

## Records of Limoniidae (Diptera) from Azerbaijan

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**Abstract:** Records of species of the family Limoniidae from Azerbaijan are presented. A total of 16 species are listed. Of these, 5 species represent the first records from Azerbaijan, viz. *Pseudolimnophila* (*Pseudolimnophila*) *melanura* Savchenko, 1984, *Cheilotrichia* (*Empeda*) *minima* (Strobl, 1898), *Molophilus* (*Molophilus*) *crimensis* Savchenko, 1976, *Rhabdomastix* (*Rhabdomastix*) *filata* Starý, 2004, and *Rhabdomastix* (*Rhabdomastix*) *hirticornis* (Lackschewitz, 1940). The species richness of the limoniid fauna in Azerbaijan is increased to 97 species by this paper.

**Keywords:** Diptera, Limoniidae, distributions, first records, Azerbaijan

### Introduction

The family Limoniidae is one of the most species-rich families of the Diptera. Like other Tipulomorpha, the adults are slender flies with elongate, rather narrow wings and very long legs. Adult Limoniidae may be diagnosed by certain peculiarities in the structure of the thoracic sclerites and the male terminalia. The larvae usually occur in water, in waterlogged soil, under damp leaf mould, in decaying wood, fungi, or similar substrates. A few genera, or individual species, live in hygropetric situations and feed on algae. A considerable proportion of the larvae are phytosaprophagous (including the saproxylic species), mycetophagous or predatory. Like their larvae, the adults are predominantly associated with moist environments and are usually found in low vegetation alongside streams, lakes and other water bodies, in swamps and marshes of various types, in damp forests, and similar habitats (Starý 2009).

Of the 2129 species-group taxa known to occur in the Palearctic Region, 1115 species are listed in the West Palearctic region (Oosterbroek 2017).

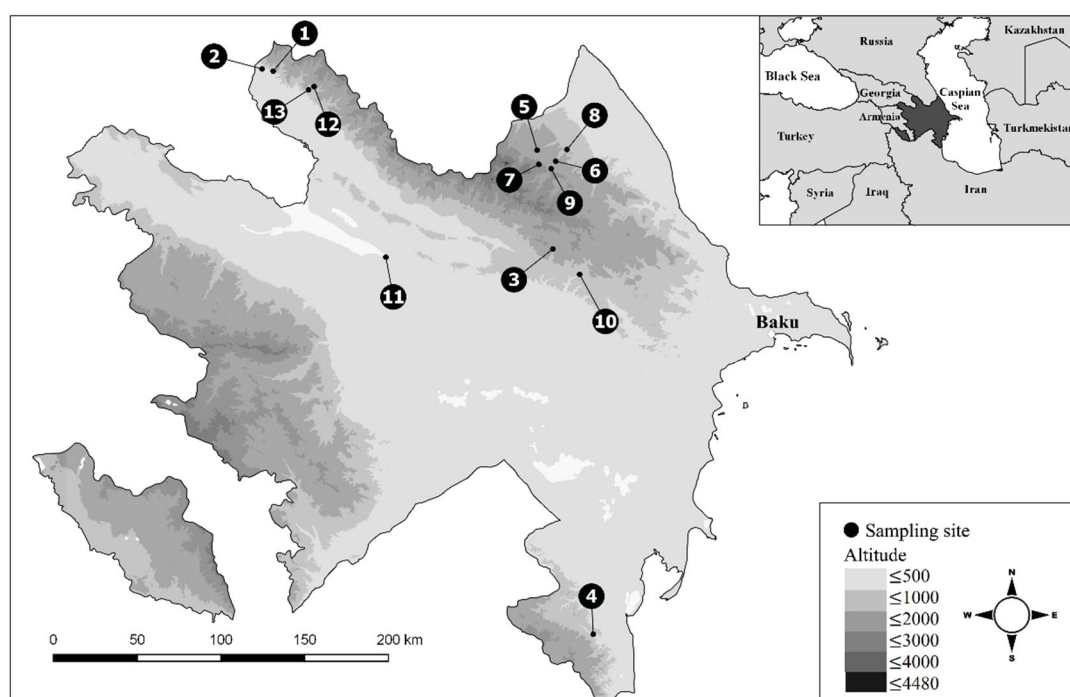
Transcaucasia (Georgia, Armenia, Azerbaijan) is among less-investigated territories, as far as the family Limoniidae is concerned (Oboňa *et al.* 2016). The territory occupies the southern slopes of the Great Caucasus and the mountains and plateaux as far south as the Turkish and Iranian borders. Savchenko (1971-1989, see references) and Savchenko *et al.* (1992) contributed considerably to the knowledge of the local fauna and summarized his results in a comprehensive study (Savchenko 1989) dealing with the fauna of the former USSR. Faunal records from all relevant publications are registered in the Catalogue of the Crane flies of the World (Oosterbroek 2017). A total of 92 species of Limoniidae have been recorded from Azerbaijan previous to this paper.

