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The geometer moths (Lepidoptera, Geometridae) from the collection of Institute of Zoology of ANAS collected in the Mountainous-Shirvan area

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Abstract

The paper contains information about geometrid moths (Lepidoptera, Geometridae) of Azerbaijan. Collection sites are shown on the map.

Keywords: Geometridae, collection, material, distribution.

Zusammenfassung

Diese Arbeit befasst sich mit den Spannern (Lepidoptera, Geometridae) in Aserbeidschan. Die jeweiligen Fundorte sind auf einer Karte verzeichnet.

Introduction

The geometer moths is one of largest families of the *Lepidoptera* including 23000 species from 2000 genera (DIDMANIDZE 2016). In Azerbaijan this family was studied in the Abshe-ron-Gobustan region only by A. PIRIYEV (1989). The Mountainous Shirvan region of Azerbaijan includes the districts below: Shamakhy, Ismayilli, Gobustan, Agsu and the mountainous part of Goychay district. The *Geometridae* collection of the Instiute of Zoology of the ANAS contains 46 geometrid species belonging to 34 genera collected in the above mentioned regions.

Material and Methods

The geometer moths of the Mountainous Shirvan region were collected mainly by R. EFFENDI, S. ALIYEV and A. PIRIYEV from Ismayilli, Goychay districts and in Pirgulu, Alekseyevka, Kirovka (now Nagharakhana), Astrakhanka (now Gyzmeidan), Damirchi villiages of the district Shamakhy. According to labels the species were collected in a light trap. Species were identified according to different keys (VIYDALEP, LAMPERT 1913, ROMANOFF 1884-1901, SEITZ 1915).

The modern names of the districts on labels:

Yelenendorf – Goygol
Aresh – Aghdash
Yelizavetpol – Ganja
Nukha – Sheki
Kirovka – Nagharakhana

Abbreviations:

GNM – Georgian National Museum
SIZ – Sankt-Petersburg Institute of Zoology

Results

Family *Geometridae* LEACH, 1815

Subfamily *Geometrinae* LEACH, 1815

Genus *Pseudoterpna* HÜBNER, 1823

Pseudoterpna pruinata HUFNAGEL, 1767

M a t e r i a l : District Goychay, v. Potu, 18.06.1962, S. ALIYEV, 1♂; 13.05.70, R. EFFENDI, 2♂♂, district Shamakhi, v. Damirchi, 03.07.2017, S. HAJIYEVA, 1♂.

D i s t r i b u t i o n : European part of Russia, Caucasus, Mid Asia.

Genus: *Jodis* HÜBNER, 1823

= *Thera* STEPH, 1831

Jodis lactearia LINNAEUS, 1758

M a t e r i a l : District Shamakhy, v. Pirlgulu, 28.06.1988, A. PIRIYEV, 2♂♂.

D i s t r i b u t i o n : European part of Russia, South Siberia, Sakhalin, Kuril islands, Caucasus, South Caucasus, Korean islands, Japan.

Subfamily Larentinae DUPONCHEL, 1845

=Hydriomeninae

Genus *Catoclysme* HÜBNER, 1825

Catoclysme riguata HÜBNER, 1813

M a t e r i a l : District Shamakhy, v. Pirgulu, 06.07.1988, A. PIRIYEV, 2♂♂.

N o t e : ROMANOFF (1887) found the species in Yelenendorf. The data of collection and the sex of the specimen is not presented.

D i s t r i b u t i o n : Southern Caucasus, Asia Minor, Siberia.

Genus *Epirrhoe* HÜBNER, 1825

Epirrhoe galiata HÜBNER, 1813

= *Larentia eophanata* KRILIKOVSKI, 1905

M a t e r i a l : District Goychay, 28.09.1962, S. Aliyev, 1♂; district Ismayilli, v. Ivanovka, 21.09.2017, S. HAJIYEVA, 1♂.

