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On some shallow-water Tanaidomorpha (Crustacea: Peracarida: Tanaidacea) of Chilean fjords, with description of a new species of *Zeuxoides* Sieg, 1980

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Abstract

Magellanic tanaidacean faunas have been mainly studied in the Magellan Strait and Beagle Channel, the latter restricted to bottoms deeper than 40m. As a result, the shallow rocky bottoms of the Magellanic fjords remain largely under-studied, and their tanaidacean diversity is poorly known. In this study, tanaidacean species sampled from shallow rocky bottoms of Chilean fjords are investigated, and morphological and taxonomic considerations included. A new species of the Tanaidae, *Zeuxoides troncosoi* sp. nov. is described. The genus *Leptochelia* is recorded for the first time in Chile, and the distribution of *Pancoloides litoralis* is extended northwards. Specimens collected of *Pancoloides litoralis* and *Nototanais dimorphus* present morphological differences with previous descriptions, which are at present attributed to intraspecific variation derived from geographical isolation among populations, until sufficient material can be examined to determine what constitutes interspecific and intraspecific variation.

Key words: Subantarctic, Magellanic, Chile, taxonomy, *Zeuxoides*, *Nototanais*, *Pancoloides*, *Leptochelia*

Introduction

The tanaidacean faunas of the Magellanic region were first studied by Monod (1926) who recorded "*Nototanais magellanicus*" and "*Tanais* sp. (*litoralis*?) Vanhöffen" (see synonymies below). Sieg (1986a) published an extensive taxonomic inventory and described several new species on the basis of specimens from the Magellan Strait, collected in the expeditions on the RV *Hero* between 1961 and 1982. Later, Schmidt & Brandt (2001a and b) updated Sieg's species list after the joint Chilean-Italian-German project "Joint Magellan" campaign (1994), focusing on deeper waters (40–1279 m) of the Beagle Channel. As a result, the shallow rocky bottoms of most of the Magellanic fjords remain largely under-studied (especially those north of the Magellan Strait), and their tanaidacean diversity is poorly known.

The specimens used for this study came from the Bernardo O'Higgins National Park (henceforward BONP). In 2010, a sampling effort was carried out on a number of fjords within the BONP, with the objective of an ecological and faunistic characterization of their shallow, rocky bottoms. An examination of the tanaidacean specimens has lead to the description of a new tanaidomorphan species, and the observation of morphological variations in some known species.

Materials & methods

BONP is situated on the Chilean Magellanic region between 47º56′–51º36′S and 73º04′–75º41′W. Its coast comprises a network of countless channels and fjords that extends along more than 400 km of the Pacific coast (Aldea *et al.*, in press).

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Two cruises were carried out between January and March 2010 onboard the vessel MV *Nueva Galicia*, during which the sublittoral rocky bottoms of the channels were sampled. Dive sampling was undertaken at a total of 23 sites: five samples were taken manually at both 5 and 15 m depth at each site (thus 10 samples at each site), harvesting squares of 25x25 cm (0.063 m2) by scraping off all the organisms (including fauna and smaller algae), but not the kelps. Samples were fixed in 5% buffered formalin and subsequently sorted, preserved in 70% alcohol and identified. Drawings were performed by means of a *camera lucida*.

Morphological terminology follows that of Bamber (2010). Serially repetitive body-parts, such as the subdivisions of the antennal flagella and of the uropod rami are segments, while those with independent musculature (such as the parts of the pereopods) are articles. Measurements are made axially, dorsally on the body and antennae, and laterally on other appendages. Total length was measured from the centre of the frontal edge of the cephalothorax to the medial distal edge of the pleotelson.

Type material is lodged in the collections of the Museo Nacional de Ciencias Naturares de Madrid (MNCN), Spain, and the Museo Nacional de Historia Natural, Chile (C-MNHN).

Systematics

Order TANAIDACEA Dana, 1849
Suborder TANAIDOMORPHA Sieg, 1980
Superfamily TANAOIDEA Dana, 1849
Family TANAIDAE Dana, 1849
Subfamily Pancolinae Sieg, 1980
Tribe Anatanaini Sieg, 1980
Genus *Zeuxoides* Sieg, 1980
***Zeuxoides troncosoi* Esquete & Bamber, sp. nov.**
Figs 1–4

Material examined. Holotype: preparatory female (MNCN20.04/8663), and 1 neuter (paratype, MNCN 20.04/8664), 49º36.27′S 75º23.52′W, rocks with the kelp *Macrocystis pyrifera*, 5–15 m depth, 19 March 2010; Allotype: male (MNCN20.04/8665), 49º51.06′S 75º15.30′W, rocks with *Macrocystis pyrifera*, 5–15 m depth, 18 March 2010; 1 neuter (paratype, C-MNHN-11858), 49º11.45′S 75º23.51′W, rocks with *Macrocystis pyrifera*, 5–15 m, 19 March 2010. All coll. R. Barría, E. Newcombe, M. Hune and T. Césped.

Diagnosis. *Zeuxoides* with purple dorsal pigmentation. Antennular articles 2 and 3 together longer than half of the length of the first article; terminal article very short, bearing very long setae and three aesthetascs in females, nine aesthetascs in males; left mandible with triangular lacinia mobilis, right mandible with lacinia mobilis reduced to a small spine; chelae fixed finger cutting edge curved in female, bearing a proximal protuberance in males; pereopod 1 coxal spur pronounced, bearing three setae; pereopods 2 and 4 to 6 carpus with two rows of six compound spines; pereopod 3 carpus with three ventral and one dorsodistal compound spines; pleopods 1–2 basis with single inner and six outer plumose setae; pleopod 3 basis with four outer setae; uropods of seven segments including basis, terminal segment minute, bearing long setae.

Description of female. Holotype total length: 3.8 mm. Body (Fig. 1A) elongated, 4.7 times as long as broad. Dorsally with purple mottling on cephalon, pereonites and pleonites (also on chelipeds and antennules); cephalothorax slightly longer than pereonites 1-3 together, subrectangular, lateral margins convex, eyes present, pigmented. Pereonite 1 shortest; pereonites 2, 3 and 6 about twice as long as pereonite 1, pereonite 4 longest, nearly three times as long as pereonite 1; (all pereonites respectively 6.8, 3, 2.4, 1.5, 1.6 and 1.8 times as broad as long). Pleon of five free pleonites, pleonites 1-3 subequal, about 2.5 times as broad as long, pleonites 2-3 with tufts of dorsolateral plumose setae; pleonites 4 and 5 shorter and narrower, about seven times as broad as long, without pleopods. Pleotelson (Fig. 1B) semicircular, 1.8 times as broad as long, bearing one pair of simple and one penicillate setae laterodistally on each side, and one pair of terminal, longer setae.

Antennule (Fig. 1C) first article twice as long as broad, with medial penicillate setae and long distal setae (longer than the three remaining segments together); second and third articles subequal in length, together 0.8 times as

long as the first, bearing distal setae; terminal article very short, bearing very long setae (some as long as the antennule) and 3 aesthetascs.

