

***Parapseudoleptomesochra attirei* n.sp., a new species of *Nitocrella* from Nubia (Copepoda, Harpacticoida)**

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Abstract

Description of *Parapseudoleptomesochra attirei* from a well in a dry wadi bed at At Tire, Nubia. Its closest relative is found in a semidesert area in Iran. The chorological implications of this finding are briefly discussed.

Introduction

Relatively few freshwater species of *Nitocrella* s.l. have become known from Africa, but their number has kept increasing since Chappuis (1955) first described *Nitocrella africana* from the psammon (the sandy beaches) of Lake Tanganyika. Dumont & Decraemer (1974) described *Nitocrellopsis ioneli* from a well in the presahara to the south-east of the Atlas Mountains in Morocco, and this species was later rediscovered in the Hoggar Mountains, Central Sahara (Dumont, 1979). An undescribed *Nitocrella* s.l. was reported from a spring at Ain Essameur, Algerian Sahara (Dumont, 1981b), and, finally, *Nitocrella somalica* was added to the list (Dumont, 1981a). The latter species, recorded only from Somalia, is closely related to *N. neutra* Kiefer, which lives in the Yugoslavian karst.

During a sampling trip along Lake Nubia, Sudan, in March 1982, a sample was collected in a well (ca. 20 m deep) called At Tire, situated in the bed of a Ghor (or Khor = dry river bed) known by the same name, at the place where the disused Kitchener railway crosses its course. This sample contained a good series, in both sexes, of a *Nitocrella* s.l. species. According to the views of Lang (1965) and Petkovski (1976), it pertains to the genus *Parapseudoleptomesochra* Lang.

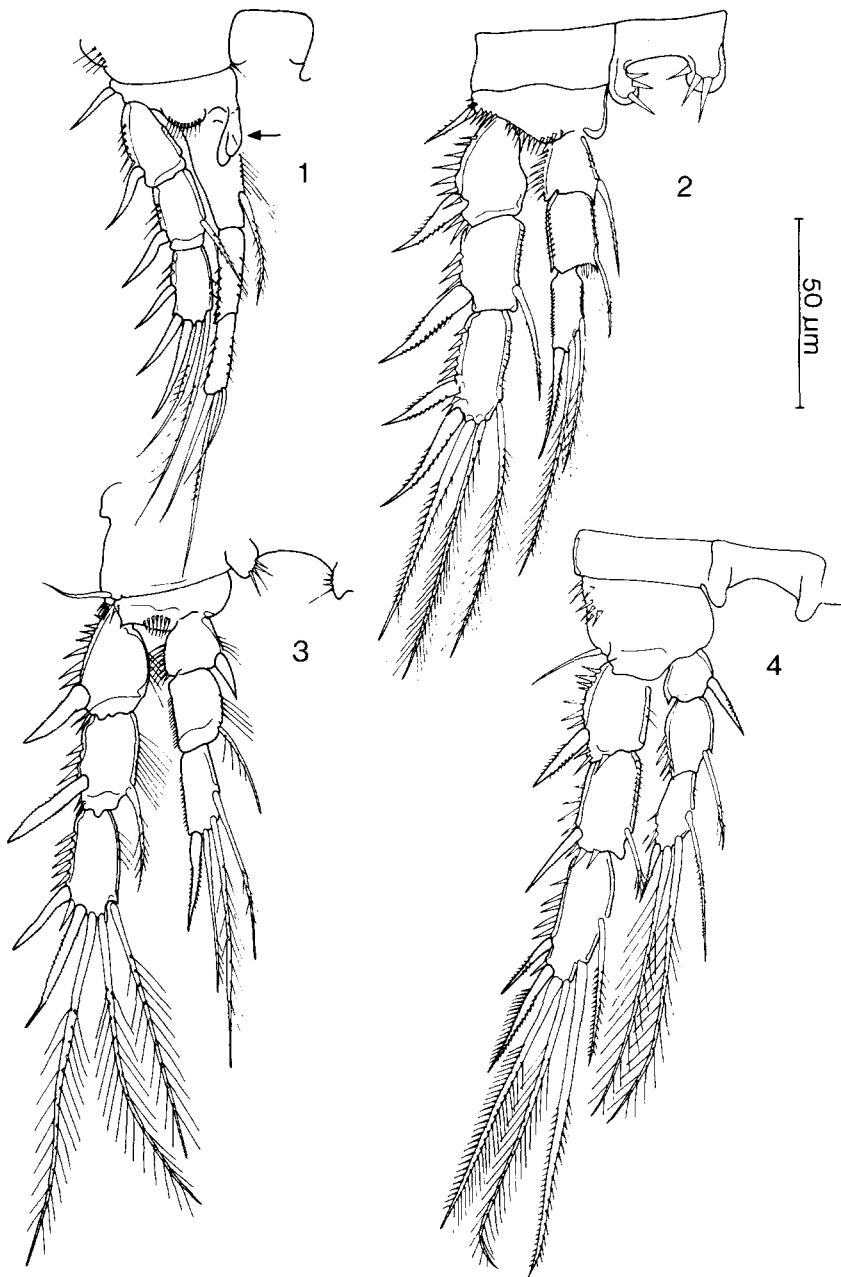
***Parapseudoleptomesochra attirei* n.sp.:** Figs. 1–8. Material: about 20 specimens, males and females. Holotype: a dissected, glycerin-mounted male, deposited at the Museum voor Midden Afrika, Tervuren, Belgium. Three females and three males are kept as paratypes in the author's collection.

