

CONTRIBUTIONS TO THE KNOWLEDGE OF ICHNEUMONIDAE AND GASTERUPTIIDAE FAUNA OF SĂLAJ COUNTY, ROMANIA (HYMENOPTERA)

Zoltán Vas^{1*}

¹Hymenoptera Collection, Department of Zoology, Hungarian Natural History Museum, Budapest, Hungary

Abstract: In 2014–2015 a faunistical survey was carried out in Sălaj County, Romania by the Hungarian Natural History Museum in co-operation with the “Vasile Goldiș” Western University of Arad. Here I report the results regarding ichneumon wasps (Ichneumonoidea: Ichneumonidae) and gasteruptiid wasps (Evanioidea: Gasteruptiidae). 67 species of ichneumon wasps and 4 species of gasteruptiid wasps were recorded from Sălaj County. Among them 6 ichneumon wasp species represent new records for the Romanian fauna: *Thaumatogelis aloiosa* Schwarz, 2001, *Bioblapsis polita* (Vollenhoven, 1878), *Homotropus nigratarsus* (Gravenhorst, 1829), *Ophion costatus* Ratzeburg, 1848, *Megastylus orbitator* Schiødte, 1937, and *Stenomacrus merula* (Gravenhorst, 1829).

keywords: faunistics, new record, parasitic wasp, Ichneumonoidea, Evanioidea

INTRODUCTION:

Ichneumon wasps (Hymenoptera: Ichneumonoidea: Ichneumonidae) constitute one of the most diverse families of the animal kingdom with more than 30.000 described species (Yu *et al.*, 1997, 2012). The family's species richness is estimated about 60.000 species as a minimum (Townes, 1969). Almost all Ichneumonidae species are solitary parasitoids of various arthropod hosts (Gauld *et al.*, 1988, Goulet *et al.*, 1993), including several pest insects; hence, they are an exceptionally important group of potential bio-control agents (Godfray, 1994). Gasteruptiidae (Hymenoptera: Evanioidea) is a small family of apocritan wasps with about 500 described species worldwide and 30 species in Europe; they develop in nests of solitary bees and wasps preying on the eggs and larvae of the hosts, and on provisions gathered by the hosts (Gauld *et al.*, 1988, Goulet *et al.*, 1993).

Ichneumonidae represent one of the most poorly known insect groups even in the European fauna (see e.g. Gauld *et al.*, 1988, Vas, 2013). Romania's ichneumon wasp fauna is relatively well known, mainly due to M. I. Constantineanu's works. According to Yu *et al.* (2012) there are about 2.000 species reported from the country, which, as compared to the species richness of other Central and Eastern European countries, is still an underestimation. Most probably, hundreds of species are still to be reported from Romania.

The ichneumon wasp fauna of Sălaj County (Romania) is particularly well-known due to E. Zilahi-Kiss's surveys in the area. He reported the occurrence of hundreds of species from Sălaj County and neighbouring areas (e.g. Zilahi-Kiss, 1924, 1926, 1929, 1933). However, his records are often erroneously linked to countries in Yu *et al.* (2012)'s world catalogue and database: some Romanian localities are linked Hungary and vice versa (see e.g. Vas (2013, 2015) and discussion section of the present paper for some clarifications).

MATERIALS AND METHODS:

In 2014–2015 a faunistical survey was carried out in Sălaj County by the Hungarian Natural History Museum (HNHM) in co-operation with the “Vasile Goldiș” Western University of Arad. All specimens reported here were collected within the framework of this co-operation.

Collecting numbers, localities and dates are given in the list below, following in the main Gubányi (2015). Collectors' names are abbreviated in the list as: AGr – Aranka Grabant, AGu – András Gubányi, AK – Attila Kenéz, AO – András Orosz, AP – Attila Podlussány, CsK – Csaba Kutasi, DM – Dávid Murányi, GK – Gergely P. Katona, GP – Gellért Puskás, LD – László Dányi, LR – László Ronkay, MT – Mária Tóth, OM – Ottó Merkl, PS – Péter G. Sulyán, VSz – Viktória Szöke, ZE – Zoltán P. Eröss, ZS – Zoltán Soltész, ZV – Zoltán Vas, ZsB – Zsolt Bálint.

Ichneumonidae taxonomy and nomenclature follow Yu *et al.* (2012). Gasteruptiidae taxonomy and nomenclature follow Mandl (2013). The specimens were identified by the author using a Nikon SMZ645 stereoscopic microscope. All specimens are deposited in the HNHM Hymenoptera Collection. Earlier records of ichneumon and gasteruptiid wasp species in the Romanian fauna were checked in Mocsáry (1897), Zilahi-Kiss (1924, 1926, 1929, 1933), Bajári (1960), Györfi *et al.* (1962), Bajári *et al.* (1969), Yu *et al.* (2012), and Klopffstein (2014).

