

BULLETIN ZOOLOGISCH MUSEUM

 UNIVERSITEIT VAN AMSTERDAM

Vol. 8 No. 25 1982

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

(CRUSTACEA, ISOPODA, ANTHURIDEA)

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1982

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: $1 = 2 > 3 < 4 = 5 > 6 > 7$. 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.

ACKNOWLEDGEMENTS

The authors are indebted to Dr. Mohammed Ramdani of the Institut Scientifique de Rabat and

Mr. Theunis Piersma for making available the specimen they collected in Morocco; to Dr. L. Botosaneanu of the Zoölogisch Museum, Amsterdam for his useful remarks; to the "Prins Bernhard Fonds", the "Beyerinck Popping Fonds", the British Ecological Society and the British Ornithologist's Union for making possible the expedition.

REFERENCES

- HASWELL, W.A., 1881. On some new Australian marine Isopoda, part 1.- Proc. Linn. Soc. N.S.W., 5: 470-481.
- KENSLEY, B., 1975. A new anthurid from the Cape.- Zool. Afr., 10: 209-213.
- , 1978. Five new genera of anthurid isopod crustaceans.- Proc. biol. Soc. Wash., 91: 775-792.
- , 1979. Redescription of *Haliopasma barnardi* (Monod) from West Africa (Crustacea: Isopoda: Anthuridea).- Proc. biol. Soc. Wash., 92: 658-664.
- MENZIES, R.J. & GLYNN, P.W., 1968. The common marine isopod Crustacea of Puerto Rico.- Stud. Fauna Curacao, 27: 1-133.
- MILLER, M.A. & BURBANCK, W.D., 1961. Systematics and distribution of an estuarine isopod Crustacean, *Cyathura polita* (Stimpson, 1855) new comb., from the Gulf and Atlantic Seaboard of the United States.- Biol. Bull., 120 (1): 62-84.
- MONOD, T., 1925. Tanaidacés et Isopodes aquatiques de l'Afrique occidentale et septentrionale. I.- Bull. Soc. Sci. nat. Maroc., 5: 61-85.
- , 1927. Sur un Anthuride nouveau du Cameroun, *Notanthura barnardi*.- Bull. Soc. Zool., Paris, 52: 200-211.
- NORMAN, A.M. & STEBBING, T.R.R., 1886. On the Crustacea of the 'Lightning', 'Porcupine' and 'Valorous' expeditions.- Trans. zool. Soc. Lond., 12: 77-141.
- POORE, G.C.B. & KENSLEY, B., 1981. *Coralanthura* and *Sauranthura*, two new genera of anthurideans from Northeastern Australia (Crustacea: Isopoda: Anthuridae).- Proc. biol. Soc. Wash., 94: 503-513.
- WÄGELE, J.W., 1981. Zur Phylogenie der Anthuridea (Crustacea, Isopoda). Mit Beiträgen zur Lebensweise, Morphologie, Anatomie und Taxonomie.- Zoologica, Stuttgart, 132: 1-127.

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received : 16.II.1982
distributed : 23.VII.1982

