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A new species of *Robertgurneya* Apostolov & Marinov, 1988, with an illustrated record of *R. rostrata* (Gurney, 1927), an amended genus diagnosis and comments on *R. soyeri* (Apostolov, 1974) and *R. spinulosa* (Sars, 1911) (Harpacticoida: Miraciidae)

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Abstract

Quarterly sampling campaigns were carried out during year 2019 to study the effects of organic pollution on the diversity and abundance of meiofauna from a polluted coastal system in north-western Mexico. Amongst harpacticoids, the family Miraciidae Dana 1846 was by far the most abundant and diverse, and several new species and the proposal of some new genera of Stenheliinae Brady 1880 and Diosaccinae Sars 1906 will be published elsewhere. Amongst the Diosaccinae, the genus *Robertgurneya* Apostolov & Marinov 1988 was one of the most abundant. This genus was proposed and diagnosed by Lang (1944, 1948) but after a complex taxonomical history, was made available by Apostolov & Marinov (1988) who proposed an amended diagnosis and designated *R. similis similis* (Scott A. 1896) as the type species of the genus. Here I propose a new species, *Robertgurneya mexicana* **sp. nov.**, and give a fully illustrated record of the widely distributed *R. rostrata* (Gurney 1927). The relationships amongst the species of *Robertgurneya* are not clear, but the new Mexican species shares with *R. falklandiensis* (Lang 1936) the elongated inner dimorphic spine on the basis of the male P1. Additionally, a new amended diagnosis for the genus *Robertgurneya*, as well as the reallocation of *R. soyeri* (Apostolov 1974) into *Typhlamphiascus* Lang 1944, and the creation of a new genus, *Robertgurneyella* gen. nov., for *R. spinulosa* (Sars 1911) are proposed.

Keywords: Copepoda, taxonomy, diversity, meiofauna, new species, Diosaccinae

Introduction

With 37 genera and 367 species, the Diosaccinae Sars, 1906 is by far the most species-rich subfamily of the Miraciidae Dana, 1846, followed by Stenheliinae Brady, 1880 with 11 genera and 86 species (WoRMS Editorial Board 2020). These two subfamilies were the most abundant and diverse taxa of harpacticoid copepods in meiofauna samples collected during quarterly samplings during year 2019 at several stations along a polluted coastal system in north-western Mexico. The proposal of two new genera and species of Stenheliinae and Diosaccinae will be published elsewhere. Among the Diosaccinae, *Robertgurneya* Apostolov & Marinov, 1988 was one of the most abundant genera. The genus was created and diagnosed by Lang (1944) who also subdivided the genus into two species groups, the *similis*- and the *spinulosus*-groups without fixing a type species for the genus. Lang (1948) presented a slightly different diagnosis of the genus without any mention on its type species (see below), but Apostolov & Marinov (1988) made available the genus name *Robertgurneya* by proposing a new amended diagnosis for the genus and by fixing *Stenhelia similis* Scott A. 1896 (= *R. similis similis* (Scott A. 1896)) as the type species (Huys 2009). The generic diagnosis presented by Apostolov & Marinov (1988) did not considered some character states of some species attributed to *Robertgurneya* that did not fit the diagnosis, and some species needed to be removed from *Robertgurneya* and reallocated into other genera. Here I propose a new species of *Robertgurneya*, and present a new fully illustrated record of *R. rostrata* (Gurney 1927) from north-western Mexico. Additionally, a new amended diagnosis for *Robertgurneya* is given, along with the proposal to reallocate *R. soyeri* (Apostolov 1974) —known

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from the Bulgarian Black Sea (Apostolov 1974; Apostolov & Marinov 1988)— into *Typhlamphiascus* Lang 1944, and to create a new genus for *R. spinulosa* (Sars 1911). Some additional comments on the species-groups of *Robertgurneya* and their species are given.

Material and methods

Sediment samples were collected at several sites along Urías system (Sinaloa State, north-western Mexico; see also Gómez (2020, fig.1)) on January 18, 2019, using an Eckman grab of 25x25 cm. Triplicate sediment cores were taken using acrylic corers of 5.6 cm ID and 20 cm in length, and only the upper 3 cm layer was retrieved and fixed in pure ethanol. Each sample was sieved through 500 and 38 µm sieves to separate macro- and meiofauna. Meiofauna was extracted through centrifugation with Ludox® HS-40 following Burgess (2001) and Rohal et al. (2016), and preserved in pure ethanol. Meiofauna was sorted at a magnification of 40X using an Olympus SZX12 stereomicroscope equipped with DF PLAPO 1X objective and WHS10X eyepieces, and harpacticoid copepods were stored separately in 1 ml vials with pure ethanol. Illustrations and figures were made from whole individuals and its dissected parts using a Leica DMLB microscope equipped with L PLAN 10X eyepieces, N PLAN 100X oil immersion objective, and drawing tube. The dissected parts were mounted on separate slides using lactophenol as mounting medium. Huys and Boxshall (1991) was followed for general terminology.

Abbreviations used in the text: acro, acrothek; ae, aesthetasc; ENP, endopod; EXP, exopod; EXP (ENP)1 (2,3), first (second, third) exopodal (endopodal) segment; P1–P6, first to sixth legs; CI–CV, first to fifth copepodid.

Results

Systematics

Order Harpacticoida Sars 1903

Family Miraciidae Dana 1846

Subfamily Diosaccinae Sars 1906

Genus *Robertgurneya* Apostolov & Marinov 1988

Type species. *Stenhelia similis* Scott A. 1896 (= *Robertgurneya similis similis* (Scott A. 1896)), by subsequent designation.

Other species and subspecies. *Amphiascoides? arabicus* Noodt 1964 (= *R. arabica* (Noodt 1964)), *Robertgurneya brevipes* Wells & Rao 1987 (= *R. brevipes* (Wells & Rao 1987)), *Amphiascus dactylifer* Wilson 1932 (= *R. dactylifer* (Wilson 1932)), *Amphiascus dictydiophorus* Monard 1924 (= *R. dictydiophora* (Monard 1924)), *Robertgurneya diversa* Lang 1965 (= *R. diversa* (Lang 1965)), *Amphiascus ecaudatus* Monard 1936 (= *R. ecaudata* (Monard 1936)), *Amphiascus falklandiensis* Lang 1936 (= *R. falklandiensis* (Lang 1936)), *Robertgurneya hopkinsi* Lang 1965 (= *R. hopkinsi* (Lang 1965)), *Amphiascus ilievecensis* Monard 1935 (= *R. ilievecensis* (Monard 1935)), *Robertgurneya* mexicana **sp. nov.**, *Robertgurneya oligochaeta* Noodt 1955 (= *R. oligochaeta* (Noodt 1955)), *Robertgurneya remanei* Klie 1950 (= *R. remanei* (Klie 1950)), *Amphiascus rostratus* Gurney 1927 (= *R. rostrata* (Gurney 1927)), *Robertgurneya similis bulbamphiascoides* Noodt 1955 (= *R. similis bulbamphiascoides* (Noodt 1955)), *Stenhelia simulans* Norman & Scott T. 1905 (= *R. simulans* (Norman & Scott T. 1905)), *Robertgurneya smithi* Hamond 1973 (= *R. smithi* (Hamond 1973)), *Robertgurneya soyeri* Apostolov 1974 (= *R. soyeri* (Apostolov 1974)).

Amended diagnosis. Miraciidae: Diosaccinae. Body semi-cylindrical compressed. Rostrum elongate, triangular; tip bifurcated, pointed or rounded. Antennule eight-segmented in females; second segment longest, as long as wide or up to three times as long as wide; haplocer and ten-segmented in males. Antenna with allobasis; exopod three-segmented; middle segment smallest; first segment with, second segment with or without seta, third segment with one lateral and two or three apical elements. Mandible with well-developed gnathobasis, biramous; exopod two-segmented, endopod one-segmented. Maxillule biramous; rami one-segmented. Maxilla with three syncoxal endites; endopod two-segmented (Hamond (1973) described the maxillary endopod of *R. smithi* "as in other species of the genus" (Hamond 1973: 66), but it is shown as one-segmented (Hamond (1973: 12, figure 11(16)); the maxillary endopod of *Robertgurneya* is diagnosed here as two-segmented until re-inspection of Hamond's material). Maxilliped subchelate; endopod one-segmented. Female P1–P4 with three-segmented rami; P1 ENP1 longer than exopod; P2–P3 ENP as long as or longer than exopod, P4 ENP shorter than exopod.

Armature formula of P1–P4:

	P1	P2	P3	P4
EXP	0;0;022	0–1;1;123	0–1;1;1–2,2,3	0;1;1–2,2,3
ENP	1;0–1;111	1;1–2;121*	1;1–2;2,2,1	1;1;1,2,1

*Sexually dimorphic in males

Male P1 basis without "nebendornen" nor nose-like "Chitinzapfen"; with inner dimorphic spine either elongate and about 0.9 times as long as ENP1, or about half the length of ENP1 and with recurved tip, or as long as neighbouring spinule of the basis. Male P2 ENP sexually dimorphic, two-segmented; first segment with one, second segment with one or two proximal setae, and four distal elements. Female P5 EXP with five or six setae, endopodal lobe with four to six elements. Male P5 EXP with five or six, endopodal lobe always with two setae. Caudal rami wider than long, rarely as long as wide, never longer that wide; with seven setae.

Robertgurneya mexicana **sp. nov.**

(Figs. 1–9)
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Type locality. Urías coastal system, Mazatlán, Sinaloa State, Mexico: stn 2 (23.1587°N, 106.3326°W; depth 1.8 m; organic carbon content 3.99%; organic matter content 6.86%; sand 80.42%; clay 8.29%; silt 11.28%). See also Gómez (in press, Fig. 1).

Other localities. Urías coastal system, Mazatlan, Sinaloa State, Mexico: stn 5 (23.2056°N, 106.3715°W; depth 0.6 m; organic carbon content 0.99%; organic matter content 1.71%; sand 78.61%; clay 6.72%; silt 14.67%), stn 10 (23.1815°N, 106.4214°W; depth 6.0 m; organic carbon content 1.2%; organic matter content 2.07%; sand 69.12%; clay 7.91%; silt 22.97%). See also Gómez (in press, Fig. 1).

Type material. Female holotype (ICML-EMUCOP-180119-94) from type locality preserved in alcohol, and male allotype (ICML-EMUCOP-180119-95) from stn 10 dissected and mounted onto six slides, three female paratypes (ICML-EMUCOP-180119-104) from type locality preserved in alcohol, and two female paratypes from type locality dissected and mounted onto nine slides (ICML-EMUCOP-180119-96, ICML-EMUCOP-180119-97); January 18, 2019; S. Gómez leg.

Etymology. The specific epithet refers to the region where the new species was found. It is in the nominative singular, gender feminine.

Description. Female. Total body length measured from tip of rostrum to posterior margin of caudal rami ranging from 390 µm to 450 µm (mean, 423 µm; n, 3; total body length of holotype, 450 µm); habitus fusiform, widest at posterior end of cephalothorax in dorsal view, tapering posteriad.

Prosome (Fig. 1A) consisting of cephalothorax with fused first pedigerous somite, and second to fourth free pedigerous somites; prosomites without expansions nor spinular ornamentation; posterior hyaline frill of cephalothorax, second and third pedigerous somites broad, with posterior margins smooth, of fourth pedigerous somite visibly narrower, finely serrated, without striations.

Urosome (Figs. 1A, C, 2A) consisting of fifth pedigerous somite (first urosomite), genital double-somite, two free urosomites, anal somite and caudal rami; urosomites without expansions, covered with minute denticles dorsolaterally, without surface denticles ventrally. First urosomite (P5-bearing somite) narrower than preceding somites in dorsal view, with pores and posterior sensilla as depicted, posterior frill as in preceding somite dorsally and laterally (Fig. 1A). Genital double-somite rectangular, nearly as long as wide; anterior and posterior halves (second —genital— urosomite and third urosomite, respectively) distinct dorsally (Fig. 1A) and laterally (Fig. 1C), completely fused ventrally (Fig. 2A), with pores as shown; anterior half with dorsal sensilla, and with two short lateral

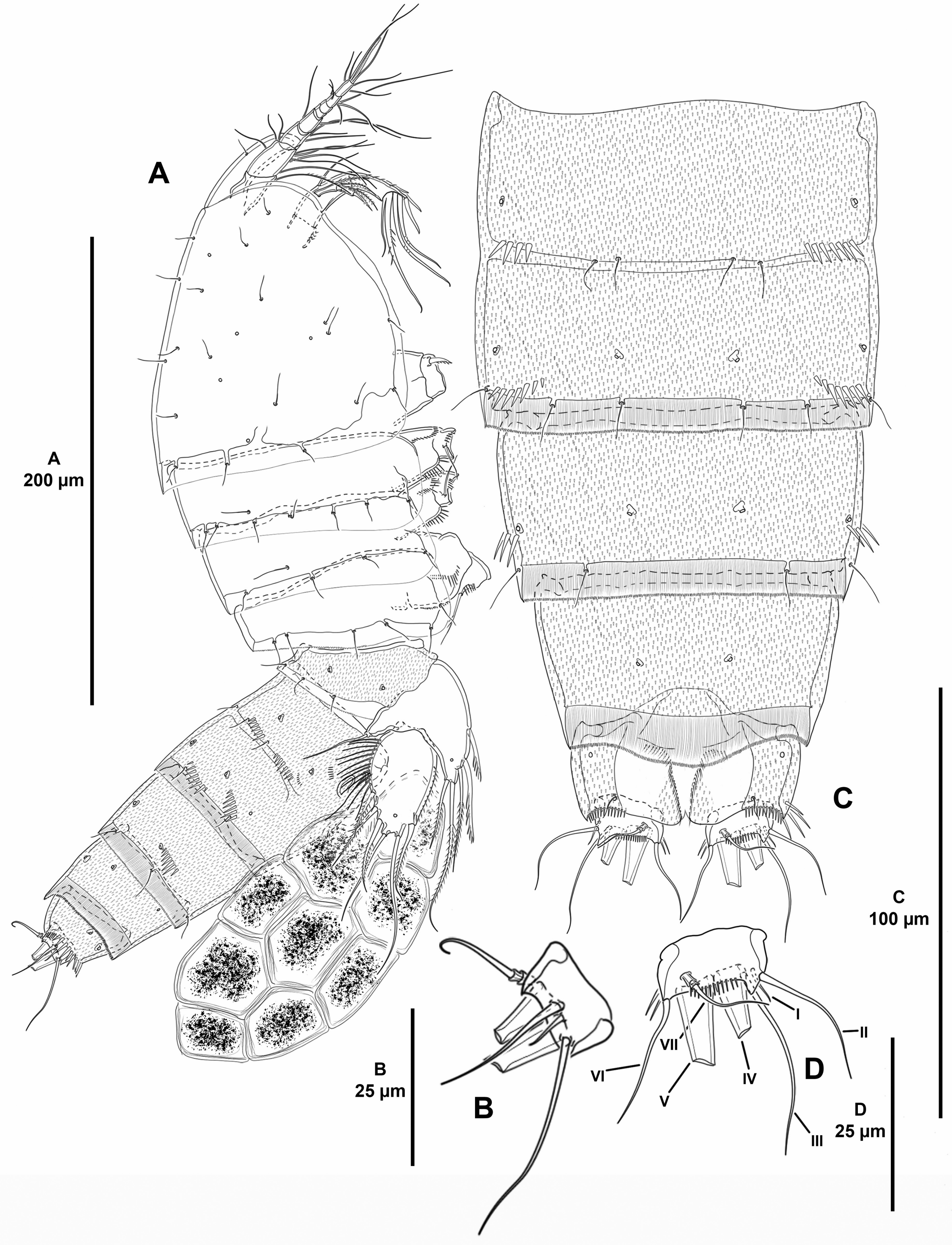

FIGURE 1. *Robertgurneya mexicana* **sp. nov.**, female; A, B, holotype; C, D, paratype. A, habitus, lateral; B, right caudal ramus, lateral; C, urosome, dorsal (P5–bearing somite omitted); right caudal ramus, lateral.