Description. Total length 0.4–0.5 mm in both sexes.

Male. First antenna composed of 8 segments. A robust and long esthete on the apex of segment 5. All rami of thoracopods 1–4 (P1–4) 3-segmented. P1 with a bilobed process at the base of the endopodite. Armature: one internal seta on basal segment, three apical setae on 3rd segment (Fig. 1). Exopodite with external spine on basal segment, middle segment with external spine and internal seta, apical segment with 2 spines and 2 setae.

P2: connecting plate spinulated. Endopodite (Fig. 2): basal and middle segment with internal seta, apical segment with a spine and 2 setae. Exopodite: basal segment with external spine, middle segment with external and internal seta, apical segment with 2 spines and 3 setae.

P3: connecting plate with smaller spinules than on P2 (Fig. 3). Endopodite: basal segment with internal spine, middle segment with internal seta, apical segment with one spine and 3 setae. Exopodite as P2.

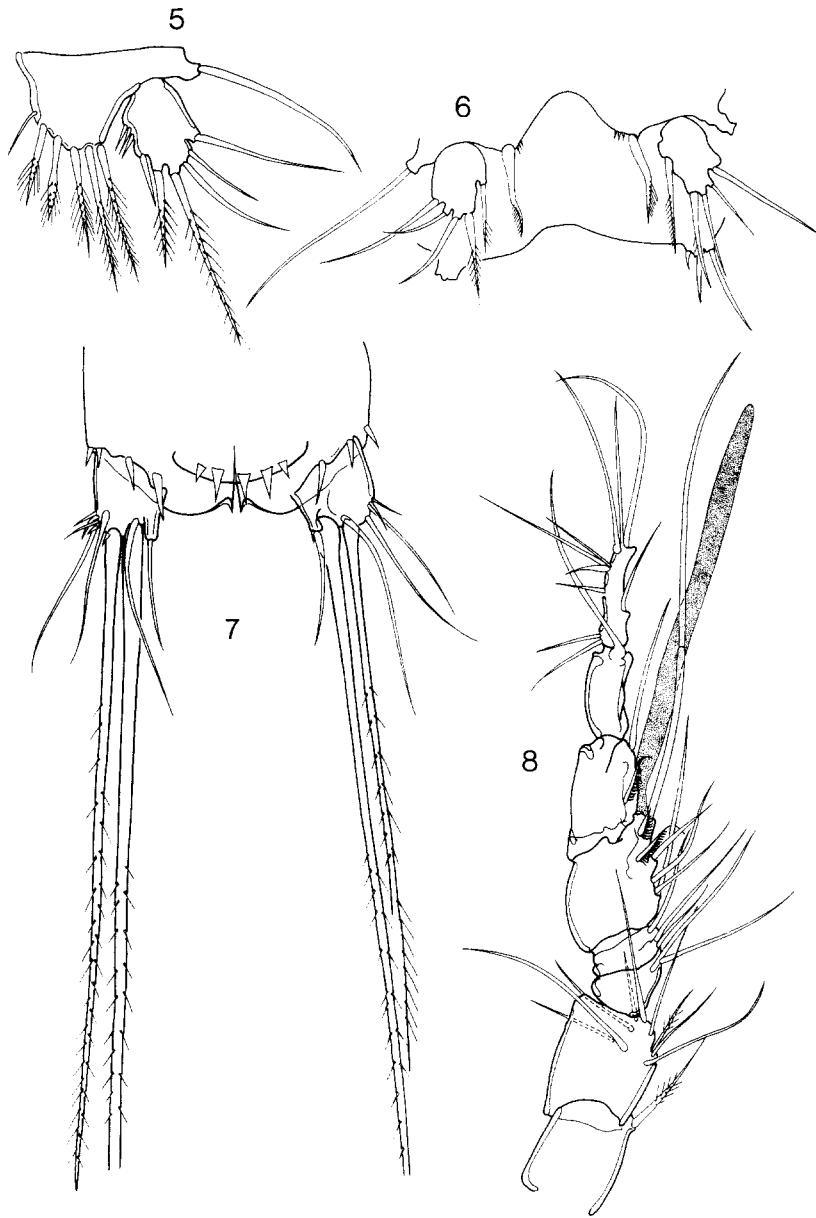


Parapseudoleptomesochra attirei n.sp. Fig. 1, male P1; Fig. 2, male P2; Fig. 3, male P3; Fig. 4, male P4.

P3: connecting plate with smaller spinules than on P2 (Fig. 3). Endopodite: basal segment with internal spine, middle segment with internal seta, apical segment with one spine and 3 setae. Exopodite as P2.

P4: precoxal plate with 2 lateral tubercles, but

without spinules. Endopodite as P3. Exopodite (Fig. 4): basal segment with external spine, middle segment with external spine and internal seta, apical segment with 2 spines and 4 setae. Two setae are apical and about equally long, two are internal. The basal one is short, about as long as the segment



Parapseudoleptomesochra attirei n.sp. Fig. 5, female, P5; Fig. 6, male, P5 and P6; Fig. 7, male, furcal area; Fig. 8, male, first antenna.

itself, while the distal one has the same length as the two apical setae.

P5 (Fig. 6): exopodite with 5 setae, its inner apical seta about as long as both other apical setae. Basoendopodite with only one seta. **P6** with 3 setae, the external one longest, the internal one shortest.

Furcal area (Fig. 7): anal operculum convex, rounded, set with 5 spines. Base of furcal rami with

3–5 spaced spines. Furcal rami as long as wide, with two external setae, a slightly longer dorsal seta, a short, inwardly curved internal seta, and two long terminal setae.

