

*METACYCLOPS GELTRUDEAE* N. SP., A NEW CYCLOPID FROM  
GROUND WATERS OF VENEZUELA (COPEPODA, CYCLOPIDAE)

BY

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ABSTRACT

*Metacyclops geltrudeae* n.sp. is described from ground waters of North Venezuela. The new species fits the *gracilis* group of *Metacyclops* sensu Lindberg (1961), being close to *Metacyclops dentatus* (Plesa, 1981) from Cuba.

RÉSUMÉ

Une nouvelle espèce du genre *Metacyclops* Kiefer, *Metacyclops geltrudeae* n.sp., est décrite des eaux souterraines hyporhéiques du nord du Venezuela. La nouvelle espèce est incluse dans le groupe *gracilis* de *Metacyclops* sensu Lindberg (1961), et elle est très proche de *Metacyclops dentatus* (Plesa, 1981) de Cuba.

INTRODUCTION

Cyclopoid copepods collected from different groundwater habitats in North Venezuela in the course of recent Amsterdam Expeditions to Venezuela and Colombia, and entrusted to us for study, included a new species of the genus *Metacyclops* which is herein described as *Metacyclops geltrudeae* n.sp.

The discovery of this species brings the total number of species/subspecies of the genus *Metacyclops* from Venezuela to seven, the others being: *M. mendocinus* (Wierzejski, 1892); *M. leptopus venezolanus* Kiefer, 1956; *Metacyclops leptopus mucubajensis* Kiefer, 1956; *M. curtispinosus* Dussart, 1984; *M. tredecimus* (Lownes, 1934); and *M. subequalis* Dussart, 1984.

MATERIAL AND METHODS

Permanent mounts were made in polyvinyl lactophenol medium with chlorazol; specimens were drawn at magnifications of 400× and 1000×, the latter by using an oil immersion lens and a 'camera lucida' mounted on a Leitz Laborlux/S microscope.

Types were deposited in the first author's collections at the 'Dipartimento di Scienze Ambientali', University of L'Aquila, Italy.

The following abbreviations are used in the descriptive text and figures:

A1=antennula; A2=antenna; Mx1=maxillula; Mx2=maxilla; Mxp=maxilliped; P1-P6=1st to 6th swimming legs; Enp2=2nd segment of the endopodite; Te=outer apical caudal seta; Ti=inner apical caudal seta.

Cyclopidae G.O. Sars, 1906

*Metacyclops* Kiefer, 1927; sensu Lindberg, 1961

***Metacyclops geltrudeae* n. sp. (figs. 1-7)**

Type material. — 1 ♀ (holotype), st. 82/535, Venezuela, 2.5 km from Curnao (hyporheic habitat); 10°36'46"N - 65°22'04"W; 6 March 1982, coll. L. Botosaneanu. 1 ♀ (paratype), st. 82/572, Venezuela, San Casimiro, 4 km from Samanuloeng, Rio Rafael (hyporheic habitat), 09°50'29"N - 66°55'08"W; 10 March 1982, coll. L. Botosaneanu.

Description. — Body length, excluding furcal setae and antennulae, 0.426 mm (holotype), 0.300 mm (paratype). Genital segment wider than long (length/width ratio about 0.85), with antero-lateral margins rounded; posterior lateral margins with small protuberances. Abdominal segments with ventral posterior margin irregularly indented. Anal somite short; anal operculum not well defined.

Caudal rami short, about 2.7 times longer than wide; Ti slightly longer than Te (1.15:1); dorsal seta slightly longer than Te (1.1:1); lateral seta inserted at the distal three-fifths of ramus.

A1 11-segmented, shorter than prosomite 1. A2 4-segmented; exopodal seta short and slender, overreaching the distal end of segment 3; segment 1 with 2 groups of small spinules. Mx1, Mx2, Mxp and other mouthparts without particular characteristics.

