

DISCOVERY OF THE FIRST REPRESENTATIVE OF THE GENUS
NEOCYCLOPS GURNEY (COPEPODA, HALICYCLOPINAE)
IN GROUNDWATER OF ITALY¹⁾

BY

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During extensive stygobiological researches, conducted by the "Dipartimento di Scienze Ambientali" of the University of L'Aquila (Italy), between 1974 and 1980, on groundwater of south Italy, many cyclopid and harpacticoid copepods, for the greater part discussed in detail elsewhere (Pesce et al., 1978; Pesce, 1983; Pesce et al., in press), were obtained.

More recent sampling in brackish underground habitats of the same region, viz. in the lake of "Cocito", Zinzulusa cave, near Otranto (Apulia, south Italy), to our great surprise yielded some specimens of the rare cyclopid copepod *Neocyclops remanei mediterraneus* (Kiefer, 1960).

Biogeographically, the above discovery is noteworthy since the genus *Neocyclops* was previously unrecorded from Italy, while *N. remanei mediterraneus* was known only from the type-locality, viz. groundwaters of Minorca (Balearics), in the Old World, and from coastal groundwaters of Cuba, in the New World.

The material was entrusted to us for study through the kindness of Dr. B. Cicolani and Dr. A. Di Sabatino, at present attached to our Department, to whom we wish to express our sincere thankfulness.

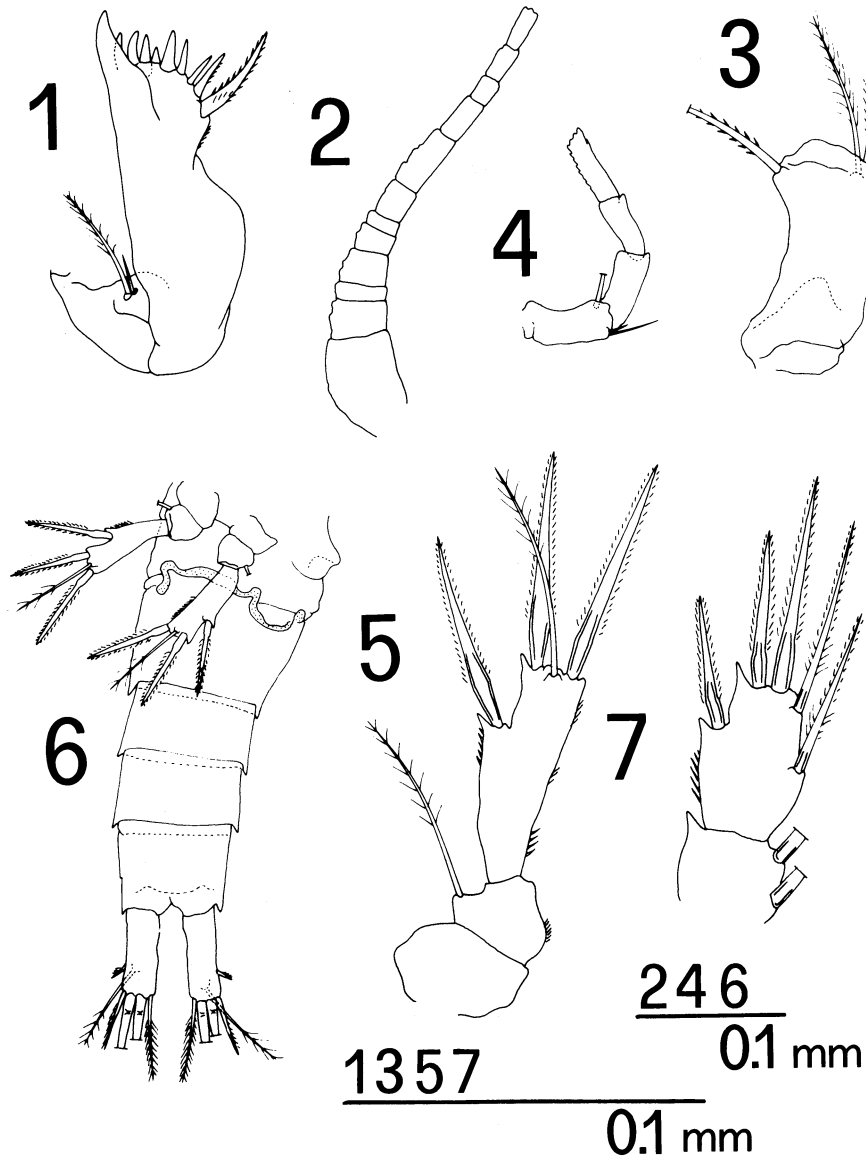
***Neocyclops remanei mediterraneus* (Kiefer, 1960) (figs. 1-8)**

