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A MALACO-FAUNISTICAL STUDY OF SALAJ COUNTY/SZILÁGYSÁG, ROMANIA WITH TAXONOMICAL NOTES

Zoltán Péter Erőss[1],
[1]Department of Zoology, Hungarian Natural History Museum,

ABSTRACT. In the framework of the research program of the Hungarian Natural History Museum "Invertebrate faunistical investigation of Sălaj county", numerous molluscs (87 species) were collected in 2014-2015. Compared to other parts of the Carpathians, the mollusc fauna of Sălaj county is relatively poor - after this investigations this number is increased to 114 species - considering either the total species richness or the number of taxa. In the list I enumerate the results of recent collections, adding and also comparing with the results by Domokos and Lennert, 2009 in connection the area of judetul Sălaj /Szilágyság. From faunistical and conservation point the most important results are species of *Acicula perpusilla, Agardhiella lamellosa, Drobacia banatica, Unio crassus, Vertigo angustior, Vertigo moulinsiana* and *Vertigo substriata*. thing worth mentioning. The most important outcome of this study was the discovery of a new *Bythinella* species: *Bythinella gregoi* GLÖER & ERŐSS and Alzoniella (?) species which is a new species and genus for Romania. The other important finding a very big empty shell of Mastus bielzi which could be a new subspecies. These recent researches made a result rare or new endemic species, it pays attention that the well-known, but not so deeply researched areas can be faunistical or scientific surprised.

Keywords: Mollusca, Romania, Sălaj, Faunistics, *Bythinella*, *Alzoniella*, *Mastus*, Carpathian

INTRODUCTION:

Sălaj county is situated in the north-west of the country in Carpathian biogeographical region, between the Eastern Carpathians and Apuseni Mountains known as "Someș Plateau ". Compared to other parts of the Carpathians, characterized by lower species diversity and lesser number of endemic species. The degree of urbanization of the county is high: 39.3%.

That may be the reason lesser attention have been focused on the Sălaj County so far, thus the mountains in Sălaj county are among the less explored areas of the Carpathian region. There were hardly any contribution to the knowledge of the area's mollusc fauna.

Surveying the malacological collection of the Hungarian Natural History Museum, suprisingly I could find only 3 records from Salaj county among 100000 data. I found only one data of freshwater snails in the collections of the Natural History Museum of Sibiu.

Also the four -parts Grossu's Romanian malacofauna books do not contain exact data about the country (Grossu 1981, 1983). We can say this, because this part of the Romania was a white part 6 years ago. I found in the literature only a very few publications eg. Sárkány-Kiss et. al. (1997 and 1999), and. Till now there was no any faunistic research project in Sălaj County in the last or this century. The study of *Domokos & Lennert* (2009) is one big exception. They published 73 land and freshwater mollucs species from Sălaj county.

During the research program "Invertebrate faunistical investigation of the Sălaj county" by Hungarian Natural History Museum between 2014 and 2015, a special emphasis was laid on the molluscs. Beside the possibility of making collections in the framework of this program, there was a good opportunity to summarize these few literature data.

MATERIAL AND METHODS

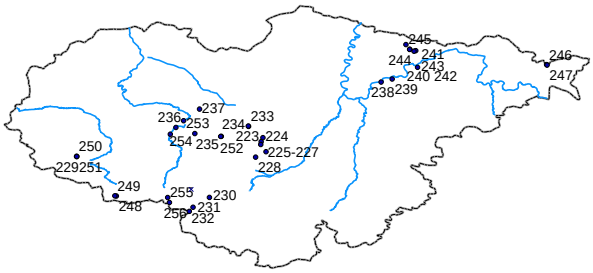
Literature data are cited in quotation-marks. In the case of the Hungarian literature, geographic proper names are cited in their original form, followed by the present Romanian names in square brackets.

Recent material has been collected by the author (abbreviated as EZP), the rest by other zoologists, abbreviated as follows: ZSB – Zsolt Bálint; LD – László Dányi; LF – László Forró; AG – Aranka Grabant; AGu – András Gubányi; GK – Gergely Katona; AK – Attila Kenéz; CSK – Csaba Kutasi; LR – László Ronkay; OM – Ottó Merkl; DM – Dávid Murányi; AO – András Orosz; GP – Gellért Puskás; ZS – Zoltán Soltész; VSZ – Viktoria Szőke; MT – Mária Tóth; ZV – Zoltán Vas. Recent collectings were done mostly by hand searching, partly by sweeping net and soil sifting. Pitfall traps were also used.

Recently collected material is deposited in the Mollusca collection of the Hungarian Natural History Museum (HNHM).

A part of the material has been determined or checked by the following specialists: Tamás Deli, Békéscsaba (Vertiginidae) Miklós Szekeres, Szeged (Clausiliidae), Gábor Majoros, Budapest (slugs and Pisidiidae) and András Varga, Gyöngyös (Unionidae). The nomenclature follows those of *Bank* (2013) and *Araujo* (2013).

Correspondence*: *Zoltán Péter Erőss, Department of Zoology, Hungarian Natural History Museum, Baross u. 13, H-1088, Hungary, Tel. +36-1-267-7007 email: zoltan.eross@nhmus.hu*



13-17.07.2015 (leg. Z. Erőss, A. Kenéz, P.G. Sulyán, Z. Vas)

Fig. 1. Map of our collecting sites by expeditions of the Hungarian Natural History Museum in Sălaj County, Romania in 2015. After András Gubányi

LIST OF SPECIES

Hydrobiidae

***Bythinella gregoi* Glöer & Erőss,** 2015 (Fig 2.)

Sălaj County, 3,7 km SE of Vălisoara (Dióspatak) below the lowest artificial pond, spring. Right side of the brook. 12.11.2015, leg. EZP, AK & ZV

Same place on the type locality. 15.07.2014 N47°356' E23°428', leg. EZP & AK, Sălaj County, 3,7 km SE of Vălisoara (Dióspatak) below the lowest artificial pond, spring.

Remarks: This new taxon is known only from the type locality. First we found unfortunately only empty shells. Later, November of 2015 we visited again the locus typicus and found this new species alive. This finding is important because the dissected material will help us to find anatomical differences from the other *Bythinella* species.

Fig.2 *Bythinella gregoi*, Collected in Sălaj County, 3,7 km SE of Vălisoara (Dióspatak) below the lowest artificial pond, spring, Right side of the brook. Photo: P. GLÖER

***Bythinella blidariensis* Glöer 2013** (Fig. 3.)

New data: leg. EZP & AK, Sălaj County, 3,7 km SE of Vălisoara (Dióspatak) below the lowest artificial pond, spring. On stones. Right side of the brook.
12.11.2015, leg. EZP, AK, AO & ZV same locality.
Remarks:

This taxon is known till now only from the type locality in Maramureş. The new finding shows that the area of this species extends more to the South.

Fig 3. *Bythinella blidariensis* from Salaj County Collected in Sălaj County, 3,7 km SE of Vălisoara (Dióspatak) below the lowest artificial pond, spring. On stones. Right side of the brook. Photo: P. GLÖER

***Alzoniella (?) cf. slovenica* (Lozek & Brtek, 1964)** (Fig. 4.)

New data: leg. EZP & AK, Sălaj County, 3,7 km SE of Vălisoara (Dióspatak) below the lowest artificial pond, spring. Right side of the brook.

12.11.2015, leg. EZP, AK, AO & ZV same locality.

