

A MALACO-FAUNISTICAL STUDY OF MARAMUREȘ, ROMANIA WITH SOME TAXONOMICAL AND CONSERVATION NOTES

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ABSTRACT. In the framework of the research program "Invertebrate faunistical investigation of the Maramureș", numerous molluscs were collected between 2004 and 2008. This research project also provided a good opportunity to revise the collection of János Wagner (H. Wagner), because a part of the material, collected between 1940 and 1944 by the late staff of the Hungarian Natural History Museum could be preserved there. We present an annotated check-list of the mollusc fauna of Maramureș county, including literature data, some unpublished material from the Wagner collection as well as the results of recent collectings. Compared to other parts of the Carpathians, the mollusc fauna of Maramureș county is relatively poor, considering either the total species richness or the number of endemic and rare taxa. From faunistical and conservation point, *Unio crassus*, *Drobacia banatica*, *Arianta picea* and the *Bythinella* species are worth mentioning. An important outcome of this study was the discovery of *Bythinella molcsanyi* type material, which was believed to be fully destroyed to now.

Keywords: Mollusca, Romania, Maramureș, Carpathian, faunistics, *Bythinella molcsanyi*

INTRODUCTION

According to Soós (1943) division, the area of Maramureș county is situated in the Carpathian biogeographical region, more specifically, in the Eastern Carpathian subregion. Compared to other parts of the Carpathians, the eastern mountain range is characterized by lower species diversity and lesser number of endemic species. Due to this fact probably, lesser attention have been focused on the Eastern Carpathians so far, thus the mountains in Maramureș county are among the less explored areas of the Carpathian region.

Although first data have already been provided almost one and a half century ago (Frivaldszky, 1871), the first faunistic research project however, has been targeted this area between 1940 and 1944. In this period, researchers of the Hungarian Natural History Museum led numerous collecting trips to the Eastern Carpathians, resulting in the multiplication of the number of the known mollusc species for this area as well as the description of two new taxa (*Rotarides*, 1944; Soós, 1940; Wagner, 1941, 1942a, 1942b, 1943). Most of the material of these collectings were destroyed, when the Hungarian Natural History Museum was burnt down in 1956. This research project provided a good opportunity to revise the collection of János Wagner (=Hans [H.] Wagner), because a part of this material could be preserved there. After the 2nd World War, there were hardly any contribution to the knowledge of the area's mollusc fauna, those of Bába (1997) and Popa *et al.* (2006) are two of the few exceptions.

During the research program "Invertebrate faunistical investigation of the Maramureș county" between 2004 and 2008, 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 revise the Wagner collection and to summarize the 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. Two asterisks indicate if the cited material was preserved in the Wagner collection. Unpublished material, found in the Wagner collection as well as the recently collected material are presented as "New data". Label information of the unpublished Wagner lots are cited literally, additional information, e.g. the present Romanian geographical names, are given in square brackets. For reasons of compatibility, Hungarian names are also given (in round brackets) for the localities of the recent collectings (See Murányi & Kontschán, 2006 and Murányi, 2008 for more details).

A part of the recent material has been collected by the second and third authors (abbreviated as CT and AV), the rest by other zoologists, abbreviated as follows: CC – Csaba Csuzdi; LD – László Dányi; MF – Mihály Földvári; AG – Aranka Grabant; ZG – Zoltán György; JK – Jenő Kontschán; TK – Tibor Kovács; OM – Ottó Merkl; DM – Dávid Murányi; JN – Judit Nédli; KO – Kirill Orci; AP – Attila Podlussány; VP –

Victor Pop. Recent collectings were done mostly by hand searchig, partly by sweeping net and soil sifting.

Recently collected material is housed in the Mollusca Collection of the Hungarian Natural History Museum (HNHM) (which was collected by the zoologists of the HNHM), in the Mollusca Collection of the Mátra Museum, Gyöngyös (MMGy) (which was collected by TK and AV) and in the private collection of CT. The Wagner collection is housed in the MMGy.

A part of the material has been determined or checked by the following specialists: Péter Subai, Aachen (*Arianta*); Miklós Szekeres, Szeged (Clausiliidae) and Andrzej Wiktor, Wrocław (slugs). The nomenclature follows those of *Bank* (2007) and *Araujo* (2007) unless otherwise indicated.

LIST OF SPECIES

Hydrobiidae

Bythinella cf. austriaca (Frauenfeld, 1857) (Figs 1-3.)

Literature data: "a spring beneath the Gutin-tető [Vf. Gutâi] (1200-1300 m)"; "Gutin [Munții Gutâi], Blidár, a spring near the forester's hut (600 m)**"; "Gutin [Mt. Gutâi], Fokhagymás-fürdő (300 m), stream side"; "Gutin [Mt. Gutâi], Izvora-fennsík [Stațiunea Izvoare], spring no. I. near Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], Izvora-fennsík [Stațiunea Izvoare], spring no. II. near Izvorai hut (900 m)"; "Gutin [Munții Gutâi], spring along the road from Izvora-fennsík [Stațiunea Izvoare] to Rozsály-tető [Vârful Igniș] (1150 m)" (*Wagner*, 1941).

New data: "Gutin [Munții Gutâi], 1600 m Sphagnum-láp, forrásér, 22.07.1941, leg. József Sátor, ex coll. Wagner" – Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), Cimpoi valley, beech forest, wet grassland and brooks in the vicinity of the mineral water spring, 26.09.2006 (2006/2/2), N47°36'11.2" E24°46'30.0", 1023m; leg. LD, JK & DM – Munții Lăpușului (Lápos), Văleni (Mikolapatak), outflow brook of the Kígyós Lake in a beech forest, 23.05.2006 (2006/3), N47°42'54.4" E24°01'38.0", 966m; leg. LD, MF, JK & DM – Mt. Gutâi (Gutin), Mogoșa, stream, 09.08.2007, leg. AV.

Remarks: Although resembles morphologically to the *B. austriaca* populations of the Northern Carpathians, Maramureș material seems to be very different from them by the sequence of the mitochondrial COI gene (*Benke et al.*, 2009). This might be an indication of a cryptic species, but can also be explained by an extreme intraspecific molecular diversity. Until this is not clarified, we treat this species tentatively as *B. cf. austriaca*.

Bythinella molcsanyi H. Wagner, 1941 (Figs 4-9.)

Literature data: "Rozsály-tömb [Munții Igniș], Izvora-fennsík [Stațiunea Izvoare], springs near Molcsány-tanya (forester's hut) (ca. 1000 m) [= type locality]**" (*Wagner*, 1941).

Syntype material: HNHM 96937/6 type locality, 28.05.1941, leg. János Wagner, ex coll. Wagner – HNHM 96938/8, HNHM 96939/12 and MMGy 61919/13, same locality and collector, 30.05.1941.

Remarks: Four lots (39 specimens altogether) were found in the Wagner collection, which are indicated as "*B. Molcsányi*" or "*Bythinella n.sp.*" by Wagner's handwriting. Since no holotype was designated originally (*Wagner*, 1941), all of them are syntypes. Three of the lots are housed in the HNHM Mollusca Collection now, and one in the MMGy Mollusca Collection.

This taxon is known only from the type locality, whereas *B. cf. austriaca* was reported from several nearby localities by *Wagner* (1941) and also found during the recent collectings. Though each syntype specimen looks somewhat more corpulent than *B. cf. austriaca*, a remarkable morphological variability was found within the syntype material (Figs 5-9).

Acicuidae

Platyla polita (W. Hartmann, 1840)

New data: "Radnai-havasok [Munții Rodnei], Borsabánya [Băile Borșa], 07.1941. leg. János Wagner".

Lymnaeidae

Galba truncatula (O.F. Müller, 1774)

Literature data: "Gutin [Munții Gutâi], Fokhagymás-fürdő (300 m), stream side**"; "Klastromrét, near Nagybánya [Baia Mare] wet meadow" (*Wagner*, 1941).