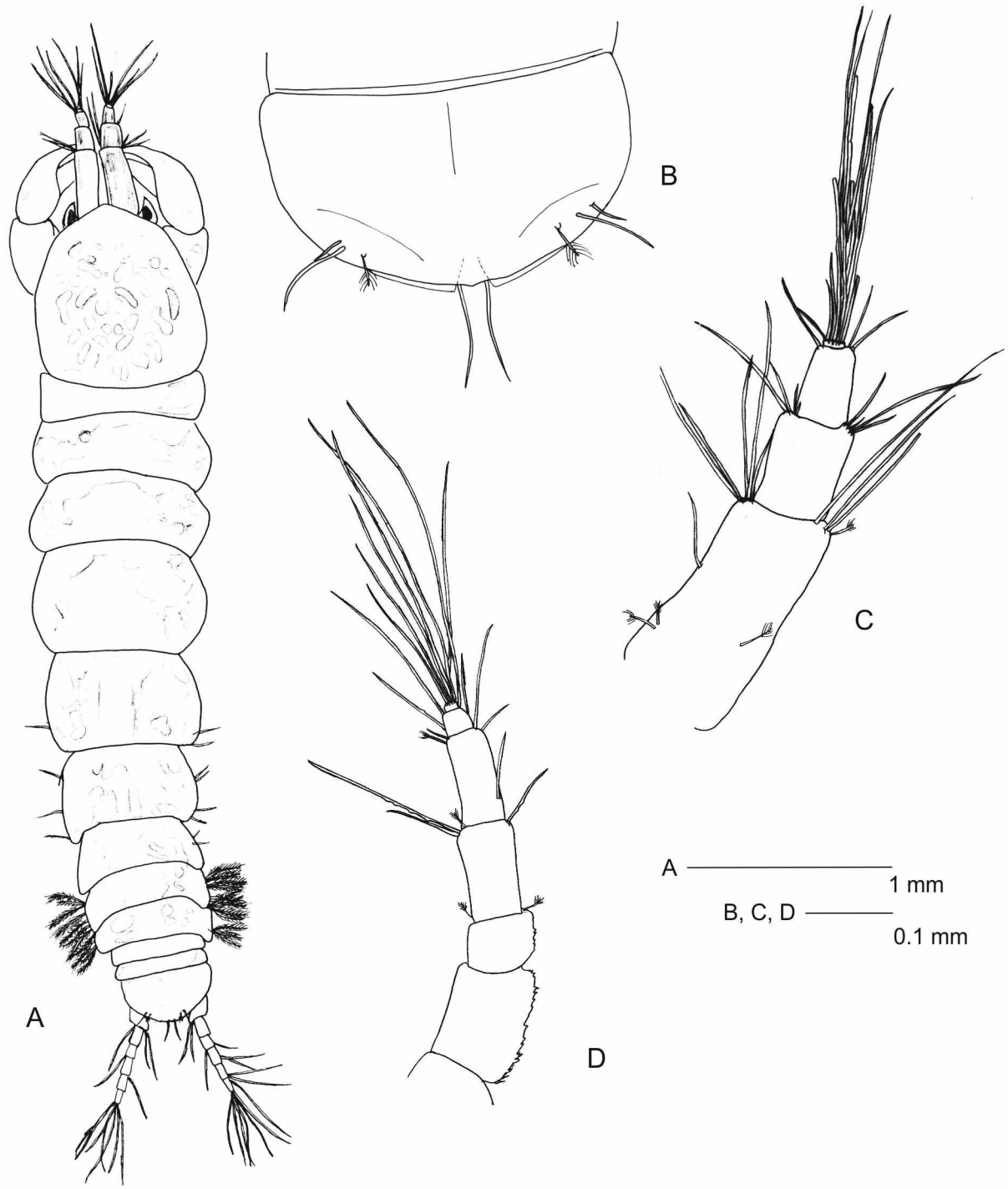

FIGURE 1. *Zeuxoides troncosoi* sp. nov., female: A, holotype, dorsal. B, pleotelson. C, antennule. D, antenna.

Antenna (Fig. 1D) first article about as long as broad, naked; second article 1.2 times as long as broad, dorsal margin rugose, naked; third article 1.2 times as broad as long, dorsal margin rugose, bearing distal penicillate setae; fourth article 1.3 times as long as broad, bearing long distal setae and one ventrodistal penicillate seta; fifth article 2.2 times as long as broad, about as long as preceding article, with one medial seta, ventrodistal penicillate seta and five distal setae; sixth article 1/3 as long as the preceding article, about as long as broad, with two distal setae; distal article small, cap shaped, bearing long, distal setae (some as long as the antenna).

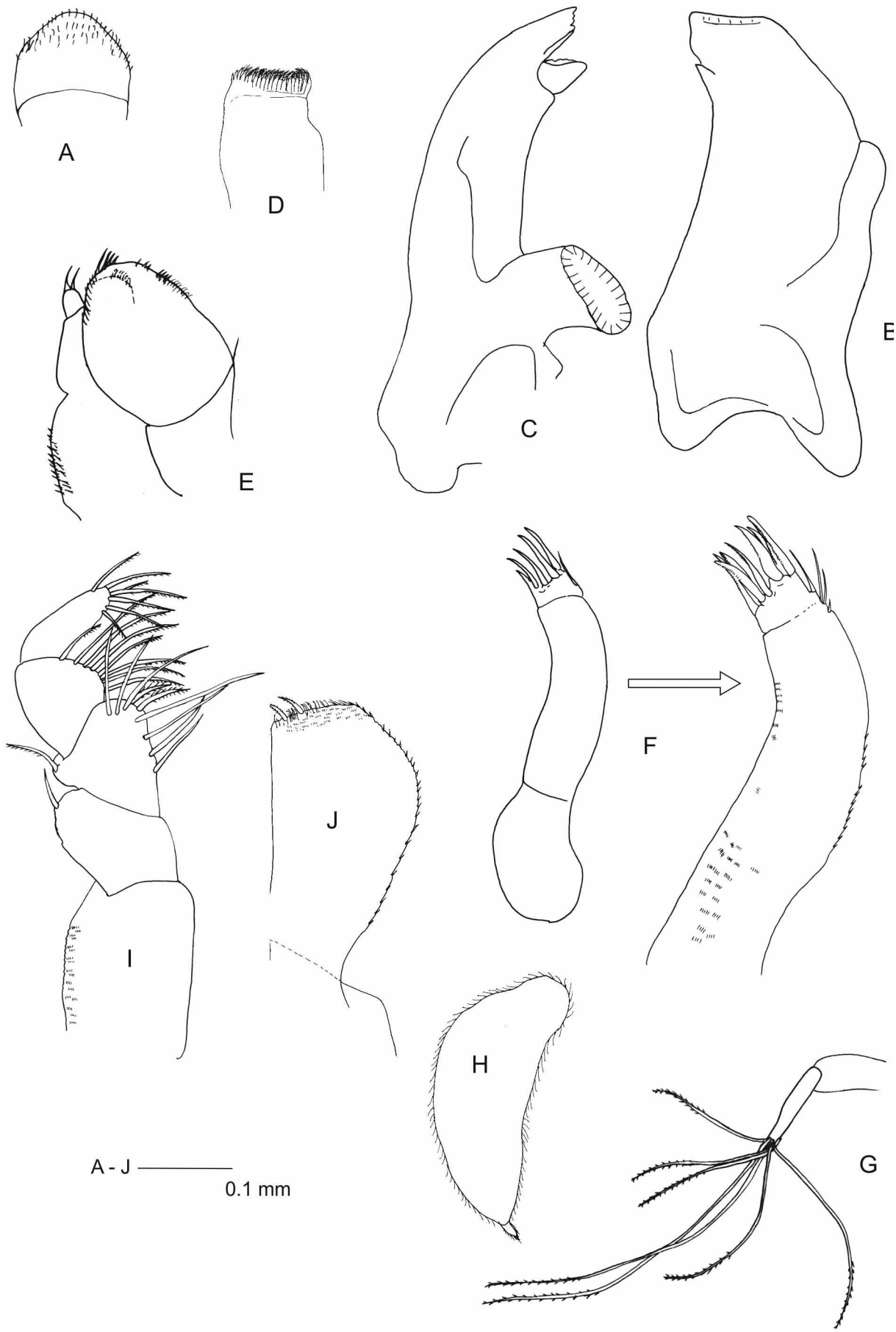

FIGURE 2. *Zeuxoides troncosoi* sp. nov., A, labrum. B, right mandible. C, left mandible. D, detail of mandibular molar. E, labium (only half figured). F, maxillule. G, maxillular palp. H, epignath. I, maxilliped. J, maxilliped endite.

Labrum (Fig. 2A) simple, setulose. Left mandible (Fig. 2C) with lacinia mobilis triangular, tooth shaped, incisor crenulated, molar (Fig. 2D) triturative. Right mandible (Fig. 2B) with lacinia mobilis reduced to a small spine. Labium (Fig. 2E) inner lobe finely setose in distal half, distal-most setules slightly longer, outer lobe margin setulose, palp present, setose. Maxillule (Fig. 2F) with microtrichia, outer margin serrated, with seven distal denticulated spines, central spine thinnest, and four subdistal setae; palp (Fig. 2G) with seven plumose distal setae. Maxilla simple. Maxilliped (Fig. 2I) basis with microtrichia; palp first article with one outer distal seta, second article with one outer seta, an inner row of seven setae and two setulose spines on inner distal corner, third article with regular inner row of filtering setae, fourth article elongated, three times as long as wide, with row of filtering setae on distal margin. Endite (Fig. 2J) outer margin with fine denticles, distal margin with fine setae and two setulose spines. Epignath (Fig. 2H) typical of genus, elongate with distal spine and finely setose margin.