Remarks: This taxon has been found in the same place with other two *Bythinella* species, but not on stones. Maybe this species lives deeper in the spring. This name is only transitory as in this moment we don't know its genus. The shell resembles only a little bit *Alzoniella*, but without anatomical studies and genetical investigations we can not be sure about it. Other problem is the distribtion area of *Alzoniella slovenica* which species are living in Slovakia, the closest collecting place is more than 270 kilometers NW in a straight line.

Fig.4. *Alzoniella (?) cf. slovenica*, (see remarks) Collected in Sălaj County, 3,7 km SE of Vălisoara (Dióspatak) below the lowest artificial pond, spring, Photo: P. GLÖER

Aciculidae

***Platyla polita* (W. Hartmann, 1840)**

Literature data: "Sălaj, Poiana Blenchii, Cheile Babei" (Domokos & Lennert, 2009)

New data: "Dealurile Boiului (Szamoszug), 1.3 km SE of Vălişoara (Dióspatak), below first pond, hand collecting. 15.07.2015, N47.368488° E23.419079° ",

" Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°;"leg: EZP & AK.

***Acicula perpusilla* Reinhardt, 1880**

Literature data: "Sălaj, Poiana Blenchii, Cheile Babei" (Domokos & Lennert, 2009)

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°" leg: EZP & AK. (only one empty shell)

Lymnaeidae

***Galba truncatula* (O.F. Müller, 1774)**

Literature data: " Bocşa – near railway station, at the vehicular bridge. Left-hand-side of the Zalău brook. The scum (fi ne stem broken by water-borne transport) band (0,10–0,20 meters wide) on the cut great burdock is to be found on the 1,5 m height of the brook on steep bank above." (Domokos & Lennert, 2009). "Achid/Szilágyerked – the green corridor (willowy, great burdock) of the Şerpelit brook and its canal, at the vehicular bridge." (Domokos & Lennert, 2009). " Fabrica – 1 km S from the settlement, at the bridge. The silty scum of the Brâglez brook. We collected scum on either side of the brook " (Domokos & Lennert, 2009).

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; leg: EZP & AK. (only one empty shell)

***Radix peregra* (O.F. Müller, 1774)**

Literature data: "Bocşa – near railway station, at the vehicular bridge. Left-hand-side of the Zalău brook. The scum (fi ne stem broken by water-borne transport) band (0,10–0,20 meters wide) on the cut great burdock is to be found on the 1,5 m height of the brook on steep bank above" (Domokos & Lennert, 2009).

New data: Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Ponor, Barcău (Berettyó) springs, 02.10.2014, N47.02031° E22.74875°; hand collecting, leg. ZSB, LD, GK & DM.

***Radix auricularia* (Linnaeus, 1758)**

Literature data: "In Somes river" (Sárkány-Kiss et. al., 1999)

***Stagnicola palustris* (O.F. Müller, 1774)**

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK. (only empty shells)

Physidae

***Physella acuta* (Draparnaud, 1805)**

Literature data: "Bocşa – near railway station, at the vehicular bridge. Left-hand-side of the Zalău brook. The scum (fi ne stem broken by water-borne transport) band (0,10–0,20 meters wide) on the cut great burdock is to be found on the 1,5 m height of the brook on steep bank above " (Domokos & Lennert, 2009).

New data: Dealurile Crasnei (Krasznamenti-dombság), Crasna (Kraszna), Crasna (Kraszna) bridge, 17.07.2015, N47.162° E22.8762°, 247m; hand collecting, leg. EZP & AK.

Ancylidae

***Ancylus fluviatilis* O.F. Müller, 1774**

Literature data: "Tusa, Spring Barcau" (Sárkány-Kiss et. al., 1997)

Planorbidae

***Planorbarius corneus* (Linnaeus, 1758)**

Literature data: Sălaj county; Varviz; "Transylvania" (col. S. Bruckenthal); (Ioan SÎrbu, 2010.)

Anisus spirorbis (Linnaeus, 1758)

New data: Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), creek valley, in beech forest, 14.07.2015, N46.9936° E22.9285°, 572m; hand collecting.

Remark: Appearance in Domokos & Lennert, 2009 valid for Bihor County.

***Planorbis planorbis* (Linnaeus, 1758)**

Literature data: "In Somes river" (Sárkány-Kiss et. al., 1999).

Ellobiidae

***Carychium minimum* Müller, 1774**

Literature data: "Dabaceni – N from the end of the settlement, a 200-meter-wide fl ood plain. The willowy sampling site is to be found on right-hand-site slop bank of the Someş River. The sandy soil covered by dead wood and great burdock. It is a very humid biotope"(Domokos & Lennert, 2009)

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°;"leg: EZP & AK.

***Carychium tridentatum* (Risso, 1826)**

Literature data: "Poiana Blenchii, Cheile Babei. We took samples in the middle of the gorge, at foot of the rock wall exposed to NE. The biotope was shrub detritic limestone rock, and the soil was covered by moss and nettle. "

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°;"leg: EZP & AK.

Succineidae

***Succinella oblonga* (Draparnaud, 1805)** Literature data: "Many localities" (Domokos & Lennert, 2009).

New data: Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; leg. AGu, AO, LR, & MT. Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°;" leg: EZP & AK. (only empty shells)

***Succinea putris* (Linnaeus, 1758)**

Literature data: "Many localities" (Domokos & Lennert, 2009).

New data: Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 14.07.2015, N46.9842°

E22.9199°, 597m; hand collecting. leg. EZP, AK & ZV.

***Oxyloma elegans* (Risso, 1826)**

Literature data: "In Somes river" (Sárkány-Kiss et. al., 1999).

Remarks: „ In this area, it is very often difficult to tell them (Succinea putris and Oxyloma elegans) apart ont he basis of shell morphology." (Domokos & Lennert, 2009).

Cochlicopidae

***Cochlicopa lubrica* (O.F. Müller, 1774)**

Literature data: "Many localities" (Domokos & Lennert, 2009).

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK. (only empty shells) Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Ponor,Barcău (Berettyó) springs, 02.10.2014, N47.02031° E22.74875°; netting, hand collecting ZSB, LD, GK & DM.

***Cochlicopa lubricella* (Porro, 1838)**

Literature data: "Many localities" (Domokos & Lennert, 2009).

New data: Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; netting leg. LG, AO, LR & MT.

Ferussaciidae

***Cecilioides acicula* (O.F. Muller 1774)**

New data: "Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), alluvium near the spring, 12.11.2015, N47.357656° E23.42792°; hand collecting, leg. EZP & AK.

Orculidae

***Sphyradium doliolum* (Bruguiere, 1792)**

Literature data: "four places" (Domokos & Lennert, 2009)

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " leg. EZP & AK. (only empty shells)

Pyramidulidae

***Pyramidula pusilla* (Vallot, 1801)**

New data: Munţii Meseşului (Meszes-hegység), Treznea (Ördögkút), main valley of the Treznea Stream, 29.09.2014, N47.11005° E23.06443°; hand collecting, leg. ZSB, LD, GK & DM. Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Ponor,Barcău (Berettyó) springs, 02.10.2014, N47.02031° E22.74875°; netting, hand collecting ZSB, LD, GK & DM.

Vertiginidae

***Truncatellina cylindrica* (A. Ferussac, 1807)**

Literature data: "Many localities" (Domokos & Lennert, 2009).

New data: 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°; leg. AGu, AO, LR, & MT.

Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Ponor, 02.10.2014, N47.01195° E22.7421°;soil sample. leg. ZSB, LD, GK & DM.

***Vertigo angustior* Jeffreys, 1830**

New data: "Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " leg: EZP & AK.

***Vertigo antivertigo* (Draparnaud, 1801)**

New data: "Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " leg. EZP & AK., Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; netting, leaf-hoover," leg. LG, AO, LR & MT.

