

Lepidoptera of South Ossetia (Northern Transcaucasia). Part VI. Family Geometridae Leach, 1815

Artem E. Naydenov¹, Aleksandr N. Streltsov²,
Petr Ya. Ustjuzhanin^{1,3}, Roman V. Yakovlev^{1,3,4}

1 Altai State University, 61 Lenin Ave., Barnaul, 656049, Russia

2 Herzen State Pedagogical University of Russia, 48 Moika Emb., Saint Petersburg, 191186, Russia

3 Biological Institute, Tomsk State University, 36 Lenina Ave., Tomsk, 634050, Russia

4 Western Caspian University, 31, Istiglaliyyat Str., Baku, Azerbaijan

Corresponding author: Artem E. Naydenov (naydenov.24@mail.ru)

Academic editor: R. Yakovlev | Received 23 December 2024 | Accepted 24 January 2025 | Published 17 February 2025

<http://zoobank.org/4820FBC3-4C4C-4B4E-AC54-2821497E9255>

Citation: Naydenov AE, Streltsov AN, Ustjuzhanin PYa, Yakovlev RV (2025) Lepidoptera of South Ossetia (Northern Transcaucasia). Part VI. Family Geometridae Leach, 1815. Acta Biologica Sibirica 11: 161–170. <https://doi.org/10.5281/zenodo.14874348>

Abstract

Here we provide the faunal list of 121 species from five subfamily of geometrid moths collected in South Ossetia. A total of 120 species are being reported for the first time in this territory.

Keywords

Biodiversity, Caucasus, entomology, fauna, geometrid moths, Lepidoptera

Introduction

This article is part of a series of publications focused on the lepidopteran fauna of South Ossetia. Many families of macro- and microlepidoptera have been discussed in previous publications (Streltsov et al. 2022a, 2022b, 2022c, 2024; Nedoshivina et al. 2023; Sinev et al. 2023). A comprehensive description of the natural conditions

and the history of research on the region's lepidopteroфаuna can be found in the first article of the series focused on Lepidoptera (Streltsov et al. 2022c).

According to the Catalogue of the Lepidoptera of Russia, 397 species of geometrid moths are listed for the Western Caucasus region of Russia (Beljaev and Mironov 2019). Specifically for the territory of North Ossetia–Alania, which borders South Ossetia, a total of 373 species of Geometridae are reported (Dobronosov and Komarov 2016). For Georgia, 425 species of geometrid moths are indicated, including single finds for South Ossetia: *Archiearis parthenias* (Linnaeus, 1761) from Ertso lake, the upper Liakhvi river; *Ectropis crepuscularia* ([Denis & Schiffermüller], 1775) from Gurshevi, road to Mamisson Pass; *Hemithea aestivaria* (Hübner, 1789) and *Xanthorhoe rectifasciaria* (Lederer, 1853) from Mamisson Pass; *Timandra griseata* Petersen, 1902 from Tskhinvali (Didmanidze 2016).

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. Methods of collecting are described in detail in the first part of series of articles. The images were taken with the camera of Canon EOS 6D Marl II. The examined material is kept in the personal collection of Artem E. Naydenov (Barnaul, Russia).

List of collecting localities

1. Republic Southern 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. Republic Southern 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. (a); 13–14.07.2022, P. Rudoi, P. Ustjuzhanin & R. Yakovlev leg. (b).
3. Republic Southern 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. Republic Southern 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. (a); 19–22.07.2022, P. Rudoi, P. Ustjuzhanin & R. Yakovlev leg. (b).
5. Republic Southern 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. Republic Southern 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. (a); 26–27.07.2022, V. Rudoi, P. Ustjuzhanin & R. Yakovlev leg. (b).

7. Republic Southern 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. (a); 15–16.07.2022, V. Rudoi, P. Ustjuzhanin & R. Yakovlev leg. (b).
8. Republic Southern 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.



Figure 1. Map of South Ossetia with collecting localities.