### Material and methods

Samples were collected by sweep-netting (light trapping only on site 8) from vegetation along streams and lakes by the second author (LH) and preserved in 75% ethanol. A list of 13 sampling sites, with coordinates and altitudes, is given in Tab. 1. (see also Fig. 1). The material is deposited in the collection of the first author (JS) who also identified the species. Some specimens were dried and mounted on points in the course of the study. The male terminalia, if necessary, were prepared by boiling in a solution of 10% KOH and preserved in glycerine in a sealed plastic tube pinned with the appropriate specimen after examination. Classification, nomenclature, and distribution for individual species are given as summarized by Oosterbroek (2017).

**Tab 1:** List of sampling sites.

site no.	site name (province, short descr. of locality)	latitude/ N	longitude/ E	altitude/ m a.s.l.
1	Balakan district, north from Balakan, river	41°45'04.5"	46°24'50.2"	482
2	Balakan district, north-west from Balakan, river near Yevlax-Zaqatala-Gurcustan road	41°45'45.6"	46°20'17.3"	575
3	Ismayilli district, north from Qaraqaya, stream	40°49'13.0"	48°19'20.5"	959
4	Lerik district, south from Lerik, river next to road	38°45'21.4"	48°35'53.8"	328
5	Quasar district, Quasar-Laza road, stream, tributary of Quasarchay river	41°20'21.4"	48°12'55.3"	1 098
6	Quba district, south-west from Gimilgazma, Kudial-Chai river	41°16'53.4"	48°20'31.6"	896
7	Quba district, south-west from Sussay, moutain stream with woody vegetation	41°15'53.6"	48°13'39.1"	2 055
8	Quba district, west from Quba, light trap near Kudial-Chai river and forest	41°20'32.2"	48°25'08.6"	730
9	Quba district, Xinaliq road, mountain stream, tributary of Kudial-Chai river	41°14'29.8"	48°18'39.7"	1 716
10	Shamakhi district, north-west from Shamakni, river, tributary of Aghsu river	40°41'09.1"	48°30'21.7"	527
11	Yevlakh district, south from Xanabad, Yukhari Shirvan Canal	40°46'37.6"	47°10'59.0"	50
12	Zaqatala district, north from Zilban; submountain river	41°40'14.4"	46°41'34.9"	842
13	Zaqatala district, north-west from Zilban, stream	41°39'12.1"	46°39'18.0"	568



**Fig 1:** Map showing all sampling sites in Azerbaijan.

## Results

### FAMILY: LIMONIIDAE SUBFAMILY: LIMNOPHILINAE

#### *Pseudolimnophila (Pseudolimnophila) melanura* Savchenko, 1984

**Material examined:** Zaqatala district: north from Zilban (site 12), 31.v.2017, 1 ♂, 1 ♀.

**Distribution:** Armenia; Tajikistan. **First record from Azerbaijan.**

#### *Pseudolimnophila (Pseudolimnophila) sepium* (Verrall, 1886)

**Material examined:** Ismayilli district: north from Qaraqaya (site 3), 29.v.2017, 1 ♂.

**Distribution:** Europe, incl. European Russia; Morocco; Georgia, Armenia, Azerbaijan, Turkey; Central Asia.

### SUBFAMILY: CHIONEINAE

#### *Cheilotrichia (Empeda) minima* (Strobl, 1898)

**Material examined:** Zaqatala district: north-west from Zilban (site 13), 27.v.17, 1 ♀; Shamakhi district: north-west from Shamakni (site 10), 29.v.2017, 2 ♂♂, 1 ♀.

**Distribution:** Europe, incl. Russia (North Caucasus); Morocco; Iran; Central Asia. **First record from Azerbaijan, first record from Transcaucasia.**

#### *Hoplolabis (Parilisia) iranica* (Alexander, 1973)

**Material examined:** Quba district: south-west from Gimilgazma, Kudial-Chai river (site 6), 27.v.2017, 3 ♂♂, 3 ♀♀.

**Distribution:** Russia (North Caucasus); Georgia, Armenia, Azerbaijan, Iran.

#### *Hoplolabis (Parilisia) yezoana* (Alexander, 1924)

**Material examined:** Balakan district: north-west from Balakan, river near Yevlax-Zaqatala-Gurcistan road (site 2), 1.vi.2017, 3 ♂♂, 1 ♀.

**Distribution:** Europe, incl. European Russia; Georgia, Armenia, Azerbaijan, Iran; Central Asia; Mongolia; West Siberia, Far East of Russia; Japan.

#### *Molophilus (Molophilus) crimensis* Savchenko, 1976

**Material examined:** Quba district: Xinaliq road, mountain stream, tributary of Kudial-Chai river (site 9), 27.v.2017, 1 ♂.