***Vertigo moulinsiana* (Dupuy, 1849)**

New data: Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; netting, leaf-hoover. LG, AO, LR & MT.

***Vertigo pusilla* Müller, 1774**

New data: " Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK.; Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; leaf-hoover, LG, AO, LR & MT.

***Vertigo pygmaea* (Draparnaud, 1801)**

New data: "Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " leg: EZP & AK., Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; leaf-hoover" leg. LG, AO, LR & MT.

***Vertigo substriata* (Jeffreys, 1833)**

New data: "Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; leaf-hoover" leg. LG, AO, LR & MT.

***Columella columella* (G. von Martens, 1830)**

Literature data: "Tihău – partly face with concrete, on the left side of the Almaş brook, near the bridge of the road (No. 1H). The 5-m-wide green corridor (Populus, Salix, Amorpha; Urtica, Rubus) of the brook, 25 m NW from the bridge. Thick humed and mouldy dead laeves of forest." (Domokos & Lennert, 2009). "Almaşu/Váralmás, Valea Almaş, 1 km SW from the settlement at the bridge (road No.1G). The 5-m-wide green corridor (Salix, Alnus, Populus; great burdock) of the Almaş brook. Sandy and silty substratum." (Domokos & Lennert, 2009).

Remark: Maybe *Columella edentula.*

***Columella edentula* (Draparnaud, 1805)**

New data: "Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; "; leg: EZP & AK., Munţii Meseşului (Meszes-hegység), Pria (Perje), SW slope of Vf. Măgura Priei (Perjei csúcs), 01.10.2014, N47.0056° E22.89196°; soil sample, leg. ZSB, LD, GK & DM.

Argnidae

***Agardhiella lamellata* (Clessin, 1887)**

Literature data: "Sălaj, Poiana Blenchii, Cheile Babei" "Ticau Pass" (Domokos & Lennert, 2009) "

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg. EZP & AK. (only empty shells)

***Argna bielzi* (Rossmassler, 1859)**

Literature data: "Sălaj, Fabrica – 1 km S from the settlement, at the bridge. The silty scum of the Brâglez brook. We collected scum on either side of the brook. The scum is composed of dead wood (big dead trees, branches, fine logging woody, unclassified debris)" (Domokos & Lennert, 2009) ", "Poiana Blenchii, Cheile Babei. We took samples in the middle of the gorge, at foot of the rock wall exposed to NE. The biotope was shrub detritic limestone rock, and the soil was covered by moss and nettle." (Domokos & Lennert, 2009)

Valloniidae

***Vallonia pulchella* (O.F. Müller, 1774)**

Literature data: "Many localities" (Domokos & Lennert, 2009).

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg. EZP & AK., Culoarul Someşului (Szamos völgye), 5.5 km from Cliț (Csűrfalva) toward Lozna (Nagylózna) at great turn of road 109E, 15.07.2015, N47.31606° E23.445983°; hand collecting.

***Vallonia costata* (O.F. Müller, 1774)**

Literature data: "Many localities" (Domokos & Lennert, 2009).

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " leg: EZP & AK.

***Achanthinula aculeata* (O.F. Müller, 1774)**

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK., Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), spring, 12.11.2015, N47.357656° E23.42792°; alluvium.

Remark: Appearance in Domokos & Lennert, 2009 valid for Bihor County.

Pupillidae

***Pupilla muscorum* (Linnaeus, 1758)**

New data: Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Ponor, 02.10.2014, N47.01195° E22.7421°; hand collecting, soil sample. leg. ZSB, LD, GK & DM.

Chondrinidae

***Granaria frumentum* (Draparnaud, 1801)**

Literature data: "Between Moigrad-P. and Ortelec. The sampling site faces south and is to be found by the road, on grassy calcareous stones (Eocene) and under bushes bordering the road hillside. A dry biotope." (Domokos & Lennert, 2009), "Jibou – the green corridor (willowy, nettle, bramble) at the industrial park. We took samples from a sonny and a shady biotope, too." (Domokos & Lennert, 2009), "Fabrica – 1 km S from the settlement, at the bridge. The silty scum of the Brâglez brook" (*Domokos & Lennert*, 2009).

New data: Dealurile Boiului (Szamoszug), 4 km SE of Vălişoara (Diószpatak), lime-sandstone wall, 15.07.2015, N47.353104° E23.437753°; hand collecting. leg. EZP & AK., Dealurile Boiului (Szamoszug), Poiana Blenchii (Blenkemező), Babei (Bába) Canyon, spring, 15.07.2015, N47.321166° E23.744356°; hand collecting. leg. EZP & AK., Depresiunea Almaş - Agrij (Almás--Egregy-medence), Ugruțiu (Ugróc), 28.05.2015, N47.025783° E23.350829°; singling. leg. ZSB, AGu & GK.,

Chondrina arcadica clienta (Westerlund, 1883)

Literature data: "Cristur-Criseni/Szilágyfőkeresztúr – the sampling site is exposed to SE and to be found on the hilly landscape. The hornbeam-oak grove near to the road. Dry soil and dead leaves of forest." (Domokos & Lennert, 2009)

Enidae

***Ena montana* (Draparnaud, 1801)**

Literature data: "Only in the humed dead leaves of forest in Cheile Ţicău (Ţicău Pass)"; „Because of its broken shell (apical fragments), it may belong to the genus *Mastus*, T. Deli ex verbis" (Domokos & Lennert, 2009)

***Merdigera obscura* (O.F. Müller, 1774)**

Literature data: "Cheile (Ţicău Pass) between Ţicău (Jud. Maramureş) and Benesat. The site is near the parking place on the left Someş River side. We collected under poplars in humed dead leaves and also from 20 cm deep of the fluviatile sediment (sand)" (Domokos & Lennert, 2009), "Someş Guruslău – the rigth side of the Somes. The sampling site is 100 m S from the bridge. Salicetum on the flood plain, rubbish bushes and great burdock (Urtica, Robinia)" (Domokos & Lennert, 2009).

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°" leg: EZP & AK., Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Barcău (Berettyó) springs, beech forest above spring, 16.07.2015, N47.02° E22.7485°, 641m; hand collecting. EZP & AK.,

Mastus bielzi ssp. (L. Pfeiffer, 1855)

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°" leg: EZP & AK.

Remark: A very big, dead, fresh dextral specimen from the drift of stream.

Fig. 5. Twoo Mastus bielzi forms, Left side the new big form from Sălaj/Szilágy County, right side Mastus bielzi traxleri from Ukraine

***Chondrula tridens* (O.F. Müller 1774)**

Literature data: "Baica, Valea Printre – the wooded (Robinia, Amorpha, Salix), high bank of the Printre Văi brook, near the bridge. 2 km W from Sânpetru Almaşului. The site is open and faces south. The sandy soil is covered by fragments of concrete. " (Domokos & Lennert, 2009), "Between Lupoaia and Creaca – near bridge of the Agrij brook. The right side is S from the bridge. In the green corridor (Salicetum), small sandhills covered by Urtica and Rubus are to be found." (Domokos & Lennert, 2009), " Between Moigrad-P. and Ortelec. The sampling site faces south and is to be found by the road, on grassy calcareous stones (Eocene) and under bushes bordering the road hillside. A dry biotope. (Domokos & Lennert, 2009), "Jibou – the green corridor (willowy, nettle, bramble) at the industrial park. We took samples from a sonny and a shady biotope, too." (Domokos & Lennert, 2009), "Bozolnia – the willowy left-hand-side of the Almaş brook. " and more two localities. (Domokos & Lennert, 2009)

New data: Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 14.07.2015, N46.9842° E22.9199°, 597m; hand collecting, leg. EZP & AK., Dealurile Crasnei (Krasznamenti-dombság), Zalău (Zilah), churchyard, 13.07.2015, N47.1799° E23.0566°; hand collecting. leg. EZP & AK.

