



New and interesting records of Diptera from Azerbaijan and Georgia

Новые и интересные находки двукрылых (Diptera) из Азербайджана и Грузии

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Abstract. New and interesting records of 60 Diptera species in ten families, namely Anisopodidae, Blephariceridae, Campichoetidae, Dixidae, Drosophilidae, Limoniidae, Lonchopteridae, Pediciidae, Psychodidae and Scatopsidae, are presented in this paper based on the specimens collected in Azerbaijan and Georgia. A total of 26 species are recorded for the first time for Transcaucasia, 32 species for Azerbaijan, and 33 species for Georgia. In addition, the first or updated checklists of the above ten families are given for these countries.

Резюме. В статье приводятся новые и интересные находки 60 видов двукрылых из 10 семейств (Anisopodidae, Blephariceridae, Campichoetidae, Dixidae, Drosophilidae, Limoniidae, Lonchopteridae,

Pediciidae, Psychodidae и Scatopsidae), основанные на сборах из Азербайджана и Грузии. Всего 26 видов указаны впервые для Закавказья, 32 вида – для Азербайджана и 33 вида – для Грузии. Для этих 10 семейств приводятся первые или дополненные каталоги видов, отмеченных из Азербайджана и Грузии.

Key words: Diptera, Anisopodidae, Blephariceridae, Campichoetidae, Dixidae, Drosophilidae, Limoniidae, Lonchopteridae, Pediciidae, Psychodidae, Scatopsidae, species richness, Caucasus, new records, checklists

Ключевые слова: двукрылые, Anisopodidae, Blephariceridae, Campichoetidae, Dixidae, Drosophilidae, Limoniidae, Lonchopteridae, Pediciidae, Psychodidae, Scatopsidae, видовое богатство, Кавказ, новые находки, каталоги видов

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Introduction

Concurrently with advancing research in the fields of ecology and nature conservation, taxonomists have acquired a considerable amount of knowledge in species diversity. The availability of this scientific knowledge varies greatly over the space, time, taxa, and types of information, creating gaps in biodiversity information (Amano et al., 2016). Particularly large geographical gaps exist in the countries of the Caucasus (Wetzel et al., 2018), and dipterans of this region are exemplary in this respect. According to Oboňa et al. (2016, 2017a), the dipteran fauna of the Transcaucasia (Armenia, Azerbaijan and Georgia) is poorly investigated compared to many other regions.

The Caucasus region serves as a blueprint for biodiversity conservation on a global scale and belongs to the top 35 biologically richest and most endangered hotspots in the world – the “biodiversity hotspots” with an exceptional richness of endemic species and of species being at risk for extinction (Myers et al., 2000; Krever et al., 2001; Williams et al., 2011). The remarkable richness of flora and fauna is determined by complex orography, geology and climate resulting in high diversity of habitats, landscapes and microclimates of this mountain area situated at the border of Europe and Asia, at the junction of the temperate and subtropical zones (Price, 2000).

The knowledge of the Caucasus biodiversity is crucial from the conservation point of view. The aim of our study is to present new faunal data and to continue with contributing biodiversity research of the little-known Diptera families in the Caucasus similarly to our previous publications

(e.g. Oboňa et al., 2016, 2017a, 2017b; Negrobov et al., 2017; Starý et al., 2017; Hrvniak et al., 2018; Ježek et al., 2018).

Material and methods

Dipterans were collected by the members of V4 & Eastern Partnership team (Visegrád Group + Georgia and Azerbaijan; abbreviated on the labels as “V4 & EP leg.”) in the period between September 14 and September 24, 2018, mostly by net-sweeping from vegetation growing along the watercourses and lakes. The captured specimens were preserved in 75% ethanol in the field. In the laboratory, a part of the specimens was dried, pinned, glued onto points, identified to species and deposited in collections.

Specimens of Anisopodidae were identified by L. Dvořák using the keys by Söli & Rindal (2014) and Krivosheina (1969) and deposited in the collection of L. Dvořák (L.D. coll.). Blephariceridae were identified based on Zwick (1990), Dixidae were identified based on Vaillant (1969), Disney (1999) and Håland (2017), and Lonchopteridae were identified based on Bährmann & Bellstedt (1988) and Zwick (2004), by J. Oboňa. All of these specimens are deposited at the Laboratory and Museum of Evolutionary Ecology, Department of Ecology, University of Prešov (LMEE). Specimens of Campichoetidae and Drosophilidae were identified by J. Máca using the identification keys by Chandler (1987) and Bächli et al. (2004), respectively. The specimens of both families are deposited in the collection of J. Máca (J.M. coll.). Specimens of Limoniidae and Pediciidae were identified by J. Starý and deposited in

the collection of J. Starý (J.S. coll.). Specimens of Psychodidae (cleared in chloralphenol, treated in xylol and mounted on glass slides in Canada balsam) were identified by J. Ježek and deposited at the National Museum (Natural History Museum), Department of Entomology, Prague, Czech Republic. Slides are labelled with inventory slide number of the family Psychodidae (Inv. No.) and are included in the Diptera collection (NMPC), see Tkoč et al. (2014). Nomenclature of Psychodidae used in this paper follows Perfiliew (1966), Lewis (1982), and Artemiev & Neronov (1984) for Phlebotominae; for Sycoracinae and Psychodinae, respectively, nomenclature is modified from Vailant (1972–1983) and Wagner (1990, 2018) using the classifications of Ježek (1990a, 1994a, 1999a, 2007), Ježek & van Harten (2005), Omelková & Ježek (2012a), Oboňa & Ježek (2014), and Kroča & Ježek (2015). Specimens of Scatopsidae were identified by J.P. Haenni using the identification key by Haenni (1997) and deposited at Muséum d'histoire naturelle, Neuchâtel, Switzerland (MHNN).

We use the term “Transcaucasia” (Armenia, Azerbaijan and Georgia) according to the Catalogue of Palaearctic Diptera; for more details, see Wagner (1990). Information on the global distribution is given for the species recorded from Azerbaijan and Georgia for the first time.

Additional faunal data on Drosophilidae (six species), Limoniidae (25 species), Pediciidae (one species) and Psychodidae (three species), which do not represent new geographical records, are given as Electronic supplementary material 1.

The first or updated checklists of the ten families of Diptera (Anisopodidae, Blephariceridae, Campichoetidae, Dixidae, Drosophilidae, Limoniidae, Lonchopteridae, Pediciidae, Psychodidae, and Scatopsidae) for Azerbaijan and Georgia are given as Electronic supplementary material 2.

Results

Order Diptera

Family Anisopodidae

Anisopodidae is a small family with ten species known from the West Palaearctic (de Jong, 2013); two of these were known from the Trans-

caucasia: *Sylvicola cinctus* (Fabricius, 1787) was recorded in the Transcaucasia by Krivosheina & Menzel (1998), and *S. cinctus* and *S. stackelbergi* Krivosheina et Menzel, 1998 were recorded in Armenia by Oboňa et al. (2017a).