D i s t r i b u t i o n : Europe, Caucasus, Asia Minor, Siberia.

Genus *Triphosa* STEPHENS, 1829

Philereme vetulata DENIS & SCHIFFERMÜLLER, 1775

M a t e r i a l : District Shamakhy, v. Pirgulu, 06.07.1964, R. EFFENDI, 3♂♂, the same place, 05.07.2017, S. HAJIYEVA, 2♂♂.

D i s t r i b u t i o n : European part of Russia, Southern Siberia, Caucasus, Kazakhstan.

Triphosa taochata LEDERER, 1869

M a t e r i a l : District Goychay, 18.06.64, R. EFFENDI, 2♂♂, district Shamakhy, v. Damirchi, 05.07.2017, S. HAJIYEVA, 2♂♂.

N o t e : Romanov (ROMANOFF, 1885) found the species in the Ordubad district of the Nakhchivan AR of Azerbaijan. The number and sex of specimens is unknown.

D i s t r i b u t i o n : Southern Caucasus, the Crimea, the North of the Asia Minor.

Genus *Cyclophora* HÜBNER, 1882

Cyclophora albiocellaria HÜBNER, 1882

M a t e r i a l : District Goychay, v. Potu, 01.06.1965, S. ALIYEV 2♂♂, district Shamakhy, v. Pirgulu, 06.07.1964, R. EFFENDI, 1♀.

D i s t r i b u t i o n : South East of the European part of Russia, Caucasus, Mid Asia, Asia Minor, North Iran.

Cyclophora porata FABRICIUS 1775
=*Geometra hübneraria* HAWORTH, 1802
=*Phalaema poraria* LATREILLI, 1802

M a t e r i a l : District Lankaran, v. Aresh, 1885, ROMANOFF, 1 ♀, v. Darachichek, 1 ♂; district Shamakhy, v. Pirgulu, 04.07.1964, R. EFFENDI, 2 ♂♂, district Ismayilli, 01.08.1984, A. PIRIYEV, 1 ♀.

D i s t r i b u t i o n : South of the European part of Russia, Caucasus, the Crimea, Southern Caucasus, Asia Minor, Iran.

Cyclophora trilineata VIETTE, 1954

M a t e r i a l : Turyanchay State Natural Reserve, 05.06.1972, R. EFFENDI, 1 ♂; district Shamakhy, v. Damirchi, 05.07.2017, S. HAJIYEVA, 1 ♂.

D i s t r i b u t i o n : South Eastern part of the Europe, Caucasus, Mediterranean countries, Asia Minor, Northern Iran.

Cyclophora punctaria LINNAEUS, 1758

M a t e r i a l : District Goychay, 18.08.1962, S. ALIYEV, 1 ♂; district Shamakhy, v. Kirovka, 07.08.196, R. EFFENDI, 2 ♂♂.

N o t e : Romanoff collected the species in Yelenendorf, Lankaran, Goytapa, Azerbaijan in 1885. The number and sex of the specimens is unknown.

D i s t r i b u t i o n : South East of Europe, Cucusus, the Crimea, Asia Minor, Iran.

Cyclopora albiocellaria HÜBNER, 1789

M a t e r i a l : District Shamakhy, v. Pirquli, 06.07.1964, Goychay district, v. Potu, 01.06.1965, R. EFFENDI, 1 ♂.

D i s t r i b u t i o n : South Weast European part of Russia, Caucasus, Mid Asia, Asia Minor, Northern Iran.

Genus *Chloroclysta* HÜBNER, 1825

Chloroclysta siterata HUFNAGEL, 1767

M a t e r i a l : Azerbaijan, Talysh, 06.07.1885 (ROMANOFF, 1885), GNM ; Aghgol reserve, 1 ♂; Sarysu, 11.04.1973, E. DIDMANIDZE, 1 ♂; district Shamakhy, v. Kirovka, 24.10.1964, R. EFFENDI, 1 ♂; 05.06.1988, R. EFFENDI, 2 ♀♀.

