



## Poecilostomatoid copepods from the coral *Leptoria tenuis* in New Caledonia

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**Abstract:** Three new copepods (Poecilostomatoida: Anchimolgidae) are described, associated with the scleractinian coral *Leptoria tenuis* (Dana) near Nouméa, New Caledonia. *Panjakus directus* n. sp. has an elongate caudal ramus, the formula II,I,5 on the third segment of the exopod of leg 4, and the free segment of leg 5 is elongate. *Panjakus necopinus* n. sp. has II,I,5 on the third segment of the exopod of leg 3, and lacks auricular lobes on the somite bearing leg 4. *Juxtandrianellus probus* n. gen., n. sp., has the unusual formula II,4 on the third segment of the endopod of leg 1 in the female, and the endopod of leg 4 has the formula 0-1;I.

**Résumé :** Trois copépodes nouveaux (Poecilostomatoida: Anchimolgidae) sont décrits, associés au corail scléactinien *Leptoria tenuis* (Dana) près de Nouméa (Nouvelle Calédonie). *Panjakus directus* n. sp. a une rame caudale allongée, la formule II,I,5 sur le troisième segment de l'exopodite de la patte 4, et le segment libre de la patte 5 allongé. *Panjakus necopinus* n. sp. a la formule II,I,5 sur le troisième segment de l'exopodite de la patte 3, et est dépourvu de lobes auriculaires sur le somite portant la patte 4. *Juxtandrianellus probus* n. gen., n. sp., a la formule peu commune II,4 sur le troisième segment de l'endopodite de la patte 1 chez la femelle, et l'endopodite de la patte 4 a la formule 0-1;I.

**Keywords:** Copepoda, associates, coral, New Caledonia.

### Introduction

Copepods are parasites or associates of many different shallow-water Scleractinia in the Indo-Pacific and are known from several New Caledonian corals (Humes, 1973, 1974a,b, 1979a,b, 1985, 1986, 1990, 1991a,b, 1993, 1994, 1995; Humes & Dojiri, 1982). The New Caledonian associates include members of the poecilostomatoid genera *Amaradopsis*, *Anchimoligus*, *Cerioxynus*, *Diallagomoligus*, *Ecpophysarion*, *Lipochrus*, *Mandobius*, *Mycoxynus*, *Odontomoligus*, *Panjakus*, *Paramoligus*, *Schedomoligus*, *Scyphuliger*, *Unicispina*, and *Xarifia*. Among the coral hosts are the genera *Acropora*, *Cyphastrea*, *Echinopora*, *Favia*,

*Favites*, *Fungia*, *Gardineroseris*, *Leptoria*, *Merulina*, *Montipora*, *Pachyseris*, *Parahalomitra*, *Pavona*, *Pectinia*, *Platygyra*, *Porites*, *Psammocora*, *Scapophyllia*, *Seriatopora*, and *Stylophora*.

Until now, only two copepods have been reported from *Leptoria*: *Amaradopsis merulinae* Humes, 1974, on the Great Barrier Reef, northwestern Australia, and *Xarifia* sp. from the same host in New Caledonia (Humes, 1985). In this paper three new poecilostomatoid copepods, including one new genus, from *Leptoria tenuis* (Dana) in New Caledonia are described.

### Material and Methods

Portions of the coral colony were isolated in sea water in plastic bags immediately after collection. Later in the labo-

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ratory a small amount of ethanol (enough to make approximately a 5% solution) was added. The coral remained in this solution for 1-2 hours, after which it was vigorously rinsed. Then, after removing the coral, the wash water was passed through a fine net (about 120 holes per 2.5 cm, each hole approximately 225  $\mu\text{m}$  square) and the copepods recovered from the sediment retained.

The copepods were measured and dissected in lactic acid. Drawings were made with the aid of a camera lucida. The length of the body was measured from the anterior tip to the posterior end of the caudal rami. The segments of the antennule were measured along their posterior nonsetiferous margins. In the formulas for legs 1-4, spines are represented by Roman numerals, setae by Arabic numerals.

Poecilostomatoida Thorell, 1859

Anchimolgidae Humes and Boxshall, in press

*Panjakus* Humes and Stock, 1972

*Panjakus directus* n. sp.

(Figs. 1-3)

Type material: 23 ♀♀, 25 ♂♂ from *Leptoria tenuis* (Dana), in 2 m, west of Ile Mando, near Nouméa, New Caledonia, 22°18'59"S, 166°09'30"E, 5 July 1971. Holotype ♀ (USNM 274125), allotype ♂ (USNM 274126), and 41 paratypes (16 ♀♀, 23 ♂♂) (USNM 274127) deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C. Remaining paratypes (dissected) in the collection of the author.

Female: Body (Fig. 1a,b) elongate, prosome slender in dorsal view, swollen dorsally in lateral view. Length 1.59 mm (1.51-1.69 mm) and greatest width 0.44 mm (0.41-0.55 mm), based on 10 specimens. Greatest dorsoventral thickness 0.47 mm. Somite bearing leg 1 fused with cephalosome. Epimera of metasomal somites rounded. Ratio of length to width of prosome 1.88:1. Ratio of length of prosome to that of urosome 0.98:1, urosome being slightly longer than prosome.

Somite bearing leg 5 (Fig. 1c) 78 x 239  $\mu\text{m}$ . Genital double-somite in dorsal view 234 x 226  $\mu\text{m}$ , ratio 1.04:1, broadest in anterior third, tapered posteriorly (width 148  $\mu\text{m}$ ), slightly contracted between middle and posterior thirds. In lateral view (Fig. 1d) indented dorsally at level of dorsal transverse sclerotization (Fig. 1c). Genital areas located dorsolaterally in anterior half of double somite. Each area with 2 minute setae. Three postgenital somites from anterior to posterior 114 x 122, 86 x 104, and 114 x 87  $\mu\text{m}$ . Caudal ramus (Fig. 1e) elongate, 224  $\mu\text{m}$  long, 29  $\mu\text{m}$  wide proximally, 16  $\mu\text{m}$  wide distally, and 18  $\mu\text{m}$  wide at midregion. Ratio of length to width 12.4:1. Outer lateral seta 46  $\mu\text{m}$ , dorsal seta 16  $\mu\text{m}$ , outermost terminal seta 58  $\mu\text{m}$ , innermost terminal seta 60  $\mu\text{m}$ , and 2 median terminal setae 120  $\mu\text{m}$  (outer) and 143  $\mu\text{m}$  (inner). All setae smooth. Body surface smooth without visible sensilla. Egg sac not seen.

Rostrum (Fig. 1f) linguiform. Antennule (Fig. 1g) 450  $\mu\text{m}$  long. Lengths of its 7 segments: 31 (52  $\mu\text{m}$  along anterior margin), 99, 52, 75, 70, 45, and 47  $\mu\text{m}$ , respectively. Armature: 4, 13, 6, 3, 4 + 1 aesthetasc, 2 + 1 aesthetasc, and 7 + 1 aesthetasc. All setae smooth. Antenna (Fig. 2a) 4-segmented, 250  $\mu\text{m}$  long including claw. Formula for armature: 1, 1, 2, and 1 claw (only 2 setae seen on third segment.) Fourth segment 39  $\mu\text{m}$  along inner side, 23  $\mu\text{m}$  along outer side, and 21  $\mu\text{m}$  wide. Claw (Fig. 2b) 44  $\mu\text{m}$ .

Labrum (Fig. 1f) with 2 posteroventral lobes. Mandible (Fig. 2c) with 1 small digitiform lobe on convex side of base. Paragnath small rounded lobe. Maxillule (Fig. 2d) with 4 setae. Maxilla (Fig. 2e) with large digitiform lobe on first segment. Maxilliped (Fig. 2f) 3-segmented. Other details of mouthparts resembling, for example, those of *Panjakus eumeces* Humes, 1991. Ventral area between maxillipeds and first pair of legs (Fig. 2g) protuberant (Fig. 1b).