Sylvicola cinctus (Fabricius, 1787)

Material examined. **Georgia, Imereti:** Tskhenistskali River near Ghvedi, 295 m a.s.l., 42°27'21.9"N 42°35'47.1"E, 16.IX.2018, 1 male; Tsablarastskali River, 574 m a.s.l., 41°57'35.0"N 42°46'41.3"E, 14.IX.2018, 2 females (all specimens: L.D. coll.).

Distribution. Widespread and common West-Palaearctic species, occurring nearly all over Europe (de Jong, 2013; Krivosheina & Menzel, 1998). In the Transcaucasia, the species was previously known from Armenia, Azerbaijan and the Russian Caucasus (Krivosheina & Menzel, 1998; Oboňa et al., 2017a). First record for Georgia.

Family Blephariceridae

Blephariceridae is a small family with ca. 40 European species and subspecies (Zwick, 2007). From the Transcaucasia (Armenia), Komarek (1914) recorded *Blepharicera fasciata* (Westwood, 1842) (as *B. armeniaca* Komarek, 1914), *Liponeura brevirostris* var. *kaukasica* (probably invalid taxon, listed instead of *L. brevirostris* Loew, 1877), and *L. platyfrons* Komarek, 1914 (nomen dubium, according to Zwick, 1988). Later on, Zwick (1972, 1988, 1990) and Koç & Zwick (2006) recorded several species of *Liponeura* Loew, 1844 from the Caucasian Anatolia in Turkey (see Koç & Zwick, 2006).

Blepharicera fasciata (Westwood, 1842)

Material examined. **Azerbaijan,** Lankaran, Lerik Distr., Lankaran River near Piran Vill., 221 m a.s.l., 38°44'10.0"N 48°38'04.7"E, 22.IX.2018, 1 male. **Georgia,** Racha-Lechkhumi and Kvemo Svaneti, Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2"N 42°49'16.8"E, 16.IX.2018, 1 male (both specimens: LMEE).

Distribution. European species of the genus *Blepharicera* Macquart, 1843, with easternmost distribution limits in Iran (Zwick, 1978). First records for Azerbaijan and Georgia.

Family Campichoetidae

Of the 14 described species belonging to Campichoetidae, seven recent species are known from the Palaearctic (Mathis & Barraclough, 2011; the family was considered as a subfamily of Diastatidae). There is only a single possible record from the Transcaucasia, namely *Campichoeta griseola* (Zetterstedt, 1855) recorded from “Caucasus” by Chandler (1987).

Campichoeta obscuripennis (Meigen, 1830)

Material examined. Azerbaijan, Lankaran, Lerik Distr., small brook near Relax Zuvand Istirahet Merkezi, 1454 m a.s.l., 38°39'58.6"N 48°21'42.0"E, 22.IX.2018, 1 female (J.M. coll.).

Distribution. Species occurring in different parts of the Palaearctic, from Spain to the Russian Far East (Mathis & Barraclough, 2011). First record for Azerbaijan and Transcaucasia.

Campichoeta punctum (Meigen, 1830)

Material examined. Azerbaijan, Lankaran, Lerik Distr., small brook near Relax Zuvand Istirahet Merkezi, 1454 m a.s.l., 38°39'58.6"N 48°21'42.0"E, 22.IX.2018, 1 male, 1 female (J.M. coll.).

Distribution. Species occurring in the western and central parts of the Palaearctic, from Spain to the European part of Russia and Uzbekistan (Mathis & Barraclough, 2011; the last-mentioned region was wrongly quoted as “Tajikistan”). First record for Azerbaijan and Transcaucasia.

Family Dixidae

Dixidae is a relatively poor family in the species number, with 67 species known from the Palaearctic (Wagner et al., 2008). Five species have been recorded from the Transcaucasia: three from northern slopes of the Central Caucasus (Russia), based on larvae (doubtful species records): *Dixella amphibia* (De Geer, 1776) (Khazeeva, 2010), *Dixa submaculata* Edwards, 1920 and *D. frizzi* (Contini, 1965) (Jakimov et al., 2015); Oboňa et al. (2017a) recorded *Dixa submaculata*, *D. puberula* Loew, 1849, and *Dixella obscura* (Loew, 1849) as adults from Armenia.

Dixa nebulosa Meigen, 1830

Material examined. Azerbaijan, Lankaran, Lerik Distr.: Gunesli Lerik near waterfall, 548 m a.s.l., 38°47'41.7"N 48°28'50.7"E, 22.IX.2018, 1 male; Vasharu River near Akbarmahalla Vill., 673 m a.s.l., 38°35'14.9"N 48°38'41.3"E, 22.IX.2018, 1 male (both specimens: LMEE).

Distribution. Species known from Europe, Tajikistan, Turkey and Morocco (Koç et al., 2006). First record for Azerbaijan and Transcaucasia.

Dixa nubilipennis Curtis, 1832

Material examined. Georgia, Imereti, Tskhenistskali River near Ghvedi, 295 m a.s.l., 42°27'21.9"N 42°35'47.1"E, 16.IX.2018, 1 male (LMEE).

Distribution. Relatively common European species (Wagner, 2018). First record for Georgia and Transcaucasia.

Dixa puberula Loew, 1849

Material examined. Azerbaijan, Lankaran, Lerik Distr., small brook near Lerik – Mistan road, 1205 m a.s.l., 38°42'52.4"N 48°25'17.3"E, 22.IX.2018, 1 male (LMEE).

Distribution. Species known from Europe and Armenia (Oboňa et al., 2017a; Wagner, 2018). First record for Azerbaijan.

Dixa submaculata Edwards, 1920

Material examined. Georgia: Imereti, Nakerala Range, tributary of Tkibula River, 1016 m a.s.l., 42°22'55.1"N 43°01'06.6"E, 18.IX.2018, 5 males; Racha-Lechkhumi and Kvemo Svaneti, Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2"N 42°49'16.8"E, 16.IX.2018, 3 males (all specimens: LMEE).

Distribution. Species known from Europe and Turkey (Koç et al., 2006; Wagner, 2018). The previous Caucasian records are from the Russian Caucasus (based on larvae; Jakimov et al., 2015) and Armenia (Oboňa et al., 2017a). First record for Georgia.

Dixella attica (Pandazis, 1933)

Material examined. Azerbaijan, Lankaran, Yardymli Distr., small brook near Shovut, 495 m a.s.l., 38°57'34.7"N 48°23'47.0"E, 23.IX.2018, 1 male (LMEE).

Distribution. Relatively rare European species (Håland, 2017; Wagner, 2018). First record for Azerbaijan and Transcaucasia.

***Dixella dyari* (Garrett, 1924)**

Material examined. Azerbaijan, Lankaran, Lerik Distr., small brook near Bandakuja, 1216 m a.s.l., 38°42'31.8''N 48°25'30.2''E, 22.IX.2018, 2 males (LMEE).