Female. Thoracopods 1–4 and habitus as in male. **P5** (Fig. 5): exopodite with 6 setae, basoendopodite with 6 setae, the two external ones of which are slightly longer than the 4 internal ones.

Differential diagnosis

The chaetotaxy, structure of P5 (and P6 in the male), and Furca are very distinctive. Only *P. iranica* Löffler, described from a well near Lake Niriz, south-west Iran, and known from a single male only, agrees with *P. attirei* in almost every respect. The differences between both, as far as can be judged in the absence of the female, are merely quantitative in nature. For example, the appendage on the basal segment of the endopodite of P4 in *iranica* appears to be a seta, not a spine as in *attirei*, and the inner apical seta on the 3rd segment of the exopodite in *iranica* is only slightly longer than half the length of the two apical setae, while in *attirei* these three appendages show the same length. Also, the inner apical seta on the endopodite of P1 in *iranica* is about half as long as the segment that bears it, while in *attirei* this appendix is as long as the segment. It finally appears (but this should be confirmed on more material of *P. iranica*) that the furcal rami in the latter species have 3 external setae, and that P6 is composed of only 2 appendages.

Biogeographical status

It is of considerable interest to find that the closest relative (perhaps both taxa are only subspecifically different) of *P. attirei* is found in Asia. The Mediterranean basin houses quite a few more species of *Parapseudoleptomesochra* (Petkovski, 1976), some of which occur in Greece (Pesce, 1981), but other freshwater species are found in Afghanistan (Sterba, 1973), and even as far east as Japan (Miura, 1962), so that *P. attirei* might well be a northern or an eastern element in the fauna of the Nile valley and of Africa. It is significant that *Nitocrella somalica* (Dumont, 1981a) displays a similar

relationship, and there are more examples in other groups of aquatic invertebrates (see Dumont, 1984). Although the freshwater phreatic fauna of Africa is in need of much biological exploration, the persistent presence of elements of palaeartic and oriental origin seems to be one of its widespread characteristics, doubtlessly linked to the absence of distributional barriers until the early Pleistocene.

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