Cheliped (Fig. 3A, B) basis 1.4 times as long as broad, naked; merus with tuft of three ventral setae; carpus subtriangular, 1.7 times as long as broad, with tufts of ventrodistal and dorsodistal setae; chela 2.3 times as long as broad; fixed finger with row of six ventral setae, cutting edge slightly curved, with row of setae, and one seta close to insertion of the dactylus; cutting edge of dactylus with row of fine spines, claw 1/5 of total length of dactylus.

First pereopod (Fig. 3C) coxa with pronounced blunt apophysis bearing two distal and two subdistal setae, but no denticulation; basis 4.2 times as long as broad, with two proximal ventral setae and one dorsodistal seta; merus 0.3 times as long as basis, 1.5 times as long as broad, naked; carpus 1.3 times as long as carpus, with one lateroventral subdistal seta; propodus 1.7 times as long as carpus, straightening distally, with medial seta and subdistal setae; dactylus 0.6 times length of carpus, with one proximal seta, unguis about twice length of dactylus.

Second pereopod (Fig. 3D) basis 5.4 times as long as broad, with medial penicillate and simple setae, and ventrodistal tuft of setae; merus 1.6 times as long as broad, with tufts of ventrodistal and dorsodistal seta, and one compound, ventral spine; carpus half length of merus, with dorsodistal and ventrodistal setae, and row of 6 marginal compound spines; propodus 1.5 times as long as carpus, with one dorsal penicillate seta, four ventral setae; dactylus 0.7 times as long as propodus, bearing one small seta, unguis slender.

Third pereopod (Fig. 3E) similar in proportions to second pereopod; basis bearing dorsal and ventral medial penicillate setae, and tuft of ventrodistal setae; merus ventral margin rugose distally, bearing tuft of ventrodistal setae and one tooth-like spine; carpus ventral margin rugose, bearing two ventrodistal compound spines and one dorsodistal compound spine; propodus bearing row of ventral simple setae and one long, dorsodistal seta; dactylus with slender unguis.

Fourth pereopod (Fig. 3F) with oostegite; basis cylindrical, 1.8 times as long as broad, with distal setae; merus 0.4 times as long as basis, twice as long as broad, with distal setae; carpus subequal in length with merus, with two confluent ventral margins, bearing two rows of compound spines distally; propodus longer than carpus, ventral margin rugose, bearing ventral setae and one dorsodistal, long seta; dactylus and unguis fused into claw, curved, with lateral spine combs.

Fifth pereopod (Fig. 3G) similar to the fourth, but bearing two ventrodistal spines on merus, and one penicillate seta dorsally on propodus.

Sixth pereopod (Fig. 3H) similar to the fifth, with a ventrodistal row of leaf-like spines along the propodus.

Pleopods of pleonites 1 and 2 (Fig. 3I) basis with single inner and six outer plumose setae; exopod with 33 to 35 plumose setae along outer edge; endopod with four inner plumose setae, outer edge distally with shorter, stout, spine. Third pleopod with four outer basis setae.

Uropod (Fig. 3J) of seven segments including basis, all segments bearing long distal setae, distal segment less than 1/6 length of penultimate segment, bearing very long distal setae.

Male. Generally similar to female, slightly more robust. Body length of allotype (Fig. 4A) 4.1 mm. Cephalothorax almost triangular in dorsal view. Antennule with nine aesthetascs. Cheliped (Fig. 4B) larger in proportion than that of female, robust; carpus 1.2 times as long as broad; chela 2.3 times as long as broad, cutting edge of fixed finger with proximal protuberance; cutting edge of dactylus bearing small spines proximally. Coxal spur of pereopod 1 more robust than that of the female (Fig. 4C).

Juvenile. Body length: 1.9–2.3 mm. No significant differences from female observed, other than size and setation of pleopods: pleopods of pleonites 1 and 2 basis with single inner and five outer plumose setae; endopod with two inner plumose setae. Pleopod 3 basis with three outer plumose setae, inner margin naked; endopod with two inner plumose setae.

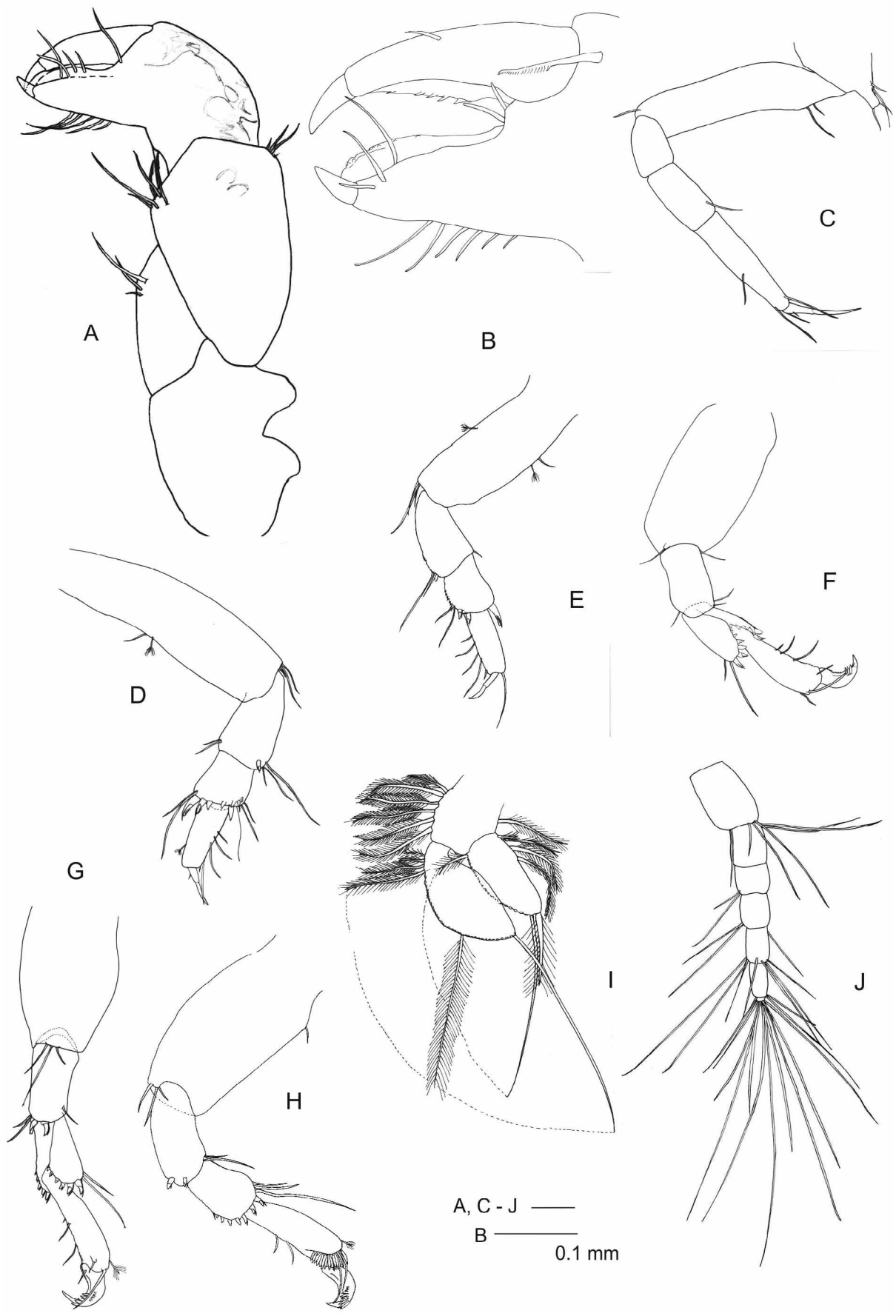

FIGURE 3. *Zeuxoides troncosoi* sp. nov., A, female cheliped. B, detail of the female chela. C-H, pereopods 1–6 respectively. I, pleopod 1. J, uropod.

