

CONTRIBUTIONS TO KNOWLEDGE OF THE FAUNA OF GEOMETER MOTHS (LEPIDOPTERA, GEOMETRIDAE) FROM THE REPUBLIC OF MOLDOVA

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Abstract. The paper summarizes data on the diversity of the Geometer moths (Lepidoptera: Geometridae) in the Republic of Moldova. The analysis of our research and literature data, materials from entomological collections in the Museum of Ethnography and Natural History and Museum of the Institute of Zoology showed that the Geometridae family is represented by 282 species, or 25 % of the European fauna. The species of Geometridae family reported in the fauna of Republic of Moldova, taxonomically classified into 6 subfamilies: Archiearinae – 3 species, Orthostixinae – 1, Geometrinae – 11, Ennominae – 89, Sterrhinae – 52, Larentiinae – 126 species. As a result of the study carried out in various ecosystems of the Cobîleni Nature Reserve, 44 new species were reported for the fauna of the Republic of Moldova.

Keywords: Geometridae, Entomological Collection, Republic of Moldova, new species.

Rezumat. Contribuții la cunoașterea faunei geometridelor (Lepidoptera, Geometridae) din Republica Moldova.

Lucrarea prezintă date despre diversitatea geometridelor (Lepidoptera: Geometridae) din Republica Moldova. În rezultatul cercetărilor noastre și a analizei datelor din literatură, a materialelor din colecțiile entomologice din Muzeul de Etnografie și Istorie Naturală și muzeul Institutului de Zoologie am constatat că familia Geometridae este reprezentată de 282 de specii, sau 25% din fauna europeană. Speciile de geometride semnalate în fauna Republicii Moldova sunt clasificate taxonomic în 6 subfamilii: Archiearinae – 3 specii, Orthostixinae – 1, Geometrinae – 11, Ennominae – 89, Sterrhinae – 52 și Larentiinae – 126 specii. În rezultatul studiului efectuat în diverse ecosisteme din Rezervația Naturală Cobîleni au fost semnalate 44 de specii noi pentru fauna Republicii Moldova.

Cuvinte cheie: Geometridae, colecții entomologice, Republica Moldova, specii noi.

INTRODUCTION

The Geometer moths is a very rich insect family in species and various regarding the sexual dimorphism. This is the second Lepidoptera family with about 23.000 described species occurring worldwide with the exception of the Polar Regions and the most beautiful species being found in the tropics. Approximately 1140 species are registered in Europe (<https://lepidoptera.eu>). The majority of the species are mostly nocturnal than diurnal. The Geometridae caterpillars are popularly called inchworms or loopers which are dangerous species causing the development of mass outbreaks which lead to defoliation of crops, forests, of trees and shrubs from parks and squares.

Although the study of moths from the Geometridae family in the Republic of Moldova is of considerable age, few works have been published over time, most of them referring to certain species with pest status. Regrettably, there is no totalization list in the literature regarding the diversity of Geometer moths from the Republic of Moldova. Research on the Geometridae fauna was recently resumed after many years (ȚUGULEA et al., 2020; ȚUGULEA, 2021a; ȚUGULEA et al., 2021).

The purpose of the study was to identify the faunal diversity of Geometer moths on the territory of the Republic of Moldova and presents, for the first time the list of Geometer moths (Lepidoptera, Geometridae) which have been reported. The data from this paper serve as element of applicability in statistical analysis of biodiversity and at the enrichment of the entomological heritage in the chapter of Geometridae moths of the Republic of Moldova.

MATERIAL AND METHODS

The study was conducted in the Cobîleni Natural Forest Reserve (47°30'50.94"N, 29°1'20.37"E) of the Republic of Moldova (Fig. 1), which is taken under protection since 1998. The reserve belongs to the Forest District Susleni, of State Forestry Enterprise Orhei (which occupies an area of 23,822 ha) (POSTOLACHE & LAZU, 2018). The Cobîleni Natural Reserve is a natural forest area with a surface of 33.5 ha, situated near Lopatna village, Orhei district, on the bank of the Dniester River.

According to the geomorphological regionalization, the reserve is located on the west Dniester's hills and its terraces, at 250-300 m altitude, characterized by a vertical fragmentation. Flooded meadows, mixed forests and limestone rocks, specific to the steep slopes of the Dniester Valley, covered by *Quercus robur* and *Fraxinus excelsior*, represent the studied reserve.

The entomological material was collected from different habitats of the Cobîleni Natural Forest Reserve like forest, forest edge, meadows and calcareous canyons using different methods: by entomological net daytime active species, even manually, for geometrids that were at rest on different surfaces, or at regular bulb and during night with UV-light bucket trap with DRL 250W lamp bulbs. The biggest part of moths was caught using UV-light trap.

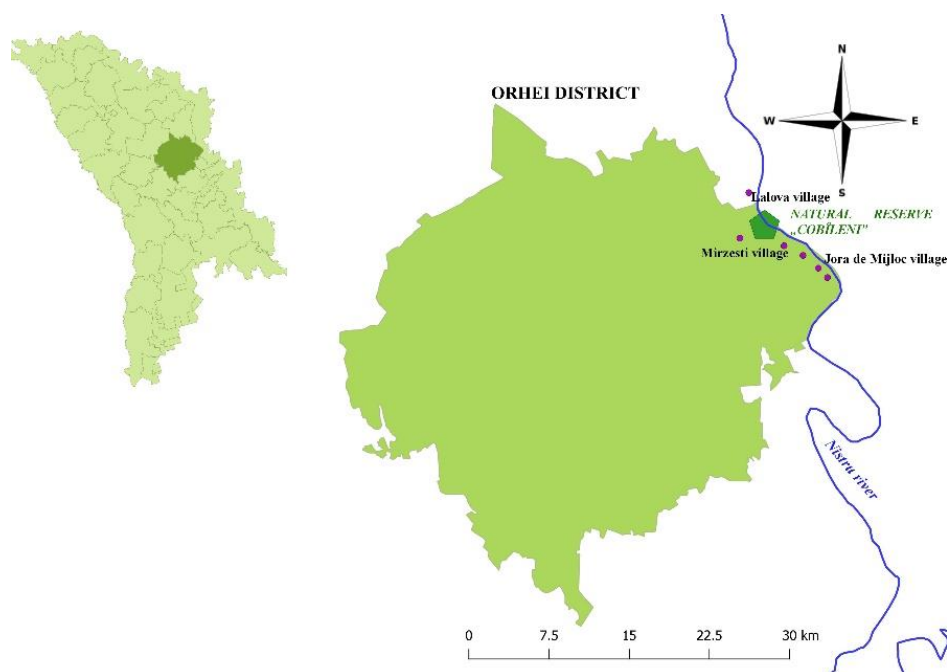


Figure 1. Location of the Cobîleni Natural Forest Reserve in the Orhei District of the Republic of Moldova (original).

RESULTS AND DISCUSSION

The first summary about the Geometer moths species (Geometridae) for Moldova was given by CRULICOVSCHI (1906). The author presents a faunal list that includes 59 species of macrolepidoptera, most of which are diurnal butterflies and only two species of Geometer moths. The author mentions in his work that "the lepidopteran fauna of Bessarabia is not researched at all until now".

