Biodiversity of Microlepidoptera (Lepidoptera) of the Saratov and Volgograd regions (Russia, Lower Volga)

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Abstract

Lepidoptera is one of the most diverse species in insects. Two-thirds of the families belong to the group Microlepidoptera, which occupy a significant place in the faunas of various natural landscapes, and some species are dangerous pests for agricultural and forestry crops of any country in the world. The number of invasive species is also growing, such as among mining moths, which form secondary habitats and actively introduce themselves into new ecosystems and become their components. Some species of microlepidoptera are sensitive to anthropogenic impact and are indicators of the environmental state. The research aims to describe the taxonomic composition and species diversity of the moth fauna of the Lower Volga region within the boundaries of Saratov and Volgograd Regions. The research was carried out in April-November 1979-2023. Collections were made using various methods using a net, light traps, window traps, Malaise traps, and beer traps. The coordinates of the place of finding, abundance, and dates were recorded for each observation. The dataset contains data on 983 species of microlepidoptera from 59 families. The dataset contains 82 occurrences. In total, 3471 specimens of moths have been studied. The biodiversity of microlepidoptera of the Saratov and Volgograd Regions includes 983 species from 59 families.

**Keywords:** dataset, Lepidoptera, moths, data paper, occurrences, Lower Volga Region

Introduction

Over the recent decades, trends of insect biodiversity research around the world have increased, while new technologies for collecting, storing information, and processing it are being used (Ball-Damerow et al., 2019; Sánchez-Bayo & Wyckhuys, 2019; Karlsson et al., 2020; Sazhnev et al.,
The modern composition of insects in preserved natural landscapes particularly attracts researchers. Such territories include the Lower Volga in Russia, a part of the Volga River Basin, where studies of plants and animals are being actively performed (e.g., Shinkarenko, 2022; Esin et al., 2023; Dedyukhin, 2023). The nature of the Lower Volga River region is amazing and unique. Nature is changing rapidly, and many of the constituent elements of ecosystems are also changing, being replaced by new alien species or disappearing. One species can extend its distribution range, while others can become endangered or extinct in nature due to various reasons (Rosa et al., 2024). This also happens with the fauna of Lepidoptera (MacLachlan et al., 2021; Mally et al., 2022). One of the underestimated insect groups is micro Lepidoptera, among which many rare and unique species exist.

Of course, the state of the natural landscapes of the Lower Volga region was influenced by the plowing of virgin lands of steppe landscapes, increased grazing in forest-steppe biotopes, and land reclamation in the Left Bank in the 20th century. There was a considerable preponderance of agrocenoses over natural biotopes. They directly affect the reduction of the food supply of Lepidoptera and the destruction of their habitats. As a result, a whole group of insect species, mainly steppe stenobionts, experienced a general decrease in the number and deterioration in the viability of their micropopulations. Monitoring the state of the number of species in this area is an important component in predicting the course of insect autogenesis in the steppe biome for the next 20-30 years. This database on the composition of this group inhabiting various biotopes of the Lower Volga region reflects this monitoring and is an important tool for such a forecast (Chmolowska et al., 2023; Korotyaev et al., 2016).

The Lower Volga region, occupying an intermediate position between the European and Asian southern fauna regions of the continent, is of great interest for faunal studies. Datasets on microlepidoptera in this region were not published earlier. We have only two publications where we can find information on this group in the Lower Volga region, namely “Fauna Lepidopterologica Volgo-Uralensis: from P. Pallas to present days” (Anikin et al., 2017) and “Catalogue of the Lepidoptera of Russia” (Sinev, 2019). However, these publications have little information on specific localities, collection times, names of the collectors, etc. The purpose of this study was to describe the fauna in the form of a set of modern data on the occurrence of microlepidoptera families (Lepidoptera) in the Lower Volga region in the boundaries of Saratov and Volgograd Regions and to supplement the world biodiversity database GBIF (2023) for the
universal use of this region information.

Material and methods
Study area
The Saratov and Volgograd Oblasts are located in the Lower Volga (Fig. 1). The study area includes several natural provinces. Oka-Don province includes the northwest of the Saratov Region. It is located inside the Oka-Don lowland, consisting of Paleogene and Quaternary deposits. Forests are rare, and the landscape has a typical mixed-grass steppe. Don province occupies the southeast of the Oka-Don lowland and all parts of the East Don Ridge. Ravine forests are represented on the Kalach upland. Forests cover the watershed plateaus and floodplains of the Khoper and Medveditsa rivers, while meadows cover the floodplains of their tributaries. In the south of the Don province, forest vegetation is presented by isolated forest islets. In floodplains, most of the vegetation cover is represented by meadows. Privolzhskaya province is located at the interface of the Medveditsa and Volga rivers, forming part of the Volga Upland. It differs from the Don province in higher watersheds, high fragmentation of its area, a dense ravine-girder network, outcrops of bedrock, and the absence of moraine deposits. The relief of the Volga upland is represented by ridges, undulating plateaus, domes, and hilly areas up to 345 m a.s.l. The province has many springs in river valleys, gullies, and ravines. There are more forests than in the Don province. As a rule, these are oak, birch, and aspen forests on watersheds, but pine forests can be found in river valleys and ravines in the sands. Here, ravine and valley-type forests predominate, which are associated with the peaks of the Volga upland. The main forest-forming trees are oak and linden. In addition, the vegetation cover of the province contains many forest plantations consisting of Caragana arborescens, Elaeagnus angustifolia, Quercus spp., and Acer negundo. Trans-Volga province occupies the Syrta plain and the Trans-Volga sandy ridge in the Caspian lowland. The general character of the relief is gentle-hilly. The northern slopes of the catchment areas are steep and narrow, while the southern ones are very wide and gentle. The main part of forests is concentrated only in floodplains of rivers. In the southeast of the province, forest vegetation is underrepresented; the former floodplain forests have been cut down and flooded by the waters of the reservoirs (Gribova et al., 1980).
Figure 1. Study area, where dataset materials have been collected. Borders of Saratov and Volgograd Regions are marked with red lines.

**Design of research, identification, and taxonomic position of samples**

We used traditional collection methods. We actively used a manual collection of samples using a net, light traps, window traps, Malaise traps, and beer traps (Sones et al., 2023; Golub et al., 2012). The main part of the species was determined using the genitalia preparations, which were processed following standard techniques (Robinson, 1976). The identification has been carried out in accordance with modern specialized literature (Nieukerken et al., 2011). We followed the proposed nomenclature according to (Sinev, 2019). The following definitions were used to estimate the abundance of each species listed in Table 2. “Single individual” means that single specimens of a species were found in no more than two localities in a region. “Rare species” refers to species with an abundance of 1-2 specimens that were marked for the first time in the region or more than 50-100 years after their first location in the Lower Volga. “Common species” are species with an abundance of up to 100, found in various biotopes. “Numerous species” are moths with a total abundance of more than 100 specimens occurring in one kind of landscape localities.

**Results**

**Data set name**

Each observation includes basic information such as location (latitude/longitude), observation date, observer name, and identifier name. Coordinates were determined in the field using a GPS device or after surveys using Google Maps (Table 1). A total of 3471 specimens were studied.
Table 1. Description of the data in the dataset

<table>
<thead>
<tr>
<th>Column label</th>
<th>Column description</th>
</tr>
</thead>
<tbody>
<tr>
<td>eventID</td>
<td>An identifier for the set of information associated with an Event (occurs in one place at a time).</td>
</tr>
<tr>
<td>occurrence</td>
<td>An identifier for the Occurrence (as opposed to a particular digital record of the occurrence).</td>
</tr>
<tr>
<td>basis of record</td>
<td>The specific nature of the data record: HumanObservation</td>
</tr>
<tr>
<td>scientific name</td>
<td>The full scientific name, including the genus name and the lowest level of taxonomic rank with the authority</td>
</tr>
<tr>
<td>kingdom</td>
<td>The full scientific name of the kingdom in which the taxon is classified</td>
</tr>
<tr>
<td>phylum</td>
<td>The full scientific name of the phylum or division in which the taxon is classified</td>
</tr>
<tr>
<td>class</td>
<td>The full scientific name of the class in which the taxon is classified</td>
</tr>
<tr>
<td>order</td>
<td>The full scientific name of the order in which the taxon is classified</td>
</tr>
<tr>
<td>taxonRank</td>
<td>The taxonomic rank of the most specific name in the scientific name.</td>
</tr>
<tr>
<td>decimal latitude</td>
<td>The geographic latitude of location in decimal degree</td>
</tr>
<tr>
<td>decimal longitude</td>
<td>The geographic longitude of the location in decimal degrees</td>
</tr>
<tr>
<td>geodetic datum</td>
<td>The ellipsoid, geodetic datum, or spatial reference system (SRS) upon which the geographic coordinates are given in decimal latitude and decimal longitude as based. Here - WGS84.</td>
</tr>
<tr>
<td>coordinateUncertaintyInMeters</td>
<td>The horizontal distance (in meters) from the given decimal latitude and decimal longitude describing the smallest circle containing the whole of the Location</td>
</tr>
<tr>
<td>country</td>
<td>The name of the country in which the Location occurs. Here - Russia.</td>
</tr>
<tr>
<td>countryCode</td>
<td>The standard code for the country in which the Location occurs. Here - RU.</td>
</tr>
<tr>
<td>individual count</td>
<td>The number of individuals represented present at the time of the Occurrence.</td>
</tr>
<tr>
<td>event date</td>
<td>The date when material from the trap was collected or the range of dates during which the trap collected material</td>
</tr>
<tr>
<td>year</td>
<td>The integer day of the month on which the Event occurred.</td>
</tr>
<tr>
<td>month</td>
<td>The ordinal month in which the Event occurred.</td>
</tr>
<tr>
<td>day</td>
<td>The integer day of the month on which the Event occurred.</td>
</tr>
<tr>
<td>recorded</td>
<td>A person or group responsible for recording the original Occurrence.</td>
</tr>
<tr>
<td>identified</td>
<td>A list of names of people, who assigned the Taxon to the subject</td>
</tr>
</tbody>
</table>

