

LEUCTRA KRPACI (PLECOPTERA: LEUCTRIDAE) A NEW SPECIES OF STONEFLY FROM GREECE

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Abstract

Intense collecting of stonefly species at the end of last centuries all over the Greece has resulted also in new species of *Leuctra*. *Leuctra krpaci* sp.n. was described and illustrated on the basis of the morphology of male and female adults, and compared with its closest related autumn stonefly species.

Keywords: Plecoptera, *Leuctra krpaci* sp.n., Greece

Introduction

With nearly 160 described species and subspecies, the genus *Leuctra* is one of the most species rich taxa of the European stonefly fauna (Graf et al., 2018). The Mediterranean Plecoptera fauna is very interesting taxonomically and biogeographically, but was studied much later than the central and north European fauna. Currently a total of 71 species and 7 subspecies are reported from Greece (Karaouzas et al., 2016). Many of the Mediterranean *Leuctra* are endemic of relatively small areas, reflecting both the continuous development of the fauna without Pleistocene extinctions, and the geographic discontinuity of the Mediterranean region which is composed of several major to various types of pollution and other impact on aquatic habitats, stoneflies are one of most threatened organism of running waters (Graf et al., 2009). It is only a question how many species will disappear before we will be able to recognise and describe them.

The morphological description of the new species, which belongs to the prima-subgroup of the *Leuctra hippopus* group sensu Ravizza & Vincon 1998, is presented in this contribution.

Material and methods

Adults of *Leuctra* were collected by hand picking and beating sheet methods and preserved in 75% ethanol. For the study and illustration, Leica Wild M3Z dissecting microscope equipped with a camera lucida was used. Holotype and paratypes are deposited in the invertebrate collections of Slovenian Museum of Natural History (PMSL) in Ljubljana, Slovenia.

Results and discussion

Leuctra krpaci SIVEC, sp.n.

L. krpaci is a late autumn species and is most similar to *Leuctra hirsuta*, species widely distributed in Greece.

Small species belonging to the *fusca* group. Pale brown coloured with normal wings in female and shorter wings in male specimens. Length of fore wings in male 3-3,5 mm, only to 6th abdominal segment and 4,5-6 mm in females. Legs are covered with a dense long hairs.

Tergum 6 in male abdomen centrally with a strong and sclerotized process with two lateral branches slightly divergent, wide apart and darker at the rounded ends. Tergum 7 mostly membranous without any small lateral process, which are quite distinct in *Leuctra hirsuta* male. Tergum 8 and 9 with a central dark spot.

Female of the new species can be easily separated from all other related species by the characteristic shape of subgenital plate. Two smaller and the central bigger lobe are reaching the end of 8th abdominal segment. Central part of abdominal tergum 7 is similar to *Leuctra hirsuta* with two prominent longitudinal outgrowth, with a deep notch between them. Material examined: Holotype male: Greece, Timfristos Mts., 2 km E Ag. Triada, 850m, 38°58'N, 21°50'E 14.10.1991, Leg. H. Malicky. Deposited in PMSL. Paratypes: Same data as holotype, 1♂, 4♀; Chelmos Mts., 2 km S Saruchla, 1200m, 37°58' N, 22°16' E, 17.10.1991, 50♂, 30♀, Leg. H. Malicky; Iti Mts., Kastanea, Katafigion, 1400m, 38°50' N, 22°17'E, 13.10.1991, 17♂, 10♀, Leg. H. Malicky; Parnass Mts., Polidroson, 1200m, 38°36'N, 22°34'E, 20.10.1991, 10♂, 1♀, Leg. H. Malicky; Parnass Mts., Polidroson, 1100m, 38°36'N, 22°34'E, 20.10.1991, 14♂, 4♀, Leg. H. Malicky; Panetolikon Mts., 4 km N Mikro Chorio, 700m, 38°52'N, 21°44'E, 15.10.1991, 9♂, 10♀, Leg. H. Malicky; Chelmos Mts., 14 km N Feneos, 1350m, 37°58'N, 22°16'E, 18.10.1991, 5♂, 10♀, Leg. H. Malicky; Vardousia Mts., 10 km above Ath. Diakos, 1600m, 38°42'N, 22°08'E, 22.10.1991, 11♂, 11♀, Leg. H. Malicky.

Geographical distribution

Closest relatives of *Leuctra krpaci* is *Leuctra hirsuta*, species widely distributed in Greece, Albania, Northern Macedonia, Montenegro, Bosnia and Herzegovina and Croatia practically to the border of Slovenia. This species seems to be one of the most common autumn species of *Leuctra* in the Balcan. Their late activity is probably the reason it was not recorded earlier. On the other hand *Leuctra krpaci* was found only in Greece in mountains Timfristos, Chelmos, Iti, Parnass, Panetolikon and Vardousia at the elevations above 1000m above sea level. Intense survey in the future could find this species also in some other Balcan countries and genetic analysis could define more precisely the relationship between two most related species.