New data: Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), Cimpoi valley, beech forest, wet grassland and brooks in the vicinity of the mineral water spring, 26.09.2006 (2006/2/2), N47°36'11.2" E24°46'30.0", 1023m; leg. LD, JK & DM.

Radix peregra (O.F. Müller, 1774)"

Literature data: "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (*Wagner*, 1942a); "Gutin [Munții Gutâi], Blidár, a spring near the forester's hut (600 m)"; "Gutin [Munții Gutâi], Fokhagymás-fürdő (300 m), stream side"; "Klastromrét, near Nagybánya [Baia Mare] wet meadow" (*Wagner*, 1941).

Remark: These records refer probably to the following species.

Radix ovata (Draparnaud, 1805)

New data: Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Rica valley, artificial ponds, 24.05.2007 (2007/17), N47°52.474' E24°34.871', 763m; leg. CC, LD, JK & DM – Bocicioiu Mare (Újbucskó), Tisa (Tisza), 29.06.2004, leg. TK.

Stagnicola turricula (Held, 1836)

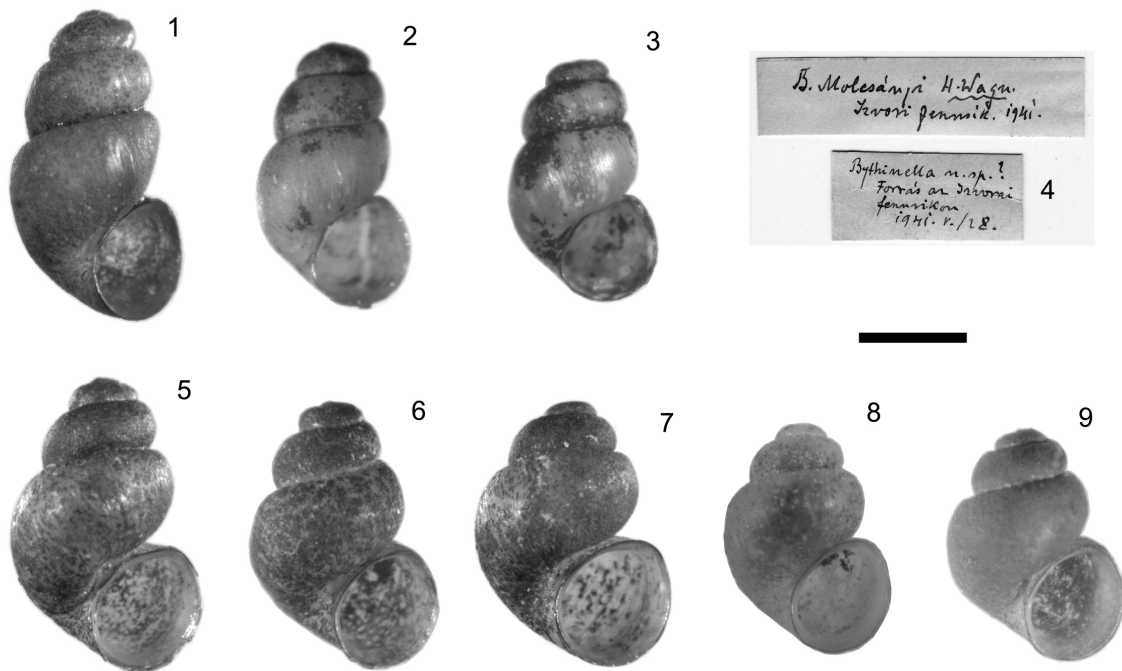
Literature data: "Sikárló [Cicârlău], Szamos [Someș] riverside**" (*Wagner*, 1941).

New data: "Nagybánya [Baia Mare], Klastrom-rét, 1941., ex coll. Wagner".

Physidae

Aplexa hypnorum (Linnaeus, 1758)

Literature data: "Klastromrét, near Nagybánya [Baia Mare] stream**" (*Wagner*, 1941).



Figs 1-9. *Bythinella* species from Maramureş. 1-3. *Bythinella* cf. *austriaca*, 1: Văleni, outflow brook of the Kígyós Lake, 23.05.2006, leg. LD, MF, JK & DM., 2-3: Staţiunea Borşa, Cimpoies valley, 26.09.2006, leg. LD, JK & DM. 4-9. *Bythinella molcsanyi*, 4: original label with Wagner's handwriting, 5-9: syntype specimens, "Izvor-fennsik" [Staţiunea Izvoare], 28.05.1941, leg. J. Wagner (HNHM 96937). Scalebar = 1 mm.

Planorbidae

Ancylus fluviatilis O.F. Müller, 1774

Literature data: "Rozsály [Munţii Igniş], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

New data: Munţii Igniş (Rozsály), Deseşti - Staţiunea Izvoare (Desze-Forrásliget), Roşie (Vöröskapu) valley, stream in a beech forest, forest edge and grasslands, 01.09.2004 (2004/8), N47°47.882' E23°43.893', 792m; leg. DM & KO - Munţii Pietrii (Kőhát), Săpânţa (Szaplonca), Braz (Fenyő) Stream in a pine forest at the Brazi valley, rocks and grassland patches, 02.09.2004 (2004/12), N47°49.775' E23°44.606', 841m; leg. DM & KO - Munţii Pietrii (Kőhát), Săpânţa (Szaplonca), Runcul (Runki) Stream on the Runcului (Runki) meadow, 01.09.2004 (2004/10), N47°51.722' E23°45.029', 937m; leg. DM & KO - Munţii Pietrii (Kőhát), Săpânţa (Szaplonca) Stream in a beech forest at the Sipot waterfall and a sidespring in a meadow, 30.06.2005 (2005/17), N47°55'55.0" E23°38'12.3", 663m; leg. JK, DM & KO - Munţii Pietrii (Kőhát), Săpânţa (Szaplonca), Săpânţa (Szaplonca) Stream in a beech forest, 30.06.2005 (2005/16), ca. 500m; leg. JK, DM & KO - Munţii Gutâi (Gutin), Mara (Krácsfalva) SW, Rîuşor, 09.08.2007, leg. AV - Remeţi (Pálosremete) NW, Tisa (Tisza), 06.05.2004, leg. TK.

Anisus spirorbis (Linnaeus, 1758)

Literature data: "Sikárló [Cicârlău], Szamos [Someş] riverside" (Wagner, 1941).

Gyraulus albus (O.F. Müller, 1774)

Literature data: "Klastromrét, near Nagybánya [Baia Mare] stream" (Wagner, 1941).

Planorbarius corneus (Linnaeus, 1758)

Literature data: "Sikárló [Cicârlău], Szamos [Someş] riverside" (Wagner, 1941).

Planorbis planorbis (Linnaeus, 1758)

Literature data: "Sikárló [Cicârlău], Szamos [Someş] riverside" (Wagner, 1941).

Segmentina nitida (O.F. Müller, 1774)

Literature data: "Sikárló [Cicârlău], Szamos [Someş] riverside" (Wagner 1941).

Succineidae

Succinea putris (Linnaeus, 1758)

Literature data: "Kvaszny-völgy in Máramaros county, 630 m" (Soós, 1943).

New data: Depresiunea Maramureşului (Máramarosi-medence), Crăciuneşti (Tiszakarácsonyfalva), wet meadows under the Muhelka hill and dry grassland on the hill, 28.06.2005 (2005/4), N47°56'55.3" E23°58'39.9", 299m; leg. JK, DM & KO.

Cochlicopidae

Cochlicopa lubrica (O.F. Müller, 1774)

Literature data: "Umgebung von Borsabánya [Băile Borşa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

Pyramidulidae

Pyramidula pusilla (Vallot, 1801)

Literature data: "Radna-Borberek" (Wagner 1943).

New data: Munţii Rodnei (Radnai-havasok), Borşa - Staţiunea Borşa (Borsa - Borsafüred), limestone rocks over the ski course, 26.09.2006 (2006/2/4), N47°35'13.9" E24°48'05.1", 1521m; leg. LD, JK & DM.

