

Lepidoptera of South Ossetia (Northern Transcaucasia). Part IV. Microlepidoptera: Adelidae to Choreutidae

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Abstract

A list of 143 species of Microlepidoptera from 27 families is provided, compiled based on the results of processing materials collected in 2021–2022; all species are recorded for the first time for the territory of South Ossetia.

Keywords

Biodiversity, Caucasus, South Ossetia, fauna, Microlepidoptera

Introduction

This article continues the series of publications devoted to the lepidopteroфаuna of South Ossetia and covers most families of Microlepidoptera. Only Pyraloidea, Cossidae, Limacodidae, part of Erebidae, Notodontidae, Lasiocampidae, Lemoniidae, Saturniidae, Sphingidae, Drepanidae, Cimeliidae, Tortricidae, Pterophoridae and Alucitidae were previously treated (Streltsov et al. 2022 a, b; Nedoshivina et al. 2023). In the fourth part we publish data on families Adelidae, Incurvariidae, Psychidae, Tineidae, Roeslerstammiidae, Gracillariidae, Yponomeutidae, Argyresthiidae, Plutellidae, Ypsolophidae, Ethmiidae, Depressariidae, Elachistidae, Scythrididae, Cryptolechiidae, Oecophoridae, Lecithoceridae, Stathmopodidae, Coleophoridae, Momphidae, Blastobasidae, Autostichidae, Lypusidae, Cosmopterigidae, Gelechiidae, Epermeniidae, and Choreutidae, information about which in South Ossetia was not previously available.

A detailed description of the natural conditions and history of studying the lepidopteroфаuna of the region is contained in the first article in the series, dedicated to Lepidoptera (Streltsov et al. 2022a) and is not discussed here.

Materials and methods

The specimens were collected in South Ossetia in eight localities (Fig. 1) by A. N. Streltsov, P. Y. Ustjuzhanin and R. V. Yakovlev in June–July 2021 and by V.V. Rudoi, P. Y. Ustjuzhanin and R. V. Yakovlev in July 2022. The collections were carried out by manual collecting during the daytime and at dusk, as well as on light screens Naturaliste-150 and Naturaliste-180 (using lamps OSRAM-160, 250 W), powered by the inverter generator Honda EU10i and autonomous light traps ENTOSPHINX lamp UV LED 12 V/19,2W (equipped with diodes 240 UV LED). Deadening of the specimens was carried out using ethyl acetate. The material was mounted on entomological pins.

The examined material is kept in the collections of Vasilij Anikin (Saratov, Russia – Coleophoridae) and Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia – all other groups). Taxonomy and nomenclature are given according to the latest edition of the Catalogue of the Lepidoptera of Russia (Sinev 2019). The input of the authors in the identification of the material is as follows: V.V. Anikin – Coleophoridae; V.I. Piskunov – Gelechiidae; S. Yu. Sinev – all other families.

List of collecting localities

1. South Ossetia, Tskhinval Distr., 2 km NW Grom, 42°10'6" N / 44°11'53" E, 930 m, 22–25.06.2021, A. Streltsov, P. Ustjuzhanin & R. Yakovlev leg.

2. South Ossetia, Leningor Distr., 4 km E Leningor, 42°08'45" N, 44°30'55" E / 1200 m, 26–27.06.2021, A. Streltsov, P. Ustjuzhanin & R. Yakovlev leg.; 13–14.07.2022, P. Ustjuzhanin & R. Yakovlev leg.
3. South Ossetia, Dzaus Distr., 4 km NNE Kvaisa, Koz lake, 42°33'32" N / 43°37'59" E, 1580 m, 28–30.06.2021, A. Streltsov, P. Ustjuzhanin & R. Yakovlev leg.
4. South Ossetia, Dzaus Distr., Rachinsky Range, near Dodtota, 42°27'25" N / 43°43'18" E, 1750 m, 1–2.07.2021, A. Streltsov, P. Ustjuzhanin & R. Yakovlev leg.; 19–22.07.2022, V. Rudoi, P. Ustjuzhanin & R. Yakovlev leg.
5. South Ossetia, Dzaus Distr., Dvalet Range, near Kherusel't, 42°32'37" N / 43°47'32" E, 1760 m, 3–5.07.2021, A. Streltsov, P. Ustjuzhanin & R. Yakovlev leg.
6. South Ossetia, Dzaus Distr., Mtiulet Range, near Erman, 42°31'2" N / 44°14'10" E, 2140 m, 7–9.07.2021, P. Ustjuzhanin & R. Yakovlev leg.; 26–27.07.2022, V. Rudoi, P. Ustjuzhanin & R. Yakovlev leg.
7. South Ossetia, Znaur Distr., 2 km W Dzagina, 42°14'34" N / 43°43'11" E, 1100 m, 11–12.07.2021, P. Ustjuzhanin & R. Yakovlev leg.; 15–16.07.2022, P. Ustjuzhanin & R. Yakovlev leg.
8. South Ossetia, Dzaus Distr., Tli, 42°29'31" N / 43°51'22" E, 1860 m, 23–25.07.2022, V. Rudoi, P. Ustjuzhanin & R. Yakovlev leg. (Figs 2–3).