Legs 1-4 (Figs. 2h-j, 3a) with 3-segmented rami, except 2-segmented endopod in leg 4. Formula for armature as follows:

P1	coxa 0-1	basis 1-0	exp I-0;	I-1;	III,I,4
			enp 0-1;	0-1;	1,5
P2	coxa 0-1	basis 1-0	exp I-0;	I-1;	III,I,5
			enp 0-1;	0-2;	I,II,3
P3	coxa 0-1	basis 1-0	exp I-0;	I-1;	III,I,5
			enp 0-1;	0-2;	I,II,2
P4	coxa 0-1	basis 1-0	exp I-0;	I-1;	II,I,5
			enp 0-1;	II	

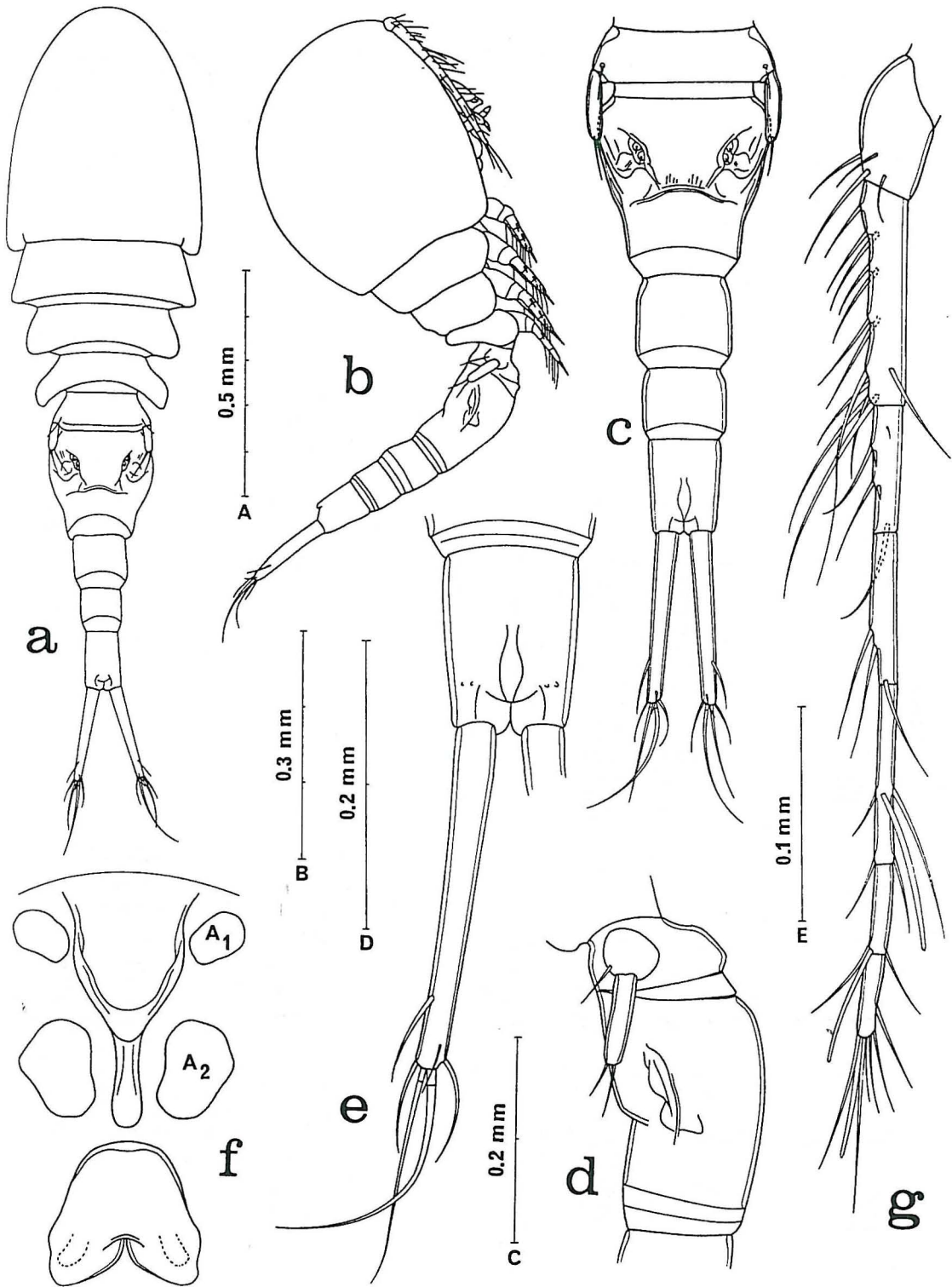
Leg 4 with minute inner coxal seta 5  $\mu\text{m}$ . Exopod 159  $\mu\text{m}$ . Endopod with first segment 34 x 26  $\mu\text{m}$ , its inner seta 60  $\mu\text{m}$ ; second segment 74 x 26  $\mu\text{m}$  (greatest width), its 2 terminal spines 21  $\mu\text{m}$  and 44  $\mu\text{m}$ . Leg 5 (Fig. 3b) with elongate unornamented free segment 85 x 24  $\mu\text{m}$ , ratio 3.54:1. Two terminal setae 31 and 47  $\mu\text{m}$ . Adjacent dorsal seta on somite 28  $\mu\text{m}$ . Leg 6 represented by 2 minute setae on genital area (Fig. 1c).

Living specimens in transmitted light, opaque gray, eye red.

Male: Body (Fig. 3c) slender as in female. Length 1.58 mm (1.52-1.60 mm) and greatest width 0.44 mm (0.42-0.46 mm), based on 9 specimens. Greatest dorsoventral thickness 0.41 mm. Ratio of length to width of prosome 1.76:1. Ratio of length of prosome to that of urosome 0.87:1, urosome being longer than prosome.