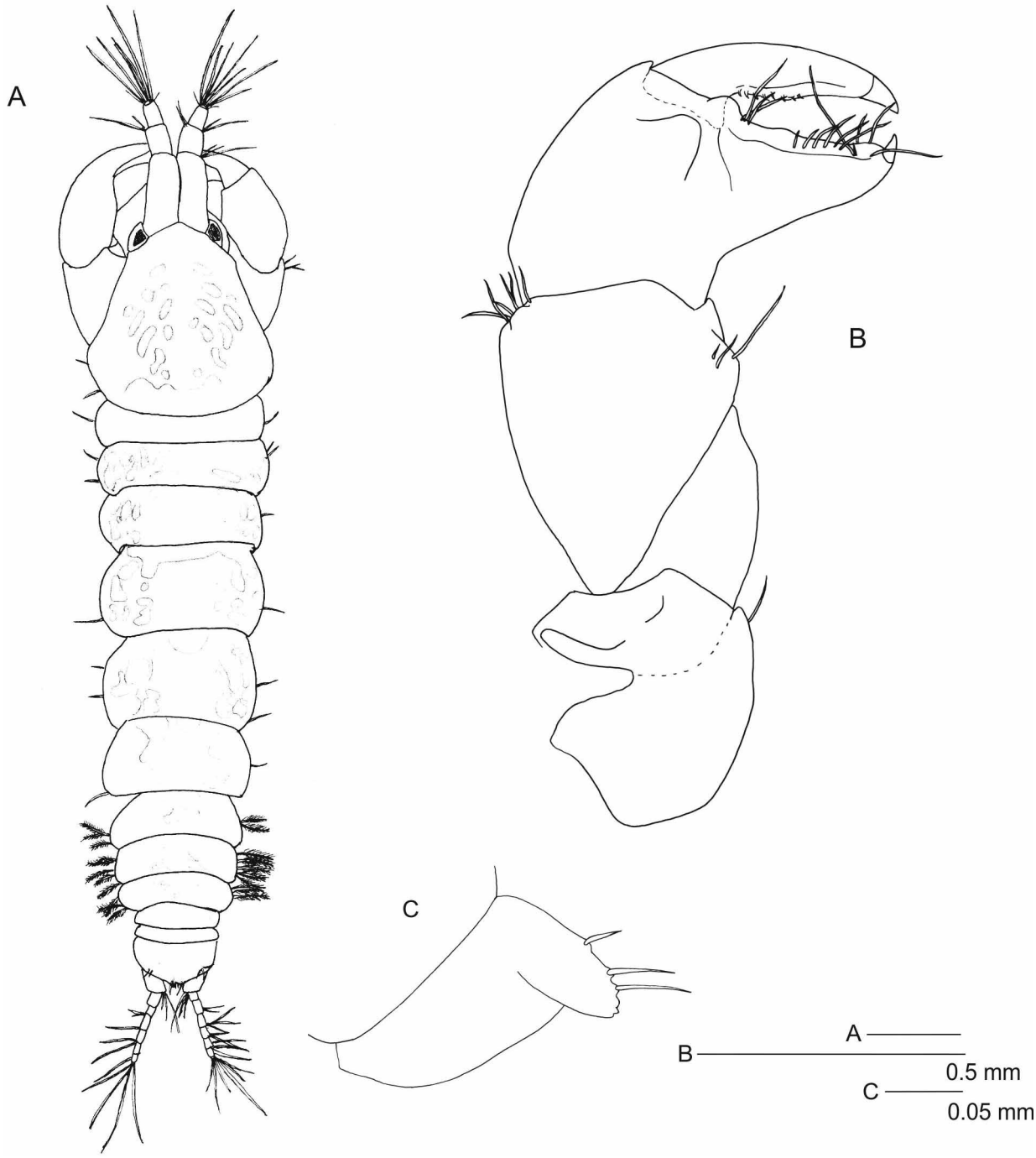

FIGURE 4. *Zeuxoides troncosoi* sp. nov., male: A, allotype, dorsal. B, cheliped. C, coxa 1.

Etymology: We are pleased to name the new species after Dr. J.S. Troncoso, eminent malacologist and enthusiastic professor, who transmits to his students his love for marine life.

Remarks: The only species of *Zeuxoides* recorded previously for South America was *Zeuxoides ohlini* (Stebbing, 1914), found in the Falkland Islands and Tierra de Fuego (Sieg, 1980a, partly based on his assuming Monod's [1926] "*Tanais* sp (*litoralis* ?)" was *Z. ohlini*). *Zeuxoides troncosoi* sp. nov. can be distinguished from that species in the greater reduction in the mandibles of *Z. troncosoi*, (which have no spines, in comparison to the spine on the left mandible in *Z. ohlini*, and a simpler *lacinia mobilis* on the right mandible), the relatively shorter segments of the antennules, in having pereonites 4 and 5 more than half as long as wide (less than half as long as wide in *Z. ohlini*), and the lower number of setae of the basis of the pleopods (four or six in *Z. troncosoi*, eight or nine in *Z. ohlini*), although the possibility of this last feature being size-related cannot be ruled out, Sieg's (1980) material of *Z. ohlini* being some 25% larger than the *Z. troncosoi* types.

The reduction and structure of the lacinia mobilis, and the absence of a setal row on both mandibles in *Zeuxoides troncosoi* is only shared by the Australian species *Zeuxoides mawbeyi* Edgar, 2008, and the New Zealand species *Zeuxoides rimuwhero* Bird, 2008. The main differences with the former are the number or terminal spines on the maxillule (six in *Z. mawbeyi*, seven in *Z. troncosoi*), the cutting edge of the fixed finger of the male chela (proximally convex in *Z. mawbeyi*) and the number of segments of the uropods (six in *Z. mawbeyi*) (see Edgar, 2008). *Z. troncosoi* is closest to *Z. rimuwhero*, although the left lacinia mobilis is rectangular, and broader in that species than in *Z. troncosoi*. Furthermore, these species differ in the number of aesthetascs (six in the female and eight in the male of *Z. rimuwhero*, three and nine respectively in *Z. troncosoi*), the cutting edges of the fingers of the chela (which are straight in both sexes of *Z. rimwhero*, distinctly curved in the present species), the number of carpal spines (pereopods 2 and 3 have eleven and nine in *Z. rimuwhero* as compared to six and three in *Z. troncosoi*), and the setation of the pleopods (fewer in *Z. troncosoi*) (see Bird, 2008).

The characteristics distinguishing the present species from other Subantarctic *Zeuxoides* species are summarized in Table 1.

Zeuxoides troncosoi was found among seaweeds in the zone dominated by the giant kelp *Macrocystis pyrifera* (L.) C.Agardh, 1820.

TABLE 1. Some important characteristics distinguishing *Zeuxoides troncosoi* sp. nov. from other Subantarctic species of the genus, and geographical distribution.

	Z. troncosoi	*Z. rimuwhero*	*Z. helleri*	*Z. pseudolitoralis*	*Z. ohlini*
Left mandible	Lacinia mobilis triangular.	Lacinia mobilis rectangular.	Lacinia mobilis triangular and 2 plumose spines.	Lacinia mobilis broad, and 1 plumose spine.	Lacinia mobilis triangular, and 1 plumose spine.
Right mandible	Lacinia mobilis small, spiniform	Lacinia mobilis spiniform	Lacinia mobilis reduced to a projection	Lacinia mobilis reduced to a bicuspid projection	Lacinia mobilis reduced to a tricuspid projection
Terminal spines on the maxillule	7, the central thinner	7, the central thinner	8	8	8
Chela cutting edges.	Curved, with proximal protuberance on the male	Straight	Curved, without protuberance on the male	Curved, without protuberance on the male	Dactylus slightly curved
Carpus spines, pereopod 2	6	11	6	5	6
Carpus spines, pereopod 3	3	9	4	5	6
Setae on basis of pleopods 1, 2	Inner margin: 1 Outer margin: 6	Inner margin: 1 Outer margin: 8	Inner margin: 1 Outer margin: 6	Inner margin: 1 Outer margin: 8	Inner margin: 2 Outer margin: 9
Uropod articles	7	6 or 7	6	6	7
Distribution	Southern Chile	New Zealand	Kerguelen Islands. New Zealand.	Kerguelen Islands	Falkland Islands Southern Chile

Tribe Pancolini Sieg, 1980
Genus *Pancoloides* Sieg, 1980
***Pancoloides* cf. *litoralis* (Vanhöffen 1914)**
Figs 5–8

Tanais litoralis Vanhöffen, 1914, pp. 465-467, fig. 5
Tanais littoralis Monod, 1926, p. 12
Tanais litoralis Nordenstam, 1930, p. 259
Tanais litoralis Dudich, 1931, p. 142
Tanais novae-zelandiae Monod, 1931, p. 11
Anatanais litoralis Stephensen, 1936, p. 371

Tanais litoralis Hale, 1937, p. 10
Anatanais litoralis Larwood, 1954, p. 34
Pancoloides litoralis Sieg, 1980a, pp. 134-140, figs. 36-37.