Distribution. Rare species, previously known only from Sweden and Norway (Håland, 2017; Wagner, 2018). First record for Azerbaijan and Transcaucasia.

***Dixella laeta* (Loew, 1849)**

Material examined. Azerbaijan, Lankaran, Lerik Distr., small brook near Lerik – Mistan road, 1205 m a.s.l., 38°42'52.4''N 48°25'17.3''E, 22.IX.2018, 1 male (LMEE).

Distribution. Relatively rare European species (Håland, 2017; Wagner, 2018). First record for Azerbaijan and Transcaucasia.

Family Drosophilidae

Drosophilidae is a species-rich family with over 500 Palaearctic species (Bächli, 2018). The European fauna of Drosophilidae comprises 123 species (Bächli, 2013; Nartshuk, 2014; Máca et al., 2015). Gornostaev (1997) provided a species list of the Drosophilidae of the Transcaucasia. Later on, Sidorenko (2009), Japoshvili et al. (2018), Hrivniak et al. (2018), and Bächli (2018) supplemented it. Additions or corrections of the data from the selected older publications (Dubinin et al., 1937; Buzzati-Traverso et al., 1938; Sokolov & Dubinin, 1941; Buzzati-Traverso & Scossiroli, 1955; Geyspits & Simonenko, 1970; Poluektova, 1970; Kuznetsova & Tyshtchenko, 1979) are provided in the checklist. The level of knowledge of drosophilid biodiversity in Georgia and Azerbaijan is higher than in Armenia: Gornostaev (1997) listed only four drosophilid species for Armenia, and only *Drosophila funebris* (Fabricius, 1787) and *Phortica variegata* (Fallén, 1823) supplement this short list (Dobzhansky, 1965, and Bigot, 1880, respectively).

***Drosophila immigrans* Sturtevant, 1921**

Material examined. Azerbaijan, Lankaran, Yardymli Distr., small brook near Tahirli, 482 m a.s.l., 38°56'20.4''N 48°21'10.9''E, 23.IX.2018, 1 male. Georgia, Imereti, Khanistskali River near restaurant Chaltashua, 281 m a.s.l., 42°00'53.5''N 42°50'05.9''E, 17.IX.2018, 2 females (all specimens: J.M. coll.).

Distribution. A virtually cosmopolitan species originating from the Oriental Region, with synanthropic occurrence in Europe known for about a century, recorded from the North Caucasus (Russia) and Turkey, not yet found in Iran. First records for Georgia, Azerbaijan and Transcaucasia.

***Drosophila simulans* Sturtevant, 1919**

Material examined. Azerbaijan, Lankaran, Lerik Distr.: Vasharu River, Vilaparqo Vill., 613 m a.s.l., 38°35'29.1''N 48°39'52.5''E, 21.IX.2018, 1 female; small brook near Shovut, 495 m a.s.l., 38°57'34.7''N 48°23'47.0''E, 23.IX.2018, 1 female; small brook near Tahirli, 482 m a.s.l., 38°56'20.4''N 48°21'10.9''E, 23.IX.2018, 1 male. Georgia: Shida Kartli, road near park near cinema, 799 m a.s.l., 42°01'15.1''N 43°33'55.6''E, 15.IX.2018, 1 male; Imereti: Tskhenistskali River near Ghvedi, 295 m a.s.l., 42°27'21.9''N 42°35'47.1''E, 16.IX.2018, 3 males, 12 females; Tsablarastskali River, 574 m a.s.l., 41°57'35.0''N 42°46'41.3''E, 14.IX.2018, 1 female (all specimens: J.M. coll.).

Distribution. A virtually cosmopolitan species originating from the Afrotropical Region, with synanthropic occurrence in Europe (mainly its Mediterranean part), known for more than 50 years; known from Georgia (Gornostaev, 1997). First records for Azerbaijan.

***Drosophila suzukii* (Matsumura, 1931)**

Material examined. Azerbaijan, Lankaran: Lerik Distr., Vasharu River, Vilaparqo Vill., 613 m a.s.l., 38°35'29.1''N 48°39'52.5''E, 21.IX.2018, 1 female, 3 males; Yardymli Distr., small brook near Tahirli, 482 m a.s.l., 38°56'20.4''N 48°21'10.9''E, 23.IX.2018, 1 male. Georgia: Imereti, Tskhenistskali River near Ghvedi, 295 m a.s.l., 42°27'21.9''N 42°35'47.1''E, 16.IX.2018, 3 females, 3 males; Racha-Lechkhumi and Kvemo Svaneti: Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2''N 42°49'16.8''E, 16.IX.2018, 1 female; Tskhenistskali River near Makhishi, 1353 m a.s.l., 42°48'38.0''N 43°06'39.4''E, 16.IX.2018, 1 male (all specimens: J.M. coll.).

Distribution. Subcosmopolitan species, a fruit pest (infesting stone fruits and berries in particular), apparently originating from the Oriental Region and for almost a century known also from the eastern part of the Palaearctic Region. Over the past decade, the species expanded to the Nearctic and Neotropical regions as well as to the western part of the Palaearctic. It has been recently reported from Georgia (Japoshvili et al., 2018). First records for Azerbaijan.

***Drosophila testacea* von Roser, 1840**

Material examined. **Georgia,** Racha-Lechkhumi and Kvemo Svaneti, Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2"N 42°49'16.8"E, 16.IX.2018, 1 female, 1 male (J.M. coll.).

Distribution. Palaearctic species, known from the North Caucasus (Russia: Daghestan), Turkey, Iran (the Caspian Sea coast), and from Azerbaijan in the Transcaucasia (Gornostaev, 1997). First record for Georgia.

***Drosophila transversa* Fallén, 1823**

Material examined. **Azerbaijan, Lankaran:** Lerik Distr.: Vasharu River, Vilaparqo Vill., 613 m a.s.l., 38°35'29.1"N 48°39'52.5"E, 21.IX.2018, 1 female; Lankaran River near Lerik Relax hotel and resort, 363 m a.s.l., 38°45'57.9"N 48°34'35.5"E, 22.IX.2018, 2 males; Yardymli Distr.: small brook near Tahirli, 482 m a.s.l., 38°56'20.4"N 48°21'10.9"E, 23.IX.2018, 2 males (all specimens: J.M. coll.).

Distribution. Holarctic species (its distribution in the Nearctic Region seems to be patchy) known from various parts of the North Caucasus (Russia). Kuznetsova & Tyshtchenko (1979) recorded the species from the Transcaucasia, (Georgia: Abkhazia). First records for Azerbaijan.

***Leucophenga maculata* (Dufour, 1839)**

Material examined. **Georgia, Imereti,** Khanistskali River near Chaltashua restaurant, 281 m a.s.l., 42°00'53.5"N 42°50'05.9"E, 17.IX.2018, 1 male (J.M. coll.).

