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# **VESTNIK ZOOLOGII**

**No 2**

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KIEV — 1991

Andrey Kovalchuk, Natalia Kovalchuk

**A NEW SPECIES OF CRUSTACEANS (COPEPODA, HARPACTICOIDA) FROM THE UKRAINIAN CARPATHIANS.**

*Parastenocaris carpathica* A. et N. K o v a l c h u k, sp. n. (Figure).

Material. The holotype ♀ 0.29 mm in length without caudal setae, 0.36 mm with caudal setae, interstitial in the Tysmenitsia river, 4 km above the city of Borislav (Lvivska province of Ukraine), 19.10.1984. Paratype ♀ 0.30 mm in length without furcal setae, *ibid.* Authors coll.

Female. The body is cylindrical and elongated (Fig., **a**). The ratio of length to maximum width of 7.6-7.7: 1.

Antennula (I) seven-segmented, sensory cylinder on fourth segment and the second segment the longest.

Antenna (II) two-segmented. The structure of the oral parts typical of the genus.

All segments of the body smooth and without ornament.

Legs:

P1 (Fig., **b**) – with three-segmented exopod, the last segment of which comes for the middle of the end segment of two-segmented endopod. First segment of endopod is equal with first two segments of exopod.

P2 (Fig., **c**) – one-segmented endopod bears at the top one short, and one comparatively long seta and segment length is slightly more than half of the first segment of exopod, armed on its outer edge by two small and one large distal spine.

P3 (Fig., **d**) – exopod two-segmented. His first segment is almost 2 times as long as endopod, external margin with three small and one large distal spine. The second segment of basipod of P3 serrated at the base of the exopod.

P4 (Fig., **e**) – the first segment of three-segmented exopod is 2 times larger than one-segmented endopod, bearing spine on the top and another extremely small appendage. The first segment of P4 exopod on the outer edge is armed with three small spines and one large spine.

P5 (Fig., **f**) – in the form of triangular plates, stretched along the outer edge into the spine, bears three setae, of which inner 3 times shorter than the average, which, in turn, is almost 3 times shorter than the utmost seta. Utmost seta more than in 2 times exceeds P5, reaching 35  $\mu\text{m}$  in length.

Caudal ramus (Fig., **a**) – slightly shorter than the last abdominal segment (ratio 1 : 1.2), their length is 5 times as the width. Both lateral and dorsal setae are shifted to the distal part of rami. Inner apical seta 2 times shorter and the average is 2 times longer as caudal rami. Outer apical