Material examined: 1male, 3 preparatory females, 6 neuters, 51º31.79′S 73º57.95′W, red algae, 5–15 m, 26 January 2010; 2 preparatory females, 51º09.51′S 73º42.62′W, red algae, 5–15 m, 27 January 2010. All coll. M. Palacios, C. Cárdenas, A. Montiel, M. Hune and C. Aldea.

Chilean material is drawn herein in some detail to complement the descriptions of Vanhöffen (1914) and Sieg (1980a). Morphological differences with these previous descriptions are discussed.

Diagnosis: With characteristics of the genus. Dorsal surface showing brown pigmentation. Second article of antenna (Fig 5C) about twice as long as broad in male. Left mandible (Fig. 6A) with bifid, setulose spine. Male cheliped (Fig. 5B) very large, with elongate fixed finger, strongly curved. Pleopods 1 (Fig. 7F) and 2 similar; basal article with five plumose setae on outer margin and one on inner margin. Pleopod 3 (Fig. 7G) with reduced setation; basal article with only one seta on outer margin. Uropods (Fig. 7H) of four articles, distal article minute.

Remarks: *Pancoloides litoralis* is a littoral to shallow-water species widely distributed in cold regions of the Southern Hemisphere (Sieg, 1980a, 1986a); it has been recorded from the Kerguelen Islands (VanHöffen, 1914), Campbell Island, New Zealand (Monod, 1931), and Macquarie Island, Australia (Hale, 1937) and the Magellanic region (Sieg, 1986a). It mainly occurs in intertidal waters, in rocky intertidal pools and *Macrocystis* holdfasts. In South America, its distribution was restricted to Tierra de Fuego (Sieg, 1986a); this record extends its distribution northwards.

Pancoloides litoralis was first described by Vanhöffen (1914) as *Tanais litoralis*. Later, Sieg (1980a) moved it to his new genus *Pancoloides*, supplying the first complete description of the species. Morphological differences with previous descriptions shown by the present material include: the number of aesthetascs in the male: our specimens have five aesthetascs (Fig. 5C), while Sieg (loc. cit.) figured three (although this number is not specified in the text). In Sieg's description the right mandible shows two plumose spines, while we observed only one in our specimens (Fig. 6A). The distal article of the maxilliped (Fig. 6E) is 1.8 times as long as broad, while Sieg described it as three times as long as broad. The merus, carpus and propodus of pereopods 2 and 3 (Fig. 7B, C) are proportionally stouter in our specimens (1.7, 1.4 and 2.5 times as long as broad, respectively) than in Sieg's description (3, 2 and 4 times as long as broad, respectively); the merus of each of these pereopods bears three ventrodistal spines, not mentioned by Sieg (although he figured at least two). Similarly, the merus, and propodus of pereopods 4 to 6 (Fig. 7D, E) are proportionally stouter and shorter in our specimens (about 2.2 and 2.5 times as long as broad, respectively; merus about as long as carpus) than in Sieg's description (3.5 and 2.5 times as long as broad, respectively; merus about 1.5 times as long as carpus).

Superfamily PARATANOIDEA Lang, 1949
Family LEPTOCHELIIDAE Lang, 1983
Genus *Leptochelia* Dana 1849
***Leptochelia* sp.**

Material examined: 1 neuter, 50º57.90′S 74º05.79′W, rocky bottom, 5–15 m, 16 March 2010; 2 neuters, 51º04.08′S 74º08.49′W, rocky bottom, 5–15 m, 27 January 2010; 1 neuter, 49º36.27′S 75º23.52′W, rock with *Macrocystis pyrifera*, 5–15 m, 18 March 2010; 1 neuter, 49º51.06′S 75º15.30′W, rocks with *Macrocystis pyrifera*, 5–15 m, 18 March 2010; 1 neuter, 49º14.06′S 74º06.36′W, red algae, 5–15 m, 26 February 2010. All coll. R. Barría, E. Newcombe, M. Hune and T. Césped.

Remarks: Six individuals belonging to the genus *Leptochelia* were found at different stations. Unfortunately, all were juveniles, so they could not be identified to species nor described. Although the family is present in the Magellan Region (Schmidt & Brandt, 2001a and b), knowledge about its local diversity and distribution patterns is limited; species are not identified in any work, being named simply as *Leptochelia* sp1–6. Further research on the region is needed to resolve these taxa, and is likely to result in the description of new species.

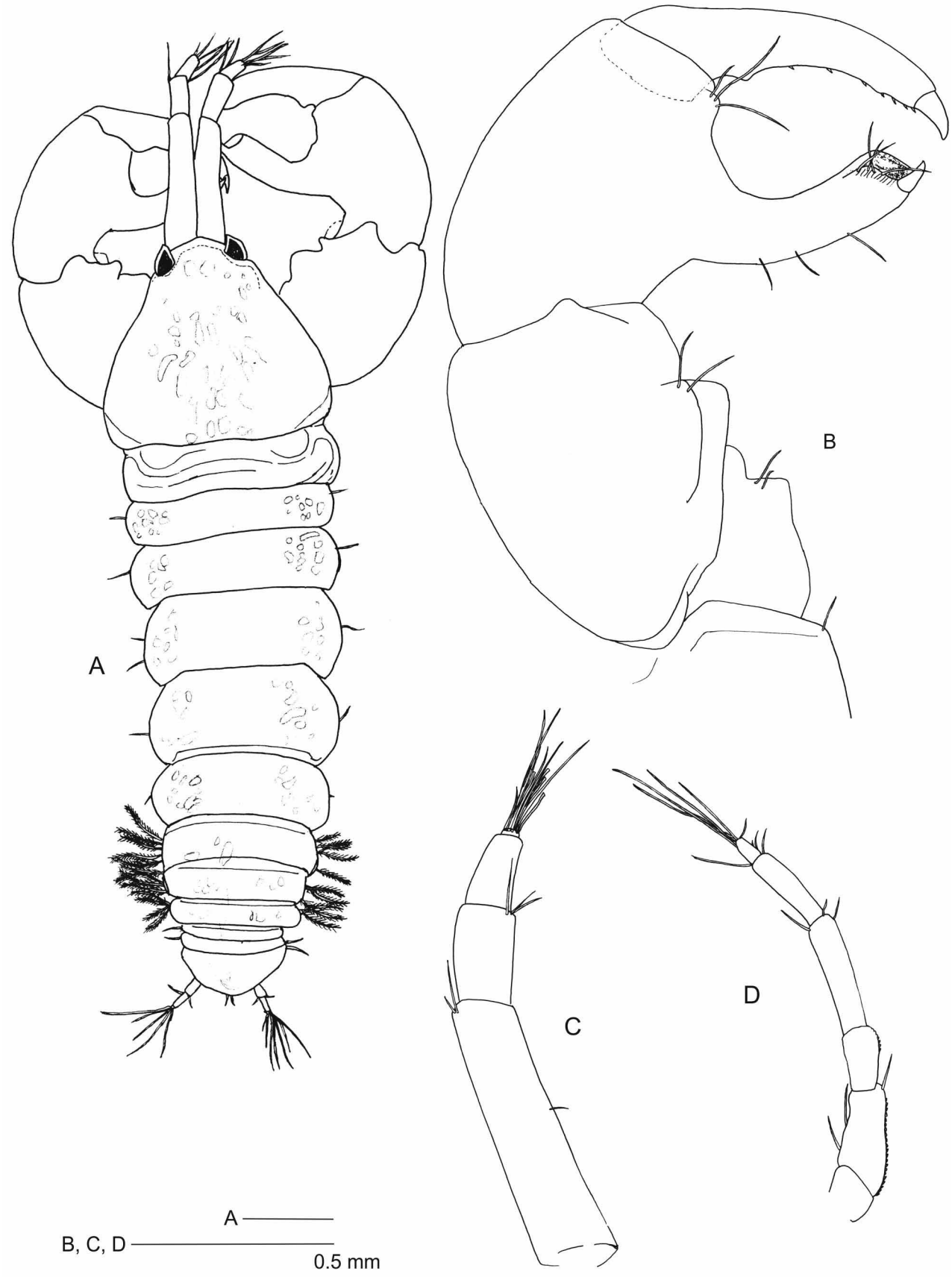

FIGURE 5. *Pancoloides litoralis*, male: A, habitus, dorsal. B, cheliped. C, antennule. D, antenna.

