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DESCRIPTION OF *MONODANTHURA MAROCCANA* NOV. GEN., NOV. SPEC.

(CRUSTACEA, ISOPODA, ANTHURIDEA)

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## ABSTRACT

*Monodanthura* is a new genus of the family Anthuridae (Crustacea: Isopoda: Anthuridea) closely related to *Notanthura* Monod, 1927. The new species *M. maroccana* proves that *Notanthura* is not synonymous with *Haliophasma* Haswell, 1881. "*Cyathura*" *liouvillei* Monod, 1925, is closely related to the new species and belongs to the new genus *Monodanthura*.

## INTRODUCTION

Confusion in taxonomy often only can be solved by redescriptions of species, sometimes also by descriptions of new species. An example is the confusion about *Cyathura liouvillei* Monod, 1925. This species obviously is not a species of *Cyathura* Norman & Stebbing, 1886, having differently shaped maxillipeds, pereopods and tailfan, but it was difficult to place it in another genus. Miller & Burbanck (1961: 65) supposed it could possibly be an *Anthelura* Norman & Stebbing, 1886, probably only because of

the number of articles of the Mxp. But *Anthelura* is a very different genus with unfused pleonites and long antennal flagellae. The discovery of a new species very closely related to "*Cyathura*" *liouvillei* allows a better insight into the morphology and the classification of these animals.

The new species allows also clarification of another confusion: *Notanthura* Monod, 1927, is a monotypic genus that was synonymized by Kensley (1979) with *Haliophasma* Haswell, 1881, because of its similarity with *H. caeca* Kensley, 1975. Wägele (1981) placed *H. caeca* in the new genus

*Centranthura* because of its special features (e.g., setose pereopods 2 to 7, form of telson, maxilliped, aesthetascs of first antenna) and kept *Notanthura* as a valid genus. The discovery of *Monodanthura* confirms this latter view.

In the descriptive part, the following abbreviations are used:

A 1	antenna 1
A 2	antenna 2
Md	mandible
Mx	maxilla 1
Mxp	maxilliped
P 1-7	pereopods 1-7
Plp 1-5	pleopods 1-5

*Monodanthura* nov.gen.

Diagnosis.-

Anthuridae with fused pleonites, pleon shorter than pereonite 6. A1 with 6 flagellar articles and 5 aesthetascs. A2 with short flagellum of 3 articles. Md with 3-segmented palp; pars incisiva, lamina dentata and acute pars molaris present. P1 subchelate with stout propodus, merus of P2 and P3 widened, propodus of P4 to P7 shorter than carpus; unguis of dactylus of P2 to P7 very short. Plp 1 operculiform. Distal part of endopod of Plp 2 markedly more slender than proximal part. Telson not surpassing uropods, dorsally convex, apex bearing 2 tufts of setae; 2 statocysts present. Sympod of uropod longer than exopod, endopod somewhat longer than wide. Several long setae on articles 2 and 3 of A 1, articles 4 and 5 of A 2, palp of Md; setae fringing pereopods 2 to 7.

Type species.-

*M. maroccana* nov.spec.

Etymology.-

The new genus is named after Prof. Th. Monod (Paris).

AFFINITIES OF THE NEW GENUS

*Monodanthura* has many features in common with *Notanthura barnardi* Monod, 1927, some previous unknown features of which were presented by

Kensley (1979). Both genera have the same long carpi of P4 to P7, a stout propodus of P1, a telson that is dorsally slightly convex, a pair of aesthetascs on an article of A1 and 3 single aesthetascs on the following (last) articles; a short flagellum of A2; long setae on A 1, P4 to P7, the palp of Md; the same outline of the endopod of Plp-2. Both genera are, no doubt, very closely related. They differ in the following features: The Mxp of *Notanthura* has a palp of 2 segments only, the last segment being very short; a suture-line of a third (basal) segment is still visible; the flagellum of A 1 has only 5 articles; the telson is somewhat wider, and its 2 distal tufts of setae are not present in *Notanthura*. With our present knowledge these differences justify the erection of a new genus, though it can not be excluded that new discoveries will lead to a different valuation of these features.

