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## New species of the genus *Oligoneuriella* Ulmer, 1924 (Ephemeroptera: Oligoneuriidae) from Turkey

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### Abstract

Three new species of the genus *Oligoneuriella* Ulmer, 1924 from Turkey are described, namely *Oligoneuriella magna* sp. nov., *Oligoneuriella paulopilosa* sp. nov. and *Oligoneuriella pectinata* sp. nov. Differential diagnostic characters are given with regard to the previously known *Oligoneuriella* species. Data on the affinities, biology, and distribution of the new species are also provided. New morphological characters (setation of mouthparts and gill plates) potentially useful for the taxonomy of the genus are introduced.

**Key words:** mayflies, taxonomy, Middle East

### Introduction

The Palaearctic genus *Oligoneuriella* Ulmer, 1924 includes eleven species, known from the Western Mediterranean (*O. duerensis* del Tánago & de Jalón, 1983, *O. skoura* Dakki & Guidicelli, 1980, *O. marichuae* Alba-Tercedor, 1983), Central and South-Eastern Europe (*O. keffermuelleriae* Sowa, 1973, *O. polonica* Mol, 1984), Anatolia and the Middle East (*O. bicaudata* Al-Zubaidi, Braasch & Al-Kayatt, 1987, *O. orontensis* Koch, 1980, *O. tskhomelidzei* Sowa & Zosidze, 1973) and Kashmir (*O. kashmirensis* (Ali, 1971)). Two species have a wide distribution; *Oligoneuriella rhenana* (Imhoff, 1852) is present in the whole West Palaearctic region and *O. pallida* (Hagen, 1855) seems to be Transpalearctic (Soldán *et al.* 2009; Bauernfeind & Soldán 2012). Further species have been described from Eastern Turkey and Western Iran (*O. baskale* Soldán & Landa, 1977), Armenia (*O. zanga* Soldán & Landa, 1977) and Mongolia (*O. mongolica* Soldán & Landa, 1977). Both *O. baskale* and *O. zanga* were later synonymised with *O. tskhomelidzei* and *O. mongolica* with *O. pallida* by Kluge (2004), with, however, no supporting arguments.

The European species were divided into two species-groups by Bauernfeind & Soldán (2012), based on previous indications of Sowa (1961, 1973), namely the *O. pallida* species-group (containing *O. pallida* and *O. keffermuelleriae*) and *O. rhenana* species-group (containing *O. duerensis*, *O. marichuae*, *O. polonica*, *O. rhenana* and *O. skoura*). Extralimital species were left without assignment to any particular species-group.

To date, four species from Turkey have been recorded (Kazancı 2001; Kazancı & Türkmen 2012), namely *O. orontensis*, *O. pallida*, *O. rhenana* and *O. tskhomelidzei*. However, this region seems to host higher species diversity for the genus. The aims of this study are to describe three new species found in Turkey and to provide information on their biology, distribution and affinities. By studying body structures so far neglected in taxonomic papers dealing with *Oligoneuriella*, we aim to enhance the set of diagnostic characters useful for the discrimination of individual species.