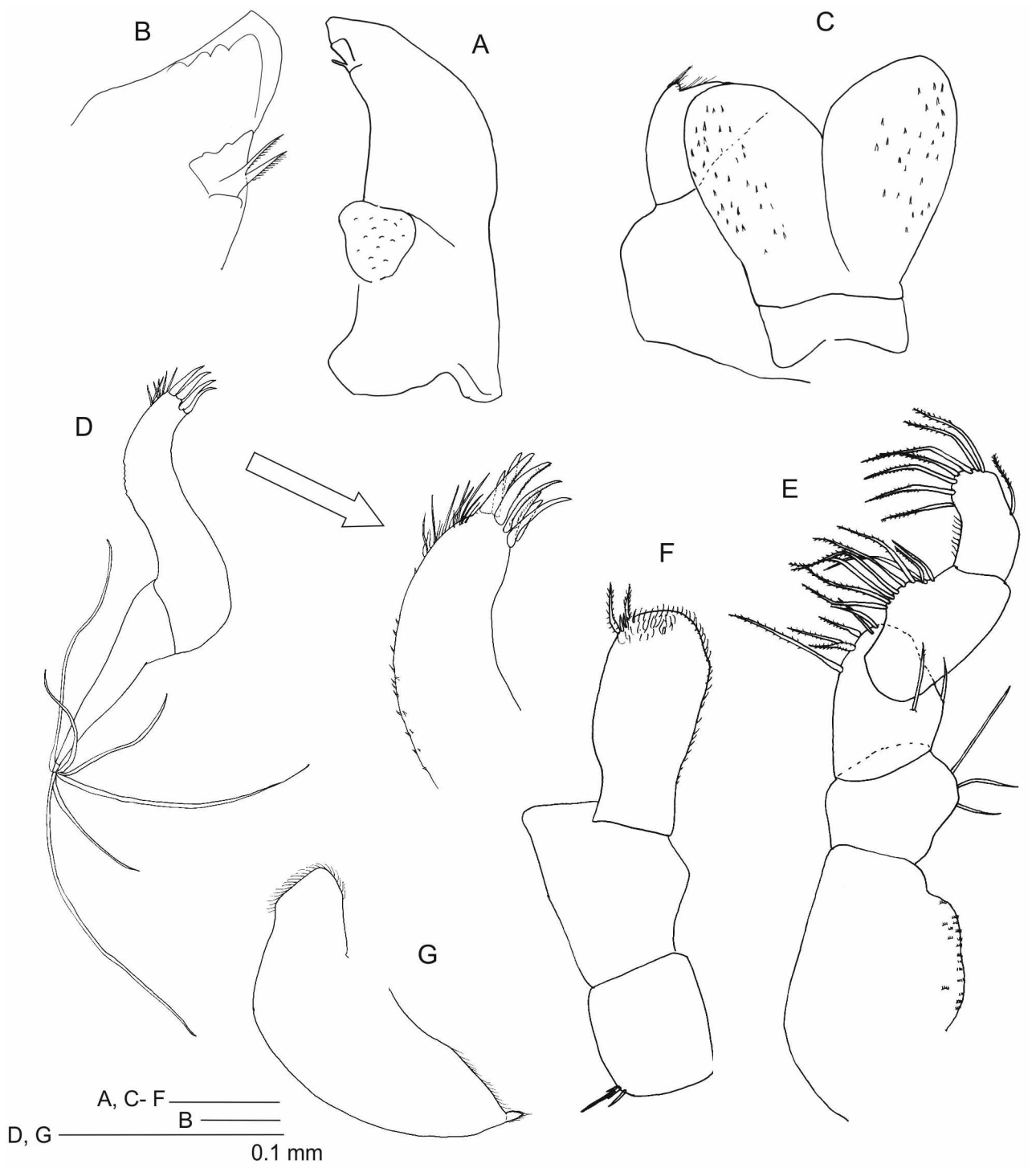

FIGURE 6. *Pancoloides litoralis*: A, right mandible. B, left mandible. C, labium. D, maxillule. E, maxilliped. F, maxilliped endite. G, epignath.

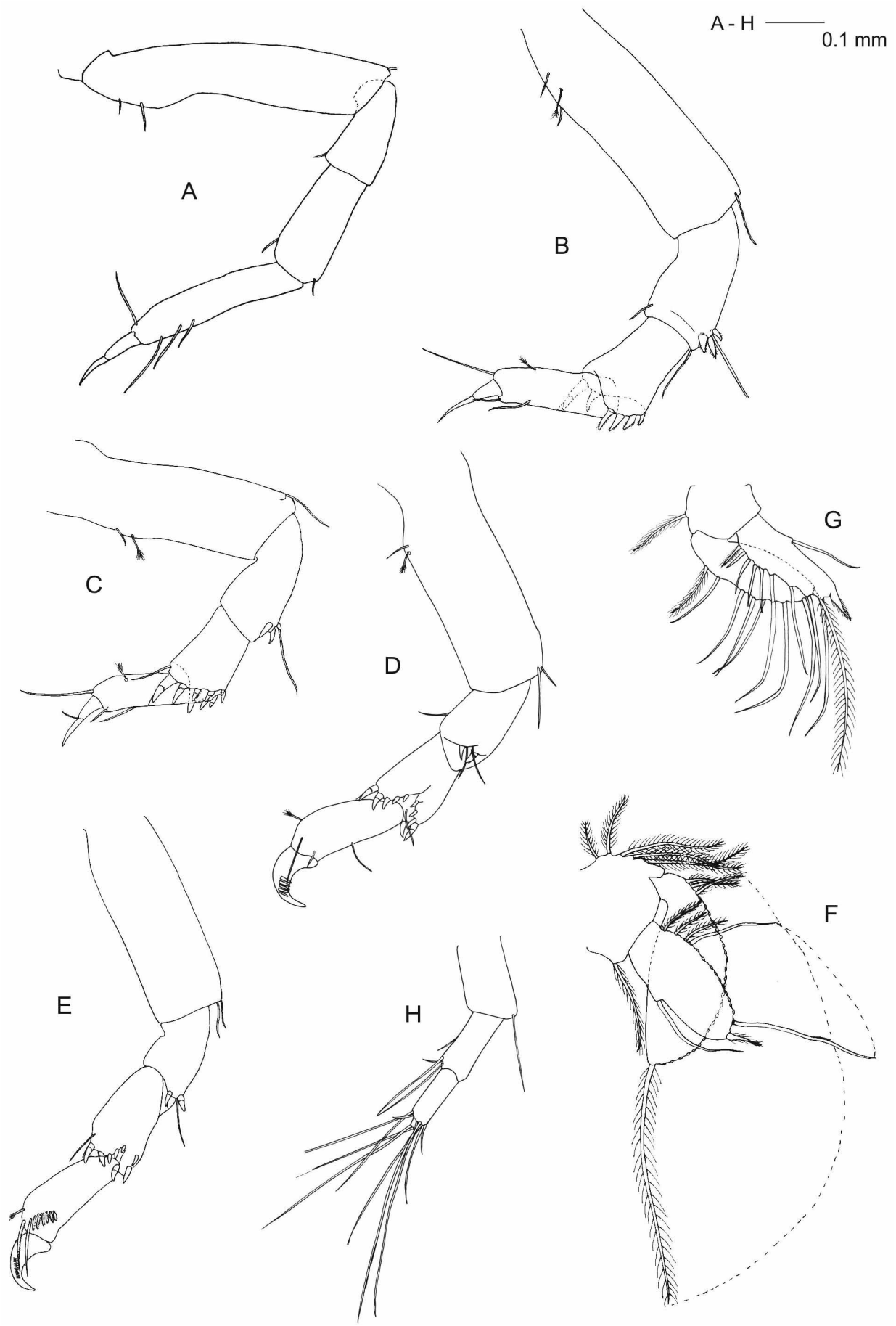

FIGURE 7. *Pancoloides litoralis*: A-D, pereopods 1–4 respectively. E, pereopod 6. F, pleopod 1. G, pleopod 3. H, uropod.

