

## Hyssuridae from the Caribbean coast of Colombia, with descriptions of four new species (Isopoda: Anthuridea)

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### Abstract

Four species of Hyssuridae (Isopoda) new to science are recorded from various locations along the coast of the Santa Marta area, Colombia-Caribbean. Their relationships are discussed.

### Résumé

Quatre espèces nouvelles de Hyssuridae (Isopoda) sont décrites de localités diverses le long des côtes de la zone de Santa Marta (Colombie, Mer des Caraïbes). Les affinités de ces espèces sont discutées.

### Introduction

This is the first report on marine isopods of the family Hyssuridae from the coast of northern South America. Other nearby captures in the Caribbean are recorded from Barbados (Kensley & Snelgrove, 1987), the Virgin Islands (Kensley, 1980, 1984; Menzies & Frankenberg, 1966) and Belize (Kensley, 1984; Kensley & Schotte, 1987).

All specimens were collected by the author during a survey of almost 14 months in 1985–86, carried out at the Instituto de Investigaciones marinas de Punta de Betín in Santa Marta (INVE-MAR/COLCIENCIAS), Colombia. Because only one or a very few specimens of each species were encountered, no comments on their ecology are possible.

My thanks are due to the German Academic Exchange for a financial grant to make the fieldwork

possible over such a long time and also to the staff of the INVEMAR for technical support.

The material is deposited in the Zoölogisch Museum, Amsterdam (ZMA).

*Chalixanthura* Kensley, 1984

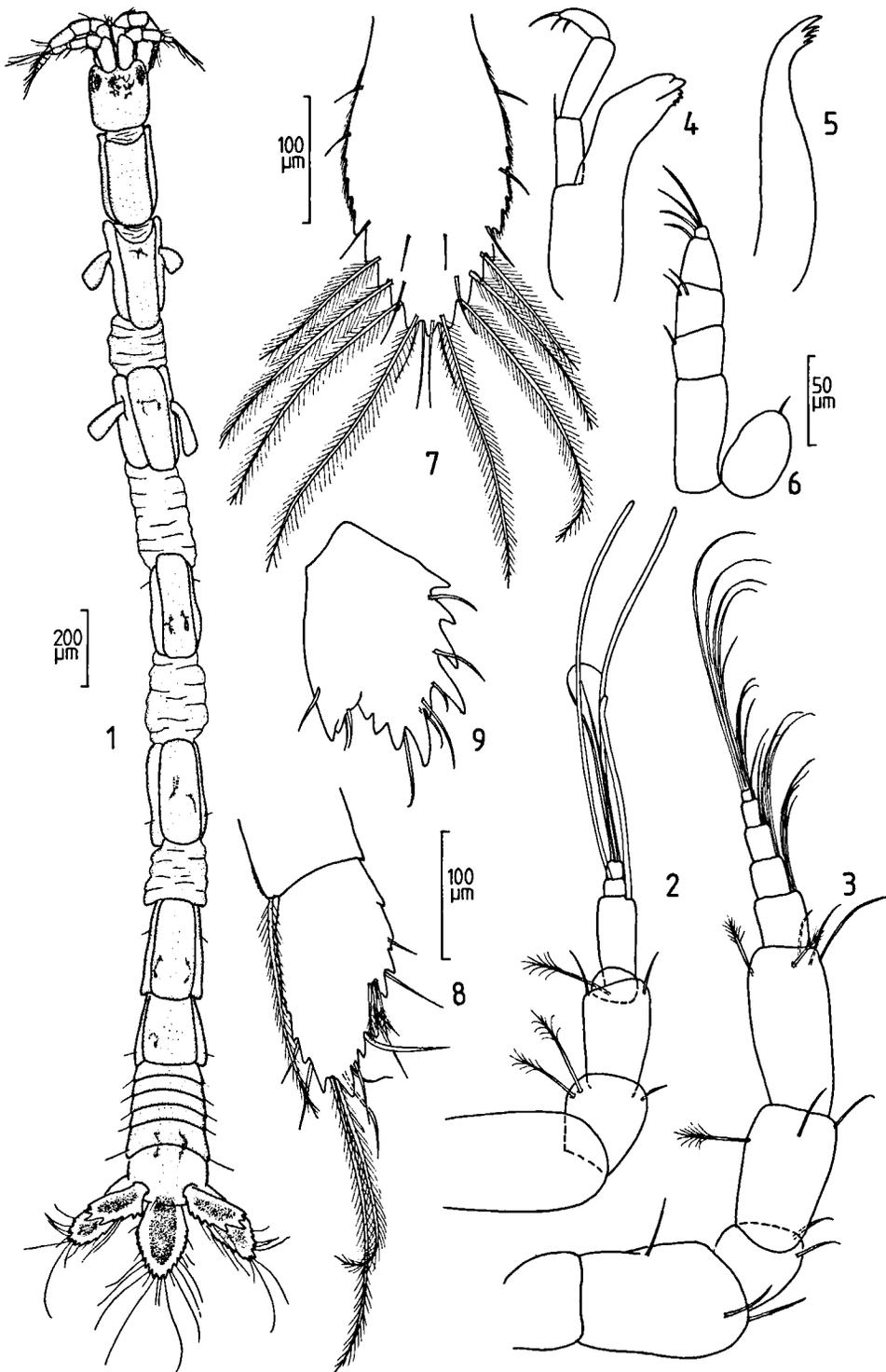
***Chalixanthura colombiana* n. sp.** Figs. 1–16

Holotype. – ♀: Colombia, entrance to Bahía Gairaca, about 20 km north-east of Santa Marta, coarse sand, 52 m, 31 January 1986 (ZMA Is. 105.445).