Photos were taken by T. Németh (HNHM Coleoptera Collection) with Nikon D5200 and Nikon AF Micro Nikkor 60mm lens and Mitutoyo M Plan Apo 5X microscope lens. Exposures were stacked in Zerene Stacker, post image work was done with Photoshop CS5.

RESULTS AND DISCUSSION:

Below I list the ichneumon and gasteruptiid wasp species collected in Sălaj County, Romania in 2014–

2015. Subfamilies, genera, and species are ordered alphabetically. Asterisk (*) marks the species new for the Romanian fauna.

Ichneumonidae

Anomaloniinae

Heteropelma amictum (Fabricius, 1775)

1 ♂: 57: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), Vârșoț (Varsolc) Reservoir, 02.06.2014, N47.177° E22.889°; sweeping, hand collecting, pitfall traps, AO, GP, ZS & MT.

Banchinae

Glypta ceratites Gravenhorst, 1829

1 ♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Șimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

Glypta scalaris Gravenhorst, 1829

1 ♂: 98: Dealurile Sălajului (Szilágymenti-dombság), Aluniș (Szamosszépplak), oak forest, 13.08.2014, N47.371° E23.267°; pitfall traps, AGu, GK, AO & GP.

Lissonota cruentator (Panzer, 1809)

1 ♀: 92: Culoarul Someșului (Szamos völgye), Cliț (Csúrfalva), 14.08.2014, N47.29° E23.422°; sweeping, hand collecting, AGu, GK, AO & GP.

Lissonota culiciformis Gravenhorst, 1829

7 ♂♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Șimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

Lissonota versicolor Holmgren, 1860

8 ♂♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Șimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

Collyriinae

Collyria trichophthalma (Thomson, 1877)

1 ♂: 165: Culoarul Someșului (Szamos völgye), Surduc (Szurduk), pasture, 11.05.2015, N47.291° E23.374°; sweeping, beating, AGr, OM, AP & VSz.

Cremastinae

Dimophora evanialis (Gravenhorst, 1829)

1 ♀: 262: Dealurile Huedinului (Kalotaszegi-dombság), Jebucu (Zsobok), open and closed swards on gypsum, steep rocky slope, 08.09.2015, N46.894536° E23.106444°; sweeping, hand collecting, AGu, AO, LR & MT.

Pristomerus armatus (Lucas, 1849)

1 ♂: 267: Dealurile Sălajului (Szilágymenti-dombság), Zalău-Ortelec (Zilah-Vártelek), oak forest on the top of the hill, semi-natural steppe, 09.09.2015, N47.211599° E23.133539°; sweeping, hand collecting, leaf-hoover, AGu, AO, LR & MT.

Cryptinae

Agrothereutes abbreviatus (Fabricius, 1794)

1 ♀: 264: Munții Meseșului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; sweeping, hand collecting, leaf-hoover, AGu, AO, LR & MT.

Gelis bicolor (Villers, 1789)

2 ♀♀: 112: Munții Meseșului (Meszes-hegység), Pria (Perje), SW slope of Vf. Măgura Priei (Perjei csúcs), 01.10.2014, N47.0056° E22.89196°; soil sample, sweeping, hand collecting, ZsB, LD, GK & DM.

Gelis fallax (Förster, 1850)

1 ♀: 112: Munții Meseșului (Meszes-hegység), Pria (Perje), SW slope of Vf. Măgura Priei (Perjei csúcs), 01.10.2014, N47.0056° E22.89196°; soil sample, sweeping, hand collecting, ZsB, LD, GK & DM.

Gelis melanocephalus (Schrank, 1781)

1 ♀: 232: Munții Meseșului (Meszes-hegység), Poic, marshy meadow, 14.07.2015, N46.9842° E22.9199°; hand collecting, sweeping, ZE, AK, PS & ZV.

Gelis proximus (Förster, 1850)

1 ♀: 217: Munții Meseșului (Meszes-hegység), Zalău (Zilah), Hegyes-hegy, beech forest, 28.05.2015, N47.14075° E23.08425°; pitfall traps, ZsB, AGu & GK.

Gelis spurius (Förster, 1850)

1 ♀: 217: Munții Meseșului (Meszes-hegység), Zalău (Zilah), Hegyes-hegy, beech forest, 28.05.2015, N47.14075° E23.08425°; pitfall traps, ZsB, AGu & GK.