Vertiginidae

Columella columella (G. von Martens, 1830)

Literature data: "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

Argnidae

Argna bielzi (Rossmässler, 1859)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest"; "Radnai-havasok [Munții Rodnei], Ünökő"; "Vízvölgy [?], Máramaros county"; "Zimr [?], Máramaros (collected by Traxler)" (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a); "Radna-Borberek, valley of Vörös-patak" (Wagner 1943); "Radnai-havasok [Munții Rodnei] (Horthy-csúcs, Korongyos)" (Soós, 1943).

Enidae

Ena montana (Draparnaud, 1801)

Literature data: "Gutin [Munții Gutâi], Izvora-fennsík [Stațiunea Izvoare], Izvorai hut (1000 m)**"; "Gutin [Munții Gutâi], road from Izvora-fennsík [Stațiunea Izvoare] to Feketepatak (1000-600 m), beech forest"; "higher region on the slope of Gutin [Munții Gutâi] (1000-1447 m)" (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

New data: "Ocula-tető (Máramaros) [?], 07.1939, leg. Gábor Molcsányi, ex coll. Wagner" – Munții Țibleș (Cibles), Dragomirești (Dragomérfalva), Poienii (Réti) valley, stream in a beech forest, 24.05.2006 (2006/9), N47°32'57.9" E24°16'29.1", 901m; leg. LD, MF, JK & DM – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), pine forest and brook above the Iza Spring, 20.05.2008 (2008/4), N47°34.830' E24°32.108', 1153m; leg. CC, JK, DM & VP – Depresiunea Maramureșului (Máramarosi-medence), Rona de Sus (Felsőróna), Héra, beech forest, 22.09.2006, 580m; leg. AG, ZG, OM & AP – Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa – Borsafüred), spring area of the Bistrița Aurie (Aranyos Beszterce) River under the Gărgălău (Gargaló) Peak, spring brooks and torrents, tarn, peatbog, pine scrub and alpine grassland, 29.06.2005 (2005/8), N47°34.380' E24°48.575', 1688-1711m; leg. JK, DM & KO – Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), brooks and rocks between Stanchi hut and Mt. Cearcănul, 22.05.2007 (2007/8), N47°39.801' E24°52.663', 1687m; leg. CC, LD, JK & DM.

Mastus venerabilis (L. Pfeiffer, 1855)

Literature data: "Radna-Borberek" (Wagner, 1943, Soós, 1943).

Remark: Sinistral. Labelled and mentioned in the literature as *M. venerabilis brevis*.

Patulidae

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

Literature data: "Felsőbánya [Baia Sprie], Zazar-

Tal [Valea Săsar]" (Rotarides, 1944).

Arionidae

Arion (Carinarion) circumscriptus Johnston, 1828

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941).

New data: Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Arion (Carinarion) silvaticus Lohmander, 1937

New data: Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Rica valley, artificial ponds, 24.05.2007 (2007/17), N47°52.474' E24°34.871', 763m; leg. CC, LD, JK & DM.

Arion (Kobeltia) hortensis A. Férussac, 1819

Literature data: "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

Arion (Mesarion) subfuscus (Draparnaud, 1805)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a); "Radna-Borberek, valley of Vörös-patak" (Wagner, 1943).

New data: Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), brook and alpine grassland above the Bălăcini Pass, 22.05.2007 (2007/5), N47°40.934' E24°52.774', 1573m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), brooks and rocks between Stanchi hut and Mt. Cearcănul, 22.05.2007 (2007/8), N47°39.801' E24°52.663', 1687m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Lutoasa valley, brook in mixed forest, 24.05.2007 (2007/18), N47°51.241' E24°33.544', 868m; leg. CC, LD, JK & DM – Munții Igniș (Rozsály), Desești - Stațiunea Izvoare (Desze - Forrásliget), mountain grassland on the Valhani Plateau, 25.05.2007 (2007/22), N47°44.037' E23°44.111', 960m; leg. CC, LD, JK & DM – Munții Gutâi (Gutin), Pasul Paltinu (Gutin-hágó), 09.08.2007, N47° 41.907' E23° 46.759', 984m; leg. AV.

Vitrinidae

Semilimax kotulae (Westerlund, 1883)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941; 1942b); "Radna-Borberek, valley of Vörös-patak" (Wagner, 1943); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

New data: Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Spring in pine forest, 23.05.2007

(2007/14), N47°35.587' E24°32.121', 1037m; leg. CC, LD, JK & DM.

Zonitidae

Aegopinella minor (Stabile, 1864)

New data: Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), Vinișor valley upper section, mixed forest and stream, 22.05.2007 (2007/3), N47°39.834' E24°47.707', 1032m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Remark: It is possible, that *A. nitens* data in the literature - see below - also refer to this species.

**Aegopinella nitens* (Michaud, 1831)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941); "higher region on the slope of Gutin [Munții Gutâi] (1000-1447 m)" (Wagner, 1941); "Radna-Borberek, valley of Vörös-patak" (Wagner, 1943); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944).

Remark: Probably these records refer to the former species. Although one of the lots was found in the Wagner collection, without genital anatomy it is impossible to judge.

Aegopinella pura (Alder, 1830)

Literature data: "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner 1942a); "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

Carpathica calophana (Westerlund, 1881)

Literature data: "Gutin [Munții Gutâi], Izvor-fennsík [Statiunea Izvoare], Izvorai hut (1000 m)"; "Nagysomkút [Șomcuta Mare] (near Nagybánya [Baia Mare])"; "Törökfalú [Buciumi] (near Nagybánya [Baia Mare])" (Wagner, 1941); "Radna-Borberek, valley of Vörös-patak" (Wagner, 1943); "Umgebung des Schutzhauses an der Izvora-Höhe, Gutin-Gebirge, 1000 m" (Wagner, 1942b); "Gutin [Munții Gutâi], Fokhagymás-fürdő (300 m), stream side"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941; 1942b).

New data: Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15), N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM – Depresiunea Maramureșului (Máramarosi-medence), Rona de Sus (Felsőróna), Hera Pass, mountain pasture and beech forest, 24.05.2007 (2007/20), N47°50.703' E24°09.817', 566m; leg. CC, LD, JK & DM.

Cellariopsis deubeli (A.J. Wagner, 1914)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy

(700-900 m), beech forest" (Wagner, 1941); "Radna-Borberek, valley of Vörös-patak" (Wagner, 1943); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944).

New data: Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, mixed forest and limestone rocks, 20.05.2008 (2008/1), N47°36.058' E24°31.812', 946m; leg. CC, JK, DM & VP – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), pine forest and brook above the Iza Spring, 20.05.2008 (2008/4), N47°34.830' E24°32.108', 1153m; leg. CC, JK, DM & VP – Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Vaser River and the vicinity of the forester house at Făina, 21–22.05.2008 (2008/9), N47°47.422' E24°41.784', 668m; leg. CC, JK, DM & VP – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15), N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM.

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

Mediterranea depressa (Sterki, 1880)

Literature data: "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997); "Munții Rodnei" (Grossu 1983).

Mediterranea montivaga (M. von Kimakowicz, 1890)

Literature data: "Radna-Borberek, valley of Vörös-patak" (Wagner, 1943).

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

Morlina glabra (Rossmässler, 1835)

Literature data: "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a); "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

New data: "Ocula (Máramaros) [?], 1939.07., ex coll. Wagner".

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

Nesovitrea hammonis (Ström, 1765)

Literature data: "Umgebung von Borsabánya [Băile Borșa]** bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

Remark: Remark: In the literature, this species is referred as *Retinella radiatula*.

**Oxychilus cellarius* (O.F. Müller, 1774)

Literature data: "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

**Vitrea contracta* (Westerlund, 1871)

Literature data: "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

Vitrea diaphana (S. Studer, 1820)

Literature data: "Gutin [Munții Gutâi], Izvora-fennsík, Izvorai hut (1000 m)" (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944).

New data: Munții Maramureș (Máramarosihavasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

**Vitrea subrimata* (Reinhardt, 1871)

Literature data: "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

Vitrea transsylvanica (Clessin, 1877)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941).