Results

No	Taxa	Localities												
		1	2a	2b	3	4a	4b	5	6a	6b	7a	7b	8	
	Ennominae													
1	<i>Cabera pusaria</i> (Linnaeus, 1758)	+	+	-	+	-	+	+	-	-	-	-	+	
2	<i>Eilicrinia cordiaria</i> (Hübner, 1790)	+	-	-	-	-	-	-	-	-	-	-	-	
3	<i>Odontopera graecarius</i> (A. Bang-Haas, 1911) (Fig. 2A)	-	-	-	+	-	-	-	-	-	-	-	-	
4	<i>Selenia lunularia</i> (Hübner, 1788)	+	-	-	+	-	-	-	-	-	+	-	-	
5	<i>Heterolocha laminaria</i> (Herrich-Schäffer, [1852])	+	-	-	+	-	-	-	-	-	-	-	-	
6	<i>Therapis flavicaria</i> ([Denis & Schiffermüller], 1775)	+	-	-	-	+	+	+	-	-	+	-	+	
7	<i>Pseudopanthera macularia</i> (Linnaeus, 1758)	-	-	-	+	-	-	-	-	-	-	-	-	

No	Taxa	Localities											
		1	2a	2b	3	4a	4b	5	6a	6b	7a	7b	8
32	<i>Macaria wauaria</i> (Linnaeus, 1758)	-	-	-	-	+	-	-	-	-	-	-	-
33	<i>Chiasmia clathrata</i> (Linnaeus, 1758)	+	+	+	-	+	-	+	+	-	+	-	+
	Desmobathrinae												
34	<i>Orthostixis cribraria</i> (Hübner, [1799])	+	-	-	-	-	-	-	-	-	-	-	-
	Geometrinae												
35	<i>Pseudoterpna pruinata</i> (Hufnagel, 1767)	-	-	+	-	-	-	-	-	-	-	-	-
36	<i>Geometra papilionaria</i> Linnaeus, 1758	-	+	-	-	-	-	-	-	-	-	-	-
37	<i>Thetidia smaragdaria</i> (Fabricius, 1787)	-	+	+	-	-	-	-	-	-	-	-	-
38	<i>Proteuchloris neriaria</i> (Herrich-Schäffer, [1852])	+	-	-	+	-	+	-	-	-	-	-	-
39	<i>Thalera fimbrialis</i> (Scopoli, 1763)	-	+	+	-	-	-	-	-	-	+	+	-
40	<i>Chlorissa viridata</i> (Linnaeus, 1758)	+	+	+	-	-	-	-	-	-	+	+	-
	Larentiinae												
41	<i>Odezia atrata</i> (Linnaeus, 1758)	-	-	-	+	+	+	+	+	-	-	-	-
42	<i>Aplocera plagiata</i> (Linnaeus, 1758)	-	+	-	+	+	+	+	-	-	-	+	+
43	<i>Scotopteryx aelptes</i> (Prout, 1937) (Fig. 2C)	-	-	+	-	-	+	-	-	-	-	-	+
44	<i>Scotopteryx alpherakii</i> (Erschoff, 1877) (Fig. 2D)	-	-	-	-	-	-	-	-	+	-	-	-
45	<i>Scotopteryx chenopodiata</i> (Linnaeus, 1758)	-	-	+	-	+	+	+	+	+	+	+	-
46	<i>Scotopteryx luridata</i> (Hufnagel, 1767)	+	+	-	-	-	-	+	-	-	+	-	+
47	<i>Euphyia biangulata</i> (Haworth, 1809)	-	-	+	+	-	-	-	-	-	-	-	-
48	<i>Euphyia frustata</i> (Treitschke, 1828)	-	-	-	+	-	+	-	-	-	-	-	-
49	<i>Orthonama obstipata</i> (Fabricius, 1794)	-	+	-	-	-	-	-	-	-	-	-	-
50	<i>Xanthorhoe designata</i> (Hufnagel, 1767)	-	-	-	-	-	-	+	-	-	-	-	-
51	<i>Xanthorhoe fluctuata</i> (Linnaeus, 1758)	-	-	-	-	-	-	-	+	+	-	-	+
52	<i>Xanthorhoe montanata</i> ([Denis & Schiffermüller], 1775)	+	-	-	+	-	+	+	-	+	-	-	-