In the first paper MILLER & ZUBOWSKY (1908) publish a faunal list that includes 375 species of butterflies of which 72 species from the Geometridae family. During the years 1912-1913, the authors publish two other works in the catalogue of Bessarabia (MILLER & ZUBOWSKY, 1912; 1913), under the same name, thus completing the existing list with 23 species. After almost two decades, the authors published three works in the Bulletin of the National Museum of Natural History (MILLER et al., 1929; MILLER et al., 1932; ZUBOWSKY & RUSCHTSCHINSKY, 1937). In the work published in 1929 the authors list 75 species from the Geometridae family.

An important work appears in 1970 (BARSOV, 1970), in which the author establishes the faunal diversity of lepidoptera in the forest near the village of Hirbovăț, which constitutes 240 species from various families, of which 50 species belong to the Geometridae family. Also in this book, other author – APOSTOLOV (1970) published a work about the dendrophilous fauna of the Gârbovăț forest. The author mentions 92 species of Lepidoptera of the 263 species of insects recorded, among Geometer moths citing 10 species that are important pests of forest ecosystems.

Data concerning the Geometridae fauna of the Republic of Moldova were published in a comprehensive catalogue named "Catalogue of the N. Zubowsky Entomological Collection" (DERJANSCHI et al., 2016). During his lifetime, N. Zubowsky created a private entomological collection, which includes more than 10000 insects, more than 5800 beetles and 3600 butterflies. This collection are preserved in the National Museum of Ethnography and Natural History, located in Chișinău. This huge catalog includes 3609 specimens of butterflies, of which 1187 specimens of 177 species belong to Geometridae family.

Besides this entomological collection in the National Museum of Ethnography and Natural History is stored another ancient valuable collection of Rodion Stepanov which was a famous naturalist too. The Entomological Collection „R. Stepanov” consists of more than 20.000 insects from Orthoptera, Lepidoptera and Coleoptera order. Mainly specimens were collected during 1905-1938 years from Bessarabia, which represents the current territory of the Republic of Moldova and a few localities that now belong to Ukraine. Also, in this ancient collection are preserved Geometer moths collected from various ecosystems, both anthropogenic and natural from Bessarabia. The entomological materials were collected in the night at light and of course during the day using the entomological sweep net. The catalogue of Geometer moths from the „R. Stepanov” Entomological Collection includes 168 specimens belong to a total of 58 species included in 42 genera and four subfamilies: Ennominae (20 species), Geometrinae (2), Larentiinae (19) and Sterrhinae (17 species) (ȚUGULEA et al., 2020).

The geometrids from the A. Ruscinski Entomological Collection stored at the Technical University of the Republic of Moldova were also included in the faunal list (TIMUȘ et al., 2017). The collection belongs to the naturalist Ruscinski who together with Zubowski made collections on the territory of the Republic of Moldova, many results being published (ZUBOWSKY & RUSCHTSCHINSKY, 1937).

Experts site <https://lepidoptera.eu> (2024) provides a list that includes 79 species of moths from the Geometridae family. The presence of the species *Epirrhoe molluginata* (Hübner, 1813), *Horisme tersata* (Denis & Schiffermüller, 1775), *Scotopteryx moeniata* (Scopoli, 1763) and *S. mucronata* (Scopoli, 1763) on the territory of the Republic of Moldova was not confirmed by other authors.

Our research in the past years confirmed the presence of over 130 species of Geometridae moths in the fauna of the Republic of Moldova (ȚUGULEA, 2021; ȚUGULEA et al., 2021; BUȘMACHIU et al., 2023). A recent study was conducted in the Cobileni Natural Forest Reserve situated near Lopatna village, Orhei district, on the right bank of the Dniester River. The most part of entomological materials from Cobileni Natural Forest Reserve discussed in this paper were collected at the light trap during vegetation period of 2018 (ȚUGULEA et al., 2021). In the paper the list of fifty-five geometrids species is given, also their geographical distribution, ecological and trophic structure. Most of the captured specimens belong to the Ennominae subfamily with 36 species, as it is typical for mesophilous meadows, followed by Sterrhinae with nine species, then Larentiinae with eight, and finally Orthostixinae and Geometrinae with only one species each. The area of the Cobileni Natural Forest Reserve represent a particular importance in terms of biodiversity. From the collected species, several are dangerous forest and agriculture pests. Therefore, *Lythria purpuraria* (Linnaeus, 1758) and *Isturgia arenacearia* (Denis & Schiffermüller, 1775) are pest of alfalfa. The most dangerous Geometer pests in the woods of the Republic of Moldova are *Operophtera brumata* (Linnaeus, 1758), *Agriopis aurantiaria* (Hübner, 1799), *Erannis defoliaria* (Clerck, 1759), *Agriopis leucophaearia* (Denis and Schiffermüller, 1775), *A. marginaria* (Fabricius, 1776), *Phigalia pilosaria* (Denis and Schiffermüller, 1775), *Alsophila aescularia* (Denis and Schiffermüller, 1775) and *Colotois pennaria* (Linnaeus, 1761).

Table 1 presents the faunal list of species from the Geometridae family reported in the Republic of Moldova, for each species the bibliographic source or collector is indicated and for some species the synonyms or old names present in studied collections or old works.

In total, 282 species of moths from the Geometridae family were reported in the Republic of Moldova fauna, what represent 25 % of the European fauna. The species of Geometer moths reported in the fauna of Republic of Moldova, taxonomically classified into 6 subfamilies: Archiearinae – 3 species, Orthostixinae – 1, Geometrinae – 11, Ennominae – 89, Sterrhinae – 52, Larentiinae – 126 species. Of these, 44 species are new to the fauna of the Republic of Moldova and were reported in the Cobileni Nature Reserve during 2017, when a study was conducted on the diversity and bioecological peculiarities of lepidoptera from various ecosystems.

Table 1. The diversity of the Geometer moths (Geometridae) from the Republic of Moldova.

No.	Species	Synonyms or old names	Bibliographic source or collector
ARCHIEARINAE Subfamily			
1.	<i>Archiearis parthenias</i> (Linnaeus, 1761)		[17], 24.03.2017, 1 spec.
2.	<i>Boudinotiana notha</i> (Hübner, 1803)	<i>Brephos nothum</i>	[7, 8, 10]
3.	<i>Boudinotiana puella</i> (Esper, 1787)	<i>Brephos puella</i>	[2, 16]
ORTHOSTIXINAE Subfamily			
4.	<i>Orthostixis cribraria</i> (Hübner, 1799)		[3, 10, 11, 14]
GEOMETRINAE Subfamily			
5.	<i>Pseudoterpna pruinata</i> (Hufnagel, 1767)		[17], 28.07.2017, 1 spec.
6.	<i>Geometra papilionaria</i> (Linnaeus, 1758)	<i>Hipparchus papilionaria</i>	[5, 10-13]
7.	<i>Comibaena bajularia</i> (Denis & Schiffermüller, 1775)	<i>Euchloris pustulata</i> , <i>Comibaena pustulata</i>	[5, 9, 11, 16]
8.	<i>Thetidia smaragdaria</i> (Fabricius, 1787)	<i>Euchloris smaragdaria</i>	[2, 9-12, 14, 16]
9.	<i>Hemistola chrysoprasaria</i> (Esper, [1795])		[17], 19.06.2017, 2 specs.
10.	<i>Jodis lactearia</i> (Linnaeus, 1758)	<i>Thalera lactearia</i>	[10, 11]
11.	<i>Thalera fimbrialis</i> (Scopoli, 1763)		[3, 10, 11, 16]
12.	<i>Hemithea aestivaria</i> (Hübner, 1789)	<i>Hemithea strigata</i>	[5, 10, 11]
13.	<i>Chlorissa viridata</i> (Linnaeus, 1758)	<i>Nemoria viridata</i>	[5, 10, 11, 16]
14.	<i>Chlorissa cloraria</i> (Hübner, [1813])	<i>Nemoria porrinata</i>	[11]
15.	<i>Phaiogamma etruscaria</i> (Zeller, 1849)	<i>Nemoria pulmentaria</i>	[2, 10, 11]
ENNOMINAE Subfamily			
16.	<i>Abraxas grossulariata</i> (Linnaeus, 1758)		[1, 2, 9-12, 14]
17.	<i>Abraxas sylvata</i> (Scopoli, 1763)		[10, 11]
18.	<i>Ligdia adustata</i> (Denis & Schiffermüller, 1775)	<i>Abraxas adustata</i>	[2, 9-11]
19.	<i>Odontognophos dumetata</i> Treitschke, 1827	<i>Gnophos dumetata</i>	[5, 10, 11]
20.	<i>Lomaspilis marginata</i> (Linnaeus, 1758)	<i>Abraxas marginata</i>	[3, 8-11, 14]
21.	<i>Stegania dilectaria</i> (Hübner, 1790)	<i>Lomographa dilectaria</i>	[2, 10, 11]
22.	<i>Narraga fasciolaria</i> (Hufnagel, 1767)		[9]
23.	<i>Heliomata glarearia</i> (Denis & Schiffermüller, 1775)	<i>Phasiane glarearia</i> , <i>Chiasma glarearia</i> , <i>Semiothisa glarearia</i>	[2, 7, 9-11, 14]