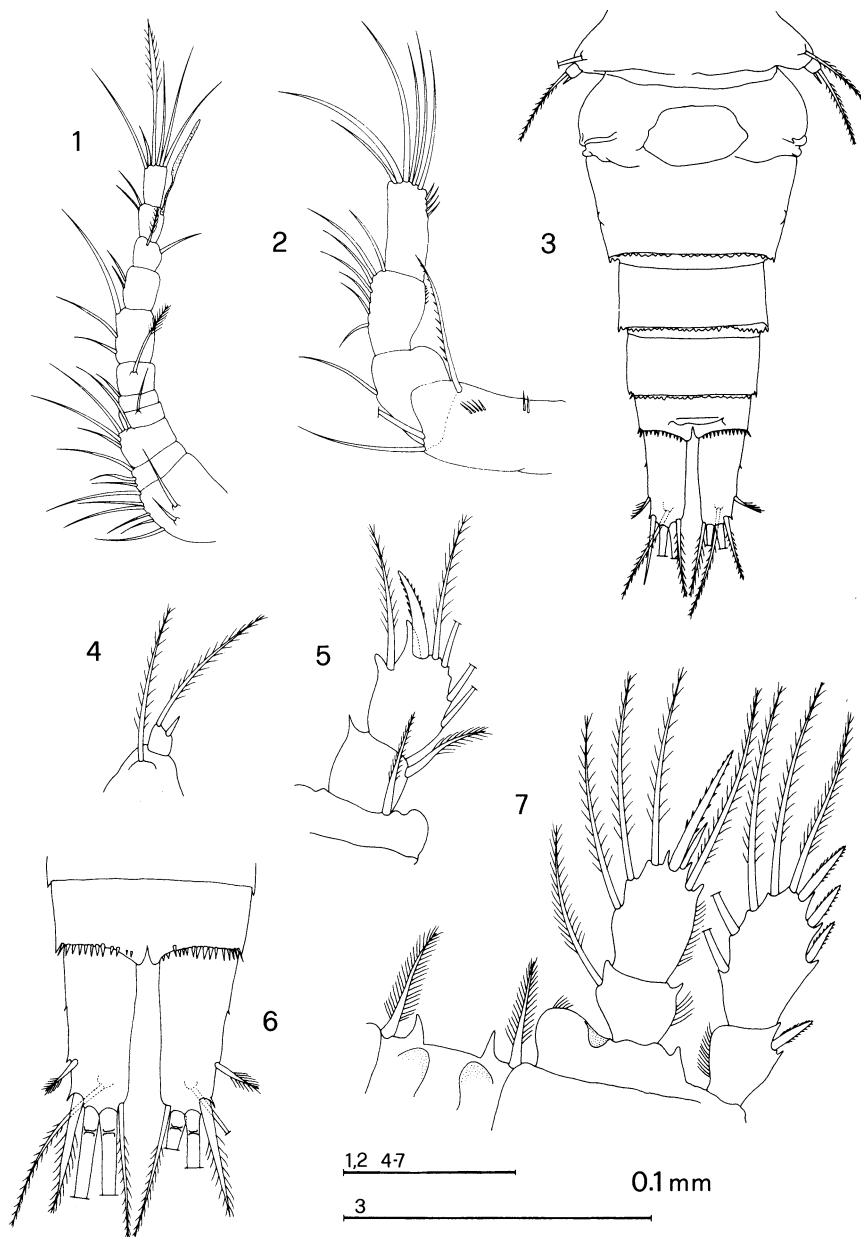
Swimming legs (P1-P4) with both rami 2-segmented; spine formula of distal segments of exopodite 3.4.4.3. Basipodite of P1 armed with a spine reaching about midlength of distal segment of endopodite. P4, intercoxal plate with two well developed spiniform expansions; distal segment of endopodite 1.45 times longer than wide, armed with 3 inner and 1 outer setae, and 2 distal spines, the inner the longest and about 2.50 times longer than the outer one and 1.15 times longer than the article. P5 consisting of one fused and one free article; free article slightly longer than wide, armed with one long lateral seta and one short medial spine.

Male unknown.

Etymology. — Name of the species after Dr. Geltrude Chiappini, at present attached to our Department, who contributed to the present paper.

Affinities. — *Metacyclops* Kiefer, 1927, sensu Lindberg (1961) is a tropical and temperate genus, which to date includes 51 named species and subspecies, 14 of them are known from South America.

Lindberg (1961) divided the genus in two morphological groups, viz. *minus-tus*-group, characterized by 1 distal spine on the Enp2 of P4, and *gracilis*-group, with 2 distal spines on the same article.



Figs. 1-7. *Metacyclops geltrudeae* n.sp. 1, antennula; 2, antenna; 3, abdomen and furcal rami, ventral view; 4, P5; 5, endopodite of P1; 6, furcal rami, ventral view; 7, P4.

Later on, Herbst (1988) published a world list and a key of 46 currently recognized species and subspecies, together with their geographical distribution. Reid (1991) added to the above list *Mesocyclops pseudoanceps* Green, 1962, which proved to be a *Metacyclops*. The following species have successively been described: *M. postojnae* Branceli, 1987, from Yugoslavia; *M. janstocki* Herbst, 1990, from the West Indies (Antigua); *M. leptopus totaensis* Reid et al., 1990, from Colombia and *M. cushae* Reid, 1992, from U.S.A. (Louisiana).

Following Lindberg's review of the genus, *Metacyclops geltrudeae* n.sp. is a member of the *gracilis*-group, but it does not match any species in Herbst's key of *Metacyclops*, because of the combination of the following characters: length ratio between inner and outer apical spines on distal article of Enp2 of P4; length of the apical inner spine on Enp2 of P4 as compared to the length of the article; lateral protrusions on genital segment not well developed; well developed spines on the intercoxal plate of P4; length ratio between Ti and Te.

The morphologically most similar species seems to be *M. dentatus* (Plesa, 1981) from Cuba. The new species resembles *M. dentatus* in the 11-segmented A1, the presence of 2 spines on Enp2 of P4, the presence of lateral protrusions on the genital segment and the armature of the intercoxal plate of P4; principal differences are the different length ratio between apical spines on Enp2 of P4 (2.55 in *M. geltrudeae* n.sp., 1.66 in *M. dentatus*), the length ratio between inner apical spine on Enp2 of P4 and article (1.15 in *M. geltrudeae* n.sp., 0.51 in *M. dentatus*), different length ratio between Ti and Te, lateral protuberances on genital segment less developed and more developed spines on the intercoxal plate of P4.

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