Latibulus agriolus (Rossi, 1790)

1 ♀: 255: Munții Meseșului (Meszes-hegység), 6 km S of Cizer (Csiszér) on road 108G, Crasna (Kraszna) spring, beech forest and roadside vegetation, 17.07.2015, N47.0161° E22.8701°; hand collecting, ZE, AK, PS & ZV.

**Thaumatogelis aloiosa* Schwarz, 2001 (Fig. 1.)

1 ♀: 34: Dealurile Crasnei (Krasznamenti-dombság), Vârșoț (Varsolc), near Vârșoț Reservoir, willows, reed bed, 20.05.2014, N47.17847° E22.88972°; sweeping, ZsB, AGu, GK & CsK. – 1 ♀: 57: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), Vârșoț (Varsolc) Reservoir, 2.06.2014, N47.177° E22.889°; pitfall traps, AO, GP, ZS & MT.



Fig. 1. *Thaumatogetelis aloiosa* Schwarz, 2001, female.

Cylloceriinae

Cylloceria melancholica (Gravenhorst, 1820)

1 ♀: 236: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), near Vârșoț (Varsolc) reservoir, willows and wet meadow, 15.07.2015, N47.1776° E22.8891°; hand collecting, sweeping, flight intercept trap, PS & ZV.

Diacritinae

Diacritus aciculatus (Vollenhoven, 1878)

1 ♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Șimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

Diplazontinae

**Bioblapsis polita* (Vollenhoven, 1878) (Fig. 2.)

1 ♀: 61C: Munții Plopiș (Réz-hegység), Iaz (Krasznajáz), Mlaștina de la Iaz, 03.06.2014, N47.111° E22.662°; bottle traps baited with wine and banana, AO, GP, ZS & MT.



Fig. 2. *Bioblapsis polita* (Vollenhoven, 1878), female.

Diplazon laetatorius (Fabricius, 1781)

1 ♀: 57: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), Vârșoț (Varsolc) Reservoir, 02.06.2014, N47.177° E22.889°; sweeping, hand collecting, pitfall traps, AO, GP, ZS & MT. – 1 ♀: 66: Munții Meseșului (Meszes-hegység), 1 km E of Huta (Csákyújfalú), 04.06.2014, N47.015° E22.963°; sweeping, hand collecting AO, GP, ZS & MT. – 1 ♀:

69: Munții Meseșului (Meszes-hegység), 2.5 km SW of Huta (Csákyújfalú), at Poicu Stream, 04.06.2014, N46.986° E22.917°; sweeping, hand collecting, AO, GP, ZS & MT. – 1 ♀: 232: Munții Meseșului (Meszes-hegység), Poicu, marshy meadow, 14.07.2015, N46.9842° E22.9199°; hand collecting, sweeping, ZE, AK, PS & ZV.

Diplazon multicolor (Gravenhorst, 1829)

1 ♀: 235: Dealurile Crasnei (Krasznamenti-dombság), road between Aghireș (Egrespatak) and Crasna (Kraszna), 15.07.2015; netting with car, ZV.

Diplazon pectoratorius (Thunberg, 1822)

1 ♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Șimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

Diplazon tetragonus (Thunberg, 1822)

1 ♂: 57: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), Vârșoț (Varsolc) Reservoir, 02.06.2014, N47.177° E22.889°; sweeping, hand collecting, pitfall traps, AO, GP, ZS & MT. – 7 ♂♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Șimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

**Homotropus nigratarsus* (Gravenhorst, 1829) (Fig. 3.)

1 ♀: 69: Munții Meseșului (Meszes-hegység), 2.5 km SW of Huta (Csákyújfalú), at Poicu Stream, 04.06.2014, N46.986° E22.917°; sweeping, hand collecting, AO, GP, ZS & MT.



Fig. 3. *Homotropus nigratarsus* (Gravenhorst, 1829), female.

Homotropus pictus (Gravenhorst, 1829)

1 ♀: 57: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), Vârșoț (Varsolc) Reservoir, 02.06.2014, N47.177° E22.889°; sweeping, hand collecting, pitfall traps, AO, GP, ZS & MT.

Sussaba pulchella (Holmgren, 1858)

1 ♀: 119: Depresiunea Almaș-Agrij (Almás-Egri-medence), NE of Ciumărna (Csömörölő), 01.10.2014, N47.12676° E23.15201°; soil sample, ZsB, LD, GK & DM. – 1 ♀: 161: Dealurile Sălajului

(Szilágymenti-dombság), Derșida (Kisderzsida), pasture, 10.05.2015, N47.398° E22.814°; sweeping, AGr, OM, AP & VSz.