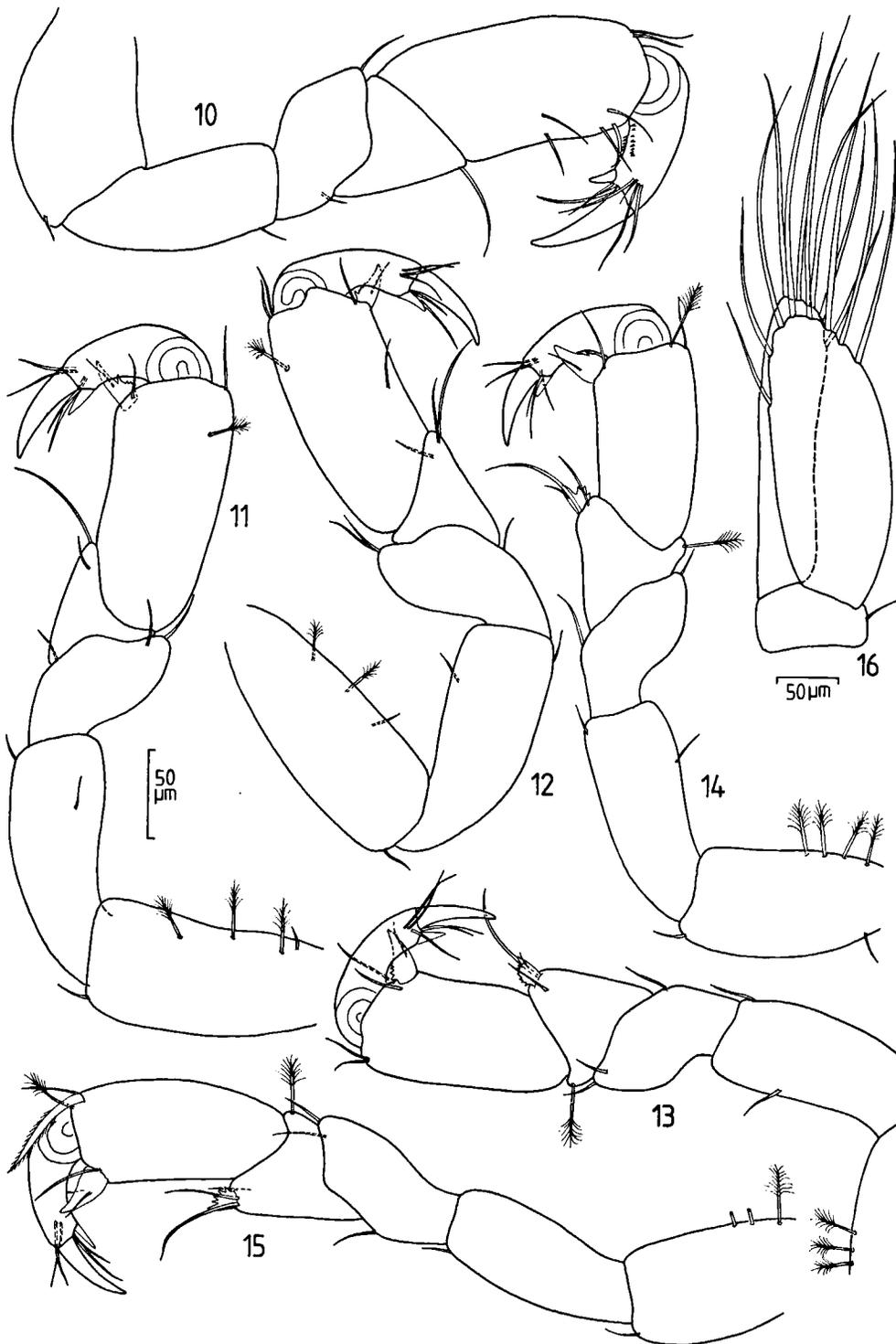
Etymology. – The specific name refers to the geographic area of the type locality.

Diagnosis. – *Chalixanthura* with strongly serrate uropodal exopodite having distinct lateral indentation. Margin of telson with serrations in distal half, becoming stronger in distal third; with 8 elongate, plumose setae.

Description, ♀. – Body very slender, about 15 times longer than wide; total length 3.16 mm; intersegmental tissue behind pereonites 2–5 swollen. Cephalon, pereonites 2–7 and pleon with small, brown pigment patches, as figured. Cephalon slightly longer than wide. Eyes relatively large and well pigmented, situated anterolaterally. Body proportions  $C < 1 < 2 = 3 = 4 = 5 > 6 > 7$ . All pleonites free, with lateral setae; pleonites 1–4 subequal in length, 5th about as long as 3rd and 4th



Figs. 1–9. *Chalixanthura colombiana* n. sp., ♀ holotype: 1, dorsal view; 2, antenna 1; 3, antenna 2; 4, mandible; 5, maxilla; 6, maxilliped; 7, telson; 8, uropodal endopodite; 9, uropodal exopodite.



Figs. 10–16. *Chalixanthura colombiana* n. sp., ♀ holotype: 10, pereopod 1; 11, pereopod 2; 12, pereopod 3; 13, pereopod 4; 14, pereopod 5; 15, pereopod 7; 16, pleopod 1.

together. Telson elongate oval, dorsal surface with large, oval pigment patch; telson widest at about midlength, distal margin with serrations, more strongly developed in distal third; 8 elongate marginal plumose setae in distal third; 4 much shorter simple setae between terminal plumose setae.

Antenna 1 peduncle of 3 articles; first article about as long as second and third together; flagellum of 4 articles, second longest, second and third with aesthetasc, terminal one with 4 elongate simple setae. Antenna 2 peduncle of 5 articles; articles 2 and 5 subequal, longer than others, article 2 widest; flagellum 5-articulated, articles decreasing in length and width distally, all with some simple setae being longest on terminal article. Mandible, incisor with two cusps, lamina dentata with 4 teeth; 3-articulated palp with single seta at basal article and 3 setae near apex of terminal segment. Maxilla with 4 distal teeth and setule. Maxilliped 5-articulated; basal article longest, no trace of endite observed; second article with 1, third with 2, fourth with 1 and tiny terminal article with 3 distal setae. Pereopod 1 with triangular carpus; propodus with few simple setae near posterodistal margin; unguis 3/4 length of dactylus, with strong accessory spine; posterior margin of dactylus with two rows of 5–8 tiny denticles. Pereopod 2 similar in shape to pereopod 1, posterodistal edge of propodus with strong, serrate compound spine. Pereopod 3 similar to pereopod 2. In addition to strong compound propodal spine, carpus in pereopods 4–7 with strong, serrate compound spine at posterodistal edge. Pleopod 1 operculiform; endopodite slightly longer than and half width of exopodite; endopodite with 5, exopodite with 8 distal plumose setae (drawn as simple setae). Uropodal endopodite elongate oval with distinct serrations, bearing 2 distal, elongate plumose setae. Margin of uropodal exopodite much more strongly serrate than endopodite, with distinct lateral indentation; exopodite with 9 simple marginal setae in distal two-thirds; endopodite and exopodite with large oval pigment patch.

Remarks. – Of the two species of *Chalixanthura* known up to now, *C. colombiana* n. sp. is more closely related to *C. scopulosa* Kensley, 1984 from Belize. The specimen described by Kensley as fe-

male does not have the swollen intersegmental tissue typical for mature females of Hyssuridae, therefore it should better named an immature adult. Both species are distinguished best by the much more strongly serrate telson in *C. colombiana*, bearing 8 plumose setae instead of 6 in *C. scopulosa*. Moreover, the uropodal exopodite in *C. scopulosa* lacks the distinct lateral indentation found in the new species (see Kensley, 1984: 2, figs. 1–3).