24.	<i>Isturgia arenacearia</i> (Denis & Schiffermüller, 1775)	<i>Eubolia arenacearia</i> , <i>Tephrene arenacearia</i>	[6, 9-11, 14]
25.	<i>Isturgia murinaria</i> (Denis & Schiffermüller, 1775)	<i>Eubolia murinaria</i> , <i>Tephrene murinaria</i>	[2, 9-11, 14]
26.	<i>Neognopharmia stevenaria</i> (Boisduval, 1840)	<i>Gnophos stevenaria</i>	[5, 10, 11, 14, 15]
27.	<i>Macaria notata</i> (Linnaeus, 1758)	<i>Semiothisa notata</i>	[10-12, 14]
28.	<i>Macaria alternata</i> (Denis & Schiffermüller, 1775)	<i>Semiothisa alternaria</i>	[2, 9-11]
29.	<i>Macaria signaria</i> (Hübner, [1809])		[17], 19.06.2017, 1 spec.
30.	<i>Macaria liturata</i> (Clerck, 1759)	<i>Semiothisa liturata</i>	[5, 11]
31.	<i>Chiasmia aestimaria</i> (Hübner, 1809)	<i>Semiothisa aestimaria</i>	[5, 10]
32.	<i>Chiasmia clathrata</i> (Linnaeus, 1758)	<i>Phasiane clathrata</i> , <i>Semiothisa clathrata</i>	[1, 2, 9-14]
33.	<i>Plagodis dolabraria</i> (Linnaeus, 1767)	<i>Eurymene dolabraria</i>	[3, 11, 14]
34.	<i>Plagodis pulveraria</i> (Linnaeus, 1758)	<i>Numeria pulveraria</i> , <i>Anagoga pulveraria</i>	[2, 10, 11]
35.	<i>Epione repandaria</i> (Hufnagel, 1767)	<i>Epione apiciaria</i>	[5, 10, 11]
36.	<i>Epione vespertaria</i> (Linnaeus, 1767)		[13]
37.	<i>Therapis flavicaria</i> (Denis & Schiffermüller, 1775)	<i>Caustoloma flavicaria</i>	[2,9-12, 14]
38.	<i>Cepphis advenaria</i> (Hübner, 1790)	<i>Epione advenaria</i>	[5, 11]
39.	<i>Pseudopanthera macularia</i> (Linnaeus, 1758)	<i>Venilia macularia</i>	[2, 9-12, 14, 15]
40.	<i>Eilicrinia cordiaria</i> (Hübner, 1790)		[5, 10, 11]
41.	<i>Eilicrinia trinotata</i> (Metzner, 1845)		[2, 9-11]
42.	<i>Opisthograptis luteolata</i> (Linnaeus, 1758)		[3, 10, 11, 14, 15]
43.	<i>Apeira syringaria</i> (Linnaeus, 1758)		[14], [17], 26.05.2017, 1 spec.
44.	<i>Ennomos autumnaria</i> (Werneburg, 1859)		[3, 10, 11]
45.	<i>Ennomos quercinaria</i> (Hufnagel, 1767)		[10, 14]
46.	<i>Ennomos fuscantaria</i> (Haworth, 1809)		[5, 9, 10]
47.	<i>Ennomos erosaria</i> (Denis & Schiffermüller, 1775)		[3, 7, 8, 10-12, 14]
48.	<i>Ourapteryx sambucaria</i> (Linnaeus, 1758)	<i>Urapteryx sambucaria</i>	[2, 9, 10, 12, 14]
49.	<i>Selenia dentaria</i> (Fabricius, 1775)	<i>Selenia bilunaria</i>	[11]
50.	<i>Selenia lunularia</i> (Hübner, 1788)	<i>Selenia lunaria</i>	[2, 9-12, 15]
51.	<i>Selenia tetralunaria</i> (Hufnagel, 1767)		[5, 11, 14]
52.	<i>Artiora evonymaria</i> (Linnaeus, 1758)	<i>Therapist evonymaria</i>	[2, 11]
53.	<i>Crocallis tusciana</i> (Borkhausen, 1793)		[7, 10]
54.	<i>Crocallis elingaria</i> (Linnaeus, 1758)		[3, 11, 14]
55.	<i>Campaea margaritata</i> (Linnaeus, 1761)	<i>Metrocampa margarita</i>	[5, 11, 14]
56.	<i>Hylaea fasciaria</i> (Linnaeus, 1758)		[14]
57.	<i>Pungeleria capreolaria</i> (Denis & Schiffermüller, 1775)		[17], 28.07.2017, 1 spec.
58.	<i>Alsophila aescularia</i> (Denis & Schiffermüller, 1775)	<i>Anisopteryx aescularia</i>	[2, 10-12, 14, 16]
59.	<i>Alsophila aceraria</i> (Denis & Schiffermüller, 1775)	<i>Alsophila 4-punctata</i> , <i>Anisopteryx aceraria</i>	[5, 10, 16]
60.	<i>Colotois pennaria</i> (Linnaeus, 1761)	<i>Himera pennaria</i>	[2, 10-12, 14]
61.	<i>Cabera pusaria</i> (Linnaeus, 1758)	<i>Deilinia pusaria</i>	[2, 10, 11, 14]
62.	<i>Cabera exanthemata</i> (Scopoli, 1763)	<i>Deilinia exanthemata</i>	[5, 10, 11]
63.	<i>Lomographa bimaculata</i> (Fabricius, 1775)	<i>Bapta bimaculata</i>	[5, 10-12, 14]
64.	<i>Lomographa temerata</i> (Denis & Schiffermüller, 1775)	<i>Bapta temerata</i>	[5, 10, 11, 14]
65.	<i>Theria rupicaprararia</i> (Denis & Schiffermüller, 1775)	<i>Hibernia rupicaprararia</i>	[5, 10, 11]
66.	<i>Gnophos furvata</i> (Denis & Schiffermüller, 1775)		[5, 10, 11]
67.	<i>Gnophos obfuscata</i> (Denis & Schiffermüller, 1775)		[5, 10]
68.	<i>Charissa obscurata</i> (Denis & Schiffermüller, 1775)		[17], 18.08.2017, 1 spec.
69.	<i>Charissa pullata</i> (Denis & Schiffermüller, 1775)		[14]
70.	<i>Charissa glaucinaria</i> (Hübner, [1799])		[17], 28.07.2017, 1 spec.
71.	<i>Synopsis sociaria</i> (Hübner, 1799)		[2, 10, 11]
72.	<i>Siona lineata</i> (Scopoli, 1763)	<i>Scoria lineata</i>	[2, 9-12, 14]
73.	<i>Angerona prunaria</i> (Linnaeus, 1758)	<i>Hygrochroa syringaria</i>	[2, 10-14]
74.	<i>Perconia strigillaria</i> (Hübner, 1787)		[17], 26.05.2017, 1 spec.
75.	<i>Cleorodes lichenaria</i> (Hufnagel, 1767)	<i>Boarmia lichenaria</i>	[5, 10, 11]
76.	<i>Odontopera bidentata</i> (Clerck, 1759)	<i>Selenia bilunaria</i>	[5, 10, 14]
77.	<i>Apocheima hispidaria</i> (Denis & Schiffermüller, 1775)	<i>Biston hispidarius</i>	[5]
78.	<i>Phigalia pilosaria</i> (Denis & Schiffermüller, 1775)	<i>Phigalia pedaria</i>	[3, 7, 10, 11, 14]

