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CHECKLIST



# Checklist of known moth flies and sand flies (Diptera, Psychodidae) from Armenia and Azerbaijan

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## Abstract

All credible and available published records for 17 species of moth flies known so far from Armenia (Phlebotominae 11 species, Psychodinae 6 species) and Azerbaijan (Phlebotominae 18 species) are summarized. The first records of 18 species of Psychodinae (tribes Mormiini, Paramormiini, Psychodini, Pericomaini) from Armenia and 6 new faunistic records (tribes Psychodini, Pericomaini) for the fauna of Azerbaijan are listed. The checklist of recent moth flies from Armenia includes now 35 species, and from Azerbaijan, 24 species.

## Keywords

Caucasus, checklist, Diptera, faunistics, first records, Phlebotominae, Psychodidae, Psychodinae

## Introduction

As mentioned by Oboňa et al. (2017b), the Caucasus is among the top 25 biologically richest and most endangered hotspots in the world, with an exceptional concentration of endemic species and species at risk. It is also one of the ecoregions of WWF's Global 200 project, which were identified as having outstanding terrestrial, freshwater, and marine habitats (Myers et al. 2000; Krever et al. 2001). The remarkable richness of the flora and fauna is determined by complex orography, geology, and climate and results

in a variety of habitats, landscapes, and microclimates in this mountain range at the border of Europe and Asia and at the junction of temperate and subtropical zones. This area is affected by both Atlantic air masses and the dry continental climate of continental Eurasia (Price 2000).

The location of this area creates favourable conditions for entomological research. However, several families of flies have not been well studied in the Caucasus, and in particular, in Armenia and Azerbaijan (Oboňa et al. 2016b, 2017b).

Moth flies (Psychodidae) are represented only by 17 species previously recorded in Armenia (mainly Perfil'ev 1966; Lewis 1982; Artemiev and Neronov 1984; Vaillant 1972; Wagner 1981, 1990, 2013; Wagner and Joost 1986; Wagner et al. 2002; Melaun et al. 2014; Oboňa et al. 2017a). These species belong to subfamilies Phlebotominae [11 species: *Phlebotomus* (*P.*) *papatasi* (Scopoli, 1786); *P.* (*Paraphlebotomus*) *alexandri* Sinton, 1928; *P.* (*P.*) *cucasicus* Marzinovsky, 1917; *P.* (*P.*) *sergenti* Parrot, 1917; *P.* (*P.*) *similis* Perfil'ev, 1963; *P.* (*Larroussius*) *kandelakii* Shurenkova, 1929; *P.* (*L.*) *tobbi* Adler & Theodor in Adler, Theodor & Lourie, 1930; *P.* (*Adlerius*) *halepensis* Theodor, 1958; *P.* (*A.*) *simici* Nitzulescu, 1931; *Sergentomyia* (*Neophlebotomus*) *pawlowskyi* (Perfiliev, 1933); and *S.* (*Parrotomyia*) *palestinensis* (Adler & Theodor, 1927)] and Psychodinae [6 species: *Parajungiella monikae* (Wagner & Joost, 1986); *Paramormia* (*P.*) *fratercula* (Eaton, 1893); *Joostiella caucasica* Vaillant, 1983; *Pericoma* (*P.*) *exquisita* Eaton, 1893; *Pneumia joosti* (Wagner, 1981); and *Thornburghiella veve* Oboňa & Ježek, 2017].

From Azerbaijan, 18 species of Psychodidae have been recorded, all belonging to subfamily Phlebotominae [*Phlebotomus* (*P.*) *papatasi* (Scopoli, 1786); *P.* (*Paraphlebotomus*) *alexandri* Sinton, 1928; *P.* (*P.*) *cucasicus* Marzinovsky, 1917; *P.* (*P.*) *jacusieli* Theodor, 1947; *P.* (*P.*) *mongolensis* Sinton, 1928; *P.* (*P.*) *sergenti* Parrot, 1917; *P.* (*P.*) *similis* Perfil'ev, 1963; *P.* (*Larroussius*) *kandelakii* Shurenkova, 1929; *P.* (*L.*) *perfiliewi transcaucasicus* Perfiliew, 1937; *P.* (*L.*) *perniciosus* Newstead, 1911; *P.* (*L.*) *tobbi* Adler & Theodor in Adler, Theodor & Lourie, 1930; *P.* (*Adlerius*) *balcanicus* Theodor, 1958; *P.* (*A.*) *brevis* Theodor & Mesghali, 1964; *P.* (*A.*) *halepensis* Theodor, 1958; *P.* (*A.*) *simici* Nitzulescu, 1931, *Sergentomyia* (*S.*) *dentata* Sinton, 1933; *S.* (*Neophlebotomus*) *pawlowskyi* (Perfiliev, 1933); and *S.* (*Parrotomyia*) *palestinensis* (Adler & Theodor, 1927)].

## Material and methods

The material presented here comes from two different sampling campaigns. The first campaign collected material by sweep-netting vegetation along streams and lakes in Armenia from August 26 to September 4, 2015 by J. Oboňa, P. Manko and L. Hrivniak; it is preserved in 75% ethanol. A list of 28 sampling sites, with coordinates and altitudes, is given in Table 1. Captured moth flies were mounted in Canada balsam on 85 slides in the laboratory. The second collection campaign by L. Hrivniak in Azerbaijan from May 26 to June 4, 2017 used the same collecting methods. Samples were collected at various sites by sweep-netting from vegetation along streams and lakes and

**Table 1.** List of sampling sites in Armenia.

Site no.	site name (province, short description of locality)	Latitude (N)	Longitude (E)	Altitude (m) a.s.l.
Arm 1	Yerevan, Tigran Mets Avenue	40°10'19.6"	44°30'49.1"	976
Arm 2	Kotayk Province, Marmarik district, Marmarik Secondary School	40°35'04.0"	44°40'10.1"	1750
Arm 3	Kotayk Province, Marmarik district, Marmarik near road H28	40°35'04.0"	44°40'10.1"	1750
Arm 4	Kotayk Province, Marmarik River, below Hankavan	40°38'04.7"	44°29'19.4"	1974
Arm 5	Kotayk Province, Hrazdan River, above Solak town	40°28'19.7"	44°42'42.2"	1567
Arm 6	Kotayk Province, Hrazdan River, below Hrazdan Reservoir	40°29'12.8"	44°43'55.9"	1705
Arm 7	Kotayk Province, tributary of Marmarik River, above Meghradzor, behind railway	40°37'12.7"	44°40'18.3"	1825
Arm 8	Kotayk Province, tributary of the Marmarik River, above recreation center	40°33'52.0"	44°40'09.1"	1872
Arm 9	Tavush Province, Lake Parz Lich and its tributary, lake Parz Lich	40°44'57.7"	44°57'33.3"	1376
Arm 10	Tavush Province, Bldan River, above the Dilijan City	40°44'49.1"	44°49'03.5"	1354
Arm 11	Tavush Province, Bldan River, below Jukhtakvank monastery and the mineral water factory/plant	40°45'11.8"	44°48'25.7"	1411
Arm 12	Tavush Province, tributary of Aghstev River, above Teghut town	40°48'09.3"	44°53'43.7"	1382
Arm 13	Gegharkunik Province, Dznaget River, at Sevan Lake and road M14	40°37'01.8"	44°57'44.2"	1930
Arm 14	Ararat Province, Gekhard River, at Gerghard monastery (parking place)	40°11'03.2"	44°31'18.6"	1770
Arm 15	Ararat Province, Gekhard River, below Garni Temple	40°08'24.7"	44°49'04.2"	1240
Arm 16	Ararat Province, small tributary of Azat River, waterfall at road	40°06'33.2"	44°43'49.3"	1249
Arm 17	Ararat Province, above the confluence of Azat and Gekhard rivers	40°06'39.4"	44°43'45.3"	1273
Arm 18	Ararat Province, small tributary of Gekhard River, crossroad at the factory	40°07'00.4"	44°44'35.7"	1340
Arm 19	Ararat Province, Azat River, at Lanjazat village	40°03'27.0"	44°34'38.3"	976
Arm 20	Lori Province, tributary of the Aghstev River, above M8 road at Lermon-tov village	40°45'24.6"	44°38'42.0"	1853
Arm 21	Lori Province, Zamanlu River, a tributary of Pambak River, at Vahagnad-zor town	40°53'07.0"	44°34'39.0"	1092
Arm 22	Lori Province, tributary of Pambak River, at the H24 road switch-backs	40°56'52.7"	44°37'37.2"	1030
Arm 23	Lori Province, small steppe brook, tributary of Dzoraget River	41°03'59.9"	44°05'44.2"	1949
Arm 24	Shirak Province, tributary of Akhurian River, in valley below road from above Amasia town	40°58'20.5"	43°46'06.9"	1987
Arm 25	Shirak Province, tributary of Akhurian River, at Torosgyugh village	40°55'55.0"	43°52'45.3"	1885
Arm 26	Lori Province, small brook, in valley at the road H23 to Pushkin Pass	40°54'22.9"	44°25'33.3"	1839
Arm 27	Lori Province, tributary of the Dzoraget River, above Pushkin village	40°58'04.8"	44°24'49.7"	1485
Arm 28	Tavush Province, tributary of the Gosh River, spring area at parking place and cafeteria	40°44'15.9"	45°01'01.2"	1039

**Table 2.** List of sampling sites in Azerbaijan.

Site no.	Site name (province, short description of locality)	Latitude (N)	Longitude (E)	Altitude (m) a.s.l.
Aze 1	Khizi district, S of Sitalçay, wetland/pasture near Sumgayit bypass highway	40°40'38.4"	49°29'08.9"	169
Aze 2	Quba district, Xinaliq village, mountain stream	41°11'00.3"	48°07'42.9"	2170
Aze 3	Lankaran district, SW of Lankaran, stream with woody vegetation, tributary of Lankaran River	38°42'59.2"	48°44'17.8"	75
Aze 4	Qabala district, S of Durca, light trap near stream, tributary of Qaraschay River	41°02'11.2"	47°53'13.6"	1236

light trapping by H. A list of 4 sampling sites, with coordinates and altitudes, is given in Table 2. The collected material was preserved in 96% ethanol in the field. Captured moth flies were mounted in Canada balsam on 7 slides in laboratory.