New data: Munții Maramureș (Máramarosihavasok), Borșa - Băile Borșa (Borsa - Borsabánya), Vinișor valley upper section, mixed forest and stream, 22.05.2007 (2007/3), N47°39.834' E24°47.707', 1032m; leg. CC, LD, JK & DM – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15), N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM.

Zonitoides nitidus (O.F. Müller, 1774)

Literature data: "Klastromrét, near Nagybánya [Baia Mare] wet meadow" (Wagner, 1941).

New data: Munții Maramureș (Máramarosihavasok), Vișeu de Sus (Felsővisó), Vaser River and the vicinity of the forester house at Făina, 21–22.05.2008 (2008/9), N47°47.422' E24°41.784', 668m; leg. CC, JK, DM & VP.

Limacidae

Bielzia coeruleans (M. Bielz, 1851)

Literature data: "Gutin [Munții Gutâi], Fokhagymás-fürdő (300 m), stream side"; "Gutin [Munții Gutâi], Izvora-fennsík, Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

New data: Munții Maramureș (Máramarosihavasok), Borșa - Băile Borșa (Borsa - Borsabánya), Țisla valley, Bălasina Stream in mixed forest, 22.05.2007 (2007/9), N47°41.506' E24°51.699', 1360m; leg. CC, LD, JK & DM – Munții Igniș (Rozsály), Desești - Stațiunea Izvoare (Desze - Forrásliget), brook in beech forest on the Valhani Plateau, 25.05.2007 (2007/21), N47°43.619' E23°44.704', 967m; leg. CC, LD, JK & DM – Munții Gutâi (Gutin), Mara (Krácsfalva) SW, Rîușor, 09.08.2007, leg. AV.

Bielzia sp. (indeterminable juvenile specimens)

New data: Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15),

N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM.

Lehmannia macroflagellata Grossu & Lupu, 1962

New data: Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Spring in pine forest, 23.05.2007 (2007/14), N47°35.587' E24°32.121', 1037m; leg. CC, LD, JK & DM – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15), N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM – Munții Gutâi (Gutin), Mara (Krácsfalva) SW, Rîușor, 09.08.2007, leg. AV.

Lehmannia marginata (O.F. Müller, 1774)

Literature data: "Gutin [Munții Gutâi], Izvora-fennsík [Stațiunea Izvoare], Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest"; "higher region on the slope of Gutin [Munții Gutâi] (1000-1447 m)" (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a); "Radna-Borberek"; "Ūnökő" (Wagner, 1943).

Remark: In the literature, this species is also referred as *L. marginata* var. *dianae*.

Lehmannia sp. (indeterminable juvenile specimens)

New data: Munții Maramureș (Máramarosihavasok), Borșa - Băile Borșa (Borsa - Borsabánya), pine scrub on Mt. Țăfa, 23.05.2007 (2007/12), N47°38.2' E24°52.5', 1673m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosihavasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Limax cinereoniger Wolf, 1803

Literature data: "forest near Nagybánya [Baia Mare]" (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

New data: Munții Maramureș (Máramarosihavasok), Borșa - Băile Borșa (Borsa - Borsabánya), Vinișor valley upper section, mixed forest and stream, 22.05.2007 (2007/3), N47°39.834' E24°47.707', 1032m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosihavasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Limax maximus Linnaeus, 1758

Literature data: "Nagybánya [Baia Mare], garden" (Wagner, 1941).

Limax sp. (indeterminable juvenile specimens)

New data: Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Spring in pine forest, 23.05.2007 (2007/14), N47°35.587' E24°32.121', 1037m; leg. CC, LD, JK & DM.

Agriolimacidae

Deroceras (Deroceras) agreste (Linnaeus, 1758)

Literature data: "Radna-Borberek" (Wagner, 1943).

Deroceras (Deroceras) laeve (O.F. Müller, 1774)

Literature data: "Rozsály [Munții Igriș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

New data: Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Deroceras (Deroceras) turcicum (Simroth, 1894)

New data: Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), brooks and rocks between Stanchi hut and Mt. Cearcănul, 22.05.2007 (2007/8), N47°39.801' E24°52.663', 1687m; leg. CC, LD, JK & DM.

Deroceras (Liolytopelte) moldavicum (Grossu & Lupu, 1961)

New data: Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Remarks: Probably identical with the two taxa listed below (Bank, 2007, Wiktor, 2000).

Deroceras (Hydrolix) huculorum (Babor & Frankenberg, 1914)"

Literature data: "Kvaszny-völgy 800–1000 m" (Soós, 1943).

Agriolimax hydrobius H. Wagner, 1943"

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941); "Radna-Borberek, valley of Vörös-patak" (Wagner, 1943).

Remarks: This species was identified as "*Agriolimax laevis* var. *grisea*" by Wagner (1941), later it was described as a new taxon (Wagner, 1943). Unfortunately, no type material is available for this species (probably destroyed in 1956, when the HNHM collection has been burnt). Since Wagner's description does not deal with the internal structure of the penis, it is impossible to judge what this species actually is. Generally the same is the problem with the above listed *D. huculorum*. Thus, both are probably identical with *D. moldavicum* (Bank, 2007), but in Wiktor's (2000) opinion their synonymization is not justified.

Euconulidae

Euconulus fulvus (O.F. Müller, 1774)

Literature data: "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

Clausiliidae

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

Literature data: "Vișeu Valley, confluence of the Hututeanca and Pop Ivan Rivers" (Popa et al., 2006).

Remark: This record refers probably to *B. cana*.

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

Literature data: "Gutin [Munții Gutâi], road from Izvora-fennsík to Rozsály-tető [Vârful Igriș] (1000-1300 m)**; "higher region on the slope of Gutin

[Munții Gutâi] (1000-1447 m)" (Wagner, 1941); "Radna-Borberek, valley of Vörös-patak" (Wagner, 1943); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides 1944); "Munții Rodnei" (Grossu, 1981).

New data: Munții Pietrii (Kőhát), Săpânta (Szaplunca), mineral water springs and their outflows in a beech forest in the lower valley of the Săpânta (Szaplunca) Stream, 30.06.2005 (2005/15), N47°56'05.5" E23°40'41.2", 408m; leg. JK, DM & KO – Munții Pietrii (Kőhát), Sighetu Marmăției - Șugău (Máramarossziget - Ségó), valley of the Bârlan (Birlan) Stream above the Gyertyános forester house, beech forest and the stream, 20.09.2005 (2005/2/3), ca 550m; leg. JK, DM & JN – Munții Maramureș (Máramarosi-havasok), Petrova, sidestream of the Tomnatic Stream in pine-beech mixed forest, 25.05.2006 (2006/11A), ca. 950m; leg. LD, MF, JK & DM – Munții Gutâi (Gutin), Baia Sprie (Felsőbánya), brook in a beech forest along the road 18, 26.05.2006 (2006/15), N47°41'36.4" E23°46'31.9", 909m; leg. LD, MF, JK & DM – Munții Lăpușului (Lápos), Văleni (Mikolapatak), outflow brook of the Kígyós Lake in a beech forest, 23.05.2006 (2006/3), N47°42'54.4" E24°01'38.0", 966m; leg. LD, MF, JK & DM – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, mixed forest and limestone rocks, 20.05.2008 (2008/1), N47°36.058' E24°31.812', 946m; leg. CC, JK, DM & VP – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Spring in pine forest, 20.05.2008 (2008/2), N47°35.587' E24°32.121', 1037m; leg. CC, JK, DM & VP – Depresiunea Maramureșului (Máramarosi-medence), Rona de Sus (Felsőróna), Héra, beech forest, 22.09.2006., 580m; leg. AG, ZG, OM & AP – Munții Pietrii (Kőhát), Sighetu Marmăției - Șugău (Máramarossziget - Ségó), Șorâmpău (Sorompó), beech forest, 14.06.2006., 1000m; leg. AG, ZG, OM & AP – Munții Oaș (Avas), Cireșu Valley, stream in mixed forest, 18.07.2005; leg. CT – Munții Țibleș (Cibles), Băiuț, string near the mine gate, wet vegetation in mixed forest, 20.08.2005; leg. CT – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15), N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Bulgarica (Strigilecula) cana (Held, 1836)

Literature data: "Gutin [Munții Gutâi], Izvora-fennsík, Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], road from Izvora-fennsík to Feketepatak (1000-600 m), beech forest"; "Gutin [Munții Gutâi], road from Izvora-fennsík to Rozsály-tető [Vârful Igriș] (1000-1300 m)**; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest"; "higher region on the slope of Gutin [Munții Gutâi] (1000-1447 m)"; "Sikárló [Cicârlău], Szamos [Someș] riverside" (Wagner, 1941); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944).

