



**CONTRIBUTION TO THE KNOWLEDGE OF NEUROPTERA
FROM GEORGIA (SAKARTVELO)**

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Abstract – Lacewing (Neuroptera) specimens collected during a short field trip in June 2018 in the Caucasian Republic of Georgia were examined. Fifteen species belonging to four families were found: Chrysopidae, Hemerobiidae, Coniopterygidae and Ascalaphidae. *Wesmaelius concinnus* and *Aleuropteryx loewii* are new species for the fauna of Georgia.

KEY WORDS: Neuroptera, faunistics, Georgia, Caucasus region

Izvešček – PRISPEVEK K POZNAVANJU MREŽEKRILCEV (NEUROPTERA)
IZ GRUZIJE (SAKARTVELO)

Pregledali smo primerke mrežekrilcev (Neuroptera), ki so jih zbrali na kratkem terenskem delu v juniju 2018 v kavkaški republiki Gruziji. Ugotovljenih je bilo 15 vrst iz družin Chrysopidae, Hemerobiidae, Coniopterygidae in Ascalaphidae, med katerimi sta dve – *Wesmaelius concinnus* in *Aleuropteryx loewii* novi za favno Gruzije.

KLJUČNE BESEDE: Neuroptera, favnistika, Gruzija, Kavkaz

Introduction

In recent period, a number of papers on Neuropterid insects (Neuropterida: Megaloptera, Raphidioptera, Neuroptera) in the larger Caucasus region have been published (for review, see Dobosz et al. 2017, 2018). Neuropterids were in Georgia (native:

Sakartvelo) relatively well investigated, when compared to other countries of the larger Caucasus region. So far, 79 Neuroptera species were known from the country (reviews: Shengelia 1947, Aspöck et al. 2001, Duelli et al. 2015, Dobosz et al. 2017, 2018).

In June 2018, Slovenian zoologists Boris Kryštufek, Alenka Kryštufek, Tina Klenovšek and Franc Janžekovič conducted a field trip to Georgia with the goal to study endemic mole vole *Prometheomys schaposchnikowi*. Two of them (TK, FJ) occasionally collected neuropteran insects there. The aim of the paper is to present a list of lacewing species collected in the trip.

Material and methods

Lacewings were collected during the day with insect net and at night visiting the lights of buildings. Specimens are deposited in the first author's collection.

Results and discussion

During a four-days sampling period 68 individuals in 15 species were collected.

A list of species

Chrysopidae

***Chrysopa perla* (Linnaeus, 1758)**

Lesser Caucasus Mountains. Abastumani; coniferous forest; 1937 m; 41°49'09.9"N 42°51'09.5"E; 23.VI.2018; 1 ♀.

***Chrysopa dorsalis* Burmeister, 1839**

Lesser Caucasus Mountains. Abastumani; mixed forest; 1628 m; 41°47'08.2"N 42°50'34.4"E; 23.VI.2018; 1 ♀.

***Chrysopa fuscostigma* Esben-Petersen, 1933**

Lesser Caucasus Mountains. Abastumani; coniferous forest; 1937 m; 41°49'09.9"N 42°51'09.5"E; 23.VI.2018; 2 ♀♀ (Fig. 1).

This species with characteristic head markings (Fig. 1a) was described by Esben-Petersen (1933) from Georgia. Later, the species was reported for the larger Caucasus region (Dorokhova 1979, Zakharenko 1984, 1986, Makarkin & Shchurov 2015) and Anatolia (Turkey) (Aspöck et al. 2001, Canbulat 2007, Arı 2014). Its recent occurrence in the country was confirmed by Dobosz et al. (2018).

***Pseudomallada prasinus* (Burmeister, 1839) – '*marianus*' sensu Duelli & Obrist 2019**

Lesser Caucasus Mountains. Abastumani; mixed forest; 1628 m; 41°47'08.2"N 42°50'34.4"E; 23.VI.2018; 1 ♂.

