

Lacewings (Insecta: Neuroptera) in the collection of the Macedonian Museum of Natural History in Skopje

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Abstract

Information is provided on 27 species of lacewings (Insecta: Neuroptera) deposited in the Macedonian Museum of Natural History in Skopje, Macedonia. Five species are new to Macedonian fauna: *Chrysopa commata*, *Chrysopa nigricostata*, *Cueta lineosa*, *Dendroleon pantherinus*, and *Neuroleon tenellus*. The finding of the species *Neuroleon tenellus* extends its known distribution range in the Balkans widely to the north.

Key words: Neuroptera, lacewings, fauna, Balkan Peninsula, Republic of Macedonia

Introduction

The Macedonian Museum of Natural History in Skopje was founded by Stanko Karaman in 1926. He was inspired by the monograph "Mazedonien" published by Franz Doflein in 1921, which contained, among others, a chapter devoted to Macedonian antlions, owlflies and spoonwings (Doflein 1921). During the Second World War, the Museum became a part of the Imperial Natural History Museum of Sofia. During that period, Krastuy Tuleshkov was appointed as museum's director. He collected insects of different orders, among them also Neuropterans. After the Second World War, a rapid development of the museum started. When Petar Ikonov was appointed as the director, the Museum worked intensively on collecting and preserving different materials. A renaissance of the museum activities resulted in the establishment of different departments, one of them was the Department of Entomology.

Unlike the more popular Lepidoptera and Coleoptera, the beginnings of the Neuroptera collection in the Museum were more modest. The oldest lacewings collected dates back to 1939. In 1990s, the collection of Neuroptera was inspected by Alexi Popov, who identified some of the lacewings deposited in the collection. Unfortunately, the data were not published. Due to the

progress in the taxonomy of the Neuropterida during the last decades, a revision of the lacewing collection was urgent. Despite of the fact, that the collection of lacewings is a small one, with approximately 400 individuals, it contains some rare species with an interesting distribution.

Until now, the lacewing fauna of Macedonia was insufficiently investigated and the knowledge is based on a great number of mainly sporadic records. A list of papers dealing with Macedonian Neuroptera is presented in Hristovski et al. (2015), Devetak et al. (2015a). Prior this study, 60 species of Neuroptera were known for the country (Hristovski et al. 2015, Devetak et al. 2015a). The aim of the present paper is to provide an updated list of lacewings (Neuroptera) in the Department of Entomology of the Museum.

Material and methods

We examined 400 pinned lacewings. We followed the nomenclature and taxonomy proposed by Aspöck et al. (1980, 2001), Monserrat (2016), and *Lacewing Digital Library* (Oswald 2017). Zoogeographical categorization of Neuroptera is used in accordance with Aspöck et al. (2001), Popov and Letardi (2010), and Devetak et al. (2015a). Data on the distribution of

the taxa were extracted from *Fauna Europaea*, version 2017.06 (Aspöck et al. 2013). Abbreviations used in the text: Mt. = mountain, r. = river.

Results

NEUROPTERA

Suborder Hemerobiiformia

OSMYLIDAE

Osmylus fulvicephalus (Scopoli, 1763)

Material examined:

Macedonia:

Buković Mt. (=Planina Buković); 31.05.1977; J. Čingovski leg., 18 ind.

Kičevo; 27.06.2003; M. Ivanov leg., 1 ind.

Kumanovo: Agino Selo; 02.05.1972; J. Čingovski leg., 1 ind.

Mavrovo; 09.06.1972; J. Čingovski leg., 2 ind.;

Mavrovo; 15.06.1972; J. Čingovski leg., 1 ind.

Ohrid: s. Slivovo; 31.05.1977; J. Čingovski leg., 6 ind.

Prespansko Ezero: Kurbinovo; 17.06.2015; M. Ivanov leg., 1 ind

Resen: Brajčino; 23.06.2003; M. Ivanov leg., 1 ind.

Skopje: Vodno Mt.; 21.05.1942; G. Stojanov leg., 1 ind

Skopje: Vodno Mt.; 15.06.1975; J. Čingovski leg., 1 ind.

Skopje: Matka; 09.06.1972; J. Čingovski leg., 2 ind.