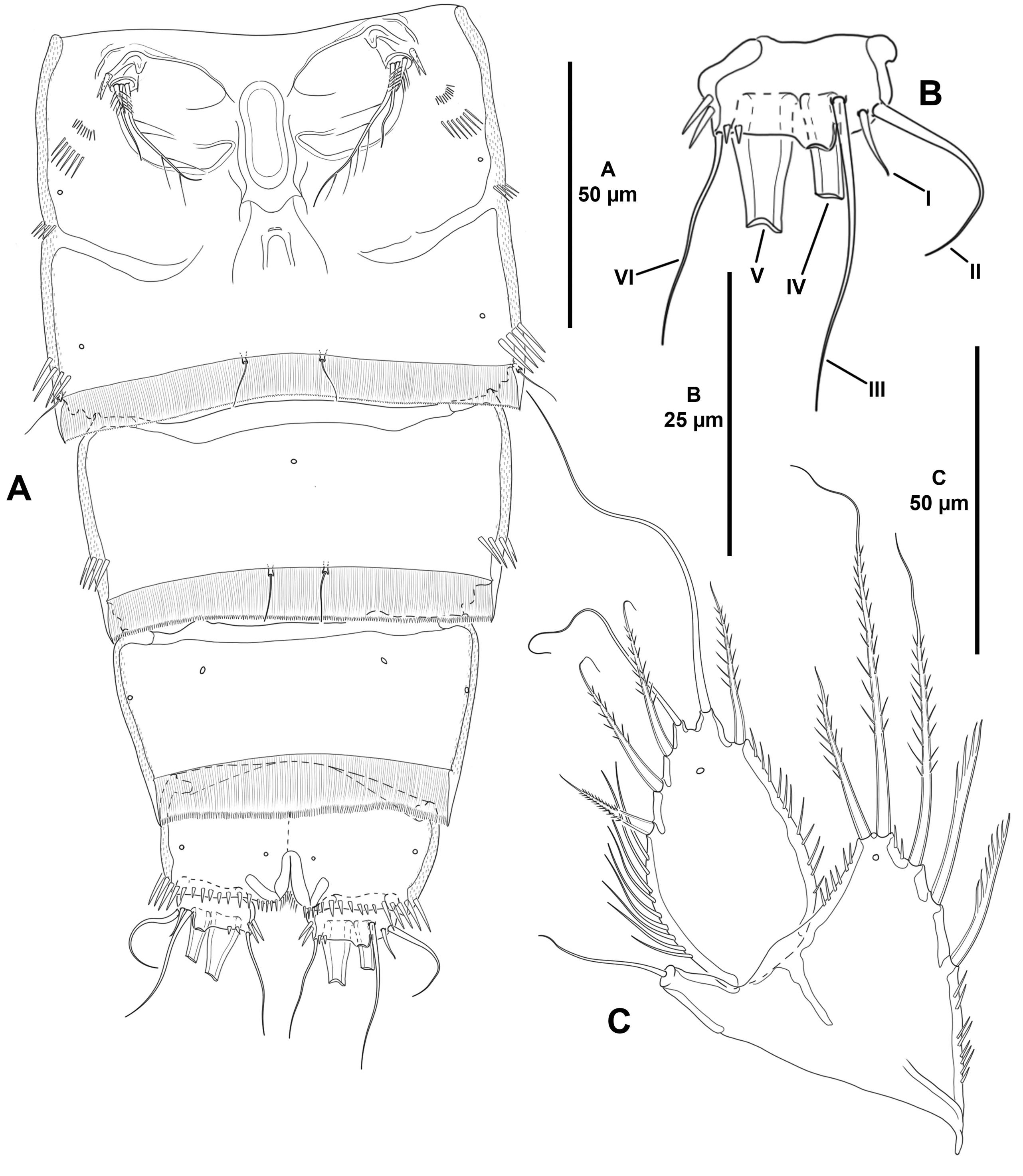

FIGURE 2. *Robertgurneya mexicana* **sp. nov.**, female; paratype. A, urosome, ventral (P5–bearing somite omitted); B, left caudal ramus, ventral; C, P5.

row of posterior spinules on each side (Fig. 1A, C), ventrally with P6 proximally, genital field with epicopulatory bulb medially, and with two short spinular rows close to outer margin on each side (Fig. 2A); posterior half with sensilla as shown dorsally (Fig. 1A), laterally (Fig. 1C), and ventrally (Fig. 2A), with lateral spinules as in preceding half, with posterior hyaline frill finely serrated and striated (Fig. 1C). Fourth urosomite largely as in posterior half of genital double-somite dorsolaterally except for one lateral spinular row only (Fig. 1A, C), seemingly with only one pore ventrally. Fifth urosomite (figs. 1A, C, 2A) without sensilla nor spinules; with dorsal, lateral and ventral pores as shown; posterior hyaline frill finely serrated and striated, dorsal medial part slightly crescentic (Fig. 1C). Anal somite wider than long from dorsal view (Fig. 1C), without anal operculum, cleft medially, with two posterior dorsal sensilla (Fig. 1C); with pores as shown; with small spinules close to joint with caudal rami dorsally (Fig. 1C), with comparatively stronger spinules laterally (Fig. 1A), and with coarse small spinules ventrally (Fig. 2A). Caudal rami 0.4 times as long as wide from dorsal view (Fig. 1C, D); dorsally with transverse posterior row of small spinules (Fig. 1C, D), laterally without spinular ornamentation (Fig. 1A, B), ventrally with two small spinules between large tube pore and seta VI, and with two subdistal inner spinules on each side (Fig. 2A, B); with seven setae as follows: setae I and II situated subdistally on outer margin, the former very small and ventral to the latter; seta III displaced ventrally close to outer margin; setae IV and V normal, with fracture plane, the former shorter; seta VI arising at inner distal corner, as long as seta III; dorsal seta VII issuing subdistally, close to inner margin, triarticulated. Rostrum (Fig. 2A, B) not fused to cephalothorax; elongated, triangular, with blunt tip; with one sensilla arising medially on each side; reaching distal margin of second antennulary segment.

Antennule (Fig. 3A, B) eight-segmented; all segments smooth, except for one proximal and one subdistal dorsolateral row of spinules on first segment; all setae smooth except for pinnate seta on first segment, and two and four biarticulated setae on seventh and eight segments, respectively. Armature formula: 1(1); 2(10); 3(7); 4(3+(1+ae)), 5(2); 6(4); 7(4); 8(5+acro). Acrothek consisting of two setae and one aesthetasc fused basally.

Antenna (Fig. 3C) with small unornamented coxa. Allobasis with remains of former division between basis and first endopodal segment, slightly longer than free endopodal segment, with outer slender spinules proximally; abexopodal seta issuing midway inner margin. Exopod three-segmented; first segment longer than second and third segments combined, second segment smallest; first and second segments unornamented, with one pinnate seta each; third segment with subapical row of spinules, with one bipinnate lateral seta, seemingly with two distal elements only one of which small. Free endopodal segment with proximal and subdistal inner strong spinules, and with two outer frills; armed with two lateral inner spines and two slender setae —the latter set close to each other—, one inner apical spine, three single geniculate setae, one slender short seta, and one strongly spinulose geniculate outer seta fused basally to slender pinnate element.

Mandible (Fig. 4A) with well-developed gnathobasis bearing strong multi- and bicuspidate teeth as shown, with four ventral elements of which ventralmost pinnate and visibly longer. Basis massive, with spinules as depicted, with three inner setae. Exopod two-segmented; first segment larger than second, the former with one lateral and one distal seta, the latter with three apical elements. Endopod one-segmented, visibly larger that exopod; laterally with two setae, distally with one inner free element, and two medial and three outer setae fused basally.

Maxillule (Fig. 4B) with arthrite ornamented with some slender spinules; armed with two surface setae, seven distal spines as shown, one spinulose element, and one recurved stiff pinnate ventral seta. Coxal endite with few inner spinules, with three distal setae of which one thicker. Basis armed with two lateral, one subdistal and three distal elements, one of which visibly thicker. Rami one segmented, exopod with two pinnate setae, endopod with four smooth elements.

Maxilla (Fig. 4C) with large syncoxa ornamented with long outer spinules; with three endites; proximal endite smallest, with two setae; middle and distal endites nearly subequal in length, the former with two, the latter with three setae. Basis drawn out into strong pinnate claw, additionally with strong pinnate spine, and two slender setae —one anterior, one posterior. Endopod two-segmented; first segment with two, second segment with four setae.

Maxilliped (Fig. 4D) subchelate. Praecoxa small, trapezoidal, unornamented. Coxa elongate, with medial and subdistal spinules as shown; with two inner setae issuing subdistally one of which visibly shorter, and one distal seta. Basis longer than coxa, elongate, with one posterior and one anterior row of spinules as depicted, with one medial inner and one subdistal inner seta. Endopod one-segmented, elongate, with three setae —one lateral, one subdistal and one distal small seta— and apical claw.

P1 (Fig. 5A) with broad, short unornamented intercoxal sclerite. Praecoxa triangular, with transverse row of minute spinules. Coxa massive, with spinular ornamentation as shown. Basis with inner and outer spinulose spines; with slender long inner spinules proximally, and with shorter and stronger spinules close to insertion of inner and outer spines, and distally on medial distal rounded extension. Exopod three-segmented, arising at a lower level than the endopod and reaching distal third of ENP1; ENP1:EXP length ratio 1.2; first and third exopodal segments subequal in length, second segment shorter, with spinular ornamentation as shown; first and second segments without inner armature, third segment with four elements. Endopod three-segmented, arising from pedestal; ENP1 elongate, about 5.4 times as long as wide, and 2.3 times as long as second and third segments combined, with outer strong and inner slender long spinules, with one inner stiff, long, and strongly pectinate seta arising subdistally; second and third segments with strong outer spinules as shown, the former nearly as long as wide and half as long as the latter, with one inner long seta; third segment elongate, about 2.7 times as long as wide, with one inner distal slender seta, one apical long element, and one outer distal spine.

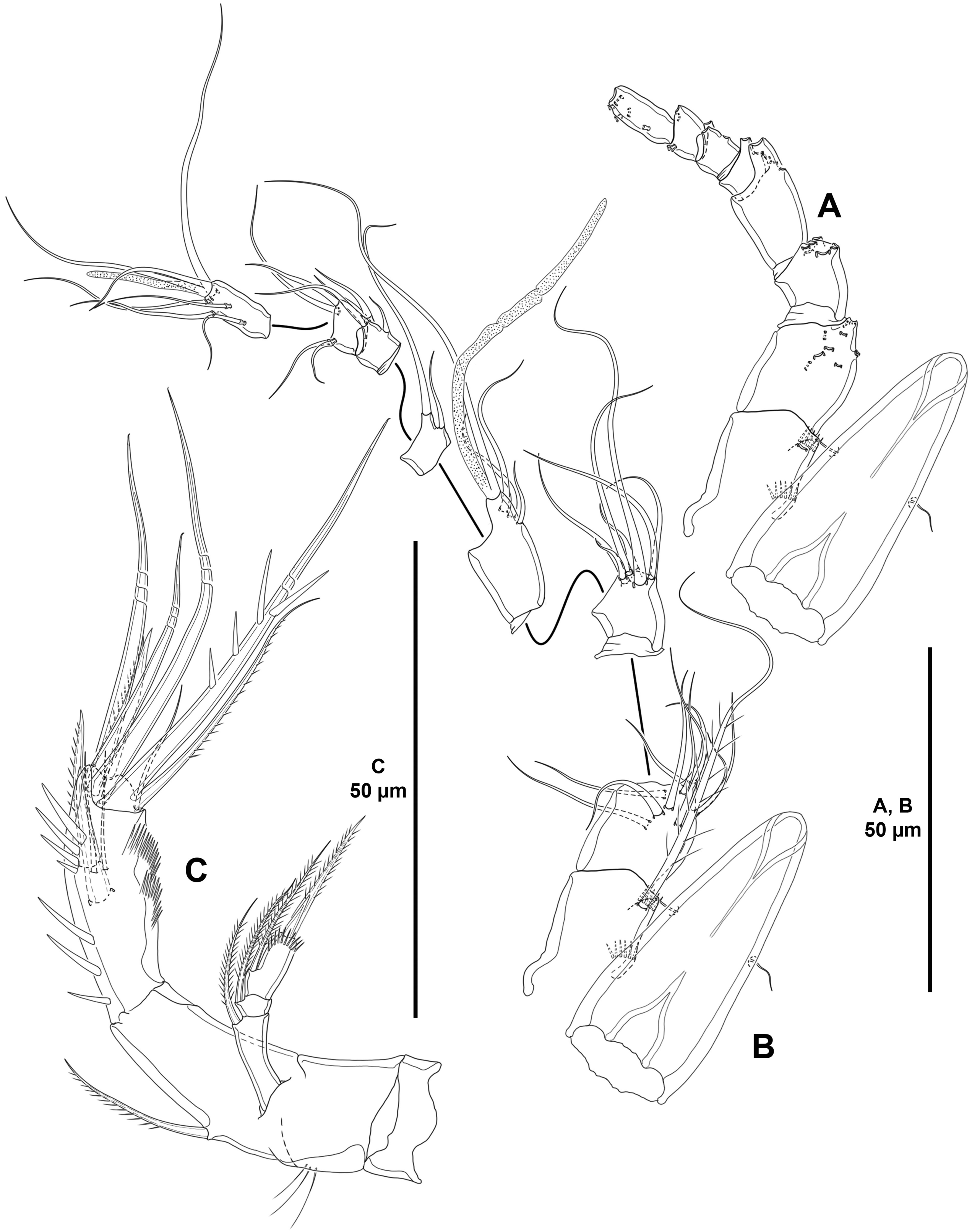

FIGURE 3. *Robertgurneya mexicana* **sp. nov.**, female; paratype. A, rostrum and antennule, dorsal (antennulary armature omitted); B, Rostrum and antennule, dorsal; C, antenna.

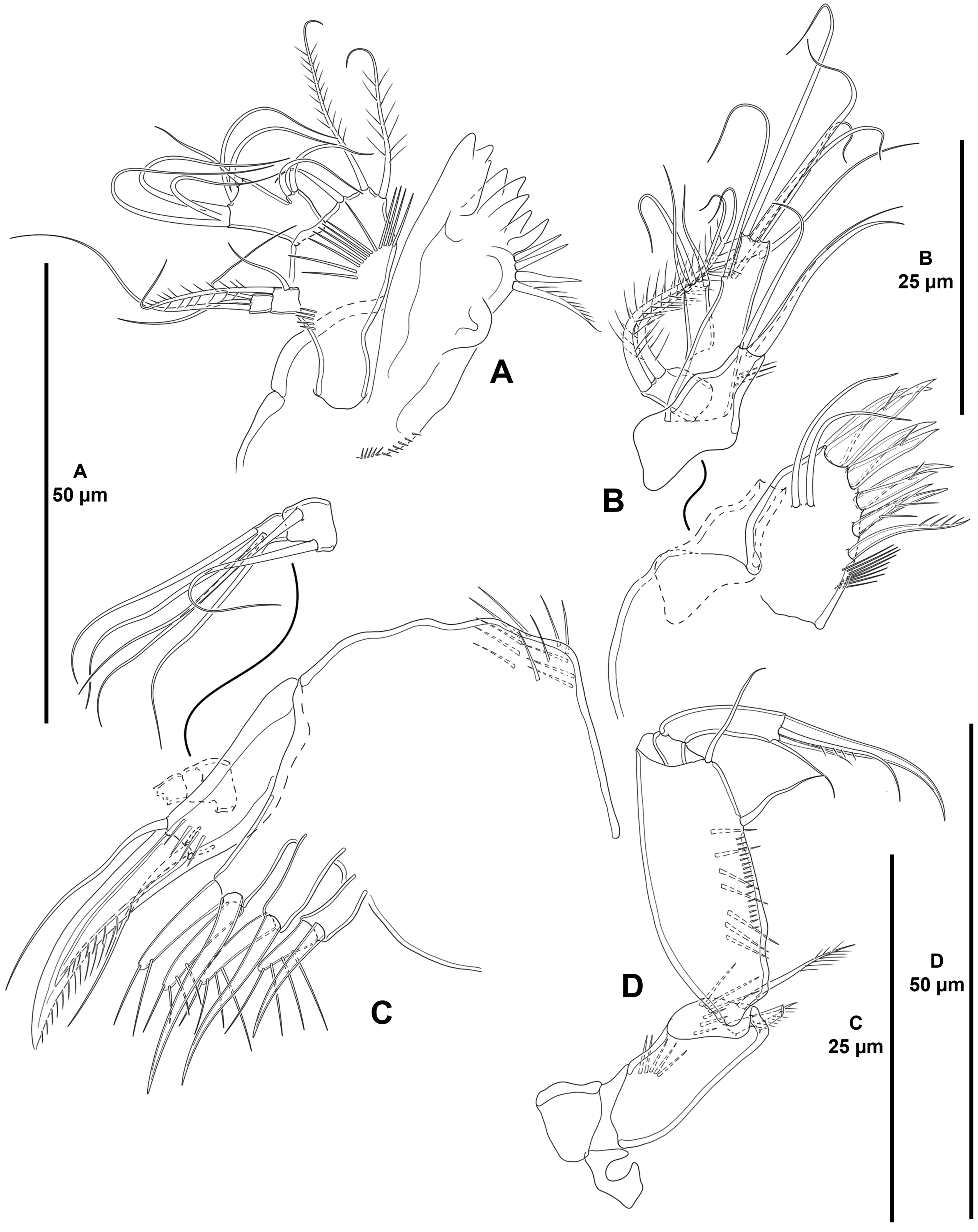

FIGURE 4. *Robertgurneya mexicana* **sp. nov.**, female; paratype. A, mandible; B, maxillule; C, maxilla; D, maxilliped.

P2 (Fig. 5B) with narrow, tall intercoxal sclerite with acute distal projection on each side. Praecoxa triangular, with transverse row of minute spinules. Coxa with three anterior and one posterior row of spinules as shown. Basis with distal inner acute projection; with long inner spinules proximally, with small spinules close to insertion site of endopod, and with longer spinules distally on medial extension and at base of outer element. Rami three-segmented;

endopod and exopod subequal in absolute length. Exopod arising at a lower level than the endopod, reaching distal third of ENP3; exopodal segments with outer spinules as shown; EXP1 and EXP2 with outer distal acute projection —of EXP1 shorter—, both segments with coarse inner distal hyaline frill; EXP1 without, EXP2 with inner seta; EXP3 with six elements —three outer spines, two apical elements, and one inner seta. Endopod arising from pedestal at a higher level than exopod; endopodal segments with strong outer spinules; ENP1 and ENP2 subequal in length, ENP3 longest; ENP1 with inner distal acute projection, with outer subdistal pore, with distal inner hyaline frill, with one short inner element; ENP2 ornamented as ENP1, but with additional distal outer acute projection, with inner long seta; ENP3 with outer spinular ornamentation as in previous segment, with medial pore, with one inner and two apical setae, and one outer spine.

