for assistance with the scanning electron micrographs.

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