Syrphophilus bizonarius (Gravenhorst, 1829)

1 ♂: 59: Dealurile Crasnei (Krasznamenti-dombság), N of Meseșenii de Jos (Magyarkecel), 02.06.2014, N47.163° E22.956°; sweeping, hand collecting, AO, GP, ZS & MT. – 1 ♀: 69: Munții Meseșului (Meszes-hegység), 2.5 km SW of Huta (Csákyújfalu), at Poicu Stream, 04.06.2014, N46.986° E22.917°; sweeping, hand collecting, AO, GP, ZS & MT. – 1 ♂: 162: Dealurile Sălajului (Szilágymenti-dombság), Borla (Szilágyballa), abandoned arable land, 10.05.2015, N47.265° E22.938°; sweeping, AGr, OM, AP & VSz.

Ichneumoninae

Ctenichneumon messorius (Gravenhorst, 1820)

1 ♂: 69: Munții Meseșului (Meszes-hegység), 2.5 km SW of Huta (Csákyújfalu), at Poicu Stream, 04.06.2014, N46.986° E22.917°; sweeping, hand collecting, AO, GP, ZS & MT.

Eutanyacra crispatoria (Linnaeus, 1758)

1 ♀: 30: Munții Plopiș (Réz-hegység), Iaz (Krasznajáz), Mlaștina de la Iaz 3, oak forest, orchard-oak ecotone, pastures, 20.05.2014, N47.11075° E22.66208°; pitfall traps, ZsB, AGu, GK & CsK.

Crypteffigies albilarvatus (Gravenhorst, 1820)

1 ♀: 71: Dealurile Sălajului (Szilágymenti-dombság), Aluniș (Szamoszépplak), oak forest, 04.06.2014, N47.371° E23.267°; pitfall traps, AO, GP, ZS & MT.

Crypteffigies lanius (Gravenhorst, 1829)

1 ♀: 30: Munții Plopiș (Réz-hegység), Iaz (Krasznajáz), Mlaștina de la Iaz 3, oak forest, orchard-oak ecotone, pastures, 20.05.2014, N47.11075° E22.66208°; pitfall traps, ZsB, AGu, GK & CsK. – 1 ♀: 71: Dealurile Sălajului (Szilágymenti-dombság), Aluniș (Szamoszépplak), oak forest, 04.06.2014, N47.371° E23.267°; pitfall traps, AO, GP, ZS & MT.

Cratichneumon coruscator (Linnaeus, 1758)

1 ♀: 71: Dealurile Sălajului (Szilágymenti-dombság), Aluniș (Szamoszépplak), oak forest, 04.06.2014, N47.371° E23.267°; pitfall traps, AO, GP, ZS & MT.

Virgichneumon dumeticola (Gravenhorst, 1829)

1 ♀: 57: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), Vârșoț (Varsolc) Reservoir, 02.06.2014, N47.177° E22.889°; sweeping, hand collecting, pitfall traps, AO, GP, ZS & MT.

Mesochorinae

Astiphromma splenium (Curtis, 1833)

2 ♀♀, 2 ♂♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Șimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

Mesochorus vitticollis Holmgren, 1860

1 ♂: 162: Dealurile Sălajului (Szilágymenti-dombság), Borla (Szilágyballa), abandoned arable land, 10.05.2015, N47.265° E22.938°; sweeping, AGr, OM, AP & VSz.

Metopiinae

Colpotrochia cincta (Scopoli, 1763)

1 ♂: 60A: Dealurile Crasnei (Krasznamenti-dombság), W of Aghireș (Egrespatak), dry swards, 02-03.06.2014, N47.157° E22.992°; sweeping, hand collecting, pitfall traps, light trap, AO, GP, ZS & MT.

Ophioninae

Enicospilus merdarius (Gravenhorst, 1829)

4 ♀♀, 4 ♂♂: 32: Dealurile Crasnei (Krasznamenti-dombság), Aghireș (Egrespatak), dry swards, 20.05.2014, N47.15716° E22.99252°; light trap, ZsB, AGu, GK & CsK. – 1 ♀: 108: Dealurile Crasnei (Krasznamenti-dombság), W of Aghireș (Egrespatak), dry swards, 30.09.2014, N47.157° E22.992°; light trap, ZsB, LD, GK & DM. – 2 ♀♀: 252: Dealurile Crasnei (Krasznamenti-dombság), Aghireș (Egrespatak), dry sward with loess wall and orchard, 16.07.2015, N47.1569° E22.9923°; light trap, PS & ZV.

Enicospilus repetinus (Holmgren, 1860)

1 ♀: 252: Dealurile Crasnei (Krasznamenti-dombság), Aghireș (Egrespatak), dry sward with loess wall and orchard, 16.07.2015, N47.1569° E22.9923°; light trap, PS & ZV.

