Research article

Long-legged flies (Diptera: Empidoidea: Dolichopodidae) from the Balkan Mountains, Bulgaria, with first records for the Balkan Peninsula

Mihail Kechev¹, Blagoy Koychev²

Forest Research Institute, Bulgarian Academy of Sciences, 132 St Kliment Ohridski Blvd, Sofia, Bulgaria

(1) [Corresponding author] mkechev@gmail.com ; <https://orcid.org/0000-0002-9852-5184>

(2) palaeartica@gmail.com ; <https://orcid.org/0000-0003-0064-4183>

Abstract: The paper presents information about 35 dolichopodid flies collected from 12 localities in the Balkan Mountains at the territory of Bulgaria. Two species, *Campsicnemus pusillus* and *Sciapus maritimus*, are recorded for the first time in Bulgaria and on the Balkan Peninsula. Another nine ones are listed for the first time to the Balkan Mountains range.

Keywords: Balkan Mountains, Dolichopodidae, fauna, new records

Introduction

This present paper could be considered as a second part of the study on dolichopodid diversity of the Balkan Mountains. Kechev (2021b) did a review on dolichopodids in the region, where 61 species has been listed. The main purpose here is to provide new records of the family Dolichopodidae for the Balkan Mountains, Bulgaria and the Balkan Peninsula.

Material and methods

The material for the present work was collected with a sweeping net by the authors from 12 localities in the studied area (Fig. 1). After collecting, the adults have been stored in vials containing 75% ethanol. The species have been sorted in the laboratory, using a stereo microscope Carl Zeiss. For the determination of dolichopodids identification guides by Parent (1938), d'Assis Fonseca (1978), Grichanov (2007) and Negrov & Stackelberg (1969) have been used. The material presented in this paper is housed in Mihail Kechev's collection at the Department of Forest Entomology, Phytopathology and Game Fauna, Forest Research Institute, Bulgarian Academy of Sciences, Sofia, Bulgaria.

mology, Phytopathology and Game Fauna, Forest Research Institute, Bulgarian Academy of Sciences, Sofia, Bulgaria.

Sites of collection

Site 1	Zverino Village, 19.ix.2021, 43.0803°N 23.5759°E, 270 m, sweeping net, B. Koychev
Site 2	Rebarkovo Village, 43.1132°N 23.6762°E, 223 m, sweeping net, B. Koychev
2a – 30.vii.2021
2b – 22.viii.2021
Site 3	Kreta Village, Vratsa District (Figs 2, 3), 43.1208°N 23.7013°E, 220 m, sweeping net, B. Koychev
3a – 30.vii.2021
3b – 22.viii.2021
3c – 28.viii.2021
3d – 24.ix.2021
Site 4	Ribaritsa Village, 30.vii.2021, 42.8479°N 24.3597°E, 560 m, sweeping net, B. Koychev
Site 5	Plakovo Village, 22.vii.2021, 42.9390°N 25.7072°E, 400 m, sweeping net, M. Kechev

Fig. 1. Map of Bulgaria and the Balkan Mountains with sites of collecting.

Site 6	Gorsko Selo Village, 22.vii.2021, 43.0427°N 26.3568°E, 608 m, sweeping net, M. Kechev	Site 10	Shipkovo Village (Fig. 4), 23.vii.2021, 42.8816°N 24.5732°E, 665 m, sweeping net, M. Kechev
Site 7	Pchelinovo Village, 21.ix.2021, 42.7162°N 25.7171°E, 413 m, sweeping net, M. Kechev	Site 11	Etropole, small river near “St. Trinity Monastery” (Fig. 5), 23.vii.2021, 42.8239°N 24.0386°E, 733 m, sweeping net, M. Kechev
Site 8	Boaza, 22.vii.2021, 42.894308°N 24.963426°E, 437 m, sweeping net, M. Kechev	Site 12	Churek Village (Fig. 6), 23.vii.2021, 42.7820°N 23.7137°E, 820 m, sweeping net, M. Kechev
Site 9	Troyan, park “Kapincho”, 23.vii.2021, 42.8823°N 24.7224°E, 438 m, sweeping net, M. Kechev

Fig. 2. Iskar River near Kreta Village.