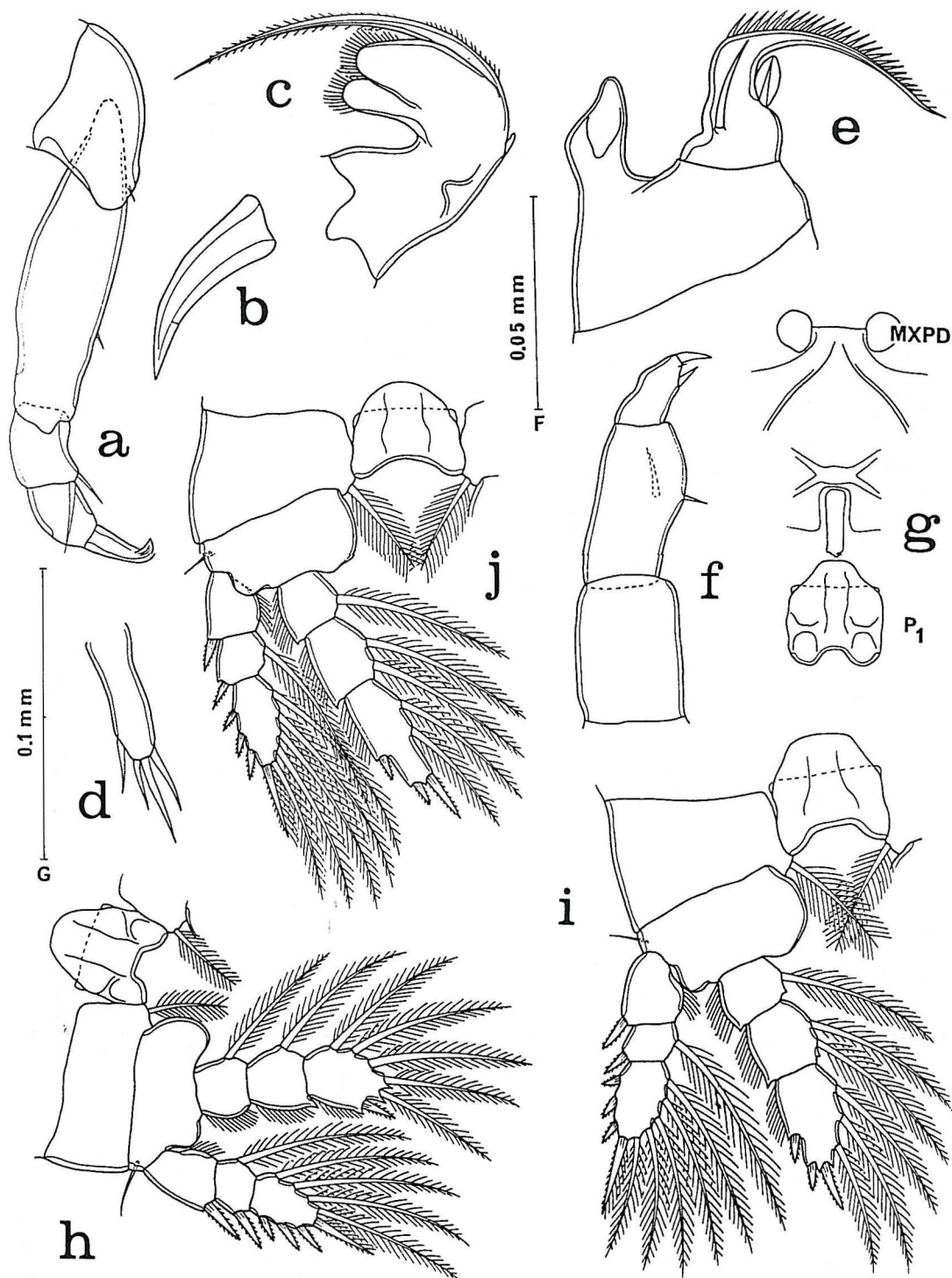
Somite bearing leg 5 (Fig. 3d) 52 x 208  $\mu\text{m}$ . Genital somite 286 x 264  $\mu\text{m}$ , longer than wide, ratio 1.08:1. Four postgenital somites from anterior to posterior 68 x 107, 61 x 98, 68 x 84, and 104 x 78  $\mu\text{m}$ . Caudal ramus (Fig. 3d) 211 x 29  $\mu\text{m}$ , ratio 7.28:1.

Rostrum as in female. Antennule resembling that of female but 3 aesthetascs added (at points shown by dots in Fig. 1g). Antenna like that of female. Labrum, mandible,



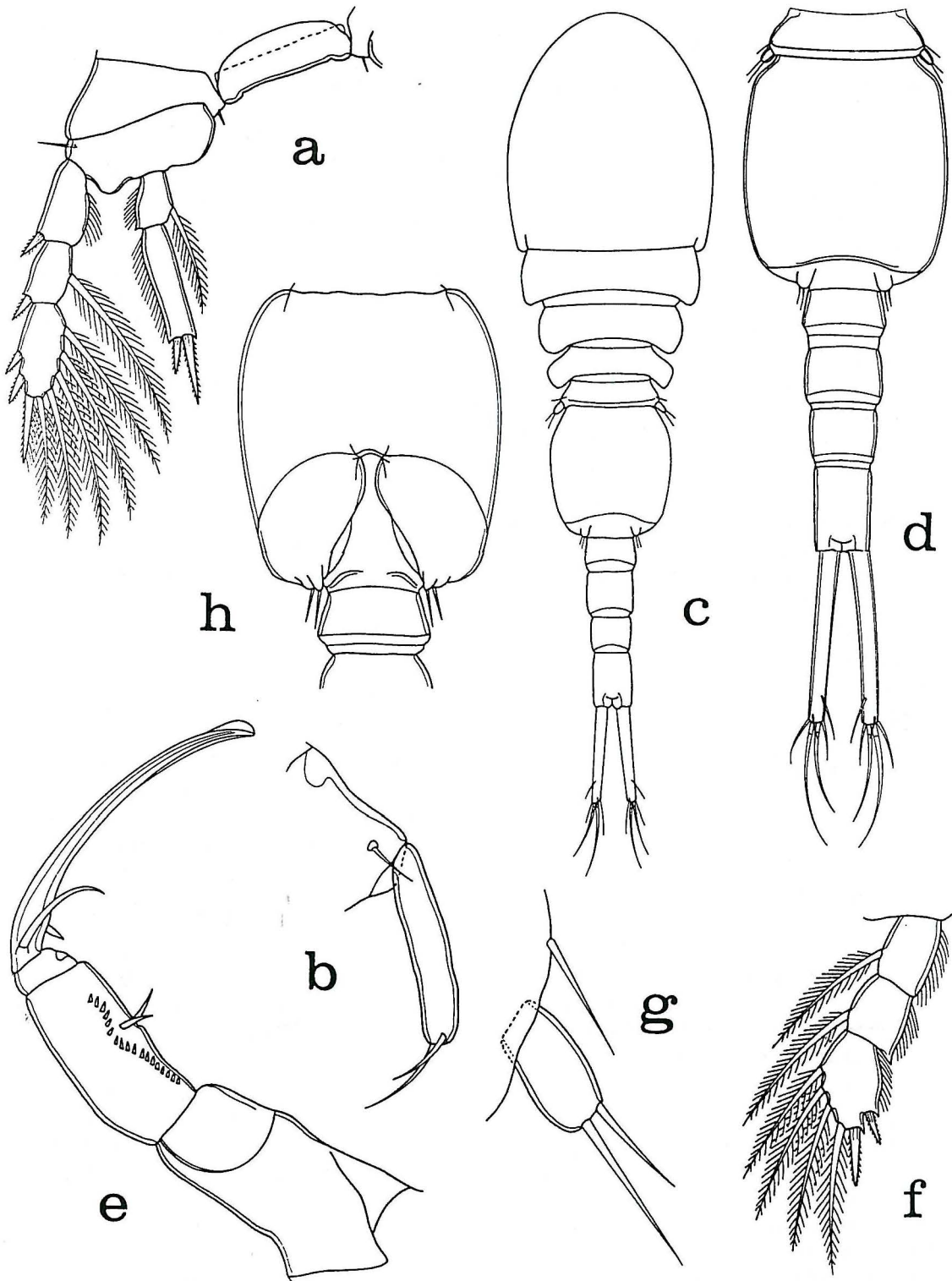
**Figure 1.** *Panjakus directus* n. sp. Female: **a**, body, dorsal view (scale A); **b**, body, lateral view (A); **c**, urosome, dorsal view (B); **d**, somite bearing leg 5 and genital double-somite, lateral view (C); **e**, anal somite and caudal ramus, dorsal view (D); **f**, rostrum and labrum, ventral (D); **g**, antennule, ventral view (E).

**Figure 1.** *Panjakus directus* n. sp. Femelle : **a**, corps, vue dorsale (Echelle A) ; **b**, vue latérale (A) ; **c**, urosome, vue dorsale (B) ; **d**, somite portant la patte 5 et double somite génital, vue latérale (C) ; **e**, somite anal et rame caudale, vue dorsale (D) ; **f**, rostre et labre, vue dorsale (D) ; **g**, antennule, vue ventrale (E).



**Figure 2.** *Panjakus directus* n. sp. Female: **a**, antenna, outer view (scale E, Fig. 1); **b**, claw on antenna, inner view (F); **c**, mandible, posterior view (G); **d**, maxillule, posterior view (F); **e**, maxilla, anterior view (G); **f**, maxilliped, anterior view (G); **g**, area between maxillipeds and first pair of legs, ventral view (C, Fig. 1); **h**, leg 1 and intercoxal plate, anterior view (D, Fig. 1); **i**, leg 2 and intercoxal plate, anterior view (D, Fig. 1); **j**, leg 3 and intercoxal plate, anterior view (D, Fig. 1).