Distribution. Palaearctic species recorded in Turkey, the Caspian coast in Iran and from Azerbaijan in the Transcaucasia (Gornostaev, 1997). First record for Georgia.

***Lordiphosa andalusiaca* (Strobl, 1906)**

Material examined. **Azerbaijan, Lankaran:** Astara Distr., small brook near Azarud Vill., 1068 m a.s.l., 38°35'20.1"N 48°35'16.8"E, 21.IX.2018, 2 males; Lerik Distr.: small brook near Relax Zuvand Istirahet Merkezi, 1454 m a.s.l., 38°39'58.6"N 48°21'42.0"E, 22.IX.2018, 4 females, 8 males; small brook near Bandakuja, 1216 m a.s.l., 38°42'31.8"N 48°25'30.2"E, 22.IX.2018, 1 male; Yardymli Distr., small brook near Tahirli, 482 m a.s.l., 38°56'20.4"N 48°21'10.9"E, 23.IX.2018, 1 female (all specimens: J.M. coll.).

Distribution. West-Palaearctic species known to occur from Europe up to the northern part of the Caucasus (Daghestan), also known from the eastern Mediterranean (Levant), westernmost Iran and Uzbekistan (Bächli, 2018) and recorded from Afghanistan (as *Drosophila* sp.; Hackman, 1970). First records for Azerbaijan.

***Lordiphosa fenestrarum* (Fallén, 1823)**

Material examined. **Azerbaijan, Lankaran,** Lerik Distr., Guneshli Lerik near waterfall, 548 m a.s.l., 38°47'41.7"N 48°28'50.7"E, 22.IX.2018, 1 female (J.M. coll.).

Distribution. Species known from Europe and Russia, distributed up to Daghestan and West Siberia, also known from Georgia (Bächli, 2018). Common in various wetlands. First record for Azerbaijan.

***Lordiphosa hexasticha* (Papp, 1971)**

Material examined. **Georgia, Imereti,** Khanistskali River near Chaltashua restaurant, 281 m a.s.l., 42°00'53.5"N 42°50'05.9"E, 17.IX.2018, 1 female (J.M. coll.).

Distribution. Palaearctic species known from Europe and Yakutia (Sakha) (Bächli, 2018). Adults occur rarely, in wetlands. First record for Georgia and Transcaucasia.

***Scaptomyza graminum* (Fallén, 1823)**

Material examined. **Georgia, Racha-Lechkhumi and Kvemo Svaneti,** Krikhula River near Kvemo Krikhi, 631 m a.s.l., 42°29'57.8"N 43°10'32.5"E, 18.IX.2018, 1 male (J.M. coll.).

Distribution. Holarctic species recorded in the Ciscaucasia, Turkey, the Caspian coast of Iran, and in the Transcaucasia, specifically in Azerbaijan

(Gornostaev, 1997). Its occurrence in other parts of the World should be verified. A common species; its presence is strongly dependent on the occurrence of Caryophyllaceae and Chenopodiaceae, host plants for its larvae. First record for Georgia.

Zaprionus tuberculatus Malloch, 1932

Material examined. Azerbaijan, Lankaran, Lerik Distr., Lankaran River near Piran Vill., 221 m a.s.l., 38°44'10.0''N 48°38'04.7''E, 22.IX.2018, 1 female.

Georgia, Imereti: Tskhenistskali River near Ghvedi, 295 m a.s.l., 42°27'21.9''N 42°35'47.1''E, 16.IX.2018, 21 females, 10 males; Khanistskali River near Chaltashua restaurant, 281 m a.s.l., 42°00'53.5''N 42°50'05.9''E, 17.IX.2018, 1 female (all specimens: J.M. coll.).

Distribution. Chiefly an Afrotropical species known also from the Canary Islands, eastern parts of the Mediterranean, and some islands in the Indian Ocean. Less than ten years ago, the species has apparently expanded to Turkey. First records for Georgia, Azerbaijan and Transcaucasia.

Family Limoniidae

Limoniidae is among the most species-rich families of Diptera. Of 2129 species known to occur in the Palaearctic Region, 1115 species are listed from the West Palaearctic (Oosterbroek, 2019). Savchenko (1971–1989; see references) and Savchenko et al. (1991) contributed considerably to the knowledge of Limoniidae fauna of the Transcaucasia and summarised the results in an annotated catalogue (Savchenko, 1989). Recently, Oboňa et al. (2016) published the first checklist of the family for Armenia and Starý et al. (2017) published new records from Azerbaijan.

Subfamily Limnophilinae

Austrolimnophila (Austrolimnophila) vikhrevi Gavryushin, 2015

Material examined. Azerbaijan, Lankaran, Astara Distr., small brook near Sym Vill., 715 m a.s.l., 38°28'56.9''N 48°37'27.5''E, 21.IX.2018, 1 male (J.S. coll.).

Distribution. Species known only from the North Caucasus (Russia: Krasnodar Territory) (Gavryushin, 2015). First record for Azerbaijan; first record since the original description.

Paradelphomyia (Oxyrhiza) senilis

(Haliday, 1833)

Material examined. Georgia, Racha-Lechkhumi and Kvemo Svaneti, Gorts kali River near Khotevi, 874 m a.s.l., 42°27'48.2''N 43°08'12.6''E, 18.IX.2018, 1 male (J.S. coll.).

Distribution. Species known from Europe, Russia (including the North Caucasus), Turkey, Armenia, Azerbaijan and Kyrgyzstan (Oosterbroek, 2019). First record for Georgia.

Pseudolimnophila (Pseuudolimnophila) melanura Savchenko, 1984

Material examined. Azerbaijan, Lankaran, Lerik Distr., Lankaran River near Lerik Relax hotel and resort, 363 m a.s.l., 38°45'57.9''N 48°34'35.5''E, 22.IX.2018, 3 males. **Georgia, Racha-Lechkhumi and Kvemo Svaneti**, Krikhula River near Kvemo Krikhi, 631 m a.s.l., 42°29'57.8''N 43°10'32.5''E, 18.IX.2018, 1 male (all specimens: J.S. coll.).

Distribution. Species previously known from Armenia, Azerbaijan and Tajikistan (Oosterbroek, 2019). First record for Georgia.

Sufamily Chioneinae

Rhynopholus bifurcatus Goetghebuer in Goetghebuer et Tonnoir, 1920

Material examined. Georgia: Racha-Lechkhumi and Kvemo Svaneti: Tskhenistskali River near Mami, 1072 m a.s.l., 42°50'23.8''N 42°52'50.0''E, 16.IX.2018, 1 male; Gorts kali River near Khotevi, 874 m a.s.l., 42°27'48.2''N 43°08'12.6''E, 18.IX.2018, 1 male; *Imereti*, Sairmeghele River, 1265 m a.s.l., 41°52'59.1''N 42°45'20.5''E, 17.IX.2018, 1 female, 2 males (all specimens: J.S. coll.).