Etymology

New species was named after Prof. Dr. Vladimir Krpač for his long friendship and very great help during visiting and working in the territory of Northern Macedonia.

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Legend for figures:

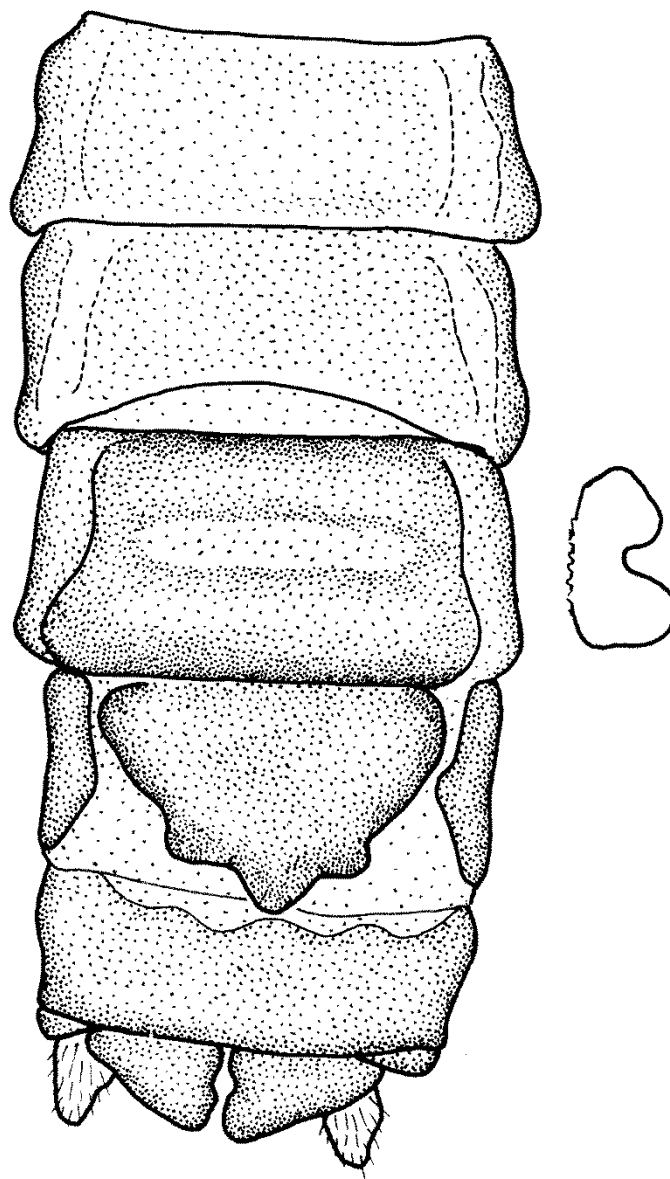


Figure. 1: Male abdomen of Leuctra krpaci sp.n.

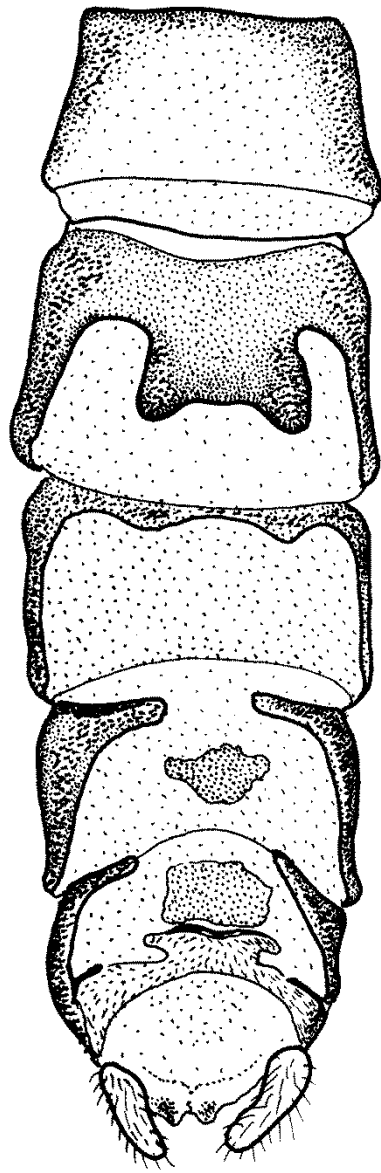


Figure. 2: Female abdomen of *Leuctra krpaci* sp.n.