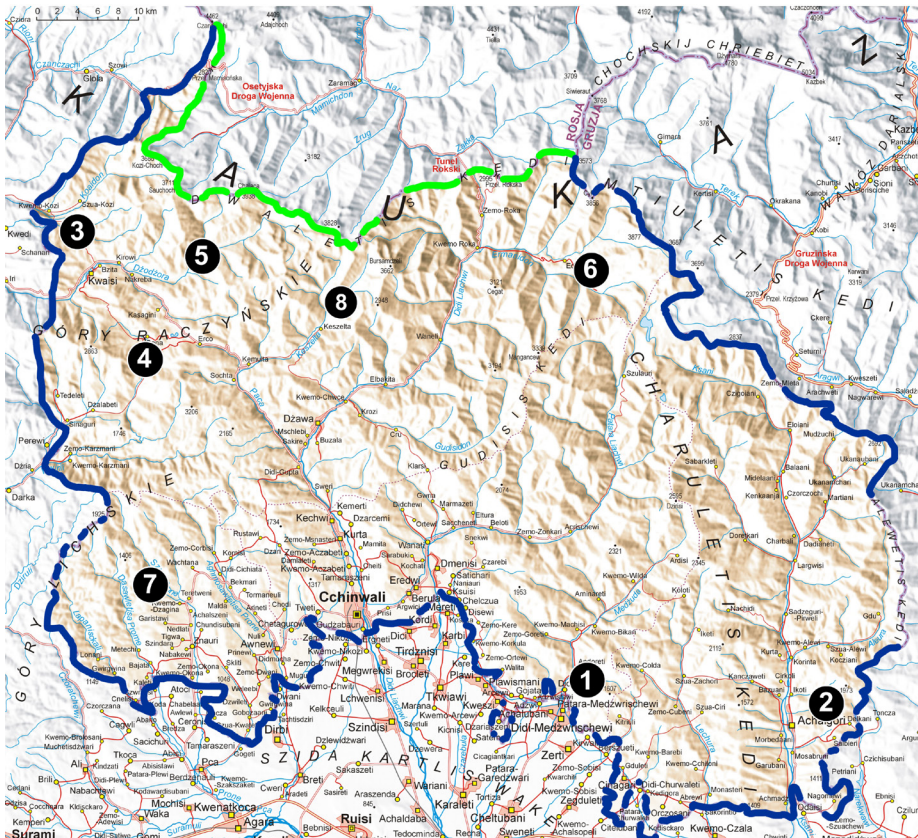


Figure 1. Map of South Ossetia with collecting localities.



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Figures 2–3. South Ossetia, Dzaus Distr., Tli, 42°29'31" N / 43°51'22" E (photo by Roman Yakovlev).