D i s t r i b u t i o n : Western, Mid and Eastern Europa, the Crimea, Caucasus, Asia Minor.

Genus *Asthena* HÜBNER, 1825

Asthena albulata HUFNAGEL, 1767

M a t e r i a l : Azerbaijan, Yelizavetapol, Goy-gol 07.1913, 2♀♀ (GNM); Nukha, Zaqatala (ROMANOF, 1885); district Shamakhy, v. Pirquli, 06.07.1964, R. EFFENDI, 2♂.

D i s t r i b u t i o n : Europa, Caucasus, West of the Mid Asia, North Iran.

Genus *Costaconvexa* AGENIO, 1949

Costaconueva polygrammata BORKHAUSENY, 1794

M a t e r i a l : Azerbaijan, Yelenendorph, Varvara, (ROMANOF, 1887), Goytapa, 10.07.1915, Turyanchay reserve, 23.04.1973, E. DIDMANIDZE. The number of specimens and sex are unknown. District Shamakhy, v. Pirgulu, 04.07.1964, R. EFFENDI, 2♂.

D i s t r i b u t i o n : South Europa, the Crimea, Caucasus, Mid Asia.

Genus *Orthonama* HÜBNER, 1825

Orthonama lignata HÜBNER, 1799

M a t e r i a l : Greater Caucasus, district Shamakhy, v. Pirgulu, 04.08.1964, R. EFFENDI, 1♂; district Aghsu, v. Hungar, 24.05.2017, HACIYEVA S. 2♂♂.

Orthonama obstipata FABRICIUS, 1794

= *Geometra fluviala* HÜBNER, 1799

M a t e r i a l : Azerbaijan, Yelenendorph, Gankunda, VI-VII (ROMANOF, 1887), district Lankaran (RADDE, 1899), GNM. The number of specimens and sex are unknown. District Shamakhy, v. Pirgulu, 09.08.1988, R. EFFENDI, 2♀♀.

D i s t r i b u t i o n : South and Central Europa, the Crimea, Sakhalin, Caucasus, Mid Asia.

Genus *Scotopteryx* HÜBNER, 1825

Scotopteryx bipunctaria (DENIS & SCHIFFERMÜLLER, 1775)

= *Oetholicha bipunctaria* (DENIS & SCHIFFERMÜLLER, 1775)

M a t e r i a l : Azərbaycan, Yelizavetapol, Goy-gol, 07.1913, 2♂♂, 2♀♀, (GNM); Greater Caucasus, district Shamakhy, v. Pirgulu, 5.08.1988, 2♂♂, R. EFFENDI, 1♀; The same district, v. Damirchi, 04.07.2017, S. HACIYEVA, 1♂.

D i s t r i b u t i o n : South and Central Europa, Urals, Caucasus.

Genus *Xanthorhoe* HÜBNER, 1825

Xanthorhoe fluctata LINNAEUS, 1758

M a t e r i a l : Greater Caucasus, district Shamakhy, v. Pirgulu, 04.07.1964, R. EFFENDI, 2♂♂.

N o t e : ROMANOFF (1887) found the species in the Sheki (Former Nukha), but he does not indicated the number and sex of the spesimens.

D i s t r i b u t i o n : South and Central Europa, Urals, Caucasus, Mid Asia mountains, Asia Minor, North Iran, Kurile islands.

Genus *Mannia* PROUT, 1915

Mannia oppositaria MANN, 1864

=*Tephronia oppositaria* MANN, 1864

M a t e r i a l : Azerbaijan, Lankaran V-VI (ROMANOFF, 1885; RADDE, 1889), Naxçıvan AR, district Culfa, 18.06.1973, 1♂, 1♀, E. DIDMANIDZE; district Shamakhy, v. Pirgulu, 04.07.1964, R. EFFENDI, Ismayilli State Reserve, 01.08.1989, A. PIRIEV, 1♂, 1♀; district Shamakhy, v. Damirchi, 04.07.2017, S. HACIYEVA, 1♂.