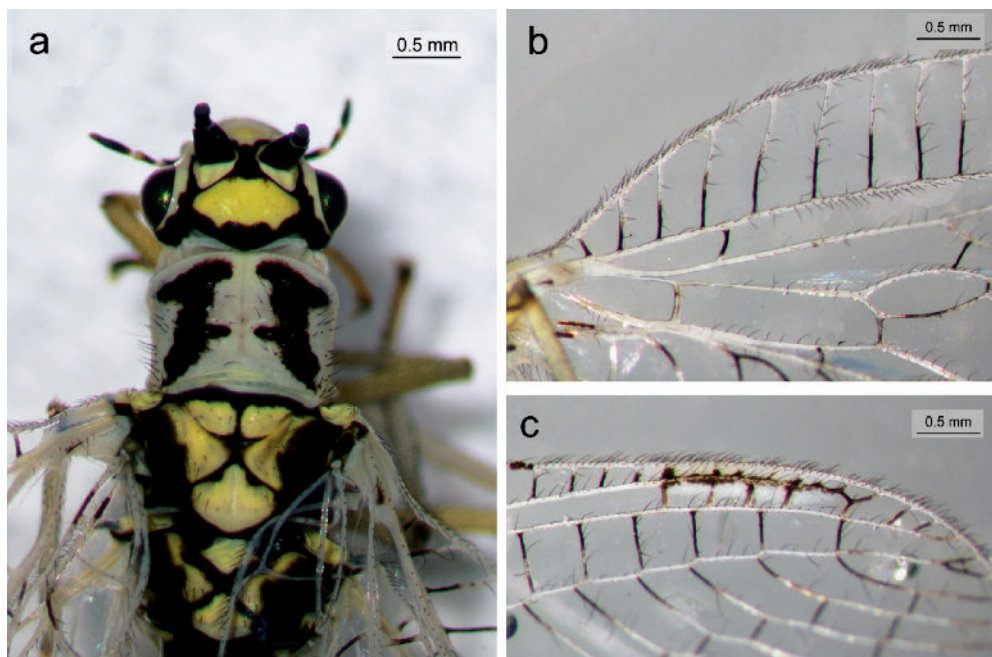


Fig. 1. Green lacewing *Chrysopa fuscostigma*: a, head and thorax, dorsal view; b, base of the forewing; c, pterostigma in the forewing. Photo D. Devetak.

Lesser Caucasus Mountains. Skhvilisi; mixed forest; 1080 m; 41°38'57.5"N 42°56'53.9"E; 23.VI.2018; 2 ♀♀.

Saparlo; meadow-bushes; 938 m; 41°17'34.3"N 44°19'07.3"E; 23.VI.2018; 1 ♂.

Bolnisi; pasture; 504 m; 41°26'56.9"N 44°36'47.2"E; 24.VI.2018; 1 ♀.

Just recently, Duelli & Obrist (2019) clarified taxonomic status of the *prasinus* group in the genus *Pseudomallada*. Freshly preserved individuals showed typical head morphology, without any colouration of the subantennal suture above the black genal stripe (Duelli & Obrist 2019).

***Chrysoperla cf. carnea* (Stephens, 1836) s.str.**

Greater Caucasus Mountains. Gudauri; meadow-pasture; 2258 m; 42°29'28.1"N 44°27'58.0"E; 20.-21.VI.2018; 1 ♂ 1 ♀.

Greater Caucasus Mountains. Gudauri; village, meadow-pasture; 2190 m; 42°28'41.4"N 44°28'41.2"E; 21.VI.2018; 4 ♂♂ 20 ♀♀.

Lesser Caucasus Mountains. Abastumani; coniferous forest; 1937 m; 41°49'09.9"N 42°51'09.5"E; 23.VI.2018; 2 ♀♀.

Lesser Caucasus Mountains. Abastumani; mixed forest; 1628 m; 41°47'08.2"N 42°50'34.4"E; 23.VI.2018; 1 ♂ 5 ♀♀.

Lesser Caucasus Mountains. Skhvilisi; mixed forest; 1080 m; 41°38'57.5"N 42°56'53.9"E; 23.VI.2018; 1 ♀.

Lesser Caucasus Mountains. Atskuri; mixed forest; 886 m; 41°44'40.1"N 43°11'57.5"E; 23.VI.2018; 1 ♂ 1 ♀.

This is a common green lacewing, reaching high altitudes. In the Gudauri area (Fig. 2), the species was collected even at 2258 m a.s.l.

***Chrysoperla cf. agilis* Henry, Brooks, Duelli & Johnson, 2003**

Greater Caucasus Mountains. Gudauri; village, meadow-pasture; 2190 m; 42°28'41.4"N 44°28'41.2"E; 21.VI.2018; 2 ♀♀.

Saparlo; meadow-bushes; 938 m; 41°17'34.3"N 44°19'07.3"E; 23.VI.2018; 1 ♀.

***Chrysoperla lucasina* (Lacroix, 1912)**

Greater Caucasus Mountains. Gudauri; village, meadow-pasture; 2190 m; 42°28'41.4"N 44°28'41.2"E; 21.VI.2018; 1 ♂ 3 ♀♀.