Patulidae

***Discus (Gonyodiscus) perspectivus* (Megerle von Mühlfeld, 1816)**

Literature data: "Scum of the Zalau brook at the settlement Bocsa " (Domokos & Lennert, 2009).

Arionidae

***Arion ater* Linnaeus, 1758**

Literature data: "Muntii Sesului = M. Plopisului= Réz-hegység)" (Grossu, 1983);

Remark: Grossu's locality not exact, maybe not referring to Salaj County, only to Bihor County.

***Arion (Carinarion) circumscriptus* Johnston, 1828** Literature data: "Between Buciumi and Răstolţ – a comperatively wide green corridor (aldery, willowy, nettle, bramble) because the Agrij brook near the bridge divides into several arms." (Domokos & Lennert, 2009). "Ileanda – the 5-meter-wide aldery forest belt of the Ileanda brook, near the bridge, in the direction of Măleni." (Domokos & Lennert, 2009).

***Arion (Carinarion) silvaticus* Lohmander, 1937**

New data: Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), 01.10.2014, N46.99416° E22.92813°; hand collecting, pitfall traps. leg. ZSB, LD, GK & DM., Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Ponor, Barcău (Berettyó) springs, 02.10.2014, N47.02031° E22.74875°; hand collecting leg. ZSB, LD, GK & DM.

Arion (Mesarion) subfuscus (Draparnaud, 1805)

Literature data: "Uileacu Şimleului/Somlyóújlak – on the left-hand-side of the Crasna brook. The steep willowy bank covered by great burdock. There are many living specimens." (Domokos & Lennert, 2009), Between Lupoaia and Creaca – near bridge of the Agrij brook. The right side is S from the bridge. In the green corridor (Salicetum), small sandhills covered by Urtica and Rubus are to be found. (Domokos & Lennert, 2009).

New data: Munţii Meseşului (Meszes-hegység), beech forest, 14.07.2015, N47.1383° E23.0847°, 565m; hand collecting. leg. EZP & AK.

Vitrinidae

***Vitrina pellucida* (O.F. Müller, 1774)**

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°" leg. EZP & AK.,

Remark: Appearance in Domokos & Lennert, 2009 valid for Bihor County.

Oxychilidae

***Oxychilus draparnaudi* (Beck, 1837)**

Literature data: "Ciocmani– on left side of the Someş River. The flood plain between vehicular and railway bridge. Loamy alluvial soil on stratifi ed loamy sandy and silty substratum." (Domokos & Lennert, 2009). "Tihău – partly face with concrete, on the left side of the Almaş brook, near the bridge of the road (No. 1H). The 5-m-wide green corridor (Populus, Salix, Amorpha; Urtica, Rubus) of the brook, 25 m NW from the bridge. Thick humed and mouldy dead laeves of forest." (Domokos & Lennert, 2009). Baica, Valea Printre – the wooded (Robinia, Amorpha, Salix), high bank of the Printre Văi brook, near the bridge. 2 km W from Sânpetru Almaşului. The site is open and faces south. The sandy soil is covered by fragments of concrete." (Domokos & Lennert, 2009).

***Morlina glabra* (Rossmassler, 1835)**

Literature data: "Cheile (Ţicău Pass) between Ţicău (Jud. Maramureş) and Benesat. The site is near the parking place on the left Someş River side. We collected under poplars in humed dead leaves and also from 20 cm deep of the fluviatile sediment (sand)" (Domokos & Lennert, 2009).

***Mediterranea inopinata* (Ulicny, 1887)**

Literature data: "Fabrica – 1 km S from the settlement, at the bridge. The silty scum of the Brâglez brook. We collected scum on either side of the brook. The scum is composed of dead wood (big dead trees, branches, fine logging woody, unclassified debris)" (Domokos & Lennert, 2009).

***Mediterranea montivagus* (Kimakowicz, 1890)**

Literature data: "Fabrica – 1 km S from the settlement, at the bridge. The silty scum of the Brâglez brook. We collected scum on either side of the brook. The scum is composed of dead wood (big dead trees, branches, fine logging woody, unclassified debris)" (Domokos & Lennert, 2009)., Between Moigrad-P. and Ortelec. The sampling site faces south and is to be found by the road, on grassy calcareous stones (Eocene) and under bushes bordering the road hillside. A dry biotope." (Domokos & Lennert, 2009)., Between Lupoaia and Creaca – near bridge of the Agrij brook. The right side is S from the bridge. In the green corridor (Salicetum), small sandhills covered by Urtica and Rubus are to be found." (Domokos & Lennert, 2009).

Cellariopsis deubeli (A.J. Wagner, 1914)

Literature data: "Between Lupoaia and Creaca – near bridge of the Agrij brook. The right side is S from the bridge. In the green corridor (Salicetum), small sandhills covered by Urtica and Rubus." (Domokos & Lennert, 2009).

Remark: In the literature, this species is referred as *Oxychilus orientalis.*

Zonitidae

***Aegopinella minor* (Stabile, 1864)**

Literature data: "Sălaj, Poiana Blenchii, Cheile Babei" (Domokos & Lennert, 2009), "County boundary between Ţicău and Benesat. A steep hillside with methamorphic stones" (Domokos & Lennert, 2009),

New data: Munţii Meseşului (Meszes-hegység), Treznea (Ördögkút), main valley of the Treznea Stream, 29.09.2014, N47.11005° E23.06443°; hand collecting,

leg. ZSB, LD, GK & DM., Dealurile Boiului (Szamoszug), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 15.07.2015, N47.357656° E23.42792°; leg. EZP & AK., Dealurile Boiului (Szamoszug), leg. EZP & AK. Poiana Blenchii (Blenkemező), Babei (Bába) Canyon, near the spring, 15.07.2015, N47.321166° E23.744356°; hand collecting. leg. EZP & AK.

***Aegopinella pura* (Alder, 1830)**

New data: Dealurile Boiului (Szamoszug), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 15.07.2015, N47.357656° E23.42792°; leg. EZP & AK.,

***Carpathica calophana* (Westerlund, 1881)**

Literature data: "Zalău – 3 km S from Poarta Meseşului (pass). The dry dead leaves biotope is to be found NE from Meseş (600), near the big road bend, in a sparse forest (Fagus)" (Domokos & Lennert, 2009)

New data: Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), creek valley, beech forest, 14.07.2015, N46.9936° E22.9285°, 572m; hand collecting. leg. EZP & AK., Munţii Meseşului (Meszes-hegység), E of Meseşenii de Sus (Románkecel), 01.10.2014, N47.1059° E22.98988°; hand collecting. leg. ZSB, LD, GK & DM., Munţii Plopiş (Réz-hegység), Iaz (Krasznajáz), valley of the Iaz Stream, 30.09.2014, N47.08698° E22.6511°; hand collecting. Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), 01.10.2014, N46.99416° E22.92813°; hand collecting. leg. ZSB, LD, GK & DM.

Remarks: Although Grossu cited this species from Salaj County and although there is a map in his book, I can not find any exact locality.

***Vitrea contracta* (Westerlund, 1871)**

Literature data: "Cheile (Ţicău Pass) between Ţicău (Jud. Maramureş) and Benesat. The site is near the parking place on the left Someş River side. We collected under poplars in humed dead leaves and also from 20 cm deep of the fluviatile sediment (sand)." (Domokos & Lennert, 2009).