*Eisothistos* Haswell, 1884

***Eisothistos tayronae* n. sp. Figs. 17–32**

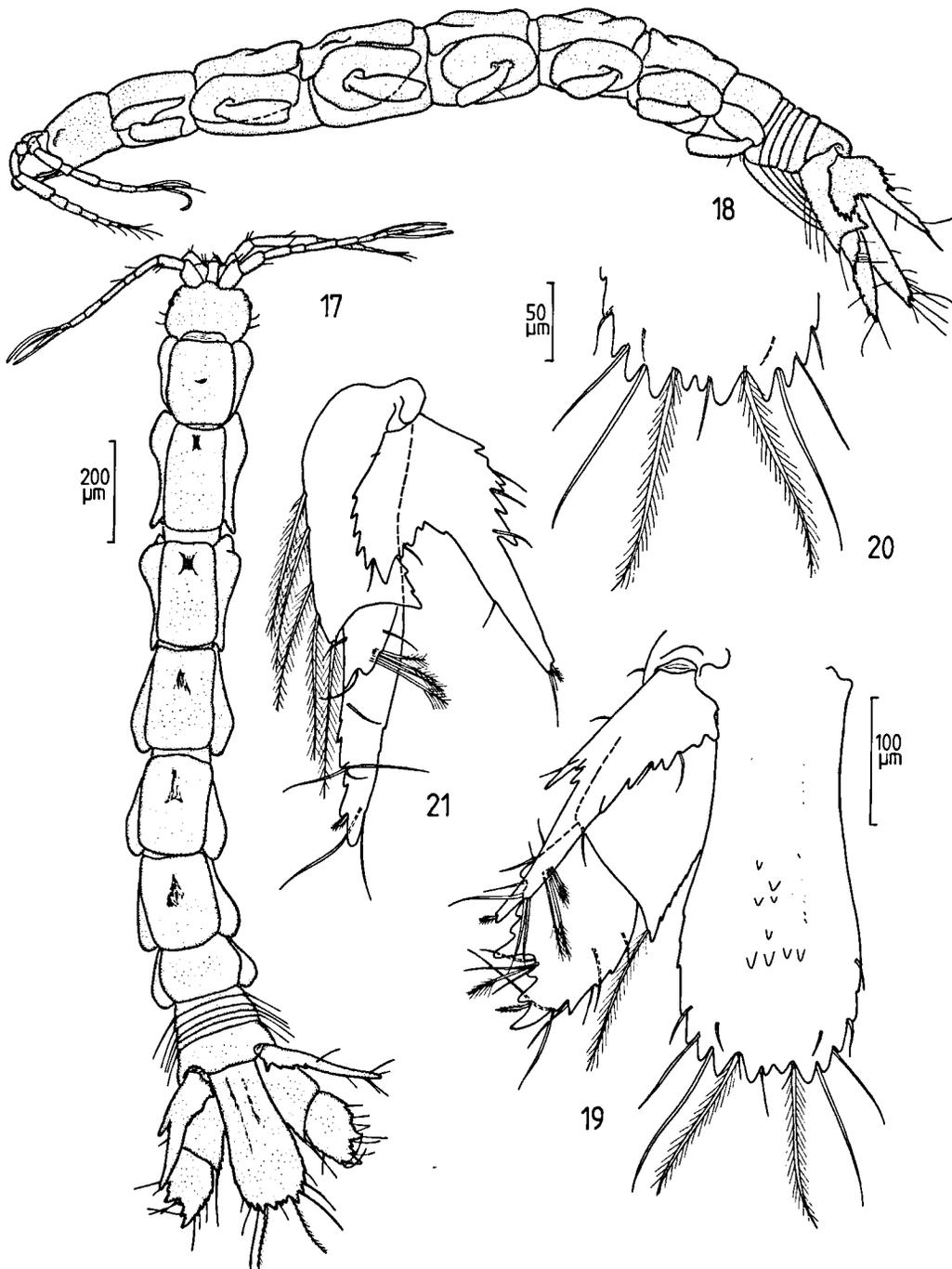
Holotype. – Immature adult: Colombia, Bahia Concha, about 10 km north-east of Santa Marta, *Thalassia*, 2–3 m, 2 May 1989 (ZMA Is. 105.446).

Etymology. – The species is named after the area of the type locality, the Tayrona National Park.

Diagnosis. – *Eisothistos* with basal article of antenna 1 produced into very short, rounded, medio-distal lobe bearing simple seta near apex; that lobe of about 1/4 of article length. Maxilliped of 5 articles, 3rd longest and slightly longer than terminal one. Ectal margin of uropodal endopodite strongly serrate. Pereopods with strong posterodistal compound spine, these spines bearing 1–3 small denticles near base.

Description, immature adult. – Body 9.5 times longer than wide, indurate and colourless. Total length 2.47 mm. Body proportions: C < 1 < 2 = 3 = 4 > 5 > 6 > 7. Faintly pigmented eyes with 2 ocellae, anterolaterally situated. Pereonites 1–6 with mid-dorsal pit. All pleonites free, subequal in length. Telson widened distally, with distinct mid-dorsal ridge becoming obsolete distally, and with few triangular, scale-like structures in distal half; distal margin serrate, with 2 plumose setae and about 10 simple setae of different length.

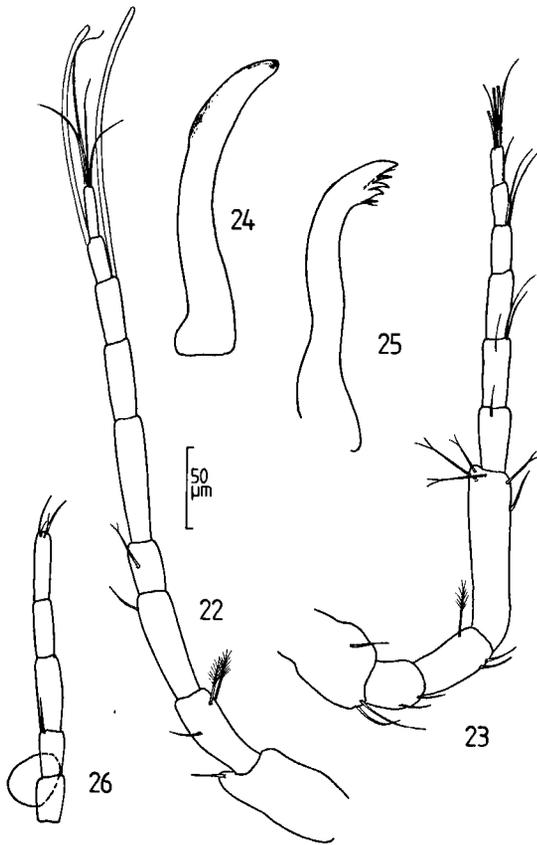
Antenna 1 elongate, slender, of 9 articles; proximal article widest with short, rounded mediolateral lobe bearing short simple seta near apex; articles 7 and 8 with aesthetasc; article 9 with 4 elongate, simple setae. Antenna 2 elongate, slender, peduncle of



Figs. 17–20. *Eisthistos tayronae* n. sp., immature adult, holotype: 17, dorsal view; 18, lateral view; 19, telson and uropod; 20, distal margin of telson, ventral view; 21, uropod, lateral view.