*Monodanthura* differs from the genus *Haliophasma* in the following characters: *Haliophasma* lacks long setae on the pereopods, the carpus of P4 to P7 is not longer than the propodus, the Mxp has only 2 palp segments, the flagellum of A 2 is longer, the flagellum of A 1 has only 3 aesthetascs, the telson often has a dorsal keel and longitudinal grooves or lateral "wings" (as in *H. alaticaudum* Amar, 1966). *Notanthura* has the same number of articles of the Mxp as *Haliophasma*, but the other features are like those of *Monodanthura*. We conclude that the number of articles of the Mxp is a feature that can not be used alone for the generic classification. *Notanthura* is not synonymous with *Haliophasma* but belongs to another group of genera, together with *Monodanthura* nov.gen., *Centranthura* Wägele, 1981, *Venezanthura* Kensley, 1978. *Pendanthura* Menzies & Glynn, 1968, also was included in this group (Wägele, 1981), but it only has the morphology of the Mxp in common with *Venezanthura*, which is not sufficient to support such an inclusion. *Pendanthura* is closely related to *Sauranthura* Poore & Kensley, 1981.

*Monodanthura maroccana* nov. spec.

Material.-

Holotype: non-reproductive adult, 11.5 mm,

ZMA Is. 105.198A.

Paratype: non-reproductive adult, 9.2 mm.  
ZMA Is. 105.198B.

Locality.-

Atlantic coast of Morocco, Sidi Moussa (province of El Jadida), intertidal sand flats. In *Zostera* sp.

Description of the holotype (figs. 1-4).-

Cephalothorax slightly wider than long in dorsal view, small lateral eyes without cuticular lenses present. Relative length of pereonites:  $1 \approx 2 > 3 < 4 \approx 5 > 6 > 7$ . Pleonites 1 to 5 fused, together somewhat longer than pereonite 7, with dorsolateral grooves, lateral fusion lines visible (figs. 1A, B). Peduncular articles 2 and 3 of A 1 with some long setae (fig. 1D), flagellum of 6 articles with 5 aesthetascs and short setae; first flagellar article with 1 feather-like sensory bristle, third article with 2 aesthetascs and 1 short seta, articles 4 to 6 each with 1 aesthetasc and a few simple setae, articles 5 and 6 very short (fig. 1E). Peduncular articles 4 and 5 of A 2 with some long setae, flagellum of 3 articles with tufts of 8 to 16 short setae (fig. 2A). Md with 3-segmented palp, third article short apically with 1 small serrated spine: second article longest with 5 to 6 long setae. Pars incisiva of 3 notches, strongly chitinized; lamina dentata of 17 to 20 serrulations; pars molaris short, acute. Lateral endite of Mx 1 long, stiletto-like, apex armed with 7 acute teeth, the distal one strongest; medial endite short, with 1 distal seta (fig. 2B, c). Mxp without endite, palp of 3 segments; second palp segment longest, medial margin with 7 setae, lateral margin with 1 long seta, ventral surface with 5 setae and several short hairs; medial margin of last segment with 5 setae (fig. 1C). P1 subchelate, propodus very stout, medial surface bearing about 30 simple setae (fig. 2D), palm armed with many short setae (fig. 2E); unguis as long as dactylus. P2 and P3 not subchelate; merus widened and with long setae on margins; carpus short triangular, with several simple setae; propodus elongate-oval, palm with 6 to 7 simple setae and 1 serrated distal spine; unguis very short (figs. 2F, G). P4 to P7 with long carpus; ischium, merus and carpus with long setae on

both margins, carpus with 1 posterodistal spine; propodus shorter than carpus, palm with 3 to 4 long setae and 1 (P4 and P5) or 2 (P6 and P7) posterodistal spines; unguis of dactylus very short (figs. 2H, 3A-C); P7 longer than in anterior pereopods. Plp 1 operculiform; exopod with 32, endopod with 13 swimming setae, distal part of endopod more slender than proximal part (fig. 3D). Exopod of Plp 2 with 17, endopod with 15 swimming setae (fig. 3F, E). Tail-fan of spatuliform appearance (fig. 4A). Uropods as long as telson; exopod not surpassing sympod, of oval form with slight sinuosity on distal part of crenulated margin, apex rounded; margin bearing about 64 short plumose setae and several short simple setae (fig. 3G, 4B). Endopod short, triangular, margin bearing many simple and few plumose setae (fig. 4B). Telson nearly 3 times longer than wide, dorsally convex; apex with 2 tufts of 4 to 5 simple setae and 1 plumose seta each; dorsal surface with some long setae and short hairs (figs. 4B, C). 2 statocysts present.