Dataset content
The dataset (available at https://doi.org/10.15468/7vtqff) presents data on 983 species of Microlepidoptera from 59 families studied during our research (Table 2).

Table 2. Biodiversity of Microlepidoptera (Lepidoptera) of the Saratov and Volgograd Regions

<table>
<thead>
<tr>
<th>Family, Species</th>
<th>Approximate Estimate of the Species Abundance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eriocraniidae</td>
<td></td>
</tr>
<tr>
<td>Eriocrania cicatricella (Zetterstedt, 1839)</td>
<td>rare species</td>
</tr>
<tr>
<td>Eriocrania semipurpurella (Stephens, 1835)</td>
<td>common species</td>
</tr>
<tr>
<td>Eriocrania sparrmannella (Bosc, 1791)</td>
<td>single individual</td>
</tr>
<tr>
<td>Eriocrania unimaculella (Zetterstedt, 1839)</td>
<td>single individual</td>
</tr>
<tr>
<td>Dyseriocrania subpurpurella (Haworth, 1828)</td>
<td>common species</td>
</tr>
<tr>
<td>Hepialidae</td>
<td></td>
</tr>
<tr>
<td>Triodia sylvina (Linnaeus, 1761)</td>
<td>common species</td>
</tr>
<tr>
<td>Korscheltellus fusconebulosus (De Geer, 1778)</td>
<td>rare species</td>
</tr>
<tr>
<td>Korscheltellus lupulina (Linnaeus, 1758)</td>
<td>single individual</td>
</tr>
<tr>
<td>Nepticulidae</td>
<td></td>
</tr>
<tr>
<td>Stigmella aceris (Frey, 1857)</td>
<td>common species</td>
</tr>
</tbody>
</table>
Stigmella kazakhstanica Puplesis, 1991
Stigmella malella (Stainton, 1854)
Stigmella obliquella (Heinemann, 1862)
Stigmella plagicolella (Stainton, 1854)
Stigmella ruficapitella (Haworth, 1828)
Trifurcula pallidella (Duponchel, 1843)
Zimmermannia longicaudella (Klimesch, 1953)
Ectoedemia argyropeza (Zeller, 1839)

Opostegidae
Pseudopostega auritella (Hübner, [1813])

Heliozelidae
Heliozela sericiella (Haworth, 1828)

Adelidae
Nemophora basella (Eversmann, 1844)
Nemophora canalella (Eversmann, 1844)
Nemophora cupriacella (Hübner, 1819)
Nemophora degeerella (Linnaeus, 1758)
Nemophora dumerilella (Duponchel, 1839)
Nemophora metallica (Poda, 1761)
Adela croesella (Scopoli, 1763)
Adela cuprella ([Denis & Schiffermüller], 1775)
Cauchas fibulella ([Denis & Schiffermüller], 1775)
Cauchas florella (Staudinger, 1871)
Cauchas leucocerella (Scopoli, 1763)

Prodoxidae
Lampronia capitella (Clerck, 1759)

Incurvariidae
Incurvaria masculella ([Denis & Schiffermüller], 1775)
Incurvaria oehlmaniella (Hübner, 1796)
Incurvaria pectinea Haworth, 1828

Tischeriidae
Tischeria ekebladella (Bjerkander, 1795)
Coptotriches angusticolella (Duponchel, 1843)
Coptotriches marginea (Haworth, 1828)

Psychidae
Narycia duplicella (Goeze, 1783)
Diplodoma laichartingella (Goeze, 1783)
Dahlia lichenella (Linnaeus, 1761)
Dahlia listerella (Linnaeus, 1758)
Eosolenobia grisea Filipjev, 1924
Taleporia tubulosa (Retzius, 1783)
Eumelasina ardua I.Kozhantshikov, 1956
Psyche casta (Pallas, 1767)
Proutia betulina (Zeller, 1839)
Whittleia unduella (Fischer von Rösslerstamm, 1844)
Reisseronia staudingeri (Heylaerts, 1879)
Rebelia nocturnella (Alphéraky, 1876)
Psychocentra millierei (Heylaerts, 1879)
Psychidea nudella (Ochsenheimer, 1810)
Acentra vestalis (Staudinger & Wocke, 1871)
Stichobasis helicinoides (Heylaerts, 1879)
Acanthopsyche atra (Linnaeus, 1767)
Acanthopsyche ecksteini (Lederer, 1855)
Acanthopsyche senex (Staudinger, 1871)
Palaeeacanthopsyche uralensis (Freyer, 1852)
Canephora hirsuta (Poda, 1761)
Pachythelia villosella (Ochsenheimer, 1810) | common species
Ptilocephala muscella ([Denis & Schiffermüller], 1775) | single individual
Ptilocephala plumifera (Ochsenheimer, 1810) | common species
Phalacropterus grasinella (Boisdruval, 1852) | common species
Megalophanes viciella ([Denis & Schiffermüller], 1775) | single individual
Sterrhopterix fusca (Haworth, 1829) | common species
Apterona helicoidella (Vallot, 1827) | common species

Eriocottidae

Deuterotinea casanella (Eversmann, 1844) | common species
Tineidae

Pararhodobate syriacus (Lederer, 1857) | rare species
Myrmecozela lutosella (Eversmann, 1844) | common species
Ateliotum hungaricellum (Zeller, 1839) | common species
Haploptinea detella (Pierce & Diakonoff, 1938) | common species
Haploptinea insectella (Fabricius, 1794) | common species
Cephimallota crassilavella Bruand, [1851] | single individual
Cephimallota praetoriella (Christoph, 1872) | single individual
Cephitinea colonella (Erschoff, 1876) | rare species
Eudarcia granulatella (Zeller, 1852) | single individual
Infurcitinea finalis (Gozmány, 1959) | common species
*Infurcitinea rumelicella (Rebel, 1903) | rare species
Montescardia tessulatella (Lienig & Zeller, 1846) | single individual
Scardia boletella (Fabricius, 1794) | single individual
Morophaga choragella ([Denis & Schiffermüller], 1775) | common species
Triaxonema parasitella (Hübner, 1796) | single individual
Archinemapogon yilidizae Koçak, 1981 | common species
Nemapogon cloacella (Haworth, 1828) | common species
Nemapogon fungivorella (Benander, 1939) | common species
Nemapogon gliriella (Heyden, 1865) | single individual
Nemapogon granella (Linnaeus, 1758) | common species
Nemapogon inconditella (D. Lucas, 1956) | single individual
Nemapogon orientalis G.Petersen, 196 | single individual
Nemapogon picarella (Clerck, 1759) | common species
Nemapogon variatella (Clemens, 1859) | common species
Neurothaumasia ankerella (Mann, 1867) | common species
Ceratuncus danubiella (Mann, 1866) | single individual
Trichophaga scandinaviella Zagulayev, 1960 | common species
Elatobia fuliginosella (Lienig & Zeller, 1846) | rare species
Tinea translucens Meyrick, 1917 | numerous species
Tinea trinotella (Thunberg, 1794) | common species
Niditinea fuscella (Linnaeus, 1758) | numerous species
Niditinea striolella (Matsumura, 1931) | common species
Tinea tugurialis (Meyrick, 1932) | single individual
Monopis christophi G. Petersen, 1957 | single individual
Monopis crocapitella (Clemens, 1859) | single individual
Monopis imella (Hübner, [1813]) | single individual
Monopis laevigella ([Denis & Schiffermüller], 1775) | common species
Monopis monachella (Hübner, 1796) | single individual
**Monopis obviella** ([Denis & Schiffermüller], 1775)  
**Monopis pallidella** Zagulayev, 1955  
**Monopis spilotella** (Tengström, 1848)  
**Wegneria panchalcella** (Staudinger, 1870 [1871])  
**Oinophila v-flava** (Haworth, 1828)  
**Euplocamus anthracinalis** (Scopoli, 1763)