D i s t r i b u t i o n : South Europa, Caucasus, Asia Minor.

Genus *Thera* STEPHENS, 1831

Thera cognata THUNBERG, 1792

M a t e r i a l : Shirvan, Turyanchay, 24.05.1984, R. EFFENDI, 2♂♂.

D i s t r i b u t i o n : Middle and Northern Europa, Caucasus.

Genus *Calliclystis* DIETZS, 1813

Calliclystis rectangulata LINNAEUS, 1758

M a t e r i a l : Azerbaijan, district Lankaran, v. Kaskiparan, 06.1887, ROMANOFF; district Ismayilli, 01.08.1989, A. PIRIEV, 2♀.

D i s t r i b u t i o n : Middle and Eastern Europa, Caucasus, Southern Siberia, Amur surroundings, Japan.

Subfamily Sterrhinae MEYRICK, 1892

Genus *Sterrha* HÜBNER, 1825

Sterrha rufaria HÜBNER, 1798

= *Acidalia rufaria* HÜBNER, 1799

M a t e r i a l: Surroundings of Baku, steppe, 15-16.06.1974, 1♂, 2♀♀; district Gobustan, 07.06.1974, 1♂, (DIDMANIDZE, 2016); district Shamakhy, v. Damirchi, 02.07.1937, collector is unknown, the same place, 04.07.2017, S. HAJIYEVA, 1♂.

D i s t r i b u t i o n: South of the European part of Russia, Caucasus, the Crimea, Mid Asia, countries of the Mediterranean.

Sterra dimidiata HUFNAGEL, 1767

=*Idaea dimidiata* HUFNAGEL, 1767

M a t e r i a l: Nakhichevan AR, district Ordubad, r. Paragachay, 25.05.1981, 1♂, 1♀; district Shamakhy, v. Pirgulu, 06.07.1964, R. EFFENDI; district Agsu, v. Hungar, 25.05.2017, S. HAJIYEVA, 1♀.

D i s t r i b u t i o n: European part of Russia, Caucasus, Mid Asia, Asia Minor, North of Iran.

Genus *Scopula* SCHRANK, 1802

Scopula subpunctaria (HERRICH-SCHÄFFER, 1847)

= *Acidalia subpunctaria* HERRICH-SCHÄFFER, 1847

M a t e r i a l: Azerbaijan, Yelizavetpol, Goy-gol, 07.1913, 5♂♂, 3♀♀ (GNM); district Shamakhy, v. Pirgulu, 06.07.1964, R. EFFENDI, 1♂.

D i s t r i b u t i o n: South of Russia, Caucasus, South of Ural, South of Siberia, North of Kazakhstan.

Scopula ornata SCOPOLI, 1763

= *Acidalia ornata* (SCOPOLI, 1763)

M a t e r i a l: district Shamakhy, v. Meysar, 02.06.1937, 1♂; district Shamakhy, v. Damirchi, 04.07.2017, S. HAJIYEVA, 1♂.

N o t e: Azerbaijan, Darachichak (RADDE, 1899), Yelizavetpol, Goy-gol, 07.1913 (GNM). The number and sex of specimens is unknown.

D i s t r i b u t i o n: European part of Russia, Caucasus, mountains of the Mid Asia, South of Siberia, South of Yakutia, Northern Afrika, Mediterranean Sea, North of Iran.

Genus *Phodostrophia* HÜBNER, 1823

Phodostrophia calabraria PETAGNO, 1786

=*Phalaena calabraria* HÜBNER, 1790

=*Phalena trifaciata* CYRILLA, 1787

=*Aspilates taeniaria* FREYER, 1834

M a t e r i a l : Azerbaijan (ROMANOFF, 1885), Aresh, 07.1916, 1♂, GNM, Eldar steppe, 17.05.1972, 1♂; Baku surroundings, 14.06.1974, 2♂♂; district Shamakhy, v. Kirovka 10.05.1961, R. EFFENDI, 2♂♂.