Lesser Caucasus Mountains. Abastumani; coniferous forest; 1937 m; 41°49'09.9"N 42°51'09.5"E; 23.VI.2018; 1 ♂.

***Chrysoperla pallida* Henry, Brooks, Duelli & Johnson, 2002**

Lesser Caucasus Mountains. Abastumani; mixed forest; 1628 m; 41°47'08.2"N 42°50'34.4"E; 23.VI.2018; 1 ♀.



Fig. 2. Mountains of the Greater Caucasus near Gudauri. Photo T. Klenovšek.

Saparlo; meadow-bushes; 938 m; 41°17'34.3"N 44°19'07.3"E; 23.VI.2018; 1 ♀.

***Cunctochrysa albolineata* (Killington, 1935)**

Greater Caucasus Mountains. Gudauri; village, meadow-pasture; 2190 m; 42°28'41.4"N 44°28'41.2"E; 21.VI.2018; 1 ♀.

Hemerobiidae

***Hemerobius handschini* Tjeder, 1957**

Lesser Caucasus Mountains. Abastumani; coniferous forest; 1937 m; 41°49'09.9"N 42°51'09.5"E; 23.VI.2018; 1 ♀.

***Wesmaelius concinnus* (Stephens, 1836)**

Lesser Caucasus Mountains. Abastumani; mixed forest; 1628 m; 41°47'08.2"N 42°50'34.4"E; 23.VI.2018; 1 ♀ (Fig. 3).

Distribution: Widely distributed in Europe (Aspöck et al 2001). Species known also from Turkey (Northeast Turkey, Isparta, Arhadan, Kars) (Ari 2014) and from north of the European part of Russia and Siberia (Makarkin 1995). From the Caucasus region for the first time recorded from Checheno-Ingushetia by Ábrahám (2000).

Remarks: New for Georgia.

***Megalomus tortricoides* Rambur, 1842**

Lesser Caucasus Mountains. Abastumani; coniferous forest; 1937 m; 41°49'09.9"N 42°51'09.5"E; 23.VI.2018; 1 ♀.

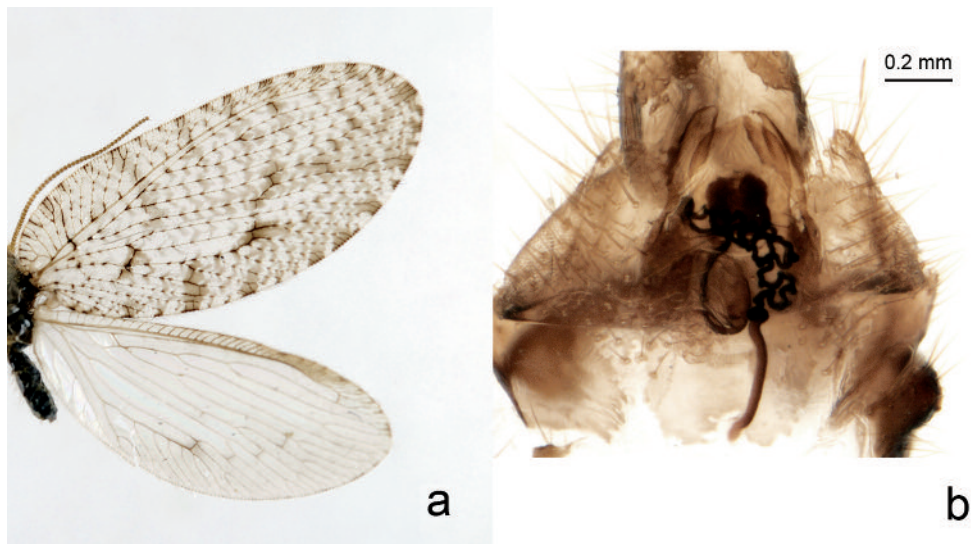


Fig. 3. Brown lacewing *Wesmaelius concinnus*, female: a, wings; b, female genitalia. Photo A. Larysz.

Lesser Caucasus Mountains. Abastumani; mixed forest; 1628 m; 41°47'08.2"N 42°50'34.4"E; 23.VI.2018; 1 ind.

Distribution: Europe (with the exception of the Northern Europe); Asia: Middle and North Anatolia, Antalya, Burdur, Denizli, and Isparta (Arı 2014). From the Caucasus region recorded from Georgia, Armenia and generally from Caucasus (Aspöck et al. 2001).

Coniopterygidae

Aleuropteryx loewii Klapálek, 1894

Lesser Caucasus Mountains. Abastumani; mixed forest; 1628 m; 41°47'08.2"N 42°50'34.4"E; 23.VI.2018; 1 ♂ (Fig. 4).