All material, determined by the first author, is deposited in the National Museum, Natural History Museum, Department of Entomology, Prague, Czech Republic. Slides are numbered by inventory slide number of the family Psychodidae, and catalogue number (cat. no.) of the slide to be included in the NMPC Diptera collection (Tkoč et al. 2014). Nomenclature is according to Perfil'ev (1966), Lewis (1982), and Artemiev and Neronov (1984) for Phlebotominae; for Psychodinae the nomenclature is modified from Vaillant (1972) and Wagner (1990, 2013) using the classifications of e.g. Ježek and van Harten 2005, Oboňa and Ježek (2014), and Kroča and Ježek (2015). The following abbreviations are used in the paper: H = L. Hrivniak leg., J = J. Ježek det., Ma = P. Manko leg., O = J. Oboňa leg., NMPC = collections of the National Museum Prague, HC = hand collecting, SW = sweep netting, LT = light traps.

## Results

### Psychodidae

#### Phlebotominae

#### *Phlebotomus* Rondani, 1840 (sensu Sabrosky, 1999)

#### Subgenus *Phlebotomus* s. str.

#### 1. *Phlebotomus* (*Phlebotomus*) *papatasi* (Scopoli, 1786)

**Selected published records.** Perfil'ev (1966: 252–254); Lewis (1982: 138–140); Artemiev and Neronov (1984: 39, 40); Wagner (1990: 13); Wagner et al. (2002: 323); Melaun et al. (2014: 2299).

**Distribution.** Afghanistan, Albania, Algeria, Armenia, Azerbaijan, Balears, Bosnia and Herzegovina, Bulgaria, Crete, Crimea, Croatia, Cyprus, Egypt, Ethiopia, France, Georgia, Greece, Hungary, India, Iran, Iraq, Israel, Italy, Jordan, Kazakhstan (southern), Kuwait, Libya, Macedonia, Malta, Moldova, Montenegro, Morocco, Oman, Pakistan, Portugal, Romania, Sardinia, Saudi Arabia, Serbia, Slovenia, Spain, Sudan, Syria, Tunisia, Turkey, Ukraine (southern), Yemen.

#### Subgenus *Paraphlebotomus* Theodor, 1948

#### 2. *Phlebotomus* (*Paraphlebotomus*) *alexandri* Sinton, 1928

**Selected published records.** Perfil'ev (1966: 264–267); Lewis (1982: 143); Artemiev and Neronov (1984: 45); Wagner (1990: 14); Melaun et al. (2014: 2298).

**Distribution.** Afghanistan, Albania, Algeria, Armenia, Azerbaijan, Bulgaria, China (western), Crimea, Cyprus, Djibouti, Ethiopia, Georgia, Greece, India, Iran, Iraq, Israel, Kazakhstan (southern), Moldova, Mongolia, Morocco, Pakistan, Romania, Saudi Arabia, Spain, Sudan, Tunisia, Turkey, Ukraine, United Arab Emirates, Yemen; northern Sahara, Caucasus (southern), Near and Middle East, Central and Eastern Asia; Afrotropical and Oriental regions.

### 3. *Phlebotomus (Paraphlebotomus) cucasicus* Marzinovsky, 1917

**Selected published records.** Perfil'ev (1966: 257–261, as *grimmi* Porchinskyi, 1876); Lewis (1982: 144–145, as *caucasicus*); Artemiev and Neronov (1984: 49, as *caucasicus*); Wagner (1990: 14, as *caucasicus*); Melaun et al. (2014: 2298, as *caucasicus*).

**Distribution.** Afghanistan, Armenia, Azerbaijan, Bulgaria, China (not verified), Georgia, Greece, Iran, Kazakhstan, Macedonia, Turkmenistan, Uzbekistan.

### 4. *Phlebotomus (Paraphlebotomus) jacusieli* Theodor, 1947

**Selected published records.** Perfil'ev (1966: 110, distribution only); Lewis (1982: 145); Artemiev and Neronov (1984: 50); Wagner (1990: 14); Melaun et al. (2014: 2298).

**Distribution.** Albania, Azerbaijan, Cyprus, Greece, Israel, Jordan, Iran, northern Palestine, Turkey.

### 5. *Phlebotomus (Paraphlebotomus) mongolensis* Sinton, 1928

Syn. *Phlebotomus imitabilis* Artemiev, 1974 (see Artemiev 1978: 18).

**Selected published records.** Perfil'ev (1966: 267–271); Lewis (1982: 146); Artemiev and Neronov (1984: 55–56); Wagner (1990: 14); Melaun et al. (2014: 2299).

**Distribution.** Afghanistan, Azerbaijan, China, Iran, Kazakhstan, Mongolia.

### 6. *Phlebotomus (Paraphlebotomus) sergenti* Parrot, 1917

**Selected published records.** Perfil'ev (1966: 274–278, only important diagnostic characters of subsp. *sergenti* in comparison with subsp. *similis* Perfil'ev, 1963); Lewis (1982: 147, recognized two mentioned subspecies); Artemiev and Neronov (1984: 57, recognized *sergenti* and *similis* as two bona species); Wagner (1990: 14, as species); Wagner et al. (2002: 323); Melaun et al. (2014: 2299, as species).

**Distribution.** Afghanistan, Albania, Algeria, Armenia, Azerbaijan, Balears, Bosnia and Herzegovina, Bulgaria, Canary I., China, Croatia, Cyprus, Egypt, France (Corsica), Georgia, Greece, India, Iran, Iraq, Israel, Italy, Jordan, Kazakhstan, Lebanon, Libya, Madeira, Macedonia, Mali, Malta, Morocco, Portugal, Romania, Saudi Arabia, Serbia, Slovenia, Somali Republic, Spain, Syria, Tunisia, Turkey, Ukraine, Yemen. Afrotropical and Oriental regions.

**7. *Phlebotomus (Paraphlebotomus) similis* Perfil'ev, 1963 (sensu Artemiev & Neronov, 1984)**

*Phlebotomus (Paraphlebotomus) sergenti similis* Perfil'ev, 1963

**Selected published records.** Perfil'ev (1966: 276); Lewis (1982: 148, as *sergenti similis*); Artemiev and Neronov (1984: 58–59, as a species).

**Distribution.** Perfil'ev (1966): southern coast of Crimea and southern Ukraine, Russia, northern Caucasus. Lewis (1982): same, Azerbaijan, Uzbekistan. Artemiev and Neronov (1984): Crimea, southern Ukraine, ?northern Caucasus, Albania, Romania, and former Yugoslavia. Melaun et al. (2014: 2299): Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Georgia, Greece, Macedonia, Romania, Serbia, Slovenia, Ukraine.

**Subgenus *Larroussius* Nitzulescu, 1931**

**8. *Phlebotomus (Larroussius) kandelakii* Shurenkova, 1929**

**Selected published records.** Perfil'ev (1966: 286, as *kandelakii*); Lewis (1982: 154, ssp. *kandelakii* and *burneyi* Lewis, 1967 recognized); Artemiev and Neronov (1984: 87, *burneyi* as a species); Wagner (1990: 15); Melaun et al. (2014: 2298).

**Distribution.** Afghanistan, Armenia, Azerbaijan, Dagestan, Georgia, Iran, Iraq, Lebanon, Turkey, Turkmenistan, Uzbekistan.

**9. *Phlebotomus (Larroussius) major syriacus* Adler & Theodor, 1931**

**Selected published records.** Perfil'ev (1966: 278–286, four subspecies recognized: *major*, *neglectus* Tonnoir, 1921, *syriacus* Perfil'ev, 1966 and *krimensis* Perfil'ev, 1966); Lewis (1982: 156–157, added *wui* Yang & Xiong, 1965); Artemiev and Neronov (1984: 92–95, considered *neglectus* as a separate valid species, but taxonomic position of *syriacus* is unclear due to the missing differential diagnosis in the original description); Wagner (1990: 16, recognized all four subspecies); Melaun et al. (2014: 2298, recognized *syriacus* as a species).

**Distribution.** Armenia, Azerbaijan, Crimea, Georgia, Greece (Crete), Israel, Italy (Sicily), Jordan, Lebanon, Palestine, Serbia, Syria, Turkey, Ukraine.

**10. *Phlebotomus (Larroussius) perfiliewi transcaucasicus* Perfiliew, 1937**

**Selected published records.** Perfil'ev (1966: 289–293, recognized three subspecies: *perfiliewi*, *transcaucasicus*, and *galilaeus* Theodor, 1958); Lewis (1982: 160–161, 3 subspecies); Artemiev and Neronov (1984: 88, map 30, three subspecies); Wagner (1990: 16–17, three subspecies).