Fig. 3. Iskar River near Kreta Village.

Faunistic results

Diaphorinae

Argyra leucocephala (Meigen, 1824) – Material examined: site 5: 2 ♀♀.

Chrysotus cilipes Meigen, 1824 – Material examined: site 3a: 1 ♂.

Chrysotus gramineus (Fallen, 1823) – Material examined: site 3a: 1 ♂.

Chrysotus neglectus (Wiedemann, 1817) – Material examined: site 8: 9 ♂♂, 12 ♀♀. Note: First record for the Balkan Mountains.

Chrysotus pulchellus Kowarz, 1874 – Material examined: site 2b: 2 ♂♂, 3 ♀♀. First record for the Balkan Mountains.

Chrysotus suavis Loew, 1857 – Material examined: site 5: 2 ♂♂. New locality.

Dolichopodinae

Dolichopus pennatus Meigen, 1824 (Fig. 7) – Material examined: site 3c: 1 ♂. First record for the Balkan Mountains.

Dolichopus plumipes (Scopoli, 1763) – Material examined: site 4: 1 ♂; site 5: 1 ♂; site 9: 2 ♂♂, 2 ♀♀. First record for the Balkan Mountains.

Dolichopus sabinus Haliday, 1838 – Material examined: site 2b: 1 ♂. First record for the Balkan Mountains.

Dolichopus salictorum Loew, 1871 (Fig. 8) – Material examined: site 10: 1 ♂, 1 ♀.

Gymnopternus aerosus (Fallén, 1823) – Material examined: site 3c: 1 ♂.

Gymnopternus brevicornis (Staeger, 1842) – Material examined: site 12: 1 ♂. New locality.

Hercostomus chetifer (Walker, 1849) – Material examined: site 5: 1 ♂; site 6: 1 ♂.

Sybistroma obscurellus (Fallen, 1823) – Material examined: site: 10: 1 ♂; site 11: 4 ♂♂.

Medeteranae

Medetera jacula (Fallén, 1823) – Material examined: site 1: 1 ♂, site 3c: 1 ♀; site 7: 1 ♂.

Thrypticus bellus Loew, 1869 – Material examined: site 2a: 2 ♂♂. First record for the Balkan Mountains.

Fig. 4. Small brook near Shipkovo Village.

Fig. 5. Small brook near "St. Trinity" Monastery, Etropole.

Fig. 6. Small brook near Churek Village.

Fig. 7. *Dolichopus pennatus* Meigen, 1824: (A) habitus, (B) mid tarsi.

Fig. 8. *Dolichopus salictorum* Loew, 1871: (A) habitus, (B) hypopygium and long yellow hairs on hind femur.

Fig. 9. *Sciapus maritimus* Becker, 1918: (A) wing, (B) hypopygium.

Fig. 10. *Campsicnemus pusillus* (Meigen, 1824): (A) habitus, (B) fore tarsi.

Hydrophorinae

Hydrophorus balticus (Meigen, 1824) – Material examined: site 6: 1 ♂, 1 ♀.

Neurigoninae

Neurigona quadrifasciata (Fabricius, 1781) – Material examined: site 12: 1 ♀.

Neurigona suturalis (Fallén, 1823) – Material examined: site 1: 1 ♂, site 2a: 1 ♀; site 3c: 1 ♂.

Rhaphiinae

Rhaphium appendiculatum Zetterstedt, 1849 – Material examined: site 3a: 1 ♂; site 3c: 3 ♂♂. First record for the Balkan Mountains.

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Rhaphium caliginosum Meigen, 1824 – Material examined: site 1: 2 ♀♀; site 3a: 1 ♂; site 3d: 3 ♂♂.

Rhaphium micans (Meigen, 1824) – Material examined: site 2a: 2 ♂♂.