Result

Table 1. Distribution of Microlepidoptera in South Ossetia

#	Taxa	Localities							
		1	2	3	4	5	6	7	8
ADELIDAE									
1	<i>Nemophora deceptorrella</i> Kozlov, Mutanen, Lee et Huemer, 2017 ¹	-	-	+	-	+	-	-	-
INCURVARIIDAE									
2	<i>Incurvaria oehlmanniella</i> (Hübner, 1796)	-	-	+	+	+	-	-	-
PSYCHIDAE									
3	<i>Pseudobanksia caucasica</i> (I. Kozhatshikov, 1956) ²	+	-	+	-	-	-	-	-
TINEIDAE									
4	<i>Ateliotum hungaricellum</i> Zeller, 1839	-	-	-	-	-	-	+	-
5	<i>Eudarcia</i> sp. ³	-	-	-	-	-	-	+	-
6	<i>Scardia caucasica</i> Zagulajev, 1965 ⁴	-	-	-	-	-	-	+	-
7	<i>Morophaga choragella</i> (Denis et Schiffmüller, 1775)	-	+	-	-	-	-	-	-
8	<i>Morophagoides iranensis</i> (Petersen, 1960)	-	-	+	+	-	-	-	-
9	<i>Nemapogon gliriella</i> (Heyden, 1865)	+	-	-	-	-	-	-	-
10	<i>N. inconditella</i> (D. Lucas, 1956)	+	-	-	-	-	-	-	-
11	<i>Niditinea striolella</i> (Matsumura, 1931)	-	+	-	-	-	-	-	-
12	<i>Monopis obviella</i> (Denis et Schiffmüller, 1775)	+	+	-	-	-	-	-	-
13	<i>Euplocamus anthracinalis</i> (Scopoli, 1763)	+	-	-	-	-	-	-	-
ROESLERSTAMMIIDAE									
14	<i>Roeslerstammia pronubella</i> (Denis et Schiffmüller, 1775)	-	-	-	-	-	-	+	-
GRACILLARIIDAE									
15	<i>Aspilapteryx tringipennella</i> (Zeller, 1839)	-	-	-	-	-	-	+	-
16	<i>Parornix fagivora</i> (Frey, 1861)	-	-	-	-	+	-	-	-
17	<i>Dialectica scalarrella</i> (Zeller, 1850)	-	-	-	+	-	-	-	-
YPONOMEUTIDAE									
18	<i>Yponomeuta cagnarella</i> (Hübner, 1813)	+	+	+	-	-	-	-	-
19	<i>Paraswammerdamia nebulella</i> (Goeze, 1783)	+	-	-	-	-	-	+	-
ARGYRESTHIIDAE									
20	<i>Argyresthia albistria</i> (Haworth, 1828)	+	-	-	-	-	-	-	-
21	<i>A. bergiella</i> (Ratzeburg, 1840)	-	-	+	+	+	-	-	-
22	<i>A. brockeella</i> (Hübner, 1813)	-	-	-	+	+	-	-	-
23	<i>A. conjugella</i> Zeller, 1839	-	+	-	+	-	+	-	-

#	Taxa	Localities							
		1	2	3	4	5	6	7	8
52	<i>Callimodes heringii</i> (Lederer, 1864) ⁸	-	-	+	-	-	-	-	-
53	<i>Fabiola pokornyi</i> (Nickerl, 1864)	+	-	-	-	-	-	-	-
54	<i>Alabonia staintoniella</i> (Zeller, 1850)	+	-	-	-	-	-	+	-
55	<i>Crassa unitella</i> (Hübner, 1796)	-	+	-	-	-	-	-	-
56	<i>Denisia coeruleopicta</i> (Christoph, 1888) ⁹	-	-	+	-	-	-	-	-
57	<i>D. luticiliella</i> (Erschoff, 1877)	-	+	-	-	-	-	-	-
58	<i>Pleurota malatya</i> Back, 1973	+	+	-	-	-	-	-	-
59	<i>P. nitens</i> Staudinger, 1870	+	-	-	-	-	-	-	-
60	<i>P. planella</i> (Staudinger, 1859)	-	-	-	-	-	-	+	-
61	<i>Holoscolia huebneri</i> Koçak, 1980	+	+	-	-	-	-	+	-
	LECITHOCERIDAE								
62	<i>Odites kollarella</i> (O. Costa, 1832)	-	-	-	-	-	-	+	-
	STATHMOPODIDAE								
63	<i>Stathmopoda pedella</i> (Linnaeus, 1761)	-	-	+	+	+	-	-	-
	COLEOPHORIDAE								
64	<i>Haploptilia drymophila</i> Falkovitsh, 1991	-	-	-	+	-	-	+	-
65	<i>Amseliphora niveicostella</i> (Zeller, 1839)	-	-	-	-	-	-	+	-
66	<i>Coleophora betulella</i> Heinemann, 1876	-	+	-	-	-	-	-	-
67	<i>Orthographis conyzae</i> (Zeller, 1868)	-	+	-	-	-	-	-	-
68	<i>Phagolamia auricella</i> (Fabricius, 1794)	-	-	-	-	-	+	-	-
69	<i>Ph. serpylletorum</i> (E. Hering, 1889)	-	-	-	-	-	-	+	-
70	<i>Damophila alcyonipennella</i> (Kollar, 1832)	-	+	-	-	-	-	-	-
71	<i>D. deauratella</i> (Lienig et Zeller, 1846)	-	-	-	+	-	-	+	-
72	<i>D. paramayrella</i> (Nel, 1993) ¹⁰	-	-	-	-	-	-	+	-
73	<i>Eupista caucasica</i> (Stainton, 1867)	-	-	-	-	-	-	+	-
74	<i>Eu. landryi</i> (Baldizzone, 2016) ¹¹	+	-	-	+	-	-	+	-
75	<i>Eu. pr. lixella</i> (Zeller, 1849) ¹²	-	-	-	-	-	-	+	-
76	<i>Eu. ornatipennella</i> (Hübner, 1796)	-	+	-	-	-	-	+	-
77	<i>Eu. samarensis</i> Anikin, 2001	+	+	-	-	-	-	-	-
78	<i>Multicoloria partitella</i> (Zeller, 1849)	-	-	-	+	-	-	-	+
79	<i>M. vibicella</i> (Hübner, 1813)	-	-	-	+	-	-	-	-
80	<i>Klimeschja oriolella</i> (Zeller, 1849)	+	+	-	-	-	-	+	-
81	<i>Ardania bilineatella</i> (Zeller, 1849)	+	+	-	-	-	-	+	-
82	<i>A. colutella</i> (Fabricius, 1794)	-	-	-	-	-	-	+	-
83	<i>A. congeriella</i> (Staudinger, 1859) ¹³	+	+	-	-	-	-	-	-
84	<i>Razowskia coronillae</i> (Zeller, 1849)	+	+	-	+	+	-	+	-