**Distribution.** Azerbaijan, Iran, Iraq, Russia, Uzbekistan.

**11. *Phlebotomus (Larrousius) perniciosus* Newstead, 1911**

**Selected published records.** Perfil'ev (1966: 299–300, only comments on systematic position); Lewis (1982: 161–162); Artemiev and Neronov (1984: 99–100); Wagner (1990: 17); Wagner et al. (2002: 323); Melaun et al. (2014: 2298).

**Distribution.** Albania, Algeria, Andorra, Azerbaijan, Balears, Bosnia and Herzegovina, Bulgaria, Canary I., Corsica, Croatia, Cyprus, France, Germany, Greece, Italy, Libya, Macedonia, Malta, Morocco, Portugal, Romania, Sardinia, Serbia, Sicily, Slovenia, Spain, Switzerland, Tunisia, Turkey.

**12. *Phlebotomus (Larrousius) tobbi* Adler & Theodor in Adler, Theodor & Louri, 1930**

**Selected published records.** Perfil'ev (1966: 296–300); Lewis (1982: 162–163); Artemiev and Neronov (1984: p. 101–102); Wagner (1990: 17); Melaun et al. (2014: 2298).

**Distribution.** Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Cyprus, Georgia, Greece, Iran, Israel, Italy, Jordan, Lebanon, Palestine, Serbia, Sicily, Slovenia, Syria, Turkey.

**Subgenus *Adlerius* Nitzulescu, 1931****13. *Phlebotomus (Adlerius) balcanicus* Theodor, 1958**

**Selected published records.** Perfil'ev (1966: 316–317, as *P. chinensis balcanicus* Theodor, 1958); Lewis (1982: 165, as species); Artemiev and Neronov (1984: 114, as species); Wagner (1990, 2013: 17, as species); Melaun et al. (2014: 2298, as species).

**Distribution.** Albania, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Caucasus, Crimea, Croatia, Georgia, Greece, Hungary, Iran (north-western), Macedonia, Romania, Serbia, Turkey, Ukraine.

**14. *Phlebotomus (Adlerius) brevis* Theodor & Mesghali, 1964**

Syn. *Phlebotomus chinensis ismailicus* Perfil'ev, 1966

**Published records.** Perfil'ev (1966: 314, as *P. chinensis ismailicus* Perfil'ev, 1966); Lewis (1982: 165); Artemiev and Neronov (1984: 115); Wagner (1990, 2013: 17); Melaun et al. (2014: 2298).

**Comments on distribution.** Artemiev and Neronov (1984): only Iran, southern Caucasus, Turkey. Wagner (1990, 2013) listed records from Moldova. Melaun et al. (2014) listed the species from Azerbaijan, Georgia, Greece and Malta.



### 15. *Phlebotomus (Adlerius) halepensis* Theodor, 1958

**Selected published records.** Perfil'ev (1966: 305–320, recognized 7 subspecies of *Phlebotomus chinensis* Newstead, 1916: *chinensis*, *simici* Nitzulescu, 1931, *longiductus* Parrot, 1928, *tauriae* Perfil'ev, 1966, *ismailicus* Perfil'ev, 1966, *balcanicus* and *halepensis*). Lewis (1982: 164–168, recognized five subspecies as valid species and supported synonymies proposed by Artemiev (1978, 1980): *tauriae* = *longiductus*, *ismailicus* = *brevis* Theodor & Mesghali, 1964); Artemiev and Neronov (1984: 107–125, discussed taxonomic problems); Wagner (1990: 18, as species); Melaun et al. (2014: 2298, as species).

**Distribution.** Armenia, Azerbaijan, Georgia, Iran, Israel, Kazakhstan, Kirghistan, Russia, Syria, Tajikistan, Turkey, Turkmenistan, Uzbekistan.

### 16. *Phlebotomus (Adlerius) simici* Nitzulescu, 1931

**Selected published records.** Perfil'ev (1966: 307, as subspecies *chinensis simici*, see *P. halepensis*); Lewis (1982: 168 as species); Artemiev and Neronov (1984: 123, as species); Wagner (1990: 18, as species).

**Distribution.** Armenia, Azerbaijan, Crete, Georgia, Greece, Jordan, Iran, Israel, Kazakhstan, Palestine, Romania, Russia, Syria, Turkey, former Yugoslavia.

### *Sergentomyia* França & Parrot, 1920

Subgenus *Sergentomyia* s. str.

### 17. *Sergentomyia (Sergentomyia) dentata* Sinton, 1933

**Selected published records.** Perfil'ev (1966: 337); Lewis (1967: 25); Wagner (1990: 23).

**Distribution.** Azerbaijan, Greece, Iran, Iraq, Kazakhstan, Pakistan, Turkey, Turkmenistan, Uzbekistan.

### Subgenus *Neophlebotomus* França & Parrot, 1920

### 18. *Sergentomyia (Neophlebotomus) pawlowskyi* (Perfiliev, 1933)

**Selected published records.** Perfil'ev (1966: 361–365, originally described the species as a *Phlebotomus*, Lewis (1967) later included it in *Sergentomyia (Rondanomyia)* Theodor, 1958; this subgenus was synonymized with *Neophlebotomus* (Lewis 1978: 269); Wagner (1990: 22).

**Distribution.** Afghanistan, Armenia, Azerbaijan, Georgia, Iran, Iraq, Tajikistan, Turkey, Turkmenistan, Uzbekistan.



**Subgenus *Parrotomyia* Theodor, 1958****19. *Sergentomyia (Parrotomyia) palestinensis* (Adler & Theodor, 1927)**

**Selected published records.** Adler & Theodor (1927) originally described this species in *Phlebotomus*; Lewis (1967) later included it in the genus *Sergentomyia*, which was recognized as well by Perfil'ev (1966: 352–355); Perfil'ev (1968: 318, 326, in subgenus *Parrotomyia*); Lewis (1978: 264, in subgenus *Parrotomyia*); Wagner (1990: 25, subgenus *Parrotomyia*).

**Distribution.** Afghanistan, Armenia, Azerbaijan, Georgia, Iran, Iraq, Israel, Jordan, Palestine, Pakistan, Saudi Arabia. Oriental Region.

**Psychodinae****Mormiini****Mormiina*****Yomormia* Ježek, 1984****20. *Yomormia petrovi* Ježek, 1985**

**Material examined. Armenia:** Tavush Province, Bldan River, below Jukhtakvank monastery and the mineral water factory/plant, Arm 11, 28.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22537.

**Comments.** This species was known only from the original description from Sandanski, Bulgaria (Ježek 1985). Krek (1999) listed this species as *Limomormia (Limomormia) petrovi* (Ježek 1985: 122–123). New for Armenia.

**Paramormiini****Paramormiina*****Clogmia* Enderlein, 1937****21. *Clogmia albipunctata* (Williston, 1893)**

**Material examined. Armenia:** Yerevan, Tigran Mets Avenue, Arm 1, 30.viii.2015, 1 ♂, O leg., HC, NMPC slide 22575.

**Comments.** This is an expansive, often synanthropic circumtropical and circum-subtropical species (Ježek and Goutner 1995; Werner 1997; Wagner et al. 2002; Boumans 2009; Boumans et al. 2009; Ježek et al. 2012; Oboňa and Ježek 2012; Kvitte et al. 2013; Wagner 2013; Humala and Polevoi 2015; Afzan and Belqat 2016; Bejarano and Estrada 2016; Oboňa et al. 2016a; Afzan and Belqat 2016; Cazorla-Perfetti and Moreno 2017). New for Armenia.

*Parajungiella* Vaillant, 197221. *Parajungiella abchazica* Ježek, 1985

**Material examined.** Armenia: Tavush Province, Bldan River, above Dilijan City, Arm 10, 28.viii.2015, 1♂, O Ma H leg. SW, NMPC slide 22528; Bldan River, below Jukhtakvank monastery and the mineral water factory/plant, Arm 11, 28.viii.2015, 1♂, O Ma H leg. SW, NMPC slide 22538.

**Comments.** This species was known by its original description from Saken-narzan, Abkhazia (Ježek 1985: 52–55). New for Armenia.

22. *Parajungiella monikae* (Wagner & Joost, 1986), comb. n.

**Comments.** This species from Armenia was originally described by Wagner and Joost (1986: 112) as *Jungiella monikae*. Its generic placement was changed to *Parajungiella* Vaillant, 1972 (: 83, originally as subgenus of *Jungiella* Vaillant, 1972) by Ježek (1984: 166). This arrangement was subsequently followed by Krek (1999: 5), Kvitte et al. (2011), Salmela et al. (2014), and Omelková and Ježek (2017).

*Paramormia* Enderlein, 1935Subgenus *Duckhousiella* Vaillant, 197223. *Paramormia* (*Duckhousiella*) *ustulata* (Walker, 1856)

**Material examined.** Armenia: Lori Province, tributary of Dzoraget River, above Pushkin village, Arm 27, 3.ix.2015, 1M, O Ma H leg. SW, NMPC slide 22541; Ararat Province, above the confluence of Azat and Gekhard rivers, Arm 17, 31.viii.2015, 1♂, O Ma H leg. SW, NMPC slide 22582; Lori Province, tributary of Pambak River, at the H24 road switch-backs, Arm 22, 1.ix.2015, 1♀, O Ma H leg. SW, NMPC slide 22589; Kotayk Province, Hrazdan River, below Hrazdan Reservoir, Arm 6, 27.viii.2015, 1♂, O Ma H leg. SW, NMPC slide 22597.