D i s t r i b u t i o n : Caucasus.

Phodostrophia vibicaria CLERCK, 1759

M a t e r i a l : District Shamakhy, v. Pirqulu, 05.08.1988, A. PIRIEV, 1♂; district Shamakhy, v. Damiirchi, 05.07.2017, S. HAJIYEVA, 3♂♂.

N o t e : Azerbaijan, Talysh, 06.07.1885 (ROMANOFF, 1885), GNM. The number and sex is unknown.

D i s t r i b u t i o n : European part of Russia, Caucasus, Ural, Kazakhstan.

Phodostrophia badiaria FREYER, 1841

M a t e r i a l : District Shamakhy, v. Kirovka, 04.07.1976, R. EFFENDI, 3♂♂.

D i s t r i b u t i o n : Eastern Europa, Altay, East of Kazakhstan.

Genus *Casilda* AGENJO, 1952

Casilda anthophilaria HÜBNER, 1813

M a t e r i a l : Goychay district, 18.08.1962, S. Aliyev, 1♂; district Agsu, v. Hungar, 24.05.2017, S. HAJIYEVA, 2♂♂.

D i s t r i b u t i o n : The South of European part of Russia, Mid Asia, Kazakhstan.

Genus *Semiothisa* HÜBNER, 1818

=*Chiasma* HÜBNER, 1823

=*Diastiotis* HÜBNER, 1823

=*Jsturgia* HÜBNER, 1823

=*Macaria* CURTIS, 1825

Semiothisa lutirata CLERCK, 1759

M a t e r i a l : Nakhchivan AR, district Ordubad, district Evlax, Varvara, 04-07 (ROMANOFF, 1885), 17.05.1974, 1♂, district Culfa, 18.06.1773 1♂; district Shamakhy, v. Pirqulu, 06.07.1988, A. PIRIEV, 2♂♂; the same place, 06.07.1964, R. EFFENDI, 1♂.

D i s t r i b u t i o n : Wester, Eastern and Middle Europa, Caucasus, North of Kazakhstan, Western Siberia, China, Japan.

Genus *Angerona* DUPENCHEL, 1844

Angerona prunaria LINNAEUS, 1758

M a t e r i a l : Azerbaijan, Aresh, Goy-tapa, 07.1916 (GNM), district Shamakhy, v. Kirovka, 03.07.1961, R. EFFENDI, 1♂.

D i s t r i b u t i o n : European part of Russia, Northern Kazakhstan, Urals, Siberia.

Genus *Ectropis* HÜBNER, 1825

Ectropis crepuscularia HÜBNER, 1825

= *Boarmia crepuscularia* HÜBNER, 1796-1799

M a t e r i a l : District Shamakhy, v. Kirovka, 03.07.1961, R. EFFENDI, 2♂♂; district Ismayilli, 01.08.1969, R. EFFENDI, 1♂; the same district, v. Ivanovka, 24.09.2017, S. HACIYEVA, 1♂.

D i s t r i b u t i o n : European part of Russia, Siberia.

Genus *Ourapteryx* LEAH, 1815

Ourapteryx sambucaria LINNAEUS, 1758

M a t e r i a l : District Shamakhy, v. Pirgulu, 04.07.1964, R. EFFENDI, 1♂; district Shamakhy, v. Damirchi, 04.07.2017, S. HACIYEVA, 1♂.