**Distribution:** Ukraine (Crimea), Russia (North Caucasus). **First record from Azerbaijan, first record from Transcaucasia.**

#### *Molophilus (Molophilus) stroblianus decoloratus* Savchenko, 1978

**Material examined:** Balakan district: north-west from Balakan, river near Yevlax-Zaqatala-Gurcistan road (site 2), 1.vi.2017, 1 ♂; Quba district: south-west from Gimilgazma, Kudial-Chai river (site 6), 27.v.2017, 2 ♀♀; Zaqatala district: north-west from Zilban (site 13), 31.v.2017, 1 ♂.

**Distribution:** Ukraine, Russia (North Caucasus); Georgia, Armenia, Azerbaijan.

**Remark.** Possibly a valid species.

***Rhabdomastix (Rhabdomastix) filata* Starý, 2004**

**Material examined:** Quasar district: Quasar-Laza road, tributary of Quasarchay river (site 5), 28.v.2017, 1 ♂; Shamakhi district: north-west from Shamakni, tributary of Aghsu river (site 10), 29.v.2017, 1 ♀.

**Distribution:** Bulgaria, Greece, Russia (North Caucasus); Georgia, Armenia, Turkey, Lebanon. **First record from Azerbaijan.**

***Rhabdomastix (Rhabdomastix) hirticornis* (Lackschewitz, 1940)**

**Material examined:** Balakan district: north from Balakan, river (site 1); 1.vi.2017, 1 ♀.

**Distribution:** Albania, Austria, Bulgaria, Czech Republic, Germany, Greece, Poland, Serbia, Slovakia, Switzerland, Ukraine; Algeria. **First record from Azerbaijan, first record from Transcaucasia.**

***Tasiocera (Dasymolophilus) murina* (Meigen, 1818)**

**Material examined:** Yevlakh district: south from Xanabad, Yukhari Shirvan Canal (site 11), 1.vi.2017, 1 ♂; Zaqatala district: north from Zilban; submountain river (site 12), 31.v.2017, 2 ♂♂.

**Distribution:** Europe, incl. European Russia; Morocco; Georgia, Azerbaijan, Turkey.

SUBFAMILY: LIMONIINAE

***Dicranomyia (Dicranomyia) chorea* (Meigen, 1818)**

**Material examined:** Quba district: south-west from Gimilgazma, Kudial-Chai river (site 6), 27.v.2017, 1 ♂.

**Distribution:** Canada; Europe, incl. European Russia; Morocco; Georgia, Armenia, Azerbaijan, Turkey, Cyprus, Israel, Iran.

***Dicranomyia (Melanolimonia) morio* (Fabricius, 1787)**

**Material examined:** Lerik district: south from Lerik, river next to road (site 4), 4.vi.2017, 1 ♂.

**Distribution:** Europe, incl. European Russia; Morocco; Georgia, Armenia, Azerbaijan, Turkey, Iran; Mongolia.

***Dicranomyia (Numantia) fusca* (Meigen, 1804)**

**Material examined:** Zaqatala district: north from Zilban (site 12), 31.v.2017, 1 ♀.

**Distribution:** Canada, USA; Europe, incl. European Russia; Georgia, Armenia, Azerbaijan, Turkey, Iran; Far East of Russia; Japan.

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

**Material examined:** Quba district: south-west from Gimilgazma, Kudial-Chai river (site 6), 27.v.2017, 1 ♀; Xinaliq road, tributary of Kudial-Chai river (site 9), 27.v.2017, 1 ♂; Yevlakh district: south from Xanabad, Yukhari Shirvan Canal (site 11), 1.vi.2017, 1 ♀.

**Distribution:** Europe except for northern countries, incl. Russia (North Caucasus); Morocco; Armenia, Azerbaijan, Turkey, Iran.

***Limonia macrostigma* (Schummel, 1829)**

**Material examined:** Quasar district: Quasar-Laza road, tributary of Quasarchay river (site 5), 28.v.2017, 1 ♂.

**Distribution:** Europe, incl. European Russia; Morocco; Georgia, Armenia, Azerbaijan, Turkey, Cyprus; Central Asia; Mongolia; as far east as Far East of Russia and North Korea; Pakistan.

## ***Limonia phragmitidis* (Schränk, 1781)**

**Material examined:** Quba district: west from Quba, light trap near Kudial-Chai river (site 8), 26.v.2017, 1 ♀.

**Distribution:** Europe, incl. European Russia; Morocco; Georgia, Azerbaijan, Turkey, Israel, Jordan; Central Asia; West Siberia.

## **Discussion**

A total of 16 species of Limoniidae are recorded from Azerbaijan. Of these, 5 species represent the first records for Azerbaijan. These are the following: *Pseudolimnophila* (*P.*) *melanura*, *Cheilotrichia* (*E.*) *minima*, *Molophilus* (*M.*) *crimensis*, *Rhabdomastix* (*R.*) *filata*, and *R. (R.) hirticornis*. Three species are new to the whole Transcaucasia, viz. *C. (E.) minima*, *M. (M.) crimensis*, and *R. (R.) hirticornis*.

Altogether 92 species of Limoniidae were previously known to occur in Azerbaijan (Oosterbroek 2017). Our records increase the number of Limoniidae of Azerbaijan to 97 species.

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