No	Taxa	Localities											
		1	2a	2b	3	4a	4b	5	6a	6b	7a	7b	8
97	<i>Rhodostrophia vibicaria</i> (Clerck, 1759)	+	+	+	-	-	+	+	-	+	+	+	+
98	<i>Idaea aversata</i> (Linnaeus, 1758)	+	+	+	+	-	+	-	-	-	+	-	-
99	<i>Idaea biselata</i> (Hufnagel, 1767)	-	-	-	-	-	+	+	-	-	-	-	-
100	<i>Idaea degeneraria</i> (Hübner, [1799])	+	+	-	-	-	-	-	-	-	-	-	-
101	<i>Idaea deversaria</i> (Herrich-Schäffer, 1847)	-	+	-	-	-	-	-	-	-	-	-	-
102	<i>Idaea dilutaria</i> (Hübner, 1799)	+	+	+	-	-	-	-	-	-	-	-	-
103	<i>Idaea dimidiata</i> (Hufnagel, 1767)	-	-	-	-	-	-	+	-	-	-	-	-
104	<i>Idaea moniliata</i> ([Denis & Schiffermüller], 1775)	-	+	-	-	-	-	-	-	-	-	-	-
105	<i>Idaea politaria</i> (Hübner, [1799])	+	+	+	-	-	-	-	-	-	+	+	-
106	<i>Idaea rufaria</i> (Hübner, 1799)	-	+	+	-	-	-	-	-	-	+	+	-
107	<i>Idaea rusticata</i> ([Denis & Schiffermüller], 1775)	-	-	+	-	-	-	-	-	-	-	-	-
108	<i>Idaea serpentata</i> (Hufnagel, 1767)	-	-	-	-	+	-	+	+	-	-	-	+
109	<i>Idaea straminata</i> (Borkhausen, 1794)	+	+	-	-	-	-	+	-	-	-	-	-
110	<i>Idaea subsericeata</i> (Haworth, 1809)	+	+	-	-	-	-	-	-	-	-	-	-
111	<i>Idaea trigeminata</i> (Haworth, 1809)	+	+	+	-	-	-	-	-	-	-	-	-
112	<i>Idaea muelleri</i> Hausmann, 2003	-	-	-	-	+	-	-	-	-	-	-	-
113	<i>Scopula immorata</i> (Linnaeus, 1758)	-	-	-	-	+	+	+	-	+	-	-	-
114	<i>Scopula incanata</i> (Linnaeus, 1758)	-	-	+	-	+	+	+	-	+	-	-	+
115	<i>Scopula marginepunctata</i> (Goeze, 1781)	+	+	+	-	-	-	-	-	+	-	+	-
116	<i>Scopula ornata</i> (Scopoli, 1763)	+	-	+	-	-	-	-	-	+	+	+	-
117	<i>Scopula rubiginata</i> (Hufnagel, 1767)	-	+	-	-	-	-	-	-	-	-	-	-
118	<i>Scopula umbelaria</i> (Hübner, [1813])	+	+	-	-	-	-	-	-	-	-	+	-
119	<i>Scopula virgulata</i> ([Denis & Schiffermüller], 1775)	-	+	-	-	-	-	-	-	-	-	-	-
120	<i>Cyclophora annularia</i> (Fabricius, 1775)	+	-	-	-	-	-	-	-	-	-	-	-
121	<i>Cyclophora linearia</i> (Hübner, [1799])	+	-	-	+	+	-	-	-	-	+	-	-