79.	<i>Hypomecis punctinalis</i> (Scopoli, 1763)	<i>Boarmia consortaria</i>	[2, 10, 11]
80.	<i>Hypomecis roboraria</i> (Denis & Schiffermüller, 1775)	<i>Boarmia roboraria</i>	[5, 10, 11]
81.	<i>Ematurga atomaria</i> (Linnaeus, 1758)	<i>Hematurga atomaria</i>	[3, 9-12, 14]
82.	<i>Lycia hirtaria</i> (Clerck, 1759)	<i>Biston hirtarius</i>	[2, 10, 11, 14]
83.	<i>Lycia pomonaria</i> (Hübner, 1790)	<i>Poecilopsis pomonaria</i> , <i>Biston pomonarius</i>	[5, 10]
84.	<i>Biston strataria</i> (Hufnagel, 1767)	<i>Biston strataris</i>	[10]
85.	<i>Biston betularia</i> (Linnaeus, 1758)	<i>Amphidasys betularius</i>	[2, 9, 10]
86.	<i>Erannis defoliaria</i> (Clerck, 1759)	<i>Hibernia defoliaria</i> , <i>Hybernia defoliaria</i>	[2, 7, 8, 10-14]
87.	<i>Erannis ankeraria</i> (Staudinger, 1861)	<i>Hybernia ankeraria</i>	[2, 10]
88.	<i>Agriopis leucophaearia</i> (Denis & Schiffermüller, 1775)	<i>Hybernia leucophaearia</i> , <i>Erannis leucophaeria</i>	[2, 10, 14]
89.	<i>Agriopis bajaria</i> (Denis & Schiffermüller, 1775)	<i>Hibernia bajaria</i> , <i>Hybernia baiaria</i> , <i>Erannis bajaria</i>	[5, 7, 10, 11]
90.	<i>Agriopis aurantiaria</i> (Hübner, 1799)	<i>Hibernia aurantiaria</i> , <i>Erannis aurantiaria</i>	[6, 10, 11, 14]
91.	<i>Agriopis marginaria</i> (Fabricius, 1776)	<i>Hibernia marginaria</i> , <i>Erannis marginaria</i>	[2, 10, 11, 14]
92.	<i>Paradarisa consonaria</i> (Hübner, 1799)	<i>Boarmia consonaria</i>	[5, 8, 10, 11]
93.	<i>Seliosema plumaria</i> (Denis & Schiffermüller, 1775)		[10]
94.	<i>Peribatodes rhomboidaria</i> (Denis & Schiffermüller, 1775)	<i>Boarmia gemmaria</i> , <i>Boarmia rhomboidaria</i>	[5, 10, 11, 14]
95.	<i>Peribatodes perversaria</i> (Boisduval, 1840)	<i>Boarmia perversaria</i>	[2]
96.	<i>Alcis repandata</i> (Linnaeus, 1758)	<i>Boarmia repandata</i>	[5, 8, 10, 11, 14]
97.	<i>Parectropis similaria</i> (Hufnagel, 1767)	<i>Boarmia luridata</i>	[5, 11, 14]
98.	<i>Aethalura punctulata</i> (Denis & Schiffermüller, 1775)		[17], 04.2017, 1 spec.
99.	<i>Ascotis selenaria</i> (Denis & Schiffermüller, 1775)	<i>Boarmia selenaria</i>	[3, 9-15]
100.	<i>Cleora cinctaria</i> (Denis & Schiffermüller, 1775)	<i>Boarmia cinctaria</i>	[2, 7, 10, 11]
101.	<i>Ectropis crepuscularia</i> (Denis & Schiffermüller, 1775)	<i>Boarmia bistortata</i> , <i>Boarmia crepuscularia</i>	[2, 6, 10, 11]
102.	<i>Bupalus piniaria</i> (Linnaeus, 1758)		[17], 19.06.2017, 1 spec.
103.	<i>Arichanna melanaria</i> (Linnaeus, 1758)		[10]
104.	<i>Enanthopyrthra legataria</i> (Herrich-Schäffer, 1852)	<i>Phasiane legataria</i>	[2]
STERRHINAE Subfamily			
105.	<i>Idaea serpentata</i> (Hufnagel, 1767)	<i>Acidalia similata</i> , <i>Sterrha serpentata</i>	[2, 9-12, 14]
106.	<i>Idaea aureolaria</i> (Denis & Schiffermüller, 1775)	<i>Acidalia trilineata</i> , <i>Sterrha aureolaria</i>	[2, 9-11]
107.	<i>Idaea muricata</i> (Hufnagel, 1767)	<i>Sterrha muricata</i>	[10]
108.	<i>Idaea rufaria</i> (Hübner, 1799)	<i>Acidalia rufaria</i> , <i>Sterrha rufaria</i>	[2, 9-11]
109.	<i>Idaea ochrata</i> (Scopoli, 1763)	<i>Acidalia ochrata</i> , <i>Sterrha ochrata</i>	[5, 9-11, 14]
110.	<i>Idaea rusticata</i> (Denis & Schiffermüller, 1775)	<i>Acidalia rusticata</i> , <i>Sterrha rusticata</i>	[2, 10, 11, 14]
111.	<i>Idaea laevigata</i> (Scopoli, 1763)	<i>Acidalia laevigata</i> , <i>Sterrha laevigata</i>	[5, 10, 11]
112.	<i>Idaea moniliata</i> (Denis & Schiffermüller, 1775)	<i>Acidalia moniliata</i> , <i>Sterrha moniliata</i>	[2, 10, 11]
113.	<i>Idaea inquinata</i> (Scopoli, 1763)		[17], 02.07.2017, 1 spec.
114.	<i>Idaea dilutaria</i> (Hübner, 1799)	<i>Acidalia dilutaria</i> , <i>Sterrha dilutaria</i>	[2, 5, 10, 11, 14]
115.	<i>Idaea fuscovenosa</i> (Goeze, 1781)	<i>Acidalia interjectaria</i> , <i>Sterrha fuscovenosa</i>	[6, 10, 11]
116.	<i>Idaea humiliata</i> (Hufnagel, 1767)	<i>Acidalia humiliata</i>	[5, 11]
117.	<i>Idaea politaria</i> (Hübner, 1799)	<i>Acidalia politata</i> , <i>Sterrha politata</i>	[7, 10, 16]
118.	<i>Idaea seriata</i> (Schrank, 1802)	<i>Acidalia virgularia</i> , <i>Sterrha seriata</i> , <i>Sterrha virgularia</i>	[2, 10, 11, 16]
119.	<i>Idaea subsericeata</i> (Haworth, 1809)		[17], 27.05.2017, 1 spec.
120.	<i>Idaea pallidata</i> (Denis & Schiffermüller, 1775)	<i>Acidalia pallidata</i> , <i>Sterrha pallidata</i>	[5, 10, 11]
121.	<i>Idaea dimidiata</i> (Hufnagel, 1767)	<i>Acidalia dimidiata</i> , <i>Sterrha dimidiata</i>	[5, 9-11, 14]

