Riv. Idrobiol., **33**, 1/2/3, 1994

G. L. PESCE & P. DE LAURENTIIS

FIRST RECORD OF THE GENUS *NEOELAPHOIDELLA* APOSTOLOV FROM ITALY, AND DESCRIPTION OF *NEOELAPHOIDELLA APOSTOLOVI* N. SP. (CRUSTACEA COPEPODA: CANTHOCAMPTIDAE)

Key words: Crstacea, Copepoda, *Neolaphoidella*, Italy.

SUMMARY

Neoelaphoidella apostolovi n. sp. is described from the sandy bed of the Vomano river (central Italy). The new species most closely resembles *N. winkleri* Chappuis, from Rumania, from which it differs by a combination of morphological characteristics, such as the sexual dimorphic setation of legs 2-4, the naked anal operculum and the armature of caudal rami.

The genus *Neoelaphoidella* is for the first time recorded in Italy.

During routine identification of epibenthic and interstitial copepod communities of central Apennines (Italy), samples taken from the stream bed of the Vomano river (Teramo, Abruzzo), yielded a new species of harpacticoid of the genus *Neoelaphoidella* Apostolov, which is herein described as *Neoelaphoidella apostolovi* n. sp.

The genus *Neoelaphoidella* is for the first time recorded in Italy.

Family CANTHOCAMPTIDAE Sars, 1906; Monard, 1928
Genus NEOELAPHOIDELLA Apostolov, 1985
Neoelaphoidella apostolovi n. sp.
(Figs. 1-12)

Material examined - One female (holotype) and one male (allotype), dissected and mounted on slides in polyvinyl lactophenol (senior author's collections); hyporhcic, Vomano river, near Ortolano (Teramo, Italy), elevation 995 m a.s.l. Stream bed mostly sandy and about 20-30 cm deep; water temperature: 9°C; O_2: 10 mg/l; pH: 7.5; electr. conducibility: 300 µMHOS; Ca^{++}: 64 mg/l; NO_2: 0.05 mg/l; chlorinity less than 25 mg/l. Co-occurring copepod fauna: *Megacyclops viridis* Jurine, 1820, *Bryocamptus*

pygmaeus Sars, 1863, *Bryocamptus minutus* Claus, 1823, *Bryocamptus zschokkei* Schmeil, 1893. November 10. 1993, coll. Paola De Laurentiis.

Drawings were made at 400x and 1000x, the latter with oil immersion, using a Leitz Laborlux S microscope fitted with "camera lucida".

Lengths were measured from the anterior tip of the rostrum to the end of the caudal rami.

Holotype and allotype deposited in the senior author's collections, at the "Dipartimento di Scienze Ambientali", University of L'Aquila (Italy) (GLP/H.032-033).

Description.(Holotype) - Body subcylindrical. Length, excluding caudal setae, 540 µm. Body widest at first prosomite; lateral margins of prosomites 3 and 4 rounded. Genital segment enlarged, genital receptacle as usual in the genus (Fig. 3). Urosomites 3 and 4 and anal somite slightly broader than long; two urosomites posterior to genital segment each with hyaline fringes on posterior margin. Anal somite with a row of numerous spinules near posteroventral margin; anal operculum smooth, slightly convex.

Caudal rami (Fig.6) subovate, about 1.5 times longer than broad, with dorsal, terminally hooked longitudinal keel, armed with numerous spines along the inner margin, and a longitudinal row of fine hairs (indicated by arrow); dorsal seta shorter than furcal ramus, and inserted lateral to end of keel; one median and one outer terminal setae, outermost the shorter; terminal inner seta rudimentary, consisting of a small conic protuberance; two long lateral setae.

Antennule of eight articles, article 4 with long estheasc, overreaching end of the antennule; remaining setation as in Fig.1. Antenna biarticulate, exopodite uniarticulate with four plumose setae.

Mouthparts without particular characteristics as compared to those of the other species in the genus.

Legs 1-4 each with triarticulate exopodite; endopodite of legs 1-3 each biarticulate, endopodite of leg 4 uniarticulate. Couplers of all legs without ornament.

Formula for major armament as follows:

	Basis	Exp.				Enp.	
Leg1	1-1	0-1	0-1	121	-	0-0	020
Leg2	0-1	0-1	1-1	121	-	0-0	020
Leg3	0-1	0-1	1-1	121	-	0-0	111
Leg4	0-1	0-1	1-1	121	-	-	010

Leg 5, medial expansion of basoendopodite reaching about end of exopodite; basoendopodite armed with two apical, one inner and one outer setae; exopodite slightly longer than broad, and armed with three setae; all setae plumose.

(Allotype) - Male with sexual dimorphism in the body size, antennule, morphology and setation of legs 3 and 5, and setation of the exopodite of legs 2-4.

