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# A Contribution to the Knowledge of the Jumping Spiders (Salticidae: Araneae) of the Republic of Macedonia

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**Abstract:** Eight species of jumping spiders, new to the fauna of the Republic of Macedonia were found in three side valleys of the Vardar River. The species *Aelurillus v-insignitus*, *Evarcha jucunda*, *Pellenes geniculatus*, *Pellenes ostrinus*, *Pseudeuophrys obsoleta* and *Pseudicius picaceus* had been expected in the country. On the contrary, *Aelurillus concolor* and *Neaetha absheronica* were recorded for the first time in Europe. These findings substantially contribute to the understanding of the two species' distribution.

**Key words:** jumping spiders, Salticidae, Macedonia, *Aelurillus concolor*, *Neaetha absheronica*

## Introduction

An extensive faunistic review of the spider fauna of the Republic of Macedonia made by Blagoev (2002) revealed 558 species of 36 families registered in the country since 1907. Approximately 10% (58 species) of the fauna are represented by the family Salticidae (Blagoev 2002).

The search for spiders in three subsidiary valleys of the Vardar River Valley, conducted in May 2004, provided us with interesting findings. Among the spiders collected, eight species of jumping spiders are new to the fauna of the Republic of Macedonia. The findings of two of them significantly refined our knowledge regarding their distribution. All these new findings are discussed in the present work.

## Material and Methods

Spiders were collected from 30 April to 2 May 2004 by C. Fišer. They were caught by hand and preserved in 70% ethyl alcohol.

Collecting sites were the south-exposed slopes of the valleys of the rivers Topolka, Babuna and Treska (Fig. 1). All the rivers belong to the Vardar drainage system. Topolka (ca. 21° 45' 30" E, 41° 41' 20" N) and Babuna (ca. 21° 48' E, 41° 40' N) valleys are situated west from Veles, whereas Treska Valley (ca. 21° 18' 30" E, 41° 56' N) lies south-west from Skopje.

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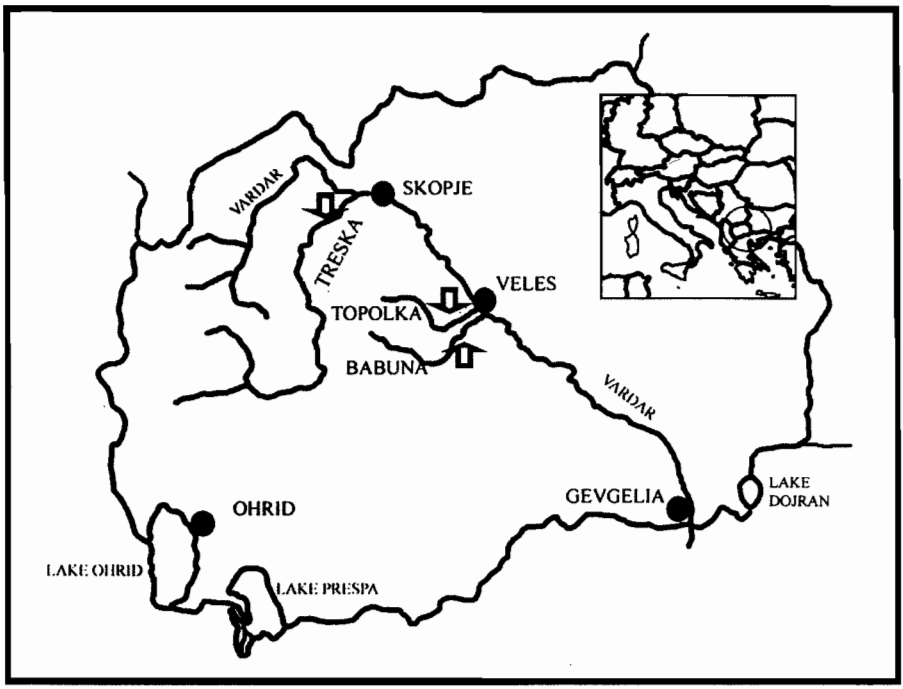


**Fig. 1.** Map of the Republic of Macedonia. The three valleys are marked with arrows.

The collected material is kept in the collection of the Department of Biology, Biotechnical Faculty, University of Ljubljana, except the specimens of *Aelurillus v-insignitus* and *Neaetha absheronica*, which have been donated to the Manchester Museum (Dr. D. V. Logunov).

## Results

*Aelurillus concolor* KULCZYŃSKI, 1901

1 ♂; Topolka Valley, 2 May 2004; coll. Fišer C.

General distribution: East Mediterranean, Middle East and Central Asia (see below).

Until now the species had been reported from Iran (ROEWER 1955), Georgia (KULCZYŃSKI 1901), Turkey (NOSEK 1905), Kazakhstan (ZYUZIN *et al.* 1993), Turkmenistan (NENILIN 1984a, FET 1983, MIKHAILOV, FET 1994, WESOŁOWSKA 1996), Kyrgyzstan (NENILIN 1984a, 1984b, 1984c), Tadzhikistan (NENILIN 1985, MIKHAILOV 1997), Uzbekistan (AZARKINA pers. data).

*Aelurillus v-insignitus* (CLERCK, 1758)

1 ♂; Babuna Valley, 30 April 2004; coll. Fišer C.