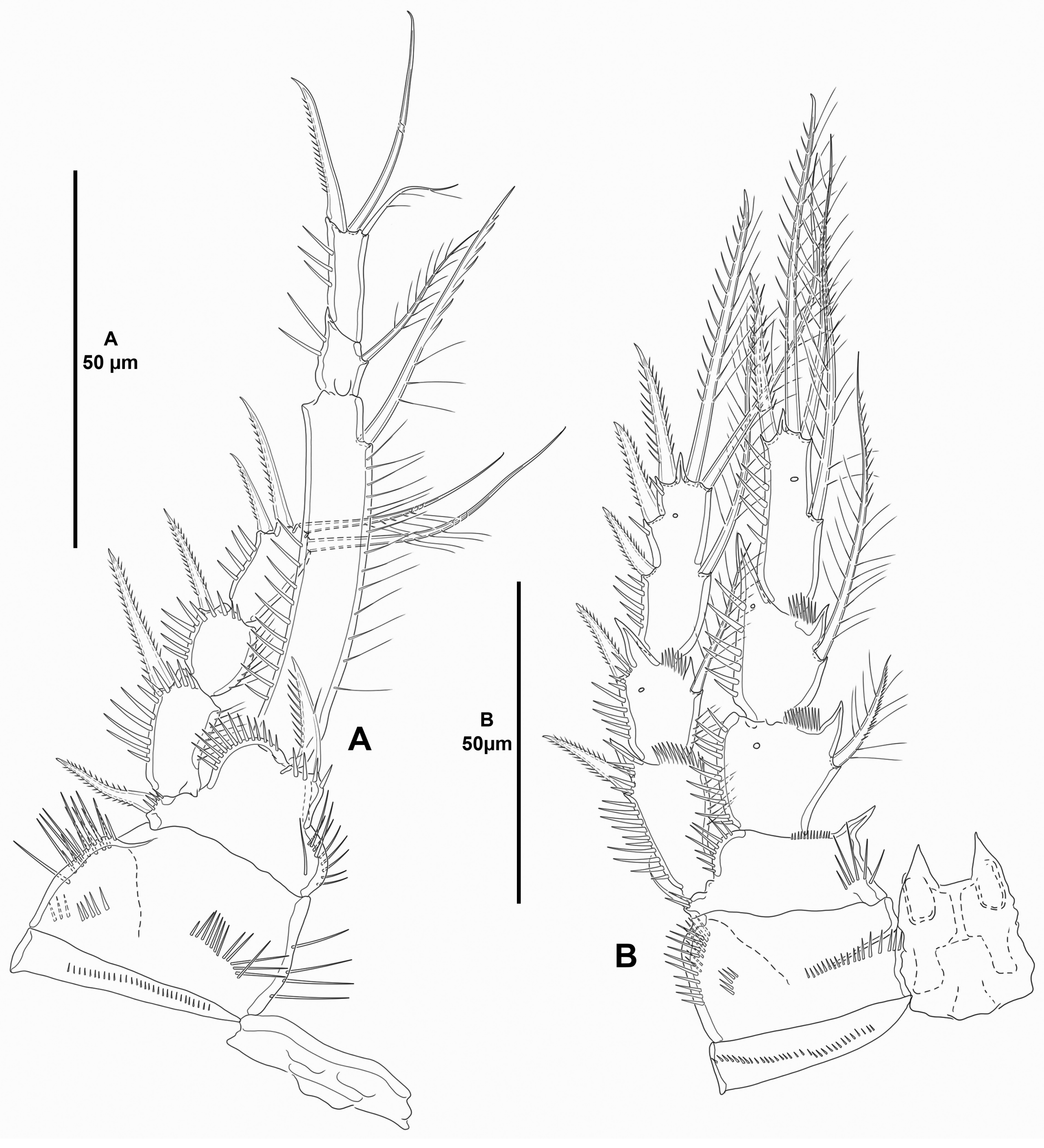

FIGURE 5. *Robertgurneya mexicana* **sp. nov.**, female; paratype. A, P1 and intercoxal sclerite, anterior; B, P2 and intercoxal sclerite, anterior.

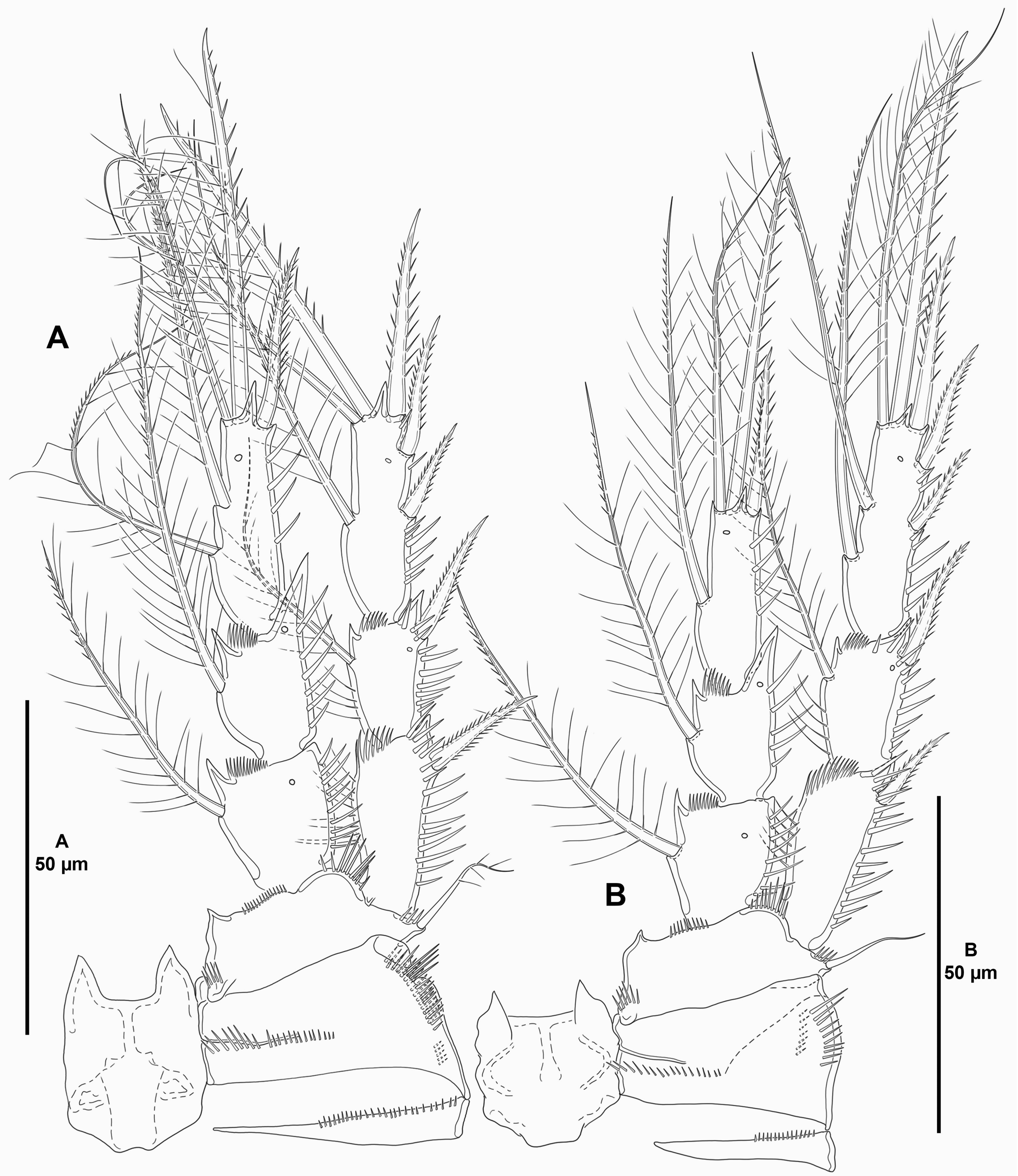

FIGURE 6. *Robertgurneya mexicana* **sp. nov.**, female; paratype. A, P3 and intercoxal sclerite, anterior; B, P4 and intercoxal sclerite, anterior.

P3 (Fig. 6A) with intercoxal sclerite, praecoxa and coxa as in P2. Basis largely as in P2 except for shorter inner spinules proximally and for smaller inner distal acute projection. Rami three-segmented, exopod slightly longer than endopod. Exopod largely as in P2. Endopod largely as in P2 except for two inner setae on P3 ENP3.

P4 (Fig. 6B) with intercoxal sclerite, praecoxa, coxa, and basis as in P3. Exopod longer than endopod, largely as in P3 except for two inner setae on P4 EXP3. Endopod reaching middle of EXP3; largely as in P3 except for one inner seta only on P4 ENP3.

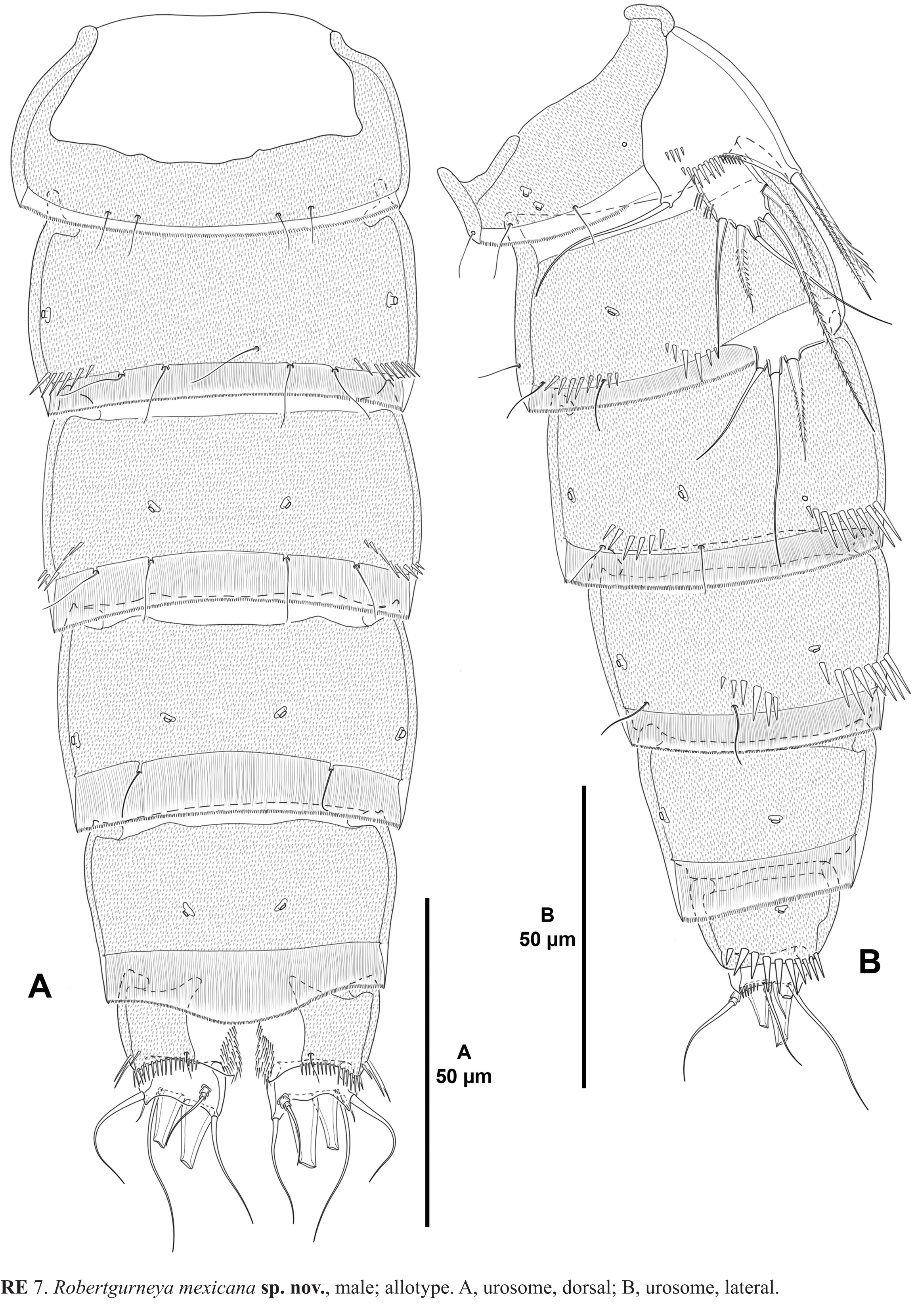

FIGURE 7. *Robertgurneya mexicana* **sp. nov.**, male; allotype. A, urosome, dorsal; B, urosome, lateral.

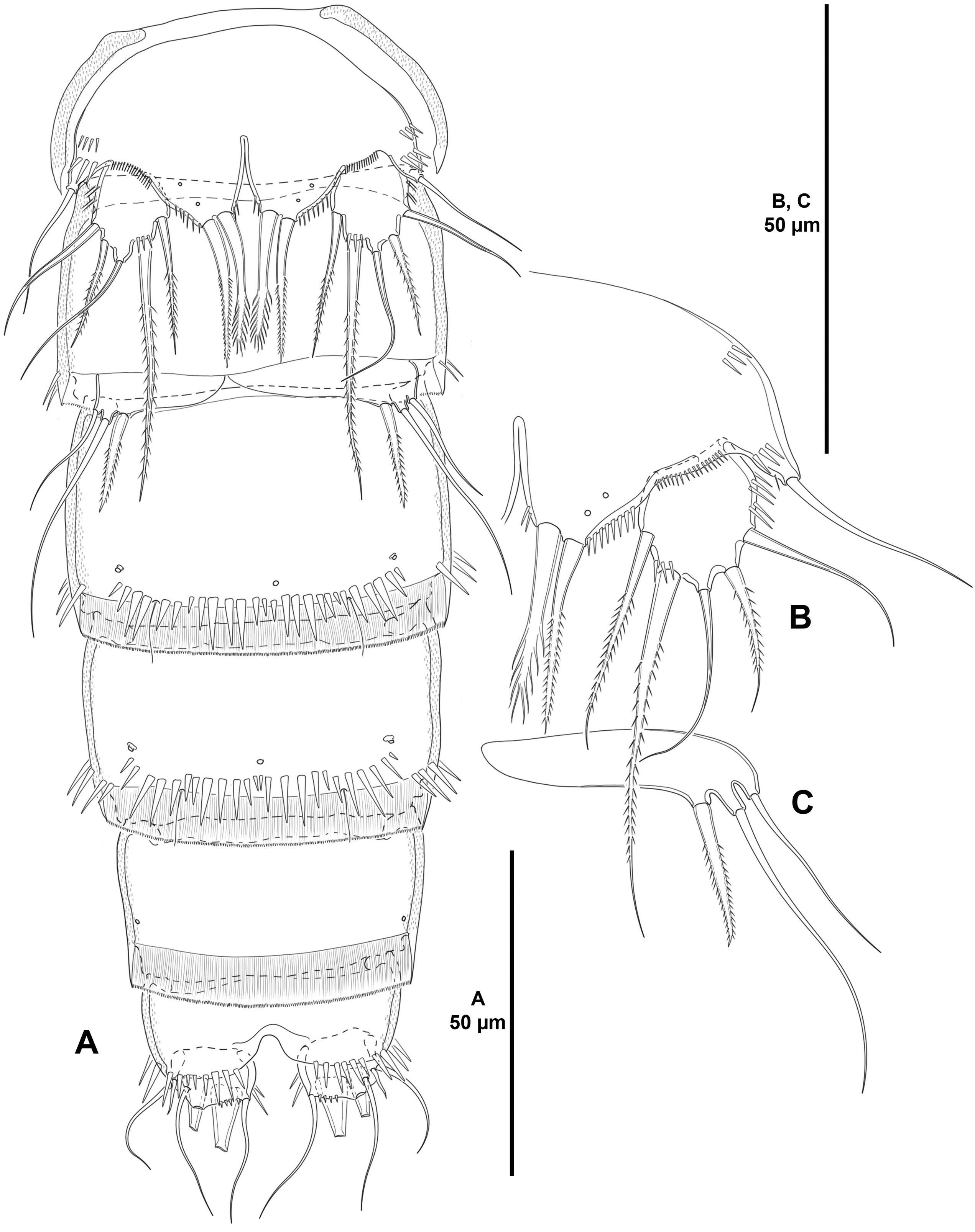

FIGURE 8. *Robertgurneya mexicana* **sp. nov.**, male; allotype. A, urosome, ventral; B, P5, anterior; C, P6, anterior.

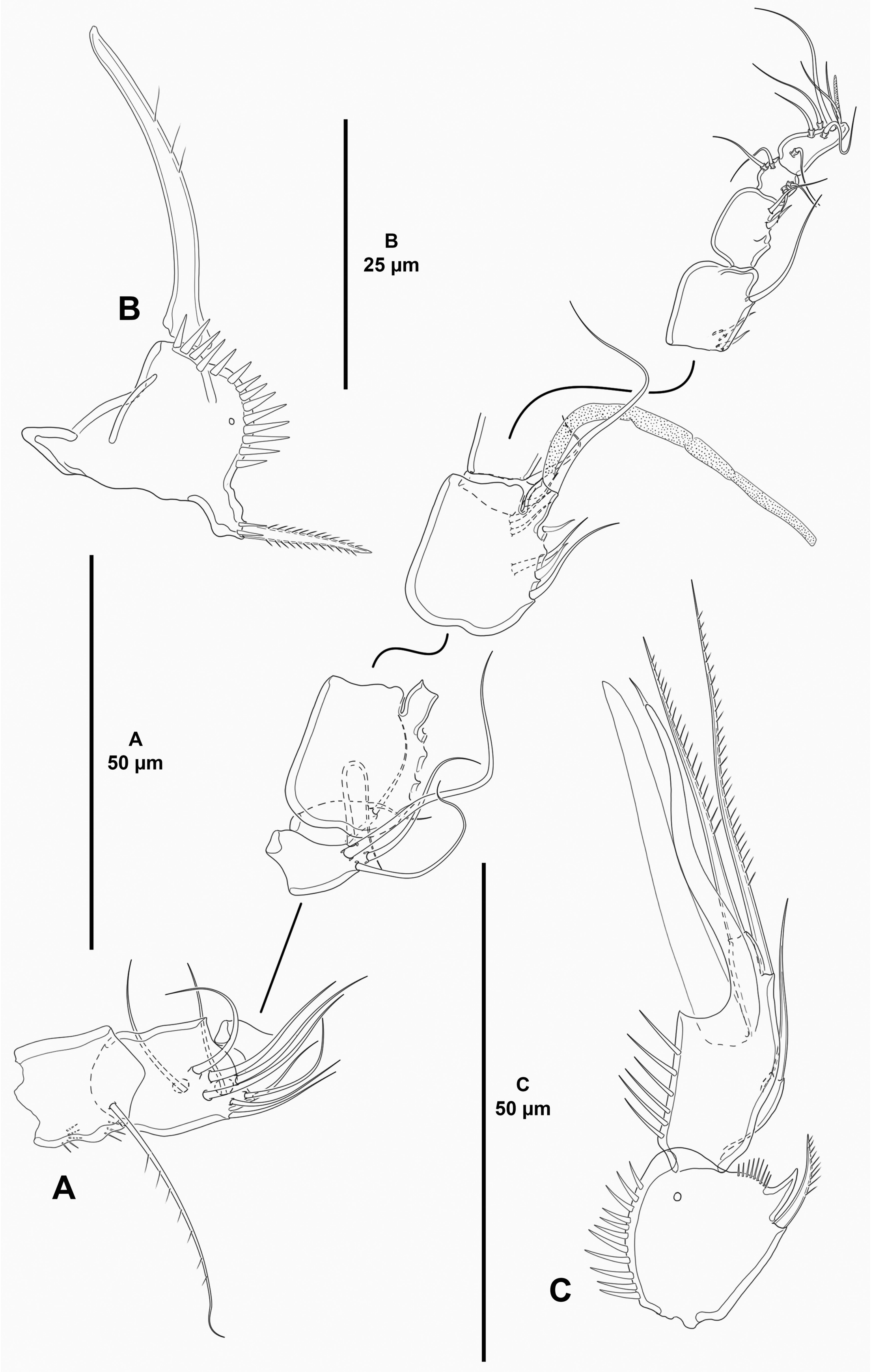

FIGURE 9. *Robertgurneya mexicana* **sp. nov.**, male; allotype. A, antennule, ventral; B, basis of P1, anterior; C, P2 ENP, anterior.