Material. — 2 ♀♀, dissected and mounted on coverlips in Faure's medium, first author's collections, "Dipartimento di Scienze Ambientali", University of L'Aquila, Italy (nn.P.N1; P.N2); 1 ♀, dissected and mounted as above, collections of the Zoologisch Museum, University of Amsterdam, Netherlands. The specimens were collected in the Zinzulusa cave, lake of Cocito, Otranto (south Italy); coll. B. Cicolani; 2.VII.1985. The abiotic characteristics of the collecting locality, collection methods and biological association, are given in Pesce et al. (1978).

Supplementary description. — A large *Neocyclops*; body length, excluding antennulae and caudal setae, ranging from 0.80 to 0.87 mm. Both thoracic and abdominal somites, dorsally and ventrally naked; genital somite longer than wide, receptaculum seminis without particular characteristics.

Furcal rami short (length/width ratio 2.75 to 2.77), subparallel and well divaricated; innermost distal seta long, about 1.35 times longer than the outermost spine; dorsal seta slightly longer than furcal ramus.

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Figs. 1-7. *Neocyclops remanei mediterraneus* (Kiefer), ♀. 1, mandible, palp; 2, antennula; 3, antenna, basipodite; 4, antenna; 5, P₅; 6, abdomen, P₅, genital field and furcal rami (ventral view); 7, endopod 3 of P₄.

Antennula 12-segmented, reaching about 2/3 of the cephalothorax; segments 8 and 9 elongated. Antenna 4-segmented; basipodite with exopod, but without particular armature both on the frontal and caudal sides.

Swimming legs, spine formula of the exopods: 3-4-4-3. Distal segment of the endopod of leg 4, about 1.38 times longer than wide, and armed with 3 spines