Tetovo: Rogle village; 05.05.1972, J. Čingovski leg., 1 ind.

Žeden Mt: Nerašte village, Vratnička river; 31.05.2015; V. Krpač & R. Zeqiri leg., 1 ind.

Distribution:

Europe, Asia (Anatolia).

CHRYSOPIDAE

Italochrysa italica (Rossi, 1790)

Material examined:

Macedonia:

Dojran, Ačikot; 28.06.1994; 1 ind., V. Krpač leg.

Matka; 16.07.1943; 1 ind., K. Tuleshkov leg.

Distribution:

Europe (Mediterranean part), Asia (Middle East).

Zoogeography: Holomediterranean.

Chrysopa perla (Linnaeus, 1758)

Material examined:

Macedonia:

Mavrovo; 29.06.1979; 1 ind., J. Čingovski leg.;

Mavrovo; 27.05.1981; 1 ind., J. Čingovski leg.

Skopje; 06.08.1943; 1 ind., K. Tuleshkov leg.

Distribution:

Europe, Asia.

Zoogeography: Euro-Siberian spread, polycentric, highly expansive.

Chrysopa commata Kis & Újhelyi, 1965

Vodno Mt.; 20.06.1942; 1 male, K. Tuleshkov leg.

Distribution:

Europe: Great Britain (England), Germany, Austria, Czech Republic, Slovakia, Latvia, Poland, Hungary, Ukraine, Romania, Republic of Moldova, Serbia, and Bulgaria.

Asia: Caucasus, Iran, Tajikistan, Siberia, and Kuril Islands (Aspöck et al. 2001, Aspöck et al. 2013). Zoogeography: Siberian.

New species for the fauna of R. Macedonia.

Chrysopa formosa Brauer, 1851

Katlanovo; 19.07.1957; 1 ind., S. Joksimović leg.

Skopje. 29.06.1941, 1 ind., 19.05.1942 1 ind., 19.06.1942 4 ind., 25.07.1942 1 ind., 29.07.1942 1 ind., 04.08.1942 2 ind., 04.08.1943 2 ind., 05.08.1943 2 ind., 30.07.1944 1 ind., 19.06.1945 1 ind.; all leg. K. Tuleshkov.

Skopje, Zelenikovo; 23-26.08.1954; 1 ind., K. Begoevski leg.

Vodno Mt.; 17.06.1945; 1 ind., P. Ikonov leg.

Distribution:

Europe, Africa (Mediterranean part), Asia.

Zoogeography: Euro-Siberian and Holomediterranean spread, polycentric, expansive.

Chrysopa nigricostata Brauer, 1851

Material examined:

Macedonia:

Skopje, 19.06.1942, 1 male, K. Tuleshkov leg.

Distribution:

Europe, Africa (Mediterranean part), Asia.

Zoogeography: Holomediterranean (expansive northwards).

New species for the fauna of R Macedonia.

***Chrysopa pallens* (Rambur, 1838)**

Material examined:

Macedonia:

Berovo; 20.08.1977; 1 ind., J.Čingovski leg. (non: *C. nigricostata*!)

Vodno Mt.; 17.06.1945; 1 ind., K.Tuleshkov leg.

Comment: Recently, two sibling species (*Chrysopa pallens*, *C. gibeauxi*) were recognized as valid (Tillier et al. 2014, Devetak et al. 2015b). The species *C. pallens* (in a strict sense) is referred for Macedonia by Devetak et al. (2015b).

Distribution:

Europe, Africa (Mediterranean part), Asia.

Zoogeography: Zoogeographic categorization is still uncertain.

***Pseudomallada flavifrons flavifrons* (Brauer, 1851)**

Material examined:

Macedonia:

Skopje, Treska r.; 31.07.1942; 1 ind., K.Tuleshkov leg.

Distribution:

Europe, Africa (Mediterranean part), Asia.

Zoogeography: Zoogeographic categorization is uncertain because of taxonomic problems; from the current perspective, Mediterranean spread, polycentric, particularly expansive northwards.

***Pseudomallada abdominalis* (Brauer, 1856)**

Material examined:

Macedonia:

Skopje; 04.08.1943; 1 ind., K.Tuleshkov leg.