**Roeslerstamiidae**  
**Roeslerstammiella** exrlebella (Fabricius, 1787)

**Bucculaticridae**  
**Bucculatrix armeniaca** Deschka, 1992  
**Bucculatrix artemisiella** Herrich-Schaffer, 1855  
**Bucculatrix bechsteinella** (Bechstein & Scharfenberg, 1805)  
**Bucculatrix cristatella** Zeller, 1839  
**Bucculatrix frangulella** (Goeze, 1873)  
**Bucculatrix gnaphaliella** Treitschke, 1833  
**Bucculatrix laciniatella** Benander, 1952  
**Bucculatrix noltei** Petry, 1912  
**Bucculatrix ratisbonensis** Stainton, 1861  
**Bucculatrix thoracella** (Thunberg, 1794)  
**Bucculatrix ulmicola** Kuznetsov, 1962  
**Bucculatrix ulmifoliae** Hering, 1931

**Gracillariidae**  
**Ornixola caudulatella** (Zeller, 1839)  
**Parectopa ononidis** (Zeller, 1839)  
**Gracillaria syringella** (Fabricius, 1794)  
**Caloptilia alchimiella** (Scopoli, 1763)  
**Caloptilia fidella** (Reutti, 1853)  
**Caloptilia flava** (Staudinger, 1870 [1871])  
**Caloptilia fribergensis** Fritsche, 1871  
**Caloptilia populetorum** (Zeller, 1839)  
**Caloptilia robustella** Jäckh, 1972  
**Caloptilia semifascia** (Haworth, 1828)  
**Caloptilia stigmatella** (Fabricius, 1781)  
**Euspilapteryx auroguttella** Stephens, 1835  
**Calybites phasianipenella** (Hübner, [1813])  
**Callisto denticulella** (Thunberg & Wenner, 1794)  
**Parornix anguliferella** (Zeller, 1847)  
**Parornix anglicella** (Stainton, 1850)  
**Parornix devoniella** (Stainton, 1850)  
**Parornix petiolella** (Frey, 1863)  
**Parornix scoticella** (Stainton, 1850)  
**Parornix szocii** (Gozmány, 1952)  
**Parornix torquilella** (Zeller, 1850)  
**Cameraria ohridella** Deschka & Dimič, 1986  
**Macrosaccus robiniella** (Clemens, 1859)  
**Phyllonorycter acerifoliella** (Zeller, 1839)  
**Phyllonorycter agilella** (Zeller, 1846)  
**Phyllonorycter apparella** (Herrich-Schäffer, 1855)  
**Phyllonorycter cavella** (Zeller, 1846)  
**Phyllonorycter cerasicolella** (Herrich-Schäffer, 1855)  
**Phyllonorycter comparella** (Duponchel, 1843)  
**Phyllonorycter coryli** (Nicelli, 1851)  
**Phyllonorycter harrisella** (Linnaeus, 1761)  
**Phyllonorycter insignitella** (Zeller, 1846)  
**Phyllonorycter issikii** (Kumata, 1963)
Phyllonorycter medicaginella (Gerasimov, 1930)
Phyllonorycter pastorella (Zeller, 1846)
Phyllonorycter populi (Filipjev, 1931)
Phyllonorycter populifoliella (Treitschke, 1833)
Phyllonorycter pruinosa (Gerasimov, 1931)
Phyllonorycter pyrifoliella (Gerasimov, 1933)
Phyllonorycter quercifoliella (Zeller, 1839)
Phyllonorycter roboris (Zeller, 1839)
Phyllonorycter sagiella (Bjerkander, 1790)
Phyllonorycter schreberella (Fabricius, 1781)
Phyllonorycter spinicolella (Zeller, 1846)
Phyllonorycter ulmifoliella (Hübner, 1817)
Phyllocnistis extrematrix Martynova, 1955
Phyllocnistis unipunctella (Stephens, 1834)

Yponomeutidae
Yponomeuta cagnagella (Hübner, 1813)
Yponomeuta evonymella (Linnaeus, 1758)
Yponomeuta padella (Linnaeus, 1758)
Yponomeuta malinella Zeller, 1838
Yponomeuta roboris (Zeller, 1839)
Yponomeuta viridissima (Hübner, 1796)
Yponomeuta vibrissa (Denis & Schiffermüller, 1775)

Argyresthiidae
Argyresthia goedartella (Linnaeus, 1758)
Argyresthia orobiana (Treitschke, 1833)
Argyresthia curvella (Linnaeus, 1761)
Argyresthia retinella Zeller, 1839
Argyresthia bonnetella (Linnaeus, 1758)
Argyresthia conjuga (Zeller, 1839)
Argyresthia pruniella (Clerck, 1759)
Argyresthia semifusca (Haworth, 1828)

Plutellidae
Plutella xylostella (Linnaeus, 1758)
Pseudoplutella porrectella (Linnaeus, 1758)

Acroliidae
Digitivalva orientella (Klimesch, 1956)
Digitivalva reticulata (Hübner, 1796)
Digitivalva solidaginis (Staudinger, 1859)
Digitivalva valeriella (Snellen, 1878)
Acrolepiopsis assectella (Zeller, 1839)

Glyphipterigidae
Orthotelia sparganella (Thunberg, 1788)
Glyphipteris forsterella (Fabricius, 1781)
Glyphipteris loricella (Treitschke, 1833)
Glyphipteris simplicella (Stephens, 1834)

Ypsolophidae
Ypsolophus asperella (Linnaeus, 1761)
Ypsolophus chazariella (Mann, 1866)
Ypsolophus dentella (Fabricius, 1775)
Ypsolopha horridella (Treitschke, 1835) common species
*Ypsolopha instabilella (Mann, 1866) rare species
Ypsolopha leuconotella (Snellen, 1884) single individual
Ypsolopha lucella (Fabricius, 1775) common species
Ypsolopha mucronella (Scopoli, 1763) single individual
Ypsolopha nebulella (Staudinger, 1871) single individual
Ypsolopha persicella (Fabricius, 1787) single individual
Ypsolopha sarmaticella (Rebel, 1917) common species
Ypsolopha satellitella (Staudinger, 1871) single individual
Ypsolopha scabrella (Linnaeus, 1761) single individual
Ypsolopha sequella (Clerck, 1759) common species
Ypsolopha sylvella (Linnaeus, 1867) single individual
Ypsolopha ustella (Clerck, 1759) single individual
Ypsolopha vittella (Linnaeus, 1758) common species
Ypsolopha scabrella (Linnaeus, 1761) single individual
Ypsolopha sylvella (Linnaeus, 1767) single individual
Ypsolopha ustella (Clerck, 1759) single individual
Ypsolopha vittella (Linnaeus, 1758) common species
Ochsenheimeria vacculella Fischer von Rösslerstamm, 1842 rare species
Aridomeria capella (Möschler, 1860) rare species

Heliodinidae
Heliodines rosella (Linnaeus, 1758) rare species

Lyonetiidae
Leucopera malifoliella (O. Costa, [1836]) single individual
Leucopera heringiella Toll, 1938 single individual
Lyonetia clerkella (Linnaeus, 1758) common species

Bedelliidae
Bedellia somnulentella (Zeller, 1847) common species

Doglasidiidae
Tinagma ocnerostomellum (Stainton, 1850) single individual

Ethmiidae
Ethmia aurifluella (Hübner, [1810] 1816) single individual
Ethmia bipunctella (Fabricius, 1775) common species
Ethmia candidella (Alphéraky, 1908) rare species
Ethmia discrepitella (Rebel, 1901) single individual
Ethmia dodecea (Haworth, 1828) common species
Ethmia haemorrhoidella (Eversmann, 1844) rare species
Ethmia quadrirullella (Goeze, 1783) single individual
Ethmia quadrupunctella (Eversmann, 1844) rare species
Ethmia pusiella (Linnaeus, 1758) common species
Ethmia vittalbella (Christoph, 1877) rare species