**Figure 2.** *Panjakus directus* n. sp. Femelle : **a**, antenne, vue externe (Echelle E, Fig. 1) ; **b**, crochet sur l'antenne, vue interne (F) ; **c**, mandibule, vue postérieure (G) ; **d**, maxillule, vue postérieure (F) ; **e**, maxille, vue antérieure (G) ; **f**, maxillipède, vue antérieure (G) ; **g**, aire située entre les maxillipèdes et la première paire de pattes, vue ventrale (C, Fig. 1) ; **h**, patte 1 et plaque intercoxale, vue antérieure (D, Fig. 1) ; **i**, patte 2 et plaque intercoxale, vue antérieure (D, Fig. 1) ; **j**, patte 3 et plaque intercoxale, vue antérieure (D, Fig. 1).



**Figure 3.** *Panjakus directus* n. sp. Female: **a**, leg 4 and intercoxal plate, anterior view (scale D, Fig. 1); **b**, leg 5, dorsal view (E, Fig. 1). Male: **c**, body, dorsal view (A, Fig. 1); **d**, urosome, dorsal view (B, Fig. 1); **e**, maxilliped, inner view (E, Fig. 1); **f**, endopod of leg 1, anterior view (D, Fig. 1); **g**, leg 5, dorsal view (F, Fig. 2); **h**, genital somite showing sixth pair of legs, ventral view (C, Fig. 1).

**Figure 3.** *Panjakus directus* n. sp. Femelle : **a**, patte 4 et plaque intercoxale, vue antérieure (Echelle D, Fig. 1) ; **b**, patte 5, vue dorsale (E, Fig. 1). Mâle : **c**, corps, vue dorsale (A, Fig. 1) ; **d**, urosome, vue dorsale (B, Fig. 1) ; **e**, maxillipède, vue interne (E, Fig. 1) ; **f**, endopodite de la patte 1, vue antérieure (D, Fig. 1) ; **g**, patte 5, vue dorsale (F, Fig. 2) ; **h**, somite génital montrant les pattes 6, vue ventrale (C, Fig. 1).

paragnath, maxillule, and maxilla resembling those of female. Maxilliped (Fig. 3e) with first segment unarmed, second segment with 2 inner setae and row of small spines, small third segment unarmed, and claw 220  $\mu\text{m}$  long, bearing proximally 2 unequal setae, small seta unusually stout. Ventral area between maxillipeds and first pair of legs as in female.

Legs 1-4 like those of female, but sexual dimorphism in endopod of leg 1 (Fig. 3f), with formula I,I,4. Leg 5 (Fig. 3g) with unornamented free segment 30 x 16  $\mu\text{m}$ , ratio 1.86:1. Two terminal setae 39  $\mu\text{m}$  and 26  $\mu\text{m}$ . Adjacent seta 29  $\mu\text{m}$ . Leg 6 (Fig. 3h) posteroventral flap on genital somite bearing 2 setae.

Color like that of female.

Etymology: The name *directus*, Latin meaning straight, alludes to the form of the body.

Remarks: The armature of the third segment of the exopod of leg 4, as II,I,5, differentiates the new species from *Panjakus hydnothorae* Humes and Stock, 1973, and *P. eumeces* Humes, 1991, where this formula is III,I,5. Two other two species of *Panjakus* have the formula II,I,5 on the third segment of the exopod of leg 4, but differ from the new species in other ways: *Panjakus auriculatus* Humes and Dojiri, 1979, has a short caudal ramus and large auricular lobes on the somite bearing leg 4; *Panjakus platygyrae* Humes and Stock, 1973, although apparently closely related to *P. directus*, has a longer caudal ramus in the female, 7.8:1, and a smaller free segment of leg 5, 22 x 24  $\mu\text{m}$  in the female, 18 x 10  $\mu\text{m}$  in the male.

*Panjakus necopinus* n. sp.  
(Figs. 4,5)

Type material: 19 ♀♀, 22 ♂♂ from *Leptoria tenuis* (Dana) (the same colony from which *P. directus* was recovered), in 2 m, west of Ile Mando, near Nouméa, New Caledonia, 22°18'59"S, 166°09'30"E, 5 July 1971. Holotype ♀ (USNM 274122), allotype ♂ (USNM 274123), and 34 paratypes (15 ♀♀, 19 ♂♂) (USNM 274124) deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C. Remaining paratypes (dissected) in the collection of the author.

Female: Body (Fig. 4a) elongate, slender, resembling that of *P. directus* in general form. Length 1.39 mm (1.32-1.42 mm) and greatest width 0.47 mm (0.40-0.48 mm), based on 10 specimens. Greatest dorsoventral thickness 0.42 mm. Ratio of length to width of prosome 1.51:1. Ratio of length of prosome to that of urosome 1.06:1.

Somite bearing leg 5 (Fig. 4b) 44 x 261  $\mu\text{m}$ . Genital double-somite in dorsal view 216 x 252  $\mu\text{m}$ , wider than long, ratio 0.86:1, broadest in anterior third and tapering posteriorly, without slight contraction seen in *P. directus*. Genital areas located dorsolaterally at level of widest part of

somite. Each area bearing 2 minute setae. Three postgenital somites from anterior to posterior 104 x 112, 78 x 99, and 117 x 88  $\mu\text{m}$ . Caudal ramus (Fig. 4c) 140 x 29  $\mu\text{m}$ , ratio 4.83:1, shorter than in *P. directus*. Outer lateral seta 33  $\mu\text{m}$ , dorsal seta 11  $\mu\text{m}$ , outermost terminal seta 25  $\mu\text{m}$ , innermost terminal seta 38  $\mu\text{m}$ , and 2 median terminal setae 55  $\mu\text{m}$  (outer) and 66  $\mu\text{m}$  (inner). All setae smooth. Body surface with few sensilla dorsally on postgenital somites (Fig. 4b). Egg sac not seen.

Rostrum and antennule similar to those of *P. directus*. Antenna (Fig. 4d) 213  $\mu\text{m}$  long, with armature 1, 1, 2, and claw. Fourth segment 39  $\mu\text{m}$  along inner side, 23  $\mu\text{m}$  along outer side, and 21  $\mu\text{m}$  wide. Claw 34  $\mu\text{m}$ . Labrum (Fig. 4e) with 2 broad posteroventral lobes. Mandible (Fig. 4f), paragnath, maxillule (Fig. 4f), maxilla (Fig. 4g), and maxilliped similar to those of *P. directus*. Ventral area between maxillipeds and first pair of legs as in *P. directus*.

Legs 1-4 (Figs. 4h,i, 5a,b) segmented and armed as in *P. directus*, except third segment of exopod of leg 3 with II,I,5, instead of III,I,5. Leg 4 with inner coxal seta 15  $\mu\text{m}$ . Exopod 130  $\mu\text{m}$ . Endopod with first segment 26 x 22  $\mu\text{m}$ , its seta 52  $\mu\text{m}$ ; second segment 69 x 16  $\mu\text{m}$ , its two terminal spines 21  $\mu\text{m}$  and 34  $\mu\text{m}$ . Leg 5 (Fig. 5c) with elongate unornamented free segment 118 x 23  $\mu\text{m}$  (width at midregion), ratio 5.13:1, held dorsally over genital double-somite as in Fig. 4b. Two terminal setae 42  $\mu\text{m}$  and 18  $\mu\text{m}$ . Adjacent seta on body 34  $\mu\text{m}$ . All setae smooth. Leg 6 represented by 2 minute setae on genital area (Fig. 4b).