Setal formula of swimming legs as follows:

	P1	P2	P3	P4
EXP	0;0;0,2,2	0;1;1,2,3	0;1;1,2,3	0;1;2,2,3
ENP	1;1;1,1,1	1;1;1,2,1	1;1;2,2,1	1;1;1,2,1

P5 (Fig. 2C) with outer seta of baseoendopod arising from setophore. Endopodal lobe triangular with subdistal pore, reaching the middle of exopod; with small outer subdistal and inner proximal spinules, and between apical and subdistal inner seta; with five elements —one outer subdistal, one apical, and one subdistal inner normal setae, and two strongly pectinate inner elements. Exopod oval with subdistal pore; with long slender outer spinules, and small outer spinules; with six elements.

P6 (Fig. 2A) seemingly with one or two outer spinules, with three setae—one short outer pinnate element, and one medial and one inner seta of which medial shorter.

Male. Total body length measured from tip of rostrum to posterior margin of caudal rami 325 µm.

Prosome (not shown) as in female.

Urosome (Figs. 7A, B, 8A) as in female except for second—P6-bearing somite—and third urosomites separated, and for continuous spinular rows of third and fourth urosomites ventrally.

Sexual dimorphism expressed in the ventral somitic ornamentation, antennule, basis of P1, P2 ENP, P5, and P6.

Antennule (Fig. 9A) ten-segmented, haplocer. All segments smooth, except for one proximal and one subdistal spinular row on first segment. All setae smooth except for pinnate seta on first segments, and for four biarticulated setae on ninth and tenth segments. 1(1); 2(10); 3(4); 4(2); 5(6+(1+ae)), 6(2); 7(3); 8(2); 9(4); 10(5+acro). Acrothek consisting of two setae and one aesthetasc fused basally.

Antenna, mandible, maxillule, maxilla and maxilliped (not shown) as in female.

P1 as in female except for comparatively narrower basis without slender inner, long spinules, and for exceedingly long modified inner spine (Fig. 9B), the latter about 0.88 times the length of ENP1, and reaching the tip of EXP3.

P2 EXP (not shown) as in female. Endopod (Fig. 9C) sexually dimorphic, two segmented; ENP1 0.7 times the length of ENP2, with longitudinal row of outer spinules, and with transverse row of inner small spinules close to inner distal acute projection, with outer subdistal pore, armed with one short inner element; ENP2 with longitudinal row of outer spinules, with one inner short medial setae arising from pedestal, distally with long sinuous apophysis with a subdistal rounded extension and seta-like tip, with one posterior strong, blunt element, and with one lateral and one apical seta arising from elongate cylindrical extension fused to segment basally.

P3 and P4 (not shown) as in female.

P5 (Fig. 8B) with outer seta arising from long setophore, the latter ornamented with some spinules; endopodal lobe reaching distal third of exopod, with few inner subdistal small spinules and with longitudinal spinular row along outer margin and close to insertion of exopod; with two inner elements as shown. Exopod small, oval, with outer and inner subdistal spinules as depicted; with five setae.

P6 (Fig. 8C) with three setae each, of which innermost spiniform, medial and outermost slender, medial longest.

Robertgurneya rostrata **(Gurney 1927)**

(Figs. 10–18)

Distribution. Barbados: Belair (Coull 1970); Bermuda: Harrington Sound, Trunk Island (Willey 1935, as *A. rostratus*), Bailey's Bay and Trunk Island (Coull & Herman 1970); Black Sea: Kolesnikova (1983, 2003).

Egypt: Port Said (Gurney 1927, as *A. rostratus*)*;* Federated States of Micronesia: Yap State, Caroline Islands, Ifaluk atoll (Vervoort 1964); France: Banyuls (Monard 1928, as *Amphiascus ctenophorus* Monard 1928); Indian Ocean: Bay of Bengal (Nankauri Harbour, Nicobar Islands) and Arabian Sea (Addu Atoll, Maldive Archipelago) (Sewell 1940, as *A. ctenophorus*); Israel: Gulf of Haifa, Cape Carmel (Por 1964); Jamaica: Port Royal, Kingston Harbour (Coull 1970); Mexico: Urías coastal system, Mazatlán, Sinaloa State, México: stn 2 (23.1587°N, 106.3326°W; depth 1.8 m; organic carbon content 3.99%; organic matter content 6.86%; sand 80.42%; clay 8.29%; silt 11.28%), stn 4 (23.184°N, 106.3579°W; depth, 0.7 m; organic carbon content, 1.13%; organic matter content, 1.94%; sand, 82.44%; clay, 8.27%; silt, 9.29%), stn 5 (23.2056°N, 106.3715°W; depth 0.6 m; organic carbon content 0.99%; organic matter content 1.71%; sand 78.61%; clay 6.72%; silt 14.67%), and stn 10 (23.1815°N, 106.4214°W; depth, 6.0 m; organic carbon content, 1.2%; organic matter content, 2.07%; sand, 69.12%; clay, 7.91%; silt, 22.97%) (present study; see also Gómez (2020, Fig. 1); Mozambique: Inhaca Island (Wells 1967); Turkey: Noodt (1955); USA: Florida (St. George Sound) (Reidenauer & Thistle 1981; Thistle 1980), off North Carolina (Coull 1971b, 1973), US Virgin Islands (St. Thomas) (Coull 1971a).

Additional uncertain records. Northern Gulf of Mexico (Baguley 2004, as *Robertgurneya aff. rostrata*).

Material examined. Three dissected females (ICML-EMUCOP-180119-82, ICML-EMUCOP-180119-83, ICML-EMUCOP-180119-84), two dissected males (ICML-EMUCOP-180119-85, ICML-EMUCOP-180119-93), and one female and one male (ICML-EMUCOP-180119-87), nine females, one male, 1 CIV (ICML-EMUCOP-180119-88), three females, two males, 1 CIV, 1 CV (ICML-EMUCOP-180119-89), 13 females, 11 males, 6 CIII, 2 CIV, 10 CV (ICML-EMUCOP-180119-86), three females (ICML-EMUCOP-180119-90), 1 CV (ICML-EMUCOP-180119-91), and 13 females, ten males, two CI, one CII, 12 CIII, seven CIV, 23 CV (ICML-EMUCOP-180119-92) preserved in alcohol. Twenty-nine females, 20 males and 5 copepodids were used for molecular analyses.

Description. Female. Total body length measured from tip of rostrum to posterior margin of caudal rami ranging from 485 µm to 620 µm (mean, 554 µm; n, 9); habitus fusiform, widest at posterior end of cephalothorax in dorsal view, tapering posteriad.

Prosome (not shown) as in previous species.

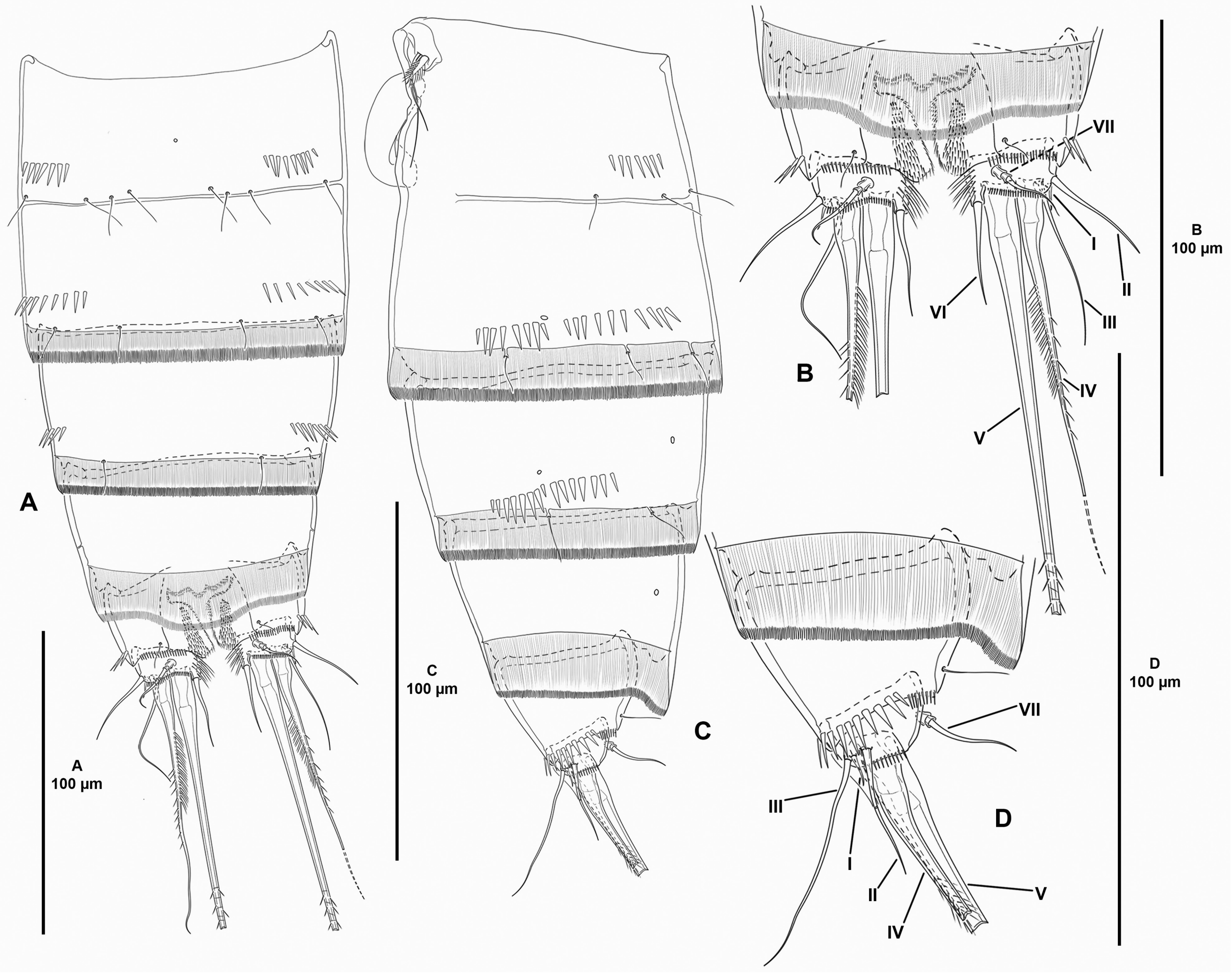

FIGURE 10. *Robertgurneya rostrata* (Gurney 1927), female. A, urosome, dorsal (P5–bearing somite omitted; surface denticles omitted for simplicity); B, anal somite and caudal rami, dorsal (surface denticles omitted for simplicity); C, urosome, lateral (P5–bearing somite omitted; surface denticles omitted for simplicity); D, anal somite and left caudal ramus, lateral (surface denticles omitted for simplicity).

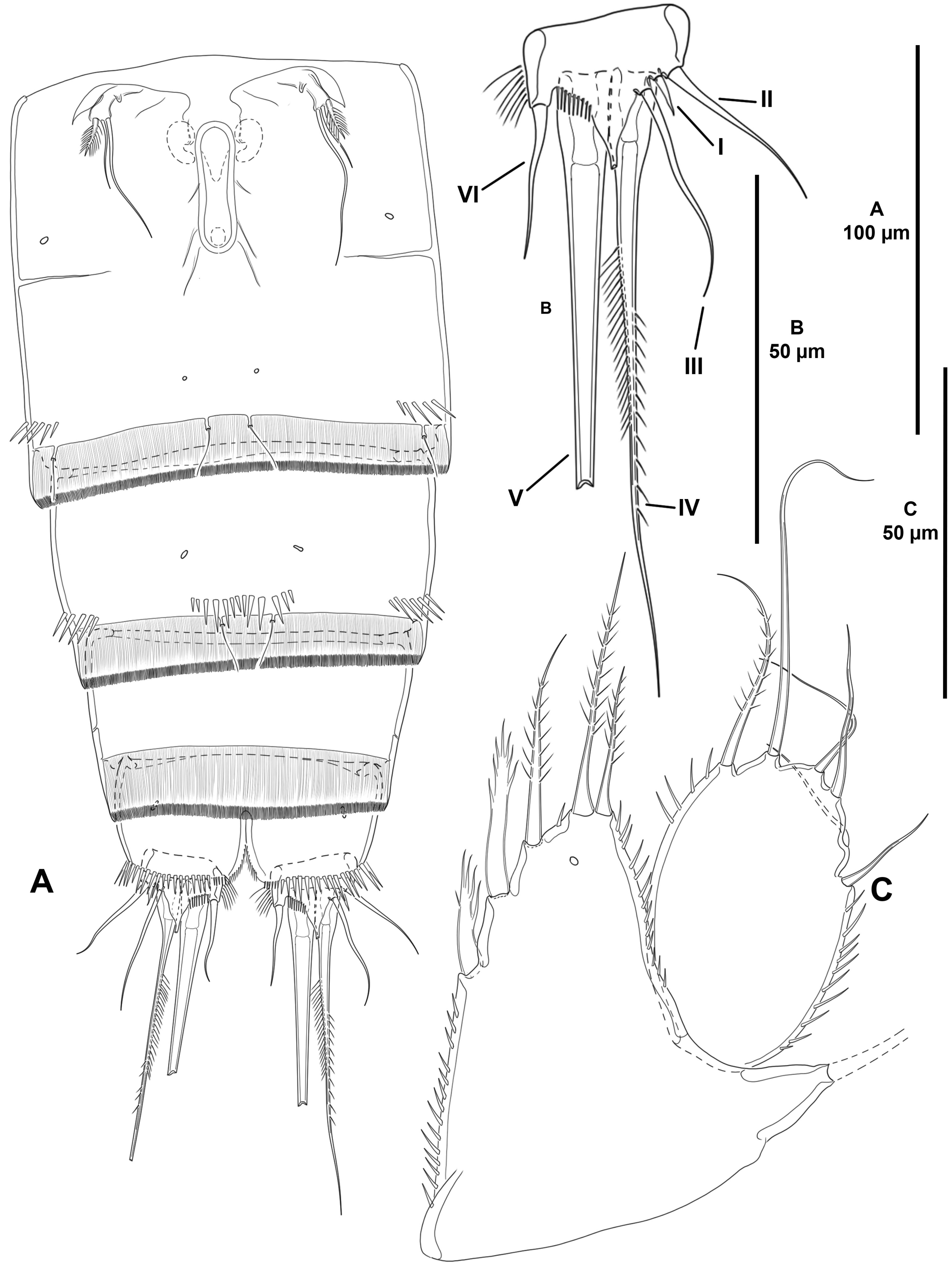

FIGURE 11. *Robertgurneya rostrata* (Gurney 1927), female. A, urosome, ventral (P5–bearing somite omitted); B, left caudal ramus, ventral; C, P5, anterior.

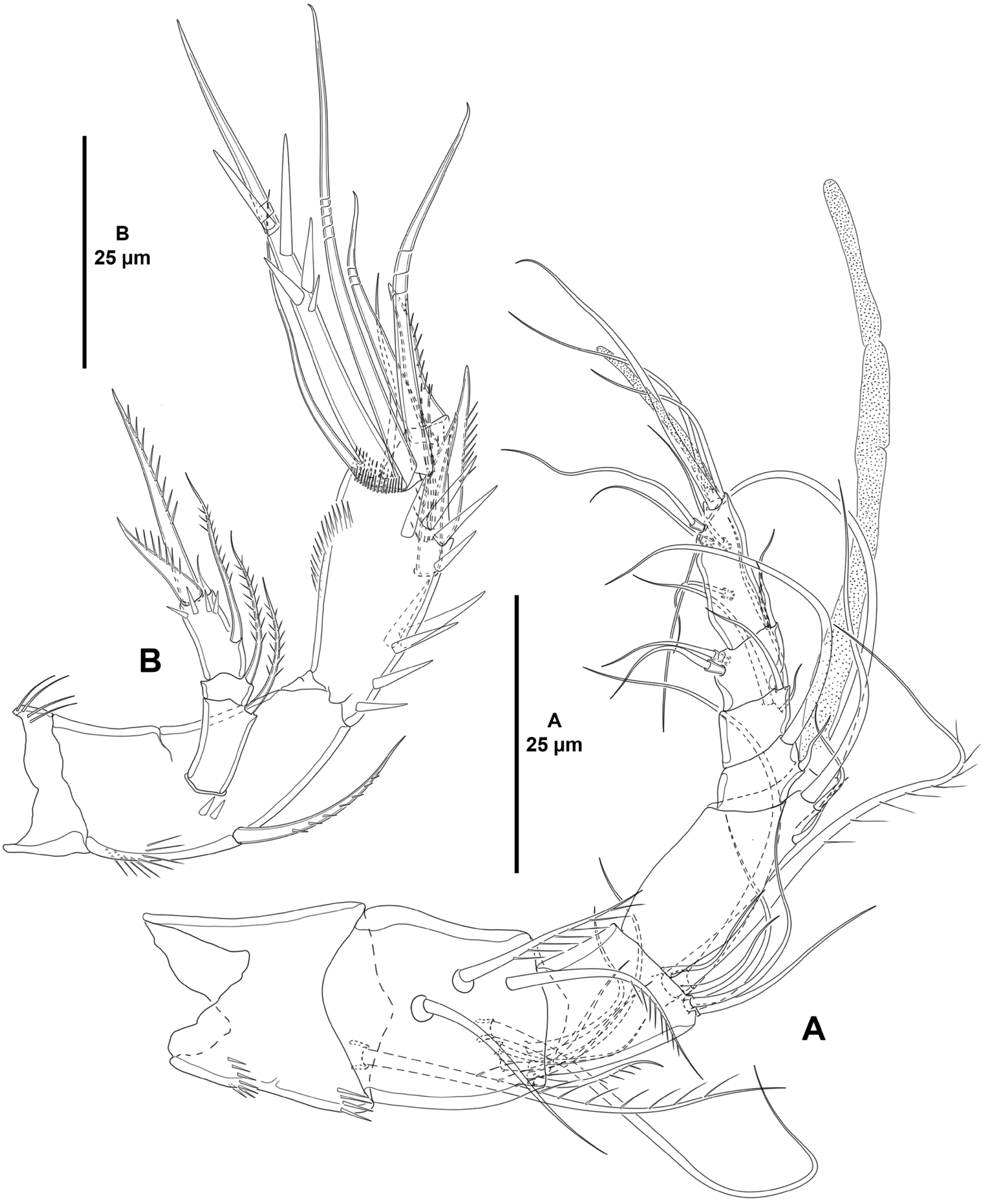

FIGURE 12. *Robertgurneya rostrata* (Gurney 1927), female. A, antennule, dorsal; B, antenna.