Distribution:

Europe.

Zoogeography: Zoogeographic categorization is still uncertain.

***Pseudomallada zelleri* (Schneider, 1851)**

Material examined:

Macedonia:

Vodno Mt.; 20.06.1942; 1 ind., K.Tuleshkov leg. (On the label: »*Mallada prasinus*«; this is incorrect identifi-

cation!).

Distribution:

Europe (Mediterranean part), Asia (Middle East).

Zoogeography: Balkano-Pontomediterranean (expansive westwards).

***Chrysoperla carnea* (Stephens, 1836) sensu lato**

Material examined:

Macedonia:

In the collection, we recorded 22 individuals belonging to the complex of the common green lacewing species (*C. carnea* s.l.). Because the song data are missing, and their colouration has changed during the year, it was impossible to identify them to the species level.

***Suaris nanus* (McLachlan, 1893)**

Material examined:

Macedonia:

Vodno Mt.; 24.06.1945; 1 m, K.Tuleshkov leg.

Distribution:

Europe (East-Mediterranean part), Asia.

Zoogeography: Pontomediterranean – Anatolian.

Suborder Myrmeleontiformia

NEMOPTERIDAE

***Nemoptera sinuata* Olivier, 1811**

Material examined:

Macedonia:

Demir Kapija: Vardar r.; 18.06.2006, 1 ind., V.Krpač leg.

Dojran; 06.06.1975, 6 ind., J.Čingovski leg.

Dojran; 30.05.1979; 20 ind., B.Mihajlova leg.

Dojran: Nikolič village; 10.06.1997; 12 ind., V.Krpač leg.

Galičica Mt.: Asandjura /=Asan Đura/, Peštera Samatska Dupka; 23.06.2010, 1 ind., V.Krpač leg.

Gevgelija: Bogdanci village; 08.06.1966; 2 ind., K.Bogoevski leg.

Katlanovo; VII. 1969; 1 ind., J.Čingovski leg.

Katlanovo; 11.05.1982; 1 ind., B.Mihajlova leg.

Kavadarci: Pološki Manastir /=Polog Monastery/; 31.05.1985; 1 ind., N.Topukova leg.

Kičevo: Belica village; 11.06.1985; 1 ind., N.Topukova leg.

Konečka Planina /=Konečka Mt./; 03.07.1987; 1 ind., N.Topukova leg.

Mariovo Mt.: Dunje village; 30.05.1984, 4 ind., N.Topukova leg.
Mariovo Mt.: Crna r., Rasimbegov Most; 18.06.2006, 2 ind., V.Krpač leg.
Matka; 30.05.1945; 1 ind., K.Bogoevski leg.
Nidže Mt. / Mariovo Mt., Škočivir village; 20.06.1984; 19 ind., B.Mihajlova leg.
Nidže Mt. / Mariovo Mt., Škočivir village; 24.06.2009; 3 ind., E.Stojkoska leg.
Patiška Reka, Kula; 03.06.1993; 1 ind., V.Krpač leg.
Pčinja stojalište (the original text on the label: »Železnička stanica Pčinja« /=Railway Station Pčinja/); 21.05.1950; 1 ind., K.Bogoevski leg.
Prilep: n. Varoš; 17.06.1997; 2 ind., V.Krpač leg.
Skopje: Kučkovo village; 07.06.1985; 1 ind., B.Mihajlova leg.
Skopje: Orman village; 26.05.1971; 1 ind., N.Topukova leg.
Skopje: Zajčev Rid; 30.06.1974; 1 ind., N.Topukova leg.
Tetovo: Cerovo village; 30.06.1998; 2 ind., V.Krpač leg.
Tetovo: Cerovo village; 27.06.2000, 1 ind.; 28.06.2000, 2 ind.; 30.06.2000, 3 ind.; 03.07.2000, 2 ind., all.: M.Ivanov leg.
Tikveško Ezero: Koturski Dol; 20.06.2002, 1 ind., V.Krpač leg.
Veles: Crn Kamen; 1.06.2010, 2 ind., G.Janakievska leg.
Žeden Mt.; 23.05.1994; 9 ind, V.Krpač leg.
Comment: A review of known distribution of *N. sinuata* in Macedonia, including a thorough list of the Nemopteridae in south Europe is presented by Popov (1970).
Distribution:
Europe (East-Mediterranean part), Asia.
Zoogeography: Balkano- and Anatolo-Pontomediterranean.