Living specimens in transmitted light opaque gray, eye red.

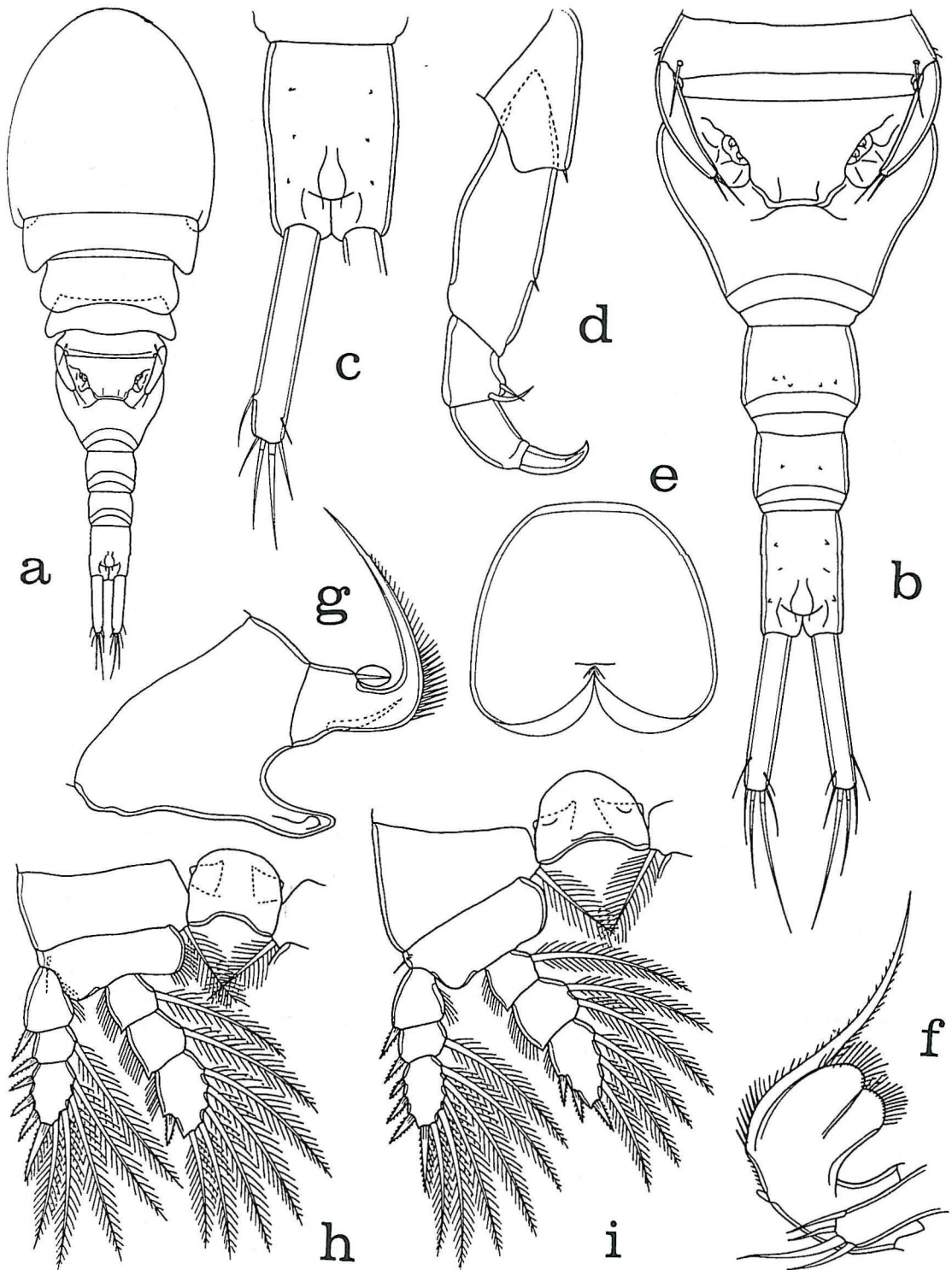
Male: Body (Fig. 5d) similar in general form to that of female. Length 1.34 mm (1.27-1.39 mm) and greatest width 0.44 mm (0.42-0.45 mm). Greatest dorsoventral thickness 0.33 mm. Ratio of length to width of prosome 1.44:1. Ratio of length of prosome to that of urosome 0.84:1, urosome being longer than prosome.

Somite bearing leg 5 (Fig. 5e) 44 x 242  $\mu\text{m}$ . Genital somite 242 x 280  $\mu\text{m}$ , wider than long, ratio 0.86:1. Four postgenital somites from anterior to posterior 60 x 104, 70 x 94, 57 x 83, and 101 x 78  $\mu\text{m}$ . Caudal ramus (Fig. 5e) 159 x 29  $\mu\text{m}$ , ratio 5.48:1.

Rostrum as in female. Antennule like that of female, but 3 aesthetascs added, as in male of *P. directus*. Antenna like that of female. Labrum, mandible, paragnath, maxillule, and maxilla resembling those of female. Maxilliped (Fig. 5f) with claw 177  $\mu\text{m}$ . Ventral area between maxillipeds and first pair of legs as in female.

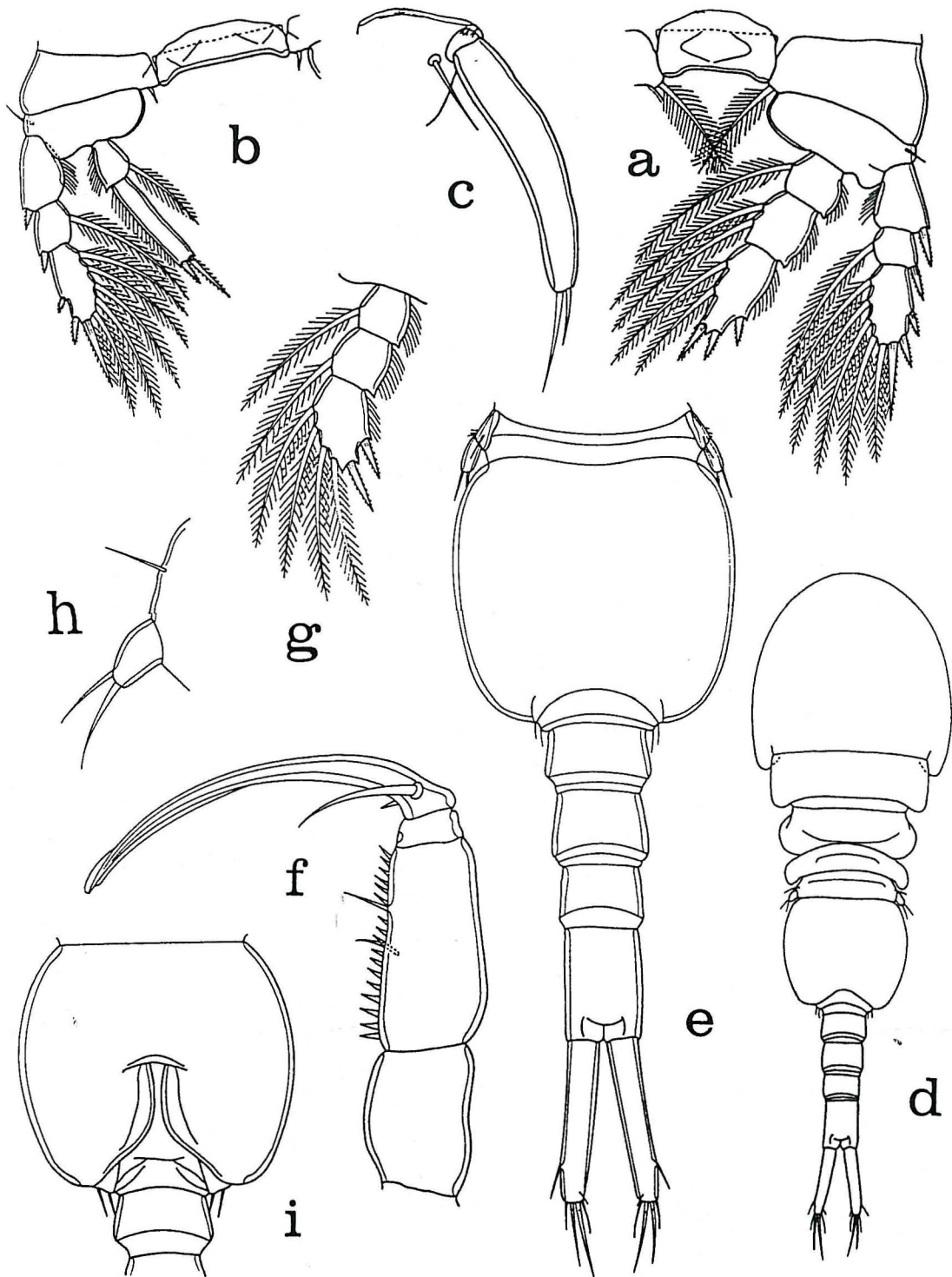
Legs 1-4 like those of female, but sexual dimorphism in endopod of leg 1, with formula for third segment I,I,4 (Fig. 5g). Leg 5 (Fig. 5h) with small unornamented free segment 31 x 19  $\mu\text{m}$ , ratio 1.63:1, its 2 terminal setae 33  $\mu\text{m}$  and 28  $\mu\text{m}$ . Adjacent seta 25  $\mu\text{m}$ . Leg 6 represented by flap on genital segment bearing 2 setae (Fig. 5i).