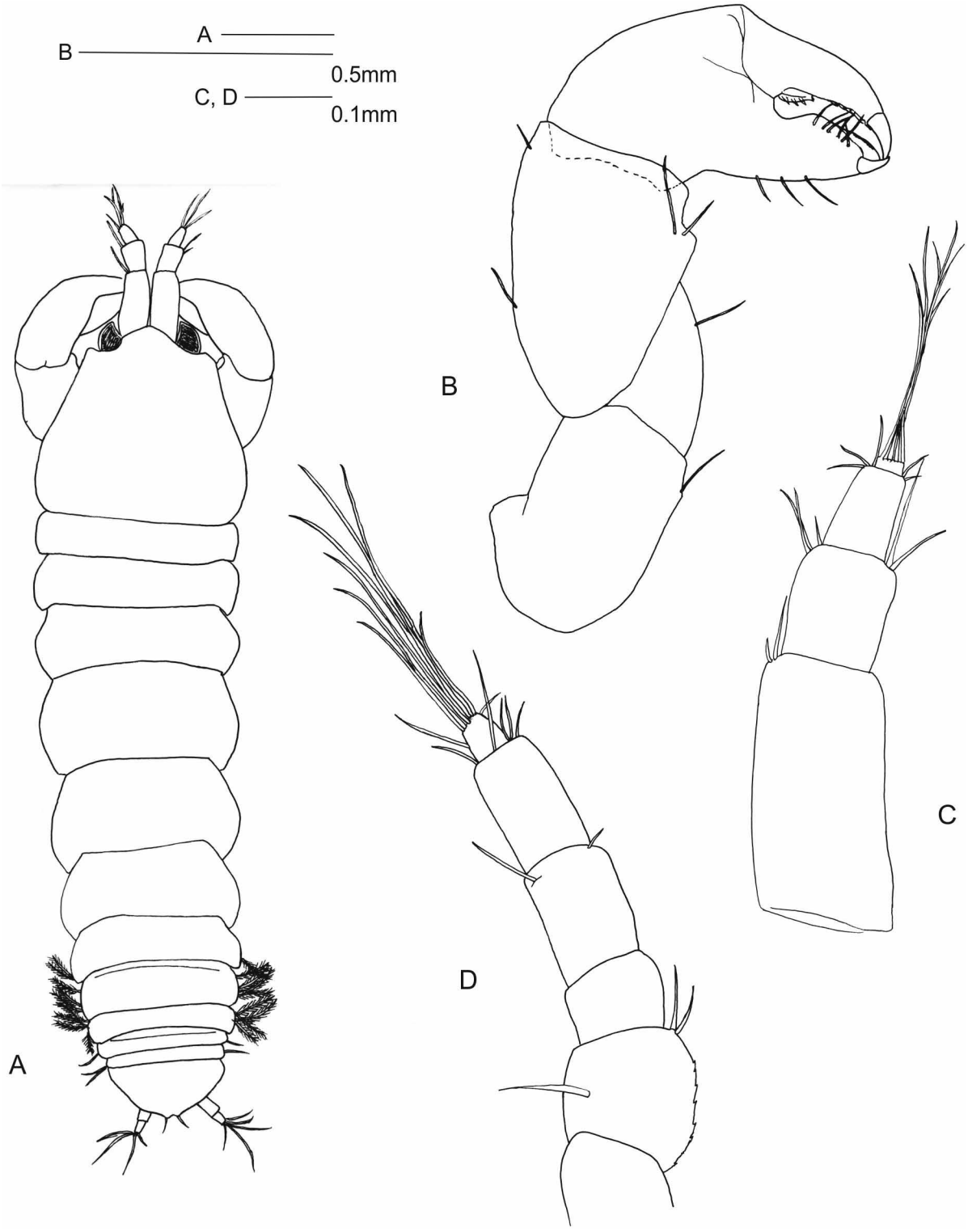

FIGURE 8. *Pancoloides litoralis*, female: A, habitus, dorsal. B, cheliped. C, antennule. D, antenna.

Family NOTOTANAIDAE Sieg, 1976
Genus *Nototanais* Richardson, 1906
***Nototanais dimorphus* (Beddard, 1886)**
Figs 9–10

Paratanais dimorphus Beddard, 1886a, p.119; 1886b, pp.130–132. pl. XVIII, figs. 1–8.

Nototanais dimorphus Richardson, 1906, p.187; 1908, pp.1–3, Fig. 1
Nototanais australis Richardson, 1908, p. 1, fig. 1.
Nototanais australis Vanhöffen, 1914, p. 470.
Notototanais magellanicus Monod, 1925, p. 296; 1926, p. 10, fig. 1.
Nototanais dimorphus Shiino, 1970, PP. 85-91, figs. 6-10.
Nototanais australis Lang, 1973, p. 222.
Nototanais dimorphus Sieg, 1980b, pp.54-60, figs. 6, 8–9 and 11.

Material examined: 1 female, 51º04.08′S 74º08.49′W, rocky bottom, 5–15 m, 27 January 2010; 18 neuters and females, 50º50.74′S 74º01.58′W, rocky bottom, 5–15 m, 28 January 2010; 1 female, 48º40.48′S 74º27.46′W, rocks with red algae, 5–15 m, 22 March 2010. All coll. R. Barría, E. Newcombe, M. Hune, T. Césped. M. Palacios, C. Cárdenas, A. Montiel, M. Hune and C. Aldea.

Nototanais dimorphus is, as its specific name suggests, a strongly dimorphic species. Only juveniles and females were found in BONP. Consequently, the diagnosis proposed herein obviates sexual dimorphic characters, but is valid for both genders. Drawings of the specimens from BONP are included to complete previous descriptions (i.e. Beddard, 1886; Shiino, 1970) and revisions (Sieg, 1980b).

Diagnosis: *Nototanais* with body relatively narrow; maxillular palp bearing two long, terminal setae; pereopods 4 to 6 merus bearing long, straight, terminal spines.

Remarks: Body length of specimens from BONP: 2.2–2.7 mm. In our specimens, the spines on the carpus of pereopods 4 to 6 are long and straight (Figs 10D, F), reaching (at least two of them) half of the length of the propodus. Although Shiino (1970) illustrates these spines as being significantly shorter, our specimens agree with Sieg (1980b), who considered them as a diagnostic character that differentiates *N. dimorphus* from *N. antarcticus* (with short, finely plumose spines). Shiino (1970) observed three spines on the tip of the propodus of pereopod 6, while other authors made no special mention of this feature; our specimens have between four and seven of these spines (Figs 10F).

This species is known from the southern hemisphere, in sub-Antarctic islands (Kerguelen, Macquarie, Adelie and Magellanic Islands: Sieg, 1980b) and Antarctic islands (Greenwich Island: Shiino, 1970; King George Island: Błażewicz-Paszkowycz & Jazdzewski, 1996), in shallow waters between 4 and 20 m depth (Sieg, 1986b).

Monod (1926) described *Notototanais magellanicus* from the Magellanic region, distinguishing it from *N. dimorphus* on the conformation of the male cheliped. Sieg (1980b) examined the females collected by Monod, and considered the species to be conspecific. As Sieg could not confirm or otherwise the distinction of the male (the specimen being lost), and as the present material has a longer, narrower cephalothorax and longer pereonites 1 to 3 than *N. dimorphus* as described by Sieg, it remains possible that *N. magellanicus* is a distinct species, in which case the present material is likely to belong to that taxon. The recovery of further male material is required to confirm this; however, a number of cryptic species within *N. dimorphus sensu* Sieg (1980b) is easier to accept than a very widespread single species with little dispersive capability.

Discussion

Tanaidomorph tanaidaceans are a taxon with a tendency to speciation and niche specificity that can be attributed to the absence of a dispersive phase (Bamber, 2010). Further, the Magellanic region is characterized by a high percentage of endemism in many groups (Schmidt & Brandt, 2001b, and references therein). In the fjords and channels this is enhanced by the variability of substrata and the salinity/ temperature gradients provided by the freshwater input coupled by the oceanic influence. Therefore, the occurrence of sibling species, or intraspecific morphological variations compared with descriptions based on remote populations is not surprising, begging the question of at what point these two options are distinguished. Interspecific differences in *Zeuxoides* have been the subject of recent study (e.g. Bird, 2008, and references therein) affording an understanding within that genus, while studies of sufficiently large samples to determine intraspecific variation within *Pancoloides* or *Nototanais* have yet to be undertaken. For the present, we have attributed intraspecific variation to the characters shown by the present material of these last two genera, while giving sufficient information to assist future studies. Equally, it is likely that further studies on this region would lead to the discovery of new species.