New data: Munții Pietrii (Kőhát), Sighetu

Marmației - Șugău (Máramarosziget - Súcó), valley of the Bârlan (Birlan) Stream above the Gyertyános forester house, beech forest and the stream, 20.09.2005 (2005/2/3), ca 550m; leg. JK, DM & JN – Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Vaser River and its gallery beneath Șuligu, 22.05.2008 (2008/13), N47°48.205' E24°40.242', ca. 650m; leg. CC, JK, DM & VP.

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

Literature data: "Rozsály [Munții Igriș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

Remark: This record refers probably to *B. cana*.

Clausilia dubia Draparnaud, 1805

Literature data: "Radna-Borberek" (Wagner 1943); "confluence of the Vișeu and Tisa Rivers; Vișeu Valley; Socolău; Mt. Făina" (Popa et al., 2006).

New data: "Izvoră, 1941.06., ex coll. Wagner" – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15), N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM.

Clausilia cruciata (S. Studer, 1820)

Literature data: "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

New data: Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Cochlodina laminata (Montagu, 1803)

Literature data: "Gutin [Munții Gutâi], Izvoră-fennsík, Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], road from Izvoră-fennsík to Feketepatak (1000-600 m), beech forest"; "Gutin [Munții Gutâi], road from Izvoră-fennsík to Rozsály-tető [Vârful Igriș] (1000-1300 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest"; "higher region on the slope of Gutin [Munții Gutâi] (1000-1447 m)"** (Wagner 1941); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944).

New data: Munții Pietrii (Kőhát), Sighetu Marmației - Șugău (Máramarosziget - Súcó), Șorămpău (Sorompó), beech forest, 14.06.2006., 1000m; leg. AG, ZG, OM & AP – Munții Oaș (Avas), Nistru Valley, 5 km from Tăuții Măgherauș, mixed forest, 05.2006; leg. CT – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Cochlodina cerata (Rossmässler, 1836)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941).

Cochlodina orthostoma (Menke, 1828)

Literature data: "Gutin [Munții Gutâi], Izvoră-fennsík, Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], road from Izvoră-fennsík to Feketepatak (1000-600 m),

beech forest"; "Gutin [Munții Gutâi], road from Izvoră-fennsík to Rozsály-tető [Vârful Igriș] (1000-1300 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest"; "higher region on the slope of Gutin [Munții Gutâi] (1000-1447 m)"** (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a); "Radna-Borberek"; "Űnőkő" (Wagner 1943); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944); "Vișeu Valley; Socolău; Rica Valley at the cave; Vaser Valley; Botiza Valley" (Popa et al., 2006).

New data: Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 22.09.2005 (2005/2/11), ca. 800m; leg. JK, DM & JN – Munții Pietrii (Kőhát), Sighetu Marmației - Șugău (Máramarosziget - Súcó), Agriș (Egres), Asupra Sorompului area, stream in a pine forest, 21.09.2005 (2005/2/7), ca. 850m; leg. JK, DM & JN – Munții Maramureș (Máramarosi-havasok), Petrova, Frumuseana, sidebrook of the Tomnatic Stream in its gorge, pine-beech mixed forest, 25.05.2006 (2006/10), N47°52'38.1" E24°19'19.4", 681m; leg. LD, MF, JK & DM – Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), limestone rocks over the ski course, 26.09.2006 (2006/2/4), N47°35'13.9" E24°48'05.1", 1521m; leg. LD, JK & DM – Munții Lăpușului (Lápos), Văleni (Mikolapatak), outflow brook of the Kígyós Lake in a beech forest, 23.05.2006 (2006/3), N47°42'54.4" E24°01'38.0", 966m; leg. LD, MF, JK & DM – Munții Lăpușului (Lápos), Văleni (Mikolapatak), peatbog, its inflow and outflow brooks in a beech forest, pasture, pine forest edge, 23.05.2006 (2006/4), N47°42'43.2" E24°01'48.7", 987m; leg. LD, MF, JK & DM – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Spring in pine forest, 20.05.2008 (2008/2), N47°35.587' E24°32.121', 1037m; leg. CC, JK, DM & VP – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), pine forest and brook above the Iza Spring, 20.05.2008 (2008/4), N47°34.830' E24°32.108', 1153m; leg. CC, JK, DM & VP – Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), spring area of the Bistrița Aurie (Aranyos Beszterce) River under the Gărgălău (Gargaló) Peak, spring brooks and torrents, tarn, peatbog, pine scrub and alpine grassland, 29.06.2005 (2005/8), N47°34.380' E24°48.575', 1688-1711m; leg. JK, DM & KO – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15), N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Socolău valley, stream and its sidebrook in mixed forest, 24.05.2007 (2007/19), N47°53.456' E24°31.089', 825m; leg. CC, LD, JK & DM.

**Laciniaria plicata* (Draparnaud, 1801)

Literature data: "Munții Rodnei" (Negrea, 1979).

Macrogaster borealis bielzi H. Nordsieck, 1993

Literature data: "Radna-Borberek, valley of Vörös-

patak" (Wagner, 1943); "Munții Rodnei" (Negrea, 1979); "Munții Rodnei" (Grossu, 1981); "Socolău; Botiza Valley" (Popa et al., 2006).

New data: Depresiunea Maramureșului (Máramarosi-medence), Sighetu Marmăției (Máramarossziget), Mocsár area, orchard, 22–26.05.2006 (2006/1), N47°55'07.1" E23°56'43.5", 369m; leg. LD, MF, JK & DM – Munții Maramureș (Máramarosi-havasok), Petrova, sidestream of the Tomnatic Stream in pine-beech mixed forest, 25.05.2006 (2006/11A), ca. 950m; leg. LD, MF, JK & DM – Munții Lăpușului (Lápos), Văleni (Mikolapatak), Mori (Malom) Stream and its mineral water sidesprings in a beech forest, 24.05.2006 (2006/6), N47°43'59.8" E24°02'34.7", 620m; leg. LD, MF, JK & DM – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, mixed forest and limestone rocks, 20.05.2008 (2008/1), N47°36.058' E24°31.812', 946m; leg. CC, JK, DM & VP – Munții Oaş (Avas), Piatra (Kövesláz), beech forest and brook beneath the Huta Pass, 23.05.2008 (2008/17), N47°58.151' E23°31.184', 430m; leg. CC, JK, DM & VP – Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Șuligu de Sus Stream and pine forest at the mineral water spring, 21.05.2008 (2008/6), N47°48.310' E24°41.143', 862m; leg. CC, JK, DM & VP – Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Șuligu de Sus Stream and beech forest beneath the mineral water spring, 21.05.2008 (2008/7), N47°48.188' E24°41.159', 850m; leg. CC, JK, DM & VP – Munții Pietrii (Köhát), Sighetu Marmăției - Șugău (Máramarossziget - Ségó), Șorâmpău (Sorompó), beech forest, 14.06.2006., 1000m; leg. AG, ZG, OM & AP – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM – Munții Gutâi (Gutin), Mara (Krácsfalva) SW, Rîușor, 09.08.2007, leg. AV.

Remarks: In the literature, this species is also referred as *M. latestriata*. It is unclear, however, to which taxon refer the "*M. plicatula latestriata*" records of Wagner (1941).

Macrogastra plicatula (Draparnaud, 1801)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a).

New data: "Izvoră, 1941.05.25., ex coll. Wagner".