Depressariidae
Semioscopsis avellanella (Hübner, 1793) common species
Semioscopsis oculella (Thunberg, 1794) single individual
Semioscopsis steinkellneriana ([Denis & Schiffermüller], 1775) single individual
Semioscopsis strigulana ([Denis & Schiffermüller], 1775) common species
Luquetia lobella ([Denis & Schiffermüller], 1775) single individual
Exaeretia allisella Stainton, 1849 single individual
Exaeretia lepidella (Christoph, 1872) common species
Exaeretia nebuloxella (Caradja, 1920) common species
Exaeretia niviferella (Christoph, 1872) rare species
Exaeretia praestusta (Rebel, 1917) single individual
Exaeretia stramentella (Eversmann, 1844) rare species
Agonopterix alstromeriana (Clerck, 1759) single individual
Agonopterix angelicella (Hübner, [1813]) rare species
Agonopterix arenella ([Denis & Schiffermüller], 1775) common species
Agonopterix assimulella (Treitschke, 1832) single individual
Agonopterix capreolella (Zeller, 1839) common species
Agonopterix ciliella (Stainton, 1849) single individual
Agonopterix cnicella (Treitschke, 1832). single individual
Agonopterix curvipunctosa (Haworth, 1811) common species
Agonopterix feroxcella (Chréien in Spuler, 1910) single individual
Agonopterix furvilla (Treitschke, 1832) single individual
Agonopterix heracliana (Linnaeus, 1758) single individual
Agonopterix kaekeritziana (Linnaeus, 1767) single individual
Agonopterix laterella ([Denis & Schiffermüller], 1775) common species
Agonopterix liturosa (Haworth, 1811) single individual
Agonopterix melancholica (Rebel, 1917) rare species
Agonopterix ocellana (Fabricius, 1775) single individual
Agonopterix propinquella (Treitschke, 1835) common species
Agonopterix pallorella (Zeller, 1839) rare species
Depressaria artemisiae Nickerl, 1864 single individual
Depressaria depressana (Fabricius, 1775) single individual
Depressaria chaerophylli Zeller, 1839 single individual
Depressaria fuscovirgatella Hannemann, 1967 single individual
Depressaria hystricella Möschler, 1860 rare species
Depressaria olerella Zeller, 1854 common species
Depressaria pulcherrimella Stainton, 1849 single individual
Depressaria radiella (Goeze, 1783) single individual
Depressaria rubricella ([Denis & Schiffermüller], 1775) single individual
Depressaria ultimella Stainton, 1849 rare species

Elachistidae

Perittia sibirica Sinev, 1992 rare species
Dibrachia kalki (Parenti, 1978) common species
Elachista anserinella Zeller, 1839 common species
Elachista argentella (Clerck, 1759) single individual
Elachista chrysodesmella Zeller, 1850 single individual
Elachista dispilella Zeller, 1839 common species
Elachista dispunctella (Duponchel, 1843) common species
Elachista festucicolella Zeller, 1853 single individual
Elachista flavescens Parenti, 1981 single individual
Elachista hedemanni Rebel, 1899 single individual
Elachista maculicerasella Bruand, 1859 single individual
Elachista nitidulella (Herrich-Schäffer, 1855) single individual
Elachista obliquella Stainton, 1854 single individual
Elachista pollinariella Zeller, 1839 common species
Elachista pollutella Duponchel, 1843 single individual
Elachista pullicomella Zeller, 1839 common species
Elachista regificella Sircom, 1849 single individual
Elachista rudectella Stainton, 1851 single individual
Biselachista utonella (Frey, 1856) single individual

Parametriotidae

Heinemannia laspeyrella (Hübner, 1796) single individual
Heinemannia festivella ([Denis et Schiffermüller], 1775) single individual
Blastodacna atra (Haworth, 1828) single individual

Scythrididae

Scythris anomaloptera (Staudinger, 1880) single individual
Scythris bifissella (Hofmann, 1889) single individual
Scythris clavella (Zeller, 1855) numerous species
Scythris cycladeae Jäckh, 1978 single individual
Scythris gozmanyi Passerin d’Entrèves, 1986 single individual
Scythris emichi (Anker, 1870) rare species
Scythris fallacella (Schläger, 1847) single individual
Scythris flaviventrella (Herrich-Schäffer, 1855) common species
Scythris inspersella (Hübner, [1817]) single individual
Scythris limbella (Fabricius, 1775) common species
Scythris mikkolai Sinev, 1993 single individual
Scythris moldavicella Caradja, 1905 rare species
Scythris obscurella (Scopoli, 1763) single individual
Scythris perlucidella K. & T. Nupponen, 2000 single individual
Scythris productella (Zeller, 1839) common species
Scythris pudorinella (Möschler, 1866) single individual
Scythris satyrella (Staudinger, 1880) single individual
Scythris setiella (Zeller, 1871) single individual
Scythris sinensis (Felder & Rogenhofer, 1875) common species
Scythris sublaminella K. & T. Nupponen, 2000 single individual
Scythris tributella (Zeller, 1847) single individual
Eretmocera medinella (Staudinger, 1859) single individual

Chimabachidae
Diurnea fagella ([Denis & Schiffermüller], 1775) common species
Diurnea lipsiella ([Denis & Schiffermüller], 1775) common species

Cryptolechiidae
Orophia ferrugella ([Denis & Schiffermüller], 1775) single individual
Hypercallia citrinalis (Scopoli, 1763) single individual

Oecophoridae
Schiffermuelleria schaefferella (Linnaeus, 1758) common species
Bisigna procerella ([Denis & Schiffermüller], 1775) single individual
Metalampra cinnamomea (Zeller, 1839) single individual
Epicallima formosella ([Denis & Schiffermüller], 1775) common species
Denisia similella (Hübner, 1796) single individual
Borkhausenia luridicomella (Herrich-Schäffer, 1856) single individual
Borkhausenia fuscescens (Haworth, 1828) single individual
Endrosis sarcitrella (Linnaeus, 1758) single individual
Pseudocryptolechia sareptensis (Möschler, 1862) rare species
Minetia crinitus (Fabricius, 1798) single individual
Pleurota pyropella ([Denis & Schiffermüller], 1775) common species
Pleurota malatya Back, 1973 rare species
Pleurota contignatella Christoph, 1872 rare species
Pleurota bicostella (Clerck, 1759) common species
Pleurota aorsella Christoph, 1872 common species
Pleurota pungitiella Herrich-Schäffer, 1854 single individual
Pleurota aristella (Linnaeus, 1767) common species
Holoscolia huebneri Kocak, 1980 single individual
Aplota palpella (Haworth, 1828) single individual

Stathmopodidae
Stathmopoda pedella (Linnaeus, 1761) single individual

Batrachedridae
Batrachedra praegangusta (Haworth, 1828) common species

Coleophoridae
Augasma aeratella (Zeller, 1839) common species
Augasma uljanovi Anikin, 2017 rare species
Casas alabella (Thunberg, 1788) common species
Metriotes lutarea (Haworth, 1828) common species
Postvinculia lutipennella (Zeller, 1838) single individual
Paravalvulia spiraeella (Rebel, 1916) rare species
Frederickoenigia flavipennella (Duponchel, 1843) common species
Haploptilia coraciennella (Hubner, 1796) single individual
Haploptilia katanella Falkovitch, 1991 rare species
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Ecebalia therinella (Tengström, 1848) common species
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Ecebalia tyrrhaenica (Amsel, 1951) single individual
Ecebalia uniphalli Anikin, 2005 single individual
Ecebalia versurella (Zeller, 1849) common species
Ecebalia vestianella (Linnaeus, 1758) common species
Ecebalia virgaureae (Stainton, 1857) common species