Body length, excluding caudal setae, 520 μm. Antennule 8-segmented, geniculate. Legs 2-4, distal article of the exopodite armed with two spines and three setae. Leg 3, endopodite triarticulate, modified; spiniform process of article 2 reaching about end of the exopodite; article 3 with two apical plumose setae, innermost the longest. Leg 5, basoendopodite reduced, lacking ornament; exopodite slightly longer than broad, and bearing two plumose setae, outermost the longest.

Etymology. It is a pleasure to dedicate the species to the colleague Dr. A. Apostolov for his valuable contributions to knowledge of the genus *Elaphoidella* s. l.

Affinities. Apostolov (1985, 1988), according to the articulation of the endopodite of the swimming legs and the setation of the antennal exopodite and female leg 5, splitted the genus *Elaphoidella* Chappuis into five genera, viz. *Elaphoidella, Stygoelaphoidella, Elaphoidellopsis, Neoelaphoidella* and *Praelaphoidella*.

Particularly, the genus *Neoelaphoidella* was established to accomodate *Elaphoidella* s. l. species characterized by a very reduced (apomorphic) articulation of the endopodite of all the swimming legs (endopodite of legs 1-3 biarticulate, endopodite of leg 4 uniarticulate or absent), antennal exopodite armed with four setae, female leg 5 with basoendopodite with four setae and exopodite with 2-5 setae.

There are presently 10 named species in the genus, most of these stygobitic inhabitants of local groundwater systems outside Europe.

As to our knowledge, only two species have been reported from Europe, viz. *N. winkleri* (Chappuis, 1928) and *N. calypsonis* (Chappuis & Rouch, 1959), from Rumania and France respectively.

N. apostolovi n. sp. is very close to the former, as far as it has been preliminarily described, due to the identical morphology and setation of both female and male leg 5, the setation of the endopodite of female legs 1-4, and the armature of the exopodite of the male legs 1-4.

The new species differs from the above species, as well as from congeners, by a combination of morphological caracteristics, such as the sexual dimorphic armature of the exopodite of legs 2-4, the naked anal operculum and the presence of two long lateral setae on caudal rami.

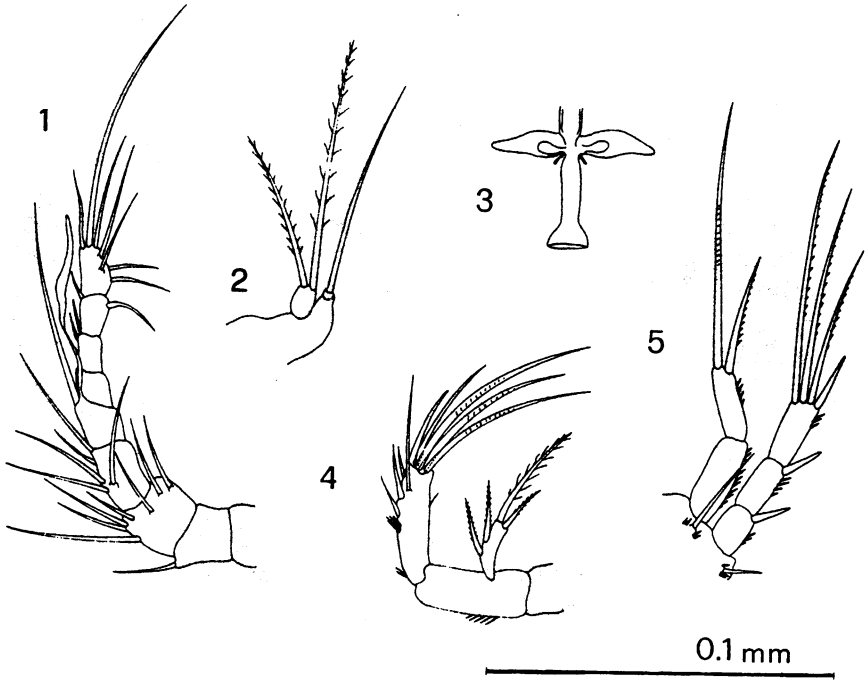

Fig. 1-5 *Neoelaphoidella apostolovi* n. sp. 1, 3-7 (female), 2 (male). Antennule; 2. P5; 3. Genital field; 4. Antenna; 5. Leg 1.