MYRMELEONTIDAE

Palpares libelluloides (Linnaeus, 1764)

Material examined:
Macedonia:
Dojran; 06.06.1985; 1 ind.; M.Sovkovski leg.
Dojran; 21.06.1996; 1 ind., V.Krpač leg.
Katlanovo; 16.07.1957; 4 ind.; S.Joksimović leg.
Katlanovo; 16.07.1977; 2 ind.; J.Čingovski leg.
Katlanovo, Crn Vrv; 22.07.1971; 3 ind.; J.Čingovski leg.
Kičevo: Belica village; 11.06.1985; 1 ind., N.Topukova leg.
Konečka Planina /=Konečka Mt./; 03.07.1987; 1 ind., N.Topukova leg.

Ohrid; 20.07.1986; 3 ind.; B.Mihajlova leg.
Škočivir near Kajmakčalan; 20.07.1984; 2 ind.; B.Mihajlova leg.
Skopje: Matka; 06.07.1942; 1 ind.; J.Čingovski leg.
Skopje: Treska r.; 14.07.1940; 1 ind., S.Karaman leg.
Skopska Crna Gora: Blace; 24.06.2012; 1 ind., V.Krpač leg.
Tetovo: Cerovo; 30.06.2000; 1 ind., M.Ivanov leg.
Tetovo: Cerovo; 30.07.2000; 1 ind., M.Ivanov leg.
Tikveško Ezero: Koturski Dol; 20.06.2002; 1 ind., V.Krpač leg.
Valandovo; 20.07.1989; 1 ind., T.Trajkovski leg.
Veles; 15.07.1977; 1 ind.; J.Čingovski leg.
Veles, Čaška; 11.07.1969, 1 ind.; T.Petkovski leg.
Veles: Otovica; 19.07.1966; 3 ind.; J.Čingovski leg.
Veles: Otovica; 19.07.1966; 3 ind.; N.Topukova leg.
Vodno Mt., 29.07.1940; 1 ind., D.Rukner leg.
Vodno Mt.; 04.08.1941; 1 ind.; G.Stojanov leg.
Vodno Mt.; 12.08.1941; 1 ind.; G.Stojanov leg.
Vodno Mt.; 15.08.1941; 1 ind.; G.Stojanov leg.
Distribution:
Europe (Mediterranean part), Africa (Mediterranean part), Asia (Middle East).
Zoogeography: Holomediterranean.

Myrmecaelurus trigrammus (Pallas, 1771)

Material examined:
Macedonia:
Gevgelija, Negorci; 31.07.1969; 2 females, J.Čingovski leg.
Katlanovo, Crn Vrv; 22.07.1971; 1 ind.; J.Čingovski leg.
Pčinja r.; 12.07.1962; 1 ind., J.Čingovski leg.
Radoviš, Kozbunar village; 19.07.1947; 1 ind., K.Bogoevski leg.
Skopje: Orešani village; 14.06.1945; 1 ind., K.Bogoevski leg.
Skopje: Zelenikovo; 23.-26.08.1954; 2 ind., K.Bogoevski leg.
Veles, Otovica village; 13.07.1970; 1 ind., J.Čingovski leg.
Veles, Otovica village; 22.06.1972; 1 ind., J.Čingovski leg.
Vodno Mt.; 2.08.1941; 1 ind., K.Bogoevski leg.
Vodno Mt.; 04.08.1941; 1 ind., G.Stojanov leg.
Vodno Mt.; 13.07.1954; 1 ind., P.Ivanovski leg.
Distribution:
Europe (Mediterranean part), Asia.
Zoogeography: Holomediterranean.

Cueta lineosa (Rambur, 1842)

Material examined:
Macedonia:

Skopje, Gradski park; 13.08.1945; 1 ind., K.Bogoevski leg.
Vodno Mt., VI. 1945, 1 ind., K.Tuleshkov leg.