Color as in female.



**Figure 4.** *Panjakus necopinus* n. sp. Female: **a**, body, dorsal view (scale A, Fig. 1); **b**, urosome, dorsal view (C, Fig. 1); **c**, anal somite and caudal ramus, dorsal view (D, Fig. 1); **d**, antenna, outer view (E, Fig. 1); **e**, labrum, ventral view (E, Fig. 1); **f**, mandible and maxillule, posterior view (G, Fig. 2); **g**, maxilla, posterior view (G, Fig. 2); **h**, leg 1 and intercoxal plate, anterior view (D, Fig. 1); **i**, leg 2 and intercoxal plate, anterior view (D, Fig. 1).

**Figure 4.** *Panjakus necopinus* n. sp. Femelle : **a**, corps, vue dorsale (Echelle A, Fig. 1) ; **b**, urosome, vue dorsale (C, Fig. 1) ; **c**, somite anal et rame caudale, vue dorsale (D, Fig. 1) ; **d**, antenne, vue externe (E, Fig. 1) ; **e**, labre, vue ventrale (E, Fig. 1) ; **f**, mandibule et maxillule, vue postérieure (G, Fig. 2) ; **g**, maxille, vue postérieure (G, Fig. 2) ; **h**, patte 1 et plaque intercoxale, vue antérieure (D, Fig. 1) ; **i**, patte 2 et plaque intercoxale, vue antérieure (D, Fig. 1).



**Figure 5.** *Panjakus necopinus* n. sp. Female: **a**, leg 3 and intercoxal plate, posterior view (scale D, Fig. 1); **b**, leg 4 and intercoxal plate, anterior view (D, Fig. 1); **c**, leg 5, dorsal view (E, Fig. 1). Male: **d**, body, dorsal view (A, Fig. 1); **e**, urosome, dorsal view (C, Fig. 1); **f**, maxilliped, inner view (E, Fig. 1); **g**, endopod of leg 1, anterior view (D, Fig. 1); **h**, leg 5, dorsal view (E, Fig. 1); **i**, genital somite, showing sixth pair of legs, and first postgenital somite, ventral (C, Fig. 1).

**Figure 5.** *Panjakus necopinus* n. sp. Femelle : **a**, patte 3 et plaque intercoxale, vue postérieure (Echelle D, Fig. 1) ; **b**, patte 4 et plaque intercoxale, vue antérieure (D, Fig. 1) ; **c**, patte 5, vue dorsale (E, Fig. 1). Mâle : **d**, corps, vue dorsale (A, Fig. 1) ; **e**, urosome, vue dorsale (C, Fig. 1) ; **f**, maxillipède, vue interne (E, Fig. 1) ; **g**, endopodite de la patte 1, vue antérieure (D, Fig. 1) ; **h**, patte 5, vue dorsale (E, Fig. 1) ; **i**, somite génital, montrant les pattes 6, et le premier somite postgénital, vue ventrale (C, Fig. 1).



**Etymology:** The name *necopinus*, Latin meaning unexpected, alludes to the unusual formula of II,I,5 for the third segment of the exopod of leg 3, occurring in the genus only in *P. auriculatus*.

**Remarks:** *Panjakus necopinus* may be distinguished from all congeners except *P. auriculatus* by the formula II,I,5 on the third segment of the exopod of leg 3. *Panjakus auriculatus* is easily recognized as distinct from the new species by its short caudal ramus and by the large auricular lobes on the somite bearing leg 4.

Among the remaining congeners, *P. hydnophorae* and *P. eumeces* differ from the new species in having the formula III,I,5 for the third segment of the exopod of leg 4. *Panjakus platygyrae* has a much smaller free segment of leg 5 in the female (22 x 14 µm). *Panjakus directus* has a much longer caudal ramus (in the female 12.4:1, versus 4.83:1 in *P. necopinus*) and shorter free segment of leg 5 (in the female 85 x 24 µm, ratio 3.54:1, versus 118 x 23 µm, ratio 5.13:1 in *P. necopinus*).

#### *Juxtandrianellus* n. gen.

**Diagnosis:** Anchimolgidae. Body elongate. Urosome 5-segmented. Caudal ramus with 6 setae. Rostrum linguiform. Antennule 7-segmented. Antenna 4-segmented, with 1, 1, 3, and 1 claw. Labrum with 2 rounded lobes. Mandible without digitiform lobe on base. Maxillule with 4 setae. Maxilla with first segment bearing digitiform process. Maxilliped 3-segmented.

Legs 1-4 with 3-segmented rami, except 2-segmented endopod in leg 4. Legs 1-4 with third segment of exopod armed with III,I,4; II,I, 5; II,I,5; and II,I,5; third segment of endopod of legs 1-3 with II,4; III,3; II,2; and endopod of leg 4 with formula 0-1;I. Leg 5 with free segment bearing 2 setae.

Associated with scleractinian coral.

Gender masculine.

**Type species:** *Juxtandrianellus probus* n. sp.

**Etymology:** The generic name, formed with the Latin preposition *juxta*, meaning nearby, alludes to the apparent relationship of this new genus with *Andrianellus* Humes and Stock, 1972.

**Remarks:** *Juxtandrianellus* may be distinguished from most other anchimolgid genera (see Humes and Boxshall, in press) by the formula of II,4 on the third segment of the endopod of leg 1 in the female. Other genera in this family, and in the lichomolgoid complex generally, have I,5 in the female. In *Visayasia* Humes, 1992, the formula is I,I,4, but in this genus the mandible has a toothlike process and the formula for the third segment of the exopod of leg 4 is III,I,5. The reduction in the armature on the third segment of the exopod in legs 2 and 3 (to II,I,5) is a further feature for recognition.