DISCUSSION

"*Cyathura*" *liouvillei* Monod, 1925, was discovered in several stations of the "Vanneau" expeditions to the North African Atlantic coasts (34°33'N 6°21'W - 33°33'N 7°48'W). In the description of Monod (1925) we find many similarities with the present species, such as form and setation of Mxp, A 1, A 2, pereopods, tail-fan. The Mx has the same form and number of teeth. There is no doubt that "*C.*" *liouvillei* belongs to the new genus *Monodanthura*. Some small differences make us think that the present species is a new one: the relative length of the pereonites is different (*M. liouvillei*  $3 > 6 = \text{cephalon} = \text{pleon}$ ), the palp of the Md of *M. liouvillei* has only 2 articles, the second article having more setae (10 instead of 5 to 6). Unfortunately the type material of Monod's species was not available for comparison.

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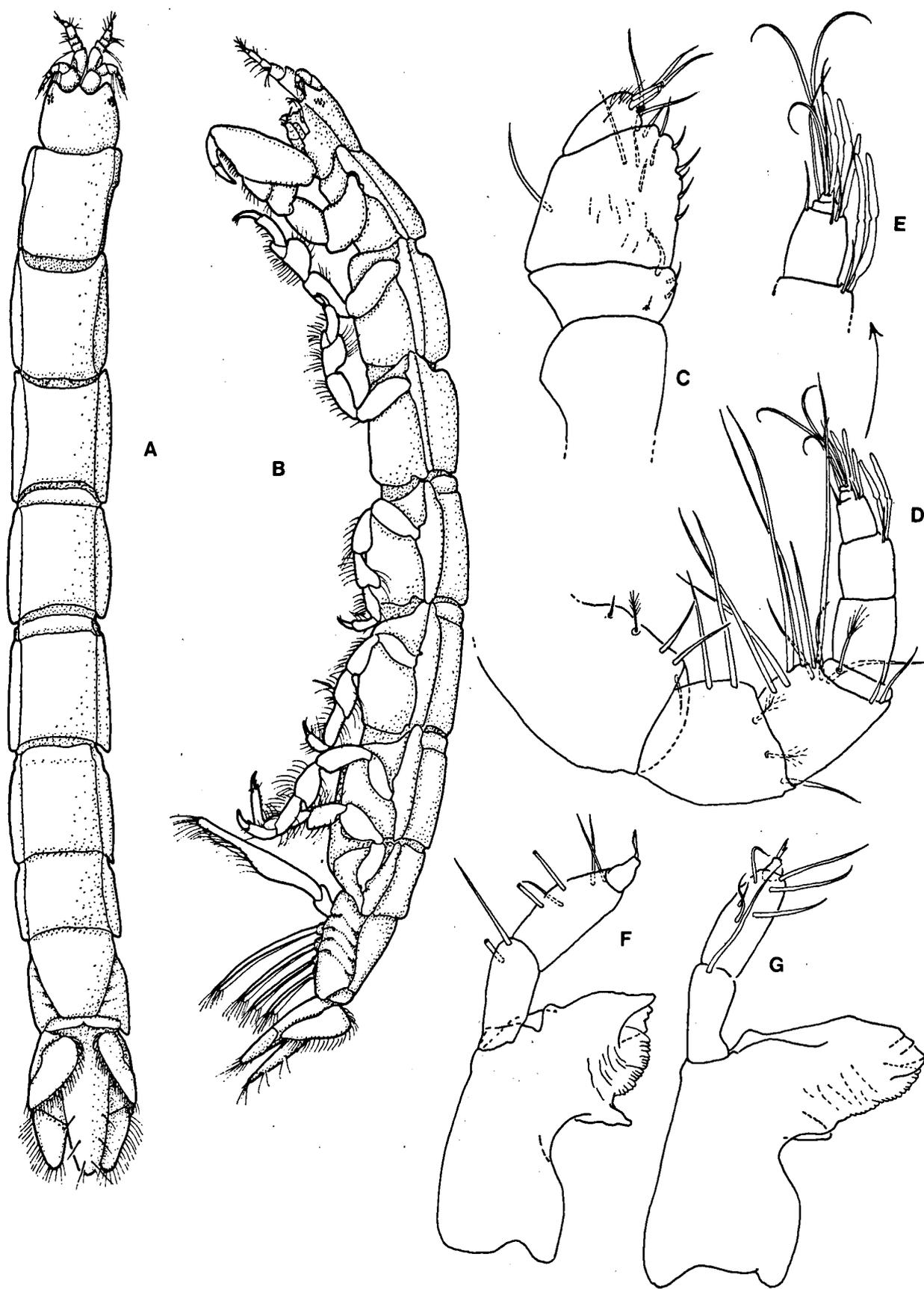