Casignetella absinthii (Heinemann & Wocke, 1877) common species
Casignetella albicans (Zeller, 1849) common species
Casignetella amarchana (Falkovitsh, 1975) single individual
Casignetella ancistron (Falkovitsh, 1976) single individual
Casignetella arenifera Falkovitsh, 1989 single individual
Casignetella argentula (Stephens, 1834) common species
Casignetella artemisicolella (Bruand, 1855) common species
Casignetella bogdoensis (Baldizzone & Tabell, 2007) single individual
Casignetella ciconiella (Herrich-Schäffer, 1855) common species
Casignetella Corsicella (Walsingham, 1898) single individual
Casignetella dentatella (Toll & Amsel, 1967) single individual
Casignetella deviella (Zeller, 1847) single individual
Casignetella dianthi (Herrich-Schäffer, 1855) common species
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Casignetella peisoniella (Kasy, 1965) single individual
Casignetella peribenanderi (Toll, 1943) single individual
Casignetella pilion Falkovitsh, 1992 single individual
Casignetella pseudociconiella (Toll, 1952) single individual
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Casignetella remizella (Baldizzone, 1983) single individual
Casignetella riffelensis (Rebel, 1913) single individual
Casignetella saratovi Anikin, 2005 single individual
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Casignetella striatipennella (Nyangor, 1848) common species
Casignetella succursella (Herrich-Schäffer, 1855) common species
Casignetella tanaceti (Mühlig, 1865) common species
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Casignetella tringella (Baldizzone, 1988) single individual
Casignetella trochilella (Duponchel, 1843) common species
Ionescumia acerosa Falkovitsh, 1989 single individual
Ionescumia clypeiferella (Hofmann, 1871) common species
Ionescumia dilabens Falkovitsh, 1982 single individual
Carpochea aequalella (Christoph, 1872) single individual
Carpochena armeniae (Baldizzone & Patzak, 1991)
Carpochena asperginella (Christoph, 1872)
Carpochena atlanti Anikin, 2005
Carpochena binotapennella (Duponchel, 1843)
Carpochena ceratoïdis (Falkovitsh, 1979)
Carpochena cochleata Falkovitsh, 2005
Carpochena crassa Falkovitsh, 1989
Carpochena preisseckeri (Toll, 1942)
Carpochena salicorniae (Heinemann & Wocke, 1876)
Carpochena squalorella (Zeller, 1849)
Carpochena trientella (Christoph, 1872)
Carpochena unipunctella (Zeller, 1849)
Klinzigedia phlomidella (Christoph, 1862)
Klinzigedia phlomidis (Stainton, 1867)
Goniodoma auroguttella Zeller, 1849
Goniodoma limoniella (Stainton, 1884)
Momphidae
Cyphophora idaei (Zeller, 1839)
Mompha subbistrigella (Haworth, 1828)
Mompha epilobiella ([Denis et Schiffermüller], 1775)
Blastobasidae
Blastobasis pannonica Šumpich & Škyva, 2011
Blastobasis phycidella (Zeller, 1839)
Hypatopa segnella (Zeller, 1873)
Autostichidae
Deroxena conioleuca Meyrick, 1926
Deroxena venosulella (Möscher, 1862)
Oegoconia caradai Popescu-Gorj & Căpușe, 1965
Oegoconia deauratella (Herrich-Schäffer, 1854)
Symmoca signatella Herrich-Schäffer, 1854
Holcopogon adseclellus (Eversmann, 1844)
Lypusidae
Lypusa maurella ([Denis & Schiffermüller], 1775)
Agnoea josephinae (Toll, 1956)
Cosmopterigidae
Pancalia leuwehoekella (Linnaeus, 1761)
Pancalia schwarzella (Fabricius, 1798)
Pancalia nodosella (Bruand, 1851)
Cosmopterix orichalcea Stainton, 1861
Limnaecia phragmitella Stainton, 1851
Pyroderces argyrogrammos (Zeller, 1847)
Eteobalea albiapicella (Duponchel, 1843)
Eteobalea intermediella (Riedl, 1966)
Eteobalea serratella (Treitschke, 1833)
Eteobalea tririvella (Staudinger, 1871)
Chresopeleiidae
Sorhagenia janiszewskae Riedl, 1962
Sorhagenia lophyrella (Douglas, 1846)
Sorhagenia rhamniella (Zeller, 1839)
Gelechiidae
Metzneria neuropterella Zeller, 1839
Metzneria subflavella Englert, 1974
Isophricitis anthemidella (Wocke, 1871)
Isophricitis striatella (Denis & Schiffermüller, 1775)
Eulamprotes wilkella (Linnaeus, 1758)
Monochroa lucidella (Stephens, 1834)
Monochroa nomadella (Zeller, 1868) single individual
Monochroa saltenella (Benander, 1928) single individual
Chrysoesthia sexguttella (Thunberg, 1794) single individual
Psamathocrita osseella (Stainton, 1861) single individual
Caulastrocecis furfurella (Staudinger, 1870 [1871]) single individual
Aristetelia decurtella (Hubner, [1813]) single individual
Aristetelia subdecurtella (Stainton, 1859) single individual
Megacraspedus argyroneurellus (Staudinger, 1870 [1871]) single individual
Megacraspedus atritellus (Staudinger, 1870 [1871]) single individual
Recuvvaria leucatella (Clerck, 1759) single individual
Recuvvaria nanella (Denis & Schiffermüller, 1775) single individual
Xenolechia scriptella (Hubner, 1796) single individual
Teleiodes luculella (Hubner, 1813) common species
Carpatolechia aenigma Sattler, 1983 single individual
Carpatolechia fugitivella (Zeller, 1839) common species
Streyella anguinella (Herrich-Schäffer, 1861) single individual
Pseudotelphusa paripunctella (Thunberg, 1794) single individual
Teleiopsis diffinis (Haworth, 1828) single individual
Bryotropha mundella Douglas, 1850 single individual
Bryotropha rossica Anikin et Piskunov, 1996 single individual
Bryotropha senectella Zeller, 1839 single individual
Bryotropha similis (Stainton, 1854) single individual
Chionodes distinctella (Zeller, 1839) common species
Prolita solutella (Zeller, 1839) single individual
Mirificarma cytisella Treitschke, 1833 single individual
Lutlabria volgensis Anikin et Piskunov, 1996 single individual
Filatima djakovica Anikin et Piskunov, 1996 single individual
Filatima tephritidella (Duponchel, 1843) single individual
Filatima zagulajevi Anikin et Piskunov, 1996 single individual
Gelechia jakovlevi Krulikovsky, 1905 single individual
Gelechia rhombella (Denis & Schiffermüller, 1775) common species
Gelechia rhombelliformis (Staudinger, 1871) single individual
Gelechia scotinella (Herrich-Schäffer, 1854) common species
Ornativalva plutelliformis (Staudinger, 1859) common species
Ornativalva heluanensis (Debski, 1913) single individual
Ephysteris deserticolella (Staudinger, 1870 [1871]) single individual
Scrobipalpa acuminatella (Sircom, 1850) single individual
Scrobipalpa atriplicella (Fischer von Roeslerstamm, 1841) common species
Scrobipalpa chrysanthemella (Hofmann, 1867) single individual
Scrobipalpa gallicella (Constant, 1884) single individual
Scrobipalpa obsoleteella (Fischer von Roeslerstamm, 1841) common species
Scrobipalpa soffneri Povolny, 1964 single individual
Scrobipalpa salinella (Zeller, 1847) single individual
Scrobipalpa selectella (Caradjia, 1920) single individual
Aproaerema antyllidella (Hübner, [1813]) single individual
Syncopacma coronillella (Treitschke, 1833) single individual
Syncopacma sanguella (Stainton, 1863) single individual
Acompsia cinerella (Caradja, 1920) single individual
Anacampsis temerella (Lienig & Zeller, 1846) single individual
Anacampsis timidella (Wocke, 1887) single individual
Metanarsia modesta Staudinger, 1870 [1871] common species
Pexicopia malvella (Hübner, 1805) common species
Anarsia lineatella (Zeller, 1839) common species
Anarsia spartiella (Schrank, 1802) single individual
Dichomeris alacella (Zeller, 1839) common species
Dichomeris derasella (Denis & Schiffermüller, 1775) single individual
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<tr>
<th>Species Name</th>
<th>Classification</th>
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<td>Brachmia blandella</td>
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<td>Helcystogramma albinervis</td>
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<td><strong>Alucita grammodactyla</strong> Zeller, 1841</td>
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<td>Agdistis ingens Christoph, 1887</td>
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<td>Agdistis intermedia Caradja, 1920</td>
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<td>Gillmeria miantodactyla (Zeller, 1841)</td>
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<td>Gillmeria rhusiodactyla (Fuchs, 1903)</td>
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<td>Platypitia gonodactyla ([Denis et Schiffermüller], 1775)</td>
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<td>Stenoptilia eborinodactyla Zagulajev, 1986</td>
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<td>Cnaemidophorus rhododactyla ([Denis et Schiffermüller], 1775)</td>
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<td>Marasmarcha cinnamomea (Staudinger, 1870)</td>
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<td>Marasmarcha rhypodactyla (Staudinger, 1870 [1871])</td>
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<td>Oxyptilus chrysodactyla ([Denis et Schiffermüller], 1775)</td>
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<td>Oxyptilus parvidactyla (Haworth, 1811)</td>
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<td>Geina didactyla (Linnaeus, 1758)</td>
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<td>Capperia trichodactyla ([Denis et Schiffermüller], 1775)</td>
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<td>Porritta galactodactyla (Denis &amp; Schiffermuller, 1775)</td>
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<td>Tabulaephorus marpyts (Christoph, 1872)</td>
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<td>Oidaematophorus lithodactyla (Treitschke, 1833)</td>
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<td>Hellinsia carphodactyla (Hübner, [1813])</td>
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<td>Hellinsia chrysocomae (Ragonot, 1875)</td>
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<td>Adaina microactyla (Hübner, 1813)</td>
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<td>Emmelina monodactyla (Linnaeus, 1758)</td>
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<td><strong>Schreckensteiniiidae</strong></td>
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<td>Phaulernis dentella (Zeller, 1839)</td>
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<td>Epermenia chaerophyllella (Goeze, 1783)</td>
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<td>Epermenia devotella (Heyden, 1863)</td>
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<td>Epermenia insecurella (Stainton, 1849)</td>
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<td>Epermenia ochremaculella (Millière, 1854)</td>
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<td>Epermenia strictella (Wocke, 1867)</td>
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<td>Ochromolopis zagulajevi Budashkin &amp; Satschkov, 1991</td>
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Choreutidae
Millieria dolosalis (Heydenreich, 1851) single individual
Anthophila fabriciana (Linnaeus, 1767) single individual
Choreutis pariana (Clerck, 1759) single individual