Enicospilus tournieri (Vollenhoven, 1879)

1 ♀: 258: Depresiunea Almaș-Agrij (Almás-Egrefgy-medence), Ugruțiu (Ugróc), closed steppe, edge of oak forest, pastures in valley floor, 07.09.2015, N47.019723° E23.361953°; light trap, AGu, AO, LR & MT.

**Ophion costatus* Ratzeburg, 1848 (Fig. 4.)

1 ♀: 37: Munții Meseșului (Meszes-hegység), Huta (Csákyújfalu), wet meadow, clearing in beech forest, *Calluna* heath, 21-22.05.2014, N46.99569° E22.92313°; light trap, ZsB, AGu, GK & CsK.

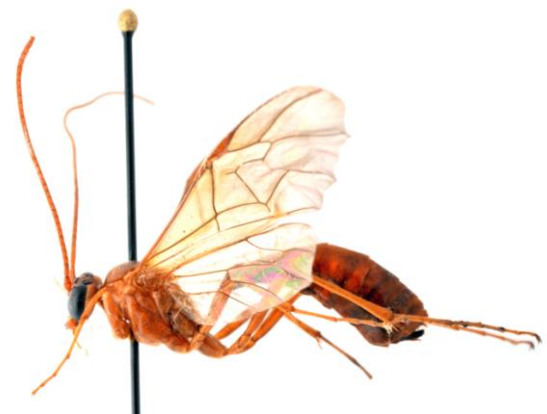


Fig. 4. *Ophion costatus* Ratzeburg, 1848, female.

Ophion minutus Kriechbaumer, 1879

1 ♀: 211: Depresiunea Almaş-Agrij (Almás-Egregy-medence), Ugruţiu (Ugróc), 27-28.05.2015, N47.025783° E23.350829°; light trap, ZsB, AGu & GK.

Ophion mocsaryi Brauns, 1889

1 ♀: 211: Depresiunea Almaş-Agrij (Almás-Egregy-medence), Ugruţiu (Ugróc), 27-28.05.2015, N47.025783° E23.350829°; light trap, ZsB, AGu & GK. – 1 ♀: 221: Dealurile Crasnei (Krasznamenti-dombság), W of Aghireş (Egrespatak), xeromesophile grassland and forest edge, 28-29.05.2015, N47.156611° E22.990925°; light trap, ZsB, AGu & GK.

Ophion obscuratus Fabricius, 1798

2 ♂♂: 61E: Munţii Plopiş (Réz-hegység), Iaz (Krasznajáz), 03.06.2014, N47.11° E22.659°; light trap, AO, GP, ZS & MT. – 2 ♀♀: 221: Dealurile Crasnei (Krasznamenti-dombság), W of Aghireş (Egrespatak), xeromesophile grassland and forest edge, 28-29.05.2015, N47.156611° E22.990925°; light trap, ZsB, AGu & GK.

Ophion parvulus Kriechbaumer, 1879

1 ♀: 211: Depresiunea Almaş-Agrij (Almás-Egregy-medence), Ugruţiu (Ugróc), 27-28.05.2015, N47.025783° E23.350829°; light trap, ZsB, AGu & GK.

Ophion pteridis Kriechbaumer, 1879

2 ♀♀: 32: Dealurile Crasnei (Krasznamenti-dombság), Aghireş (Egrespatak), dry swards, 20.05.2014, N47.15716° E22.99252°; light trap, ZsB, AGu, GK & CsK.

Ophion ventricosus Gravenhorst, 1829

1 ♀: 32: Dealurile Crasnei (Krasznamenti-dombság), Aghireş (Egrespatak), dry swards, 20.05.2014, N47.15716° E22.99252°; light trap, ZsB, AGu, GK & CsK.

Orthocentrinae

Aperileptus albipalpus (Gravenhorst, 1829)

1 ♀, 3 ♂♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Şimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

**Megastylus orbitator* Schiødte, 1937 (Fig. 5.)

1 ♀: 104: Munţii Plopiş (Réz-hegység), Iaz (Krasznajáz), peat bog and ruins of the bath, 30.09.2014, N47.111° E22.659°; hand collecting, soil sample, ZsB, LD, GK & DM.



Fig. 5. *Megastylus orbitator* Schiødte, 1937, female.

Plectiscidea collaris (Gravenhorst, 1829)

1 ♀: 114: Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), 01.10.2014, N46.99456° E22.92488°; soil sample, ZsB, LD, GK & DM.

Plectiscidea moerens (Förster, 1871)

1 ♀, 1 ♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Şimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

Stenomacrus exserens (Thomson, 1898)

1 ♀: 61A: Munţii Plopiş (Réz-hegység), Iaz (Krasznajáz), 03.06.2014, N47.111° E22.659°; sweeping, hand collecting, AO, GP, ZS & MT. – 1 ♂: 62A: Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), above the village, at Barcău (Berettyó) springs, 03.06.2014, N47.02° E22.749°; sweeping, hand collecting, AO, GP, ZS & MT.