Urosome (Figs. 10A–D, 11A) with general architecture as in previous species; dorsal and lateral surface covered with minutes denticles (omitted in Fig. 10A–D). Spinular ornamentation as follows: first half of genital-double somite with one dorsolateral short row of spinules, second half with one lateral long row of spinules as shown; fourth urosomite with lateral spinular row as in second half of genial-double somite and with additional short row of spinules ventrally; fifth urosomite without spinular ornamentation. Anal somite as in previous species. Caudal rami as in previous species dorsally and laterally; ventrally with transverse row of small spinules between seta VI and large tube pore; caudal setae largely as in previous species; caudal setae IV and V ornamented as shown.

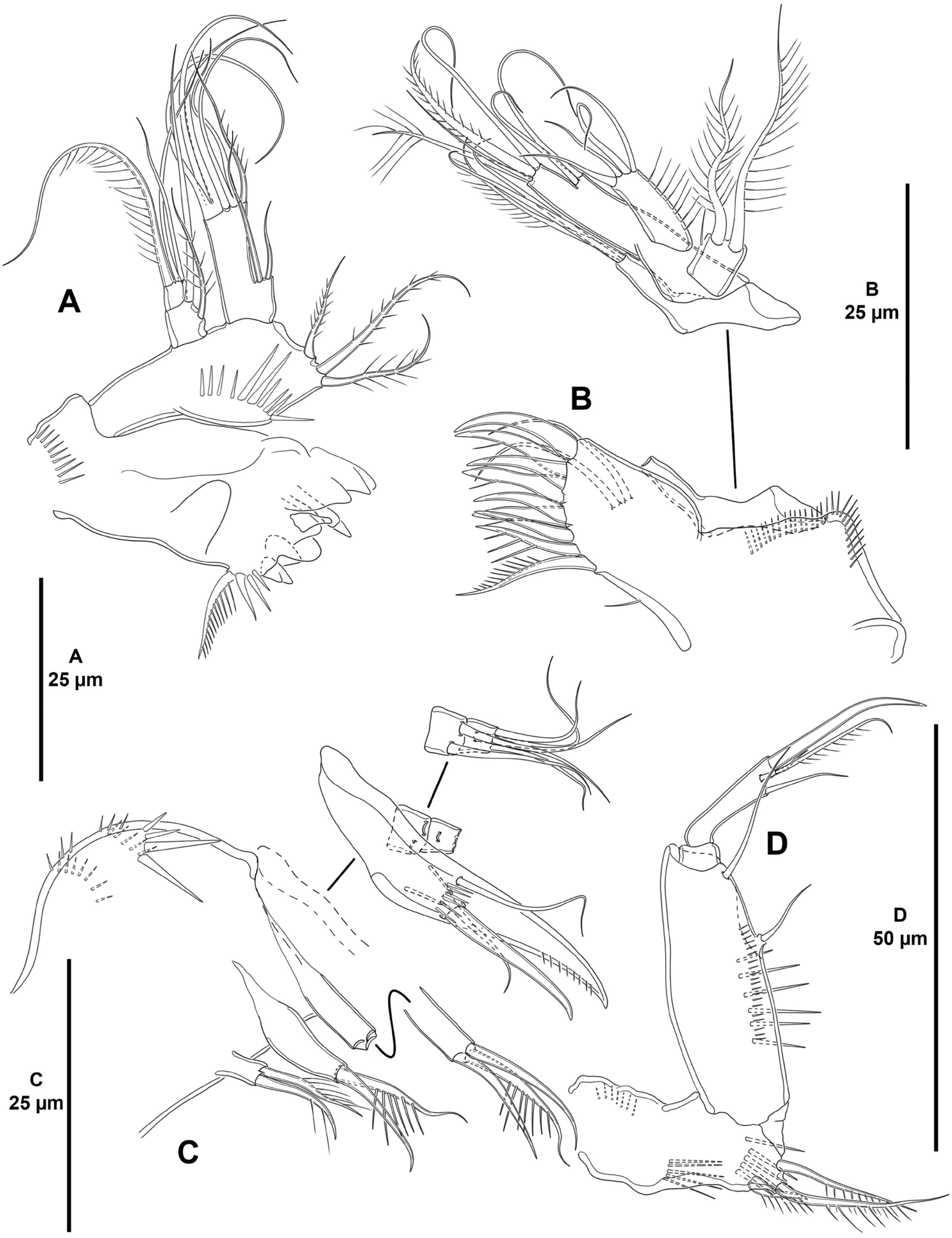

FIGURE 13. *Robertgurneya rostrata* (Gurney 1927), female. A, mandible; B, maxillule; C, maxilla; D, maxilliped.

Antennule (Fig. 12A) eight-segmented; all segments smooth, except for one proximal and one subdistal dorsolateral row of spinules on first segment; all setae smooth except for one, three, and one pinnate seta on first, second and third segments, respectively, and for two and four biarticulated setae on seventh and eighth segments, respectively. Armature formula: 1(1); 2(10); 3(7); 4(3+(1+ae)), 5(2); 6(4); 7(4); 8(5+acro). Acrothek consisting of two setae and one aesthetasc fused basally.

Antenna (Fig. 12B) with long outer spinules on small coxa. Allobasis with remains of former division between basis and first endopodal segment, slightly longer than free endopodal segment, with inner long spinules proximally and with two small spinules close to insertion site of exopod; abexopodal seta issuing midway inner margin. Exopod three-segmented; first segment slightly shorter than second and third segments combined, second segment smallest; first and second segments unornamented, with one pinnate seta each; third segment with subapical row of spinules, with three apical setae (one very small element, one spiniform pinnate short seta, and one long pinnate element). Free endopodal segment with proximal and subdistal inner strong spinules, and with two outer frills; armed with two lateral inner spines and two slender setae set close to each other, one inner apical spine, three single geniculate setae, one slender short seta, and one strongly spinulose geniculate outer seta fused basally to slender element.

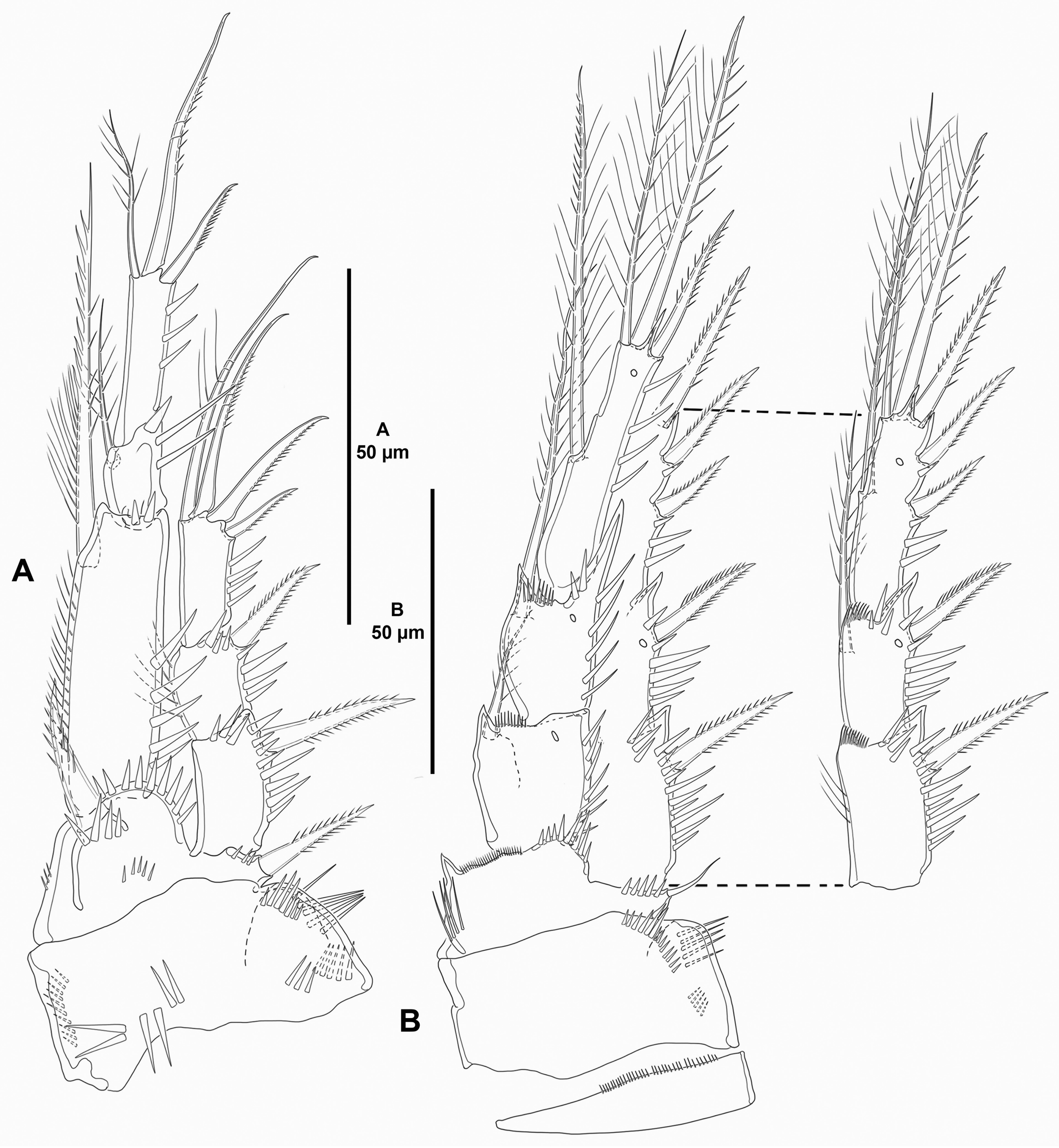

FIGURE 14. *Robertgurneya rostrata* (Gurney 1927), female. A, P1, anterior; B, P2, anterior.

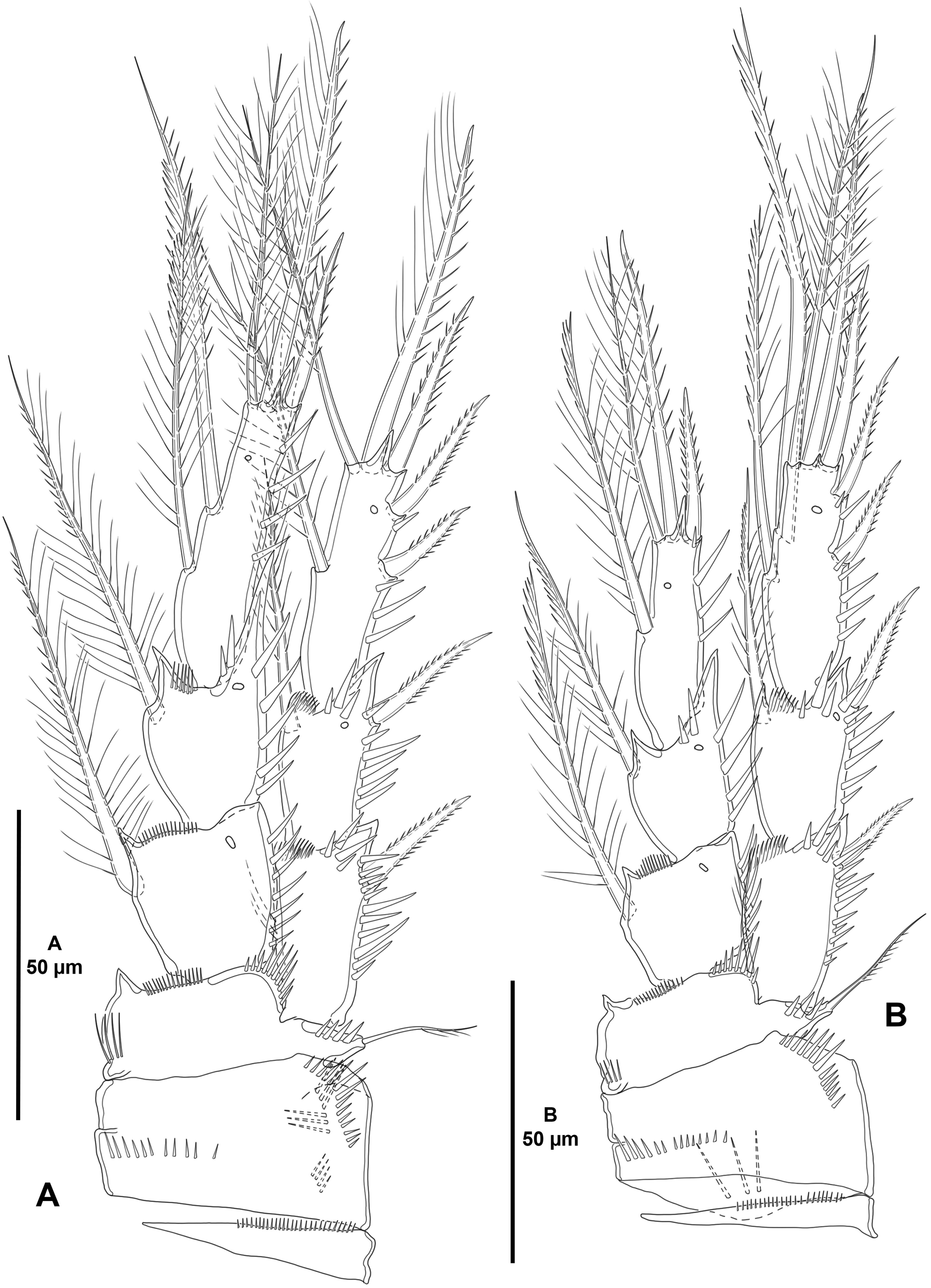

FIGURE 15. *Robertgurneya rostrata* (Gurney 1927), female. A, P3, anterior; B, P4, anterior.

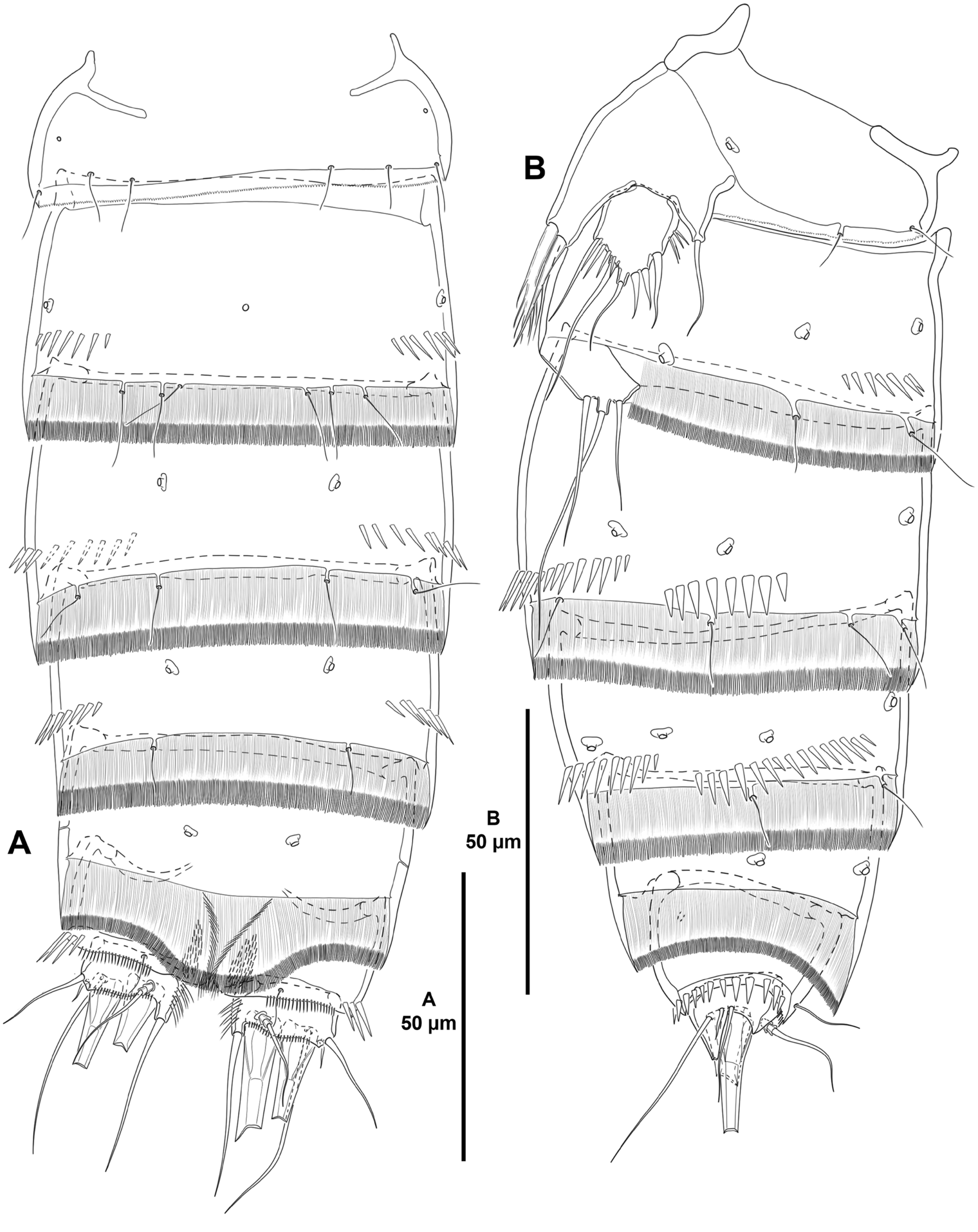

FIGURE 16. *Robertgurneya rostrata* (Gurney 1927), male. A, urosome, dorsal; B, urosome, lateral.