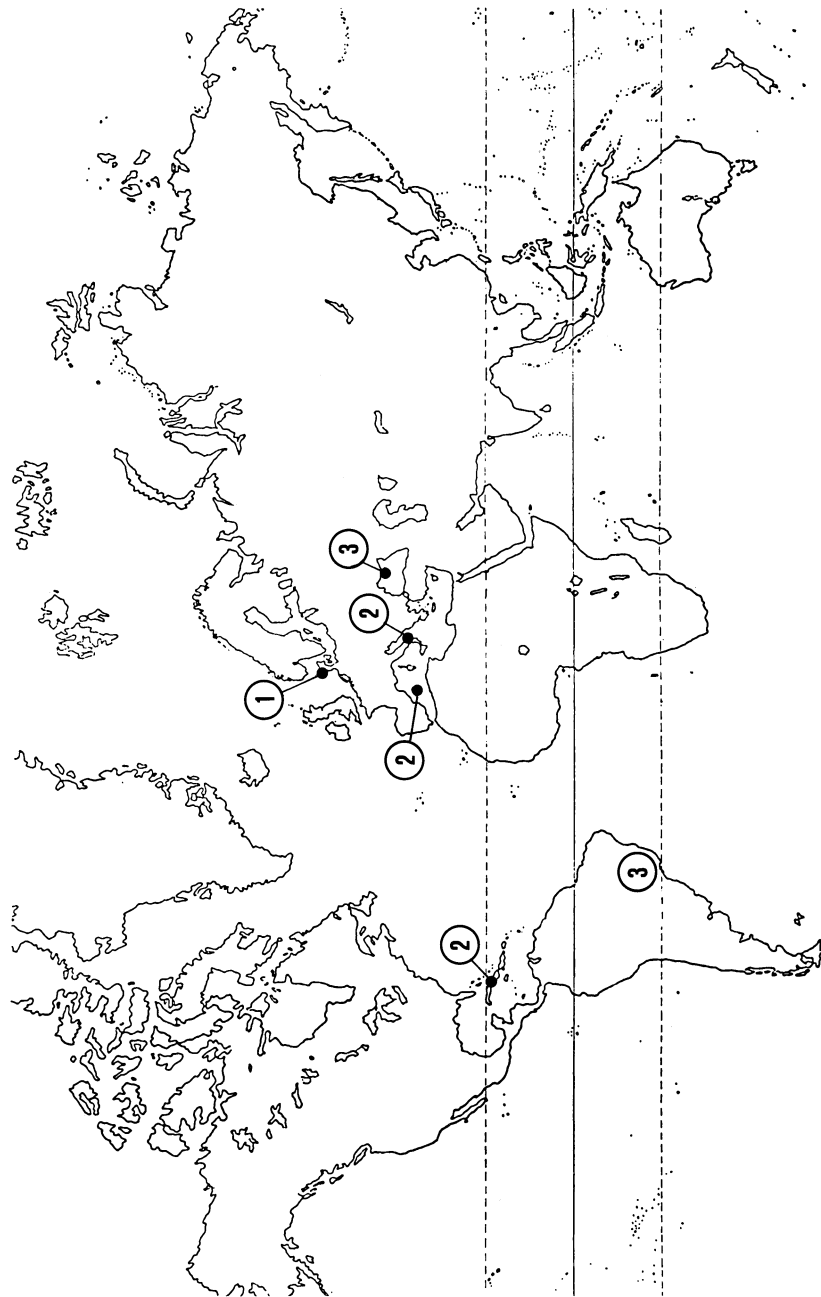


Fig. 8. Distribution of *Neocyclops remanei* and its subspecies: 1. *N. remanei remanei* (Herbst); 2. *N. remanei mediterraneus* (Kiefer); 3. *N. remanei vicinus* (Herbst).

and 2 transformed setae; the longest spine much longer than the segment. Leg 5 composed of 3 segments, the distal one elongated (length/width ratio 3.2 to 3.4) and armed with 3 spines, the innermost longer than the distal segment, and one apical plumose seta.

Remarks. — The genus *Neocyclops* Gurney, 1927 (= *Eurycyclops* Sewell, 1949 = *Pareuryte* Herbst, 1952, according to Plesa, 1981) shows a worldwide distribution, being found both in the New and in the Old World, and most prolific in epigeal and underground waters of the tropical and subtropical regions.

On the other hand, it is poorly represented in the Mediterranean area, where only two species, *N. salinarum* Gurney, 1927 and *N. remanei* (Herbst, 1952) were known, the former from Suez and the Camargue, the latter from the coasts of the Black Sea (*N. remanei vicinus* Herbst, 1955) and from interstitial habitats of the Balearics (*N. remanei mediterraneus*) (fig. 8).

N. remanei mediterraneus was first described by Kiefer (1960), as *Pareuryte mediterranea*, from cave waters of Minorca (Balearics). Later on the subspecies was recorded from coastal groundwaters of Cuba by Plesa (1981); a wide gap in geographical distribution separating these localities.

The material from Italy, following Plesa's key to the species and subspecies of the genus, must undoubtedly be ascribed to *N. remanei mediterraneus* due to the presence of elongated spines on the distal segment of the endopod of leg 4, the ratio between innermost and outermost distal furcal setae, as well as the construction and armature of the antennula and swimming legs. The collection from groundwater of south Italy is the first record of the subspecies, as well as of the genus *Neocyclops*, in Italy.

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