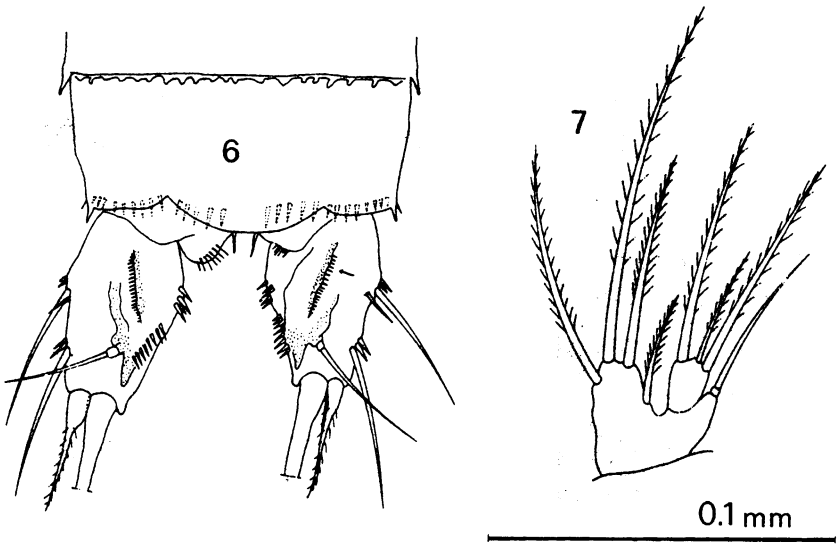

Fig. 6-7 *Neoelaphoidella apostolovi* n. sp. 6. Anal somite and caudal rami, dorsal view; 7. leg 5.

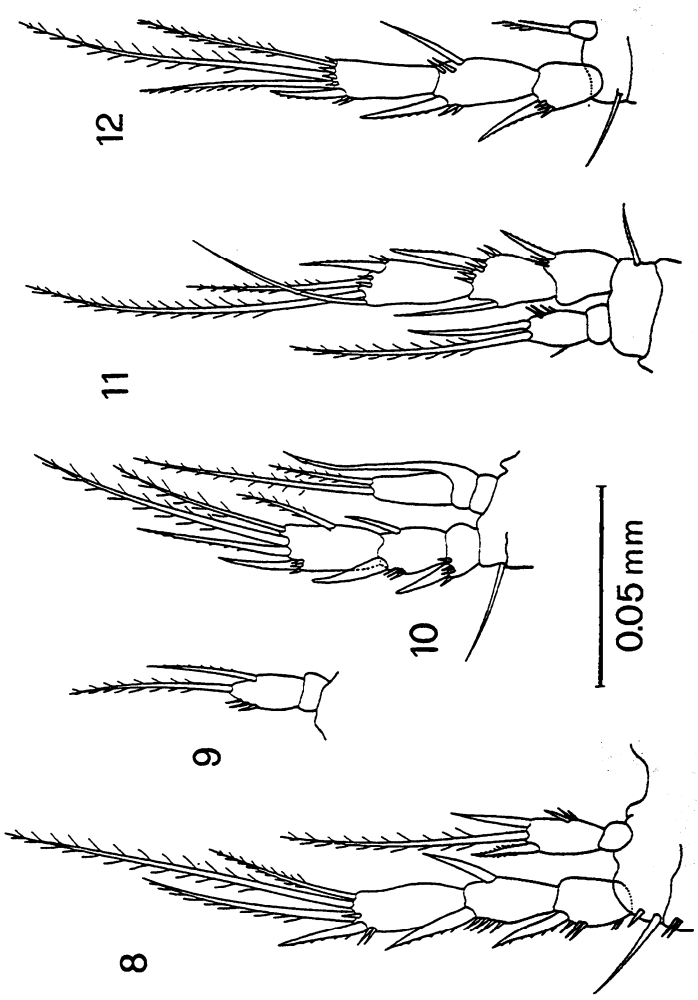

Fig. 8-12 *Neoelaphoidella apostolovi* n. sp. 8, 11-12 (female), 9-10 (male). 8. Leg 3; 9.Endopodite of leg 2; 10. Leg 3; 11. Leg 2; 12. Leg 4.

RIASSUNTO

PRIMO RINVENIMENTO DEL GENERE *NEOELAPHOIDELLA* APOSTOLOV IN ITALIA E DESCRIZIONE DI *NEOELAPHOIDELLA APOSTOLOVI* N. SP. (CRUSTACEA COPEPODA: CANTHOCAMPTIDAE). - Viene descritta *Neoelaphoidella apostolovi* n. sp. dell'ambiente iporreico del fiume Vomano (Appennino centrale). La nuova specie presenta le maggiori affinità con *E. winkleri* Chappuis, differendone per una combinazione di caratteristiche morfologiche quali l'opercolo anale inerme, l'armatura dei rami furcali e la differente setolazione delle appendici del 2-4 paio nel maschio e nella femmina. Il genere *Neoelaphoidella* viene rinvenuto la prima volta in Italia.

REFERENCES

APOSTOLOV A. 1985 – Etude sur quelques Copépodes Harpacticoides du genre *Elaphoidella* Chappuis, 1929 avec une révision du genre. *Acta mus. maced. sci. nat. Skopje*, **17** (7), 133-163.

APOSTOLOV A. 1988 – Les Harpacticoides (Copepoda) des eaux souterraines de Bulgarie. *Boll. Mus. civ. St. nat. Verona*, **15**, 327-337.

CHAPPUIS P.A. 1928 – Nouveaux Copépodes cavernicoles (Descriptions preliminaires). *Bull. Soc. Sci. Cluj, Roumanie,* **4** (1,2), 20-34.

Indirizzo degli Autori:

Dipartimento di Scienze Ambientali, Università di L'Aquila. Via Vetoio - Coppito - L'Aquila (Italia).