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DATA ON KNOWLEDGE OF PSOCOPTERA AND NEUROPTERIDA IN SĂLAJ COUNTY

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ABSTRACT: In the framework of the project „Invertebrate faunistical investigation of Sălaj county" 23 Psocoptera, 1 Megaloptera, 1 Raphidioptera and 30 Neuroptera specimens were collected, belonging to 5 Psocoptera, 1 Megaloptera, 1 Raphidioptera and 7 Neuroptera species. In spite of these low numbers, three of the found insects are worth to mention. Regarding the fauna of Romania, *Kolbia quisquiliarum* Bertkau, 1882 (Psocoptera) hitherto was mentioned only from Bucovina, *Sialis fuliginosa* Pictet, 1836 (Megaloptera) was known only from Sinaia and Sibiu, while *Sisyra terminalis* Curtis, 1854 (Neuroptera) was reported only one occasion and more than hundred years ago.

Keywords: Psocoptera, Megaloptera, Raphidioptera, Neuroptera, Romania

INTRODUCTION:

Psocoptera is a rather abandoned order, because the species included in this taxon are small bodied and mostly rare insects, with hidden manner of life. Consequently, every data about these animals may be important concerning the biodiversity of a given territory. In contrary, the three neuropterid orders are well studied in Romania, first of all due to the activity of Dr. Béla Kis. However, the published findings from Sălaj county relatively rare. The project „Invertebrate faunistical investigation of Sălaj county" offered possibility to obtain more informations about the occurrence of psocids and neuropterids in the given territory.

Collecing data of the examined specimens are represented by code numbers in the list of the species. The explanation of these code numbers are as below. No. 32: Dealurile Crasnei (Krasznamenti-dombság), Aghireş (Egrespatak), dry swards, 20.05.2014, N47.15716° E22.99252°, sweeping, leg. Cs. Kutasi; No. 36: Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), wet meadow, 21.05.2014, N46.99677° E22.93072°, sweeping, leg. Cs. Kutasi; No. 59: Dealurile Crasnei (Krasznamenti-dombság), N of Meseşenii de Jos (Magyarkecel), 02.06.2014, N47.163° E22.956°, 270m, netting, leg. A. Orosz, G. Puskás, Z. Soltész & M. Tóth; No. 91: Culoarul Someşului (Szamos völgye), between Surduc (Szurduk) and Cliţ (Csűrfalva), Someş (Szamos) River, 14.08.2014, N47.29° E23.367°, 200m, netting, leg. as No. 59; No. 99: Munţii Meseşului (Meszes-hegység), Treznea (Ördögkút), main valley of the Treznea Stream, 29.09.2014, N47.11005° E23.06443°, 375m, beating, leg. Zs. Bálint, L. Dányi, G. Katona & D. Murányi; No. 104: Munţii Plopiş (Réz-hegység), Iaz (Krasznajáz), peat bog and ruines of the bath, 30.09.2014, N47.111° E22.659°, 320m, leaf hoower, leg. as No. 99; No. 105: Munţii Plopiş (Réz-hegység), Iaz (Krasznajáz), valley of the Iaz Stream, 30.09.2014, N47.08698° E22.6511°, 380m, beating, leg. as No. 99; No. 108: Dealurile Crasnei (Krasznamenti-dombság), W of Aghireş (Egrespatak), 30.09.2014, N47.157° E22.992°, 320m, leaf hoower, leg. as No. 99; No. 112: Munţii Meseşului (Meszes-hegység), Pria (Perje), SW slope of Vf. Măgura Priei (Perjei csúcs), 01.10.2014, N47.0056° E22.89196°, 732m, leaf hoower, leg. as No. 99; No. 113: Munţii Meseşului (Meszes-hegység), Pria (Perje), SW slope of Vf. Măgura Priei (Perjei csúcs), 01.10.2014, N47.004° E22.8966°, 838m, leaf hoower, leg. as No. 99; No. 115: Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), 01.10.2014, N46.99416° E22.92813°, 560m, hand collecting, leg. as No. 99; No. 161: Dealurile Sălajului (Szilágymenti-dombság), Derşida (Kisderzsida), pasture, 10.05.2015, N47.398° E22.814°, sweeping, leg. A. Podlussány; No. 162: Dealurile Sălajului (Szilágymenti-dombság), Borla (Szilágyballa), abandoned arable land, 10.05.2015, N47.265° E22.938°; sweeping, leg. A. Podlussány; No. 176: Depresiunea Almaş--Agrij (Almás--Egregy-medence), Tihău (Tihó), Almaş valley, streamside, 11.05.2015, N47.232° E23.316°, hand collecting, leg. A. Grabant, O. Merkl, A. Podlussány, V. Szőke; No. 201: Munţii Plopiş (Réz-hegység), Iaz (Krasznajáz), Mlaştina de la Iaz, pasture, 13.05.2015, N47.11° E22.659°; sweeping, leg. as No. 176; No. 226: Munţii Meseşului (Meszes-hegység), beech forest, 14.07.2015, N47.1383° E23.0847°, 565m, hand collecting, leg. Z. Erőss, A. Kenéz, P.G. Sulyán, Z. Vas; No. 233: Dealurile Crasnei (Krasznamenti-dombság), Zalău (Zilah), apartment balcony, 14.07.2015, N47.1807° E23.0559°, 274m, light trap, leg. as No. 226; No. 252: Dealurile Crasnei (Krasznamenti-dombság), Aghireş (Egrespatak), dry sward with loess wall and abandoned orchard, 16.07.2015, N47.1569° E22.9923°, 323m, light trap on hilltop (21.15-24.00), leg. as No.226; No. 271: Dealurile Boiului (Szamoszug), Vălişoara (Diószpatak), limestone hill, meadow, 10.09.2015, N47.360497° E23.426362°; netting, leg. A. Orosz; No. 276: Depresiunea Almaş-Agrij (Almás-Egregy-medence), Jibou (Zsibó), Grădina Botanică a Institutului de Cercetări Biologice din Jibou (Zsibó Botanikus Kert), 13.11.2015, N47.26348° E23.25225°; hand collecting, leg. Cs. Kutasi.