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK. (only empty shells)

***Vitrea crystallina* (O.F. Müller, 1774)**

Literature data: "five localities" (Domokos & Lennert, 2009).

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK. (only empty shells)

***Vitrea diaphana* (S. Studer, 1820)**

Literature data: "Sălaj, Poiana Blenchii, Cheile Babei" (Domokos & Lennert, 2009); "County boundary between Ţicău and Benesat. A steep hillside with methamorphic stones. Dry dead leaves of forest (Carpinus, Acer). The soil is covered by Allium" (Domokos & Lennert, 2009); "Jibou – 2km NW from the settlement. The great burdock found on the left side of the Şoimuş brook. Thin dead leaves of forest on the sandy soil. A relatively open and warm biotope on the skirts of arable land. A forest can be found on the right (south) side of the brook." (Domokos & Lennert, 2009)

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK. (only empty shells)

***Vitrea subrimata* (Reinhardt, 1871)**

Literature data: "Sălaj, Poiana Blenchii, Cheile Babei" (Domokos & Lennert, 2009)

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK. (only empty shells)

***Vitrea transsylvanica* (Clessin, 1877)**

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Diószpatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK. (only empty shells)

***Zonitoides nitidus* (O.F. Müller, 1774)**

Literature data: "Many localities" (Domokos & Lennert, 2009).

New data: Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), wet meadow with stacked beech logs, 14.07.2015, N47.0164° E22.9663°, 446m; hand collecting. leg. EZP & AK.

Limacidae

***Bielzia coerulans* (M. Bielz, 1851)**

Literature data: "Munţii Mesesului" (Grossu,1983)

New data: Halmasd (Halmásd) Valea Morii 04,05.2015. Only photo., Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), creek valley, beech forest, 14.07.2015, N46.9936° E22.9285°, 572m; hand collecting. Photo by EZP.

Remarks: Although Grossu cited this species from Salaj County and there is a map in his book, I can not find any exact locality, so because this slug has high conservation value I only photographed.

Bielzia coerulans *(M. Bielz, 1851) Photo: Erőss*

***Lehmannia macroflagellata* Grossu & Lupu, 1962**

New data: Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), 01.10.2014, N46.99416° E22.92813°; hand collecting. leg. ZSB, LD, GK & DM.

Lehmannia cf. nytelia Bourguignat, 1861

New data: Munţii Meseşului (Meszes-hegység), Treznea (Ördögkút), main valley of the Treznea Stream, 29.09.2014, N47.11005° E23.06443°; hand collecting, leg. ZSB, LD, GK & DM.

***Lehmannia marginata* (O.F. Müller, 1774)**

Literature data: "Zalau, 3 km S from Poarta Mesesului, in a sparse forest" (Grossu, 1983)"

Remarks: In the literature, this species is also referred as *L. marginata var. dianae*. Although Grossu cited this species from Salaj County and there is a map in his book, I can not find any exact locality.

***Limax cinereoniger* Wolf, 1803**

Literature data: "Salaj County" (Grossu, 1983);

New data: Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Ponor, 02.10.2014, N47.00953° E22.72308°; hand collecting, leg. ZSB, LD, GK & DM., Dealurile Sălajului (Szilágymenti-dombság), Borla (Szilágyballa), abandoned arable land, 10.05.2015, N47.265° E22.938°; leg. AGu, OM, AP & VSZ

Remarks: Although Grossu cited this species from Salaj County and there is a map in his book, I can not find any exact locality.

***Limax maximus* Linnaeus, 1758**

Literature data: "Fabrica – 1 km S from the settlement, at the bridge. The silty scum of the Brâglez brook " (*Domokos & Lennert*, 2009). Dabaceni – N from the end of the settlement, a 200-meter-wide fl ood plain. The willowy sampling site is to be found on right-hand-site slop bank of the Someş River. The sandy soil covered by dead wood and great burdock" (Domokos & Lennert, 2009).

New data: Dealurile Sălajului (Szilágymenti-dombság), Borla (Szilágyballa), abandoned arable land, 10.05.2015, N47.265° E22.938°; leg. AGu, OM, AP & VSZ.

***Malacolimax tenellus* (O.F.Müller 1774)**

Literature data: Preoteasa – Cheile of the Barcă River (4 km from the Vf. Hulupiştii: 727m), at the S end of the settlement. The sampling site faces SE and is to be found at the foot of the hill on cristalline rocks. Dead leaves, logging stumps and fine logging woody debris of hornbeam grove. (Domokos & Lennert, 2009)

New data: Munţii Plopiş (Réz-hegység), Iaz (Krasznajáz), valley of the Iaz Stream, 30.09.2014, N47.08698° E22.6511°; hand collecting, leg. ZSB, LD, GK & DM.

Remark: Juvenil specimen.

Agriolimacidae

Deroceras reticulatum (O.F.Müller 1774)

Literature data: "Salaj County" (Grossu, 1983);

New data: Dealurile Boiului (Szamoszug), 1.3 km SE of Vălişoara (Diószpatak), below first pond, 15.07.2015, N47.368488° E23.419079°; hand collecting. leg. EZP & AK.

Remarks: Although Grossu cited this species from Salaj County and there is a map in his book, I can not find any exact locality.

Deroceras transcaucasicum Simroth1901

Literature data: "Salaj County" (Grossu, 1983);

Remarks: Although Grossu cited this species from Salaj County and there is a map in his book, I can not find any exact locality.

This species maybe invalid. (*Bank R., Fauna Europaea*)

Deroceras transsylvanicus Grossu, 1969

Literature data: "Salaj County" (Grossu, 1983)

Remarks: Although Grossu cited this species from Salaj County and there is a map in his book, I can not find any exact locality. This species maybe invalid or synonim. (*Bank R., Fauna Europaea*)

***Liolytopelte occidentalis* Grossu & Lupu, 1966**

Literature data: "Salaj County" (Grossu, 1983);

Remarks: Although Grossu cited this species from Salaj County and there is a map in his book, I can not find any exact locality.

Euconulidae

***Euconulus fulvus* (O.F. Müller, 1774)**

Literature data: "Sălaj, Poiana Blenchii, Cheile Babei" (Domokos & Lennert, 2009), "Rus – near the vehicular bridge. A sonny and shady willowy band on the right-hand-side of the Şimişna brook." (Domokos & Lennert, 2009)

Clausiliidae

***Balea (Alinda) biplicata* (Montagu, 1803)**

Literature data: "Tihău – partly face with concrete, on the left side of the Almaş brook, near the bridge of the road (No. 1H). The 5-m-wide green corridor (Populus, Salix, Amorpha; Urtica, Rubus) of the brook, 25 m NW from the bridge. Thick humed and mouldy dead laeves of forest " (*Domokos & Lennert*, 2009), "Baica, Valea Printre – the wooded (Robinia, Amorpha, Salix), high bank of the Printre Văi brook, near the bridge. 2 km W from Sânpetru Almaşului" (*Domokos & Lennert*, 2009), "Bozolnia – the willowy left-hand-side of the Almaş brook. The biotope is in two steps and very rich in malacofauna" (*Domokos & Lennert*, 2009)

New data: Dealurile Crasnei (Krasznamenti-dombság), Zalău (Zilah), churchyard, 13.07.2015, N47.1799° E23.0566°; hand collecting leg. EZP, AK & ZV., Munţii Meseşului (Meszes-hegység), pass near Zalău (Zilah), at a spring and a car park on road 81E, 14.07.2015, N47.154° E23.0895°, 482m; hand collecting. leg. EZP, AK.