122.	<i>Idaea trigeminata</i> (Haworth, 1809)	<i>Acidalia trigeminata</i> , <i>Sterrha trigeminata</i>	[5, 10, 11, 14]
123.	<i>Idaea biselata</i> (Hufnagel, 1767)	<i>Acidalia bisetata</i>	[6]
124.	<i>Idaea emarginata</i> (Linnaeus, 1758)	<i>Acidalia emarginata</i> , <i>Sterrha emarginata</i>	[5, 10]
125.	<i>Idaea rubraria</i> (Staudinger, 1901)	<i>Acidalia rubraria</i> , <i>Sterrha rubraria</i>	[6, 10]
126.	<i>Idaea aversata</i> (Linnaeus, 1758)	<i>Acidalia aversata</i> , <i>Sterrha aversata</i>	[3, 9-11, 14]
127.	<i>Idaea degeneraria</i> (Hübner, 1799)	<i>Acidalia degeneraria</i> , <i>Sterrha degeneraria</i>	[2, 9-12, 16]
128.	<i>Idaea straminata</i> (Borkhausen, 1794)	<i>Acidalia inornata</i> , <i>Sterrha inornata</i> , <i>Sterrha straminata</i> , <i>Sterrha inornata</i>	[5, 6, 9-11, 14]
129.	<i>Idaea deversaria</i> (Herrich-Schäffer, 1847)	<i>Acidalia deversaria</i> , <i>Sterrha deversaria</i>	[10, 11]
130.	<i>Idaea contiguaria</i> (Hübner, 1799)	<i>Acidalia contignaria</i>	[5, 11]
131.	<i>Scopula immorata</i> (Linnaeus, 1758)	<i>Acidalia immorata</i>	[2, 6, 10, 11, 14]
132.	<i>Scopula tessellaria</i> (Boisduval, 1840)	<i>Acidalia tessellaria</i>	[11, 14, 16]
133.	<i>Scopula corrivalaria</i> (Kretschmar, 1862)	<i>Acidalia corrivalaria</i>	[6, 9, 10]
134.	<i>Scopula umbelaria</i> (Hübner, 1813)	<i>Acidalia umbelaria</i>	[3, 9]
135.	<i>Scopula nigropunctata</i> (Hufnagel, 1767)	<i>Acidalia strigillaria</i>	[5, 11]
136.	<i>Scopula virgulata</i> (Denis & Schiffermüller, 1775)	<i>Acidalia strigaria</i> , <i>Scopula strigularia</i>	[2, 10, 11]
137.	<i>Scopula ornata</i> (Scopoli, 1763)	<i>Acidalia ornata</i>	[2, 9-11, 16]
138.	<i>Scopula decorata</i> (Denis & Schiffermüller, 1775)		[14]
139.	<i>Scopula rubiginata</i> (Hufnagel, 1767)	<i>Acidalia rubiginata</i>	[2, 10, 11, 14]
140.	<i>Scopula incanata</i> (Linnaeus, 1758)	<i>Acidalia incanata</i>	[3, 10, 11, 14]
141.	<i>Scopula marginepunctata</i> (Goeze, 1781)	<i>Acidalia marginepunctata</i>	[2, 9-11, 16]
142.	<i>Scopula immutata</i> (Linnaeus, 1758)	<i>Acidalia immutata</i>	[3, 10, 11]
143.	<i>Scopula floslactata</i> (Haworth, 1809)	<i>Acidalia remutaria</i> , <i>Scopula remutaria</i>	[5, 10, 11]
144.	<i>Scopula subpunctaria</i> (Herrich-Schäffer, 1847)	<i>Acidalia punctata</i>	[2, 11]
145.	<i>Scopula flaccidaria</i> (Zeller, 1852)	<i>Acidalia flaccidaria</i>	[5, 10, 11]
146.	<i>Rhodostrophia vibicaria</i> (Clerck, 1759)	<i>Rhodostrophia vibicaria</i>	[2, 7, 9-12, 14-16]
147.	<i>Timandra comae</i> (Schmidt, 1931)		[14, 16]
148.	<i>Timandra griseata</i> Petersen, 1902	<i>Timandra amata</i> , <i>Calothysanis amata</i>	[2, 9-13]
149.	<i>Cyclophora pendularia</i> (Clerck, 1759)	<i>Ephyra orbicularia</i> , <i>Cosymbia orbicularia</i>	[2, 10]
150.	<i>Cyclophora albiocellaria</i> (Hübner, 1789)	<i>Codonia albiocellaria</i> , <i>Ephyra albiocellaria</i> , <i>Cosymbia albiocellaria</i>	[2, 9-11, 14, 15]
151.	<i>Cyclophora annularia</i> (Fabricius, 1775)	<i>Codonia annulata</i> , <i>Ephyra annulata</i> , <i>Cosymbia annulata</i>	[5, 9-11, 14, 16]
152.	<i>Cyclophora porata</i> (Linnaeus, 1767)	<i>Codonia porata</i> , <i>Ephyra porata</i> , <i>Cosymbia porata</i>	[2, 8, 10, 11, 14]
153.	<i>Cyclophora punctaria</i> (Linnaeus, 1758)	<i>Codonia punctaria</i> , <i>Ephyra punctaria</i> , <i>Cosymbia punctaria</i>	[2, 10-12, 16]
154.	<i>Cyclophora linearia</i> (Hübner, 1799)		[12, 14]
155.	<i>Lythria purpuraria</i> (Linnaeus, 1758)		[2, 9-14, 16]
156.	<i>Lythria cruentaria</i> (Hufnagel, 1767)	<i>Lythria purpurata</i>	[10, 16]
LARENTIINAE Subfamily			
157.	<i>Schistostege nubilaria</i> (Hübner, 1799)		[16], [17], 19.06.2017, 1 spec.
158.	<i>Schistostege decussata</i> (Denis & Schiffermüller, 1775)	<i>Siona decussata</i>	[2]
159.	<i>Odezia atrata</i> (Linnaeus, 1758)		[3, 10, 11, 16]
160.	<i>Aplocera plagiata</i> (Linnaeus, 1758)		[2, 9-12, 15, 16]
161.	<i>Aplocera praeformata</i> (Hübner, 1826)		[17], 02.07.2017, 1 spec.
162.	<i>Lithostege coassata</i> (Hübner, 1825)		[16]
163.	<i>Lithostege farinata</i> (Hufnagel, 1767)		[2, 9-12, 15, 16]
164.	<i>Lithostege griseata</i> (Denis & Schiffermüller, 1775)		[2, 10-12, 16]
165.	<i>Lobophora halterata</i> (Hufnagel, 1767)		[2, 10, 11, 16]
166.	<i>Nothocasis sertata</i> (Hübner, 1817)	<i>Lobophora sertata</i>	[7, 10, 16]

