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RESEARCH ARTICLE

Lepidoptera of South Ossetia (Northern Transcaucasia). Part II. Cossidae, Limacodidae, Erebidae (Lymantriinae, Arctiinae, Syntominae, Notodontinae), Lasiocampidae, Lemoniidae, Saturniidae, Sphingidae, Drepanidae and Cimeliidae

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Abstract

In the third part of the publication, we present the faunal list of nine families of the Macrolepidoptera of South Ossetia, including 4 species of Cossidae, 2 species of Limacodidae, 40 species of Erebidae, 15 species of Sphingidae, 6 species of Lasiocampidae, 1 species of Saturniidae and Lemoniidae, 5 species of Drepanidae and 1 species of Cimeliidae. Fifty nine species are reported for South Ossetia for the first time.

Keywords
Biodiversity, Caucasus, Macrolepidoptera, Noctuoidea, Bombycoidea, Drepanoidea

Introduction

The nocturnal Lepidoptera of South Ossetia very poorly studied (excluding Noctuidae) (Pospelov et al. 1986; Pukhaev et al. 1987; Pukhaev & Pukhaeva 1989, 1991; Pukhaeva 1995; Komarov 2013; Dobronosov & Komarov 2015). Before our study, the data on Macroheterocera had been published only (Komarov 2013; Dobronosov & Komarov 2015; Bazaev et al. 2017).

In the first part of this series of articles, we provided 111 species of Pyraloidea (Streltzov et al. 2022a, 2022b). In the second part, we publish the data on eight Macrolepidoptera families (Cossidae, Limacodidae, Erebidae (Lymantriinae, Arctiinae, Syntominae, Notodontinae), Lasiocampidae, Saturniidae, Sphingidae, Drepanidae and Cimeliidae) of South Ossetia. This information has not been published before.

Material and methods

The material and methods are described in detail in the first part of the article (Streltzov et al. 2022b). The determination of Material was carried out according to modern reference books and articles (Schintlmeister 2008; Zolotuhin 2015; Yakovlev et al. 2015; Zolotuhin & Evdoshenko 2019; Zolotuhin & Nedoshivina 2021).

The examined material is kept in the collections:

ASSP collection of Alexandr Streltzov (Saint-Petersburg, Russia);

CUK collection of Petr Ustjuzhanin and Vasiliy Kovtunovich (Novosibirsk, Moscow, Russia);

PMM collection of Pavel Morozov (Moscow, Russia);

RMBH Russian Museum of Biodiversity Hotspots, N. Laverov Federal Center for Integrated Arctic Research of the Ural Branch of the Russian Academy of Sciences (Arkhangelsk, Russia);

RYB collection of Roman Yakovlev (Barnaul, Russia);

ZISP Zoological Institute of the Russian Academy of Sciences (Saint-Petersburg, Russia).

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. Streltzov, 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. Streltzov, 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. Streltzov, 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. Streltzov, 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. Streltzov, 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.;
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.

Results

Table 1. Distribution of Macroheterocera in South Ossetia

#	Taxa	Localities						
		1	**2**	**3**	**4**	**5**	**6**	**7**
	Cossidae							
1	*Cossus cossus* (Linnaeus, 1758)	+	+	-	-	-	-	+
2	*Acossus terebra* ([Denis & Schiffermüller], 1775)	-	+	-	-	-	-	-
3	*Dyspessa salicicola* (Eversmann, 1848)	+	-	-	-	-	-	-
4	*Zeuzera pyrina* (Linnaeus, 1761)	-	-	-	-	-	-	+
	Limacodidae							
5	*Apoda limacodes* (Hufnagel, 1766)	+	+	-	-	-	-	+
6	*Heterogenea asella* ([Denis & Schiffermüller], 1775)	-	-	+	-	-	-	-
	Erebidae							
	Arctiinae							
7	*Callimorpha dominula* (Linnaeus, 1758) (Fig. 1)	+	+	+	-	-	-	-
8	*Arctia caja* (Linnaeus, 1758)	-	-	-	-	+	+	-
9	*Arctia (Epicallia) villica* (Linnaeus, 1758)	+	+	-	-	-	-	-
10	*Diacrisia sannio* (Linnaeus, 1758)	+	+	-	+	+	+	-
11	*Diacrisia* (*Rhyparia*) *purpurata* (Linnaeus, 1758)	-	-	-	-	-	-	-
12	*Phragmatobia fuliginosa* (Linnaeus, 1758)	-	+	-	-	-	-	+
13	*Diaphora mendica* (Clerck, 1759)	+	+	-	-	-	-	-
14	*Spilosoma lubricipedum* (Linnaeus, 1758)	+	-	-	+	-	-	-
15	*Lithosia quadra* (Linnaeus, 1758)	+	+	+	-	-	-	+