#	Taxa	Localities								
		1	2	3	4	5	6	7	8	
115	<i>Recurvaria leucatella</i> (Clerck, 1759)	+	-	-	-	-	-	-	-	
116	<i>Scrobipalpa acuminatella</i> (Sircom, 1850)	-	-	-	-	-	+	-	-	
117	<i>Parachronistis albiceps</i> (Zeller, 1839)	+	-	-	-	-	-	+	-	
118	<i>Teleiodes vulgella</i> (Denis et Schiffermüller, 1775)	+	-	-	-	-	-	+	-	
119	<i>Carpatolechia notatella</i> (Hübner, 1813)	-	-	-	-	+	-	-	-	
120	<i>C. proximella</i> (Hübner, 1796)	-	-	+	+	-	-	-	-	
121	<i>Teleiopsis diffinis</i> (Haworth, 1828)	-	-	-	-	-	+	-	-	
122	<i>Altenia scriptella</i> (Hübner, 1796)	+	-	-	-	-	-	-	-	
123	<i>Sophronia illustrella</i> (Hübner, 1796)	+	+	-	-	-	-	+	-	
124	<i>S. sicariellus</i> (Zeller, 1839)	+	+	-	-	-	-	+	-	
125	<i>Aproaerema anthylidella</i> (Hübner, 1813)	-	+	-	-	-	-	+	-	
126	<i>Syncopacma cinctella</i> (Clerck, 1759)	-	-	-	+	-	-	-	-	
127	<i>S. coronillella</i> (Treitschke, 1833)	-	-	-	+	+	-	+	-	
128	<i>S. sangiella</i> (Stainton, 1863)	-	-	-	-	+	-	+	-	
129	<i>S. taeniolella</i> (Zeller, 1839)	-	+	-	+	-	-	+	-	
130	<i>S. vinella</i> (Banks, 1898)	-	-	-	+	+	-	-	-	
131	<i>Prolita solutella</i> (Zeller, 1839)	-	+	-	-	-	+	+	-	
132	<i>Mesophleps silacella</i> (Hübner, 1796)	+	-	-	-	-	-	-	-	
133	<i>Brachmia blandella</i> (Fabricius, 1798)	-	-	-	-	-	-	+	-	
134	<i>B. dimidiella</i> (Denis et Schiffermüller, 1775)	-	+	-	+	+	-	+	-	
135	<i>Helcystogramma rufescens</i> (Haworth, 1828)	+	-	-	-	-	-	-	-	
136	<i>Acompsia cinerella</i> (Clerck, 1759)	-	+	-	-	+	+	+	-	
137	<i>Dichomeris derasella</i> (Denis et Schiffermüller, 1775)	+	-	-	-	-	-	-	-	
138	<i>D. polypunctata</i> Park, 1994	-	-	-	-	-	-	+	-	
139	<i>Ananarsia lineatella</i> (Zeller, 1839)	+	+	-	-	-	-	-	-	
140	<i>Anarsia spartiella</i> (Schrank, 1802)	+	+	-	-	-	-	-	-	
EPERMENIIDAE										
141	<i>Epermenia insecurella</i> (Stainton, 1849)	+	-	-	-	-	-	-	-	
142	<i>Ochromolopis zagulajevi</i> Budashkin et Sachkov, 1991	+	-	-	-	-	-	-	-	
CHOREUTIDAE										
143	<i>Anthophila</i> sp. ¹⁵	+	-	-	-	-	-	-	-	