167.	<i>Trichopteryx polycommata</i> (Denis & Schiffermüller, 1775)	<i>Lobophora polycommata</i> , <i>Nothopteryx polycommata</i>	[5, 10, 11, 16]
168.	<i>Trichopteryx carpinata</i> (Borkhausen, 1794)	<i>Lobophora carpinata</i>	[5, 11]
169.	<i>Anticollix sparsata</i> (Treitschke, 1828)		[17], 02.07.2017, 1 spec.
170.	<i>Minoa murinata</i> (Scopoli, 1763)	<i>Minda murinata</i>	[3, 10, 11, 16]
171.	<i>Asthena albulata</i> (Hufnagel, 1767)	<i>Asthena candidata</i>	[3, 10-12, 16]
172.	<i>Asthena anseraria</i> (Herrich-Schäffer, 1855)		[14]
173.	<i>Euchoeca nebulata</i> (Scopoli, 1763)		[17], 02.07.2017, 1 spec.
174.	<i>Hydrelia flammeolaria</i> (Hufnagel, 1767)	<i>Larentia luteata</i>	[5, 9-11, 14, 16]
175.	<i>Scotopteryx mucronata</i> (Scopoli, 1763)		[16]
176.	<i>Scotopteryx bipunctaria</i> (Denis & Schiffermüller, 1775)	<i>Ortholitha bipunctaria</i>	[11, 16]
177.	<i>Scotopteryx moeniata</i> (Scopoli, 1763)		[16]
178.	<i>Scotopteryx chenopodiata</i> (Linnaeus, 1758)	<i>Ortholitha limitata</i> , <i>Ortholitha chenopodiata</i>	[2, 10, 11, 16]
179.	<i>Phibalapteryx virgata</i> (Hufnagel, 1767)	<i>Mesotype virgata</i>	[9, 16]
180.	<i>Cataclysmes rigata</i> (Hübner, 1813)	<i>Larentia rigata</i>	[2, 10, 11, 16]
181.	<i>Orthonama vittata</i> (Borkhausen, 1794)	<i>Larentia vittata</i>	[2]
182.	<i>Orthonama obstipata</i> (Fabricius, 1794)	<i>Larentia fluviata</i> , <i>Cidaria obstipata</i> , <i>Nyctosea obstipata</i>	[3, 10, 11, 16]
183.	<i>Xanthorhoe fluctuata</i> (Linnaeus, 1758)	<i>Larentia fluctuata</i> , <i>Cidaria fluctuata</i>	[2, 9-12, 16]
184.	<i>Xanthorhoe birivata</i> (Borkhausen, 1794)		[17], 28.07.2017, 1 spec.
185.	<i>Xanthorhoe spadicearia</i> (Denis & Schiffermüller, 1775)	<i>Larentia spadicearia</i> , <i>Cidaria spadicearia</i>	[6, 10, 11, 16]
186.	<i>Xanthorhoe ferrugata</i> (Clerck, 1759)	<i>Larentia ferrugata</i> , <i>Larentia unidentaria</i> , <i>Cidaria ferrugata</i>	[3, 10, 11, 16]
187.	<i>Xanthorhoe designata</i> (Hufnagel, 1767)	<i>Larentia designata</i>	[5, 16]
188.	<i>Xanthorhoe montanata</i> (Denis & Schiffermüller, 1775)	<i>Larentia montana</i> , <i>Cidaria montana</i>	[5, 10, 16]
189.	<i>Xanthorhoe quadrifasciata</i> (Clerck, 1759)	<i>Cidaria quadrifasciaria</i>	[10, 16]
190.	<i>Catarhoe cucullata</i> (Hufnagel, 1767)	<i>Larentia cucullata</i> , <i>Cidaria cucullata</i>	[5, 10, 11, 16]
191.	<i>Catarhoe rubidata</i> (Denis & Schiffermüller, 1775)	<i>Larentia rubidata</i> , <i>Cidaria rubidata</i>	[5, 10, 11, 16]
192.	<i>Costaconvexa polygrammata</i> (Borkhausen, 1794)	<i>Phibalapteryx polygrammata</i> , <i>Cidaria polygrammata</i>	[5, 10, 11, 16]
193.	<i>Campogramma bilineata</i> (Linnaeus, 1758)	<i>Larentia bilineata</i> , <i>Cidaria bilineata</i>	[2, 9-14, 16]
194.	<i>Epirrhoe tristata</i> (Linnaeus, 1758)	<i>Larentia tristata</i>	[6, 11, 16]
195.	<i>Epirrhoe alternata</i> (Muller, 1764)	<i>Larentia sociata</i> , <i>Cidaria alternata</i>	[4, 9-11]
196.	<i>Epirrhoe rivata</i> (Hübner, 1813)	<i>Larentia rivata</i>	[5, 11, 16]
197.	<i>Epirrhoe molluginata</i> (Hübner, 1813)		[16]
198.	<i>Epirrhoe galiata</i> (Denis & Schiffermüller, 1775)	<i>Larentia galiata</i> , <i>Cidaria galiata</i>	[5, 10, 16]
199.	<i>Euphyia biangulata</i> (Haworth, 1809)	<i>Larentia picata</i> , <i>Cidaria picata</i>	[5, 10, 11, 14, 16]
200.	<i>Euphyia unangulata</i> (Haworth, 1809)	<i>Larentia unangulata</i>	[5, 16]
201.	<i>Earophila badiata</i> (Denis & Schiffermüller, 1775)	<i>Larentia badiata</i> , <i>Cidaria badiata</i>	[5, 10, 16]
202.	<i>Anticlea derivata</i> (Denis & Schiffermüller, 1775)		[12, 16]
203.	<i>Mesoleuca albicillata</i> (Linnaeus, 1758)	<i>Larentia albicillata</i> , <i>Cidaria albicillata</i>	[2, 10, 11, 16]
204.	<i>Entephria caesiata</i> (Denis & Schiffermüller, 1775)		[17], 02.07.2017, 1 spec.
205.	<i>Spargania luctuata</i> (Denis & Schiffermüller, 1775)		[17], 28.07.2017, 1 spec.
206.	<i>Pelurga comitata</i> (Linnaeus, 1758)	<i>Larentia comitata</i>	[2, 9-12, 14, 16]
207.	<i>Hydriomena furcata</i> (Thunberg, 1784)		[17], 02.07.2017, 1 spec.
208.	<i>Thera variata</i> (Denis & Schiffermüller, 1775)		[16], [17], 26.05.2017, 1 spec.
209.	<i>Thera obeliscata</i> (Hübner, 1787)		[17], 02.07.2017, 1 spec.
210.	<i>Plemyria rubiginata</i> (Denis & Schiffermüller, 1775)	<i>Larentia bicolorata</i>	[6, 10, 16]
211.	<i>Cidaria fulvata</i> (Forster, 1771)	<i>Larentia fulvata</i>	[7, 10, 16]
212.	<i>Electrophaes corylata</i> (Thunberg, 1792)	<i>Larentia corylata</i> , <i>Cidaria corylata</i>	[5, 10, 11, 14, 16]
213.	<i>Cosmorhoe ocellata</i> (Linnaeus, 1758)	<i>Larentia ocellata</i> , <i>Cidaria ocellata</i>	[5, 9-11, 16]