**Comments.** This is a widespread species or complex of species occurring in the Holarctic region. Ježek and Yağci (2005) listed occurrences from the following countries: Afghanistan, Algeria, the Azores, Belgium, Bosnia-Herzegovina, Bulgaria, the Canary Islands, China, Corsica, Czech Republic, Denmark, France, Germany, Great Britain, Greece, Hungary, Iran, Ireland, Israel, Italy, Macedonia, Madeira, Mongolia, Morocco, the Netherlands, Poland, Romania, Sardinia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey and the USA. It has also been recorded from Finland (Salmela et al. 2014) and Mallorca (Kvitte et al. 2016). New for Armenia.

**Subgenus *Paramormia* s. str.****24. *Paramormia (Paramormia) fratercula* (Eaton, 1893)**

**Comments.** Eaton (1893: 128) described this species as *Pericoma fratercula* from Great Britain. Ježek (1984: 162, 163) considered it to be a *Paramormia (Paramormia)*, within the tribe Paramormiini, and Wagner (1990: 49) placed it in *Paramormia fratercula* in tribe Telmatoscopini.

**Distribution.** Denmark, Germany, Great Britain, Hungary, the Netherlands, Sweden (Wagner 1990, 2013). As first record from Armenia by Wagner and Joost (1986: 111).

**25. *Paramormia (Paramormia) polyascoidea* (Krek, 1971)**

**Material examined. Armenia:** Shirak Province, tributary of Akhurian River, at Torosyugh village, Arm 25, 3.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22600.

**Comments.** This is a common European and west Siberian species known from Austria, Bosnia and Herzegovina, Czech Republic, Estonia, Finland, Germany, Poland, Abkhazia, and Russia (Novosibirsk region) (Salmela and Piirainen 2005; Ježek and Omelkova 2012; Salmela et al. 2014). New for Armenia.

***Peripsychoda* Enderlein, 1935****26. *Peripsychoda auriculata* (Haliday in Curtis, 1839)**

**Material examined. Armenia:** Tavush Province, Bldan River, below Jukhtakvank monastery and mineral water factory/plant, Arm 11, 28.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22536; Tavush Province, Bldan River, above Dilijan City, Arm 10, 28.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22527.

**Comments.** This is a large, black, conspicuous European and Transcaucasian species that is very common in lowlands to hilly regions. For detailed distributional data, see Wagner (1990, 2013) and Ježek (2004). New for Armenia.

**Psychodini*****Logima* Eaton, 1904****27. *Logima albipennis* (Zetterstedt, 1850)**

**Material examined. Armenia:** Ararat Province, Gekhard River, at Gerghard monastery (parking place), Arm 14, 30.viii.2015, 1 ♀, O Ma H leg. SW, NMPC slide 22574.

**Azerbaijan:** Qabala district, S of Durca, light trap near stream, tributary of Qaraschay River, Aze 4, 30.v.2017, 1 ♀, H leg. LT, NMPC slide 24175.

**Comments.** This is a cosmopolitan species, very common from lowlands to mountains.

**Distribution.** In Europe, it is known from Austria, Azores, Belgium, Bosnia and Herzegovina, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Luxemburg, Madeira, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Sardinia, Serbia, Slovakia, Slovenia, and Sweden. In Asia from Afghanistan, China, India, Japan, North Korea, Syria and Turkey. In Afrika, from Algeria, the Canary Islands, Gambia, South Africa, Tunisia; also from Australia, New Zealand, South America, USA; Campbell Island, Juan Fernandez Island, Kerguelen Island, Macquarie Island (Ježek and Yağci 2005; Kvifte 2012; Afzan and Belqat 2016). New for Armenia and Azerbaijan.

### 28. *Logima satchelli* (Quate, 1955)

**Material examined. Azerbaijan:** Qabala district, S of Durca, light trap near stream, tributary of Qaraschay River, Aze 4, 30.v.2017, 1 ♀, H leg. LT, NMPC slide 24174.

**Distribution.** This is a common Holarctic species. In Europe, known from e.g. Austria, Czech Republic, Ireland, Italy, Norway, Russia, Slovakia, Slovenia, Sweden, the Netherlands, Ukraine and the former Yugoslavia; Canada, USA (Ježek and Goutner 1995; Svensson 2009; Kvifte et al. 2011; Ježek et al. 2017). New for Azerbaijan.

## *Psychoda* Latreille, 1796

### 29. *Psychoda uniformata* Haseman, 1907

**Material examined. Armenia:** Kotayk Province, tributary of Marmarik River, above Meghradzor, behind railway, Arm 7, 27.vii.2015, 1 ♀, O Ma H leg. SW, NMPC slide 22601; Lori Province, tributary of Dzoraget River, above Pushkin village, Arm 27, 3.ix.2015, 1 ♀, O Ma H leg. SW, NMPC slide 22542.

**Comments.** This is a Holarctic species, recorded from Europe (Austria, Czech Republic, Italy, Slovakia, Slovenia, Greece), Turkey, Iran, Israel, Mongolia, Morocco and the USA (Ježek and Omelková 2012; Oboňa and Ježek 2014; Afzan and Belqat 2016). New for Armenia.

## *Psychodocha* Ježek, 1984

### 30. *Psychodocha cinerea* (Banks, 1894)

**Material examined. Armenia:** Ararat Province, Gekhard River, at Gerghard monastery (parking place), Arm 14, 30.viii.2015, 1 ♀, O Ma H leg. SW, NMPC slide 22573;

Lori Province, tributary of Dzoraget River, above Pushkin village, Arm 27, 3.ix.2015, 1 ♀, O Ma H leg. SW, NMPC slide 22543.

**Distribution.** This is a very common cosmopolitan species, in Europe, it is known from Austria, Azores, Belgium, Bosnia and Herzegovina, Bulgaria, Canary Islands, Cyprus, Czech Republic, Denmark, Finland, France, Finland, Germany, Great Britain, Greece, Hungary, Ireland, Italy (including Sardinia), Madeira, the Netherlands, Norway, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and Ukraine. In Asia, from Abkhazia, Afghanistan, Iran, and Israel. In Africa, from Algeria, Morocco, South Africa, and Tunisia. In the Americas, from Argentina; Brazil, Canada, Chile, Jaun Fernández Island, Puerto Rico, USA. Also known from Australia and New Zealand (Krek 1985; Ježek and Goutner 1995; Ježek and Yağci 2005; Kvitte et al. 2011; Kvitte 2012; Wagner 1990, 2013; Salmela et al. 2014; Afzan and Belqat 2016; Ježek et al. 2017). New for Armenia.

## *Tinearia Schellenberg, 1803*

### 31. *Tinearia alternata* (Say, 1824)

**Material examined. Armenia:** Lori Province, tributary of Dzoraget River, above Pushkin village, Arm 27, 3.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22540; Lori Province, tributary of Aghstev River, above M8 road at Lermontov village, Arm 20, 31.viii.2015, 1 ♀, O Ma H leg. SW, NMPC slide 22559; Ararat Province, above the confluence of Azat and Gekhard rivers, Arm 17, 31.viii.2015, 1 ♀, O Ma H leg. SW, NMPC slide 22581; Kotayk Province, Marmarik district, Marmarik near road H28, Arm 3, 26.viii.2015, 1 ♀, O Ma H leg. LT, NMPC slide 22583; Ararat Province, Azat River, at Lanjazat village, Arm 19, 31.viii.2015, 1 ♀, O Ma H leg. SW, NMPC slide 22595; Kotayk Province, Marmarik district, Marmarik Secondary School, Arm 2, 27.viii.2015, 1 ♂, O Ma H leg. BH, NMPC slide 22608. **Azerbaijan:** Khizi district, S of Sitalçay, wetland/pasture near Sumgayit bypass highway, Aze 1, 26.v.2017, 1 ♀, H leg. SW, NMPC slide 24173.

**Distribution.** This is a cosmopolitan species that is generally very common. In Europe, it is known from Austria, Balearic Islands, Belgium, Bulgaria, Crete, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Madeira, Norway, Poland, Romania, Sardinia, Slovenia, Spain, Sweden, Switzerland, the Netherlands, and Ukraine. In Asia, from Afghanistan and UAE. In Africa from Algeria, Cape Verde Islands, Canary Islands, D.R. Congo, Egypt, Gambia, Ghana, Morocco, Nigeria, the Seychelles, Socotra Island, South Africa, Tanzania, and Tunisia. In Asia from Bangladesh, Borneo, Philippines, India, Jamaica, Japan, Malaysia, Mongolia, North Korea, Ryukyu Islands, Taiwan. From North and South America, including Panama, Puerto Rico, and Trinidad. Also from Australia, Hawaii, and from Micronesia, Macquarie Islands, New Zealand, and Samoa. (Ježek 1981; Ježek and van Harten 1996; Kvitte et al. 2011; Kvitte 2012; Ježek and Tkoč 2012; Wagner 2013; Afzan and Belqat 2016; Ježek et al. 2017). New for Armenia and Azerbaijan.

**Pericomaini*****Joostiella* Vaillant, 1983****32. *Joostiella caucasica* Vaillant, 1983**

**Comments.** The genus and species, originally described from near the Baksar River, Zlohl in the central Caucasus, were published by Vaillant (1983: 335). Wagner (1986: 87) later recorded this species from Turkey and Armenia, and additional records from Armenia were published by Wagner and Joost (1986: 111).