Distribution:

Europe: Albania, Greece, Bulgaria, Macedonia, and southern Italy (Aspöck et al. 2001; Aspöck et al. 2013; Kačírek 2013; Devetak and Rausch 2016; this paper) (Fig.1).

It has also been recorded in North Africa, the Middle East, Caucasus, Russia (Dagestan, North Ossetia), Iran, Afghanistan, Pakistan, Turkmenistan, and Uzbekistan (Aspöck et al. 2001; Krivokhatsky 2011).

Zoogeography: Eremial.

New species for the fauna of R. Macedonia.

***Myrmeleon (Myrmeleon) formicarius* Linnaeus, 1767**

Material examined:

Macedonia:

Berovo; 10.07.1978; 1 male, J.Čingovski leg.

Brana Kozjak /=Kozjak Dam/, Treska r.; 01.06.2004; 1 male, V.Krpač leg.

Jakupica Mt., Mumđica; 09.07.1989; 1 female, V.Krpač leg.

Mavrovo; 26.07.1974; 1 female, J.Čingovski leg.

Mavrovo; 12.08.1990; 1 female, V.Krpač leg.

Nidže Mt., Škočivir village; 20.06.1984; 1 female, B.Mihajlova leg.

Patiška Reka, Kula; 03.06.1993; 1 female, V.Krpač leg.

Stari Dojran; 26.05.1996; 2 females, V.Krpač leg.

Valandovo, Bašibos village; 24.05.1986; 1 female, N.Topukova leg.

Vodno Mt.; 21.05.1942; 1 female, G.Stojanov leg.

Žeden Mt.; 23.05.1994; 2 females, V.Krpač leg.

Distribution:

Europe, Asia.

Zoogeography: Euro-Siberian.

***Myrmeleon (Myrmeleon) noacki* Ohm, 1965**

Material examined:

Macedonia:

Skopje, Treska r.; 06.07.1942; 1 female, G.Stojanov leg.

Comment: The original description of this species is based on the paratypes originating from Macedonia (Drenovo near Kavadar; Ohm, 1965).

Distribution:

Europe (East-Mediterranean part), Asia (Anatolia).

Zoogeography: Balkano- and Anatolo-Pontomediterranean.

***Dendroleon pantherinus* (Fabricius, 1787)**

Material examined:

Macedonia:

Ohrid; 10.07.1945; 1 ind. (missing body parts), P.Ikonomov leg.

Jablanica Mt., Drenok; 1106 m a.s.l.; 19.08.2016; 1 ind., V.Krpač & R.Zeqiri leg.

Distribution:

Europe: widely distributed (Aspöck et al. 2013).

Asia: Turkey, Caucasus, and China (Aspöck et al. 2001).

Zoogeography: Siberian.

New species for the fauna of R. Macedonia.

***Macronemurus bilineatus* Brauer, 1868**

Material examined:

Macedonia:

Gevgelija, Negorci village; 31.07.1969; 2 ind., J.Čingovski leg.

Katlanovo; VII. 1959; 1 ind., J.Čingovski leg.

Ohrid: Hidrobiološka stanica /=Hydrobiological station/; 23.07.1939; 1 ind., Z.Karaman leg.

Skopje; 14.08.1941; 1 ind., G.Stojanov leg.

Resen, Prespansko Ezero: Kurbinovo village; 29.06.2016; 1 male, M.Ivanov leg.

Vodno Mt., vrv; 29.07.1940; 7 ind., D.Rukner leg.

Distribution:

Europe (East-Mediterranean part), Asia.

Zoogeography: Balkano- and Anatolo-Pontomediterranean.

***Neuroleon (Neuroleon) microstenus* (McLachlan, 1898)**

Material examined:

Macedonia:

Vodno Mt.; 09.08.1945; 1 ind., K.Bogoevski leg.

Lazaropole; 25.08.1954; 2 males, S.Karaman leg.

Distribution:

Europe, Africa (Mediterranean part), Asia.

Zoogeography: Holomediterranean.