Faunistic and systematic notes

1. *Nemophora deceptorilla* Kozlov, Mutanen, Lee et Huemer, 2017

Endemic to the Caucasus. A recently described species previously classified as widespread *Nemophora degeerella* (Linnaeus, 1758).

2. *Pseudobankesia caucasica* (I.Kozhatshikov, 1956)

Endemic to the Caucasus. The species was described from two males without an abdomen from the vicinity of Borjomi (Georgia). The material was determined taking into account the external similarity of moths and the small (only 80 km) distance of the collection point from the type locality.

3. *Eudarcia* sp.

The only specimen of poor condition. To determine the species, additional material must be studied.

4. *Scardia caucasica* Zagulajev, 1965

Endemic to the Caucasus. Some authors consider it as a synonym of widespread *Scardia boletella* (Fabricius, 1794).

5. *Elachista* sp.

The only specimen of poor condition. To determine the species, additional material must be studied.

6. *Orophia imbutella* (Christoph, 1888)

Subendemic to the Caucasus. Previously known only from Eastern Georgia (Borjomi), northern Turkey and Israel (Lvovsky, 2006).

7. *Colchia zagulajevi* Lvovsky, 1995

Endemic to the Caucasus. Previously known only from Western Georgia (Adzharia) (Lvovsky, 2006).

8. *Callimodes heringii* (Lederer, 1864)

Endemic to the Caucasus. Previously known only from Georgia, Armenia, Azerbaijan and the Krasnodar Region of Russia (Lvovsky, 2006).

9. *Denisia coeruleopicta* (Christoph, 1888)

Endemic to the Caucasus. Previously known from Georgia, Armenia and the Krasnodar region of Russia (Lvovsky, 2006).

10. *Damophila paramayrella* (Nel, 1993)

Previously known from Armenia, South Europe (Baldizzone 2016) and Crimea (Anikin 2019).

11. *Eupista landryi* (Baldizzone, 2016)

Subendemic to the Caucasus. Previously known only from Armenia and Turkey (Baldizzone 2016).

12. *Eupista* pr. *lixella* (Zeller, 1849)

The external morphology and genitalia of both male and female are similar with the species of *lixella* complex (Baldizzone et Nel 2014). The safe identification requires the DNA barcoding.

13. *Ardania congeriella* (Staudinger, 1859)

New species for Caucasus, previously known from South and Central Europe (Baldizzone 2016) and Crimea (Anikin 2019).

14. *Agnoea* sp.n.

Probably an undescribed species, one of the smallest in the genus *Agnoea* Walsingham, 1907 recently revised on the Palaearctic scale (Sinev et Lvovsky 2014).

15. *Anthophila* sp.

The only female, possibly conspecific with *Anthophila colchica* or *A. decolorana*, described from Western Transcaucasia (Abkhazia) from males (Danilevsky, 1969).

Conclusions

Since Microlepidoptera have not previously been studied on the territory of South Ossetia, all 143 species listed above are new to the republic. Data on this group on the scale of Transcaucasia still remain rather fragmentary, so the potential volume of regional fauna is difficult to estimate; apparently, only 10–15 percent of its composition is known to date. Representatives of some families (Micropterigidae, Eriocraniidae, Nepticulidae, Tischeriidae, Opostegidae, Prodoxidae, Bucculatricidae, Heliozelidae, Acrolepiidae, Glyphipterigidae, Praydidae, Lyonetiidae, Bedelliidae, Douglasiidae, Parametriotidae, Carcinidae, Batrachedridae, Chrysopeleidae, Schreckensteiniidae, Urodidae, Carposinidae) have not yet been recorded here, but will undoubtedly be found later. For comparison, the relatively well-studied fauna of the northern macroslope of the Greater Caucasus Range already numbers about one and a half thousand species of Microlepidoptera (Sinev 2019). Thus, to reveal the regional fauna of this group as completely as possible, additional field collections are required in different biotopes and throughout the entire growing season.

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