***Balea (Pseudalinda) stabilis* (L. Pfeiffer, 1847)**

Literature data: "Crişţolţel – the green corridor (willow-alder, great burdock) of the Crişţolţel brook. It extends 200 meters W from the settlement, near the bridge" (*Domokos & Lennert*, 2009), Preoteasa – Cheile of the Barcă River (4 km from the Vf. Hulupiştii: 727m), at the S end of the settlement. The sampling site faces SE and is to be found at the foot of the hill on cristalline rocks. Dead leaves, logging stumps and fi ne logging woody debris of hornbeam grove. (*Domokos & Lennert*, 2009),

New data: Munţii Meseşului (Meszes-hegység), 1.5 km SW of Huta (Csákyújfalu), 12.08.2014, N46.994° E22.929°; pitfall trap. leg. AGu, AO, LR, & MT.

***Bulgarica (Strigilecula) cana* (Held, 1836)**

Literature data: " Between Buciumi and Răstolţ – a comperatively wide green corridor (aldery, willowy, nettle, bramble) because the Agrij brook near the bridge divides into several arms. The ground is covered with dead trees and branches, dead leaves, litter and fi ne woody debris. It is a relatively humid biotope in the plough-land periphery." (*Domokos & Lennert*, 2009), "Fabrica – 1 km S from the settlement, at the bridge. The silty scum of the Brâglez brook. We collected scum on either side of the brook." (*Domokos & Lennert*, 2009),

New data: Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Ponor Plateau, 28.05:2015, N47.01443° E22.744784°, 800m; singling leg. ZSB, AGu & GK., Dealurile Boiului (Szamoszug), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 15.07.2015, N47.357656° E23.42792°; leg. EZP & AK.

***Bulgarica (Strigilecula) vetusta* (Rossmassler, 1836)**

Literature data: "Jibou– 2km NW from the settlement. The great burdock found on the left side of the Şoimuş brook. Thin dead leaves of forest on the sandy soil. A relatively open and warm biotope on the skirts of arable land. A forest can be found on the right (south) side of the brook" (*Domokos & Lennert*, 2009) "Ciocmani– on left side of the Someş River. The flood plain between vehicular and railway bridge. Loamy alluvial soil on stratifi ed loamy sandy and silty substratum. " (*Domokos & Lennert*, 2009), "Sălaj, Poiana Blenchii, Cheile Babei" (Domokos & Lennert, 2009),

***Clausilia pumila* Pfeiffer, 1828**

Literature data: "Jibou– 2km NW from the settlement. The great burdock found on the left side of the Şoimuş brook. Thin dead leaves of forest on the sandy soil. A relatively open and warm biotope on the skirts of arable land. A forest can be found on the right (south) side of the brook" (*Domokos & Lennert*, 2009)

***Cochlodina laminata* (Montagu, 1803)**

Literature data: "many localities" (*Domokos & Lennert*, 2009)

New data: Munţii Meseşului (Meszes-hegység), pass near Zalău (Zilah), at a spring and a car park on road 81E, 14.07.2015, N47.154° E23.0895°, 482m; hand collecting. leg. EZP, AK, & ZV., Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Barcău (Berettyó) springs, beech forest above spring, 16.07.2015, N47.02° E22.7485°, 641m; hand collecting. leg. EZP & AK, Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " leg: EZP & AK., Munţii Meseşului (Meszes-hegység), Poic, beech forest, 12.05.2015, hand collecting. leg. AGu, AO, LR, & MT. Munţii Meseşului (Meszes-hegység), 1.5 km SW of Huta (Csákyújfalu), 12.08.2014, N46.994° E22.929°; pitfall trap, leg. AGu, AO, LR, & MT.

***Cochlodina orthostoma* (Menke, 1828)**

Literature data: "Comments: This species is known only from references (Csiki, 1906). " (*Domokos & Lennert*, 2009)

***Laciniaria plicata* (Draparnaud, 1801)**

Literature data: "many localities" (*Domokos & Lennert*, 2009)

New data: Munţii Meseşului (Meszes-hegység), pass near Zalău (Zilah), at a spring and a car park on road 81E, 14.07.2015, N47.154° E23.0895°, 482m; hand collecting. leg. EZP, AK, & ZV. Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK., Dealurile Boiului (Szamoszug), Poiana Blenchii (Blenkemező), Babei (Bába) Canyon, spring, 15.07.2015, N47.321166° E23.744356°; hand collecting. leg. EZP, AK. Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Barcău (Berettyó) springs, beech forest above spring, 16.07.2015, N47.02° E22.7485°, 641m; hand collecting. leg. EZP, AK.

Macrogastra borealis bielzi *H. Nordsieck, 1993*

Literature data: "many localities" (*Domokos & Lennert*, 2009);

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " ; leg: EZP & AK. (only empty shells)

***Macrogastra ventricosa* (Draparnaud 1901)**

New data: Munţii Plopiş (Réz-hegység), Tusa (Tuszatelke), Barcău (Berettyó) springs, beech forest above spring, 16.07.2015, N47.02° E22.7485°, 641m;

hand collecting. Munţii Meseşului (Meszes-hegység), Poic, alder groove, wet meadow, 22.05.2014, N46.97925° E22.92752°; treading mud, leg. Kutasi

***Ruthenica filograna* (Rossmässler, 1836)**

Literature data: "many localities" (*Domokos & Lennert*, 2009);

New data: Culoarul Someşului (Szamos völgye), 5.5 km from Cliţ (Csűrfalva) toward Lozna (Nagylózna) at great turn of road 109E, 15.07.2015, N47.31606° E23.445983°; hand collecting, leg. EZP & AK., Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; leg: EZP & AK. (only empty shells), Dealurile Boiului (Szamoszug), Poiana Blenchii (Blenkemező), Babei (Bába) Canyon, spring, 15.07.2015, N47.321166° E23.744356°; hand collecting. leg: EZP & AK. Munţii Meseşului (Meszes-hegység), Poic, alder groove, wet meadow, 22.05.2014, N46.97925° E22.92752°; treading mud, leg. Kutasi

***Vestia gulo* (E.A. Bielz, 1859)**

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " leg: EZP & AK.,

Helicodiscidae

***Helicodiscus singleyanus* (Pilsbry, 1890)**

Literature data: "Scum of settlement" (*Domokos & Lennert*, 2009);

Punctidae

***Punctum pygmaeum* (Draparnaud 1901)**

New data: Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; netting, leaf-hoover. leg. ZSB, LD, GK & DM., Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; leg: EZP & AK.

Bradybaenidae

***Fruticicola fruticum* (O.F. Müller, 1774)**

Literature data: "many localities" *(Domokos & Lennert, 2009);* "Zilah/Zalău, Vármező/ Castle-field" HNHM (Nr.18634)

New data: Dealurile Crasnei (Krasznamenti-dombság), Zalău (Zilah), churchyard, 13.07.2015, N47.1799° E23.0566°; hand collecting, leg. EZP, AK, PGS & ZV. ; Munţii Meseşului (Meszes-hegység), rocky roadside with ruderal vegetation, 14.07.2015, N47.1217° E23.0966°, leg. EZP, AK, PGS & ZV.; Dealurile Crasnei (Krasznamenti-dombság), Aghireş (Egrespatak), dry sward with loess wall and abandoned orchard, 15.07.2015, N47.1571° E22.9937°, 330m; hand collecting, leg. EZP, AK, PGS & ZV. ; Dealurile Boiului (Szamoszug), Letca (Létka), 5 km SE of Vălişoara (Dióspatak), abandoned stone quarry, 15.07.2015, N47.354499° E23.441874°; hand collecting. leg. EZP & AK. ; Dealurile Boiului (Szamoszug), 1.3 km SE of Vălişoara (Dióspatak), below first pond, 15.07.2015, N47.368488° E23.419079°; hand collecting. leg. EZP & AK. ; Dealurile Boiului (Szamoszug), SE of Vălişoara (Dióspatak), 26-27.05.2015, N47.375726° E23.412241°; singling. leg. AGu, BK & ZSB,