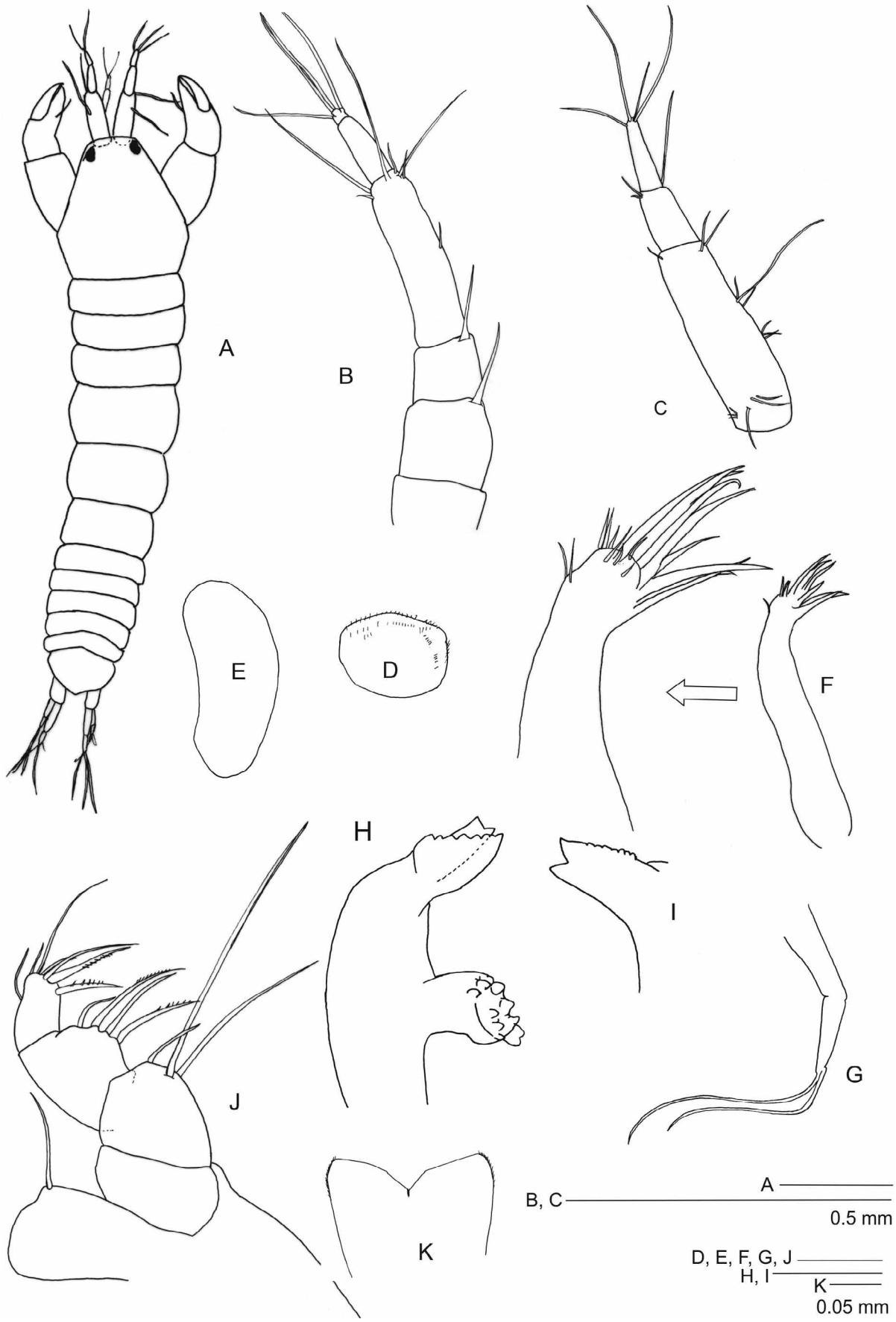

FIGURE 9. *Nototanais dimorphus*, female: A, habitus, dorsal. B, antennule. C, antenna. D, labrum. E, maxilla. F, maxillule. G, maxillular palp. H, left mandible. I, right mandible. J, maxilliped. K, labium.

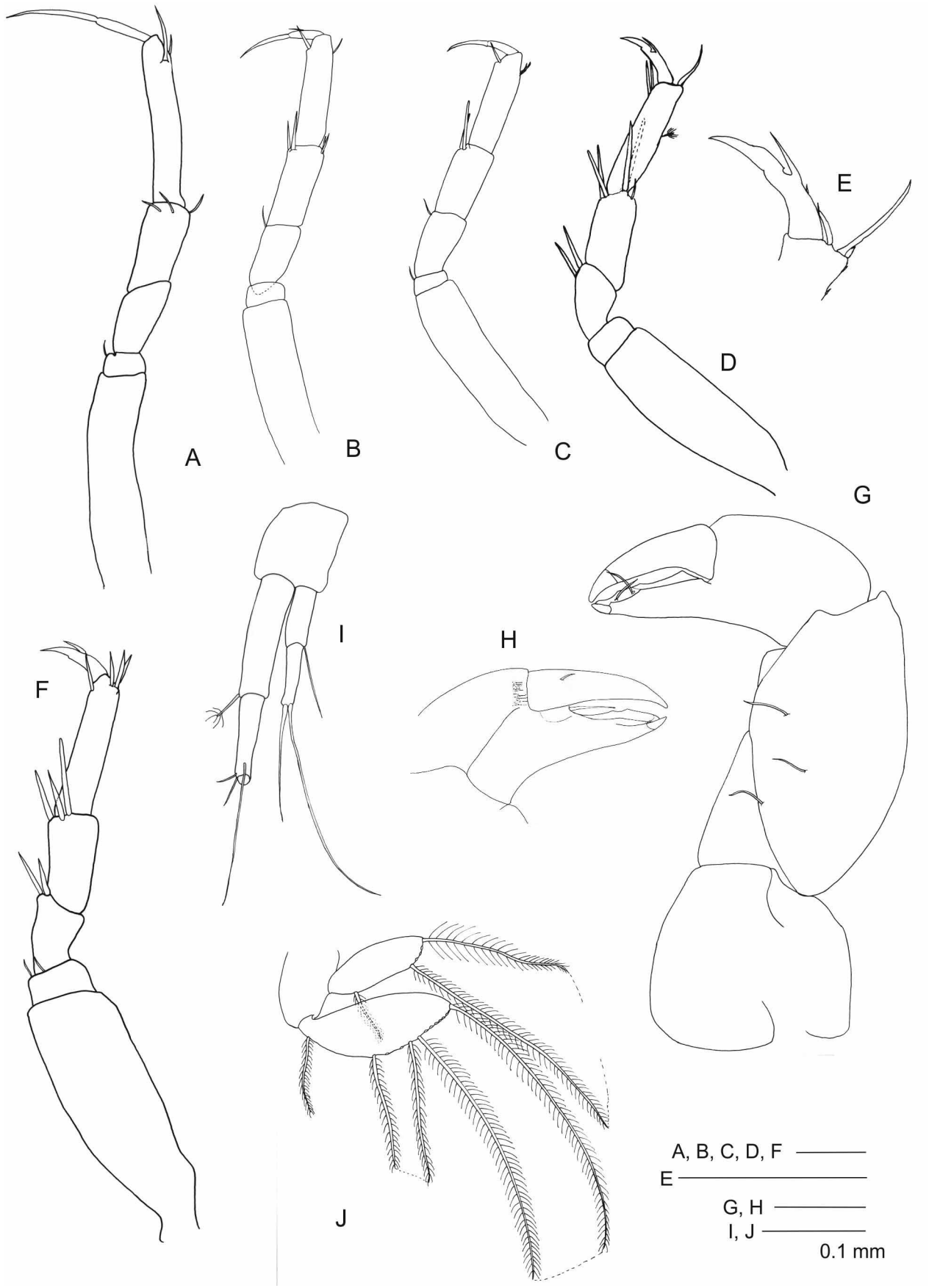

FIGURE 10. *Nototanais dimorphus*, female: A–D, pereopods 1–4 respectively. E, detail of dactylus and unguis of pereopod 4. F, pereopod 6. G, cheliped, outer view. H, chela, inner view. I, uropod. J, pleopod.

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