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A NEW HARPACTICOID FROM PHREATIC WATERS OF MOROCCO, AND REMARKS ON THE GENUS

PRAELEPTOMESOCHRA LANG (CRUSTACEA COPEPODA: AMEIRIDAE) ¹⁾

(Researches in Africa by the Zoological Institute of L'Aquila. VII)

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ABSTRACT

Praeleptomesochra phreatica n.sp., an harpacticoid copepod from phreatic waters of Morocco is described. Since the new species shows some differences in comparison to the preliminary diagnosis of *Praeleptomesochra* by Lang (1965), the genus is emended. A key to the species of *Praeleptomesochra* is provided.

In the course of phreatobiological investigations in northern Africa, promoted by the Zoological Institute of the University of L'Aquila (Pesce et al., in press), a few specimens of an undescribed species of the genus *Praeleptomesochra* Lang were collected from a freshwater well in Morocco.

Since the new species revealed some differences in comparison to the other species of the

genus, the preliminary definition of *Praeleptomesochra* by Lang (1965) is provisionally extended.

The discovery of the present new species, described below as *Praeleptomesochra phreatica* n.sp. brings the total number of species of the genus *Praeleptomesochra* to four, the other ones being: *P. africana* (Kunz, 1951), from South-West Africa; *P. pygmaea* (Vervoort, 1964), from Ifaluk Atoll, Caroline Islands; and *P. similis* Lang, 1965, from the Californian Pacific coast.

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Praeleptomesochra phreatica n.sp.
(figs. 1-9)

Material.-

1♀ (holotype) and 2♀ (paratypes), dissected and mounted on three slides in Faure's medium, Morocco, fresh-water well at Sidi El Aydi, main road Casablanca-Marrakech; May 17, 1979; coll. M. de Simone (coll. Zoologisch Museum, University of Amsterdam, coll. nr.: Co. 102.691).

Diagnosis.-

A small, blind and unpigmented *Praeleptomesochra*, with elongated appendages. Endopod 1 of leg 1 shorter than the exopod., and about as long as the first two segments of the exopod together. Exopod 2 of legs 2-4 with an inner seta. Female P5, basiendopod with only one plumose spine. Male unknown.

Description.-

Body subcylindrical, not much elongated; total length, excluding antennulae, antennae and furcal setae, 0.35-0.42 mm; cephalothorax longer than wide; genital somites with trace of subdivision; genital fields ad in fig. 8. Last somite with 2 to 3 rows of hair-like setules and 9 to 10 short spinules on each side of the caudal rami; other abdominal somites with a single row of hair-like setules.

Anal operculum, distal margin slightly convex and armed with 10 to 11 stout spines.

Furcal rami subparallel, about as long as large ($L/1 = 1.10-1.15$) and armed with 5 marginal and 1 dorsal setae, and some small spinules on the outer and inner corners; dorsal seta long, longer than the outer and the inner apical ones; inner apical seta about twice longer than each furcal ramus.

Antennules 8-segmented, long and slender, reaching about the end of the 2nd thoracic somite; second segment the longest, 4th segment with an aesthete which almost reaches the tip of the antennula.

Antenna, exopod 1-segmented, armed with 3 apical, stout setae.

Mouthparts without particular characteristics. Leg 1 with 3-segmented exopod and endopod: basis with a small inner spine and an external, short seta; first segment of the endopod shorter than the exopod and about as long as the first two segments of the exopod together, and armed with an inner, short seta; segment 3 with 2 apical, subequal setae; segments of the exopod of about equal length, 2nd with inner seta, 1st and 2nd with external marginal spine, 3rd with total of 4 elements.

Leg 2 with 3-segmented exopod and 2-segmented endopod. Legs 3 and 4 with 3-segmented endopod and exopod. Details of the morphology and armature of the legs can be taken from figs. 1-4, and from the setal formula as shown in Table I.

Leg 5 (fig. 6) small: basiendopod scarcely prolonged and armed with 1 short spine; external lobe prominent and with a long, fine seta; exopod about 1.4 times longer than wide, with 5 appendages (2 long and slender setae and 3 spiniform elements of different size).

Leg 6 consisting of a chitinous lamella bearing two, short spinules.