D i s t r i b u t i o n : Western, Eastern and Middle Europa, Northern Kazakhstan, Altay

Genus *Campaea* LAMARCK, 1816

= *Metacampa* LATREILLA, 1825

Campaea margaritata (LINNAEUS, 1767)

= *Metrocampa margaritata* LINNAEUS, 1767

M a t e r i a l : Azerbaijan, v. Hajikend, 05.1916, 1♂; Yelizavetpol, Göygöl, 07.1913, 1♀, (GNM); district Shamakhy, v. Pirquli, 27.06.1988, A. PIRIEV, 2♂♂, the same place, 05.07.1964, R. EFFENDI, 1♂; Ismayilli State Reserve, 01.08.1989, A. PIRIEV, 1♂.

D i s t r i b u t i o n : Middle and Southern Europa, Caucasus.

Genus *Selenia* HÜBNER, 1823

Selenia tetralunaria (HUFNAGEL, 1767)

M a t e r i a l : Greater Caucasus, district Shamakhy, v. Pirgulu, 04.07.1964, A. PIRIEV, 1♂; Ismayilli district, 01.08.1989, A. PIRIYEV, 2♂♂.

D i s t r i b u t i o n : European part of Russia, Siberia, Sakhalin, Caucasus, China, Japan.

Genus *Opisthograptis* HÜBNER, 1823

Opisthograptis luteolata LINNEAUS, 1758

M a t e r i a l : Azerbaijan, Yelizavetpol, Goy-gol, 07.1913, (GNM); district Shamakhy, v. Kirovka, 15.06.1961, R. EFFENDI, 1♂; district Ismayilli, 01.08.1989, A. PIRIEV, 1♀.

D i s t r i b u t i o n : Western, Middle and Eastern Europa, Caucasus.

Genus *Biston* LEACH, 1815

Biston betularis LINNEAUS, 1758

= *Biston huberaria* (BALLION, 1866).

M a t e r i a l : Azerbaijan, Hajikend, 06.1910, 2♂♂, 1♀; Yelizavetapol, Goy-gol, 07.1913, (GNM); district Shamakhy, v. Damirchi, 05.07.2017, S. HACIYEVA, 2♂♂.

N o t e : The species was found in Yelenendorf by ROMANOFF (1885) and RADDE (1889).

D i s t r i b u t i o n : Western, Middle and Eastern Europa, Caucasus, Urals, Kazakhstan, Western Siberia, China, Japan, North America.

Genus *Erannis* HÜBNER, 1825

= *Hybernia* LATREILLA, 1825

Erannis defoliaria CLERK, 1759

M a t e r i a l : district Shamakhy, v. Pırgulu, 12-17, 07.1965, R. EFFENDI, 1♂; 24.10.1964, R. EFFENDI, 3♂♂.

D i s t r i b u t i o n : European part of Russia, Caucasus, Noth Iran.

Erannis almaria HÜBNER, 1825

M a t e r i a l : district Shamakhy, v. Kirovka, 06.10.1962, R. EFFENDI, 1♂; 03.05.1988, R. EFFENDI, 1♂.

D i s t r i b u t i o n : European part of Russia, Caucasus, Ukraine, Siberia.

Genus *Dyscia* HÜBNER, 1825

Dyscia conspersaria DENIS ET SCHIFFERMÜLLER, 1775

= *Dyscia conspersaria* (FABRICIUS, 1775)

M a t e r i a l : Azerbaijan, Yelenendorf, Garayazi, (ROMANOFF, 1885; RADDE); Aresh, 3♂♂, 4♀♀; Qarabağ 1♀; Nakhchivan AR, district Ordubad, 1♂, 1♀, (GNM); district Shamakhy, 02.06.1961, R. EFFENDI, 1♂.

D i s t r i b u t i o n : Southern Europa, Southern Urals, Mid Asia.

Genus *Synopsia* HÜBNER, 1825

Synopsia sossaria HÜBNER, 1799

M a t e r i a l : Azerbaijan, Aresh, Goy-tapa lake, 07.1916, 1♂ (GNM); district Shamakhy, 07.07.1964, R. EFFENDI, 1♂.

D i s t r i b u t i o n : Southern Europe, Caucasus, Mid Asia.