Fig. 1. *Monodanthura maroccana* nov.gen., nov.spec., holotype. A, B: animal in dorsal and lateral view; C: Mxp; D: A 1; E: last articles of A 1; F, G: both Md in different views.

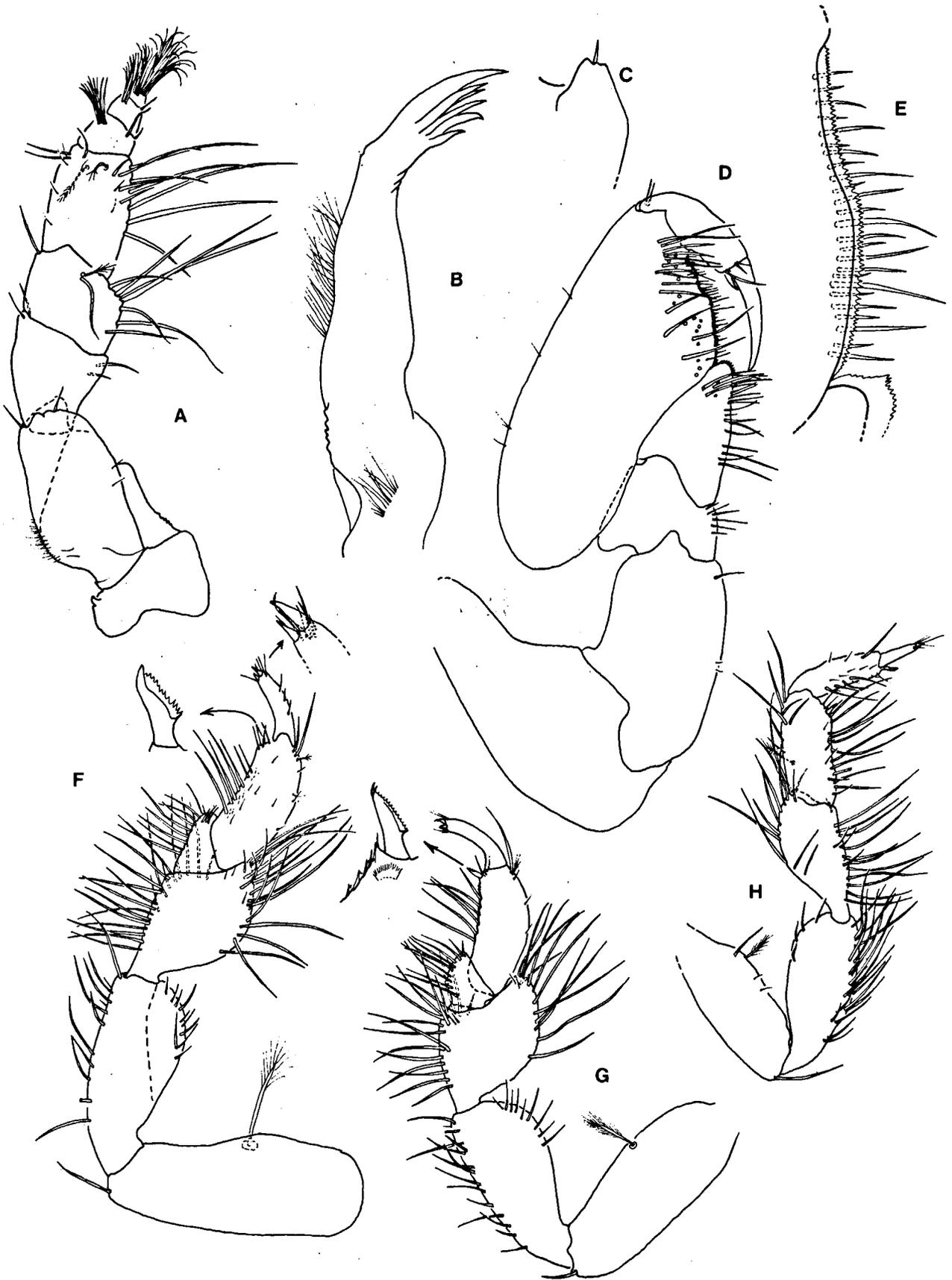


Fig. 2. *Monodanthura maroccana* nov.gen., nov.spec., holotype. A: A 2; B: lateral endite of Mx; C: medial endite of Mx; D: P1; E: palm of propodus of P1; F-H: P2 to P4.