Galactidae
Galactica walsinghami (Caradja, 1920) single individual

Tortricidae
Tortrix viridana (Linnaeus, 1758) common species
Aleimma loeflingiana (Linnaeus, 1758) single individual
Acleris abietana (Hübner, 1822) single individual
Acleris forsskaleana (Linnaeus, 1758) common species
Acleris logiana (Clerck, 1759) single individual
Acleris rhombana ([Denis & Schiffermüller], 1775) single individual
Phtheochroa inopiana (Haworth, 1811) single individual
Phtheochroa pulvillana (Herrich-schäffer, [1851]) single individual
Phtheochroa subfumida (Falkovitsh, 1963) single individual
Phtheochroa unionana (Kennel, 1900) single individual
Cochylimorpha alternana (Stephens, 1834) single individual
Cochylimorpha elathrina (Staudinger, 1871) single individual
Cochylimorpha meridiana (Staudinger, 1859) single individual
Cochylimorpha pyramidana (Staudinger, 1871) single individual
Cochylimorpha subwoliniana (Danilevsky, 1962) single individual
Phalonidia contractana (Zeller, 1847) common species
Ceratoxanthis argentomixtana (Staudinger, 1871) single individual
Fulvoclysia rjabovi Kuznetzov, 1976 single individual
Agapeta hamana (Linnaeus, 1758) common species
Agapeta zoegana (Linnaeus, 1767) single individual
Eugnosta lathoniana (Hübner, [1799–1800]) single individual
Eugnosta magnifica (Rebel, 1914) single individual
Eupoecilia angustana (Hübner, [1799]) single individual
Aethes dilucidana (Stephens, 1852) single individual
Aethes kindermanniana (Treitschke, 1830) single individual
Aethes margaritana (Haworth, 1811) common species
Aethes nefandana (Kennel, 1899) single individual
Aethes obscurana (Caradja, 1917) single individual
Aethes tesserana ([Denis & Schiffermüller], 1775) common species
Cochylidia atricapitana (Stephens, 1852) single individual
Cochylidia atricapitana (Stephens, 1852) single individual
Cochylidia pallidana (Zeller, 1847) single individual
Cochylis nana (Haworth, 1811) single individual
Cochylis pallidana (Zeller, 1847) single individual
Cochylis posterana (Zeller, 1847) common species
Cochylis subroseana (Haworth, 1811) single individual
Falseuncaria degreyana (McLachlan, 1869) single individual
Oporopsamma wertheimsteini (Rebel, 1913) single individual
Eula ministrana (Linnaeus, 1758) single individual
Doloploca punctulana ([Denis & Schiffermüller], 1775) single individual
Eana argentana (Clerck, 1759) single individual
Eana incanana (Stephens, 1852) common species
Eana penziana (Thunberg, 1791) single individual
Exapate congelatella (Clerck, 1759) single individual
Cnephasia alticolana (Herrich-schäffer, [1851]) single individual
Cnephasia asseclana ([Denis & Schiffermüller], 1775) single individual
Cnephasia stephensia (Doubleday, 1849) single individual
Epagoge grotiana (Fabriciuis, 1781) single individual
Paramesia gnomana (Clerck, 1759) single individual
Periclepsis cinctana ([Denis & Schiffermüller], 1775) single individual
Archips podana (Scopoli, 1763) single individual
Archips rosana (Linnaeus, 1758) single individual
Archips xylosteana (Linnaeus, 1758) common species
Choristoneura diversana (Hübner, [1814–1817]) single individual
Ptcholoma lecheana (Linnaeus, 1758) common species
Pandemis corylana (Fabricius, 1794) single individual
Pandemis heparana ([Denis & Schiffermüller], 1775) single individual
Aphelia ferugana (Hübner, 1793) common species
Clepsis neglectana (Herrich-Schäffer, 1851) single individual
Clepsis pallidana (Fabricius, 1776) single individual
Clepsis spectrana (Treitschke, 1830) single individual
Periclepsis cinctana ([Denis & Schiffermüller], 1775) single individual
Epagoge grotiana (Fabricius, 1781) single individual
Endothenia quadrimaculana (Haworth, [1811]) common species
Lobesiodes euphorbiana (Freyer, [1840]) single individual
Orthotaenia undulana ([Denis & Schiffermüller], 1775) single individual
Hedy dimidioalba (Retzius, 1783) single individual
Hedy nubferana (Haworth, [1811]) single individual
Hedy ochroleucana (Frölich, 1828) single individual
Hedy pruniana (Hübner, [1799]) common species
Hedy salicella (Linnaeus, 1758) single individual
Phiaris turfosana (Herrich-Schäffer, 1851) single individual
Celypha flavipalpana (Herrich-Schäffer, 1851) single individual
Celypha rosanana (Linnaeus, 1758) single individual
Celypha xylosteana (Linnaeus, 1758) common species
Periclepsis cinctana ([Denis & Schiffermüller], 1775) single individual
Epagoge grotiana (Fabricius, 1781) single individual
Eucosma albidulana (Herrich-Schäffer, 1851) single individual
Eucosma fascida Kuznetzov, 1966 single individual
Eucosma pupillana (Schönherr, 1828) single individual
Epiblema grandaevana (Lienig & Zeller, 1846) single individual
Epiblema graphana (Treitschke, 1835) single individual
Epiblema foenella (Linnaeus, 1758) single individual
Epiblema scutulana ([Denis & Schiffermüller], 1775) common species
Epiblema trimaculana (Haworth, 1811) single individual
Epinotia immundana (Fischer von Röslerstamm, 1839) single individual
Zeiraphera isertana (Fabricius, 1775) single individual
Notocelia cyphabatella (Linnaeus, 1758) single individual
Notocelia roborana ([Denis & Schiffermüller], 1775) single individual
Notocelia roseacolana (Doubleday, 1850) common species
Notocelia uddmaniana (Linnaeus, 1758) common species
Rhyacionia buoliana ([Denis & Schiffermüller], 1775) common species
Rhyacionia pinivorana (Lienig & Zeller, 1846) common species
Pammene argyrana (Hübner, [1799]) single individual
Pammene splendidulana (Guenée, 1845) single individual
Cydia fagiglandana (Zeller, 1841)  common species
Cydia pomonella (Linnaeus, 1758)  common species
Cydia splendana (Hübner, [1799])  single individual
Cydia succedana ([Denis & Schiffermüller], 1775)  single individual
Cydia strobilella (Linnaeus, 1758)  single individual
Cydia turionella (Linnaeus, 1758)  single individual
Grapholita caecana (Schläger, 1847)  common species
Grapholita compositella (Fabricius, 1775)  common species
Grapholita coronillana (Lienig & Zeller, 1846)  single individual
Grapholita nebritana (Treitschke, 1803)  single individual
Grapholita pallifrontana (Lienig & Zeller, 1846)  single individual
Panmene argyrana (Hübner, [1799])  single individual
Dichrorampha petiverella (Linnaeus, 1758)  single individual
Dichrorampha plumbana (Scopoli, 1763)  single individual
Dichrorampha simpliciana (Haworth, [1811])  single individual
Brachodidae
Brachodes appendiculata (Esper, 1847)  common species
Brachodes dispar (Herrich-Schäffer, 1854)  single individual
Brachodes pumila (Ochsenheimer, 1808)  common species
Cossidae
Cossus cossus (Linnaeus, 1758)  common species
Acossus terebra ([Denis & Schiffermüller], 1775)  single individual
Deserticossus sareptensis (Rothschild, 1912)  rare species
Parahypopta caestrum (Hübner, 1815)  common species
Paracossus thrips (Hübner, 1818)  common species
Dyspessa salicicola (Eversmann, 1848)  common species
Dyspessa ulula (Borkhausen, 1790)  single individual
Stygoides tricolor (Lederer, 1858)  rare species
Zeuzera pyrina (Linnaeus, 1761)  single individual
Phragmataecia castaneae (Hübner, 1818)  common species
Sesiidae
Sesia apiformis (Clerck, 1759)  common species
Sesia melanocephala Dalman, 1816  single individual
Paranthrene tabaniformis (Rottemburg, 1775)  single individual
Synanthedon culiciforme (Linnaeus, 1758)  single individual
Synanthedon myopaefemre (Borkhausen, 1789)  single individual
Synanthedon socioulaefermre (Borkhausen, 1789)  single individual
Synanthedon speciciforme ([Denis & Schiffermüller], 1775)  single individual
Synanthedon tipuliforme (Clerck, 1759)  single individual
Synanthedon vespiniforme (Linnaeus, 1761)  single individual
Bembecia ichneunomiforme ([Denis & Schiffermüller], 1775)  single individual
Bembecia megillaformis (Hübner, 1813)  single individual
Bembecia volgensis Gorbunov, 1995  rare species
Chamaesphecia asteriformis (Herrich-Schäffer, 1846)  common species
Chamaesphecia bibioniformis (Esper, 1800)  single individual
Chamaesphecia chalciformis (Esper, 1804)  single individual
Chamaesphecia crassicornis (Bartel, 1912)  single individual
Chamaesphecia dumonti (lo Cerf, 1922)  single individual
Chamaesphecia efetovi Gorbunov, 2019  rare species
Chamaesphecia leucopsiformis (Esper, 1783)  single individual
Chamaesphecia masariformis (Ochsenheimer, 1808)  single individual
Chamaesphecia tentrediniformis ([Denis & Schiffermüller], 1775)  single individual
Weismanniola agdistiformis (Staudinger, 1866)  single individual
Limacodidae
Apoda limacodes (Hufnagel, 1766)  common species
Heterogeneity asella ([Denis & Schiffermüller], 1775)  common species
### Zygaenidae