#### *Juxtandrianellus probus* n. sp.

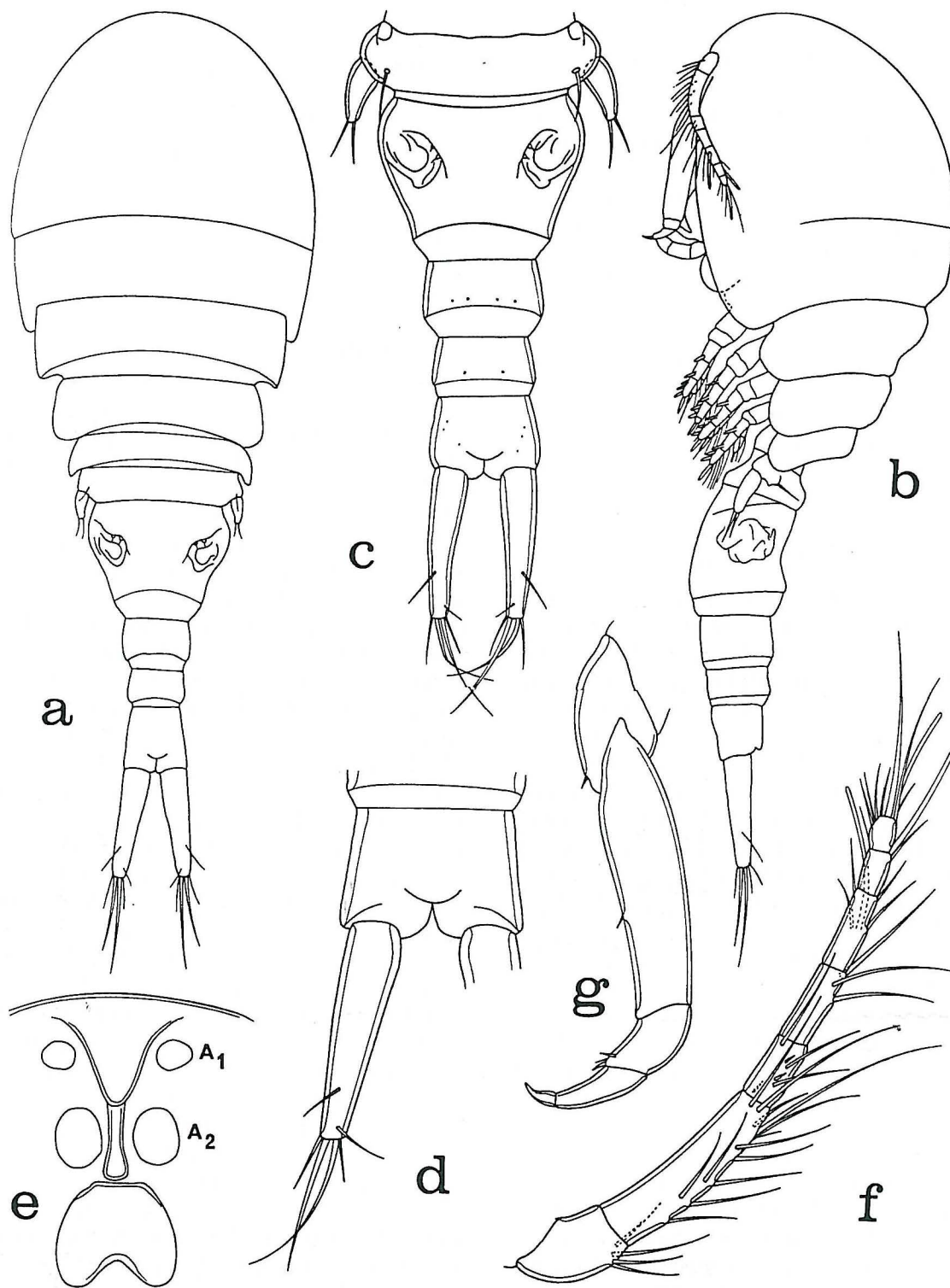
(Figs. 6-7)

**Type material:** 3 ♀♀ from *Leptoria tenuis* (Dana) (the same colony in which the two new species of *Panjakus* were found), in 2 m, west of Ile Mando, near Nouméa, New Caledonia, 22°18'59"S, 166°09'30"E, 5 July 1971. Holotype (USNM 274128) and 1 paratype (USNM 274129) deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C. Remaining paratype (dissected) in the collection of the author.

**Female:** Body (Fig. 6a,b) elongate with broad prosome. Length 1.15 mm (1.14-1.16 mm) and greatest width 0.43 (0.42-0.44 mm), based on 3 specimens. Greatest dorsoventral thickness 0.33 mm. Somite bearing first pair of legs separated from cephalosome by dorsal transverse suture. Epimera of metasomal somites rounded. Ratio of length to width of prosome 1.52:1. Ratio of length of prosome to that of urosome 1.11:1.

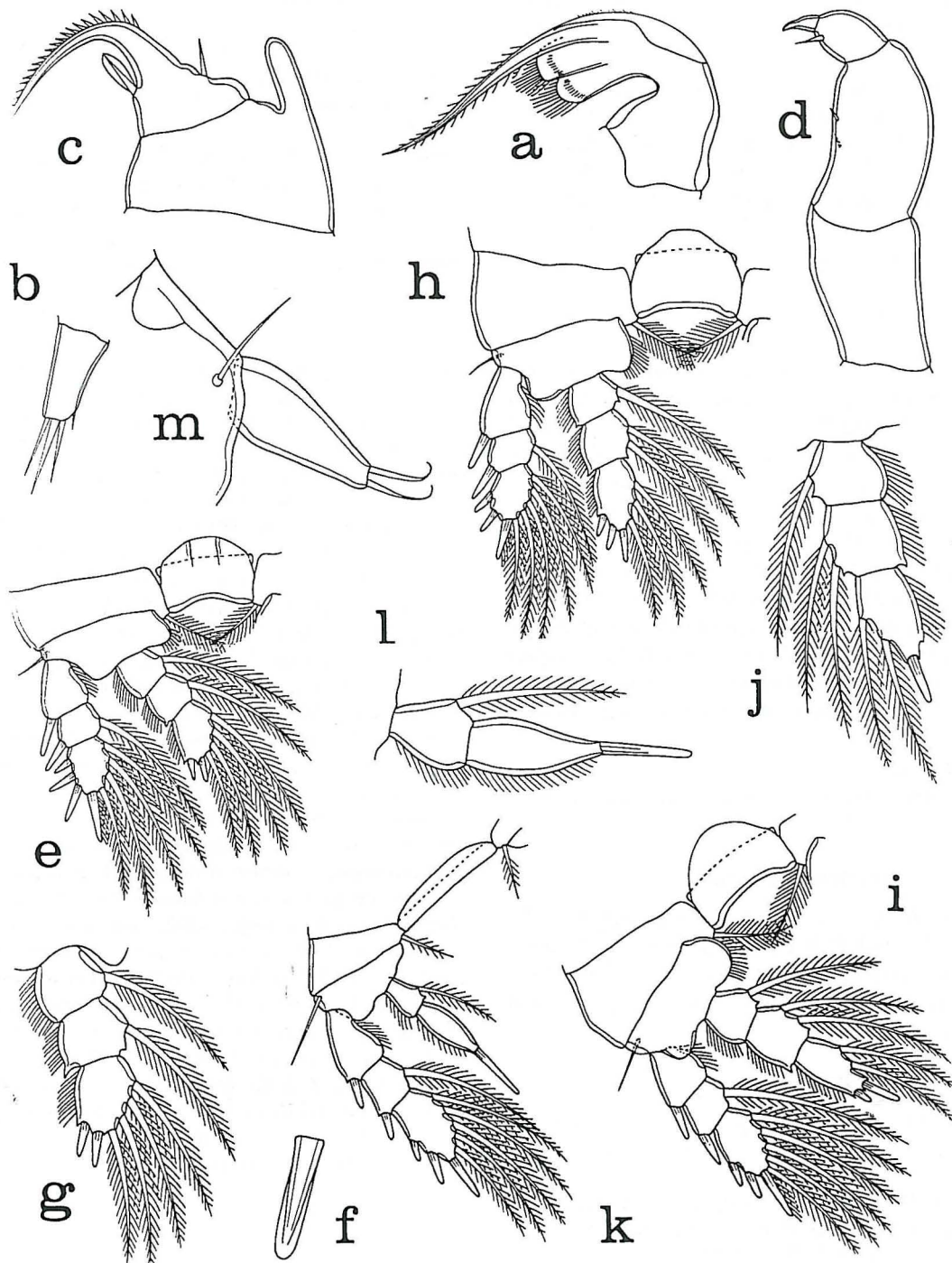
Somite bearing leg 5 (Fig. 6c) 68 x 239 µm. Genital double-somite in dorsal view 151 x 200 µm, ratio 0.76:1, wider than long, widest in anterior half and tapered posteriorly. In lateral view (Fig. 6b) somite indented dorsally. Genital areas located dorsoventrally near midregion of somite. Each area with 2 very small setae. Three postgenital somites from anterior to posterior 68 x 114, 55 x 103, and 74 x 116 µm. Caudal ramus (Fig. 6d) elongate, unornamented, tapered posteriorly, 140 µm long, 38 µm wide proximally, 29 µm wide at midregion, and 15.5 µm wide distally, ratio 4.83:1 (taking width at midregion). Outer lateral seta located somewhat dorsally 30 µm, dorsal seta 30 µm, outermost terminal seta 38 µm, innermost terminal seta 28 µm, and 2 median terminal setae 90 µm (outer) and 94 µm (inner). All setae smooth. Body surface with few sensilla on dorsal surface of urosome (Fig. 6c). Egg sac not seen.