General distribution: North Europe (CLERCK 1757, THORELL 1858, PALMGREN 1943); West Europe (LATREILLE 1819, SIMON 1868, PICKARD-CAMBRIDGE 1861, LOCKET, MILLIDGE 1951, KEKENBOSCH 1961); East Europe (FLANCZEWSKA 1981, PRÓSZYŃSKI, STAREGA 1971, ŻABKA 1997, BUCHAR, RŮŽIČKA 2002), South Europe (HANSEN 1985; METZNER 1999; ALICATA, CANTARELLA 2000, CARDOSO 2000); North Africa (AZARKINA

pers. data); North Asia (LOGUNOV, MARUSIK 2000); Caucasus (GUSEINOV 1998); Middle Asia (NENILIN 1984a, 1985, MIKHAILOV, FET 1994); China (HU, WU 1989; PENG *et al.* 1993).

*Evarcha jucunda* (LUCAS, 1846)

1 ♀; Topolka Valley, 2 May 2004; coll. Fišer C.

General distribution: The Mediterranean, South-East Europe (LUCAS 1846, HANSEN 1985, DELTSHEV, PARASCHI 1990, METZNER 1999).

*Neaetha absheronica* LOGUNOV & GUSEINOV, 2001

1 ♂; Babuna Valley, 30 April 2004; coll. Fišer C.

General distribution: presumably East Mediterranean, Middle East (see below).

Until now, the species was reported only from Azerbaidzhan (LOGUNOV, GUSEINOV 2001).

*Pellenes geniculatus* (SIMON, 1868)

7 ♂, 3 ♀; Topolka Valley, 2 May 2004; coll. Fišer C.

1 ♂, 2 ♀; Treska Valley, 1 May 2004; coll. Fišer C.

General distribution: Mediterranean, Middle East, Central Asia (SIMON 1868, HANSEN 1985, MIKHAILOV 1997, LOGUNOV *et al.* 1999, METZNER 1999, LOGUNOV, MARUSIK 2000).

*Pellenes ostrinus* (SIMON, 1868)

1 ♂; Babuna Valley, 30 April 2004; coll. Fišer C.

General distribution: East Mediterranean (SIMON 1868, METZNER 1999).

*Pseudeuophrys obsoleta* (SIMON, 1868)

5 ♀; Treska Valley, 1 May 2004; coll. Fišer C.

General distribution: Europe (SIMON 1868, DELTSHEV, PARASCHI 1990, METZNER 1999), North Asia (LOGUNOV *et al.* 1993, LOGUNOV, MARUSIK 2000), Middle and Central Asia (NENILIN 1984c) and China (HU, LI 1987, HU, WU 1989, LOGUNOV, MARUSIK 2000, PRÓSZYŃSKI 2003).

*Pseudicius picaceus* (SIMON, 1868)

1 ♂; Topolka Valley, 2 May 2004; coll. Fišer C.

General distribution: Mediterranean (SIMON 1868, CAPORIACCO 1948, FUHN, GHERASIM 1984, HANSEN 1985, DELTSHEV, PARASCHI 1990, METZNER 1999).

## Discussion

The influence of the Aegean Sea along the Vardar River had already been well-documented by the presence of certain Mediterranean species of plants (e.g. JOVANOVIĆ *et al.* 1986, FILIPOVSKI *et al.* 1996), butterflies (e.g. THURNER 1964, SCHAIDER, JAKŠIĆ 1988) and carabids (cit. in SCHAIDER, JAKŠIĆ 1988), thus the presence of Mediterranean spider species (*E. jucunda*, *P. picaceus*) in the three side valleys of the Vardar River is not a surprise. The Palaearctic species *A. v-insignitus* as well as *P. geniculatus*, *P. ostrinus* and *P. obsoleta*, which are distributed between Europe and Central Asia, have also been expected. The most interesting findings are those of *N. absheronica* and *A. concolor*; the first has hitherto been known only from the Caucasus and the second from the Middle East and Central Asia. However, it remains to be established whether the Balkans constitute the westernmost border of their ranges, as in *Pellenes seriatus*

(THORELL 1875) (DELTSHEV, BLAGOEV 2001, FIŠER, KOSTANJŠEK 2001, METZNER 1999), or they occur throughout the Mediterranean region.

The number of jumping spiders found in the Republic of Macedonia reached 66 species. It is low, compared to 91 species of jumping spiders found in Bulgaria (Deltshev, BLAGOEV 2001) or 121 species registered in Greece (METZNER 1999). Even though the number of spider species correlates with the size of the country (KUNTNER, ŠEREG 2002), the number of Macedonian spider species seems to be underestimated. Two facts support the thesis: (1) the difference between the much better studied Macedonian and Bulgarian butterfly fauna is not such great as the difference in the number of species of jumping spiders (SCHAIDER, JAKŠIĆ 1988), (2) the number of species had risen with approximately 20% in the past few years, after the collaboration with Bulgarian experts was established (BLAGOEV 2002).

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# Принос към изследването на скачащите паяци (Salticidae: Araneae) на Република Македония

*Ц. Фишер, Г. Азаркина*

## (Резюме)

Установени са осем вида скачащи паяци, нови за фауната на Република Македония, намерени в три местонахождища по долината на река Вардар. Видовете *Aerlurillus v-insignitus*, *Evarcha jucunda*, *Pellenes geniculatus*, *P. ostrianus*, *Pseudeuophrys obsoleta* и *Neaetha absheronica* са съобщени като нови за фауната на Европа. Находките са съществен принос към изясняването ареала на тези видове.