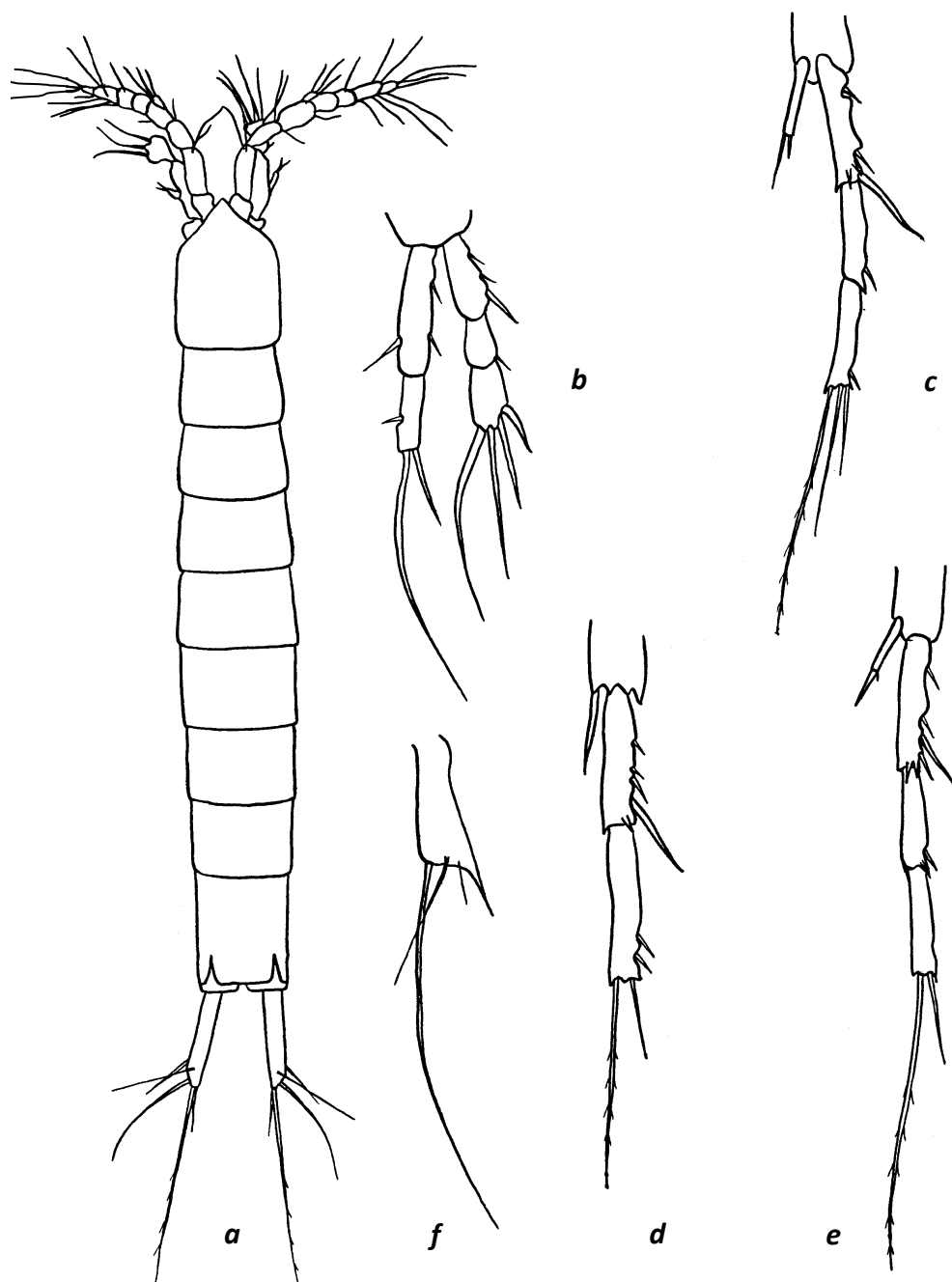


Figure. *Parastenocaris carpathica* A. et N. Kovalchuk, 1991 :  
**a** – общий вид; **b** – P1; **c** – P2; **d** – P3; **e** – P4, **f** – P5.

seta absent.

Anal plate rather large, straight and smooth on the outer edge.

Males were not found.

Closely related to *P. tenuis* described by Borutzky on two females from Fanagorial Cave in the Caucasus (Borutzky, 1948), *P. carpathica* differs, first of all, a different ratio of sizes of the setae of P5, armament of endopods of P1-P4, a long and thin caudal rami with slightly different armament and a different shape and size of the anal plate. Among parastenocarids relating to the *minuta* group of Lang (Lang, 1948) has several species relat-

ed to *P. carpathica*. So, from *P. numidiensis* Rauch, 1987, described from the groundwater of Algeria (which the system Jakobi, 1972 refers to a group *Stammericaris*), and *P. fonticola* Borutzky, 1926 from wells near Moscow *P. carpathica* differs mainly by the structure and armament of the caudal ramus, the number and ratio of setae of P5.

Very close to listed above species is *P. lusitanica* Nodt et Galhano 1969, described from interstitial of the river Duoro (Portugal), which is the structure P4 of male may be referred to the group *Minutacaris* Jacobi. Although females of this species are not detected, its affinity with *P. tenuis*, *P. fonticola*, and *P. carpathica* is not in doubt. For three of the five similar species

males are not found. This, of course, does not mean that they do not exist. However, it is alarming the fact that, for example, for *P. fonticola* they were not observed during a long period of observation, although nauplii and copepodids had been found in the mass (Borutzky, 1926). Such data exist for other species. So, Enkel (Enkell, 1970), a follower of the views of Chappuis (1957), with 12 females of the genus *Parastenocaris* from Ceylon, which are clearly distinguished in a number of characteristics from all other species, diagnosed them only to genus. It is possible that in these and other cases, parastenocarids use parthenogenesis to reproduce, as it is proved, for example, for some species of the genus *Elaphoidella* (Roy, 1931). Therefore, notwithstanding the recent description of parastenocarids on males, it is advisable, in our opinion, in the absence of the latter to perform a description on the females. Some authors (Miura, 1969; Kikuchi, 1970) adhere to traditional harpacticoid description of parastenocarids on the female as the holotype even in the presence of males.

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Institute of Hydrobiology of Ukraine (Kiev)

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All-SU Inst. VASHNIL (Kiev)

*Parastenocaris carpathica* sp. n. is described on 2 females from interstitial of the Tysmenitsa river, 4 km up from Borislav, Lviv province area. The problem of parthenogenesis in Parastenocaridae is discussed.