Distribution and ecology.-

Praeleptomesochra phreatica n.sp. is at present known from a phreatic subterranean habitat in Morocco (North Africa), representing the only record of the genus for this country.

The new species lives in a freshwater well (depth 10.5 m; water level on 3.0 m; water temperature 16.4°C; pH 7; bottom sediment: organogenic sandstone) in association with another harpacticoid copepod species, *Attheyella* (*Attheyella*) *crassa* (Sars) and the following other groups: cyclopid copepods [*Thermocyclops dybowskii* (Landé)]; ostracods; asellid isopods (*Proasellus coxalis peyerimohoffi* Racovitza); microparasellid isopods (*Microcharon marinus* Chappuis & Delamare Debutteville); amphipods (*Metacrangonyx spinicaudatus* Karaman & Pesce); oligochaetes and some mosquito larvae.

P. phreatica, because of its morphological as well as ecological features, could be considered as a recent (stygophilous) immigrant in the subterranean biocenoses.

Table I. Setal formula of legs 2 to 4 in the species of the genus *Praeleptomesochra* Lang.

	P2		P3		P4	
	exp.	enp.	exp.	enp.	exp.	enp.
<i>Pr. africana</i>	0 0 023	- 1 120	0 0 023	1 0 120	0 0 023	1 0 121
<i>Pr. similis</i>	0 0 023	- 1 120	0 0 023	1 0 120	0 0 023	1 0 121
<i>Pr. pygmaea</i>	0 0 023	- 1 120	0 0 023	1 1 021	0 0 223	1 1 221
<i>Pr. phreatica</i>	0 1 022	- 0 020	0 1 122	0 0 020	0 1 122	0 0 020

Remarks.-

Praeleptomesochra phreatica n.sp. shows all the characteristics of the genus *Praeleptomesochra* as defined by Lang (1965), except for the exopod of the antenna 1-segmented (versus 2-segmented), the short first segment of the endopod of P1 (versus much longer than the exopod), and the presence of an inner seta on the second segment of all the exopods (Table I).

The discovery of the new species necessitates extending the definition of the genus to include the above characteristics; therefore, I propose the following diagnosis for the genus:

Praeleptomesochra Lang, 1965 (emended)

Antennula 8-segmented, in male haplocere. Antenna with basis and 1- or 2-segmented exopod. Mandible without exopod. Maxilliped prehensile. First leg with 3-segmented rami; second leg with 3-segmented exopod and 2-segmented endopod; third and fourth legs with both rami 3-segmented. Exopod of fifth leg with 4 or 5 setae in female, 3 setae in male; basiendopod with 1 to 3 setae in female and 1 or 2 setae in male. Inner spines of basis of first leg in male transformed. Basiendopodites of leg 5 in male confluent. Leg 6 in male forming a single plate. Eggs arranged in two rows.

Genotype: *Pr. africana* (Kunz, 1951).