4 articles; proximal article widest, with 3 simple distal setae; second article shorter than third, fourth article longest with 4 distal bifurcate sensory setae

and simple seta; flagellum of 6 articles, bearing some simple setae. Mandible a stout and distally curved indurate structure. Maxilla sinuous with



Figs. 22–26. *Eisothisos tayronae* n. sp., immature adult, holotype: 22, antenna 1; 23, antenna 2; 24, mandible; 25, maxilla; 26, maxilliped.

5 distal teeth and 2 short setules. Maxilliped of 5 articles; third longest, slightly longer than terminal one; second with single distal seta, fifth with 4 setae near apex. Pereopod 1, carpus triangular and propodus elongate, palm with few setae in distal half; unguis half length of dactylus; dactylus posterodistally with 2 simple setae and serrate spine, proximally with 2–3 denticulations. Pereopod 2, palm of propodus with row of about 5 scales in distal half and strong compound spine with basal denticle at posterodistal edge; triangular carpus with 2 simple setae and small triangular spine at posterodistal edge. Pereopod 3, propodal palm with strong distal, compound spine bearing denticle near base; row of scales along distal half of palm; posterodistal edge of triangular carpus with 3 simple setae and small triangular spine. Pereopod 4, propodal palm with about 7 scales and strong distal

compound spine bearing 3 proximal denticles; carpus roughly triangular with strong compound spine at posterodistal angle, spine with small proximal denticle. Pereopods 5–7 similar, longer than pereopods 1–4; posterodistal margin of propodus and carpus with strong compound spine bearing basal denticle. Pleopod 1 operculiform, rami fused for about 4/5 of length; distal part of endopodite with 4, of exopodite with 3 plumose setae. Uropodal endopodite with strongly serrate outer margin; proximal half of exopodite broad with strong serrations, with long and narrow distal extension, bearing 2 simple setae and short feathered sensory seta near apex.

Remarks. – Of the two other species of the genus known from the Gulf of Mexico and the Caribbean – *Eisothisos atlanticus* Vanhöffen, 1914 and *E. teri* Kensley & Snelgrove, 1987 – *E. tayronae* n. sp. may be more closely related to the latter, although a comparison is difficult because Kensley & Snelgrove (1987: 190) described *E. teri* based on males and females, whereas the new species is known only from the immature adult. However, *E. tayronae* has the basal article of antenna 1 with a much shorter mediobasal lobe than the female of *E. teri*, different maxilliped proportions, no strong spines on the dorsal surface of the uropodal exopodite and telson, and the distal part of the endopodite of pleopod 1 with 4, of the exopodite with 3 plumose setae, instead of 2 in both endopodite and exopodite of *E. teri* (see Kensley & Snelgrove, 1987: 194, fig. 6).