Distribution. Species known from Europe, Russia and Turkey (Oosterbroek, 2019). First record for Georgia.

Subfamily Limoniinae

Geranomyia annandalei Edwards, 1913

Material examined. Azerbaijan, Lankaran, Lerik Distr., Lankaran River near Piran Vill., 221 m a.s.l., 38°44'10.0''N 48°38'04.7''E, 22.IX.2018, 1 female (J.S. coll.).

Distribution. Species known from Egypt, Israel and the United Arab Emirates (Oosterbroek, 2019). First record for Azerbaijan and Transcaucasia.

***Limonia hercegovinae* (Strobl, 1898)**

Material examined. **Georgia:** *Racha-Lechkhumi and Kvemo Svaneti*, Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2''N 42°49'16.8''E, 16.IX.2018, 1 female, 4 males; *Imereti*: Khanistskali River near Chaltashua restaurant, 281 m a.s.l., 42°00'53.5''N 42°50'05.9''E, 17.IX.2018, 3 males; Gortskaли River near Khotevi, 874 m a.s.l., 42°27'48.2''N 43°08'12.6''E, 18.IX.2018, 1 male; Krikhula River near Kvemo Krikhi, 631 m a.s.l., 42°29'57.8''N 43°10'32.5''E, 18.IX.2018, 2 females, 1 male (all specimens: J.S. coll.).

Distribution. Species known from Europe, North Caucasus (Russia), Morocco, Armenia, Azerbaijan, Turkey, and Iran (Oosterbroek, 2019). First record for Georgia.

Rhipidia (Rhipidia) uniseriata uniseriata

Schiner, 1864

Material examined. **Azerbaijan, Lankaran**, Lerik Distr., small brook near Relax Zuvand Istirahet Merkezi, 1454 m a.s.l., 38°39'58.6''N 48°21'42.0''E, 22.IX.2018, 1 female (J.S. coll.).

Distribution. Species known from Europe, Russia (including the North Caucasus), Georgia, Turkey and Mongolia (Oosterbroek, 2019). First record for Azerbaijan.

Family Lonchopteridae

Lonchopteridae is a small family with 13 species known in Europe (Barták, 2019). The Lonchopteridae of the Transcaucasia and indeed the broader Caucasus as a whole, have never been previously studied.

***Lonchoptera lutea* Panzer, 1809**

Material examined. **Azerbaijan, Lankaran**, Lerik Distr., small brook near Relax Zuvand Istirahet Merkezi, 1454 m a.s.l., 38°39'58.6''N 48°21'42.0''E, 22.IX.2018, 2 males. **Georgia: Imereti**: Tsablarastskaли River, 574 m a.s.l., 41°57'35.0''N 42°46'41.3''E, 14.IX.2018, 1 male; Sairmeghele River, 1265 m a.s.l., 41°52'59.1''N 42°45'20.5''E, 17.IX.2018, 5 males; waterfall "vodopad i rechka", 1672 m a.s.l., 41°52'10.4''N 42°47'39.9''E, 17.IX.2018, 2 males; Tsablaristskaли River near Sairme, 941 m a.s.l., 41°54'23.5''N 42°44'39.1''E, 17.IX.2018, 2 males; *Racha-Lechkhumi and Kvemo Svaneti*: Krikhula River near Kvemo Krikhi, 631 m a.s.l., 42°29'57.8''N 43°10'32.5''E,

18.IX.2018, 1 male; Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2''N 42°49'16.8''E, 16.IX.2018, 4 males (all specimens: LMEE).

Distribution. Common West-Palaearctic species. First records for Azerbaijan, Georgia and Transcaucasia.

***Lonchoptera tristis* Meigen, 1824**

Material examined. **Azerbaijan, Lankaran**: Lerik Distr., Hirkan National Park, tributary of Vasharu River, 770 m a.s.l., 38°35'58.9''N 48°41'17.8''E, 22.IX.2018, 1 male; Astara Distr., small brook near Azarud Vill., 1068 m a.s.l., 38°35'20.1''N 48°35'16.8''E, 21.IX.2018, 1 male (both specimens: LMEE).

Distribution. Relatively rare European species. First records for Azerbaijan and Transcaucasia.

***Lonchoptera cf. vaillanti* Zwick, 2004**

Material examined. **Azerbaijan, Lankaran**, Lerik Distr., small brook near Bandakuja, 1216 m a.s.l., 38°42'31.8''N 48°25'30.2''E, 22.IX.2018, 5 males. **Georgia: Racha-Lechkhumi and Kvemo Svaneti**: Tskhenistskali River near Mami, 1072 m a.s.l., 42°50'23.8''N 42°52'50.0''E, 16.IX.2018, 5 males; Gortskaли River near Khotevi, 874 m a.s.l., 42°27'48.2''N 43°08'12.6''E, 18.IX.2018, 4 males; Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2''N 42°49'16.8''E, 16.IX.2018, 1 male; *Imereti*: Tsablarastskaли River, 574 m a.s.l., 41°57'35.0''N 42°46'41.3''E, 14.IX.2018, 1 male; Sairmeghele River, 1265 m a.s.l., 41°52'59.1''N 42°45'20.5''E, 17.IX.2018, 3 males; waterfall "vodopad i rechka", 1672 m a.s.l., 41°52'10.4''N 42°47'39.9''E, 17.IX.2018, 2 males (all specimens: LMEE).

Note. Species known only from the original description. However, the validity of *Lonchoptera vaillanti* Zwick, 2004 is doubtful according to Barták (2009). The specimens examined demonstrated a degree of variability in the shape of posterior gonapophysis and in the length of anterior gonapophysis, as compared to the original description.

Family Pediciidae

A total of 251 Pediciidae species are known to occur in the Palaearctic Region; 113 of them are listed from the West Palaearctic (Oosterbroek, 2019). Savchenko contributed considerably to

the knowledge of the Transcaucasian fauna (e.g. Savchenko, 1978b) and summarised the results in an annotated catalogue (Savchenko, 1989). Oboňa et al. (2016) published the first checklist of Pediciidae from Armenia.

Dicranota (Paradicranota) ophidia

Alexander, 1975

Material examined. **Georgia, Imereti,** upper waterfall "vodopad i rechka", 1683 m a.s.l., 41°52'09.7"N 42°47'34.3"E, 17.IX.2018, 2 males (J.S. coll.).

Distribution. Species known only from the original description from Iran (Alexander, 1975). First record for Georgia and Transcaucasia; first record since the original description.

Family Psychodidae

Psychodidae is a relatively species-rich family with nearly 500 species known to occur in Europe and the adjacent island areas; for more details, see Wagner (2018). The following authors contributed considerably to the knowledge of the Transcaucasian Psychodidae: Perfiliew (1966), Lewis (1982), Artemiev & Neronov (1984), Vaillant (1972–1983), Vaillant & Joost (1983), Wagner (1981, 1990, 2018), Wagner & Joost (1986, 1988), Gugushvili & Lomtadze (2002), Wagner et al. (2002), Ježek (1987, 2004a, 2006a, 2007, 2009), Melaun et al. (2014), Oboňa et al. (2017b), and recently Ježek et al. (2014, 2018).