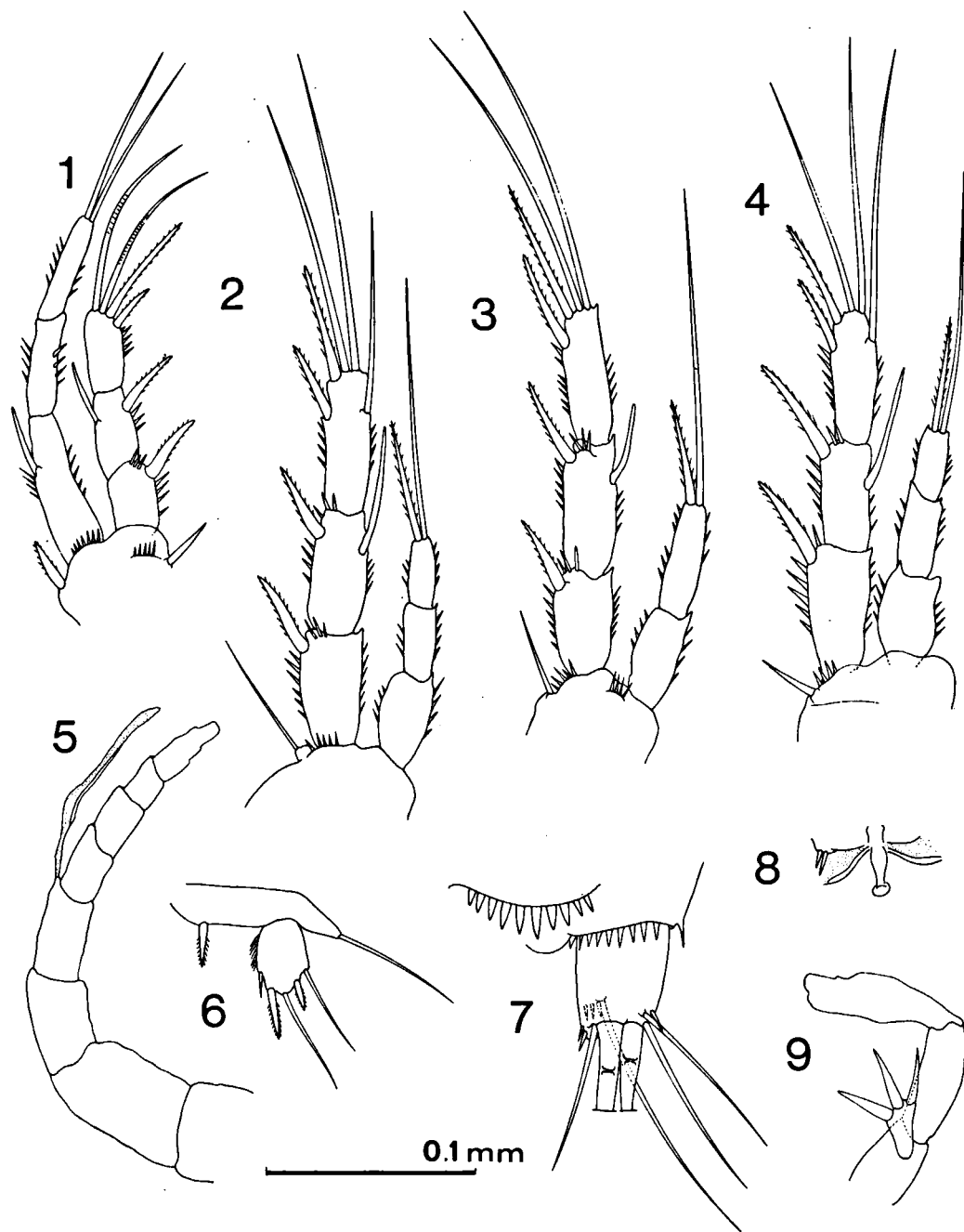
Distribution: Africa, North America, Caroline Islands.

KEY TO THE SPECIES OF *PRAELEPTOMESOCHRA*

1. Segment 1 of endopod of leg 1 shorter than exopod..... *Pr. phreatica*
- . Segment 1 of endopod of leg 1 longer than exopod..... 2
2. Segment 3 of endopod of leg 4 with 5 elements..... *Pr. pygmaea*
- . Segment 3 of endopod of leg 4 with 4 elements..... 3
3. Exopod of P5 (♀) with 5 setae, inner edge bare; basiendopod (♂) with 1 seta....
..... *Pr. africana*
- . Exopod of P5 (♀) with 4 setae, inner edge with long hairs; basiendopod (♂) with 2 setae..... *Pr. similis*

REFERENCES

- KUNZ, H., 1951. Marine Harpacticoiden aus dem Küstensand von Südwestafrika.- Kiel. Meeresforsch., 8 (1): 76-81.
- LANG, K., 1965. Copepoda Harpacticoidea from the Californian Pacific coast.- Kgl. Sv. Vetensk. akad. Handl., 10 (2): 1-560.
- PESCE, G.L., TETE, P. & SIMONE, M. de, in press. Ricerche in Africa dell'Istituto di Zoologia de L'Aquila, VI. Ricerche faunistiche in acque sotterranee freatiche del Maghreb (Tunisia, Algeria, Marocco e dell'Egitto. Natura.
- VERVOORT, W., 1964. Free-living Copepoda from Ifaluk Atoll in the Caroline Islands with notes on related species.- Smiths. Inst. Bull., 236: 1-431.



Figs. 1-9. *Praeleptomesochra phreatica* n.sp., 1, leg 1; 2, leg 3; 3, leg 2; 4, leg 4; 5, antennula; 6, leg 5 (♀); 7, furcal and anal operculum; 8, genital field; 9, antenna.

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