Genus *Alcis* CURTIS, 1825

Alcis repandata LINNEAUS, 1761

M a t e r i a l : Shirvan, Goychay district, v. Potu, 01.06.1965, R. EFFENDI, 1♂♂; district Ismayilli, v. Ivanovka, 24.09.2017, S. HACIYEVA, 1♂.

D i s t r i b u t i o n : Western, Middle and Eastern Europe, Caucasus, Kazakhstan, Altay.

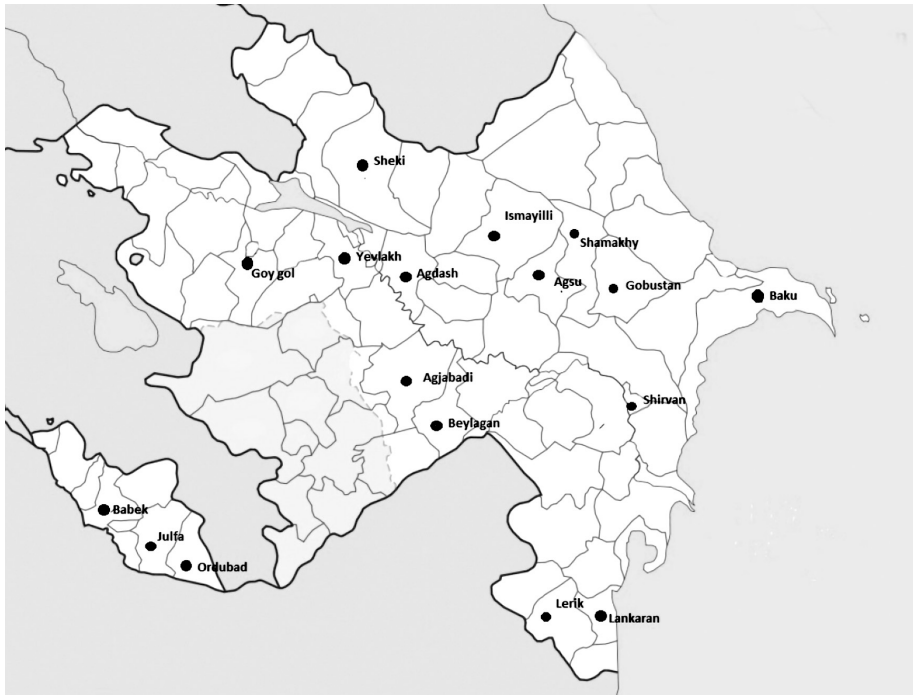


Fig 1: Records of geometrids in Azerbaijan, localities (filled circles)

Genus *Gnophos* TREISCHKE, 1827

Gnophos onustaria HÜBNER, 1853

M a t e r i a l : Azerbaijan, Yelenendorf, Isti-su, (ROMANOFF, 1885; RADDE, 1899), Talysh, (Ryabov-SZI); district Shamakhy, v. Pırgulu, 05.08.1988, R. EFFENDI, 1♂.

D i s t r i b u t i o n : Southern Caucasus, Western Asia Minor.

Genus *Personia* HÜBNER, 1823

Personia strigillaria HÜBNER, 1789

M a t e r i a l : Azerbaijan, Nakhchivan AR, district Ordubad, 1875, 1♂, Aresh, 1♀, (Alferaki, GNM); district Ismayilli, 15.07.1988, A. PIRIYEV, 2♂♂.

D i s t r i b u t i o n : Europa, Caucasus, Urals, Middle Siberia, Yakutia, Asia Minor, Mongolia.

Genus *Calospilos* HÜBNER, 1825

Calospilos sylvato SCOPOLI, 1767

M a t e r i a l : District Shamakhy, v. Pırgulu, 05.06.1964, R. EFFENDI, 1♂.

D i s t r i b u t i o n : Western, Middle and Eastern Europa, Caucasus, Crimea, Siberia reserve, China, Japan.

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