Subfamily Sycoracinae

Sycorax caucasica Ježek, 1990

Material examined. **Georgia, Imereti,** Nakerala Range, tributary of Tkibula River, 1016 m a.s.l., 42°22'55.1"N 43°01'06.6"E, 18.IX.2018, 1 male (NMPC, Inv. No. 24900).

Distribution. Species known only from Abkhazia, with many localities reported by Ježek (1990c, 1999a) and Tkoč et al. (2014). First record for Georgia territory other than Abkhazia.

Subfamily Psychodinae

Clogmia albipunctata (Williston, 1893)

Material examined. **Azerbaijan, Lankaran,** Starway hotel, on building, 38°46'03.3"N 48°50'29.2"E, 23.IX.2018, 1 female (NMPC, Inv. No. 24848). **Georg-**

gia, Imereti: Kutaisi motel (spring area), 158 m a.s.l., 42°15'26.8"N 42°42'35.3"E, 15.IX.2018, 1 female (NMPC, Inv. No. 24849); Tskhenistskali River near Ghvedi, 295 m a.s.l., 42°27'21.9"N 42°35'47.1"E, 16.IX.2018, 1 male (NMPC, Inv. No. 24846).

Distribution. Expansive, often synanthropic, circumtropical and circumsubtropical species (Ježek & Goutner, 1995; Humala & Polevoi, 2015; Afzan & Belqat, 2016; Bejarano & Estrada, 2016; Cazorla-Perfetti & Moreno, 2017; Ježek et al., 2018; Wagner, 2018). First records for Azerbaijan and Georgia.

Parajungiella serbica (Krek, 1985)

Material examined. **Azerbaijan, Lankaran,** Lerik Distr., Lankaran River near Piran Vill., 221 m a.s.l., 38°44'10.0"N 48°38'04.7"E, 22.IX.2018, 1 male (NMPC, Inv. No. 24895).

Distribution. Relatively rare European species (Ježek & Goutner, 1993; Ježek & Omelková, 2012). First record for Azerbaijan and Transcaucasia.

Paramormia (Duckhousiella) ustulata

(Walker, 1856)

Material examined. **Azerbaijan, Lankaran:** As-tara Distr., small brook near Azarud Vill., 1068 m a.s.l., 38°35'20.1"N 48°35'16.8"E, 21.IX.2018, 1 male (NMPC, Inv. No. 24873); Lerik Distr.: Guneshli Lerik, near waterfall, 548 m a.s.l., 38°47'41.7"N 48°28'50.7"E, 22.IX.2018, 1 male (NMPC, Inv. No. 24877); small brook near Lerik – Mistan road, 1205 m a.s.l., 38°42'52.4"N 48°25'17.3"E, 22.IX.2018, 1 male (NMPC, Inv. No. 24856); small brook near Bandakuja, 1216 m a.s.l., 38°42'31.8"N 48°25'30.2"E, 22.IX.2018, 1 male (NMPC, Inv. No. 24880); Yardymli Distr.: small brook near Shovut, 495 m a.s.l., 38°57'34.7"N 48°23'47.0"E, 23.IX.2018, 1 male (NMPC, Inv. No. 24875); small brook near Avash, 1292 m a.s.l., 38°53'42.0"N 48°05'31.7"E, 23.IX.2018, 1 male (NMPC, Inv. No. 24859).

Distribution. A widespread species or possibly a complex of species occurring in the Holarctic Region (Ježek & Yağci, 2005; Salmela et al., 2014; Kvifte et al., 2016; Ježek et al., 2018). First record for Azerbaijan.

Philosepedon (Trichosepedon) clouense

Ježek, 1994

Material examined. **Georgia, Imereti,** Nakerala Range, tributary of Tkibula River, 1016 m a.s.l.,

42°22'55.1''N 43°01'06.6''E, 18.IX.2018, 1 male (NMPC, Inv. No. 24901).

Distribution. Species known so far only from Abkhazia, from a single male – holotype (Ježek, 1994b; Omelková & Ježek, 2012a; Tkoč et al., 2014). First record for Georgia territory other than Abkhazia.

***Apsycha pusilla* (Tonnoir, 1922)**

Material examined. Azerbaijan, Lankaran, Lerik Distr., small brook near Bandakuja, 1216 m a.s.l., 38°42'31.8''N 48°25'30.2''E, 22.IX.2018, 1 male (NMPC, Inv. No. 24884).

Distribution. Species associated with cow-sheds, often overlooked because its genitalia are very similar to *Psychoda grisescens* Tonnoir, 1922; previously recorded in the USA, Czech Republic, Norway, Poland and Slovakia (Ježek, 2007; Kvifte et al., 2011; Oboňa & Ježek, 2014). First record for Azerbaijan and Transcaucasia.

***Psycha grisescens* (Tonnoir, 1922)**

Material examined. Azerbaijan, Lankaran, Yardymli Distr., small brook near Masally – Yardymli Yolu road, 407 m a.s.l., 38°56'40.1''N 48°26'50.0''E, 23.IX.2018, 1 male (NMPC, Inv. No. 24890).

Distribution. European and North African species (e.g. Ježek, 1990b; Oboňa & Ježek, 2014). First record for Azerbaijan and Transcaucasia.

***Psychoda phalaenoides* (Linnaeus, 1758)**

Material examined. Georgia, Racha-Lechkhumi and Kvemo Svaneti, Tskhenistskali River near Makhishi, 1353 m a.s.l., 42°48'38.0''N 43°06'39.4''E, 16.IX.2018, 1 male (NMPC, Inv. No. 24853).

Distribution. Widespread Holarctic polyvoltine species (e.g. Ježek, 1990b; Oboňa & Ježek, 2014). First record for Georgia and Transcaucasia.

***Psychoda uniformata* Haseman, 1907**

Material examined. Azerbaijan, Lankaran: Yardymli Distr., small brook near Masally – Yardymli Yolu road, 407 m a.s.l., 38°56'40.1''N 48°26'50.0''E, 23.IX.2018, 1 male (NMPC, Inv. No. 24891).

Distribution. Holarctic species recorded in Europe, Armenia, Turkey, Iran, Israel, Mongolia, Morocco, and the USA (Ježek & Yağci, 2005; Ježek & Omelková, 2012; Oboňa & Ježek, 2014;

Afzan & Belqat, 2016; Ježek et al., 2018). First record for Azerbaijan.