**Stenomacrus merula* (Gravenhorst, 1829) (Fig. 6.)

1 ♀, 1 ♂: 123: Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Ponor, 02.10.2014, N47.01195° E22.7421°; hand collecting, soil sample, ZsB, LD, GK & DM.



Fig. 6. *Stenomacrus merula* (Gravenhorst, 1829), female.

Oxytorinae

Oxytorus luridator (Gravenhorst, 1820)

2 ♀♀, 5 ♂♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Șimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

Pimplinae

Endromopoda detrita (Holmgren, 1860)

1 ♀: 57: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), Vârșoț (Varsolc) Reservoir, 02.06.2014, N47.177° E22.889°; sweeping, hand collecting, pitfall traps, AO, GP, ZS & MT.

Itopectis maculator (Fabricius, 1775)

1 ♀: 234: Dealurile Crasnei (Krasznamenti-dombság), Aghireș (Egrespatak), dry sward with loess wall and orchard, 15.07.2015, N47.1571° E22.9937°; hand collecting, sweeping, PS & ZV.

Itopectis viduata (Gravenhorst, 1829)

1 ♂: 59: Dealurile Crasnei (Krasznamenti-dombság), N of Meseșeni de Jos (Magyarkecel), 02.06.2014, N47.163° E22.956°; sweeping, hand collecting, AO, GP, ZS & MT.

Pimpla spuria Gravenhorst, 1829

1 ♀: 60A: Dealurile Crasnei (Krasznamenti-dombság), W of Aghireș (Egrespatak), dry swards, 02-03.06.2014, N47.157° E22.992°; sweeping, hand collecting, pitfall traps, light trap, AO, GP, ZS & MT.

Tromatobia variabilis (Holmgren, 1856)

1 ♂: 87: Depresiunea Almaș-Agrij (Almás-Egregy-medence), between Băbiu (Bábony) and Almașu (Váralmás), shore of Băbiu Stream, 13.08.2014, N46.954° E23.099°; sweeping, hand collecting, AGu, GK, AO & GP.

Zaglyptus varipes (Gravenhorst, 1829)

1 ♀: 108: Dealurile Crasnei (Krasznamenti-dombság), W of Aghireș (Egrespatak), dry swards, 30.09.2014, N47.157° E22.992°; soil sample, light trap, pitfall traps, ZsB, LD, GK & DM. – 1 ♀, 1 ♂: 264: Munții Meseșului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; sweeping, hand collecting, leaf-hoover, light tower, AGu, AO, LR & MT.

Poemeniinae

Deuteroxoides elevator (Panzer, 1799)

1 ♀, 1 ♂: 73: Dealurile Crasnei (Krasznamenti-dombság), Șimleu Silvaniei (Szilágysomlyó), 05.06.2014, N47.237° E22.804°; sweeping, hand collecting, AO, GP, ZS & MT.

Tersilochinae

Phradis minutus (Bridgman, 1889)

1 ♀: 68A: Munții Meseșului (Meszes-hegység), Pria (Perje), SW slope of Vf. Măgura Priei (Perje csúcs), 04.06.2014, N47.007° E22.9°; sweeping, hand collecting, AO, GP, ZS & MT.

Probles erythrostomus (Gravenhorst, 1829)

2 ♂♂: 60A: Dealurile Crasnei (Krasznamenti-dombság), W of Aghireș (Egrespatak), dry swards, 02-03.06.2014, N47.157° E22.992°; sweeping, hand collecting, pitfall traps, light trap, AO, GP, ZS & MT. – 1 ♂: 61B: Munții Plopiș (Réz-hegység), Iaz (Krasznajáz), 03.06.2014, N47.111° E22.657°; sweeping, hand collecting, AO, GP, ZS & MT.

Tryphoninae

Netelia melanura (Thomson, 1888)

1 ♀, 1 ♂: 211: Depresiunea Almaș-Agrij (Almás-Egregy-medence), Ugruțiu (Ugróc), 27-28.05.2015, N47.025783° E23.350829°; light trap, ZsB, AGu & GK.

Tryphon atriceps Stephens, 1835

1 ♀: 57: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), Vârșoț (Varsolc) Reservoir, 02.06.2014, N47.177° E22.889°; sweeping, hand collecting, pitfall traps, AO, GP, ZS & MT. – 1 ♀: 66: Munții Meseșului (Meszes-hegység), 1 km E of Huta (Csákyújfalú), 04.06.2014, N47.015° E22.963°; sweeping, hand collecting, AO, GP, ZS & MT.