214.	<i>Eustroma reticulata</i> (Denis & Schiffermüller, 1775)		[17], 28.07.2017, 1 spec.
215.	<i>Eulithis prunata</i> (Linnaeus, 1758)		[17], 02.07.2017, 1 spec.
216.	<i>Eulithis populata</i> (Linnaeus, 1758)		[17], 02.07.2017, 1 spec.
217.	<i>Gandaritis pyraliata</i> (Denis & Schiffermüller, 1775)	<i>Lycris pyraliata</i> , <i>Larentia dotata</i>	[7, 10, 16]
218.	<i>Ecliptopera capitata</i> (Herrich-Schäffer, 1839)		[17], 02.07.2017, 1 spec.
219.	<i>Ecliptopera silaceata</i> (Denis & Schiffermüller, 1775)		[17], 28.07.2017, 1 spec.
220.	<i>Chloroclysta siterata</i> (Hufnagel, 1767)	<i>Larentia siterata</i> , <i>Cidaria siterata</i>	[5, 10, 11, 16]
221.	<i>Dysstroma citrata</i> (Linnaeus, 1761)		[16], [17], 28.07.2017, 1 spec.
222.	<i>Dysstroma truncata</i> (Hufnagel, 1767)		[17], 26.05.2017, 1 spec.
223.	<i>Colostygia pectinataria</i> (Knoch, 1781)	<i>Larentia viridaria</i> , <i>Cidaria viridaria</i>	[5, 10-12, 16]
224.	<i>Coenoteophria salicata</i> (Denis & Schiffermüller, 1775)		[17], 02.07.2017, 1 spec.
225.	<i>Operophtera brumata</i> (Linnaeus, 1758)	<i>Cheimatobia brumata</i>	[4, 8, 10-14, 16]
226.	<i>Operophtera fagata</i> (Scharfenberg, 1805)		[17], 09.11.2017, 1 spec.
227.	<i>Epirrita dilutata</i> (Denis & Schiffermüller, 1775)	<i>Larentia dilutata</i> , <i>Oporinia dilutata</i>	[5, 10, 11, 16]
228.	<i>Epirrita autumnata</i> (Borkhausen, 1794)	<i>Larentia autumnata</i> , <i>Oporinia autumnata</i>	[6, 10]
229.	<i>Rheumaptera hastata</i> (Linnaeus, 1758)		[17], 18.08.2017, 1 spec.
230.	<i>Hydria undulata</i> (Linnaeus, 1758)	<i>Eucosmia undulata</i>	[6, 16]
231.	<i>Philereme vetulata</i> (Denis & Schiffermüller, 1775)	<i>Scotosia vetulata</i>	[5, 10, 11, 16]
232.	<i>Philereme transversata</i> (Hufnagel, 1767)	<i>Scotosia rhamnata</i>	[2, 9-12, 16]
233.	<i>Triphosa dubitata</i> (Linnaeus, 1758)		[5, 10]
234.	<i>Coenocalpe lapidata</i> (Hübner, 1809)	<i>Phibalapteryx lapidata</i>	[5, 16]
235.	<i>Horisme vitalbata</i> (Denis & Schiffermüller, 1775)	<i>Phibalapteryx vitalbata</i>	[7, 10, 16]
236.	<i>Horisme corticata</i> (Treitschke, 1835)	<i>Phibalapteryx corticata</i>	[5, 10]
237.	<i>Horisme tersata</i> (Denis & Schiffermüller, 1775)		[16]
238.	<i>Melanthia procellata</i> (Denis & Schiffermüller, 1775)	<i>Cidaria procellata</i>	[10, 14, 16]
239.	<i>Mesotype parallelolineata</i> (Retzius, 1783)		[17], 18.08.2017, 1 spec.
240.	<i>Perizoma alchemillata</i> (Linnaeus, 1758)	<i>Larentia alchemillata</i>	[6, 11]
241.	<i>Perizoma lugdunaria</i> (Herrich-Schäffer, 1855)	<i>Larentia lugdunaria</i> , <i>Cidaria lugdunaria</i>	[7, 10, 11]
242.	<i>Perizoma bifasciata</i> (Haworth, 1809)	<i>Larentia unifasciata</i> , <i>Cidaria bifasciata</i>	[6, 10]
243.	<i>Perizoma blandiata</i> (Denis & Schiffermüller, 1775)		[17], 02.07.2017, 1 spec.
244.	<i>Perizoma albulata</i> (Denis & Schiffermüller, 1775)		[17], 19.06.2017, 1 spec.
245.	<i>Perizoma flavofasciata</i> (Thunberg, 1792)	<i>Larentia flavofasciata</i> , <i>Cidaria flavofasciata</i>	[2, 10, 11]
246.	<i>Martania taeniata</i> (Stephens, 1831)	<i>Cidaria taeniata</i>	[10]
247.	<i>Chloroclystis v-ata</i> (Haworth, 1809)		[17], 02.07.2017, 1 spec.
248.	<i>Pasiphila rectangulata</i> (Linnaeus, 1758)	<i>Chloroclystia rectangulata</i>	[2, 10, 11]
249.	<i>Pasiphila chloerata</i> (Mabille, 1870)		[17], 02.07.2017, 1 spec.
250.	<i>Eupithecia haworthiata</i> Doubleday, 1856	<i>Tephroclystia isogrammaria</i>	[5]
251.	<i>Eupithecia tenuiata</i> (Hübner, 1813)		[17], 19.06.2017, 1 spec.
252.	<i>Eupithecia abietaria</i> (Goeze, 1781)		[17], 19.06.2017, 1 spec.
253.	<i>Eupithecia linariata</i> (Denis & Schiffermüller, 1775)	<i>Tephroclystia linariata</i>	[5, 10, 11]
254.	<i>Eupithecia pyreneata</i> Mabille, 1871	<i>Tephroclystia pyreneata</i>	[7]
255.	<i>Eupithecia plumbeolata</i> (Haworth, 1809)	<i>Tephroclystia plumbeolata</i>	[5, 10, 11]
256.	<i>Eupithecia venosata</i> (Fabricius, 1787)	<i>Tephroclystia venosata</i>	[5, 11]
257.	<i>Eupithecia silenicolata</i> Mabille, 1867	<i>Tephroclystia silenicolata</i>	[7]
258.	<i>Eupithecia pusillata</i> (Denis & Schiffermüller, 1775)		[17], 18.08.2017, 1 spec.
259.	<i>Eupithecia tripunctaria</i> Herrich-Schäffer, 1852	<i>Tephroclystia albipunctata</i>	[11]
260.	<i>Eupithecia virgaureata</i> (Doubleday, 1861)	<i>Tephroclystia virgaureata</i>	[2, 11]
261.	<i>Eupithecia selinata</i> Herrich-Schäffer, 1861	<i>Tephroclystia selinata</i>	[7]
262.	<i>Eupithecia simpliciata</i> (Haworth, 1809)	<i>Tephroclystia subnotata</i>	[2, 10, 11, 14]
263.	<i>Eupithecia innotata</i> (Hufnagel, 1767)	<i>Tephroclystia innotata</i>	[5, 8, 10, 11]
264.	<i>Eupithecia spissilineata</i> (Metzner, 1846)	<i>Tephroclystia spissilineata</i>	[2, 10, 11]
265.	<i>Eupithecia breviculata</i> (Donzel, 1837)	<i>Tephroclystia breviculata</i>	[5, 10, 11, 14]
266.	<i>Eupithecia distinctaria</i> Herrich-Schäffer, 1848		[9]