Macrogastra tumida (Rossmässler, 1836)

Literature data: "Gutin-hegység [Munții Gutâi]" (*Frivaldszky*, 1871); "Gutin [Munții Gutâi], Izvoră-fennsík, Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941); "Tökés [Groșii Țibleșului ?]" (*Soós*, 1943); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (*Rotarides*, 1944); "Mt. Rodnei; Mt. Oaş; Mt. Țibleș" (*Grossu*, 1981).

New data: Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), pine forest and brook above the Iza Spring, 20.05.2008 (2008/4), N47°34.830'

E24°32.108', 1153m; leg. CC, JK, DM & VP – Munții Oaş (Avas), Săpânța Valley, wet litter in mixed forest, 19.07.2005; leg. CT – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Ruthenica filograna (Rossmässler, 1836)

Literature data: "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (*Rotarides*, 1944); "Munții Rodnei" (*Grossu*, 1981).

Vestia turgida (Rossmässler, 1836)

Literature data: "Gutin [Munții Gutâi], road from Izvoră-fennsík to Rozsály-tető [Vârful Igniș] (1000-1300 m)" (Wagner, 1941); "Zimr [?], Máramaros (collected by Traxler)" (*Soós*, 1940); "Radnai-havasok [Munții Rodnei], Korongyos [Vârful Cornii?]" (*Soós*, 1943); "Mt. Făina, Șuligu Spring" (Popa et al., 2006).

New data – *Vestia turgida turgida*: Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), brook and alpine grassland above the Bălăcini Pass, 22.05.2007 (2007/5), N47°40.934' E24°52.774', 1573m; leg. CC, LD, JK & DM.

New data – *Vestia turgida procera* (E.A. Bielz, 1853): "Pietrosz [Vârful Pietrosu], 1887.07.07., ex coll. Wagner" – Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), limestone rocks over the ski course, 26.09.2006 (2006/2/4), N47°35'13.9" E24°48'05.1", 1521m; leg. LD, JK & DM – Munții Lăpușului (Lápos), Văleni (Mikolapatak), peatbog, its inflow and outflow brooks in a beech forest, pasture, pine forest edge, 23.05.2006 (2006/4), N47°42'43.2" E24°01'48.7", 987m; leg. LD, MF, JK & DM – Munții Țibleș (Cibles), Dragomirești (Dragomérfalva), Poienii (Réti) valley, stream in a beech forest, 24.05.2006 (2006/9), N47°32'57.9" E24°16'29.1", 901m; leg. LD, MF, JK & DM – Munții Oaş (Avas), Piatra (Kövesláz), beech forest and brook beneath the Huta Pass, 23.05.2008 (2008/17), N47°58.151' E23°31.184', 430m; leg. CC, JK, DM & VP – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Spring in pine forest, 20.05.2008 (2008/2), N47°35.587' E24°32.121', 1037m; leg. CC, JK, DM & VP – Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Șuligu de Sus Stream and pine forest at the mineral water spring, 21.05.2008 (2008/6), N47°48.310' E24°41.143', 862m; leg. CC, JK, DM & VP – Munții Oaş (Avas), Cireșu Valley, stream in mixed forest, 18.07.2005; leg. CT – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15), N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), brooks and rocks between Stanchi hut and Mt. Cearcănul, 22.05.2007 (2007/8), N47°39.801' E24°52.663', 1687m; leg. CC, LD, JK & DM.

Remarks: It is worthy of note that, during the recent collectings, two different subspecies – *V. t. turgida* as well as *V. t. procera* – were found. It indicates that the geographical ranges of the two subspecies overlap in this area.

Vestia elata (Rossmässler, 1836)

Literature data: "Radna-Borberek, valley of Vöröspatak" (Wagner, 1943); "Munții Rodnei, C147" (Grossu, 1981).

New data: Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), Cimpoies Stream under the ski course, 26.09.2006 (2006/2/1), N47°36'17.1" E24°46'47.9", 946m; leg. LD, JK & DM – Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), limestone rocks over the ski course, 26.09.2006 (2006/2/4), N47°35'13.9" E24°48'05.1", 1521m; leg. LD, JK & DM – Munții Gutâi (Gutin), Mara (Krácsfalva) SW, Riușor, 09.08.2007, leg. AV.

Vestia gulo (E.A. Bielz, 1859)

Literature data: "Gutin-hegység [Munții Gutâi]" (Frivaldszky, 1871); "Gutin [Munții Gutâi], Izvorafennsík [Stațiunea Izvoare], Izvorai hut (1000 m)"**; "Gutin [Munții Gutâi], road from Izvorafennsík to Rozsály-tető [Vârful Igniș] (1000-1300 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m"*** (Wagner 1942a); "Radnaborberek"*** (Soós 1940); "Zimr [?], Máramaros (collected by Traxler)" (Soós, 1940); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944).

New data: "Kicsera v. (Máramaros) [?], 1905.04.22., ex coll. Wagner" – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Spring in pine forest, 22.09.2005 (2005/2/9), N47°35.587' E24°32.121', 1037m; leg. JK, DM & JN – Depresiunea Maramureșului (Máramarosi-medence), Sighetu Marmației (Máramarossziget), Mocsár area, orchard, 22–26.05.2006 (2006/1), N47°55'07.1" E23°56'43.5", 369m; leg. LD, MF, JK & DM – Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), Cimpoies Stream under the ski course, 26.09.2006 (2006/2/1), N47°36'17.1" E24°46'47.9", 946m; leg. LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Șuligu de Sus Stream and pine forest at the mineral water spring, 21.05.2008 (2008/6), N47°48.310' E24°41.143', 862m; leg. CC, JK, DM & VP – Depresiunea Maramureșului (Máramarosi-medence), Rona de Sus (Felsőróna), Héra, beech forest, 22.09.2006., 580m; leg. AG, ZG, OM & AP – Munții Gutâi (Gutin), 3 km from Mara village, brook in mixed forest, 19.07.2005; leg. CT – Munții Gutâi (Gutin), Cavnic-7 km. from Strâmbu Băiuț, brook in mixed forest, 20.08.2005; leg. CT – Munții Gutâi (Gutin), near vârful Mogoșa, brook in mixed forest, 21.06.2004; leg. CT – Munții Igniș (Rozsály), Stațiunea Izvoare, stream vegetation in spruce forest, 16.07.2004; leg. CT – Munții Oaș (Avas), Cireșu Valley, stream vegetation in mixed forest, 18.07.2005; leg. CT –

Munții Oaș (Avas), Săpânța Valley, wet litter in mixed forest, 19.07.2005; leg. CT – Munții Țibleș (Cibles), Băiuț, string near the mine gate, wet vegetation in mixed forest, 20.08.2005; leg. CT – Munții Țibleș (Cibles), Groșii Țibleșului, Bradu Valley, wet vegetation in mixed forest, 20.08.2005; leg. CT – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Lutoasa valley, brook in mixed forest, 24.05.2007 (2007/18), N47°51.241' E24°33.544', 868m; leg. CC, LD, JK & DM.

Bradybaenidae

Fruticicola fruticum (O.F. Müller, 1774)

New data: Depresiunea Maramureșului (Máramarosi-medence), Crăciunești (Tiszakarácsony-falva), wet meadows under the Muhelka hill and dry grassland on the hill, 28.06.2005 (2005/4), N47°56'55.3" E23°58'39.9", 299m; leg. JK, DM & KO – Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Vaser River and its gallery beneath Șuligu, 22.05.2008 (2008/13), N47°48.205' E24°40.242', ca. 650m; leg. CC, JK, DM & VP.

Hygromiidae

Helicopsis cereoflava (M. Bielz, 1851)

Literature data: "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

Euomphalia strigella (Draparnaud, 1801)

Literature data: "Gutin [Munții Gutâi], Fokhagymásfürdő (300 m), stream side"; "Klasmotrét, near Nagybánya [Baia Mare] wet meadow" (Wagner, 1941); "Radna-Borberek" (Wagner, 1943).

New data: Munții Gutâi (Gutin), Hărniciești, casa Iurca, 07.08.2007, leg. AV.