***Neuroleon (Ganussa) tenellus* (Klug in Ehrenberg, 1834)**

Material examined:

Macedonia:

Pčinja stojalište (the original text on the label:

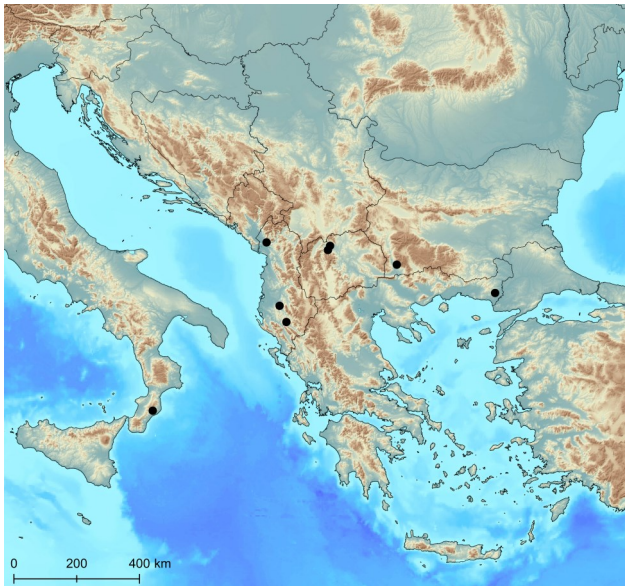


Figure 1. Distribution of *Cueta lineosa* in the Balkan Peninsula.

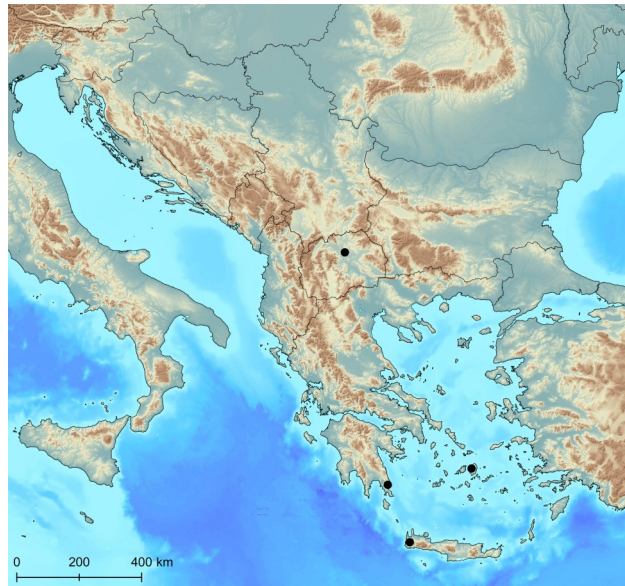


Figure 2. Distribution of *Neuroleon tenellus* in the Balkan Peninsula.

»Železnička stanica Pčinja« (=Railway Station Pčinja/); 05.-11.08.1954, 2 ind., K.Bogoevski leg.

The collecting place is near the railway station, with the coordinates 41°49'07.7"N 021°40'10.9"E.

The two individuals were in a bad state, damaged by mould.

Distribution:

Europe: Greece: Greek mainland, Cyclades, and Crete (Aspöck et al. 1980, 2001; Saure 1989; Aspöck et al. 2013).

Asia: Middle East, Afghanistan, Turkmenistan (Aspöck et al. 2001).

So far, in Europe, the species was known from only three collecting places, all in Greece (Monemvasia in Peloponnes, Naxos, and Crete; Fig. 2).

Zoogeography: Eremial.

New species for the fauna of R Macedonia.

***Distoleon tetragrammicus* (Fabricius, 1798)**

Material examined:

Macedonia:

Belasica Mt.; 09.07.1966; 1 male 2 females, N.Topukova leg,

Konečka Planina /=Konečka Mt./; 03.07.1987; 1 female, N.Topukova leg..

Negotino, Kurija village; 03.07.1987; 1 male, N.Topukova leg.

Skopje; 03.08.1987; 1 female, K.Mihajlov leg.;

Skopje; 1.07.1988; 2 femles, N.Topukova leg.

Skopje; 08.07.1993; 1 male 1 female, N.Topukova leg.;

Skopje, Karpoš; 11.07.2014, 1 male, M.Ivanov leg.

Skopje; 15.07.2014, 1 female, M.Ivanov leg.

Skopje, Macedonian Museum of Natural History; 05.07.2014; 1 female, M.Ivanov leg.