Mandible (Fig. 13A) with well-developed gnathobasis bearing strong multi- and bicuspidate teeth as shown, with four ventral elements of which ventralmost pinnate and visibly longer. Basis massive, with medial row of spinules, with three pinnate inner setae. Exopod two-segmented; first segment larger than second, with one lateral and one distal seta, second segment with three apical elements of which one visibly thicker. Endopod one-segmented, larger that exopod; with two lateral setae, and distally with one inner seta, and two medial and three outer setae fused basally.

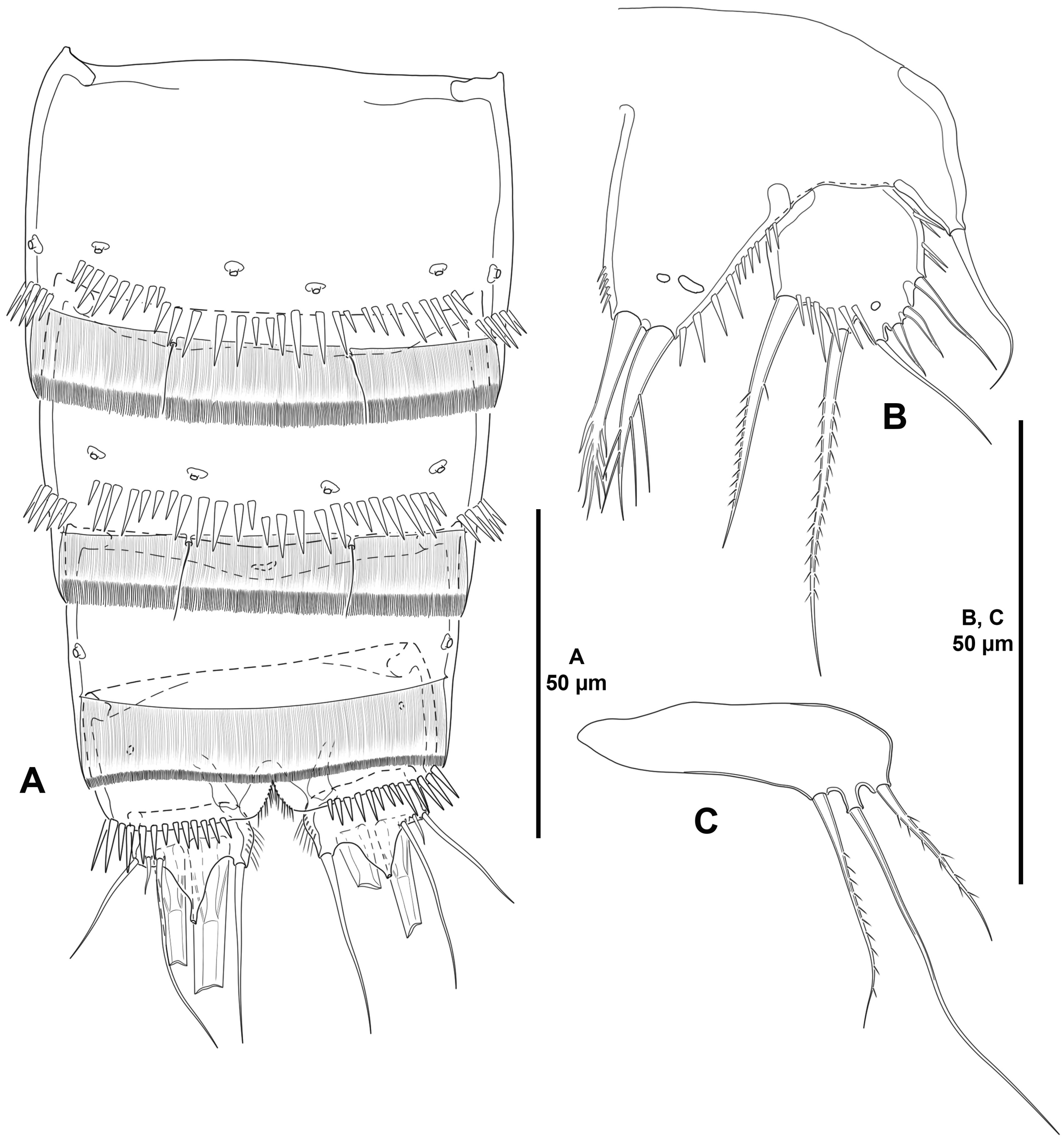

FIGURE 17. *Robertgurneya rostrata* (Gurney 1927), male. A, third, fourth and fifth urosomites, and anal somite and caudal rami, ventral; B, P5, anterior; C, P6, anterior.

Maxillule (Fig. 13B) with arthrite ornamented with few spinules; with two surface setae, seven distal spines as shown, one spinulose element, and one pinnate ventral seta. Coxal endite with three setae of which one thicker. Basis armed with two lateral, and one subdistal and three distal elements, one of which visibly thicker. Rami one segmented, exopod with two, endopod with four smooth elements.

Maxilla (Fig. 13C) with large syncoxa ornamented with outer spinules as shown; with three endites; proximal endite smallest, with two setae; middle endite with two, distal endite with three setae. Basis drawn out into strong pinnate claw, additionally with strong spine, and one anterior and one posterior slender seta. Endopod two-segmented; first segment with two, second segment with four setae.

Maxilliped (Fig. 13D) subchelate. Coxa elongate, with spinules as shown; with two inner setae issuing subdistally one of which visibly shorter, and one distal seta. Basis longer than coxa, elongate, with one posterior and one anterior row of spinules, with one medial and one subdistal inner setae. Endopod one-segmented, elongate, with three setae and apical claw.

P1 (Fig. 14A) with massive coxa ornamented with anterior and posterior spinules as shown. Basis with small spinules medially on anterior face, on inner margin and at base of outer spinulose spine, and with stronger spinules at base of inner spinulose spine and distally on medial extension between rami. Exopod three-segmented, arising at a lower level than the endopod and reaching tip of ENP1; first and third exopodal segments subequal in length, second segment shorter, with spinular ornamentation as shown; first and second segments without inner armature, third segment with four elements. Endopod three-segmented, arising from pedestal; ENP1 elongate, about three times as long as wide, and 1.2 times as long as second and third segments combined, with outer strong and inner slender long spinules, with one inner stiff, long, and strongly pectinate seta arising subdistally; second and third segments with outer spinules as shown, the former with one inner seta; third segment elongate, about six times as long as wide, with one inner distal slender seta, one apical long element, and one outer distal spine.

P2 (Fig. 14B) with triangular praecoxa ornamented with transverse row of small spinules. Coxa with anterior and posterior rows of spinules as shown. Basis with distal inner acute projection; with long inner spinules proximally, with small spinules close to insertion of endopod, and with longer spinules distally on medial extension between rami and at base of outer element. Rami three-segmented; endopod slightly longer than exopod. Exopod arising at a lower level than the endopod, reaching distal third of ENP3; exopodal segments with outer spinules as shown; EXP1 and EXP2 with outer distal acute projection —of EXP1 shorter—, both segments with inner distal hyaline frill; EXP1 without, EXP2 with inner seta; EXP3 with six elements —three outer spines, two apical elements, and one inner seta. Endopod arising from pedestal at a higher level than exopod; endopodal segments with strong outer spinules; ENP1 and ENP2 subequal in length, ENP3 longest; ENP1 with inner distal acute projection, with outer subdistal pore, with distal inner hyaline frill, with one short inner element; ENP2 ornamented as ENP1, but with additional distal outer acute projection, with inner long seta; ENP3 with outer spinular ornamentation, with subdistal pore and with notch midway inner margin between inner seta and inner apical element, with one inner and two apical setae, and one outer spine.

P3 (Fig. 15A) Praecoxa as in P2. Coxa as in P2 but with additional transverse medial row of spinules. Basis as in P2 except for longer outer seta. Rami three-segmented, exopod and endopod subequal in length. Exopod largely as in P2. Endopod largely as in P2 except for two inner setae and lack of inner notch on P3 ENP3.

P4 (Fig. 15B) with praecoxa as in P2 and P3. Coxa as in P3 except for lack of posterior spinules and for additional long proximal spinules posteriorly. Basis as in P3 except for shorter inner proximal spinules. Exopod longer than endopod, largely as in P3 except for two inner setae on P4 EXP3. Endopod reaching distal third of EXP3; largely as in P3 except for one inner seta only on P4 ENP3.

Setal formula of swimming legs as follows:

	P1	P2	P3	P4
EXP	0;0;0,2,2	0;1;1,2,3	0;1;1,2,3	0;1;2,2,3
ENP	1;1;1,1,1	1;1;1,2,1	1;1;2,2,1	1;1;1,2,1

P5 (Fig. 11C) with outer seta of baseoendopod arising from setophore. Endopodal lobe triangular with subdistal pore, reaching distal fifth of exopod; with small outer and inner spinules; with five elements —two apical, and one subdistal inner normal setae, and two pectinate inner elements. Exopod oval; with small spinules along outer and inner margins; with six elements.

P6 (Fig. 11A) with three setae —one short outer pinnate element, and one medial and one inner seta of which medial shorter.

Male. Total body length measured from tip of rostrum to posterior margin of caudal rami ranging from 335 µm to 450 µm (mean, 395 µm; n, 4).

Prosome (not shown) as in female.

Urosome (Figs. 16A, B, 17A) as in female except for second —P6-bearing somite— and third urosomites separated, and for continuous spinular rows of third and fourth urosomites ventrally.

Sexual dimorphism expressed in the ventral somitic ornamentation, antennule, basis of P1, P2 ENP, P5, and P6.

Antennule (Fig. 18A) ten-segmented, haplocer. All segments smooth, except for two spinular rows on first segment. All setae smooth except for one, three and one pinnate seta on first, second and third segments, and for three and four biarticulated setae on ninth and tenth segments. Armature formula as follows: 1(1); 2(10); 3(8); 4(1); 5(6+1 modified+(1+ae)), 6(2); 7(1); 8(2); 9(4); 10(5+acro). Acrothek consisting of two setae and one aesthetasc fused basally.

Antenna, mandible, maxillule, maxilla and maxilliped (not shown) as in female.

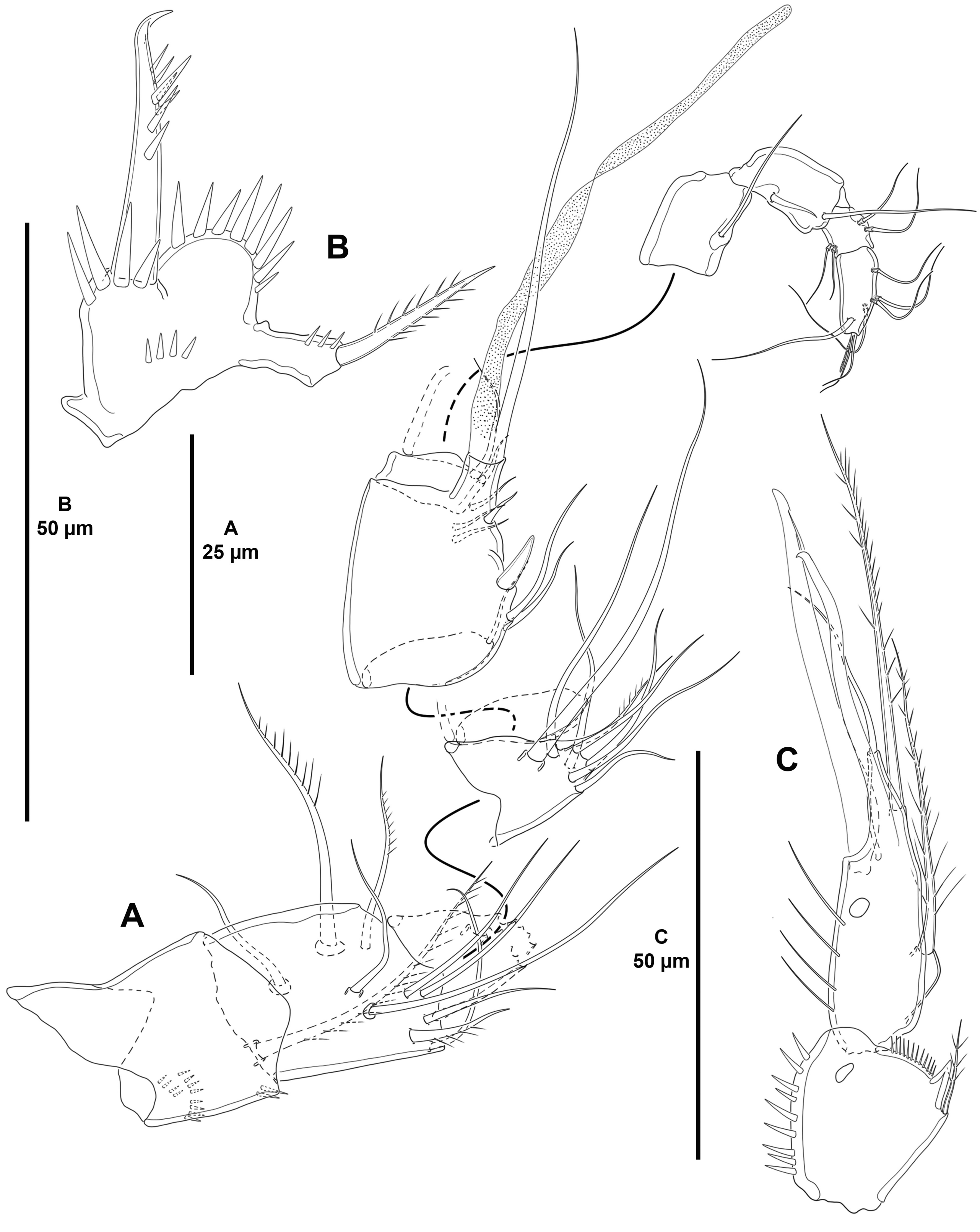

FIGURE 18. *Robertgurneya rostrata* (Gurney 1927), male. A, antennule, ventral; B, basis of P1, anterior; C, P2 ENP.

P1 as in female except for comparatively narrower basis, and for modified inner spinulose spine with curved tip (Fig. 18B), the latter about 0.67 times the length of ENP1, and as long as EXP1 and EXP2 combined.

P2 EXP (not shown) as in female. Endopod (Fig. 18C) sexually dimorphic, two segmented; ENP1 0.6 times the length of ENP2, with longitudinal row of outer spinules, and with transverse row of inner small spinules close to inner distal acute projection, with outer subdistal pore, armed with one short inner element; ENP2 with longitudinal row of long, slender, outer spinules, with one inner long medial setae arising from pedestal, distally with long sinuous apophysis with a subdistal rounded extension and seta-like tip, with one posterior strong, blunt element, and with one lateral and one apical seta arising from elongate cylindrical extension fused to segment basally.

P3 and P4 (not shown) as in female.

P5 (Fig. 17B) with outer seta arising from setophore; endopodal lobe reaching slightly beyond exopod, with few inner small subdistal and comparatively stronger outer spinules as shown; with two inner elements. Exopod small, circular, with outer proximal and distal spinules, with six setae.

P6 (Fig. 17C) with three setae each, of which medial longest.