***Pericoma* Walker, 1856****Subgenus *Pachypericoma* Vaillant, 1978****33. *Pericoma (Pachypericoma) blandula* Eaton, 1893**

**Material examined. Armenia:** Tavush Province, tributary of Gosh River, spring area at parking place and cafeteria, Arm 28, 4.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22546; Lori Province, tributary of the Pambak River, at the H24 road switch-backs, Arm 22, 1.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22588; Tavush Province, tributary of Aghstev River, above Teghut town, Arm 12, 29.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22592; Lori Province, small brook, in valley at road H23 to Pushkin Pass, Arm 26, 3.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22594; Lori Province, Zamanlu River, a tributary of Pambak River, at Vahagnadzor town, Arm 21, 1.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22607. **Azerbaijan:** Lankaran district, SW of Lankaran, stream with woody vegetation, tributary of Lankaran River, Aze 3, 3.vi.2017, 2 ♂, H leg. SW, NMPC slides 24171 and 24172.

**Distribution.** This species is widespread in Europe, known from Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, European Turkey, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Macedonia, Montenegro, Norway, Poland, Romania, European Russia, Sardinia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, the Netherlands and Ukraine. It is also recorded in Transcaucasia, Tunisia, and Morocco (Ježek 2004; Kvifte et al. 2011, 2013; Ježek et al. 2017). New for Armenia and Azerbaijan.

**Subgenus *Pericoma* s. str.****34. *Pericoma bosniaca* Krek, 1966**

**Published records.** Krek (1966: 249, 250; 1967a: 256, 257, 258; 1967b: 316; 1970: 98; 1972: 63; 1974: 60; 1979a: 1807, 1809; 1982: 154; 1985: 155, 179; 1999:

378, 379, as *Pericoma (Leptopericoma) bosniaca* Krek, 1967); Krek et al. (1976: 29); Mučibabić et al. (1984: 64); Vaillant (1978: 211, 219, pl. 66 fig 6, pl. 67 figs 7, 8); Wagner (1990: 38, as *bosnica* Krek, 1967); Wagner and Joost (1988: 30, the same).

**Material examined. Armenia:** Ararat Province, small tributary of Azat River, waterfall at road, Arm 16, 31.viii.2015, 2 ♂, O Ma H leg. SW, NMPC slides 22551 and 22552.

**Distribution.** Bosnia and Herzegovina, Bulgaria, Montenegro, Serbia, Macedonia. New for Armenia.

### 35. *Pericoma bunae* Krek, 1979

**Published records.** Krek (1979b: 127, 128, 129); Wagner (1990: 38, journal reference error); Krek (1999: 376, 377, as *Pericoma (Leptopericoma) bunae* Krek, 1979).

**Material examined. Azerbaijan:** Quba district, Xinaliq village, mountain stream, Aze 2, 27.v.2017, 1 ♂, H leg. SW, NMPC slide 24170.

**Distribution:** This species is known from Bosnia and Herzegovina, as well as Montenegro. New for Azerbaijan.

### 36. *Pericoma exquisita* Eaton, 1893

**Material examined. Armenia:** Shirak Province, tributary of Akhurian River, in valley below road from above Amasia town, Arm 24, 2.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22530; Tavush Province, tributary of Gosh River, spring area at the parking place and cafeteria, Arm 28, 4.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22547; Ararat Province, Gekhard River, below Garni Temple, Arm 15, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22578; Ararat Province, above the confluence of Azat and Gekhard rivers, Arm 17, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22587; Kotayk Province, Hrazdan River, above Solak town, Arm 5, 27.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22599.

**Distribution.** This species is widespread in Europe, North Africa (Algeria, Morocco, and Tunisia), and Transcaucasia (Armenia; Wagner 1981: 56). In Europe, it is known from Albania, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Czech Republic, Crete, Croatia, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Macedonia, Montenegro, Poland, Serbia, Slovakia, Slovenia, Spain and Ukraine (Ježek 2004, 2009; Kvitte et al. 2013; Wagner 2013; Oboňa and Ježek 2014; Afzan and Belqat 2016; Ježek et al. 2017).

### 37. *Pericoma platystyla* Wagner, 1986

**Material examined. Armenia:** Ararat Province, small tributary of Azat River, waterfall at road, Arm 16, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22553.

**Comments.** Wagner (1986: 84) described this species from Turkey and Greece. New for Armenia.



## *Pneumia* Enderlein, 1935

### 38. *Pneumia canescens* (Meigen, 1804)

**Material examined. Armenia:** Shirak Province, tributary of Akhurian River, in valley below road from above Amasia town, Arm 24, 2.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22534; Tavush Province, tributary of Gosh River, spring area at parking place and cafeteria, Arm 28, 4.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22534.

**Comments.** This is a common European and western Siberian species. In Europe it is known Austria, Belgium, Great Britain, Czech Republic, Denmark, European Turkey, France, Germany, Greece, Hungary, Slovakia, Sweden, the Netherlands and the former Yugoslavia. In Asia, it is known from Turkey, Kyrgyzstan, Afghanistan and China (Ježek 2006; Omelková and Ježek 2012; Ježek et al. 2013). New for Armenia.

### 39. *Pneumia joosti* (Wagner, 1981)

**Material examined. Armenia:** Kotayk Province, tributary of Marmarik River, above recreation centre, Arm 8, 27.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22606; Kotayk Province, Hrazdan River, above Solak town, Arm 5, 27.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22598; Lori Province, small brook, in valley at road H23 to Pushkin Pass, Arm 26, 3.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22593; Lori Province, small steppe brook, tributary of Dzoraget River, Arm 23, 2.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22591; Kotayk Province, Marmarik River, below Hankavan, Arm 4, 26.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22586; Lori Province, tributary of Aghstev River, above M8 road at Lermontov village, Arm 20, 31.viii.2015, 6 ♂, O Ma H leg. SW, NMPC slides 22561–22566; Shirak Province, tributary of Akhurian River, in valley below road from above Amasia town, Arm 24, 2.ix.2015, 3 ♂, O Ma H leg. SW, NMPC slides 22531–22533.

**Comments.** Wagner (1981) described this species from Armenia as *Satchelliella joosti*.

**Distribution.** This species is known only from Armenia and Transcaucasus (Wagner 1981).

### 40. *Pneumia pilularia* (Tonnoir, 1940)

**Material examined. Armenia:** Kotayk Province, tributary of the Marmarik River, above recreation centre, Arm 8, 27.viii.2015, 3 ♂, O Ma H leg. SW, NMPC slides 22549, 22605 and 22579; Ararat Province, small tributary of Azat River, waterfall at road, Arm 16, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22550; Lori Province, tributary of Aghstev River, above M8 road at Lermontov village, Arm 20, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22560; Ararat Province, Gekhard River, at Gekhard monastery (parking place), Arm 14, 30.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22572; Ararat Province, above the confluence of Azat and Gekhard rivers, Arm 17, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22580; Ararat Province, small

tributary of Gekhard River, crossroad at factory, Arm 18, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22603; Gegharkunik Province, Dzknaget River, at Sevan Lake and M14 road, Arm 13, 29.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22604.

**Comments.** This species is distributed throughout almost all of Europe, including Spain, the British Isles and Scandinavia. It is also known from Algeria, Morocco, the Central Caucasus (Terskol, Russia) and Tajikistan, but it is relatively sporadic there (Wagner 1990; Vaillant and Joost 1983; Ježek 2004; Ježek et al. 2014). New for Armenia.

#### 41. *Pneumia nubila* (Meigen, 1818)

**Material examined. Armenia:** Tavush Province, Bldan River, above Dilijan City, Arm 10, 28.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22526; Shirak Province, tributary of Akhurian River, in valley below road from above Amasia town, Arm 24, 2.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22529; Tavush Province, Bldan River, below Jukhtakvank monastery and mineral water factory/plant, Arm 11, 28.viii.2005, 1 ♂, O Ma H leg. SW, NMPC slide 22535; Lori Province, tributary of Dzoraget River, above Pushkin village, Arm 27, 3.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22539; Tavush Province, tributary of Gosh River, spring area at parking place and cafeteria, Arm 28, 4.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22544; Kotayk Province, tributary of Marmarik River, above the recreation centre, Arm 8, 27.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22548; Lori Province, tributary of Aghstev River, above M8 road at Lermontov village, Arm 8, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22567; Ararat Province, Gekhard River, at Gerghard monastery (parking place), Arm 14, 30.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22571; Lori Province, small steppe brook, tributary of Dzoraget River, Arm 23, 2.ix.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22590; Kotayk Province, Hrazdan River, below Hrazdan Reservoir, Arm 6, 27.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22596.

**Distribution.** This is a very common species, which is recorded from throughout Europe and the Canary Islands. In Europe, it is known from Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Georgia, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Luxembourg, Macedonia, Montenegro, Poland, Romania, Sardinia, Serbia, Slovakia, Slovenia, Spain, Switzerland, the Netherlands and Ukraine (Wagner 1981; Ježek and Goutner 1995; Krek 1999; Ježek 2002; Kvifte et al. 2013; Ježek et al. 2016). New for Armenia.

#### *Saraiella* Vaillant, 1973

#### 42. *Saraiella ressli ressli* Wagner, 1981

**Material examined. Armenia:** Ararat Province, small tributary of Azat River, waterfall at road, Arm 16, 31.viii.2015, 5 ♂, O Ma H leg. SW, NMPC slides 22554–22558; Lori Province, tributary of Aghstev River, above M8 road at Lermontov village, Arm

20, 31.viii.2015, 2 ♂, O Ma H leg. SW, NMPC slides 22569 and 22570; Tavush Province, Lake Parz Lich and its tributary, lake Parz Lich, Arm 9, 28.8.2015, 1 ♂, O Ma H leg. SW, NMPC slides 22576 and 22577; Ararat Province, confluence of Azat and Gekhard rivers, Arm 17, 31.viii.2015, 2 ♂, O Ma H leg. SW, NMPC slides 22584 and 22585; Ararat Province, small tributary of Gekhard River, crossroad at factory, Arm 18, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22602. **Azerbaijan:** Quba district, Xinaliq village, mountain stream, Aze 2, 27.v.2017: 1 ♂, H leg. SW, NMPC slide 24169.