Hygromiidae

***Kovacsia kovacsi* (Varga & L. Pinter, 1972)**

Literature data: " Zalău – 3 km S from Poarta Meseşului (pass). The dry dead leaves biotope is to be found NE from Meseş (600), near the big road bend, in a sparse forest (Fagus)" (*Domokos & Lennert*, 2009); "Preoteasa – Cheile of the Barcă River (4 km from the Vf. Hulupiştii: 727m), at the S end of the settlement. The sampling site faces SE and is to be found at the foot of the hill on cristalline rocks. " (*Domokos & Lennert*, 2009);

***Pseudotrichia rubiginosa* (Rossmassler, 1838)**

Literature data: "many localities" (*Domokos & Lennert*, 2009);

New data: Dealurile Boiului (Szamoszug), 4 km SE of Vălişoara (Dióspatak), lime-sandstone wall, 15.07.2015, N47.353104° E23.437753°; hand collecting. EZP & AK.

***Xerolenta obvia* (Menke, 1828)**

Literature data: "few localities" (*Domokos & Lennert*, 2009);

New data: Munţii Meseşului (Meszes-hegység), rocky roadside with ruderal vegetation, 14.07.2015, N47.1217° E23.0966°, 391m; hand collecting. leg. EZP & AK.

***Euomphalia strigella* (Draparnaud, 1801)**

Literature data: "many localities" (*Domokos & Lennert*, 2009);

New data: Dealurile Boiului leg.(Szamoszug), SE of Vălişoara (Dióspatak), 26-27.05.2015, N47.375726° E23.412241°; singling. leg. AGu, BK & ZSB.; Dealurile Boiului (Szamoszug), Letca (Létka), 5 km SE of Vălişoara (Dióspatak), abandoned stone quarry, 15.07.2015, N47.354499° E23.441874°; hand collecting. leg. EZP & AK. ;

***Lozekia transsilvanica* (Westerlund, 1876)**

Literature data: (Sárkány-Kiss, A., Sîrbu, I. & Bába, K. 1999).

Remarks: This species is referred by Soós (1943) as *Zenobiella transsylvanica*, or by *Bank* (2007) as *Lozekia transsylvanica*, however, the correct spelling of the species name is *transsilvanica*. Latest studies has shown that the geographical range of this species is narrower than it was belived formerly and several literature records have prooved to belong to a related species, *L. deubeli* (*M. Kimakowicz*, 1890) (see *Fehér et al.*, 2009). Until confirmed by molecular studies or genital anatomy, the occurrence of this species in Sălaj county should be treated cautiously.

***Monacha cartusiana* (O.F. Müller, 1771)**

Literature data: "many localities" *(Domokos & Lennert, 2009);*

New data: Munţii Meseşului (Meszes-hegység), rocky roadside with ruderal vegetation, 14.07.2015, N47.1217° E23.0966°, 391m; hand collecting. leg. EZP & AK., Munţii Plopiş (Réz-hegység), Iaz (Krasznajáz), peat bog and ruines of the bath, 30.09.2014, N47.111° E22.659°; hand collecting, soil sample. leg. ZSB, LD, GK & DM.

***Monachoides vicinus* (Rossmässler, 1842)**

Literature data: "many localities" (*Domokos & Lennert*, 2009);

New data: Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 14.07.2015, N46.9842° E22.9199°, 597m; hand collecting, leg. EZP & AK., Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; leg: EZP & AK., Dealurile Boiului (Szamoszug), 1.3 km SE of Vălişoara (Dióspatak), below first pond, 15.07.2015, N47.368488° E23.419079°; hand collecting. leg. EZP & AK., Dealurile Boiului (Szamoszug), SE of Vălişoara (Dióspatak), 26-27.05.2015, N47.375726° E23.412241°; singling, leg. ZSB, AG & GK., Munţii Meseşului (Meszes-hegység), 1.5 km SW of Huta (Csákyújfalu), 12.08.2014, N46.994° E22.929°; pitfall trap, leg. AGu, AO, LR, & MT.

***Perforatella bidentata* (Gmelin, 1791)**

Literature data: "Dabaceni – N from the end of the settlement, a 200-meter-wide fl ood plain. The willowy sampling site is to be found on right-hand-site slop bank of the Someş River. The sandy soil covered by dead wood and great burdock. It is a very humid biotope." (*Domokos & Lennert*, 2009);

***Perforatella dibothrion* (M. von Kimakowicz, 1884)**

Literature data: "Sălaj, Poiana Blenchii, Cheile Babei" (Domokos & Lennert, 2009), "Fabrica – 1 km S from the settlement, at the bridge. The silty scum of the Brâglez brook. We collected scum on either side of the brook. The scum is composed of dead wood" (*Domokos & Lennert*, 2009);

New data: Dealurile Gârboului (Csákigorbói-dombság), Goruna Mare, 1km SE of Cliţ (Csűrfalva), streambed in Valea Corbului, streamside, 29.04.2015, N47.28375° E23.43996°, 220m; treading mud. leg. AGu, CSK

***Petasina bielzi* (E.A. Bielz, 1859)**

Literature data: "Sălaj, Poiana Blenchii, Cheile Babei" (*Domokos & Lennert*, 2009);

New data: Dealurile Boiului (Szamoszug), Poiana Blenchii (Blenkemező), Babei (Bába) Canyon, middle part, 15.07.2015, N47.322331° E23.743186°; leg. EZP & AK.

***Trichia hispida* (Linnaeus, 1758)**

Literature data: "many localities" *(Domokos & Lennert, 2009);*

New data: Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 14.07.2015, N46.9842° E22.9199°, 597m; hand collecting. leg. EZP, AK & ZV., Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " leg: EZP & AK., Munţii Meseşului (Meszes-hegység), Poic, marshy meadow, 08.09.2015, N46.984929° E22.920089°; leg. AGu, AO, LR, & MT.

Helicidae

***Isognomostoma isognomostomos* (Schröter, 1784)**

Literature data: "many localities" (*Domokos & Lennert*, 2009);

New data: Munţii Meseşului (Meszes-hegység), 1.5 km SW of Huta (Csákyújfalu), 12.08.2014, N46.994° E22.929°; pitfall trap, leg. AGu, AO, LR, & MT., Munţii Meseşului (Meszes-hegység), Treznea (Ördögkút), main valley of the Treznea Stream, 29.09.2014, N47.11005° E23.06443°; netting, hand collecting, leg. ZSB, LD, GK & DM., Munţii Meseşului (Meszes-hegység), 1.5 km SW of Huta (Csákyújfalu), 12.08.2014, N46.994° E22.929°; pitfall trap. leg. AGu, AO, LR, & MT., Dealurile Boiului (Szamoszug), SE of Vălişoara (Dióspatak), 26-27.05.2015, N47.375726° E23.412241°; singling. leg. AGu, BK & ZSB. Munţii Meseşului (Meszes-hegység), Poic, alder groove, wet meadow, 22.05.2014, N46.97925° E22.92752°; treading mud, leg. Kutasi

Cepaea vindobonensis (C. Pfeiffer, 1828)

Literature data: "five localities"; (*Domokos & Lennert*, 2009);

New data: Crasnei (Krasznamenti-dombság), Zalău (Zilah), churchyard, 13.07.2015, N47.1799° E23.0566°; hand collecting. leg. EZP & AK., Munţii Meseşului (Meszes-hegység), rocky roadside with ruderal vegetation, 14.07.2015, N47.1217° E23.0966°, 391m; hand collecting. leg. EZP & AK., Dealurile Crasnei (Krasznamenti-dombság), Aghireş (Egrespatak), dry sward with loess wall and abandoned orchard, 15.07.2015, N47.1571° E22.9937°, 330m; hand collecting, leg. EZP & AK., Dealurile Crasnei (Krasznamenti-dombság), Vârşolţ (Varsolc), Vârşolţ Reservoir, waterside in waterworks territory, 17.07.2015, N47.1931° E22.9069°, 239m; hand collecting, leg. EZP & AK.