Discussion

Lang (1944) erected and gave the diagnosis of the genus *Robertgurneya* and presented the subdivision of the genus without any mention of the type species of the genus. Additionally, he (Lang 1944) subdivided the genus into the *similis*- and the *spinulosus*-groups, and proposed *Stenhelia simulans* as the type species for the former, and *Amphiascus spinulosus* for the latter. However, such designation of type species for species-groups in that context is incorrect, since collective groups have no type species (ICZN Art. 42.3.1). The *similis*-group was defined upon the presence of two inner setae on the P2 ENP2, and by the exceedingly elongated, sinuous dimorphic inner basal seta of P1 in the males. Conversely, the *spinulosus*-group was characterized by the presence of one inner seta only on the P2 ENP2, but he (Lang 1944) was not able to inspect the males of the species of that group and expressed some doubts on the significance of the apparent lack of dimorphism in the inner basal element of P1 in the males. In his monograph, Lang (1948) corrected the group name *spinulosus* for *spinulosa*, and he (Lang 1948: 697) suggested that if there is no actual sexual dimorphism in the inner spine of the P1 basis in the males of this group, the *similis*- and the *spinulosa*-groups should be allocated into different genera, being the genus name *Robertgurneya* reserved for the species of the *similis*-group. For the *spinulosa*-group he suggested the genus name *Robertgurneyella*, which, as noted earlier by Huys (2009: 16), is not a proper type designation in terms of the International Code of Zoological Nomenclature (ICZN Art. 67.5.3). Lang (1944) did not give the type species for the genus, nor the species that he considered to belong to *Robertgurneya*, nor the species of his species-groups. Four years later, Lang (1948: 7) wrote that, when the type species of a genus is not given in his 1948 monograph, then the first described species should be considered as the type species for that genus. Again, as noted by Huys (2009: 16) such designation of the type species for the genus is ambiguous and does not comply with the ICNZ (Art.67.5.3), and consequently, the genus name *Robertgurneya* was not available. In his monograph, Lang (1948: 697) presented a slightly different diagnosis for the genus and attributed *S. similis*, *Stenhelia erythraea* Scott A. 1902, *S. simulans*, *Amphiascus tenax* Brian 1927, *A. tenax* var. *aegaea* Brian 1928, *A. dactylifer*, and *A. falklandiensis* to his *similis*-group, and *A. spinulosus*, *A. dictydiophorus*, *A. rostratus*, *A. ctenophorus*, *A. ilievecensis*, and *A ecaudatus* to his *spinulosa*-group. Later, he concluded that *S. erythraea*, *S. simulans*, *A. tenax,* and *A. tenax* var. *aegaea* are in fact synonyms of *S. similis*, and that *A. ctenophorus* is a synonym of *R. rostrata*. At this point, Lang (1948) attributed *R. similis*, *R. dactylifer*, and *R. falklandiensis* to the *similis*-group, and *R. spinulosa*, *R. dictydiophora*, *R. rostrata*, *R. ilievecensis*, and *R. ecaudata* to the *spinulosa*-group, and omitted any comment on the type species of the genus other than, when not mentioned, the earliest described species should be considered as the type species for the genus (but see above). Wilson (1932) described *R. dactylifer* from two brackish ponds on Chappaquiddick Island and in Quisset Pond (Massachusetts, USA). In his description he did not present the illustrations of P2–P4 and omitted any comment on the armature formulae of the swimming legs. Despite not knowing the number of inner setae on the female P2 ENP2, Lang (1948) included this species into his *similis*-group. However, Wilson (1932) illustrated the male P2 ENP with one inner seta. The inner medial seta(e) on the male P2 ENP2 is(are) homologous to the inner seta(e) on the female P2 ENP2 of the Thalestrioidea *sensu* Willen (2000: 28, fig. 4, :173, fig. 75), and the presence of one inner seta only on the male P2 ENP2 suggests that *R. dactylifer* actually belongs to Lang's (1944) *spinulosa*-group. Several species were described over a time-span of nine years since the publication of Lang's (1948) monograph: *R. remanei*, *R. intermedia* (Božić 1954), *R. similis bulbamphiascoides*, and *R. oligochaeta*. Lang (1965) noted that *R. intermedia* seems to be an aberrant form of *Amphiascus* Sars 1905 (=*Sarsamphiascus* Huys 2009), and *R. remanei* seems to be closely related to *R. simulans*(Lang 1965), the latter having being reinstated by Lang (1965: 295) who also described *R. hopkinsi* and *R. diversa*. Before year 1988, some species were added, *R. arabica*, *R. brevipes*, *R. smithi*, and *R. soyeri*. Apostolov & Marinov (1988) were the first authors to make the genus-group name *Robertgurneya* available by giving a diagnosis for the genus and designating unambiguously *R. similis* as the type species (Apostolov & Marinov 1988: 173), and Huys (2009: 16) correctly attributed authorship of *Robertgurneya* to Apostolov & Marinov (1988), and noted that "the unavailable generic name *Robertgurneya* Lang 1944 [*nomen nudum*] cannot enter into its synonymy". At present, the *similis*-group contains *R. brevipes*, *R. diversa*, *R. falklandiensis*, *R. hopkinsi*, *R. remanei*, *R. similis bulbamphiascoides*, *R. similis similis*, *R. simulans*, and *R. smithi*. The *spinulosa*-group includes *R. arabica*, *R. dactylifer*, *R. dictydiophora*, *R. ecaudata*, *R. ilievecensis*, *R. mexicana* **sp. nov.**, *R. oligochaeta*, *R. rostrata*, *R. soyeri* (but see below), and *R. spinulosa* (but see below).

The genus *Robertgurneya* has been defined based only on a combination of characters (see the generic diagnoses by Lang (1944: 20–21, 1948: 697) and Apostolov & Marinov (1988: 173)), no synapomorphies for the genus have been detected, and the relationships amongst its constituent species are not clear. Probably, the structure of mouth parts and sexual dimorphism could shed some light on this.

The rostrum is somewhat variable amongst the species of the genus. The rostrum has been described as bifid in *R. similis similis* (Scott A. 1896: 136, Pl. 1, fig. 19; Apostolov & Marinov 1988: 174, :175, fig. 64.2b), and *R. similis bulbamphiascoides* (Noodt 1955: 69). The rostrum of *R. simulans* has been described as acuminate by Sars (1911: 442, Pl. 54), but bifid in the more detailed account of Lang (1965: 304, fig. 169d). The rostrum of *R. rostrata* has been described as pointed (Monard 1928: 395, : 397, fig. XXXIV.2) or blunt (Vervoort 1964: 225; present study). It has been described with a pointed tip in *R. smithi*, *R. dictydiophora*, and *R. ilievecensis*, with a rounded tip or blunt in *R. remanei*, *R. hopkinsi*, *R. diversa*, and *R. mexicana* **sp. nov.**, and its condition is uncertain in *R. falklandiensis*, *R. oligochaeta*, *R. soyeri*, *R. spinulosa*.

The female antennule has always been reported as eight-segmented, being the third segment shorter than second and fourth segments.

Except for *R. similis similis* whose antenna was described by Scott A. (1896, Pl. 1, fig. 15) with a basis —which is most probably erroneous—, the antenna of the species of *Robertgurneya* has been consistently described with an allobasis. Similarly, the antennal exopod of *Robertgurneya* has been consistently described as three-segmented, the first segment being armed with one seta, but the armature formula of the second and third segments is somewhat variable. The second exopodal segment of the species of Lang's (1944) *similis*-group for which the ramus has been described (*R. similis similis*, *R. similis bulbamphiascoides*, *R. simulans*, *R. falklandiensis*, *R. oligochaeta*, *R. hopkinsi*, *R. diversa*, and *R. smithi*) is unarmed, and the armature complement of the third segment is reduced from four —one lateral and three apical elements, as in *R. similis bulbamphiascoides* and *R. oligochaeta*— to three setae —one lateral and two distal setae, as in the remaining species. On the contrary, the second exopodal segment of the antenna of all the species of the *spinulosa*-group possess one seta, except for the unarmed second exopodal segment of *R. soyeri* and *R. ilievecensis*. The armature complement of the third exopodal segment of the antenna in the species of the *spinulosa*-group is also variable. *Robertgurneya rostrata* reported by Monard (1928) from the French Mediterranean possesses one lateral and three apical setae; the Mexican population of. *R. rostrata* also possesses one lateral and three apical setae, but one of the apical elements is considerably reduced and can be easily mistaken for a spinule; Willey (1935), Sewell (1940), Noodt (1955) and Vervoort (1964) reported one lateral and two apical setae on the third exopodal segment of the antenna; the other species of the *spinulosa*-group possess one lateral seta but only two apical elements. Monard (1924, 1928) omitted any comment on the armature complements of the antennal exopod of *R. dictydiophora*. Monard (1924: 661, fig. 13, 1928: 393, fig. XXXIII.3) showed the first exopodal segment of the species with one seta, but it is not clear whether the second segment is unarmed or bears one seta, and whether the third segment possesses one lateral and two apical setae or only two apical elements.

The mandible has been described consistently as biramous, except for *R. spinulosa* —without exopod— (but see below). When present, the mandibular exopod is composed of one relatively large proximal segment and a small distal segment in some species (e.g. *R. similis simili*s, *R. hopkinsi*, *R. diversa*, *R. smithi*, *R. rostrata* (present study), and *R. mexicana* **sp. nov.**), but a one-segmented exopod appears in most descriptions in which this appendage has been described (e.g. *R. similis bulbamphiascoides*, and in some (re)descriptions of *R. rostrata*). The distal small segment has been probably overlooked and Apostolov & Marinov (1988) diagnosed the mandibular exopod of the genus as two-segmented. The mandibular endopod of *Robertgurneya* has been described consistently as one-segmented, except for *R. spinulosa* with a two-segmented endopod as shown by Vervoort (1964) and Apostolov & Marinov (1988) (but see below).

The description of the maxillule, maxilla and maxilliped have been omitted in most descriptions and won't be mentioned here.

The armature formula of P1–P4 EXP/ENP of the genus is rather constant (P1 0;0;0,2,2/1;1;1,1,1; P2 0;1;1,2,3/1;2 (*similis*-group) or 1 (*spinulosa*-group); P3 0;1;1,2,3/1;1;2,2,1; P4 0;1;2,2,3/1;1;1,2,1) but some species deviate from this generalized scheme. *Robertgurneya remanei* is unique in the *similis*-group by the lack of inner armature on P1 ENP2. Amongst the species of the *spinulosa*-group, *R. dictydiophora* displays a similar reduction in the armature complement on that segment, but this species is unique by the presence of two instead of one inner seta on the P3 ENP2. *Robertgurneya ilievecensis* from Roscoff (Monard 1935) is unique by the reduction from two to one inner seta on the P4 EXP3. *Robertgurneya rostrata* from Nicobar Islands reported by Sewell (1940) stands out among the records and descriptions of this species by the presence of two instead of one inner seta on P3 EXP3, but this might be erroneous (see below).

The female P5 EXP possess six setae, except for *R. ilievecensis* in which the outermost proximal seta might actually be a long setule as noted by Hamond (1973). Interestingly, Por (1964) described the outermost proximal seta of the exopod as very reduced. The setiform shape of the exopodal elements is rather constant and some differences in relative length are obvious. *Robertgurneya oligochaeta* and *R. bulbamphiascoides* are unique in the two medial outer setae of the exopod very reduced and bulbous. The P5 endopodal lobe possesses five setae in most species, and only *R. oligochaeta* and *R. ilievecensis* display four setae on this ramus. These two species share also the innermost and outermost setae very reduced. The innermost seta of the endopodal lobe of *R. rostrata* seems to have undergone a similar reduction. The shape of the inner setae of the endopodal lobe has not received attention, but it might prove useful for the analysis of the relationships between the species of the genus. For example, the inner baseoendopodal setae of *R. ilievecensis* (see Monard (1935); Por (1964); Hamond (1973)), *R. rostrata* (present study) and *R. smithi* (see Hamond (1973)) have been described as pectinate.

The caudal rami of the species of *Robertgurneya* is, as a rule, wider than long, and the length:width ratio can vary from 0.4 to 1, but it is never longer than its maximum width. The only exception is *R. soyeri* from the Bulgarian Black Sea (Apostolov 1974; Apostolov & Marinov 1988), whose caudal rami are nearly twice as long as wide and deviates from the common shape of the caudal rami (but see below). The shape of the caudal setae of the caudal rami is rather constant, and *R. dictydiophora* is the only species in which caudal seta III is modified into a foliose element.

Amongst the dimorphic features displayed in the males of the genus, the haplocer antennule has received the least attention. The male antennule of *R. rostrata* and *R. mexicana* is ten-segmented. Hamond (1973) and Sars (1911) described the male antennule of *R. smithi* and *R. spinulosa* as eight-segmented, but they might have overlooked the small fourth and sixth segments. Likewise, the male antennule of *R. ilievecensis* was described by Wells (1963) as nine-segmented, but he might have overlooked the small sixth segment.

Recent illustrated records and —partial— redescriptions, as well as fully illustrated descriptions of new species, have shown that the males of both species-groups of *Robertgurneya* display a sexually dimorphic inner spine on the basis of P1 (for example, see the redescriptions of *R. rostrata* by Vervoort (1964: 231, fig. 91a) and Willey (1935: 61, figs. 43 and 44), and the new record presented herein (Fig. 18B), and *R. mexicana* **sp. nov.** (present study, Fig. 9B) —all attributed to the *spinulosa*-group). Unfortunately, the male of *R. similis bulbamphiascoides*, *R. oligochaeta*, and *R. dictydiophora* remain unknown, and the dimorphic inner spine of the basis of the male P1 has not been described for some other species. So far, there seems to be three types of dimorphic inner spines of the basis of P1 in the males of *Robertgurneya*. Type I consists of an elongated spine shorter than two times the length of the basis, about half the length of ENP1, with a recurved pointed tip, and with few strong spinules at its base. This type seems to be the most common condition in the genus, but its detection depends on the angle of observation (pers. obs.; see also Willey (1935: 61, figs. 43 and 44)). A similar spine is present, for example, in *Thalestris* Claus 1863 (Thalestridae Sars 1905a). Type II consists of an elongated spine longer that two times the length of the basis, about 0.9 times as long as ENP1, and with several short spinules at its base. Amongst the species of *Robertgurneya*, type II seems to be present only in *R. mexicana* (present study, Fig. 9B) and *R. falklandiensis* (see Lang (1936: 54, fig. 43). A similar spine is present in *Amphiascopsis* Gurney 1927. Within *Robertgurneya*, type III seems to be present only in *R. ilievecensis* and consist of a modified spine as long or slightly longer than what seems to be an accompanying large spinule (see Wells (1963: 92, fig. 353, :93); Por (1964: 87, fig. 138)).

The male endopod is two-segmented in all the species of *Robertgurneya*, but Monard (1936) and Sars (1911) described the male P2 ENP of *R. ecaudata* and *R. spinulosa*, respectively, as three-segmented. Klie (1942) showed that Monard (1936) was wrong and that the male P2 ENP of *R. ecaudata* is actually two-segmented. Sars (1911) described the male P2 ENP of *R. spinulosa* as distinctly three-segmented, being the last segment armed with two outer spines, one apical and one inner seta. The two outer spines on the male P3 ENP3 of *R. spinulosa* seem to be homologous to the modified outer strong element and to the more slender element that is fused to the P2 ENP2 in other species of the genus, and the apical and inner setae on the P3 ENP3 of *R. spinulosa* are homologous to the apical and subdistal setae on the cylindrical distal outgrowth of the P2 ENP2 of other species; the inner seta on the P2 ENP2 of *R. spinulosa* is clearly homologous to the proximal inner seta on the P2 ENP2 of other species of the genus. The complex structure of the male P2 ENP of the different species is not always well documented making difficult further comparisons.

The number of setae on the male P5 EXP of the species of *Robertgurneya* varies from six to five. Within the *similis*-group, *R. simulans*, as described by Sars (1911), and *R. remanei* are the only species with six setae on the male P5 EXP. The male of *R. similis bulbamphiascoides* remains unknown. Conversely, the only species with five setae on the male P5 EXP in the *spinulosa*-group is *R. mexicana* **sp. nov.** The other species within the *spinulosa*-group possess six setae on the male P5 EXP. The males of *R. dictydiophora*, *R. soyeri*, and *R. oligochaeta* remain unknown. Within the species with six setae on the male P5 EXP there seems to be a trend towards the reduction of the two medial outer setae. This condition is more accentuated in *R. ilievecensis sensu* Wells (1963). The male P5 endopodal lobe possesses two setae only in the whole genus. *Robertgurneya spinulosa* possesses five setae on the male P5 EXP, but this species is unique by the presence of three setae on the male P5 endopodal lobe (but see below).

Since its description from Egypt by Gurney (1927), *R. rostrata* has been reported from Barbados (Coull 1970), Bermuda (Willey 1935; Coull & Herman 1970), from the Black Sea (Kolesnikova 1983, 2003), from the Federated States of Micronesia (Vervoort 1964), from the French Mediterranean (Monard 1928), from the Indian Ocean and Arabian Sea (Sewell 1940), Israel (Por 1964), Jamaica (Coull 1970), Mexico (present study), Mozambique (Wells 1967), Turkey (Noodt (1955), from the US Gulf of Mexico (Florida, USA) (Reidenauer & Thistle 1981; Thistle 1980), and from the north-western Atlantic (off North Carolina and US Virgin Islands (USA)) (Coull 1971a, 1971b, 1973). Few subtle differences were detected between the different populations for which the material has been illustrated. Post-antennal mouth parts are seldom described and illustrated, being the mandible the mouth appendage that has received more attention. The exopod of the mandible is two-segmented, and the one-segmented condition described for some species of *Robertgurneya*, including *R. rostrata* (see Gurney (1927) and Sewell (1940)) is most probably erroneous, as implicitly suggested by Apostolov & Marinov (1988) in their generic diagnosis. The armature formula of P1–P4 is constant, but Sewell (1940) reported two instead of one seta on the P3 EXP3 in the population from the Indian Ocean and Arabian Sea. However, he (Sewell 1940) did not mention how many specimens were inspected, and there is always the possibility of some variability. Previous illustrated records of *R. rostrata* showed one seta on the first and second segments of the antennary exopod; most authors described the third exopodal segment of the antenna with one lateral and two apical setae, but the material from Banyuls and Mexico display one lateral and three apical setae. The apical middle element in Monard's (1928) material from Banyuls is visibly longer than the other two apical elements, which are subequal in length; one of these setae is very small in the Mexican population and can be easily mistaken for a spinule. There are also some subtle differences in the relative length of the setae of the female P5 EXP of the populations for which illustrations are available. Gurney´s (1927) and Monard's (1928) material from Egypt and from the French Mediterranean are similar in that the outermost exopodal seta of the female P5 is visibly longer than the two neighbouring elements. On the other hand, these two populations differ in the relative length of the fourth and fifth setae (from the outer to the inner margin), being the fourth seta shorter than the fifth element in Gurney's (1927), but the fourth seta appears longer than the fifth in Monard's (1928) specimens. Unfortunately, Gurney (1927) did not find the male and no comparisons can be made with the male reported by Monard (1928). The female P5 EXP of the populations from the Indian Ocean and Arabian Sea, and from the Federate States of Micronesia, are similar in that the three outer setae are subequal in length and the fourth and fifth setae are visibly longer and also subequal in length; these two populations seem to differ, however, in the level at which the inner setae of the endopodal lobe are inserted. Sewell (1940) did not find the males of the population from the Indian Ocean and Arabian Sea. The three outer setae of the female P5 EXP of the Mexican material are subequal in length, but the fourth seta is visibly shorter than the fifth element. The male P5 EXP of Vervoort's (1964) specimens from the Federated States of Micronesia is similar to the Mexican material in the reduction of the two median outer setae, and Monard's (1928) material from Banyuls is similar to Willey's (1935) material from Bermuda. The spinular pattern on the urosomites is similar in the material from Banyuls of Monard (1928), and from the Indian Ocean and Arabian Sea of Sewell (1940) and Noodt (1955), in the presence of spinules on both halves of the genital-double somite, and fourth and fifth urosomites, but differ from Vervoort's (1964) material from the Caroline Islands and from the Mexican specimens in the lack of spinules on the fifth urosomite. Note that the character states mentioned above are not unique for the different populations of *R.* rostrata, but common to a larger group of species.

Robertgurneya mexicana **sp. nov.** from the Mexican Tropical Pacific, and *R. falklandiensis* from South Georgia and Falkland Islands are unique in the elongated dimorphic inner spine of the basis of the male P1. The significance of the presence of such spine in two species of two different species-groups is not clear. Besides the different armature of the female P2 ENP2 (with one seta in the Mexican species, but two in *R. falklandiensis*) these two species differ also in the presence of one seta on the second exopodal segment of the antenna in *R. mexicana* **sp. nov.**, but without armature in *R. falklandiensis*.