Tryphon rutilator (Linnaeus, 1761)

1 ♀: 167: Culoarul Someșului (Szamos völgye), Surduc (Szurduk), pasture, 11.05.2015, N47.291° E23.374°; hand collecting, AGr, OM, AP & VSz.

Xoridinae

Xorides gravenhorstii (Curtis, 1831)

1 ♀: 236: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), near Vârșoț (Varsolc) reservoir, willows and wet meadow, 15.07.2015, N47.1776° E22.8891°; hand collecting, sweeping, flight intercept trap, PS & ZV. – 1 ♀: 250: Munții Plopiș (Réz-hegység), Iaz (Krasznajáz), Mlaștina de la Iaz, mixed vegetation, 16.07.2015, N47.1108° E22.6602°; hand collecting, sweeping, flight intercept trap, PS & ZV.

Gasteruptiidae

Gasteruption assectator (Linnaeus, 1758)

1 ♂: 234: Dealurile Crasnei (Krasznamenti-dombság), Aghireș (Egrespatak), dry sward with loess wall and orchard, 15.07.2015, N47.1571° E22.9937°; hand collecting, sweeping, PS & ZV. – 3 ♀♀, 2 ♂♂: 250: Munții Plopiș (Réz-hegység), Iaz (Krasznajáz), Mlaștina de la Iaz, mixed vegetation, 16.07.2015, N47.1108° E22.6602°; hand collecting, sweeping, PS & ZV.

Gasteruption erythrostomum (Dahlbom, 1831)

2 ♀♀: 66: Munții Meseșului (Meszes-hegység), 1 km E of Huta (Csákyújfalú), 04.06.2014, N47.015° E22.963°; sweeping, hand collecting, AO, GP, ZS & MT.

Gasteruption jaculator (Linnaeus, 1758)

1 ♀: 250: Munții Plopiș (Réz-hegység), Iaz (Krasznajáz), Mlaștina de la Iaz, mixed vegetation,

16.07.2015, N47.1108° E22.6602°; hand collecting, sweeping, PS & ZV.

Gasteruption tournieri Schletterer, 1885

3 ♂♂: 250: Munții Plopiș (Réz-hegység), Iaz (Krasznajáz), Mlaștina de la Iaz, mixed vegetation, 16.07.2015, N47.1108° E22.6602°; hand collecting, sweeping, PS & ZV.

During the faunistic survey 67 species of ichneumon wasps and 4 species of gasteruptionid wasps were recorded from Sălaj County.

I found 6 ichneumon wasp species new for the Romanian fauna, namely: *Thaumatogelis aloiosa*, *Bioblapsis polita*, *Homotropus nigratarsus*, *Ophion costatus*, *Megastylus orbitator*, and *Stenomacrus merula* (Figs. 1–6., respectively). Each of them, except *Thaumatogelis aloiosa*, is a widely distributed species in Europe (Yu *et al.*, 2012), although *Bioblapsis polita* seems to be a rather rare species (Bajári *et al.*, 1969, Klopstein, 2014). *Thaumatogelis aloiosa* has only been known from Austria so far (Schwarz, 2001, Yu *et al.*, 2012).

According to Yu *et al.* (2012)'s world catalogue and database *Diplazon multicolor*, *Ophion parvulus*, *Ophion pteridis*, and *Probles erythrostomus* have not been reported from Romania yet; however, each was reported by Zilahi-Kiss (1924, 1926, 1929) but their localities were erroneously linked to present-day Hungary. *Diplazon multicolor* specimens were found at Aiud (Nagyenyed), Beclean (Bethlen) and Saschiz (Szászkezd, Keisd) (Zilahi-Kiss, 1924, 1933). The first Romanian record of *Ophion parvulus* is from Munții Retezat (Retyezát-hegység) (Zilahi-Kiss, 1924), and it was also found at Aiud (Nagyenyed) (Zilahi-Kiss, 1926). *Ophion pteridis* has been reported first from Zalău (Zilah) (Zilahi-Kiss, 1926). The first Romanian record of *Probles erythrostomus* is from Ineu (Borosjenő) (Zilahi-Kiss, 1929).

Several collected specimens (especially males) belonging to some ichneumon wasp subfamilies such as Campopleginae, Cryptinae, Ctenopelmatinae, Orthocentrinae, and Tryphoninae have not been identified at species level yet due to the lack of comprehensive, reliable identification keys for the region.

The 4 gasteruptionid wasp species reported here are common and widespread species in the Carpathian Basin (Györfi *et al.*, 1962).