267.	<i>Eupithecia extraversaria</i> Herrich-Schäffer, 1852	<i>Eupithecia extraversata</i>	[9]
268.	<i>Eupithecia centaureata</i> (Denis & Schiffermüller, 1775)	<i>Tephroclystia oblongata</i>	[5, 9-11, 14]
269.	<i>Eupithecia insigniata</i> (Hübner, 1790)		[10]
270.	<i>Eupithecia intricata</i> (Zetterstedt, 1839)		[17], 26.05.2017, 1 spec.
271.	<i>Eupithecia cauchiata</i> (Duponchel, 1831)	<i>Tephroclystia cauchyata</i>	[5, 11]
272.	<i>Eupithecia absinthiata</i> (Clerck, 1759)	<i>Tephroclystia absinthiata</i>	[7]
273.	<i>Eupithecia assimilata</i> Doubleday, 1856		[17], 02.07.2017, 1 spec.
274.	<i>Eupithecia vulgata</i> (Haworth, 1809)	<i>Tephroclystia vulgata</i>	[3, 10, 11]
275.	<i>Eupithecia exigua</i> (Hübner, 1813)		[17], 26.05.2017, 1 spec.
276.	<i>Eupithecia denotata</i> (Hübner, 1813)		[10]
277.	<i>Eupithecia millefoliata</i> Rössler, 1866	<i>Tephroclystia millefoliata</i>	[7, 10]
278.	<i>Eupithecia icterata</i> (de Villers, 1789)	<i>Tephroclystia icterata</i> , <i>Tephroclystia subfulvata</i>	[5, 10, 11]
279.	<i>Eupithecia subumbrata</i> (Denis & Schiffermüller, 1775)	<i>Tephroclystia scabiosata</i>	[5]
280.	<i>Eupithecia subfuscata</i> (Haworth, 1809)	<i>Eupithecia costigatta</i> , <i>Tephroclystia castigata</i>	[7, 10, 14]
281.	<i>Eupithecia pulchellata</i> Stephens, 1831	<i>Tephroclystia pulchellata</i>	[11]
282.	<i>Acasis appensata</i> (Eversmann, 1842)		[14]

Legend: [1] – CRULICOVSKI, 1906; [2] – MILLER & ZUBOWSKY, 1908; [3] – MILLER & ZUBOWSKY, 1912; [4] – MILLER & ZUBOVSKY, 1913; [5] – MILLER et al., 1929; [6] – MILLER, ZUBOWSKY & RUSCHTSINSKY, 1932; [7] – ZUBOWSKY & RUSCHTSINSKY, 1937; [8] – APOSTOLOV, 1970; [9] – BARSOV, 1970; [10] – DERJANSCHI et al., 2016; [11] – TIMUȘ et al., 2017; [12] – ȚUGULEA et al., 2020; [13] – ȚUGULEA, 2021a; [14] – ȚUGULEA et al., 2021; [15] – BUȘMACHIU et al., 2023; [16] – <https://lepidoptera.eu>; [17] – Cobileni Natural Forest Reserve, C. Țugulea leg.

The best represented subfamily is the Larentiinae and Ennominae subfamilies, which sums up to 126 and 89 species of the 282, representing 44 and 32 % (Fig. 2).

It is followed by the Sterrhinae subfamily with 52 species or 19 %. Three other families register a smaller number of species: Geometrinae – 11 species (3), Archiearinae – 3 species and Orthostixinae with only one species (1 %).

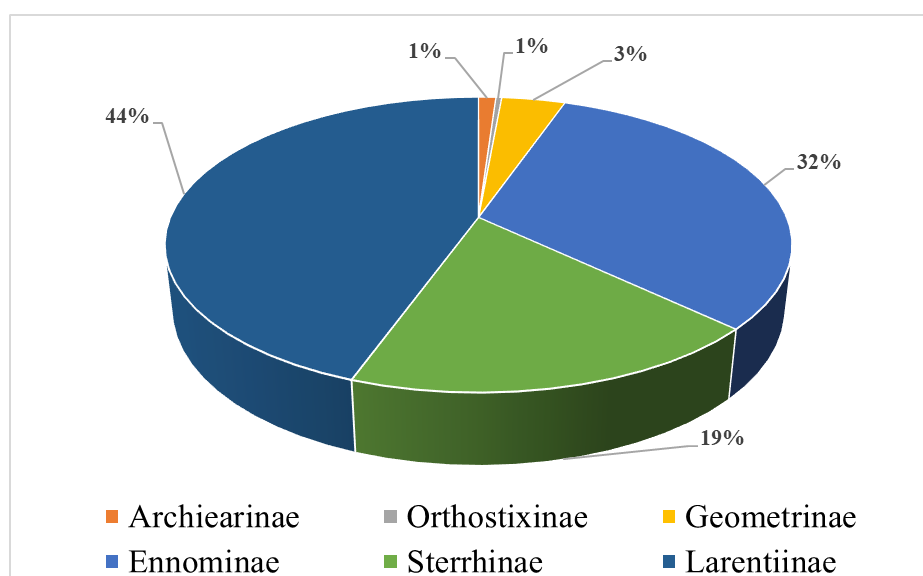


Figure 2. The numerical spectrum of the species of Geometer moths (Lepidoptera: Geometridae) from the Republic of Moldova.

Most species of Geometer moths are experiencing population declines and declining numbers year after year. A number of factors contribute to the decrease in the effective number of populations, which has led to an increase in the number of species that require protection and conservation. This situation is an alarming signal that demonstrates the need to take urgent measures to conserve and restore habitats and ecosystems, protect rare and vulnerable species. In the Republic of Moldova, for several decades, there were no studies regarding the state of geometrids that require protection and conservation, during which time many species disappeared from the fauna of our country. In the Red Book of the Republic of Moldova there are no mentions of species from the Geometridae family, a fact due to the insufficiency of research on this numerous and important group of insects over several decades.

Geometer moths are many threats, like other insects, limiting factors include habitat fragmentation and destruction, climate change and irrational use of insecticides, intensive grazing, hay cutting, urbanization, deforestation and chemical processing of forests, orchards and forest strips and burning dry grasses (ȚUGULEA, 2022).

The studied bibliographic sources allow us to assume that many other species of Geometrid moths, which until now have not been reported on the territory of the Republic of Moldova, can find here favorable conditions for development, therefore the studies on this important group of insects must be continued.

CONCLUSIONS

As a result of the study, 282 species of Geometer moths (Lepidoptera: Geometridae) have been recorded in the Republic of Moldova, which is about 25 % of European fauna. The identified species taxonomically classified into 6 subfamilies: Archiearinae – 3 species, Orthostixinae – 1, Geometrinae – 11, Ennominae – 89, Sterrhinae – 52 and Larentiinae – 126 species. The best represented subfamily in species is the Larentiinae and Ennominae subfamilies, which sums up to 126 and 89 species of the 281, representing 44 and 32 %.

As a result of the study carried out in various ecosystems of the Cobîleni Nature Reserve, 44 new species were reported for the fauna of the Republic of Moldova.

The results of research contribute to a better understanding of the Geometrid moths diversity and their habitat in the Republic of Moldova fauna.

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