***Psychodocha gemina* (Eaton, 1904)**

Material examined. Georgia: Imereti, Tsablarastskali River, 574 m a.s.l., 41°57'35.0''N 42°46'41.3''E, 14.IX.2018, 1 male (NMPC, Inv. No. 24888); Racha-Lechkhumi and Kvemo Svaneti: Tskhenistskali River near Mami, 1072 m a.s.l., 42°50'23.8''N 42°52'50.0''E, 16.IX.2018, 1 male (NMPC, Inv. No. 24863); Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2''N 42°49'16.8''E, 16.IX.2018, 1 male (NMPC, Inv. No. 24886); Tskhenistskali River near Makhishi, 1353 m a.s.l., 42°48'38.0''N 43°06'39.4''E, 16.IX.2018, 1 male (NMPC, Inv. No. 24855).

Distribution. Common European species (Ježek & Goutner, 1995; Krek, 1999; Kvifte et al., 2011, 2013; Salmela et al., 2014; Ježek et al., 2017). First record for Georgia.

***Psychomora trinodulosa* (Tonnoir, 1922)**

Material examined. Georgia, Racha-Lechkhumi and Kvemo Svaneti: Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2''N 42°49'16.8''E, 16.IX.2018, 1 male (NMPC, Inv. No. 24885); Krikhula River near Kvemo Krikhi, 631 m a.s.l., 42°29'57.8''N 43°10'32.5''E, 18.IX.2018, 1 male (NMPC, Inv. No. 24869).

Distribution. Widespread Holarctic species (Ježek, 1990b; Salmela et al., 2014; Ježek et al., 2017; Wagner, 2018). First record for Georgia and Transcaucasia.

***Tinearia alternata* (Say, 1824)**

Material examined. Azerbaijan, Lankaran: Astara Distr., small brook near Azarud Vill., 1068 m a.s.l., 38°35'20.1''N 48°35'16.8''E, 21.IX.2018, 1 male (NMPC, Inv. No. 24874); Lerik Distr., Lankaran River near Piran Vill., 221 m a.s.l., 38°44'10.0''N 48°38'04.7''E, 22.IX.2018, 1 male (NMPC, Inv. No. 24894); Yardymli Distr., small brook near Shovut, 495 m a.s.l., 38°57'34.7''N 48°23'47.0''E, 23.IX.2018, 1 male (NMPC, Inv. No. 24876). Georgia: Imereti, Kutaisi motel (spring area), 158 m a.s.l., 42°15'26.8''N 42°42'35.3''E, 15.IX.2018, 1 male (NMPC, Inv. No. 24851); Racha-Lechkhumi and Kvemo Svaneti: Tskhenistskali River near Makhishi, 1353 m a.s.l., 42°48'38.0''N 43°06'39.4''E, 16.IX.2018, 1 male (NMPC, Inv. No. 24852); Krikhula River near Kvemo Krikhi, 631 m a.s.l., 42°29'57.8''N 43°10'32.5''E, 18.IX.2018, 1 male (NMPC, Inv. No. 24868).

Distribution. Cosmopolitan, generally widespread species (Ježek & van Harten, 1996; Kvifte et al., 2011; Kvifte, 2012; Ježek & Tkoč, 2012; Afzan & Belqat, 2016; Ježek et al., 2017, 2018; Wagner, 2018). First record for Georgia.

***Ypsydocha setigera* (Tonnoir, 1922)**

Material examined. **Georgia,** Imereti, Sairmeghele River, 1265 m a.s.l., 41°52'59.1''N 42°45'20.5''E, 17.IX.2018, 1 female (NMPC, Inv. No. 24847).

Distribution. Very common Holarctic polyvoltine species (e.g. Ježek, 2003; Oboňa & Ježek, 2014). First record for Georgia and Transcaucasia.

***Berdeniella manicata* (Tonnoir, 1920)**

Material examined. **Georgia,** Imereti, Nakerala Range, tributary of Tkibula River, 1016 m a.s.l., 42°22'55.1''N 43°01'06.6''E, 18.IX.2018, 1 male (NMPC, Inv. No. 24898).

Distribution. Relatively common European species (Ježek, 1995; Oboňa & Ježek, 2014). First record for Georgia and Transcaucasia.

Clytocerus (Boreoclytocerus) grusinicus

Wagner, 1981

Material examined. **Georgia,** Imereti, Tskhenistskali River near Ghvedi, 295 m a.s.l., 42°27'21.9''N 42°35'47.1''E, 16.IX.2018, 1 male (NMPC, Inv. No. 24844).

Note. The species was described and known only from a single male (see also Wagner, 1990). Here, we provide the second record of the species.

***Pericoma (Pachypericoma) fallax* Eaton, 1893**

Material examined. **Azerbaijan,** Lankaran, Lerik Distr., Lankaran River near Piran Vill., 221 m a.s.l., 38°44'10.0''N 48°38'04.7''E, 22.IX.2018, 1 male (NMPC, Inv. No. 24897).

Distribution. European and West Siberian species recorded in more than 18 countries. It is known from the Caucasus (Abkhazia) as well (Ježek, 2004b, 2006b; Ježek & Omelková, 2012; Kroča & Ježek, 2015; Omelková & Ježek, 2012b). First record for Azerbaijan.

***Pericoma (Pericoma) bosniaca* Krek, 1966**

Material examined. **Azerbaijan,** Lankaran: Astara Distr., small brook near Azarud Vill., 1068 m

a.s.l., 38°35'20.1''N 48°35'16.8''E, 21.IX.2018, 1 male (NMPC, Inv. No. 24872); Yardymli Distr., small brook near Davidonu, 197 m a.s.l., 38°56'31.7''N 48°29'35.7''E, 23.IX.2018, 1 male (NMPC, Inv. No. 24879).

Distribution. Species known from the former Yugoslavia and from Armenia (Krek, 1966, 1967a, 1967b, 1970, 1972, 1974, 1979a, 1999; Krek et al., 1976; Mučibabić et al., 1984; Vaillant, 1978; Wagner, 1990; Wagner & Joost, 1988; Ježek et al., 2018). First record for Azerbaijan.

***Pericoma (Pericoma) exquisita* Eaton, 1893**

Material examined. **Azerbaijan,** Lankaran: Lerik Distr., small brook near Bandakuja, 1216 m a.s.l., 38°42'31.8''N 48°25'30.2''E, 22.IX.2018, 1 male (NMPC, Inv. No. 24881); Yardymli Distr., small brook near Masally – Yardymli Yolu road, 407 m a.s.l., 38°56'40.1''N 48°26'50.0''E, 23.IX.2018, 1 male (NMPC, Inv. No. 24889).

Distribution. Species widespread in Europe, North Africa and Transcaucasia (Wagner, 1981; Ježek, 2004b; Kvifte et al., 2013; Oboňa & Ježek, 2014; Afzan & Belqat, 2016; Ježek et al., 2017, 2018; Wagner, 2018). First records for Azerbaijan and Transcaucasia.

Pericoma (Pericoma) motasi motasi

Vaillant, 1978

Material examined. **Georgia,** Racha-Lechkhumi and Kvemo Svaneti, Gortsakali River near Khotevi, 874 m a.s.l., 42°27'48.2''N 43°08'12.6''E, 18.IX.2018, 1 male (NMPC, Inv. No. 24892).