**Comments.** This species was described by Wagner (1981: 48) from northern Iran, from material collected at Veysahr near Nowshahr on the Caspian Sea. Wagner and Joost (1983: 100) published central Caucasus record from Terskol, Russia. Ježek (1990: 27–30) published a record of a subspecies, *Saraiella ressi montana*, from Ker-man province in south-eastern Iran. New for Armenia and Azerbaijan.

### *Thornburghiella* Vaillant, 1973

#### 43. *Thornburghiella veve* Oboňa & Ježek, 2017

**Published record. Armenia:** Oboňa et al. 2017a (Lori Province near Dzoraget village, tributary of Pambak River), 3 ♂, NMPC type material catalogue no. 34708-34710, inventory no. 22620-22622.

### *Ulomyia* Walker, 1856

#### 44. *Ulomyia cognata* (Eaton, 1893)

**Material examined. Armenia:** Lori Province, tributary of Aghstev River, above M8 road at Lermontov village, Arm 20, 31.viii.2015, 1 ♂, O Ma H leg. SW, NMPC slide 22568.

**Distribution.** This is a common European species known from Austria, Czech Republic, Finland, France, Germany, Great Britain, Italy, Lithuania, Poland, Slovakia, Slovenia and Ukraine (Ježek and Omelková 2012; Salmela et al. 2014; Ježek et al. 2017). It is known from the central Caucasus at Terskol, Russia (Vaillant and Joost 1983: 100). New for Armenia.

## Discussion

According to Oboňa et al. (2016b, 2017b) and Hrivniak et al. (2018), as compared to many European countries, Transcaucasia (Georgia, Armenia, Azerbaijan) is insufficiently investigated for flies of the families Anisopodidae, Bibionidae, Dixidae, Drosophilidae, Limoniidae, Pediciidae, Ptychopteridae, and Scatopsidae. Only 17 species

of Psychodidae are known for Armenia and 18 species are known from Azerbaijan (Perfil'ev 1966; Lewis 1982; Artemiev and Neronov 1984; Vaillant 1972; Wagner 1981, 1990, 2013; Wagner and Joost 1986; Wagner et al. 2002; Melaun et al. 2014; Oboňa et al. 2017a). In the present paper, we include 35 recent species (18 of them newly recorded) from Armenia. Included are 11 species of Phlebotominae and 24 species of Psychodinae. Similarly, our checklist of moth flies from Azerbaijan includes 24 species, of which 6 are newly recorded. The species recorded include 18 species of Phlebotominae and 6 of Psychodinae. Our results certainly represent only a small part of the Armenian and Azerbaijan psychodid fauna. Finding common and widespread species such as *Paramormia (Duckhousiella) ustulata*, *Psychodocha cinerea*, *Tinearia alternata*, *Pericoma (Pachypericoma) blandula*, *Pneumia canescens*, *Pneumia nubila*, or invasive species such as *Clogmia albipunctata*, for the first time from these countries shows that the psychodid fauna is still poorly known.

Knowledge of species distribution is important for studying biogeography and making effective conservation actions. This checklist will provide a baseline for further studies and for initiation of concerted conservation actions in Armenia and Azerbaijan. No doubt that future collecting in Georgia and Azerbaijan, done with the support of the International Visegrad Fund (project No. 21810533), will yield additional faunistic novelties of interest, as shown by similar studies in this region of other dipteran families (e.g. Oboňa et al. 2016b, 2017b; Negrobov et al. 2017; Starý et al. 2017; Hrivniak et al. 2018).

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## References

- Adler S, Theodor O (1931) Investigation on Mediterranean Kala Azar. III.– Sandflies of Mediterranean basin. Distribution and bionomics of sandflies in Catania and district. Proceedings of the Royal Society B 108: 447, 464–480. <https://doi.org/10.1098/rspb.1931.0053>

- Adler S, Theodor O, Lourie EM (1930) On sandflies from Persia and Palestine. *Bulletin of Entomological Research* 21: 529–539. <https://doi.org/10.1017/S0007485300024858>
- Afzan H, Belqat B (2016) Faunistic and bibliographical inventory of the Psychodinae moth-flies of North Africa (Diptera, Psychodidae). *ZooKeys* 558: 119–145. <https://doi.org/10.3897/zookeys.558.6593>
- Annandale N (1910) The Indian species of Papataci fly (*Phlebotomus*). *Records of the Indian Museum* 4: 35–52.
- Artemiev MM, Neronov VM (1984) Distribution and ecology of sandflies of the Old World (genus *Phlebotomus*). The USSR committee for the UNESCO programme on man and the biosphere (MAB). Institute of evolutionary morphology and animal ecology USSR Academy of Sciences, Moscow, 207 pp. [in Russian]
- Artemiev MM (1974) Sandflies (Diptera, Psychodidae, Phlebotominae) of eastern Afghanistan. Communication I. *Phlebotomus*. *Medskaya Parazitologija* 43: 154–155. [in Russian, short English summary]
- Artemiev MM (1978) Sandflies (Diptera, Psychodidae, Phlebotominae) of Afghanistan. Ministry of Public Health, Kabul, 87 pp.
- Artemiev MM (1980) A revision of sandflies of the subgenus *Adlerius* (Diptera, Phlebotominae, *Phlebotomus*). *Zoologicheskii Zhurnal* 59: 1177–1192. [in Russian]
- Artemiev MM, Neronov VM (1984) Distribution and ecology of sandflies of the Old World (genus *Phlebotomus*) – The USSR committee for the UNESCO programme on man and the biosphere (MAB). Institute of Evolutionary Morphology and Animal Ecology, USSR Academy of Sciences, Moscow, 207 pp. [in Russian]
- Bejarano EE, Estrada LG (2016) Family psychodidae. *Zootaxa* 4122(1): 187–238. <https://doi.org/10.11646/zootaxa.4122.1.20>
- Boumans L (2009) De WC motmug *Clogmia albipunctata*, een opvallend maar onopgemerkt element van onze fauna (Diptera: Psychodidae). *Nederlandse Faunistische Medelingen* 30: 1–10.
- Boumans L, Zimmer JY, Verheggen F (2009) First records of the ‘bathroom mothmidge’ *Clogmia albipunctata* a conspicuous element of the Belgian fauna that went unnoticed (Diptera: Psychodidae). *Phegea* 37: 153–160.
- Cazorla-Perfetti D, Moreno PM (2017) Listado de las especies de Psychodidae (Diptera, Psychodomorpha, Psychodoidea) no Phlebotominae de Venezuela, con seis nuevos registros en el estado Falcón. Checklist of the non Phlebotominae Psychodidae (Diptera, Psychodomorpha, Psychodoidea) of Venezuela, with six new records in Falcon state. *SABER* 29: 191–225.
- Eaton AE (1893) A synopsis of British Psychodidae. *Entomologist’s Monthly Magazine* 29: 5–8, 31–34, 120–130.
- França C, Parrot L (1920) Introduction à l’étude systématique des diptères du genre *Phlebotomus*. *Bulletin de la Société de Pathologie Exotique* 13: 695–708.
- Hrivniak L, Haenii J-P, Máca J, Oboňa J (2018) New faunistic records of flies of the families Drosophilidae and Scatopsidae (Diptera) from Azerbaijan. *Klapalekiana* 54: 15–16.
- Humala AE, Polevoi AV (2015) Records of rare and noteworthy insect species (Insecta) in the Republic of Karelia. *Transactions of the Karelian Research Centre of the Russian Academy of Sciences, Biogeography Series* 6: 19–46. <https://doi.org/10.17076/bg30> [In Russian]