The data listed above were taken from article of Gubányi (2016), with some small modifications.

As the geographical distribution of the species regards, first of all the works of Günther (1974), Aspöck et al. (2001) and Lienhard et al. (2002) were taken into consideration.

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In the case of the handling of the two recognized species of *Chrysoperla carnea* complex work of Canard et al. (2007) is followed.

LIST OF THE SPECIES

Psocoptera

Caeciliusidae

Valenzuela flavidus (Stephens, 1836) – No. 99: 4 males. It is a very frequent species in the arboreal zone of the Palaearctic Region, and one of the commonest psocids in Central Europe.

Stenopsocidae

Stenopsocus immaculatus (Stephens, 1836) – No. 99: 1 male, 6 females; No. 104: 1 male. A widespread psocid in Europe and in some parts of Asia. It is abundant – first of all – in the cooler territories.

Amphipsocidae

Kolbia quisquiliarum Bertkau, 1882 – No. 108: 1 female; No. 112: 1 female, No. 113: 6 females; No. 271: 1 female. This species occurs in many extra-metiterranean countries of Europe and in some parts of Asia. Regarding fauna of Romania, hitherto it was mentioned only from Bucovina in an old publication (Marcu, 1938, cit. in Lienhard et al., 2002). *K. quisquiliarum* prefers the habitats with very high level of relative humidity, and – in contrast to the vast majority of this insect order – lives on herbaceous vegetation.

Peripsocidae

Peripsocus subfasciatus (Rambur, 1842) – No. 99: 1 female. Basically Holarctic species, but occurs also in Mexico and Colombia. It is abundant in different kinds of forested areas in Central Europe, and it may be found even on some ornamental trees of large cities.