Rostrum (Fig. 6e) linguiform. Antennule (Fig. 6f) 265 µm long. Length of its 7 segments: 18 (44 µm along anterior side), 82, 32, 39, 39, 19, and 15.5 µm, respectively. Armature: 4, 13, 6, 3, 4 + 1 aesthetasc, 2 + 1 aesthetasc, and 7 + 1 aesthetasc. All setae smooth. Antenna (Fig. 6g) 205 µm long. Armature: 1, 1, 3, and 1 claw. Setae very small. Third segment 31 µm along inner side, 26 µm along outer side, and 23 µm wide. Fourth segment tapered distally, 49 µm along inner side, 31 µm along outer side, 13 µm wide proximally, 8 µm wide distally. Claw small, 13 µm long. Labrum (Fig. 6e) with 2 rounded posteroventral lobes. Mandible (Fig. 7a), deeply indented, lacking digitiform lobe on convex side of base. Paragnath small rounded lobe. Maxillule (Fig. 7b) small, with 4 setae. Maxilla (Fig. 7c) with digitiform lobe on first segment; second segment with outer seta and inner seta with narrow hyaline lamellae. Lash with strong unilateral spines. Maxilliped (Fig. 7d) 3-segmented with 2 very small setae on second segment and



**Figure 6.** *Juxtandrianellus probus* n. gen., n. sp. Female: **a**, body, dorsal view (scale A, Fig. 1); **b**, body, lateral view (A, Fig. 1); **c**, urosome, dorsal view (B, Fig. 1); **d**, anal somite and caudal ramus, dorsal view (D, Fig. 1); **e**, rostrum and labrum, ventral view (C, Fig. 1); **f**, antennule, ventral view (E, Fig. 1); **g**, antenna, anterior view (E, Fig. 1).

**Figure 6.** *Juxtandrianellus probus* n. gen., n. sp. Femelle : **a**, corps, vue dorsale (Echelle A, Fig. 1) ; **b**, corps, vue latérale (A, Fig. 1) ; **c**, urosome, vue dorsale (B, Fig. 1) ; **d**, somite anal et rame caudale, vue dorsale (D, Fig. 1) ; **e**, rostre et labre, vue ventrale (C, Fig. 1) ; **f**, antennule, vue ventrale (E, Fig. 1) ; **g**, antenne, vue antérieure (E, Fig. 1).



**Figure 7.** *Juxtandrianellus probus* n. gen., n. sp. Female: **a**, mandible, anterior view (scale G, Fig. 2); **b**, maxillule, posterior (F, Fig. 2); **c**, maxilla, anterior (G, Fig. 2); **d**, maxilliped, postero-inner (G, Fig. 2); **e**, leg 1 and intercoxal plate, anterior (D, Fig. 1); **f**, outer spine on exopod of leg 1, anterior (F, Fig. 2); **g**, endopod of leg 1, anterior (G, Fig. 2); **h**, leg 2 and intercoxal plate, anterior (D, Fig. 1); **i**, leg 3 and intercoxal plate, anterior; **j**, left endopod of leg 3, lacking outer spine, anterior (E, Fig. 1); **k**, leg 4 and intercoxal plate, posterior (D, Fig. 1); **l**, endopod of leg 4, anterior (G, Fig. 2); **m**, leg 5, dorsal (G, Fig. 2).

**Figure 7.** *Juxtandrianellus probus* n. gen., n. sp. Femelle : **a**, mandibule, vue antérieure (Echelle G, Fig. 2) ; **b**, maxillule, vue postérieure (F, Fig. 2) ; **c**, maxille, vue antérieure (G, Fig. 2) ; **d**, maxillipède, vue postérieure-interne (G, Fig. 2) ; **e**, patte 1 et plaque intercoxale, vue antérieure (D, Fig. 1) ; **f**, épine externe sur l'exopodite de la patte 1, vue antérieure (F, Fig. 2) ; **g**, endopodite de la patte 1, vue antérieure (G, Fig. 2) ; **h**, patte 2 et plaque intercoxale, vue antérieure (D, Fig. 1) ; **i**, patte 3 et plaque intercoxale, vue antérieure (D, Fig. 1) ; **j**, endopodite gauche de la patte 3, dépourvu d'épine externe, vue antérieure (E, Fig. 1) ; **k**, patte 4 et plaque intercoxale, vue postérieure (D, Fig. 1) ; **l**, endopodite de la patte 4, vue antérieure (G, Fig. 2) ; **m**, patte 5, vue dorsale (G, Fig. 2).

small stout spine and slender seta on third segment. Ventral area between maxillipeds and first pair of legs protuberant (Fig. 6b).

Legs 1-4 (Fig. 7e,h,i,k) with 3-segmented rami, except 2-segmented endopod in leg 4. Formula for armature:

P1	coxa 0-1	basis I-0	exp I-0;	I-1;	III,I,4
			enp 0-1;	0-1;	II,4
P2	coxa 0-1	basis 1-0	exp I-0;	I-1;	II,I,5
			enp 0-1;	0-2;	III,3
P3	coxa 0-1	basis 1-0	exp I-0;	I-1;	II,I,5
			enp 0-1;	0-2;	II,2
P4	coxa 0-1	basis 1-0	exp I-0;	I-1;	II,I,5
			enp 0-1;	I	

Spines on rami of legs 1-4 with smooth margins and bluntly rounded tips (Fig. 7f). Third segment of endopod of leg 1 unusual in having II,4 (Fig. 7g). Third segment of endopod of leg 3 with II,2, but left endopod in one female with I,2 (Fig. 7j). Leg 4 with exopod 122 µm long. First segment of endopod (Fig. 7l) 26 x 23 µm, its seta 55 µm; second segment, tapered toward tip, 42 x 21 µm, its terminal spine 27 µm. Leg 5 (Fig. 7m) with free segment 52 x 29 µm, unornamented, tapered distally, ratio 1.79:1. Two short distally recurved terminal setae approximately 29 µm. Adjacent dorsal seta 44 µm. All setae smooth. Leg 6 represented by 2 minute setae on genital area (Fig. 6c).

Color of living specimens in transmitted light opaque gray, eye red.

Male: Unknown.

Etymology: The name is a Latin word meaning good or proper.

### Acknowledgements

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