- Ježek J (1981) Taxonomy of tribes Mormiini End., Paramormiini End. and Psychodini End. (Diptera, Psychodidae) of Czechoslovakia. PhD Thesis, Department of Entomology, Faculty of Natural Sciences, Charles University, Praha, 453 pp. [Vol. I], 9 pp. [Vol. II]. [In Czech; unpublished; + 40 tables of figures]
- Ježek J (1984) Nomenclatorial changes of some higher taxa of Palaearctic Psychodine (Diptera, Psychodidae). *Acta Faunistica Entomologica Musei Nationalis Pragae* 17: 155–170.
- Ježek J (1985) Three new species of moth flies (Diptera, Psychodidae) from the Palaearctic region. *Acta Entomologica Bohemoslovaca* 82: 49–58.
- Ježek J (2002) The first account of Slovenian moth flies (Psychodidae, Diptera). *Časopis Národního Muzea, Řada Přírodovědná* 171: 89–116.
- Ježek J (2004) New faunistic data of non-phlebotomine moth flies (Diptera: Psychodidae) from the Palaearctic Region. *Folia Facultatis Scientiarum Naturalium Universitatis Masarykianae Brunensis, Biologia* 109: 141–151.
- Ježek J (2006) Psychodidae (Diptera) of the Jeseníky Protected Landscape Area and its environs with descriptions of two new *Berdeniella* species from the Czech Republic. *Acta Entomologica Musei Nationalis Pragae* 46: 151–192.
- Ježek J (2009) Further new faunistic records of moth flies (Insecta, Diptera, Psychodidae) from the Czech Republic and Slovakia. *Folia Faunistica Slovaca* 14(15): 101–105.
- Ježek J, Goutner V (1995) Psychodidae (Diptera) of Greece. *Acta Entomol Mus Natl Pragae, Series B, Historia Naturalis* 50[1994](1–4): 107–124.
- Ježek J, Kubík Š, Barták M (2013) Psychodidae (Diptera) of Vráž nr. Písek (Czech Republic). In: Kubík Š, Barták M (Eds) Workshop on Biodiversity, Jevany. Česká Zemědělská Univerzita v Praze, Prague, 189–199.
- Ježek J, Lukáš J, Kvifte GM, Oboňa J (2012) New faunistic records of non-biting moth flies (Diptera: Psychodidae) from the Czech Republic and Slovakia. *Nové faunistické nálezy koutulí (Diptera: Psychodidae) z České republiky a Slovenska. Klapalekiana* 48: 121–126.
- Ježek J, Omelková M (2012) Moth flies (Diptera: Psychodidae) of the Bílé Karpaty Protected Landscape Area and Biosphere Reserve (Czech Republic). In: Malenovský I, Kment P, Konvička O (Eds) Species inventories of selected insect groups in the Bílé Karpaty Protected Landscape Area and Biosphere Reserve (Czech Republic). *Acta Musei Moraviae, Scientiae Biologicae (Brno)* 96(2): 763–802.
- Ježek J, Omelková M, Heřman P (2014) Moth flies (Psychodidae, Diptera) of the Český kras/ Bohemian Karst and neighbouring localities (Czech Republic). *Bohemia Centralis, Praha* 32: 321–344.
- Ježek J, Tkoč M (2012) A new species of the genus *Gondwanoscurus*, and two new records of non-biting moth flies (Diptera: Psychodidae: Psychodinae) from Socotra Island. *Acta Entomologica Musei Nationalis Pragae* 52(supplementum 2): 545–557.
- Ježek J, van Harten A (1996) Psychodidae (Diptera) of the Cape Verde Islands, captured with a Johnson-Taylor suction trap. *Boletim do Museu Municipal do Funchal* 48(266): 63–86.
- Ježek J, Yağci Ş (2005) Common non-biting moth flies (Insecta, Diptera, Psychodidae) new to the fauna of Turkey. *Acta parasitologica Turcica* 29: 188–192.
- Ježek J (1985) Contribution to the knowledge of a new subtribe *Trichopsychodina* (Diptera, Psychodidae) from Czechoslovakia. *Acta Musei Nationalis Pragae* 40: 65–92.



- Ježek J, Chvojka P, Manko P, Oboňa J (2017) Faunistic and bibliographical inventory of moth flies from Ukraine (Diptera, Psychodidae). *ZooKeys* 693: 109–128. <https://doi.org/10.3897/zookeys.693.13652>
- Krek S (1966) Description de la larve *Pericoma bosniaca* n. sp. (Diptera, Psychodidae). *Bulletin scientifique Conseil des Academies des Sciences et des Arts de la RSF de Yougoslavie, Section A* 11: 249–250.
- Krek S (1967a) Description de l' imago et de la nymphe *Pericoma bosniaca* n. sp. (Diptera, Psychodidae). *Bulletin scientifique Conseil des Academies des Sciences et des Arts de la RSF de Yougoslavie, Section A* 12(9–10): 256–258.
- Krek S (1967b) Psychodidae (Diptera) de la Bosnie centrale. *Bulletin scientifique Conseil des Academies des Sciences et des Arts de la RSF de Yougoslavie, Section A* 12: 315–316.
- Krek S (1970) Fauna Psychodidae (Diptera) u području planina Maglič, Volujak i Zelengora. *Glasnik Zemaljskog Muzeja Bosne i Hercegovine u Sarajevu* 9: 93–106.
- Krek S (1972) Neki faktori distribucije Psychodidae (Diptera). *Godišnjak Biološkog Instituta Univerziteta u Sarajevu* 25: 93–106.
- Krek S (1972) Neki faktori distribucije Psychodidae (Diptera). *Godišnjak Biološkog Instituta Univerziteta u Sarajevu* 25: 59–107.
- Krek S (1974) Ekološka klasifikacija i cenotički odnosi Psychodidae u tekućicama jugoistočne Bosne. *Štampa IP Svjetlost, Sarajevo. Godišnjak Biološkog Instituta Univerziteta u Sarajevu* 26: 57–95.
- Krek S (1979a) Naselje Psychodidae (Diptera) rijeke Krivaje. *Drugi Kongres Ekologa Jugoslavije, Zagreb, Poseban Otisak* 2: 1803–1811.
- Krek S (1979b) Nove vrste Psychodinae iz Jugoslavije (Psychodidae, Diptera). *Neue Psychodinae-Arten aus Jugoslawien (Psychodidae, Diptera). Godišnjak Biološkog Instituta Univerziteta u Sarajevu* 32: 125–132.
- Krek S (1982) Psychodidae (Diptera) sjeverne Makedonije. *Posebni otisak Glasnika Zemaljskog muzeja Bosne i Hercegovine u Sarajevu, N. S. sv. Prirodne nauke, Sarajevo* 21: 147–161.
- Krek S (1999) Psychodidae (Diptera Insecta) Balkanskog Poluotoka. *Federacija Bosne i Hercegovine, Ministarstvo Obrazovanja, Nauke, Kulture i Sporta, Studentska Štamparija Univerziteta Sarajevo, Sarajevo*, 417 pp.
- Krek S, Kačanski D, Tanasijević M (1976) Biocenološka analiza naselja insekata (Ephemeroptera, Plecoptera, Simuliidae i Psychodidae) sliva rijeke Sutjeske. *Godišnjak Biološkog Instituta Univerziteta u Sarajevu* 29: 23–54.
- Kremer V, Zazanashvili N, Jungius H, Williams L, Petelin D (2001) Biodiversity of the Caucasus ecoregion. An analysis of biodiversity and current threats and initial investment portfolio. *World Wide Fund for Nature, Baku – Erevan – Gland – Moscow – Tbilisi*, 132 pp.
- Kročá J, Ježek J (2015) Moth flies (Diptera: Psychodidae) of the Moravskoslezské Beskydy Mts and the Podbeskydská pahorkatina Upland, Czech Republic. *Acta Musei Silesiae, Scientiae Naturales* 64: 27–50. <https://doi.org/10.1515/cszma-2015-0006>
- Kvifte, GM (2012) Catalogue and bibliography of Afrotropical Psychodidae: Bruchomyiinae, Psychodinae, Sycoracinae and Trichomyiinae. *Zootaxa* 3231(1): 29–52.
- Kvifte GM, Håland Ø, Andersen T (2011) A revised check-list of Norwegian moth flies (Diptera, Psychodidae). *Norwegian Journal of Entomology* 58: 180–188.



- Kvifte GM, Ivković M, Klarić A (2013) New records of moth flies (Diptera: Psychodidae) from Croatia, with the description of *Berdeniella keroveci* sp.nov. *Zootaxa* 3737(1): 57–67. <https://doi.org/10.11646/zootaxa.3737.1.4>
- Lewis DJ (1967) The phlebotomine sand-flies of West Pakistan. *Bulletin of the British Museum (Natural History), Entomology series* 19: 1–57. <https://doi.org/10.5962/bhl.part.28298>
- Lewis DJ (1978) The phlebotomine sandflies (Diptera: Psychodidae) of the Oriental Region. *Bulletin of the British Museum (Natural History), Entomology series* 37(6): 217–343.
- Lewis DJ (1982) A taxonomic review of the genus *Phlebotomus* (Diptera: Psychodidae). *Bulletin of the British Museum (Natural History), Entomology* 45(2): 121–209.
- Marzinovsky EI (1917) A new Russian species of *Phlebotomus* – *P. caucasicus* sp. nov. *Medskoe Obozrenie Sprimona* 87: 1–3. [in Russian]
- Melaun C, Krüger A, Werblow A, Klimpel S (2014) New record of the suspected leishmaniasis vector *Phlebotomus (Transphlebotomus) mascittii* Grassi, 1908 (Diptera: Psychodidae: Phlebotominae) – the northernmost phlebotomine sandfly occurrence in the Palearctic region. *Parasitology Research* 113(6): 2295–2301. <https://doi.org/10.1007/s00436-014-3884-y>
- Mučibabić S, Kačanski D, Krek S, Lakušić R, Marinković-Gospodnetić M, Spahić M, Tanisjević M, Vuković T (1984) Ekosistem rijeke Stavnje. *Zbornik radova povodom jubileja akademika Aleksandra Trumića. aNUBiH Odjeljenje Tehničkih Nauka* 77(9): 49–70.
- Myers N, Mittermeier RA, Mittermeier CG, da Fonseca GAB, Kent J (2000) Biodiversity hotspots for conservation priorities. *Nature* 403: 853–858. <https://doi.org/10.1038/35002501>
- Negrobov OP, Manko P, Hrivniak L, Oboňa J (2017) New records of long-legged flies (Diptera: Dolichopodidae) from Armenia, with description of *Campsicnemus armeniacus* sp. n. *Biologia* 72(1): 70–75. <https://doi.org/10.1515/biolog-2017-0005>
- Newstead R (1911) The papataci flies (*Phlebotomus*) of the Maltese Islands. *Bulletin of Entomological Research* 2(1): 47–78. <https://doi.org/10.1017/S000748530000119X>
- Newstead R (1916) On the genus *Phlebotomus*. Pt. III. *Bulletin of Entomological Research* 7: 191–192. <https://doi.org/10.1017/S0007485300017508>
- Nitzulescu V (1931) Essai de classification des phlébotomes. *Annales de Parasitologie Humaine et Comparée* 9(3): 271–275. <https://doi.org/10.1051/parasite/1931093271>
- Oboňa J, Balážiová L, Cáfal R, Dobránsky M, Filipovič P, Ivčič B, Ježek J, Matúšová Z, Očadlík M, Ox K, Smolák R, Tábi L, Vojtek P (2016a) Additions to the range expansion of the invasive moth midge *Clogmia albipunctata* (Williston, 1893) in Slovakia (Diptera: Psychodidae). *Acta Universitatis Prešoviensis, Folia Oecologica* 8(1): 5–14.
- Oboňa J, Dvořák L, Haenni J-P, Manko P, Hrivniak L, Pappan L (2017b) New records of Diptera families Anisopodidae, Bibionidae, Dixidae, Ptychopteridae, and Scatopsidae from Armenia. *Spixiana* 40: 61–67.
- Oboňa J, Ježek J, Manko P (2017a) A new Palearctic *Thornburghiella* from Transcaucasia (Diptera: Psychodidae). *Acta Entomologica Musei Nationalis Pragae* 57(1): 205–214. <https://doi.org/10.1515/aemnp-2017-0069>
- Oboňa J, Ježek J. (2012) Range expansion of the invasive moth midge *Clogmia albipunctata* (Williston, 1893) in Slovakia (Diptera: Psychodidae). *Folia Faunistica Slovaca* 17(4): 387–391.
- Oboňa J, Ježek J (2014) Prodrómus of moth flies (Diptera: Psychodidae) from Slovakia. *Acta Musei Silesiae Scientiae Naturales* 63: 193–251. <https://doi.org/10.2478/czma-2014-0020>