Psocidae

Psococerastis gibbosa (Schulzer, 1776) – No. 233: 1 male. A widely distributed, and relatively large bodied Palaearctic species, which rather frequent in Central Europe, first of all in dense forests with humid microclimate.

Megaloptera

Sialidae

Sialis fuliginosa Pictet, 1836 – No. 115: 1 larva; No. 176:1 male. Distributed in Europe, in the Ural Mountains and southern part of Siberia, but usually it is not an abundant species. In Romania hitherto it was known only from Sinaia (Kis, 1952) and from Sibiu (Nagyszeben) (Kis et al., 1964).

Raphidioptera

Raphidiidae

Dichrostigma flavipes (Stein, 1863) – No. 32: 1 male. Its area includes Appeninn and Balkan peninsulas, Central Europe, forested steppe belt of East Europe and southern part of Siberia. This snake fly occurs everywhere in the Carpathian-Pannonian region (= Carpathian Basin) in arboreal habitats.

Neuroptera

Sisyridae

Sisyra terminalis Curtis, 1854 – No. 252: 1 male. Distributed – first of all – in the middle and northern parts of Palaearctic, and in the Russian Far East. Within the Carpathian-Pannonian region it is not a generally occurring species. In the last hundred years this insect was not found in Romania; regarding this country, the only finding was from Turnu-Roşu (Vöröstorony) (Pongrácz, 1914, Kis et al., 1970).

Hemerobiidae

Micromus angulatus (Stephens, 1836) – No. 104: 1 male; No. 105: 1 female; No. 108: 1 female; No. 112: 1 female; No. 226: 1 male. Holarctic species, occuring everywhere in the Carpathian-Pannonian region.

Micromus variegatus (Fabricius, 1793) – No. 36: 1 female; No. 226: 1 female. A Palaearctic lacewing, which prefers the habitats with humid microclimate. Widespread in the Carpathian-Pannonian region.

Chrysopidae

Chrysopa perla (Linnaeus, 1758) – No. 201: 1 male. Palaearctic insect, occuring everywhere in the Carpathian-Pannonian region.

Chrysopa walkeri McLachlan, 1893 – No. 32: 1 female; No. 252: 1 female. Distributed from South France to the northern part of Central Asia. It is a relatively rare green lacewing species.

Chrysoperla affinis (Stephens, 1836) – No. 91: 1 female; No. 161: 4 males, 1 female; No. 233: 1 female; No. 252: 2 males, 2 females; No. 276: 1 male, 4 females. Our knowledge on geographical distribution of this species is very poor, as its validity and identity was cleared recently (Canard et al., 2007). Earlier it was regarded as a junior synonyme of *Chrysoperla carnea.* Consequently, a part of the *C. carnea* data (more exactly: data on *C. carnea* species complex) refers to this species.

Chrysoperla carnea (Stephens, 1836) – No. 59: 2 females; No. 162: 1 female. Our knowledge on geographical distribution of *C. carnea* sensu stricto is obscure. (See above!) On the other hand, the *C. carnea* sensu lato (i.e.: the *C. carnea* complex) has an extremely large area: it widespread in the Palaearctic and Nearctic regions, and occurs also on some parts of the Oriental Region.

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CONCLUSION:

The number of the collected psocid and neuropterid specimens, as well as the number of the determined species is very low. 23 Psocoptera, 1 Megaloptera, 1 Raphidioptera and 30 Neuroptera specimens were collected, belonging to 5 Psocoptera, 1 Megaloptera, 1 Raphidioptera and 7 Neuroptera species. The number of Psocoptera and Neuroptera species living with high probability on the investigated territory should be about five times more than the number of the really found ones. (The relative short period of the project may be one of the important causes of this fact.)

On the other hand, the finding of three species, namely: *Kolbia quisquiliarum* Bertkau, 1882 (Psocoptera), *Sialis fuliginosa* Pictet, 1836 (Megaloptera) and *Sisyra terminalis* Curtis, 1854 (Neuroptera) is an important result of the project, because of their extreme rarity in Romania.

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