Skopje, ZOO; 09.07.2013; 1 female, B.Mihajlova leg.

Skopje, N of Aerodrom; 04.07.1999; 1 male, E.Stojkoska leg.

Sveti Nikole; 03.07.1960; 1 female, J.Čingovski leg.

Vodno Mt.; 20.06.1942; 1 female (colourless – after molting), K.Tuleshkov leg.

Vodno Mt.; 13.07.1954; 1 ind., P.Ivanovski leg.

Vodno Mt., Sopište village; 22. III. 1953; 1 ind., P.Ivanovski leg.

Kosovo:

Shar Mountains /Šar Planina; Mali Sharr/; Brezovicë / =Brezovica/; 20.07.1974, 1 female; J.Čingovski leg.

Distribution:

Europe, Africa (Mediterranean part), Asia.

Zoogeography: Holomediterranean (expansive northwards).

***Creoleon plumbeus* (Olivier, 1811)**

Material examined:

Macedonia:

Prespansko Ezero, Stenje; 24.06.2003; 1 male, V.Krpač leg.

Radoviš, Kozbunar village; 19.07.1947; 1 ind., K.Bogoevski leg.

Gevgelija, Negorci village; 31.07.1969; 2 females, J.Čingovski leg.

Distribution:

Europe (East-Mediterranean part), Asia.

Zoogeography: Balkano- and Anatolo-Pontomediterranean.

***Megistopus flavicornis* (Rossi, 1790)**

Material examined:

Macedonia:

Matka; 03.05.1945; 1 ind. (partly destroyed), K.Bogoevski leg.

Sveti Nikole; 03.07.1960; 1 ind. (partly destroyed), J.Čingovski leg.

Vodno Mt. ; May 1968; 1 male, S.Joksimović leg.

Distribution:

Europe, Africa (Mediterranean part), Asia.

Zoogeography: Holomediterranean (expansive northwards).

ASCALAPHIDAE

***Libelloides lacteus* (Brullé, 1832)**

Material examined:

Macedonia:

Brana Kozjak /=Kozjak Dam/, Treska r.; 01.06.2004, 5 ind.; 23.06.2007, 1 ind.; 18.05.2008, 1 ind., all V.Krpač leg.

Brana Kozjak /=Kozjak Dam/, Treska r.; 18.05.2008, 2 ind., M.Ivanov leg.

Breznica; 24.05.2003, 1 ind., V.Krpač leg.

Breznica; 24.05.2003, 1 ind., V.Krpač leg.

Dojran; 25.05.1986, 1 ind., N.Topukova leg.

Galičica Mt.; 20.05.1982, 6 ind., N.Topukova leg.

Galičica Mt.; 02.06.1983, 1 ind., Đ.Đorliev leg.

Galičica Mt.; 18.06.1997, 1 ind., V.Krpač leg.

Galičica Mt.: Asandjura /=Asan Đura/, Peštera Samatska Dupka; 14.06.2008, 1 ind., M.Ivanov leg.

Galičica Mt., Velestovo village; 11.06.2008, 1 ind., M.Ivanov leg.

Kavadarci: Pološki Manastir /=Polog Monastery/; 31.05.1985 ; 1 ind., N.Topukova leg.

Kumanovo: Agino Selo; 02.05.1972; 2 ind., J.Čingovski leg.

Patiška Reka, Kula; 03.06.1993; 3 ind., V.Krpač leg.

Pelister Mt., Crveni Steni; 11.07.1991, 1 ind., V.Krpač leg.

Skopje: Rašče village; 04.05.1977, 1 ind., J.Čingovski leg.

Tetovo: Rogle village; 05.05.1972, 7. Ind., J. Čingovski leg.

Valandovo, Bašibos village; 24.05.1986; 1 ind, N.Topukova leg.

Veles: Topolka r.; 21.04.1977, 1 ind., J.Čingovski leg.

Vodno Mt., 18.05.1981, 6 ind., J.Čingovski leg.

Distribution:

Europe (Mediterranean part), Asia (Anatolia).

Zoogeography: Balkano- and Anatolo-Pontomediterranean.