- Oboňa J, Starý J, Manko P, Hrivniak L, Papyan L (2016b) Records of Limoniidae and Pediciidae (Diptera) from Armenia, with the first Armenian checklist of these families. *ZooKeys* 585: 125–142. <https://doi.org/10.3897/zookeys.585.8330>
- Omelková M, Ježek J (2017) Two new species of *Jungiella* (Diptera: Psychodidae: Psychodinae) from the Palaearctic Region. *Zootaxa* 4250(6): 560–576. <https://doi.org/10.11646/zootaxa.4250.6.4>
- Parrot L (1917) Sur un nouveau phlébotome Algérienne, *Ph. sergenti* sp. nov. *Bulletin de la Société de Pathologie Exotique* 10: 564–567.
- Parrot L (1928) Notes sur les phlébotomes. II. Sur quelques phlébotomes de la Bokhara (URSS). *Archives de l'Institut Pasteur d'Algérie* 6(1): 26–34.
- Parrot L (1930) Notes sur les phlébotomes. *Phlebotomus perflievi* n. sp. *Archives de l'Institut Pasteur d'Algérie* 8: 383–385.
- Perfil'ev PP (1937) Sandflies. *Fauna SSSR (N.S.)* 10: 1–144. [in Russian]
- Perfil'ev PP (1966) Phlebotomidae (sandflies). *Fauna SSSR. Diptera*, 3(2). New Series, 93. Academy of Sciences SSSR, Moscow, 383 pp. [in Russian]
- Perfil'ev PP (1968) Phlebotomidae. Translation of Perfil'ev, 1966. Israel Program of Scientific Translations, Jerusalem, 382 pp.
- Perfil'ev PP (1963) *Paraphlebotomus grimmi* Porchinski, 1876 and related species. *Trudy Vojeno-meditsinskoy Akademii RYKA* 149: 69–79 [in Russian]
- Perfil'ev PP (1966) Phlebotomidae (Diptera). *Fauna SSSR* 3(2): 1–383. [in Russian]
- Porchinski IA (1876) Description. *Trudy aralo-kaspijskoe* 2: 32. [In Russian]
- Rondani C (1840) Sopra una specie di insetto dittero. *Memoria Prima per Servire alla Ditterologia Italiana (Parma)* 1: 1–16.
- Price MF (2000) Cooperation in the European Mountains 2: the Caucasus. IUCN, Gland and Cambridge, 116 pp.
- Sabrosky CW (1999) Family-group names in Diptera. An annotated catalog. In: Thompson FC (Ed.) Family-group names in Diptera and bibliography. *Myia* 10: 1–360.
- Salmela J, Paasivirta L, Kivifte GM (2014) Checklist of the families Chaoboridae, Dixidae, Thaumaleidae, Psychodidae and Ptychopteridae (Diptera) of Finland. *ZooKeys* 441: 37–46. <https://doi.org/10.3897/zookeys.441.7532>
- Salmela J, Piirainen T (2005) Description of a new Psychodidae (Diptera) species from Estonia. *Entomologica Fennica* 16(4): 301.
- Scopoli JA (1786) *Deliciae faunae et florae insubricae* 1. Ex Typographia Reg. & Imp. Monasterii S. Salvatoris. Praesidib. Rei litter. permittentibus 1786, Ticini, 85 pp.
- Shurenkova AI (1929) A new species of *Phlebotomus* in the U.S.S.R. – *Phlebotomus kandelakii* n. sp. *Russian Journal of Tropical Medicine* 7: 692–698 [in Russian]
- Sinton JA (1928) The synonymy of the Asiatic species of *Phlebotomus*. *Indian Journal of medical Research* 16: 297–324.
- Sinton JA (1933) Notes on some Indian species of the genus *Phlebotomus*. XXXII. *Phlebotomus dentatus* n. sp. *Indian Journal of medical Research* 20(3): 869–872.
- Starý J, Hrivniak L, Oboňa J (2017) Records of Limoniidae (Diptera) from Azerbaijan. *Acta Musei Silesiae, Scientiae Naturales* 66: 263–268. <https://doi.org/10.1515/csza-2017-0028>

- Svensson BW (2009) Fjärilsmygga fauna i ett hagmarksområde och en ladugård i östra Blekinges skogsland. Med en översikt av familjen Psychodidae:s morfologi, systematik och utforskande, samt särskilt de svenska *Psychoda* s.l. – Arternas biologi. Entomologisk tidskrift 130: 185–206.
- Theodor O, Mesghali A (1964) On the Phlebotominae of Iran. Journal of Medical Entomology 1: 285–300. <https://doi.org/10.1093/jmedent/1.3.285>
- Theodor O (1958) Psychodidae–Phlebotominae. Die Fliegen der palaearktischen Region 9c. Schweizerbart'sche Verlag, Stuttgart, 55 pp.
- Theodor O (1947) On some sandflies (*Phlebotomus*) of the *sergenti* group in Palestine. Bulletin of Entomological Research 38: 91–98. <https://doi.org/10.1017/S0007485300030194>
- Tkoč M, Pecharová M, Ježek J (2014) Catalogue of the type specimens of Diptera deposited in the Department of Entomology, National Museum, Prague, Czech Republic. Moth flies (Psychodidae). Acta Entomologica Musei Nationalis Pragae 54: 789–837.
- Tonnoir AL (1921) Une nouvelle espèce européenne du genre *Phlebotomus* (*Phlebotomus neglectus*). Annales de la Société Entomologique de Belgique 61: 333–336.
- Vaillant F (1971–1983) Psychodidae–Psychodinae. In: Lindner E (Ed.) Die Fliegen der palaearktischen Region. Schweizerbart'sche Verlag, Stuttgart, 287 (1971): 1–48; 291 (1972): 49–78; 292 (1972): 79–108; 305 (1974): 109–142; 310 (1975): 143–182; 313 (1977): 183–206; 317 (1978): 207–238; 320 (1979): 239–270; 326 (1981): 271–310; 328 (1983): 311–357. [unfinished]
- Wagner R, Joost W (1983) On a small collection of Diptera Psychodidae from Caucasus (USSR) and Bulgaria. Reichenbachia 21(15): 95–106.
- Wagner R, Joost W (1986) Further records of moth-flies (Diptera, Psychodidae) from the Armenian SSR. Aquatic Insects 8(2): 111–113. <https://doi.org/10.1080/01650428609361240>
- Wagner R, Joost W (1988) Psychodidae aus Bulgarien (Insecta, Diptera). Faunistische Abhandlungen Staatliches Museum für Tierkunde Dresden, B 16(3): 29–34.
- Wagner R (1981) Some Psychodidae (Diptera) from the southern Caucasus and Iran. Aquatic Insects 3(1): 45–56. <https://doi.org/10.1080/01650428109361043>
- Wagner R (1986) Einige Psychodiden aus der Turkey (Diptera, Psychodidae). Entomofauna 7(6): 81–92.
- Wagner R (1990) Family Psychodidae. In: Soós A (Ed.) Catalogue of Palaearctic Diptera, Vol. 2, Psychodidae–Chironomidae. Akadémiai Kiadó, Budapest, 11–65.
- Wagner R (2013) Fauna Europaea: Psychodidae. In: de Jong H (Ed.) Fauna Europaea: Diptera Nematocera. Fauna Europaea version 2.4. <http://www.faunaeur.org> [Accessed on: 2018-2-2]
- Wagner R, Lucientes J, Báez M (2002) Psychodidae. In: Carles M, Hjorth-Andersen T (Eds) Catálogo de los Diptera de España, Portugal y Andorra (Insecta). Monografías S.E.A., Zaragoza, 323 pp.
- Werner D (1997) Studies on some moth flies (Diptera: Psychodidae) with the first record of *Clogmia albipunctata* in central Europe. Entomological News 108: 273–282.
- Yang K, Xiong G (1965) A new subspecies of sandfly *Phlebotomus major wui* subsp. nov. from Xinjiang, China. Acta Parasitologica Sinica 2(4): 412–415.