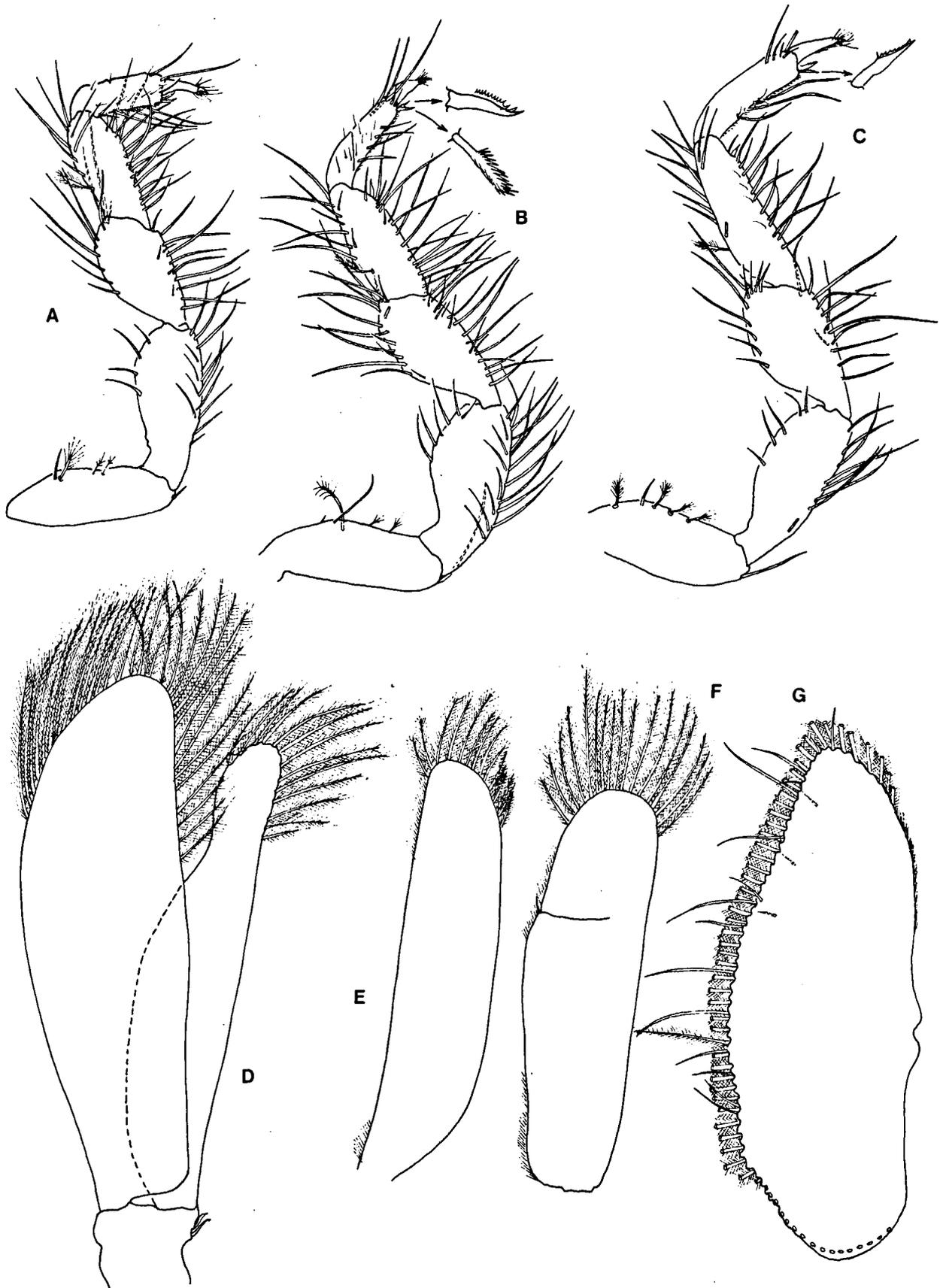


Fig. 3. *Monodanthura maroccana* nov.gen., nov.spec., holotype. A-C: P5 to P7; D: Plp 1; E: endopod of Plp 2; F: exopod of Plp 2; G: exopod of uropod, plumose setae cut off.