No synapomorphies have been detected to support the monophyly of *Robertgurneya*. The epicopulatory bulb is present in all taxa of Thalestridimorpha, the significance of similar structures in some tetragonicipitid species is uncertain, and no comprehensive studies on this structure are available (Willen 2000). However, the ultrastructure of the epicopulatory bulb of *Robertgurneya*, which seems to be involved in a specialised mode of sperm transfer (Bensien 1998), could reveal potential apomorphies for *Robertgurneya*.

On the polyphyly of *Robertgurneya* and the position of *R. soyeri* (Apostolov 1974) and *R. spinulosa* (Sars 1911)

No apomorphies have been detected so far for *Robertgurneya* and the genus has not been defined objectively. Lang (1944, 1948) proposed the subdivision of the genus based on the presence of one — *spinulosa*-group— or two setae —*similis*-group— on the P2 ENP2. Additionally, he was of the opinion that the presence/lack of a sexually dimorphic inner spine on the basis of the male P1 could be another character potentially useful to support such subdivision of the genus, and that the genus could eventually be split into two genera, *Robertgurneya* for his *similis*-group, and *Robertgurneyella* for his *spinulosa*-group (see above). However, as shown above, a sexually dimorphic spine is present in all the species of *Robertgurneya* for which the males are known, and Lang´s (1944, 1948) species-groups seem to be defined upon the armature complement of the P2 ENP2 only. The genus *Robertgurneya* displays some "normal" interspecific variability in the P1 ENP1:EXP length ratio, length:width ratio of the second antennulary segment, and in the armature formula of P1–P5. However, such variability overlaps in the two species-groups making difficult any objective split of the genus into two genera. The variability in some other appendages, however, is indicative of the probable presence of two or more lineages supporting the polyphyly of the genus. For example, i) the second segment of the exopod of the antenna of the species of the *similis*-group is unarmed, but a seta is present on that segment in three *(R. rostrata*, *R. spinulosa*, and *R, mexicana* **sp. nov.**) out of six species of the *spinulosa*-group for which the antennary exopod has been described (the second segment of the antennary exopod is unarmed in *R. ilievecensis*, *R. soyeri*, and *R. oligochaeta*, the condition of that segment is uncertain in *R. dictydiophora*, and the antennary exopod of *R.* dactylifer remains unknown); the lack of armature on the second segment of the antennary exopod in *R. ilievecensis*, *R. soyeri*, and *R. oligochaeta* could be explained as a secondary loss; ii) there seems to be three types of sexually dimorphic inner spines on the male P1 basis. The significance of the variability in the armature of the second segment of the antennary exopod and in the shape of the inner dimorphic spine on the male P1 basis is not clear and have been included in the —amended— diagnosis above. On the other hand, some other deviations from the diagnosis proposed above are indicative of the polyphyletic nature of the genus *Robertgurneya*, i) the length:width ratio of the caudal rami in *R. soyeri*, and ii) the architecture of the mandibular palp and number of setae on the male P5 endopodal lobe in *R. spinulosa*. The caudal rami of the species of *Robertgurneya* is, as a rule, wider than long —rarely as long as wide—, but it is never longer than its maximum width. The only exception is *R. soyeri* from the Bulgarian Black Sea (Apostolov 1974; Apostolov & Marinov 1988), whose caudal rami are nearly twice as long. I propose to reallocate *R. soyeri* Apostolov 1974 provisionally into the genus *Typhlamphiascus* as *Typhlamphiascus soyeri* (Apostolov 1974).

The ground pattern of the mandibular exopod of the Thalestridimorpha *sensu* Willen (2000) consists of a four-segmented ramus with armature formula 1,1,1,3 (Willen's 2000: 93). Following Willen (2000), two types of mandibular exopods derived from the thalestridimorphan ground pattern, i) type 1 with three free segments, and armature formula 2,1,3, being the first —and longest— segment the result of the fusion of the first and second original thalestridimorphan segments, and ii) type 2 with first segment incorporated into the basis, and two free segments, and armature formula 1(issuing from the basis),1,4, the distal —and longest— segment being the result of the fusion of the third and fourth segments of the original thalestridimorphan exopod. The exopod diagnosed for *Robertgurneya* corresponds to Willen's (2000) type 1, in which the two setae on the first —longest— segment are still retained, but underwent further fusion of the second and third segments. Further reduction to one setose segment or complete loss of the ramus can be observed in other thalestridimorphan genera (e.g. *Diosaccus* Boeck 1872, *Schizopera* Sars 1905b, and some Thalestridae). Sars (1911) did not comment on the mandible of *R. spinulosa*, but subsequent records by Vervoort (1964) and Apostolov & Marinov (1988) revealed the uniramous condition —without exopod— of its mandibular palp, viz., *R. spinulosa* underwent extreme reduction and complete loss of any trace of the exopod.

The mandibular endopod of the ancestral harpacticoid consists of two segments with an armature formula of 3, 9 (Huys & Boxshall 1991). The two endopodal segments are fused in most taxa, but a plesiomorphic two-segmented endopod is still present in some paramesochrids and tisbids (Dahms & Dieckmann 1987; Huys & Boxshall 1991; Mielke 1984). Previous descriptions of some paramesochrids reported a three-segmented mandibular endopod (see Mielke 1984), but the last segment has been interpreted by Huys and Boxshall (1991) as false and produced by the confluent bases of the apical elements. Sars (1911) did not comment on the mandible of *R. spinulosa*, but Vervoort (1964) and Apostolov & Marinov (1988) reported a two-segmented mandibular endopod in material from two distant localities —Ifaluk Atoll and the Bulgarian Black Sea coast, respectively. Until re-inspection of *R. spinulosa*, Vervoort's (1964) and Apostolov & Marinov's (1988) interpretations are considered here as correct.

There are four different types of male P2 endopods within the Thalestridimorpha (see Willen 2000). The three-segmented male P2 ENP in some species of *Parastenhelia* Thompson & Scott A. 1903 has been interpreted by Willen (2000) as secondary division of a once two-segmented endopod. The male P2 ENP of *Robertgurneya* corresponds to Willen´s (2000) type 4 which is considered by her as autapomorphic for the Thalestrioidea *sensu* Willen (2000). Neither Vervoort (1964) nor Apostolov & Marinov (1988) reported on the male of *R. spinulosa*, and the only description available of the male is that of Sars (1911) who described its P2 ENP as distinctly three-segmented. The male P2 ENP shown in Sars (1911, Pl. 22) is very similar to that of the Thalestrinae —with two outer spines on ENP3— except for the complete separation of the third segment and for the presence of one inner seta only on this segment in *R. spinulosa*.

Except for *Miracia efferata* Dana 1849, all Miraciidae possess two setae only on the male P5 endopodal lobe. Within Podogennonta *sensu* Seifried (2003) some families possess representatives bearing three setae of the male P5 endopodal lobe, e.g. Ameiridae Boeck 1865, Canthocamptidae Brady 1880, Cletopsyllidae Huys & Willems 1989, Cristacoxidae Huys 1990, Dactylopusiidae Lang 1936, Nannopodidae Brady 1880, Tetragonicipitidae Lang 1944, and Thalestridae.

Other deviations of *R. spinulosa* from the above generic diagnosis include:

i) loss of the exopod of the maxillule. (Sars 1911) did not show the maxillule of *R. spinulosa*. In his redescription, Vervoort (1964) interpreted some of the basal setae as a styliform endopod incorporated into the basal endite, and the one-segmented ramus with four setae as the exopod. However, the Diosaccinae Sars 1906 possesses a maximum of four and two setae on the endopod and exopod of the maxillule, respectively (see Willen 2000). Hence, the maxillule of *R. spinulosa* is reinterpreted here as uniramous —without exopod—, with basal endite bearing six setae, and with four setae on the endopod. Further reductions in the exopod of the maxillule are also present in some species of Parastenheliidae Lang 1936.

ii) the endopod of the maxilla incorporated into the allobasis and represented by two setae. The ground pattern of the maxillary endopod of Thalestridimorpha consists of three segments with armature formula 2, 1, 3. The maxillary endopod of *Robertgurneya* is two-segmented with armature formula 2, 4. The first segment corresponds to the ground pattern of Thalestridimorpha, and the second segment is the result of fusion of the second and third thalestridimorphan original segments. The endopod of the maxilla of *R. spinulosa* underwent extreme reduction, being absorbed into the allobasis and represented only by two setae. Similar reductions are present in some genera of *Dactylopusiidae*.

iii) the armature complement of the proximal, middle and distal endites on the maxillary syncoxa of *R. spinulosa* (4, 3, 3 setae, respectively) as shown by Vervoort (1964) is most probably erroneous. The maximum number of setae on the syncoxal endites in all podogennontans is three (Huys & Boxshall 1991). The armature formula of the proximal, middle and distal syncoxal endites of *R. hopkinsi and R. diversa* is 1, 2, 2; the condition of *R. ilievecensis* as illustrated by Hamond (1973) is not conclusive, but the proximal endite seems to bear two setae; Vervoort (1964) observed only two syncoxal endites with two setae each in *R. rostrata*, but in the present study I observed three endites with armature formula 2, 2, 3; Noodt (1955) described the three syncoxal endites of *R. simulans bulbamphiascoides* with two setae each; the armature formula of the syncoxal endites of *R. smithi* is not conclusive, but Hamond (1973) illustrated them with one, two, and three setae, respectively; the proximal, middle and distal endites of *R. mexicana* **sp. nov.** bear two, two, and three setae, respectively.

Based on the arguments above, I suggest to remove *A. spinulosus* from *Robertgurneya* and to place it into a new genus, for which I propose the genus name *Robertgurneyella* gen. nov. that was proposed tentatively by (Lang 1948: 697) for his *spinulosa*-group. The generic diagnosis for the new genus is based completely on the original description of *A. spinulosus* (= *R. spinulosa*) by Sars (1911: 388, Pl. 22) and on the illustrated records by Vervoort (1964: 222–225, figs. 87–88) and Apostolov & Marinov (1988: 175, figs. 64-3, 65-1). For identification purposes, I suggest to replace the species-group name *spinulosa* of Lang's (1944, 1948) collective group of species with one inner seta on P2 ENP2, for the collective species-group name *rostrata*.

A key to the species of *Robertgurneya* is proposed below. The description of some species is rather fragmentary (e.g. *R. similis similis*, *R. simulans*), the descriptions of the same species from distant localities are slightly different (e.g. *R.* rostrata, *R. ilievecensis*, *R. similis*, *R. oligochaeta*), and the males of some species remain unknown or the descriptions lack the necessary detail. It is suggested to check the available descriptions for species identification.

Key to the species of *Robertgurneya* Apostolov & Marinov 1988

1a. P2 ENP2 with two inner setae… . . . . 2 (*similis*-group: *R. brevipes*, *R. diversa*, *R. falklandiensis*, *R. hopkinsi*, *R. remanei*, *R. similis bulbamphiascoides*, *R. similis similis*, *R. simulans*, *R. smithi*)
1b. P2 ENP2 with one inner seta… . . . . 10 (*rostrata*-group: *R. arabica*, *R. dactylifer*, *R. dictydiophora*, *R. ecaudata*, *R. ilievecensis*, *R. mexicana* **sp. nov.**, *R. oligochaeta*, *R. rostrata*,)

2a. P1 ENP2 without inner seta… . . . . *R. remanei*
2b. P1 ENP2 with inner seta… 3

3a. P2 ENP1 without inner armature; P3 ENP3 with four elements; female P5 EXP with five, endopodal lobe with four setae… . . . . *R. brevipes*
3b. P2 ENP1 with inner armature; P3 ENP3 with five elements; female P5 EXP with six, endopodal lobe with five setae… . . . . 4 (*R. diversa*, *R. falklandiensis*, *R. hopkinsi*, *R. remanei*, *R. similis bulbamphiascoides*, *R. similis similis*, *R. simulans*, *R. smithi*)

4a. Length:width ratio of caudal rami from dorsal view from 0.8–1.0… . . . . 5 (*R. similis bulbamphiascoides*, *R. similis similis*, *R. simulans*)
4b. Length:width ratio of caudal rami from dorsal view less than 0.7… . . . 7 (*R. diversa*, *R. falklandiensis*, *R. hopkinsi*, *R. smithi*)

5a. Subdistal outer seta of female P5 EXP short, bulbous… . . . . *R. similis bulbamphiascoides*
5b. Subdistal outer seta of female P5 EXP whip-like… . . . . 6 (*R. similis similis*, *R. simulans*)

6a. Male P5 EXP with five setae . . . . *R. similis similis*
6b. Male P5 EXP with six setae… . . . . *R. simulans*

7a. Second antennulary segment two times as long as wide; inner spine of basis of the male P1 reaching tip of exopod, and about three times as long as basis… . . . . *R. falklandiensis*
7b. Second antennulary segment less than two times as long as wide; inner spine of basis of the male P1 about two times as long as basis… . . . . 8 (*R. diversa*, *R. hopkinsi*, *R. smithi*)

8a. Outermost proximal seta of female P5 EXP about half as long as neighbouring seta; innermost seta of male P5 EXP about half as long as neighbouring seta; male P1 basis with a conical protuberance at the base of the inner spine… . . . . *R. smithi*
8b. These characters not combined . . . . 9 (*R. diversa*, *R. hopkinsi*)

9a. Outer apical seta of female P5 endopodal lobe about half as long as neighbouring seta; innermost seta of female P5 EXP less than half the length of neighbouring seta . . . . *R. hopkinsi*
9b. Length ratio of outer apical:inner apical seta of female P5 endopodal lobe about 0.8; innermost seta of female P5 EXP about half the length of neighbouring seta . . . . *R. diversa*

10a. Female P5 endopodal lobe with five setae of which innermost and outermost well-developed . . . . 11 (*R. arabica*, *R. dactylifer*, *R. dictydiophora*, *R. ecaudata*, *R. mexicana* **sp. nov.**, *R. rostrata*)
10b. Female P5 endopodal lobe with four setae of which innermost and outermost very reduced . . . . 16 (*R. ilievecensis*, *R. oligochaeta*)

11a. P1 ENP2 without inner armature; P3 ENP2 with two inner setae; caudal seta III foliose; male unknown . . . *R. dictydiophora*
11b. P1 ENP2 with inner armature; P3 ENP2 with one inner seta; caudal seta III whip-like; male P5 EXP with five or six setae . . . . 12 (*R. arabica*, *R. dactylifer*, *R. ecaudata*, *R. mexicana* **sp. nov.**, *R. rostrata*)

12a. Armature formula of P3 ENP3 121 (with four elements); male P5 EXP with five setae, endopodal lobe with one well-developed seta and one small spine . . . . *R. arabica*
12b. Armature formula of P3 ENP3 221 (with five elements); male P5 EXP with five or six setae, endopodal lobe with two elements . . . . 13 (*R. dactylifer*, *R. ecaudata*, *R. mexicana* **sp. nov.**, *R. rostrata*)

13a. Inner spine of the male P1 basis reaching tip of EXP3; male P5 EXP with five setae . . . . *R. mexicana* **sp. nov.**
13b. Inner spine of the male P1 basis reaching the middle of ENP1; male P5 EXP with six setae . . . . 14 (*R. dactylifer*, *R. ecaudata*, *R. rostrata*)

14a. Male P5 EXP with four inner elements of which two inner subdistal elements reduced to two small spines, and with one apical and one outer element . . . . *R. dactylifer*
14b. Male P5 EXP with two inner, one distal, and three outer elements . . . . 15 (*R. ecaudata*, *R. rostrata*)

15a. Female P5 EXP oval, less that two times as long as wide . . . . *R. rostrata*
15b. Female P5 EXP elongate, about two times as long as wide . . . . *R. ecaudata*

16a. Female P5 EXP oval, less than two times as long as wide, with three outer setae short; outer apical element of female P5 endopodal lobe slightly shorter than inner neighbouring seta . . . . *R. oligochaeta*
16b. Female P5 EXP elongate, about two times as long as wide, with three outer setae comparatively well-developed; outer apical seta of female P5 endopodal lobe as long or slightly longer than inner neighbouring seta . . . . *R. ilievecensis*

Genus *Robertgurneyella* gen. nov.

Syn.: *Amphiascus* Sars 1905 part., *Robertgurneya* Apostolov & Marinov 1988 part.

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Type species. *Robertgurneyella spinulosa* (Sars 1911)) (= *Amphiascus spinulosus* Sars 1911; = *Robertgurneya spinulosa* (Sars 1911)), by monotypy.

Diagnosis. Miraciidae: Diosaccinae. Body semi-cylindrical compressed. Rostrum elongate, triangular, with pointed tip. Female second urosomite and genital somite distinct dorsally and laterally, completely fused ventrally; genital field with medial epicopulatory bulb. Female antennule eight-segmented in females; first and second segments longest, subequal in length. Male antennule haplocer, ten-segmented. Antenna with allobasis; exopod three-segmented; middle segment smallest; first and second segments with one seta, third segment with one lateral and two apical setae. Mandible with well-developed gnathobasis; basis well-developed, with three setae; endopod two-segmented, armature formula 2, 5; without exopod. Maxillule uniramous; coxal endite with two, basal endite with six, endopod with four setae; exopod lost. Maxilla with three syncoxal endites; endopod incorporated into allobasis, represented by two setae. Maxilliped subchelate; endopod one-segmented. Female P1–P4 with three-segmented rami; P1 ENP1 longer than exopod; P2–P3 ENP as long or longer than exopod, P4 ENP shorter than exopod.

Armature formula of P1–P4:

	P1	P2	P3	P4
EXP	0;0;022	0;1;123	0;1;1,2,3	0;1;2,2,3
ENP	1;1;111	1;1;121*	1;1;2,2,1	1;1;1,2,1

*Sexually dimorphic in males

Male P2 ENP sexually dimorphic, three-segmented; first and second segments with one seta, third segment shortest, with two outer spines, and one apical and one inner seta. Female P5 EXP with six setae, endopodal lobe with five elements. Male P5 baseoendopods fused medially; EXP with five, endopodal lobe with three setae. Female P6 with three setae. Caudal rami wider than long, with seven setae.

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