- *Rhagades pruni* ([Denis & Schiffermüller], 1775) - common species
- *Adscita albanica* (Naufock, 1926) - rare species
- *Adscita geryon* (Hübner, 1813) - rare species
- *Adscita statices* (Linnaeus, 1758) - common species
- *Jordanita budensis* (Speyer & Speyer, 1858) - rare species
- *Jordanita paupera* (Christoph, 1887) - rare species
- *Jordanita volgensis* (Möschler, 1862) - rare species
- *Jordanita chloros* (Hübner, 1813) - common species
- *Jordanita globulariae* (Hübner, 1813) - rare species
- *Jordanita graeca* (Jordan, 1907) - rare species
- *Jordanita subsolana* (Staudinger, 1862) - common species
- *Zygaena brizae* (Esper, 1800) - common species
- *Zygaena centaureae* Fischer von Waldheim, 1832 - common species
- *Zygaena cynarae* (Esper, 1789) - rare species
- *Zygaena minos* ([Denis & Schiffermüller], 1775) - single individual
- *Zygaena punctum* Ochsenheimer, 1808 - single individual
- *Zygaena purpurals* (Brünnich, 1763) - common species
- *Zygaena carniolica* (Scopoli, 1763) - common species
- *Zygaena sedi* (Fabricius, 1787) - common species
- *Zygaena viciae* ([Denis & Schiffermüller], 1775) - common species
- *Zygaena loti* ([Denis & Schiffermüller], 1775) - common species
- *Zygaena angelicae* (Ochsenheimer, 1808) - common species
- *Zygaena ephialtes* (Linnaeus, 1758) - common species
- *Zygaena filipendulae* (Linnaeus, 1758) - common species
- *Zygaena lonicerae* (Scheven, 1777) - common species
- *Zygaena osterodensis* Reiss, 1921 - common species

### Thyrididae

- *Thyris fenestrella* (Scopoli, 1763) - rare species

### Pyralidae

- *Aphomia sociella* (Linnaeus, 1758) - common species
- *Lamoria anella* ([Denis & Schiffermüller], 1775) - single individual
- *Lamoria zelleri* (Joannis, 1932) - common species
- *Galleria mellonella* (Linnaeus, 1758) - single individual
- *Endotricha flammealis* ([Denis & Schiffermüller], 1975) - common species
- *Hypotia massilialis* (Duponchel, [1833]) - common species
- *Synaphe bombycalis* ([Denis & Schiffermüller], 1775) - common species
- *Hypsopygia costalis* (Fabricius, 1775) - single individual
- *Hypsopygia glaucinalis* (Linnaeus, 1758) - single individual
- *Hypsopygia rubidalis* ([Denis & Schiffermüller], 1775) - single individual
- *Pyralis farinalis* (Linnaeus, 1758) - single individual
- *Pyralis regalis* ([Denis & Schiffermüller], 1775) - single individual
- *Aglossa pinguinalis* (Linnaeus, 1758) - single individual
- *Elegia similella* (Zincken, 1818) - single individual
- *Ortholepis betulae* (Goeze, 1778) - single individual
- *Sciota hostilis* (Stephens, 1834) - single individual
- *Selagia spadicella* (Hübner, 1796) - single individual
- *Pima boisduvaliella* (Guenée, 1845) - single individual
- *Etiella zinckenella* (Treitschke, 1832) - common species
- *Oncocera semirubella* (Scopoli, 1763) - common species
- *Laodamia faecella* (Zeller, 1839) - single individual
- *Moiurella obductella* (Zeller, 1839) - single individual
- *Hypochalcia ahenella* ([Denis & Schiffermüller], 1775) - single individual
- *Nephopterix ahenella* ([Denis & Schiffermüller], 1775) - single individual
- *Acrobasis advenella* (Zincken, 1818) - single individual
Acrobasis suavella (Zincken, 1818) single individual
Acrobasis tumidana ([Denis & Schiffermüller], 1775) single individual
Glyptoteles leucacrinella Zeller, 1848 single individual
Episcythrastis tabidella (Mann, 1864) single individual
Eurhodope rossela (Scopoli, 1763) common species
Pterothrixidia squalidella (Eversmann, 1842) single individual
Bazaria gilvella (Ragonot, 1887) single individual
Megasis rippertella (Zeller, 1839) common species
Izauria dilucidella (Duponchel, 1836) single individual
Ratasa alienalis (Eversmann, 1844) rare species
Euzophera bigella (Zeller, 1848) single individual
Nyctegretis lineana (Scopoli, 1786) common species
Nyctegretis triangulella Ragonot, 1901 single individual
Ancylosis cinnamomella (Duponchel, 1836) single individual
Ancylosis pallida (Staudinger, 1870) single individual
Ancylosis sareptalla (Eversmann, 1844) rare species
Homoeosoma nebulatum ([Denis & Schiffermüller], 1775) single individual
Phycitodes albatella (Ragonot, 1887) single individual
Phycitodes binaevella (Hübner, [1813]) single individual
Phycitodes lacteella (Rothschild, 1915) single individual
Phycitodes maritima (Tengström, 1848) single individual
Ephesia elutella (Hübner, 1796) single individual
Ephesia parasitella Staudinger, 1859 rare species
Chilo luteellus (Motschulsky, 1866) single individual
Chilo phragmitella (Hübner, 1805) common species
Calamotropha paludella (Hübner, [1824]) single individual
Chrysoteuchia culmella (Linnaeus, 1758) common species
Crambus pascuella (Linnaeus, 1758) single individual
Crambus pratella (Linnaeus, 1758) common species
Agriphila aeneociliella (Eversmann, 1844) single individual
Agriphila poliellus (Treitschke, 1832) common species
Agriphila tristella ([Denis & Schiffermüller], 1775) single individual
Catoptria lythargyrella (Hübner, 1796) single individual
Catoptria pinella (Linnaeus, 1758) common species
Catoptria verellus (Zincken, 1817) common species
Metacrambus carectellus (Zeller, 1847) single individual
Chrysocrambus craterellus (Scopoli, 1763) common species
Thisanotia chrysonuchella (Scopoli, 1763) common species
Pediasia kuldjaensis (Caradja, 1917) single individual
Pediasia epineura (Meyrick, 1883) single individual
Pediasia luteella ([Denis & Schiffermüller], 1775) common species
Pediasia persellus (Toll, 1947) single individual
Pediasia pudibundellus (Herrich-Schäffer, 1852) single individual
Platyles alpinella (Hübner, [1813]) single individual
Talis quercella ([Denis & Schiffermüller], 1775) common species
Scoparia pyralella ([Denis & Schiffermüller], 1775) single individual
Scoparia subfuscua Haworth, [1811] common species
Eudonia lacastrata (Panzer, 1804) single individual
Parapoyx stratiota (Linnaeus, 1758) single individual
Nymphula nitidulata (Hufnagel, 1767) single individual
Aporodes floralis (Hübner, [1809]) single individual
Evergestis desertalis (Hübner, [1813]) single individual
**E. limbata** (Linnaeus, 1767)  
**L. deliblatica** Szent-Ivány & Uhrik-Mészáros, 1942  
**L. sticticalis** (Linnaeus, 1761)  
**L. turbidalis** (Treitschke, 1829)  
**E. rubiginalis** (Hübner, 1796)  
**P. hyalinalis** (Hübner, 1796)  
**P. aerealis** (Hübner, 1796)  
**P. aurata** (Scopoli, 1763)  
**P. despicata** (Scopoli, 1763)  
**P. purpuralis** (Linnaeus, 1758)  
**P. sanguinalis** (Linnaeus, 1767)  
**P. aeryalis** (Fabricius, 1794)  
**P. pulveralis** (Hübner, 1796)  
**O. quadripunctalis** ([Denis & Schiffermüller], 1775)  
**O. nubilalis** (Hubner, 1796)  
**A. coronata** (Hufnagel, 1767)  
**A. fuscalis** ([Denis & Schiffermüller], 1775)  
**P. ruralis** (Scopoli, 1763)  
**M. flavalis** ([Denis & Schiffermüller], 1775)  
**U. languidalis** (Eversmann, 1842)  
**U. prunalis** ([Denis & Schiffermüller], 1775)  

* – new species for the Lower Volga region.