***Libelloides macaronius* (Scopoli, 1763)**

Material examined:

Macedonia:

Brana Kozjak /=Kozjak Dam/, Treska r.; 23.06.2007, 2 ind., V.Krpač leg.

Breznica; 07.07.2003, 1 ind.; 08.07.2003, 1 ind.; both V.Krpač leg.

Galičica Mt.; 05.07.1995, 26 ind., V.Krpač leg.

Galičica Mt.: Asandjura /=Asan Đura/, 19.06.2008, 1 ind., E.Stojkoska leg.

Mavrovo; 02.07.1975, 1 ind., J.Čingovski leg.

Ohrid; 20.07.1986, 1 ind., B.Mihajlova leg.

Pelister Mt.: Crveni Steni; 16.06.2002, 1 ind., V.Krpač leg.

Pelister Mt.: Golema Livada; 29.06.2009, 1 ind.; 02.07.2009, 1 ind.; both V.Krpač leg.

Pelister Mt.: Kopanki; 14.07.1955, 1 ind., K.Bogoevski leg.

Radoviš; 06.07.1973; 1 ind., Čingovski leg.

Resen: Brajčino; 09.06.1977; 1 ind., J.Čingovski leg.

Resen: Brajčino; 23.06.2003; 1 ind., V.Krpač leg.

Resen: Brajčino; 24.06.2015, 1 ind., M.Ivanov leg.

Resen, Prespansko Ezero: Kurbinovo village; 25.06.2014, 1 ind.; 17.06.2015, 1 ind.; 19.06.2015, 3 ind., all M.Ivanov leg.

Skopje: Kučkovo village; 03.07.1976; 1 ind., J.Čingovski leg.

Veles: Novačani village; 21.06.1974, 1 ind., J.Čingovski leg.

Žeden Mt.; 02.07.1976, 2 ind., J.Čingovski leg.

Montenegro:

Crna Gora: Mojkovac; 21.06.1971, 1 ind., J. Čingovski leg.

Distribution:

Europe, Asia.

Zoogeography: Balkano- and Anatolo-Pontomediterranean, highly expansive.

Discussion

Although the Neuroptera of the Balkan Peninsula have been studied since the 19th century, the distribution of many species in the area is little known. The

fauna of the Neuroptera of Macedonia was until the recent period insufficiently known and a great number of sporadic data on the species occurrence in the country exists (for reviews of relevant papers see Hristovski et al. 2015, Devetak et al. 2015a). In the paper we present collecting places for 27 species originating from the country, among them five species are new to Macedonian fauna. With the new findings, the number of known Neuroptera in Macedonia has now raised to 65.

Two antlion species are rare. *Cueta lineosa* occurs in Europe in south Italy and the Balkan Peninsula. *Neuroleon tenellus* is a little known and very rare species, in Europe known only from four localities (Aspöck et al. 1980, 2001, Saure 1989, Aspöck et al. 2013, this paper).

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Мрежокрилците (Insecta: Neuroptera) во збирката на Природонаучниот музеј на Македонија во Скопје

Душан Деветак и Решат Зеќири

За ова истражување беше направена ревизија на колекцијата на Neuroptera која се чува во Природонаучниот музеј на Македонија во Скопје. И покрај фактот што колекцијата на мрежокрилци е мала, со околу 400 примероци, таа содржи некои ретки видови со интересна дистрибуција. До сега, фауната на мрежокрилци на Македонија е недоволно истражена, а знаењето се базира главно на голем број инцидентни податоци. Тука е дадена информација за 27 вида мрежокрилци, меѓу кои пет се нови за македонската фауна: *Chrysopa commata*, *Chrysopa nigricostata*, *Cueta lineosa*, *Dendroleon pantherinus* и *Neuroleon tenellus*. Видот *Cueta lineosa* е редок мрежокрилец, пред оваа студија на Балканот познат за Албанија, Грција и Бугарија. Наодот на вториот интересен вид, *Neuroleon tenellus*, пред оваа студија познат за Европа само од три локалитети во Грција, го проширува неговиот ареал на распространување на Балканот далеку на север. Со новите наоди, бројот на познати Neuroptera во Македонија се подига на 65 видови.

Клучни зборови: Neuroptera, мрежокрилци, фауна, Балкански Полуостров, Република Македонија