#	Taxa	Localities						
		1	2	3	4	5	6	7
16	*Katha depressa* (Esper, 1787)	+	+	+	+	-	-	+
17	*Wittia sororcula* (Hufnagel, 1766)	+	+	+	-	-	-	+
18	*Eilema caniolum* (Hübner, 1808)	-	-	-	+	-	-	-
19	*Manulea complana* (Linnaeus, 1758)	+	-	+	-	-	-	+
20	*Manulea pygmaeola* (Doubleday, 1847)	-	-	-	-	-	-	+
21	*Manulea lurideola* ([Zincken], 1817)	+	+	-	-	-	-	+
22	*Cybosia mesomella* (Linnaeus, 1758)	+	-	-	-	-	-	-
23	*Atolmis rubricollis* (Linnaeus, 1758)	-	-	+	-	-	-	-
24	*Setina aurata* (Menetries, 1832)	-	-	-	-	+	-	+
25	*Dysauxes famula* (Freyer, 1836)	-	-	-	+	-	-	-
26	*Dysauxes punctata* (Fabricius, 1781)	+	-	-	-	-	-	-
	Lymantriinae							
27	*Calliteara pudibunda* (Linnaeus, 1758)	-	-	+	+	-	-	-
28	*Lymantria dispar* (Linnaeus, 1758)	-	+	-	-	-	-	-
29	*Lymantria monacha* (Linnaeus, 1758)	-	-	-	-	-	-	+
30	*Leucoma salicis* (Linnaeus, 1758)	-	-	-	+	+	-	-
31	*Arctornis l-nigrum* (Müller, 1764)	+	-	-	-	-	-	+
	Syntominae							
32	*Syntomis phegea* (Linnaerus, 1758) (Fig. 2)	+	-	-	-	-	-	-
	Notodontinae							
33	*Clostera curtula* (Linnaeus, 1758)	-	-	-	-	-	-	+
34	*Stauropus fagi* (Linnaeus, 1758) (Fig. 3)	+	+	+	+	-	-	+
35	*Drymonia obliterata* (Esper, 1785)	-	-	+	+	-	-	-
36	*Drymonia velitaris pontica* (Rebel, 1908)	-	+	-	-	-	-	+
37	*Notodonta dromedarius* (Linnaeus, 1758)	-	+	+	+	+	-	-
38	*Notodonta tritophus* ([Denis & Schiffermüller], 1775)	-	-	+	-	-	-	+
39	*Notodonta derbendica* Daniel, 1965	+	+	-	+	+	+	-
40	*Pheosia tremula* (Clerck, 1759)	-	+	-	-	-	-	-
41	*Pterostoma palpina* (Clerck, 1759)	+	+	+	-	-	-	-
42	*Ptilodon capucina* (Linnaeus, 1758)	-	-	+	+	+	+	-
43	*Ptilodon saerdabensis* (Daniel, 1938)	-	+	+	+	+	+	-
44	*Furcula bifida* (Brahm, 1787)	-	-	-	-	-	-	+
45	*Furcula furcula pulvigera* (Staudinger, 1901)	+	-	+	-	-	-	+
46	*Phalera bucephala* (Linnaeus, 1758)	+	-	+	-	-	-	-
	Sphingidae							
47	*Laothoe populi* (Linnaeus, 1758)	+	+	+	-	-	-	+