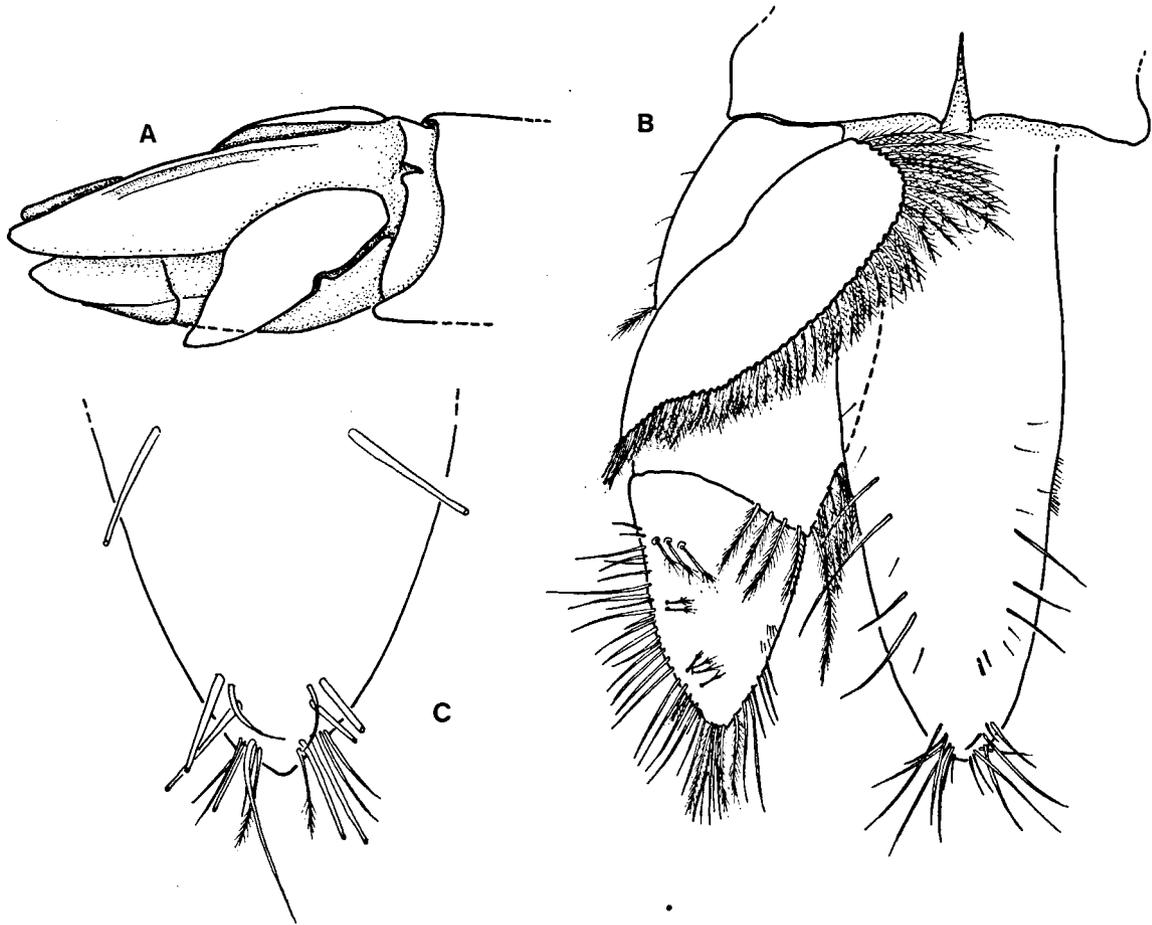


Fig. 4. *Monodanthura maroccana* nov.gen., nov.spec., holotype. A: tail-fan in dorsolateral view setae are omitted; B: left uropod and telson; C: apex of telson, long setae cut off.

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