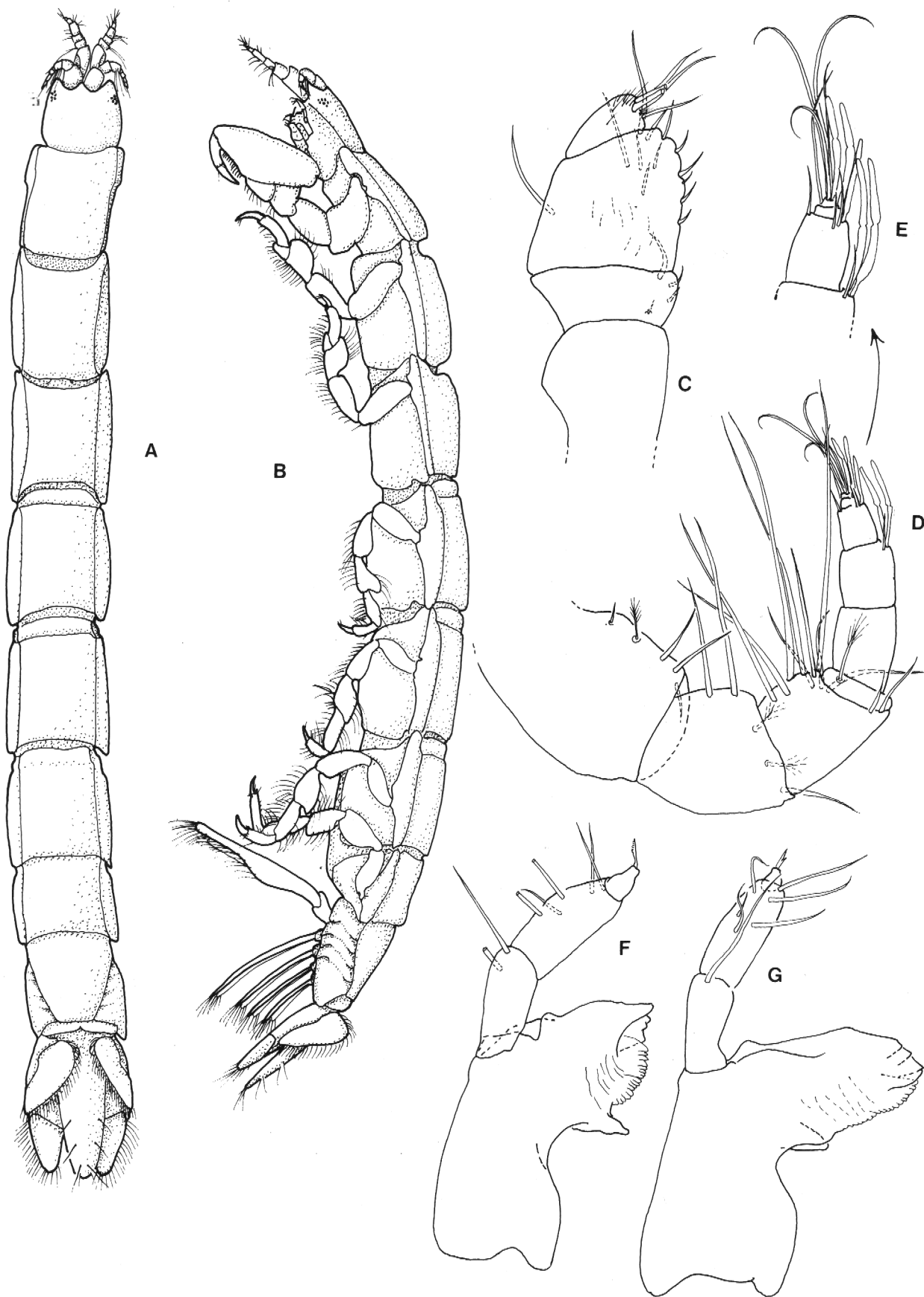


Fig. 1. *Monodanthura maroccana* nov.gen., nov.spec., holotype. A, B: animal in dorsal and lateral view; C: Mxp; D: A 1; E: last articles of A 1; F, G: both Md in different views.