#	Taxa	Localities						
		1	2	3	4	5	6	7
48	*Laothoe caucao* Zolotuhin, 2018	+	+	-	-	-	-	-
49	*Smerinthus ocellatus* (Linnaeus, 1758)	+	+	+	-	-	-	+
50	*Marumba quercus* ([Denis & Schiffermüller], 1775)	+	-	-	-	-	-	-
51	*Mimas tiliae* (Linnaeus, 1758)	-	-	+	-	-	-	-
52	*Sphinx ligustri* Linnaeus, 1758	+	-	-	+	-	-	-
53	*Hyloicus pinastri* (Linnaeus, 1758)	-	-	+	-	+	-	+
54	*Hemaris fuciformis* (Linnaeus, 1758)	+	-	-	-	-	-	-
55	*Hyles euphorbiae* (Linnaeus, 1758)	-	-	-	-	-	-	+
56	*Hyles livornica* (Esper, 1780)	-	-	-	-	-	-	+
57	*Hyles vespertilio* (Esper, 1780)	-	-	-	+	+	-	-
58	*Macroglossum stellatarum* (Linnaeus, 1758)	-	+	-	-	-	-	-
59	*Deilephila elpenor* (Linnaeus, 1758)	-	+	+	-	-	-	-
60	*Choerocampa porcellus* (Linnaeus, 1758)	+	+	-	-	+	+	+
61	*Choerocampa suellus* (Staudinger, 1878)	+	-	-	-	-	-	-
	Lasiocampidae							
62	*Dendrolimus pini* (Linnaeus, 1758)	+	+	+	-	-	-	-
63	*Phyllodesma joannisi* Lajonquière, 1963	-	+	-	-	+	-	-
64	*Malacasoma franconica squalora* Zolotuhin, 1992	-	-	-	+	-	-	-
65	*Malacasoma neustria* (Linnaeus, 1758)	+	+	-	-	-	-	+
66	*Malacasoma castrensis* (Linnaeus, 1758)	-	-	-	-	-	-	+
67	*Gastropacha quercifolia* (Linnaeus, 1758)	+	-	-	-	-	-	-
	Saturniidae							
68	*Saturnia pyri* ([Denis & Schiffermüller], 1775)	-	+	-	-	-	-	-
	Drepanidae							
69	*Tethea ocularis* (Linnaeus, 1767)	-	+	-	-	-	-	-
70	*Tethea or* ([Denis & Schiffermüller], 1775)	+	-	+	+	-	-	-
71	*Habrosyne pyritoides* (Hufnagel, 1766)	-	+	+	+	-	-	-
72	*Thyatira batis* (Linnaeus, 1758)	-	-	+	-	-	+	+
73	*Cilix asiatica* A.Bang-Haas, 1907	-	+	-	-	-	-	-
	Cimeliidae							
74	*Axia olga* (Staudinger, 1899)	-	-	+	-	-	-	-

Figure 1. *Callimorpha dominula* (Linnaeus, 1758) (photo by A. Streltzov).

Figures 2–3. **2** – *Syntomis phegea* (Linnaerus, 1758) (photo by A. Streltzov). **3** – *Stauropus fagi* (Linnaeus, 1758) (photo by A. Streltzov).

Discussion

Most of the found species are new for the fauna of South Ossetia. Only eight of the species known before (Komarov 2013; Dobronosov & Komarov 2015) are absent in our collection: *Spilarctia lutea* (Hufnagel, 1766), *Spilosoma urticae* (Esper, 1789), *Utetheisa pulchella* (Linnaeus, 1758) (Erebidae), *Neopterodonta gorgoniades* (Hübner, 1819), *Acherontia atropos* (Linnaeus, 1758), *Agrius convolvuli* (Linnaeus, 1758) (Sphingidae), *Lemonia taraxaci* ([Denis & Schiffermüller], 1775) (Lemoniidae), and *Phyllodesma tremulifolia* (Hübner, [1810]) (Lasiocampidae). Thus, the known fauna of Macroheterocera of South Ossetia includes 82 species of 9 families.

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