***Drobacia banatica* (Rossmässler, 1838)**

Literature data: "many localities" (*Domokos & Lennert*, 2009)

New data: Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), creek valley, beech forest, 14.07.2015, N46.9936° E22.9285°, 572m; hand collecting, leg. EZP, AK & ZV., Munţii Meseşului (Meszes-hegység), 1.5 km SW of Huta (Csákyújfalu), 12.08.2014, N46.994° E22.929°; pitfall trap. leg. AGu, AO, LR, & Munţii Meseşului (Meszes-hegység), Huta (Csákyújfalu), beech forest, 21-23.05.2014, N46.99394° E22.92883°; from beneath stones, leg. Kutasi

***Faustina faustina* (Rossmässler, 1835)**

Literature data: "Ciocmani, on left side of the Someş River. The flood plain between vehicular and railway bridge. Loamy alluvial soil on stratifi ed loamy sandy and silty substratum" (*Domokos & Lennert*, 2009); "Poiana Blenchii, Cheile Babei. We took samples in the middle of the gorge, at foot of the rock

wall exposed to NE. The biotope was shrub detritic limestone rock, and the soil was covered by moss and nettle" (*Domokos & Lennert*, 2009);

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), stream alluvium, 12.11.2015, N47.357656° E23.42792°; " leg. EZP & AK. (only empty shell)

***Helix lutescens* Rossmässler, 1837**

Literature data: "many localities" (*Domokos & Lennert*, 2009);

New data: Dealurile Crasnei (Krasznamenti-dombság), Zalău (Zilah), churchyard, 13.07.2015, N47.1799° E23.0566°; hand collecting. leg. EZP, AK & ZV.

***Helix pomatia* Linnaeus, 1758**

Literature data: "many localities" (*Domokos & Lennert*, 2009);

New data: Dealurile Crasnei (Krasznamenti-dombság), Zalău (Zilah), churchyard, 13.07.2015, N47.1799° E23.0566°; hand collecting. leg. EZP, AK & ZV., Munţii Meseşului (Meszes-hegység), beech forest, 14.07.2015, N47.1448° E23.0854°, 598m; hand collecting, leg. EZP, AK & ZV.

Unionidae

***Anodonta cygnea* (Linnaeus, 1758)**

Literature data: " Szamos [Someş] river" (Sîrbu, I., 2012). In Somes and Barcau rivers (Sárkány-Kiss et. al. 1997, 1999)

New data: Dealurile Crasnei (Krasznamenti-dombság), Vârşolţ (Varsolc), Vârşolţ Reservoir, waterside in waterworks territory, 17.07.2015, N47.1931° E22.9069°, 239m; hand collecting, leg EZP, AK & ZV.

***Unio crassus* Philipsson, 1788**

Literature data: "Someş (Szamos) river" (Sîrbu, I., 2012). In Somes and Barcau rivers (Sárkány-Kiss et. al. 1997, 1999)

New data: Dealurile Crasnei (Krasznamenti-dombság), Vârşolţ (Varsolc), Vârşolţ Reservoir, waterside in waterworks territory, 17.07.2015, N47.1931° E22.9069°, 239m; hand collecting, leg EZP, AK & ZV.

Sphaeriidae

***Pisidium casertanum* (Poli, 1791)**

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), spring, 15.07.2015, N47.357242° E23.427598°; leg EZP, AK & ZV.

***Pisidium obtusale* Lamarck 1818**

New data: Dealurile Boiului (Szamoszug), Vălişoara (Dióspatak), stream valley, spring, 10.09.2015, N47.356965° E23.427326°; mud sample.leg. AG.

***Pisidium personatum* Malm 1855**

New data: Dealurile Boiului (Szamoszug), Letca (Létka), 3.7 km SE of Vălişoara (Dióspatak), spring, 15.07.2015, N47.357242° E23.427598°; leg EZP, AK & ZV.

Remark: Appearance of *Pisidium* sp. in *Domokos & Lennert, 2009* valid only for Bihor County.

DISCUSSION:

During the recent collectings, 87 species were found, 30 of which – *Acanthinula aculeata, Aegopinella pura, Agardhiella lamellata, Anisus spirorbis, Arion silvaticus, Bielzia coerulans, Cecilioides acicula, Daudebardia rufa, Deroceras reticulatum, Lehmannia cf. nyctelia, Macrogastra ventricosa Mastus bielzi, Nesovitrea hammonis, Punctum pymaeum, Pyramidula pusilla, Stagnicola palustris, Vertigo angustior, Vertigo antivertigo, Vertigo moulinsiana, Vertigo pusilla, Vertigo pygmaea, Vertigo substriata, Vestia gulo, Vitrea subrimata, Vitrea transsylvanica, Vitrina pellucida, Pisidium casertanum, Pisidium personatum, Pisidium obtusale* – were detected for the first time in the study area. Although Domokos & Lennert, 2009 listed 97 species in their work, but a part of them concern to Cluj/Kolozs and Bihor/Bihar Counties, not to Sălaj/Szilágy County.

Taking literature data into consideration, some 90 mollusc taxa were reported up to now, however some of these data seem to be uncertain and until confirmed, they should be treated cautiously. After completing this investigations I confirmed many data, found many species and increased the number of molluscs species from Sălaj Country to 114.

Compared to other parts of the Carpathians, there is lower number of species. On the one hand, it arises from the fact that the area is still far from being well explored, on the other hand it indicates that the relative poverty of the area's mollusc fauna. This poverty is manifested not only by the lower species diversity, but by the relative absence of endemic and rare species as well.

From faunistical and conservation point, there is some species are worthy of note. Two of the species – *Drobacia banatica* and *Unio crassus* – are treated as "molluscs that need special conservation areas for their protection" by the recent Romanian legislation (OUG 57/2007), in accordance with the 92/43/EEC EU Council Directive on the conservation of natural habitats and wild flora and fauna. The presence of *Drobacia banatica* was confirmed by many of recent collectings, unlike *U. crassus* that inhabits biotopes, eg. Somes and Crasna rivers - although we found in the Crasna Reservoire - which were out of the scope of the recent collectings.

The most important outcome of this study was the discovery of a new genus (maybe *Alzoniella*), *Bythinella gregoi*, (*Glöer P. & Erőss Z.P.,* 2015) a new species for the science and for the Romanian fauna, *Bythinella blihensis*, which was believed to restriced to the type locality in Maramureş County (*Glöer* 2013.)

It is important, because the systematic position and the relationship between the other *Bythinella* taxa, occurring in the area, is still unclear. A comprehensive study, involving DNA sequence analysis, would be necessary to clarify the identity of these taxa. This question is of conservation relevance as well, because such narrow range endemics – considering their global

rarity and vulnerability (see Sólymos, 2004 and Sólymos & Fehér, 2005 for other Carpathian-Pannonian examples) – are the most valuable species from conservation point of view. Finally there is a interresting finding an empty shell of a big right handed *Mastus* form which should be a new form of *bielzi* species.

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