CONCLUSIONS:

In total, 67 species of ichneumon wasps and 4 species of gasteruptionid wasps were recorded from Sălaj County. They mainly represent the common and widespread species; however, a few rare species were also found, and 6 ichneumon wasp species were new for the Romanian fauna. Considering the known species richness of ichneumon wasps and gasteruptionid wasps in Central and Eastern Europe, the Ichneumonidae and Gasteruptionidae fauna in Sălaj County is still poorly known.

ACKNOWLEDGEMENTS:

I am grateful to all collectors for collecting Hymenoptera specimens during their field trips. I thank Jutka Domonkos for her help in compiling the taxon list. I would like to express my gratitude to Tamás Németh for the photos.

REFERENCES:

- Bajári E, Fűrészdarázs-alkatúak I. Ichneumonoidea I. In: Magyarország Állatvilága. Fauna Hungariae, XI, 4. Akadémiai Kiadó, Budapest, 1960.
- Bajári E, Móczár L, Fűrészdarázs-alkatúak IV. Ichneumonoidea IV. In: Magyarország Állatvilága. Fauna Hungariae, XI, 7. Akadémiai Kiadó, Budapest, 1969.
- Gauld D, Barry B, The Hymenoptera. British Museum (Natural History), London, 1988.
- Godfray HCJ, Parasitoids. Behavioral and Evolutionary Ecology. Princeton University Press, Princeton, 1994.
- Goulet H, Huber JT, Hymenoptera of the World: An identification guide to families. Agriculture Canada, Ottawa, 1993.
- Gubányi A, Collecting sites of the Hungarian Natural History Museum in Sălaj, Romania, between 2014 and 2015. Studia Universitatis Vasile Goldis Seria Stiintele Vietii (Life Sciences Series), 25(3), 157–167, 2015.
- Györfi J, Bajári E, Fűrészdarázs-alkatúak XII. Ichneumonoidea XII. In: Magyarország Állatvilága. Fauna Hungariae, XI, 15. Akadémiai Kiadó, Budapest, 1962.
- Klopstein S, Revision of the Western Palaearctic Diplazontinae (Hymenoptera, Ichneumonidae). Zootaxa, 3801(1), 1–143, 2014.
- Mandl M, Fauna Europaea: Gasteruptionidae. In: Mitroiu M-D, Fauna Europaea: Hymenoptera, several families. Fauna Europaea version 2.6.2, <http://www.faunaeur.org>, 2013. [Accessed 7 December 2015.]
- Mocsáry S, Ordo Hymenoptera. In: A Magyar Birodalom Állatvilága. Fauna Regni Hungariae. Magyar Királyi Természettudományi Társulat, 1897.
- Schwarz M, Revision der westpalaearktischen Arten der Gattungen Gelis Thunberg mit apteren Weibchen und Thaumatogelis Schwarz (Hymenoptera, Ichneumonidae). Teil 4. Linzer Biologische Beiträge, 33(2), 1111–1155, 2001.
- Townes H, The genera of Ichneumonidae. Part 1. Memoirs of the American Entomological Institute, 11, 1–300, 1969.
- Vas Z, First records of three ichneumon wasp species in Hungary (Hymenoptera: Ichneumonidae). Folia Entomologica Hungarica, 74, 189–194, 2013.
- Vas Z, New records of ichneumon wasps in Hungary, Romania, Serbia and Slovakia with a key to the Western Palaearctic *Xylophrurus* species (Hymenoptera: Ichneumonidae). Folia Entomologica Hungarica, 76, in press.
- Yu DS, Horstmann K, A catalogue of world Ichneumonidae (Hymenoptera). The American Entomological Institute, Gainesville, 1997.

- Yu DS, van Achterberg C, Horstmann K, Taxapad 2012, Ichneumonoidea 2011. Database on flash-drive, <http://www.taxapad.com>, Ottawa, Ontario, Canada, 2012.
- Zilahi-Kiss E, Beitrag zur Kenntnis der ungarischen und siebenbürgischen Ichneumoniden- (Schlupfwespen-) Fauna. Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften in Hermannstadt, 72–74, 32–146, 1924.
- Zilahi-Kiss E, Dritter Beitrag zur Kenntnis der ungarischen und siebenbürgischen Ichneumoniden- (Schlupfwespen-) Fauna. Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften in Hermannstadt, 79–80, 89–144, 1929.
- Zilahi-Kiss E, Vierter Beitrag zur Kenntnis der ungarischen und siebenbürgischen Ichneumoniden- (Schlupfwespen-) Fauna. Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften in Hermannstadt, 81–82, 43–65, 1933.
- Zilahi-Kiss E, Zweiter Beitrag zur Kenntnis der ungarischen und siebenbürgischen Ichneumoniden- (Schlupfwespen-) Fauna. Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften in Hermannstadt, 75–76, 74–120, 1926.