Peloropecodinae

Chrysotimus molliculus (Fallén, 1823) – Material examined: site 3a: 1 ♂.

Peloropecodes acuticornis (Oldenberg, 1916) – Material examined: site 8: 1 ♂.

Sciapodinae

Sciapus maritimus Becker, 1918 (Fig. 9) – Material examined: site 5: 2 ♂♂. First record for Bulgaria and the Balkan Peninsula.

Sciapus platypterus (Fabricius, 1805) – Material examined: site 3b: 1 ♀.

Sympycninae

Campsicnemus curvipes (Fallén, 1823) – Material examined: site 3a: 1 ♂; site 8: 2 ♀♀; site 12: 2 ♂♂.

Campsicnemus pusillus (Meigen, 1824) (Fig. 10) – Material examined: site 3a: 1 ♂. First record for Bulgaria and the Balkan Peninsula.

Campsicnemus simplicissimus Strobl, 1906 – Material examined: site 3c: 1 ♂; site 3d: 1 ♀. First record for the Balkan Mountains.

Sympycnus pulicarius (Fallén, 1823) – Material examined: site 1: 1 ♂; site 3c: 1 ♂.

Sympycnus simplicipes Becker, 1908 – Material examined: site 3a: 2 ♂♂; site 3c: 1 ♂. First record for the Balkan Mountains.

Syntormon pallipes (Fabricius, 1794) – Material examined: site 3d: 4 ♂♂, 5 ♀♀; site 5: 1 ♀; site 6: 2 ♂♂, 4 ♀♀; site 9: 1 ♂; site 12: 4 ♂♂, 2 ♀♀.

Teuchophorus medovoensis Kechev, Negrobov & Grichanov, 2014 – Material examined: site 8: 1 ♂; site 9: 14 ♂♂, 5 ♀♀.

Teuchophorus monacanthus Loew, 1859 – Material examined: site 3a: 2 ♂♂; site 3c: 1 ♂.

Teuchophorus simplex Mik, 1880 – Material examined: site 5: 1 ♂, 2 ♀♀; site 8: 5 ♂♂, 4 ♀♀; site 10: 1 ♂.

Discussion

Eleven of the 35 species listed above are new to the Balkan Mountains. Two of the species (*Sciapus maritimus* and *Campsicnemus pusillus*) are new for Bulgaria and the Balkan Peninsula. The two species are widespread in Europe (western, central and northern parts) as well as in the southern part of Russia. *Campsicnemus pusillus* is also distributed in East Russia (Irkutsk Region and Kamchatka) (Grichanov, 2007). The closest country to Bulgaria from which they were reported is Romania, but since the localities are not in Northern Dobruza (the Romanian part of the Balkan Peninsula), we record them as new to the Balkan Peninsula. With these data the total number of the dolichopodids for the Balkan Mountains is increasing to 72 and for the fauna of Bulgaria up to 211 species (Kechev, 2021a, b).

The species *Chrysotus suavis*, *Gymnopternus brevicornis* and *Rhaphium micans* known from the Serbian part of the Balkan Mountains (Grichanov, 2016) are also reported from the Bulgarian part. *Chrysotus suavis* is known with several localities in Bulgaria – Durankulak Lake, Varna, Topolite Village (Beschovski, 1972, 1975) and Dolni Voden (Kechev, 2005). *Gymnopternus brevicornis* is known from Yundola, West Rhodope Mts (Kechev, 2007) and Kremen Village, East Rhodope Mts (Kechev, 2021a). *Rhaphium micans* is known with one locality in Bulgaria until now – Sofia (Nedelkov, 1912), and this is the second locality for the country.

An interesting record represents the species *Dolichopus pennatus* (Fig. 7) found in this study at an altitude of 220 m. Until now, the species has been known from an altitude of 800–1400 m, Yundola, West Rhodope Mts, collected from moist meadows surrounded by coniferous forests (Kechev, 2006). In this study, the species reported above was found on the banks of the Iskar River.

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