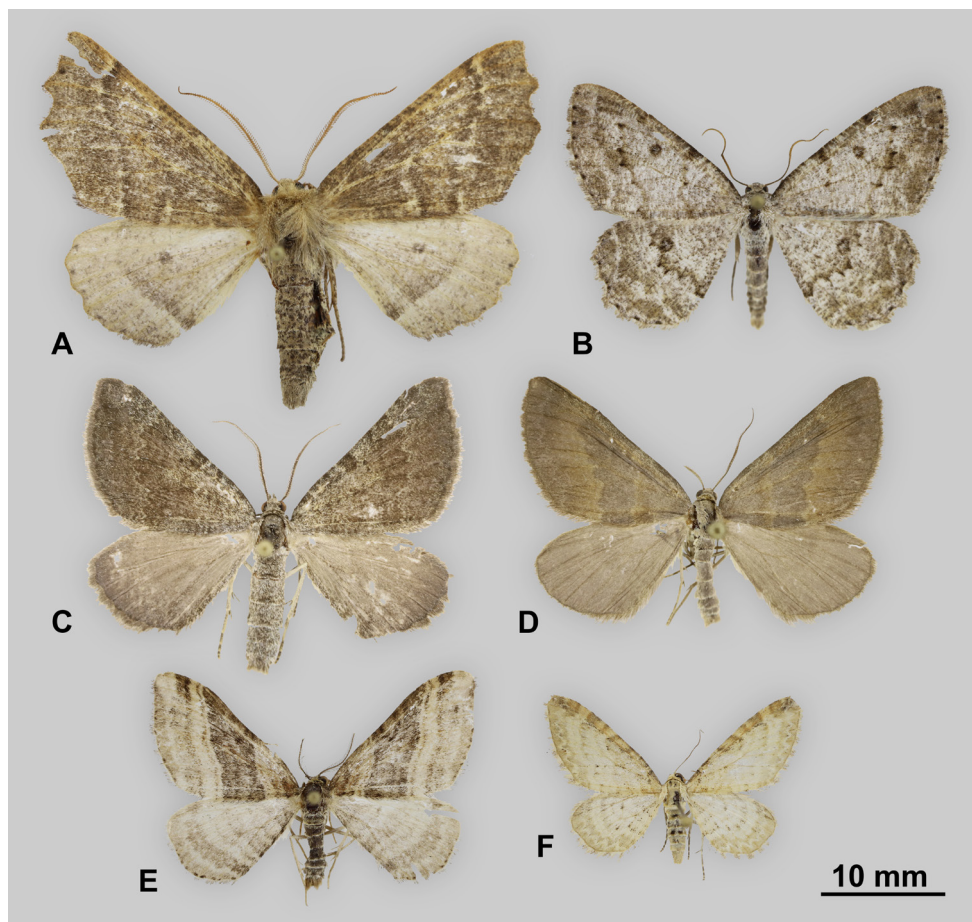


Figure 2. Adults of some Geometridae collected in South Ossetia: **A.** *Odontopera graecarius* (A. Bang-Haas, 1911), male, Dzaus Distr., 4 km NNE Kvaisa, Koz lake, 28–30.06.2021; **B.** *Charissa (Kemtroglyphos) ciscaucasica* (Rjabov, 1964), male, Znaur Distr., 2 km W Dzagina, 11–12.07.2021; **C.** *Scotopteryx aelptes* (Prout, 1937), male, Dzaus Distr., Rachinsky Range, near Dodtota, 19–22.07.2022; **D.** *Scotopteryx alpherakii* (Erschoff, 1877), male, Dzaus Distr., Mtiulet Range, near Erman, 26–27.07.2022; **E.** *Xanthorhoe rectifasciaria* (Lederer, 1853), male, Dzaus Distr., Dvalet Range, near Kherusel't, 3–5.07.2021; **F.** *Eupithecia fuscicostata* Christoph, 1887, male, Dzaus Distr., Rachinsky Range, near Dodtota, 19–22.07.2022.

Conclusion

Thus, for the territory of South Ossetia, 120 species of geometrid moths from 5 subfamilies are reported for the first time. Considering the number of species known from the territories of the North Caucasus and Georgia, this list of Geometridae cannot be considered exhaustive, as this group requires an extended period of research throughout the entire growing season.

Acknowledgements

The authors express their gratitude to R. Bakhanov (Gorno-Altai), A. Dzhussoev†, V. Tedeev, and V. Gabaev (all Tskhinvali) for organizing the field studies in Southern Ossetia.

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