**Lozekia transsilvanica* (Westerlund, 1876)

Literature data: "Radnai-havasok [Munții Rodnei], Korongyos [Vârful Cornii?]" (Soós, 1943).

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 believed formerly and several literature records have proved 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 Maramureș county should be treated cautiously.

Monacha cartusiana (O.F. Müller, 1771)

New data: "Nagybánya [Baia Mare], 1935.10.03., ex coll. Wagner".

Monachoides vicinus (Rossmässler, 1842)

Literature data: "Gutin [Munții Gutâi], Izvorafennsík [Stațiunea Izvoare], Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (Wagner 1941); "Umgebung von

Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (*Wagner*, 1942a); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (*Rotarides*, 1944).

New data: Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Șuligu de Sus Stream and pine forest at the mineral water spring, 21.05.2008 (2008/6), N47°48.310' E24°41.143', 862m; leg. CC, JK, DM & VP – Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), Vinișor valley upper section, mixed forest and stream, 22.05.2007 (2007/3), N47°39.834' E24°47.707', 1032m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM – Munții Gutâi (Gutin), Mara (Krácsfalva) SW, Rîușor, 09.08.2007, leg. AV.

**Perforatella bidentata* (Gmelin, 1791)

Literature data: "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (*Bába*, 1997).

Remark: This record refers possibly to *P. dibothrion* (see below).

Perforatella dibothrion (M. von Kimakowicz, 1884)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (*Wagner*, 1941); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (*Rotarides*, 1944).

Petasina bielzi (E.A. Bielz, 1859)

Literature data: "Kabola [Iapa], Polyána [?] in Máramaros county" (*Wagner*, 1943); "Zimr [?], Máramaros (collected by Traxler)" (*Soós*, 1940); "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (*Bába*, 1997).

New data: Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, mixed forest and limestone rocks, 20.05.2008 (2008/1), N47°36.058' E24°31.812', 946m; leg. CC, JK, DM & VP – Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), sidetorrent of the Vaser River beneath Făina, 21.05.2008 (2008/8), N47°47.720' E24°41.394', 773m; leg. CC, JK, DM & VP – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Remarks: This is possible, that *Trichia bakowskii* and *Trichia bielzi* records in the literature (*Soós*, 1940, 1943; *Wagner*, 1943) refer to the same taxon. Recently collected material differs from *P. bakowskii* by its larger and more conical shell, differently shaped aperture and more apparent hairs. But differs also from the "typical" *P. bielzi* lots of the Apuseni Mts. by the more conical and smaller shell.

Petasina unidentata (Draparnaud, 1805)

Literature data: "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (*Rotarides*, 1944).

Trichia hispida (Linnaeus, 1758)

Studia Universitatis "Vasile Goldiș", Seria Științele Vieții (Life Sciences Series), vol. 18, suppl., 2008
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Literature data: "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (*Bába*, 1997).

Helicidae

Isoptomostoma isognomostomos (Schröter, 1784)

Literature data: "Gutin [Munții Gutâi], Izvorafennsík [Statiunea Izvoare], Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (*Wagner*, 1941); "Umgebung von Borsabánya [Băile Borșa]** bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (*Wagner*, 1942a); "Radna-Borberek, valley of Vörös-patak" (*Wagner*, 1943).

New data: Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), Cimpoies Stream under the ski course, 26.09.2006 (2006/2/1), N47°36'17.1" E24°46'47.9", 946m; leg. LD, JK & DM – Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), limestone rocks over the ski course, 26.09.2006 (2006/2/4), N47°35'13.9" E24°48'05.1", 1521m; leg. LD, JK & DM – Munții Oaș (Avas), Piatra (Kövesláz), beech forest and brook beneath the Huta Pass, 23.05.2008 (2008/17), N47°58.151' E23°31.184', 430m; leg. CC, JK, DM & VP – Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Șuligu de Sus Stream and pine forest at the mineral water spring, 21.05.2008 (2008/6), N47°48.310' E24°41.143', 862m; leg. CC, JK, DM & VP – Munții Rodnei (Radnai-havasok), Săcel (Izaszacsal), Iza Gorge, Iza River and the shore vegetation, limestone rocks, 23.05.2007 (2007/15), N47°36.058' E24°31.812', 946m; leg. CC, LD, JK & DM.

**Arianta aethiops* (M. Bielz 1851)

Literature data: "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (** (*Wagner*, 1942a); "Rozsály [Munții Igniș], vicinity of Szaporca-völgy (without definite locality)" (*Bába*, 1997).

Arianta arbustorum (Linnaeus, 1758)

Literature data: "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest" (*Wagner*, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (*Wagner*, 1942a).

New data: "Ocula-tető (Máramaros) [?], 07.1939, leg. Gábor Molcsány., ex coll. Wagner" – Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), Vinișor valley upper section, mixed forest and stream, 22.05.2007 (2007/3), N47°39.834' E24°47.707', 1032m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), brooks and rocks between Stanchi hut and Mt. Cearcănul, 22.05.2007 (2007/8), N47°39.801' E24°52.663', 1687m; leg. CC, LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM.

Arianta picea (Rossmässler, 1837)

Literature data: "Ünökő" (*Wagner*, 1943); "Komitat

Máramaros" (Soós, 1940).

New data: Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), limestone rocks over the ski course, 26.09.2006 (2006/2/4), N47°35'13.9" E24°48'05.1", 1521m; leg. LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Borșa - Băile Borșa (Borsa - Borsabánya), brooks and rocks between Stanchi hut and Mt. Cearcânu, 22.05.2007 (2007/8), N47°39.801' E24°52.663', 1687m; leg. CC, LD, JK & DM.

Remark: *A. arbustorum picea* and *A. aethiops petrii* records in the literature probably refer to this species.

Cepaea vindobonensis (C. Pfeiffer, 1828)

Literature data: "Gutin [Munții Gutâi], Fokhagymás-fürdő (300 m), stream side"; "Klastromrét, near Nagybánya [Baia Mare] wet meadow"; "Sikárló [Cicârlău], Szamos [Someș] riverside" (Wagner, 1941).

Drobacia banatica (Rossmässler, 1838)

Literature data: "Gutin [Munții Gutâi], Izvora-fennsík [Statiunea Izvoare], Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest"* (Wagner, 1941; 1942b); "Radna-Borberek"* (Wagner, 1943); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944).

New data: Munții Maramureș (Máramarosi-havasok), Vișeu de Sus (Felsővisó), Vaser River and its gallery beneath Șuligu, 22.05.2008 (2008/13), N47°48.205' E24°40.242', ca. 650m; leg. CC, JK, DM & VP.

Faustina faustina (Rossmässler, 1835)

Literature data: "Gutin [Munții Gutâi], Fokhagymás-fürdő (300 m), stream side"; "Gutin [Munții Gutâi], Izvora-fennsík [Statiunea Izvoare], Izvorai hut (1000 m)"; "Gutin [Munții Gutâi], Szturi-völgy (700-900 m), beech forest"* (Wagner, 1941); "Umgebung von Borsabánya [Băile Borșa] bis Nagy-Pietrosz [Vârful Pietrosu] 1200-1900 m" (Wagner, 1942a); "Radna-Borberek"* (Wagner, 1943); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944).

New data: Munții Maramureș (Máramarosi-havasok), Petrova, Frumuseana, sidebrook of the Tomnatic Stream in its gorge, pine-beech mixed forest, 25.05.2006 (2006/10), N47°52'38.1" E24°19'19.4", 681m; leg. LD, MF, JK & DM – Munții Rodnei (Radnai-havasok), Borșa - Stațiunea Borșa (Borsa - Borsafüred), limestone rocks over the ski course, 26.09.2006 (2006/2/4), N47°35'13.9" E24°48'05.1", 1521m; leg. LD, JK & DM – Munții Maramureș (Máramarosi-havasok), Poienile de sub Munte (Havasmező), Budescu valley, brook in mixed forest, 24.05.2007 (2007/16), N47°52.254' E24°36.192', 821m; leg. CC, LD, JK & DM – Munții Gutâi (Gutin), Mara (Krácsfalva) SW, Rîușor, 09.08.2007, leg. AV – Munții Gutâi (Gutin), 1.5 km N of Pasul Paltinu (Gutin-hágó), 09.08.2007, N47° 42.471' E23° 46.359', 905m; leg. AV.