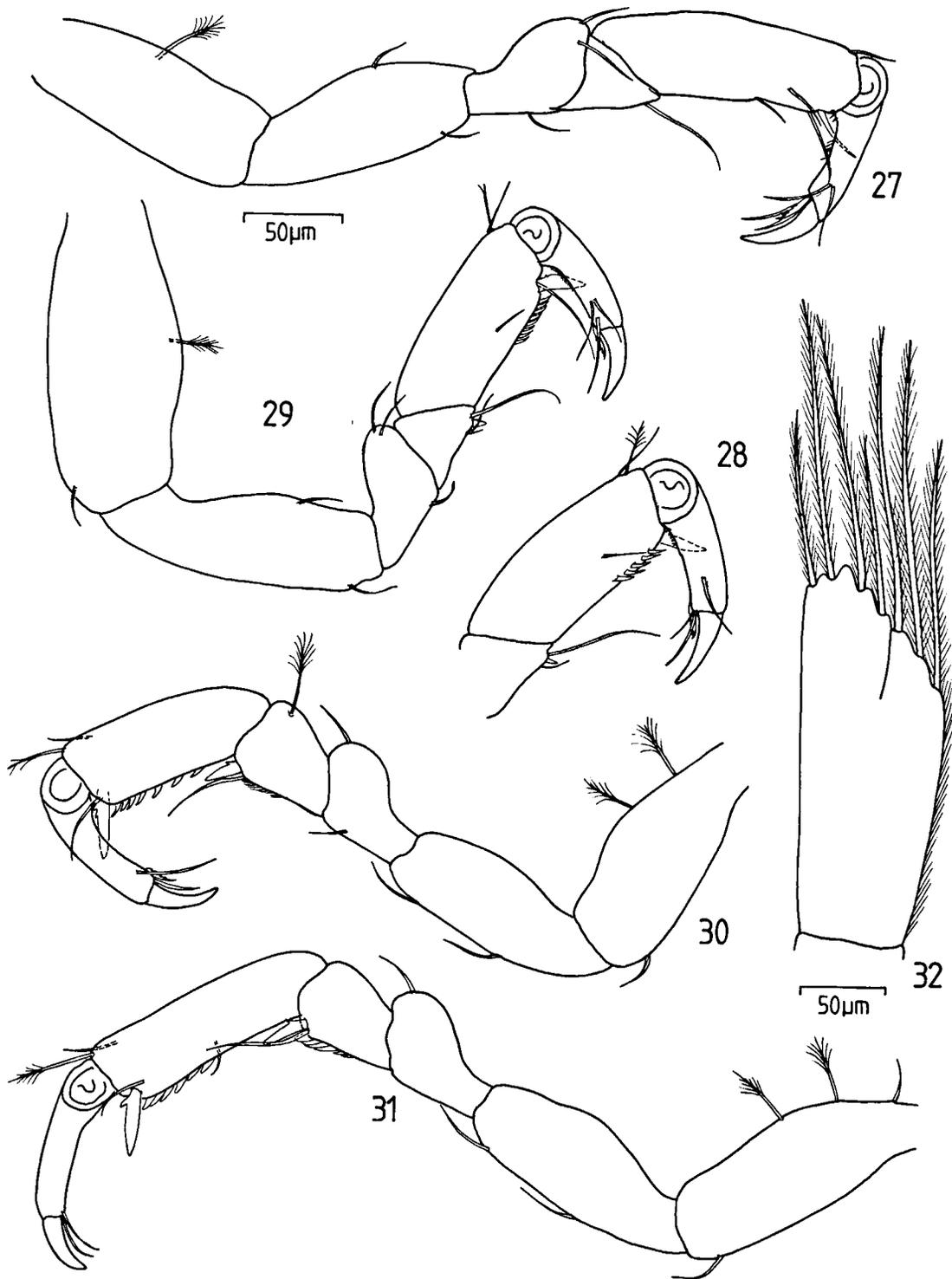
*Stellanthura* Wägele, 1979

#### *Stellanthura caribbica* n. sp. Figs. 33–50

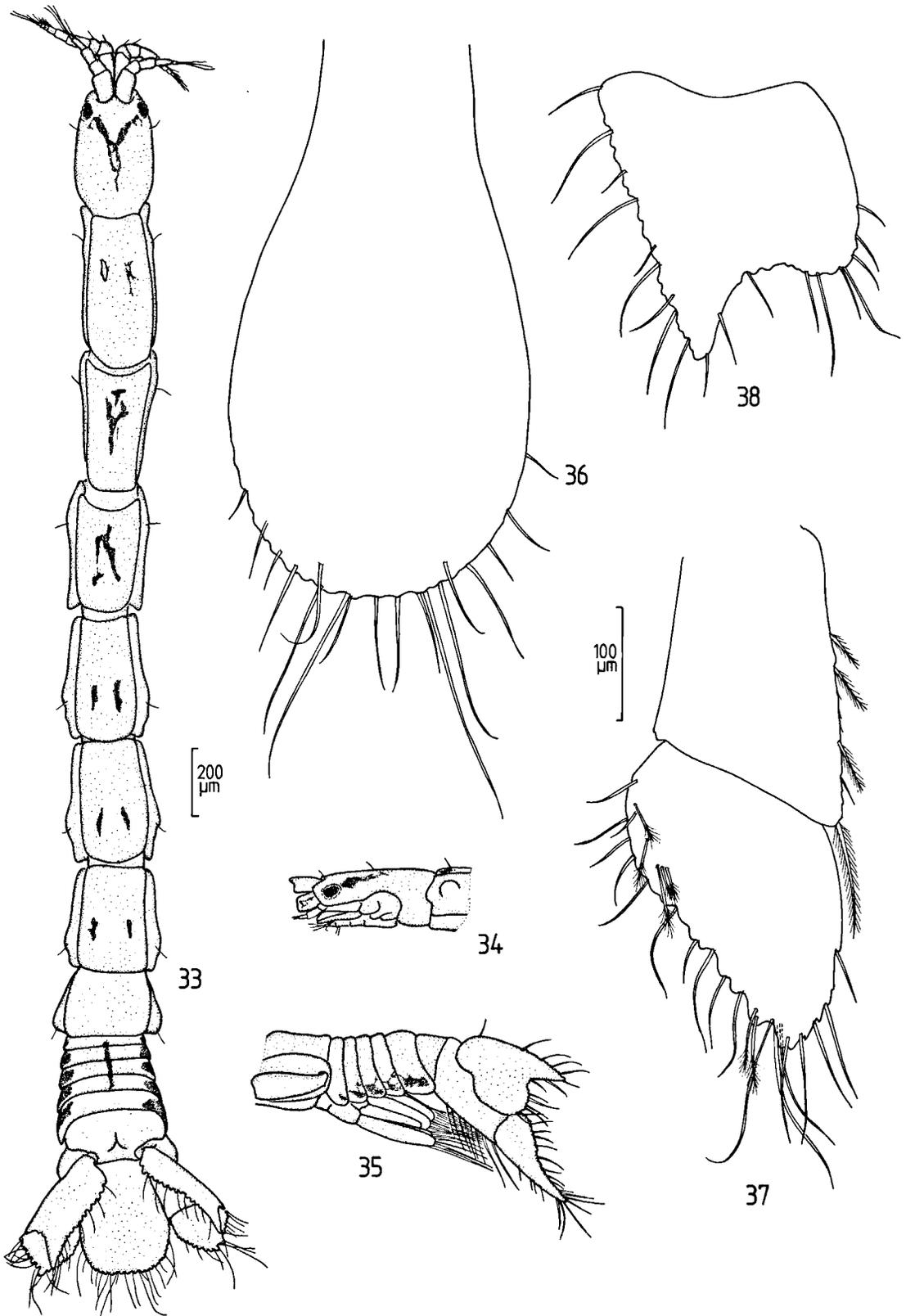
Holotype. – Immature adult: Colombia, fouling on pilings in the harbour of Santa Marta, in front of Punta de Betin, 0.5–6 m, 3 September 1985 (ZMA Is. 105.447). Paratype. – Immature adult: same locality and substratum, 0–1 m, 14 March 1986 (ZMA Is. 105.448).

Etymology. – The specific name is derived from the geographic area of the type locality, the Caribbean.

Diagnosis. – *S. caribbica* is easily distinguished



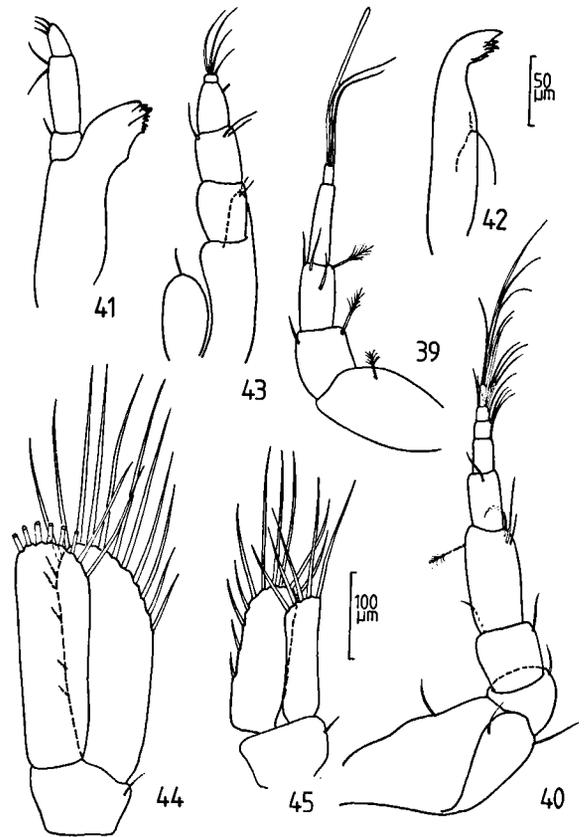
Figs. 27–32. *Eisothisos tayronae* n. sp., immature adult, holotype: 27, pereopod 1; 28, distal half of pereopod 2; 29, pereopod 3; 30, pereopod 4; 31, pereopod 5; 32, pleopod 1.



from the only other species of the genus, *Stellanthura cryptobia* Wägele, 1979 by the distally much wider telson, a faintly serrated uropodal exopodite, the well developed maxillipedal endite, and the more slender pereopod 1 with a strong unguis bearing shallow serrations along the posterior margin.