Distribution. Species described from the Carpathian Mountains (Romania) from a single male. Wagner & Joost (1988) reported this species in Bulgaria. The subspecies *P. (P.) motasi macedonica* Krek, 1999 was described from Serbia and Macedonia. First record of the species for Georgia and Transcaucasia.

***Pneumia gracilis gracilis* (Eaton, 1893)**

Material examined. **Azerbaijan,** Lankaran, Lerik Distr., Hirkan National Park, tributary of Vasharu River near Vilaparqo Yolu, 831 m a.s.l., 38°35'59.1''N 48°41'17.1''E, 21.IX.2018, 1 male (NMPC, Inv. No. 24862). **Georgia,** Imereti: Khanistskali River near Chaltashua restaurant, 281 m a.s.l., 42°00'53.5''N 42°50'05.9''E, 17.IX.2018, 1 male (NMPC, Inv.

No. 24858); Sairme hotels and resorts, Tsablaristskali River, 940 m a.s.l., 41°54'19.3"N 42°44'40.0"E, 18.IX.2018, 1 male (NMPC, Inv. No. 24865).

Distribution. Species recorded from several European countries and known also from Abkhazia in the Transcaucasia (Ježek, 2002, 2004b; Ježek et al., 2012, 2017; Omelková & Ježek, 2012). First records for Azerbaijan and Georgia territory other than Abkhazia.

***Pneumia gracilis kandavanica* (Ježek, 1990)**

Material examined. Azerbaijan, Lankaran: Astara Distr., small brook near Azarud Vill., 1068 m a.s.l., 38°35'20.1"N 48°35'16.8"E, 21.IX.2018, 1 male (NMPC, Inv. No. 24870); Yardymli Distr., small brook near Davidonu, 197 m a.s.l., 38°56'31.7"N 48°29'35.7"E, 23.IX.2018, 1 male (NMPC, Inv. No. 24878).

Distribution. Subspecies described from Iran, Kuh-e Kohar (Ježek, 1990d; see also Tkoč et al., 2014). Wagner (2003) reported this subspecies near the Iranian Novshar and northern Iran as well. The males from Yardymli and Lerik districts in Azerbaijan refuted the idea about this ostensible endemic subspecies of the Iranian Mountains (in future, *P. kandavanica* will probably be considered a species bona based on rich material sampled in many other localities). First records for Azerbaijan and Transcaucasia.

***Pneumia palustris* (Meigen, 1804)**

Material examined. Georgia, Racha-Lechkhumi and Kvemo Svaneti, Krikhula River near Kvemo Krikhi, 631 m a.s.l., 42°29'57.8"N 43°10'32.5"E, 18.IX.2018, 1 male (NMPC, Inv. No. 24867).

Distribution. Species widespread in Europe and Turkey (Ježek & Hájek, 2007; Oboňa & Ježek, 2014), known from Abkhazia (Ježek, 2004b; Ježek & Hájek, 2007). First record for Georgia territory other than Abkhazia.

***Pneumia pilularia* (Tonnoir, 1940)**

Material examined. Azerbaijan, Lankaran, Yardymli Distr., small brook near Avash, 1292 m a.s.l., 38°53'42.0"N 48°05'31.7"E, 23.IX.2018, 1 male (NMPC, Inv. No. 24861). Georgia, Racha-Lechkhumi and Kvemo Svaneti, Tskhenistskali River near Makhishi, 1353 m a.s.l., 42°48'38.0"N 43°06'39.4"E, 16.IX.2018, 1 male (NMPC, Inv. No. 24854).

Distribution. Species distributed nearly throughout Europe, the Central Caucasus, Armenia, and Tajikistan, but relatively sporadic (Wagner, 1990; Vaillant & Joost, 1983; Ježek, 2004b; Ježek et al., 2014; Ježek et al., 2018). First records for Azerbaijan and Georgia.

***Tonnoiriella arcuata* Ježek, 1997**

Material examined. Georgia, Imereti: Sairme hotels and resorts, Tsablaristskali River, 940 m a.s.l., 41°54'19.3"N 42°44'40.0"E, 18.IX.2018, 1 male (NMPC, Inv. No. 24864); Tsablarastskali River, 574 m a.s.l., 41°57'35.0"N 42°46'41.3"E, 14.IX.2018, 1 male (NMPC, Inv. No. 24887).

Distribution. Species described from Abkhazia (Pskhu) from seven males (Ježek, 1997, 1999b; Tkoč et al., 2014). First record for Georgia territory other than Abkhazia.

Family Scatopsidae

The family includes about 110 described species known from the West Palaearctic (Haenni, 2012). Three species have been recorded from the Transcaucasia, namely *Reichertella nigra* (Meigen, 1804), *Efcookella albatarsis* (Zetterstedt, 1850) and *Swammerdamella brevicornis* (Meigen, 1830) from Armenia (Oboňa et al., 2017a), and *S. brevicornis* from Azerbaijan (Hrvniak et al., 2018).

***Coboldia fuscipes* (Meigen, 1830)**

Material examined. Georgia: Shida Kartli, road near park near orthodox church, 799 m a.s.l., 42°01'15.1"N 43°33'55.6"E, 15.IX.2018, 1 female; Imereti, Tskhenistskali River near Ghvedi, 295 m a.s.l., 42°27'21.9"N 42°35'47.1"E, 16.IX.2018, 1 female (both specimens: MHNN).

Distribution. Widespread cosmopolitan species (Haenni, 2012). First records for Georgia and Transcaucasia.

***Apiloscatopse flavigollis* (Meigen, 1818)**

Material examined. Georgia, Racha-Lechkhumi and Kvemo Svaneti: Tskhenistskali River near Durashi, 970 m a.s.l., 42°50'19.2"N 42°49'16.8"E, 16.IX.2018, 1 male; Gortskali River near Khotevi, 874 m a.s.l., 42°27'48.2"N 43°08'12.6"E, 18.IX.2018, 1 male (both specimens: MHNN).

Distribution. Common species widespread in most of Europe (Haenni, 2012). The present re-

cords from Georgia greatly expand its known distribution towards the South-East. First records for Georgia and Transcaucasia.

Addenda

Electronic supplementary material 1. Additional faunal data on Drosophilidae, Limoniidae, Pediciidae and Psychodidae from Azerbaijan and Georgia. Pp. s296–s299. Available from: <https://doi.org/10.31610/zsr/2019.28.2.277>

Electronic supplementary material 2. Checklists of the Diptera families Anisopodidae, Blephariceridae, Campichoetidae, Dixidae, Drosophilidae, Limoniidae, Lonchopteridae, Pediciidae, Psychodidae, and Scatopsidae of Azerbaijan and Georgia. Pp. s300–s310. Available from: <https://doi.org/10.31610/zsr/2019.28.2.277>

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