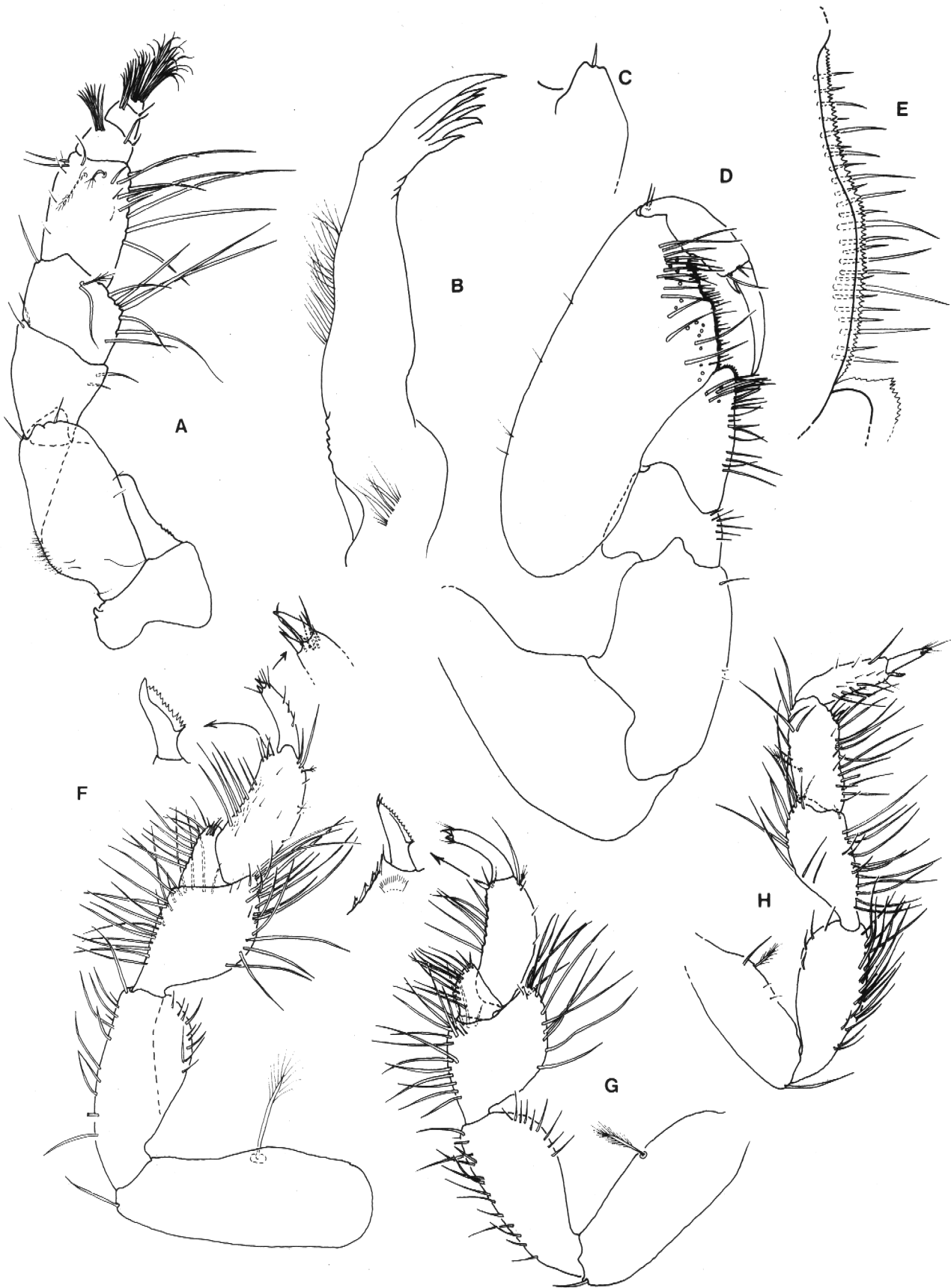


Fig. 2. *Monodanthura maroccana* nov.gen., nov.spec., holotype. A: A 2; B: lateral endite of Mx; C: medial endite of Mx; D: P1; E: palm of propodus of P1; F-H: P2 to P4.