Description, immature adult. – Body slender, about 10 times longer than wide. Total length 3.52 mm. Cephalon, pereonites 1–6 and free pleonites 1–5 with small brown pigment patches, y-shaped on dorsum of head, as figured. Cephalon 1.6 times longer than wide, with small and darkly pigmented anterolateral eyes. Body proportions:  $C < 1 > 2 > 3 < 4 = 5 > 6 > 7$ . Pleonites 1–4 subequal in length, fifth pleonite slightly longer. Telson tongue-shaped, distally widened and broadly rounded; distal margin of telson with shallow serrations and about 16 simple setae of different length in characteristic arrangement and pair of dorsodistal simple setae.

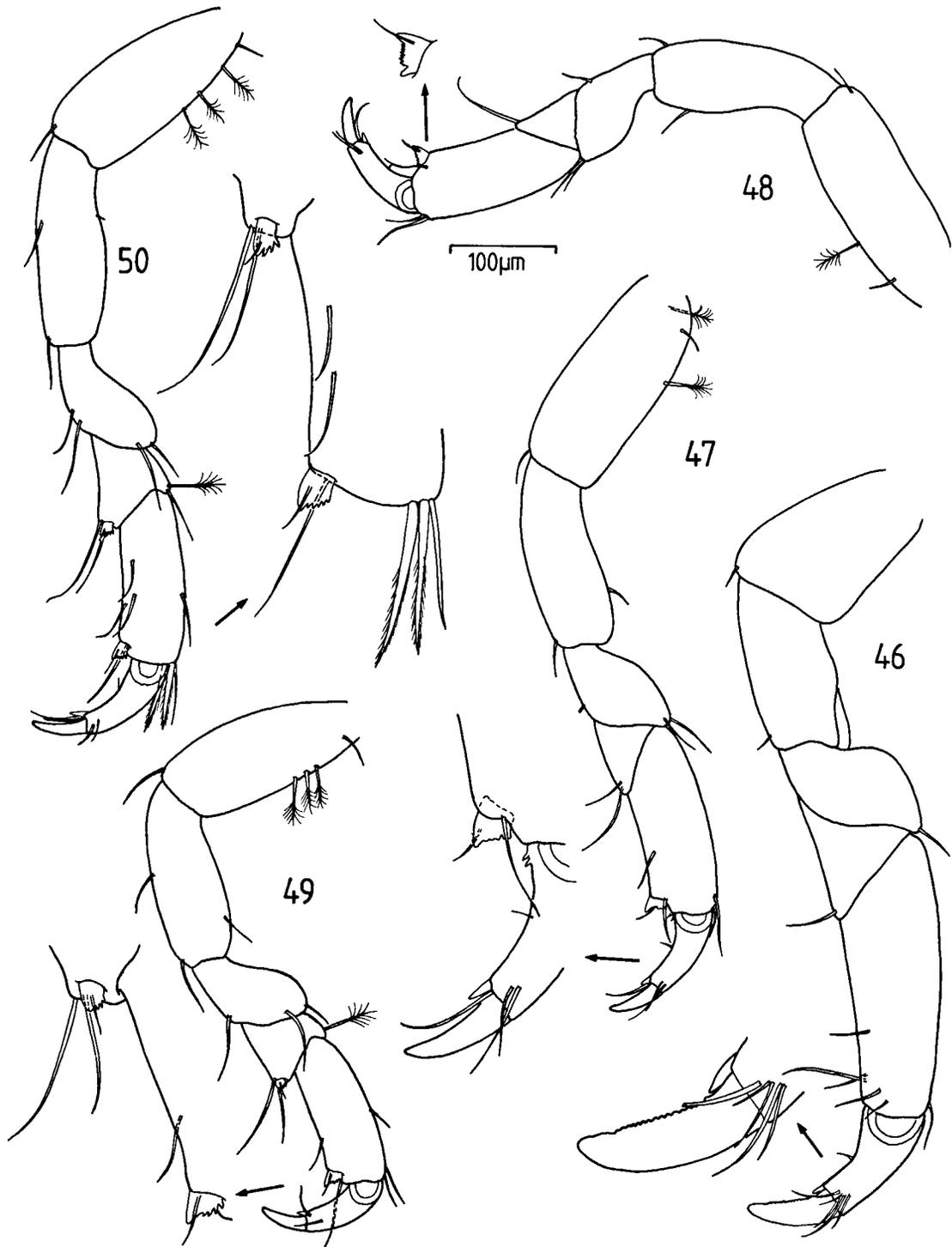
Antenna 1, peduncle of 3 articles; proximal article widest, about as long as second and third together, each bearing feathered sensory seta; flagellum of 2 articles; proximal article about 4 times longer than distal one; latter with 2 simple setae and 1 aesthetasc. Antenna 2, peduncle of 4 articles; first article longest, ventrally excavated for accommodation of antenna 1; second article shortest, fourth about as long as second and third together; flagellum of 5 articles bearing several simple setae, longest on terminal article. Incisor of mandible 3-cuspidate, lamina dentata 5-dentate; 3-articulated palp having second article longer than the first and third combined; first article with 1, second with 2 and third with 3 simple setae. Maxilla with 5 distal teeth, terminal one largest. Maxilliped 5-articulated; basal article longest, bearing rounded endite extending beyond proximal half of second article; articles 2–4 subequal in length, terminal article minute; endite, as well as articles 2–5, bearing 1–3 simple setae in arrangement as figured. Pereopod 1 with triangular carpus and rectangular propodus;



Figs. 39–45. *Stellanthura caribbica* n. sp., immature adult, holotype: 39, antenna 1; 40, antenna 2; 41, mandible; 42, maxilla; 43, maxilliped; 44, pleopod 1; 45, pleopod 2.

palm almost straight; some simple setae near posterodistal margin of propodus; unguis 4/5 length of dactylus, posterior margin with denticulations, apex rounded, near its base a short accessory spine. Pereopod 2: propodus bearing broad compound spine with indistinct denticulations at posterodistal margins; posterior margin of dactylus with 2 proximal denticles. Pereopod 3 similar in shape to pereopod 2, with denticulations of propodal compound spine more distinct. Pereopods 4–7 with trapezoid carpus; in addition to denticulate compound spine on propodus, carpus with spine of similar shape at posterodistal margin. Anterodistal margin of pereopod 7 with simple seta and 2 longer

Figs. 33–38. *Stellanthura caribbica* n. sp., immature adult, holotype: 33, dorsal view; 34, cephalon, lateral view; 35, pleon, lateral view 36, telson; 37, uropodal endopodite; 38, uropodal exopodite.