Thus, the identified fauna of microlepidoptera of the Saratov Region and Volgograd Region includes 983 species of 59 families. This is equal to 42% of the known Lepidoptera fauna of Lower Volga region (Anikin et al., 2017) and 33% of the entire Volga River Region (Sinev, 2019). The high number of species and various studied landscapes, a variety of collection methods and the duration of the study make it possible to characterise the microlepidoptera fauna of Lower Volga region. A number of families are represented by one species (Opostegidae, Heliozelidae, Prodoxidae, Eriocotidae, Roeslerstrammidae, Heliodinidae, Bedelliidae, Douglasiidae, Stathmopodidae, Batrachedridae, Alucitidae, Schreckensteiniidae, Galacticidae, Thyrididae). Such low taxonomic indicators are typical features for these families in the fauna of the region. The highest rates of species taxonomic composition (≥ 50 species for Tineidae, Coleophoridae, Gelechiidae, Tortricidae, Pyralidae, Crambidae) are typical for the dominant Lepidoptera families in steppe landscapes of the south-estern part of European Russia (Anikin, 1997, 1999).

In collected materials, the group of single individuals was dominated. It includes more than half of the entire list of species included in the dataset (583 out of 983 species). There are various reasons for their low frequency of occurrences. Some species, due to their biological peculiarities, are rarely caught in light traps; they have activity only at the day time (for example, *Heliodines rosella*, *Chamaesphaea efetovi*, *Thyris fenestrella*). Some species represent the group of stenobionts, which are highly attached to certain habitats, such as dry steppes (for example,
Pleurota aorsella, Filatima zagulajevi) or salt marshes (Aporiptura lonchodes, Goniodoma limoniella). The second largest microlepidoptera group is common species (included 320 out of 983 species) that occur in various habitat types, ecologically valent organisms, as a rule, polyphages, having 2-3 generations per season. Certain species that feel good in agrocenoses and can produce a high number of individuals in some years cause considerable damage to agricultural crops in the study area (Hof & Bright, 2010). Among these species, is Loxostege sticticalis. The mass release of its imago occurred in the regions almost "simultaneously" in all areas with steppe open landscapes and occurred in mid-August (Anikin, 2021). These days, the number of moths can reach 20-60 individuals per 1 m² of the vegetation cover in the surveyed areas.

For forest species, we also noted the fact when they turn from ordinary ones into potentially dangerous pests of forest crops. So, in 2014, Archips xylosteana acted as a species that gave rise to massive outbreak in the National Park "Khvalynsky" on the north of the Saratov Region. At mid-May 2014, visible damage to oak, hawthorn, and linden leaves by caterpillars of this species was observed in the studied area. Linden trees suffered particularly severe damage, which were damaged by two thirds of their upper crowns and consisted of leafless branches with remnants of twisted leaves with pupae inside. By the mid-June, the output of the imago of Archips xylosteana occurred, with its peak at the early July. In active evening time of summer (20.00–24.00), imago accounting using light traps showed capturing of imago at 20-32 individuals per 1 minute (GBIF, 2023). The summer decline occurred at the late July, and by early August there were only isolated individuals of females. This indicates the end of egg laying in the season. Repeated temperature fluctuations from negative to low positive in 2014–2015 winter, with wet snow precipitations sharply reduced the number of overwintered eggs of this species, and already in the next season such a high density of the species has not been observed.

The group of rare species is of greatest interest for characteristics. Most of them are found in various parts of the region in suitable habitats. However, some species, according to the data obtained, have geographically limited distribution in the region (Fig. 1). For example, Scythris moldavicella is found only in the steppe habitats on chalk hills in the places of Don Basin in Volgograd Region. In the landscapes of the Medveditsa River in Saratov Region, Adaina microdactyla and Alucita grammodactyla have been found, being known only from this locality in Volga-Urals region (Anikin et al., 2017). Stygoides tricolor, a very rare species, noted before only in the beginning 20th century in Lower Volga (Kumakov & Korshunov, 1979), has been found
in dry steppes on chalk hills of the Volga River in Saratov Region (Anikin, 2022). Other rare species are represented in our database (e.g., *Eosolenobia grisea*, *Palaeoacanthopsyche uralensis*, *Ypsolopa instabilella*, *Ethmia dodecea*, *Agonopterix ferocella*, *Epermenia pontificella*, *Dolicharthria punctalis*). The data obtained can be used to clarify the configuration of the ranges of moth species. For a number of species, the northern boundary of the distribution of a number of species passes through the territories of the Volgograd and Saratov regions, including *Nemophora basella*, *Nemophora canalella*, *Eumelasina ardua*, *Whittleia undulella*, *Reisseronia staudingeri*, *Psychocentra millierei*, *Pleurota aorsella*, *Haploptilia katunella*, *Multicolor tshiligella*, *Ecebalia eichleri*, *Ecebalia halocnemi*, *Apterona helicoidella*, *Pararhodobate syriacus*, *Carpochena ceratoidis*, *Klinzigedia phlomidella*, *Bryotropha rossica*, *Galactica walsinghami*, *Deserticossus sareptensis*, *Stygoides tricolor*, *Chamaespechia efetovi*.

The southern limit of distribution is located within Volgograd and Saratov regions for a number of species (e.g., *Dyseriocrania subpurpurella*, *Eriocrania semipurpurella*, *Euplocamus anthracinalis*), *Cephitinea colonella*, *Scardia boletella*, *Heliodines rosella*, *Augasma uljanovi*, *Pelatea verucha*, *Bembecia volgensis*, *Adscita geryon*, *Jordanita globulariae*).

The studied microlepidoptera fauna also includes narrow-range species, such as *Nemophora basella*, *Apterona helicoidella*, *Ypsolopa instabilella*, *Aridomeria capella*, *Ethmia vittalbella*, *Exaeretia stramentella*, *Scythis emichi*, *Minetia crinitus*, *Ecebalia chumanensis*, *Ecebalia pinni*, *Ecebalia tornata*, *Ecebalia uniphalli*, *Casignetella bogdoensis*, *Casignetella helgada*, *Blastobasis pannonica*, *Holcopogon adsecellus*, *Lutilabria volgensis*, *Filatima zagulajevi*, *Helcystogramma albinervis*, *Cochylimorpha subwoliniana*, *Jordanita paupera*, *Jordanita volgensis*, *Zygaena sedi*, *Pterothrixidia squalidella*, *Loxostege deliblatica*, *Udea languidalis*.

The database contains alien species that have penetrated into the region over the past 5-10 years. They are included in the group of numerous species, such as *Caloptilia fidella*, *Cameraria ohridella*, *Phyllonorycter issikii*, *Phyllonorycter populifoliella*. These species cause considerable damage to natural components in Eastern Europe (Walczak et al., 2017; Kirichenko et al., 2019; Hulme, 2021), expanding their secondary range to the east, and now they reached the Volga River. For example, *Cameraria ohridella* turned out to be the most destructive for tree species in Lower Volga Region (Anikin, 2019; Kirichenko et al., 2023). This species was able to settle in the Lower Volga region in five years and occupied all sites where there is a park culture – Horse chestnut (Mosolova et al., 2020; Melnikov, 2020; Melnikov & Kondratyev, 2021; Anikin & Anikin,
Phyllonorycter issikii is another alien species, as one of the most widespread and entrenched since late 1980s in Russia. This moth develops in 2 or 3 generations (from May to September), with habitat preferences for urban parks rather than in forests. Forage plants are linden trees (Tilia), in the region, namely native Tilia cordata, and Tilia platyphyllos, T. tomentosa, T. mandshurica, T. maximowicziana and T. japonica, cultivated in the urban parks (Anikin et al., 2016). This species is common in the Volga-Urals region, with the exception of the Astrakhan region and the Republic of Kalmykia, where warm winters are detrimental to the wintering caterpillars.

Scythris moldavicella, Adaina microdactyla, Alucita grammMODactyla, Stygoides tricolor

**Figure 1.** Distribution of some rare species in the Lower Volga Region.

**Conclusions**
The presented database on the biodiversity of microlepidoptera in the Saratov and Volgograd Regions includes 983 species from 59 families. Over the past 50 years, agrocenoses have considerably dominated natural biotopes. This has directly affected the reduction of the food
supply of lepidoptera and the destruction of their habitats. As a result, a whole group of microlepidoptera species experienced a general decrease in the number and deterioration in the viability of their micro populations. This is especially noticeable in the change in species composition in recent decades. Compiling databases on insect faunas and, in particular, on Lepidoptera is one of the options for monitoring the state of the number of species in the study area showed that significant changes have occurred in the composition of individuals Lepidoptera groups. A number of newly invaded alien species have appeared, some of which are potential pests of agriculture and forestry in the Lower Volga region. It is likely that alien species can completely switch to native vegetation species and cause significant damage to ecosystems. In the near future, we expect new events in the fauna affections based on new investigations and literature compilations for the Volga-Ural region and the entire European Russia. Compiling and maintaining electronic databases and datasets are necessary elements of biodiversity investigation and conservation.

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