Distribution: Widely distributed in Europe, recorded generally from Anatolia (Aspöck et al. 2001) and from province Burdur (Canbulat & Kıyak, 2005).

Remarks: New for Georgia.

Coniopteryx (C.) pygmaea Enderlein, 1906

Lesser Caucasus Mountains. Zekari pass, Abastumani; meadow-pasture; 2138 m; 41°51'08.6"N 42°48'28.2"E; 23.VI.2018; 1 ♂.

Lesser Caucasus Mountains. Abastumani; coniferous forest; 1937 m; 41°49'09.9"N 42°51'09.5"E; 23.VI.2018; 1 ♂ 3 ♀♀.

Ascalaphidae

Libelloides hispanicus ustulatus (Eversmann, 1850)

Lesser Caucasus Mountains. Abastumani; coniferous forest, meadow; 1893 m; 41°47'33.7"N 42°50'25.5"E; 23.VI.2018; 1 ♀ (Fig. 5).

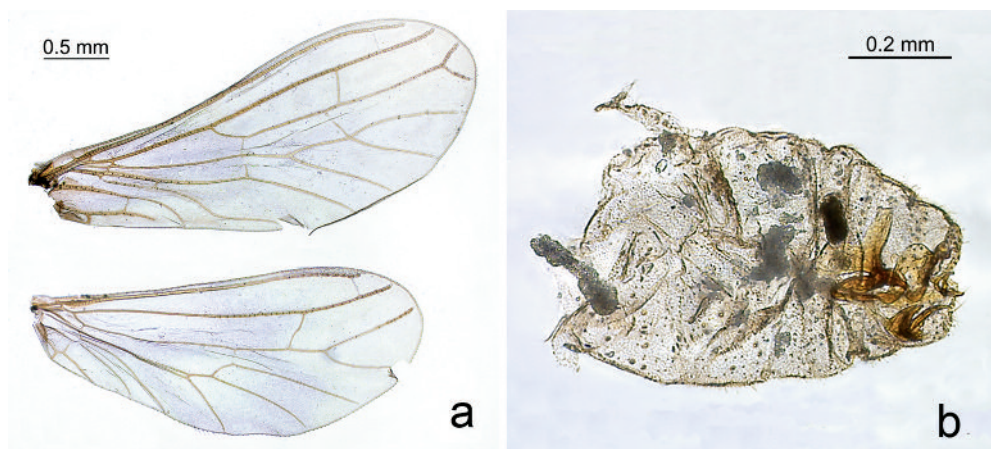


Fig. 4. Dustywing *Aleuropteryx loewii*, male: a, wings; b, male genitalia. Photo A. Tazakowski.



Fig. 5. Owlfly *Libelloides hispanicus ustulatus*, female. Photo D. Devetak.

The female was resting on an Apiaceae plant, in a meadow inside a coniferous forest (Fig. 6).

Distribution: Georgia, Armenia, Azerbaijan, Russia (Caucasus region), Turkey (Anatolia), north Iran (Kozhanchikov 1958, Aistleitner 1980, Aspöck & Aspöck 1994, Sziráki 1998, Aspöck et al. 2001, Dobosz & Ábrahám 2007, Krivokhatsky 2007, Makarkin & Shchurov 2010, Dobosz et al. 2017).

L. hispanicus hispanicus (Rambur, 1842) and *L. hispanicus ustulatus* are similar to each other, although their ranges are disjunctive. Hence, there are various hypotheses about their origin (Aspöck & Aspöck 1994, Aspöck et al. 2001). Some authors assume that these are taxa in the rank of subspecies (Krivokhatsky 2007; Makarkin & Shchurov 2010), and some recognize them as separate species (Aspöck et al. 2001, Sziráki 1998, Canbulat 2007).

Conclusion

During a short visit of the Caucasus in 2018, a survey of collected Neuroptera containing 15 species revealed two new species for Georgia – *Wesmaelius concinnus* and *Aleuropteryx loewii*.



Fig. 6. Meadow inside forest at Lesser Caucasus, where the owlfly *Libelloides hispanicus ustulatus* was found. Photo F. Janžekovič

Acknowledgements

This research was supported by the Slovenian Research Agency within the Infrastructure Research Programme CORE@UM (I0-0029) and Research Programme Computationally Intensive Complex Systems (P1-0403). We thank Boris and Alenka Kryštufek for their cooperation and support during the field work. An anonymous referee is sincerely thanked for critically reading the manuscript.

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Received / Prejeto: 4. 6. 2019