Figs. 46–50. *Stellanthura caribbica* n. sp., immature adult, holotype: 46, pereopod 1; 47, pereopod 2; 48, pereopod 3; 49, pereopod 4; 50, pereopod 7.

feathered spines. Pleopod 1, endopodite and exopodite subequal in length, exopodite 1.2 times wider than endopodite; endopodite with 8, exopodite with 11 distal plumose setae (drawn as simple setae); medial margin of exopodite additionally with 5 short simple setae. Exopodite of pleopod 2 1.6 times wider than endopodite; exopodite with 10 plumose setae along ectal and distal margin, endopodite with 5 distal plumose setae (all drawn as simple setae). Uropodal endopodite elongate-oval, its margins coarsely serrate, with about 17 simple setae; dorsal surface near medial margin with 7 feathered sensorial setae; exopodite roughly oval, margin coarsely serrate, near midpoint of ectal margin large, triangular projection; margin of exopodite with about 19 simple setae of different length.

Remarks. – The discovery of a second species in this hitherto monotypic genus greatly extends its known range from the Mediterranean to the Caribbean Sea. *S. caribbica* n. sp. is easily distinguished from *Stellanthura cryptobia* Wägele, 1979 by its wider, distally broadly rounded telson, less strongly serrate telson and uropods, the presence of a well developed maxillipedal endite and by the strong unguis of pereopod 1 bearing many denticulations on its posterior margin. The main feature in disagreement with the generic diagnosis given by Wägele (1979: 21) is the presence of a maxillipedal endite in the new species.

*Xenanthura* Barnard, 1925

***Xenanthura conchae* n. sp. Figs. 51–65**

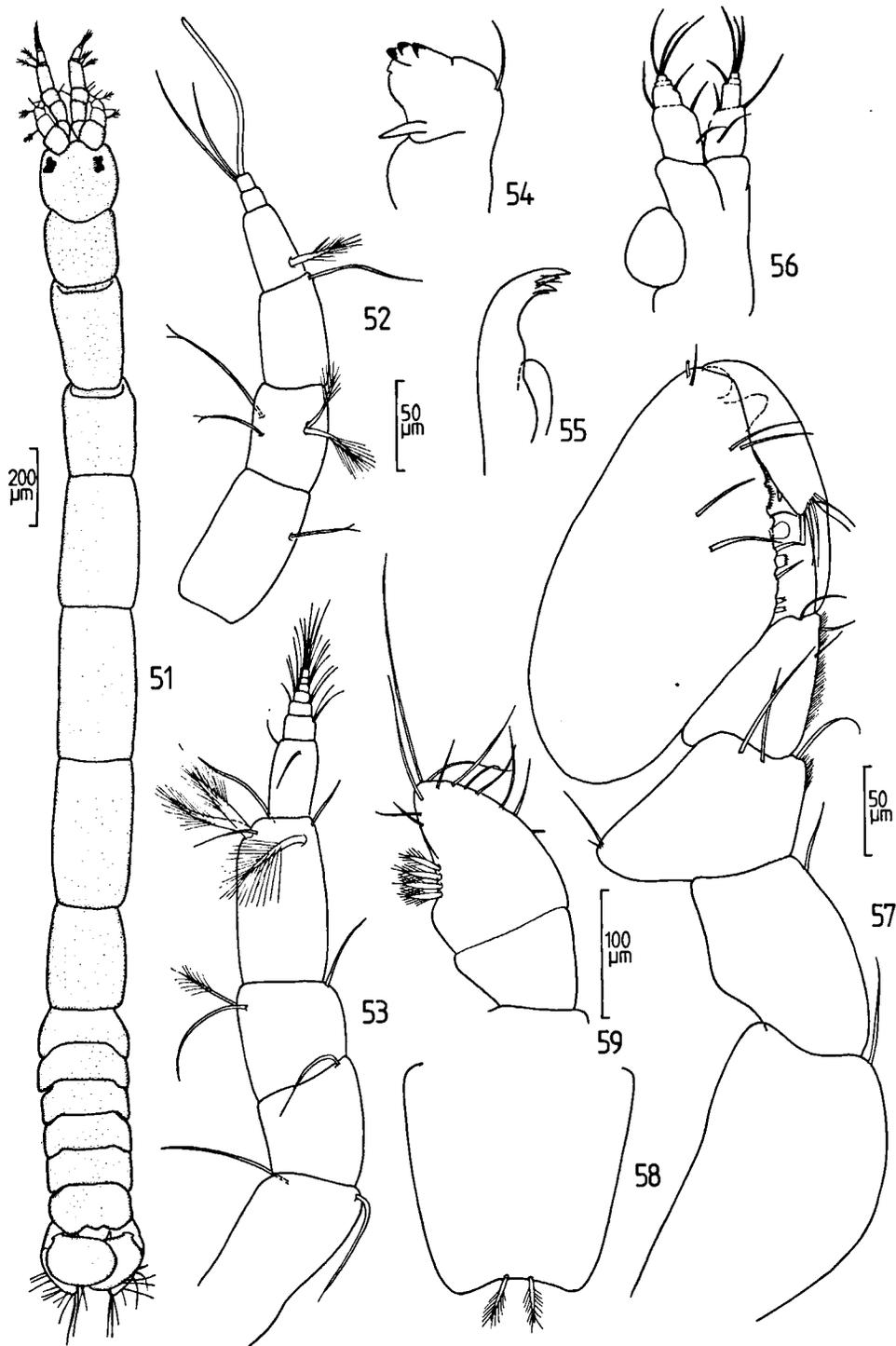
Holotype. – Immature adult: Colombia, Bahia Concha, about 10 km north-east of Santa Marta; *Thalassia*, 0.5–4 m, 1985/86. Paratype. – Immature adult: together with holotype (ZMA Is. 105.443-444).

Etymology. – The specific name is derived from the type locality, Bahia Concha in the Tayrona National Park.