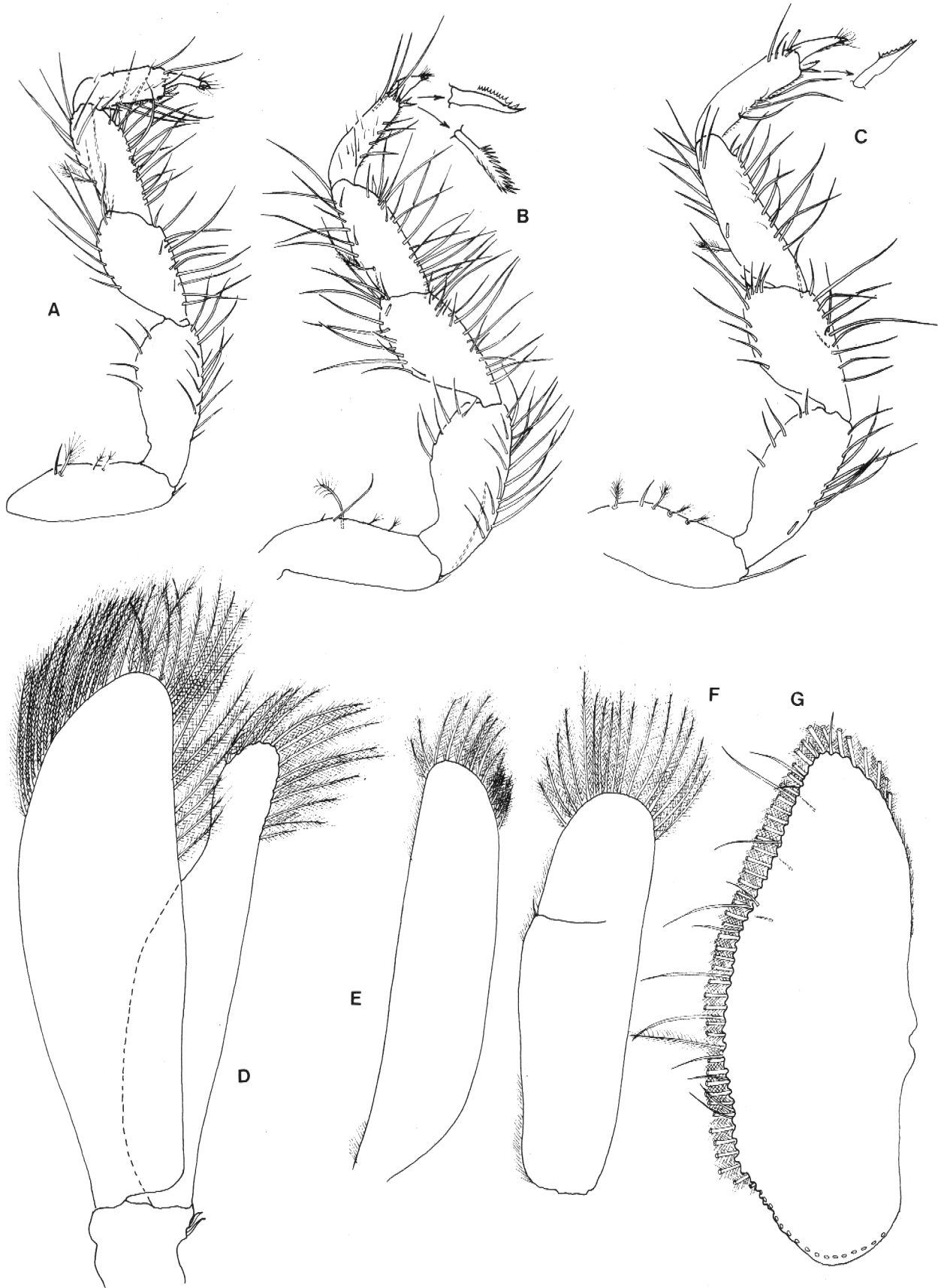


Fig. 3. *Monodanthura maroccana* nov.gen., nov.spec., holotype. A-C: P5 to P7; D: Plp 1; E: endopod of Plp 2; F: exopod of Plp 2; G: exopod of uropod, plumose setae cut off.

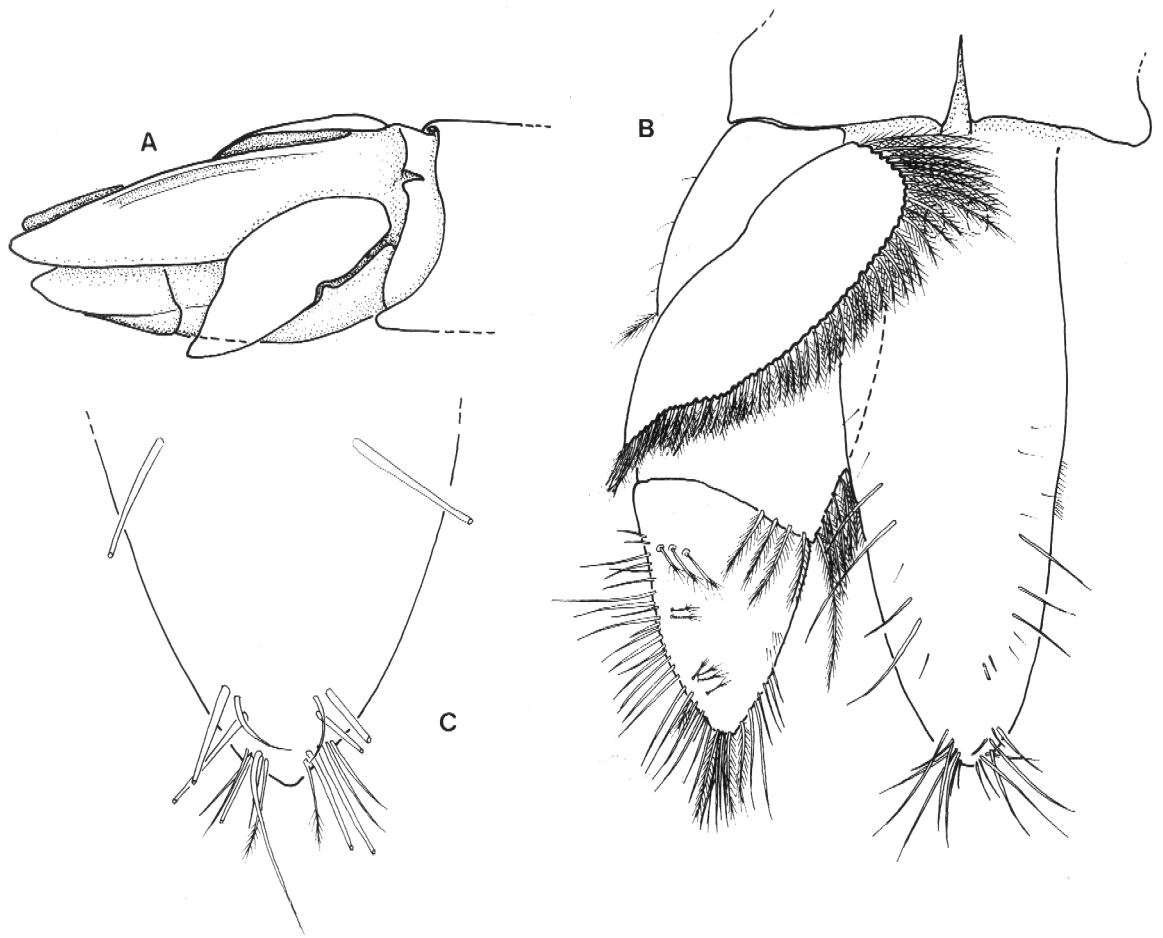


Fig. 4. *Monodanthura maroccana* nov.gen., nov.spec., holotype. A: tail-fan in dorsolateral view, setae are omitted; B: left uropod and telson; C: apex of telson, long setae cut off.