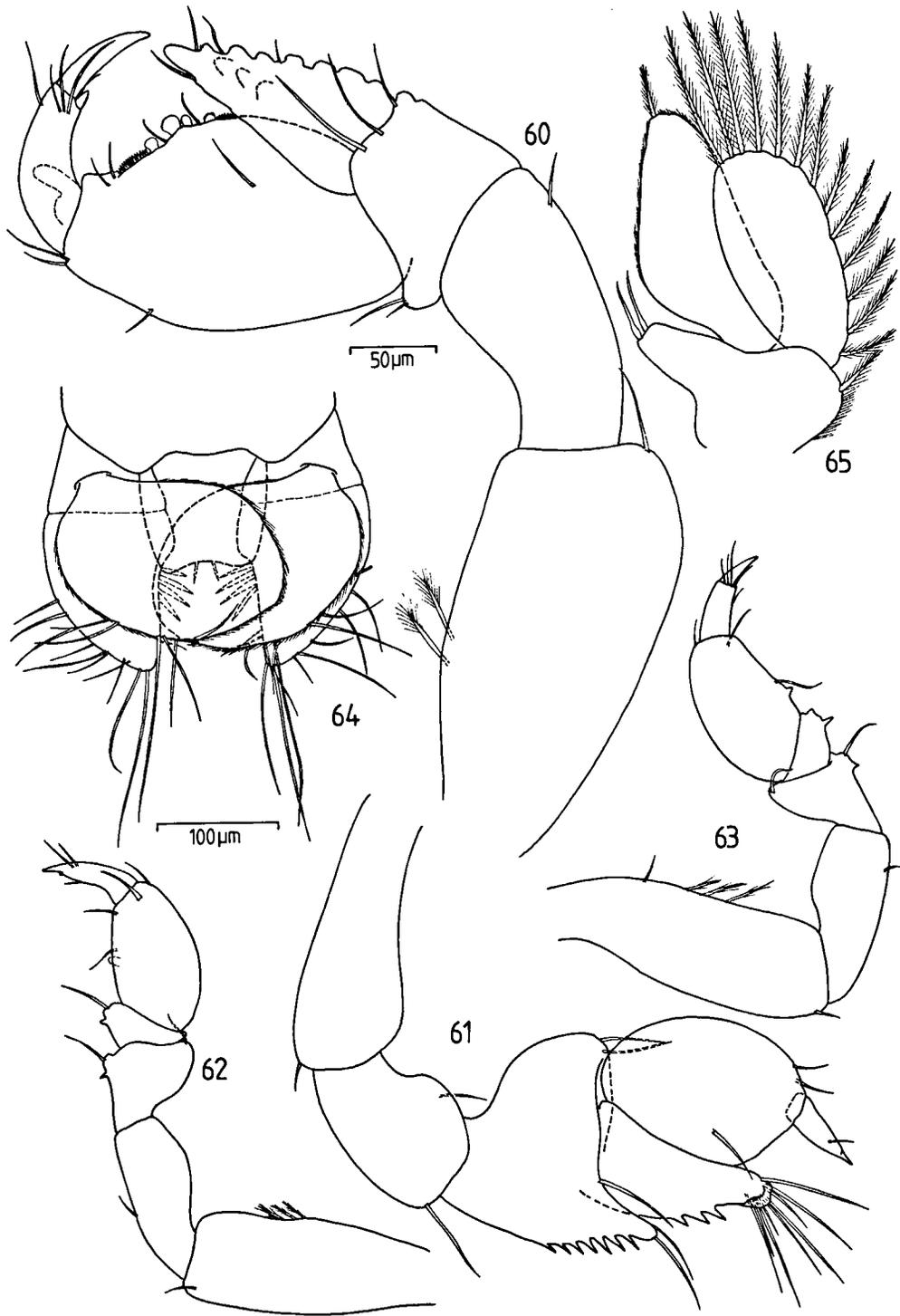
Diagnosis. – Distinguished from the two other species of *Xenanthura* from the tropical western Atlantic by shape of pereopod 3 and uropodal exopodite.

Description, immature adult. – Body 12 times longer than wide, colourless. Total length 2.93 mm. Cephalon as long as wide with well pigmented, anterolateral eye patches; ocellae indistinct. Body proportions: C > 1 < 2 > 3 < 4 < 5 > 6 > 7. Pleonites free, subequal in length. Telson very short with distal margin concave, bearing pair of feathered sensory setae.

Antenna 1 having both peduncle and flagellum 3-articulated; proximal peduncular article longest, second and third subequal in length; proximal article with single, bifurcate sensorial seta, second with 2 feathered sensorial setae and 2 bifurcate sensorial setae; first flagellar article largest, bearing feathered sensorial seta; small terminal article with 2 simple setae and aesthetasc. Antenna 2 with 4 peduncular articles, first and fourth subequal in length, longer than second and third which are also subequal in length; third article with 1, fourth with 3 feathered sensorial setae; flagellum relatively short, 6-articulated with several simple setae. Mandible without palp, at its place a simple seta; incisor 3-cuspidate, lamina dentata with very fine serrations; molar with long, spine-like process. Lateral endite of maxilla with 4 teeth and short setule. Sym-pods of maxillipeds fused in proximal two-thirds; palp of 4 fused articles, suture lines indistinct, no trace of endite observed. Pereopods 1–3 subchelate. Pereopod 1 with triangular carpus slightly produced posterodistally, posterior margin with fringe of setules; propodal palm with characteristic pattern of pectinate and leaflike setae, as figured, also with 4 mesial setae; unguis 2/3 length of dactylus; posterior margin of dactylus with short spine, distally with 6 simple setae. Triangular carpus of pereopod 2 strongly produced, extending beyond proximal half of propodus, posterior margin with several rounded teeth; propodal palm with pectinate and leaf-like setae as in pereopod 1. Pereopod 3, carpus and merus with posterodistal projection; posterodistal margin of carpus with 3, of merus with 7 strong teeth; carpus with brush of about 9 simple setae near apex of projection; propodus oval, palm slightly convex; dactylus and unguis fused, suture line indistinct, spine-like. Pereopods 4–7 similar, smaller than pereopods 1–3; posterior



Figs. 51–59. *Xenanthura conchae* n. sp., immature adult, holotype: 51, dorsal view; 52, antenna 1; 53, antenna 2; 54, mandible; 55, maxilla; 56, maxillipeds; 57, pereopod 1; 58, telson; 59, uropodal endopodite.



Figs. 60–65. *Xenanthura conchae* n. sp., immature adult, holotype: 60, pereopod 2; 61, pereopod 3; 62, pereopod 4; 63, pereopod 6; 64, telson and uropods, dorsal view; 65, pleopod 1.

margin of propodus, carpus and merus with some denticles. Endopodite of pleopod 1 with 1, exopodite with 13 plumose setae. Uropodal endopodite with 4 feathered sensorial setae at concave medial margin and 12 simple setae at distal and ectal margin; exopodite oval, with fringe of setules and 3–5 simple setae.

Remarks. – *Xenanthura conchae* n. sp. seems to be most closely allied with *X. bacescui* Negoescu, 1980 from Brazil. Both species are quite similar to each other and the best feature to distinguish *X. bacescui* from the new species is the much longer and distally acute projection of the carpus in pereopod 3 (see Negoescu, 1980: 167, fig. 2 B). From the other species known from the tropical western Atlantic, *X. brevitelson* Barnard, 1925, *X. conchae* is easily distinguishable by the much smaller eyes and the oval uropodal exopodites, which are circular in *X. brevitelson* (see Kensley & Schotte, 1989: 63, fig. 28 A, E).

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