Remarks: In the Wagner material, as well as during the recent collectings, two different forms were found:

the nominate form having narrow umbilicus and the *F. faustina associata* (Rossmässler, 1835) having wider umbilicus. Apart from the conchological difference, the two forms can not be distinguished by the genital morphology, thus their systematic position is still unclear (Péter Subai personal communication).

Helix pomatia Linnaeus, 1758

Literature data: "Gutin-hegység [Munții Gutâi]" (Wagner, 1941); "Felsőbánya [Baia Sprie], Zazar-Tal [Valea Săsar]" (Rotarides, 1944).

Unionidae

Anodonta cygnea (Linnaeus, 1758)

Literature data: "Sikárló [Cicârlău], Szamos [Someș] river" (Wagner, 1941).

Unio crassus Philipsson, 1788

Literature data: "Sikárló [Cicârlău], Szamos [Someș] river" (Wagner, 1941).

Sphaeriidae

Pisidium casertanum (Poli, 1791)

Literature data: "Rozsály [Munții Igriș], spring, ca. 1000 m" (Wagner, 1941); "Rozsály [Munții Igriș], vicinity of Szaporca-völgy (without definite locality)" (Bába, 1997).

Remark: In the literature, this species is also referred as *P. cinereum*.

DISCUSSION

During the recent collectings, 41 species were found, four of which – *Arion silvaticus*, *Lehmannia macroflagellata*, *Deroceras turcicum* and *Fruticicola fruticum* – were detected for the first time in the study area. Among the Wagner material further two unpublished species – *Platyla polita* and *Monacha cartusiana* – were found.

Taking literature data into consideration, some 90 mollusc taxa were reported from the area up to now, however some of these data seem to be uncertain and until confirmed, they should be treated cautiously. As for Bába (1997), unfortunately we were not able to confirm his data, just because the mentioned lots were not found among the material of the late Károly Bába's private collection, which is housed now in the Mátra Museum.

Compared to other parts of the Carpathians, this is a very low 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 low species diversity, but by the relative absence of endemic and rare species as well.

From faunistical and conservation point, only a few 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 most 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 *D. banatica* was confirmed by recent collectings, unlike *U. crassus* that inhabits biotopes, which were out of the

scope of the recent collectings. *Arianta picea*, a narrow range endemic in the Eastern Carpathians, is one of the few species that gives an own character to the fauna of this area and therefore it should be mentioned too.

An important outcome of this study was the discovery of *Bythinella molcsanyi* type material, which was believed to be fully destroyed to now. It is important, because the systematic position and the relationship between the two *Bythinella* taxa, occurring in the area, is still unclear. A comprehensive study, involving DNA sequence analysis, would be necessary to clarify the identity of the taxon, indicated as *B. cf. austriaca* hereby, as well as its relationship to *B. molcsanyi*. This question is of conservation relevance as well, because such narrow range endemics – considering their global rarity and vulnerability (see Sóllymos, 2004 and Sóllymos & Fehér, 2005 for other Carpathian-Pannonian examples) – are the most valuable species from conservation point of view.

ACKNOWLEDGEMENTS

We are very grateful to Csaba Csuzdi, László Dányi, Mihály Földvári, Aranka Grabant, Zoltán György, Jenő Kotschán, Ottó Merkl, Dávid Murányi, Judit Nédli, Kirill Orci and Attila Podlussány (Hungarian Natural History Museum, Budapest), Tibor Kovács (Mátra Museum, Gyöngyös), as well as to Victor Pop (Institute of Biological Research, Cluj), for collecting material. Special thanks are due to Andrzej Wiktor (University of Wrocław), Péter Subai (Aachen) and Miklós Szekeres (Szeged) for their useful comments and their help in determinations.

Collectings were done as part of the "Invertebrate faunistic investigation of the Maramureş county" research program of the University Vasile Goldiş and the Hungarian Natural History Museum. This study was also supported by the Hungarian National R&D Programme, title: The origin and genesis of fauna of the Carpathian Basin: diversity, biogeographical hotspots and nature conservation significance; contact no: 3B/023-04.

REFERENCES

Araujo R, Fauna Europaea: Mollusca, Bivalvia. Fauna Europaea version 1.3, <http://www.faunaeur.org>, 2007, [Accessed February, 2008].

Bába K, Ein Beitrag zur Molluskenfauna des Rozsály-Berges (Gutin-Gebirge). *Malakológiai Tájékoztató*, 16, 51-55, 1997.

Bank R, Fauna Europaea: Mollusca, Gastropoda. Fauna Europaea version 1.3, <http://www.faunaeur.org>, 2007, [Accessed February, 2008].

Benke M, Brändle M, Albrecht C, Wilke T, Pleistocene phylogeography and phylogenetic concordance in cold-adapted spring snails (*Bythinella* spp.). *Molecular Ecology*, 18, 890-903, 2009.

Fehér Z, Varga A, Deli T, Domokos T, Geographic distribution and genital morphology of the genera *Lozekia* Hudec, 1970 and *Kovacsia* Nordsieck, 1993 (Mollusca: Gastropoda: Hygromiidae). *Zoosystematics and Evolution*, 85, 151-160, 2009.

Frivaldszky J, Adatok Máramaros vármegye faunájához. *Mathematikai és Természettudományi Értesítő*, 9, 183-232, 1871.

Grossu AV, Gastropoda Romaniae. Vol. 3. Suprafamiliiile Clausiliacea și Achatinacea. Bucureşti, 1-269, 1981.

Grossu AV, Gastropoda Romaniae. Vol. 4. Suprafamiliiile Arionacea, Zonitacea, Ariophantacea și Helicacea. Bucureşti, 1-564, 1983.

Murányi D, Kotschán J, Collecting sites of the Hungarian Natural History Museum in Maramureş, Romania, between 2004 and 2006. *Studia Universitatis Vasile Goldiş Arad*, 17, 31-36, 2006.

Murányi D, Collecting sites of the Hungarian Natural History Museum in Maramureş, Romania, between 2004 and 2008. *Studia Universitatis Vasile Goldiş Arad*, 19, 2008.

Negrea A, Contribution à l'étude des Clausiliidae (Gastropoda) des zones karstiques de Roumanie. *Travaux de l'Institut de Spéologie "Emile Racovitza"*, 18, 7-32, 1969.

Popa OP, Popa LO, Pisciă EI, Preliminary data on the terrestrial gastropods fauna of Maramureş Mountains and surrounding areas. *Brukenthal. Acta Musei*, 1, 89-93, 2006.

Rotarides M, Schneckenaufassammlungen in Siebenbürgen und im Nordostkarpaten-Gebiet. *Fragmenta Faunistica Hungarica*, 7(2-3), 53-55, 1944.

Soós L, Adatok az Északkeleti Kárpátok Mollusca-faunájának ismeretéhez [A contribution to the Mollusc fauna of the North Eastern Carpathians]. *Állattani Közlemények*, 37, 140-154, 1940.

Soós L, A Kárpát-medence Mollusca-faunája. In: *Magyarország természetrajza, I. Állattani rész. Magyar Tudományos Akadémia, Budapest*, pp. 1-478, 1943.

Sóllymos P, The assessment of the Hungarian land molluscs based on their rarity, and its applications. *Természetvédelmi Közlemények*, 11, 511-520, 2004.

Sóllymos P, Fehér Z, Conservation prioritization based on distribution of land snails in Hungary. *Conservation Biology*, 19, 1084-1094, 2005.

Wagner J, A Gutin-hegység Mollusca faunájának alapvetése [Die Grundlage der Weichtierfauna des Gutin-Gebirges]. *Állattani Közlemények*, 38, 197-210, 1941.

Wagner J, Malakozoologische Mitteilungen aus den Ost-Karpaten. *Fragmenta Faunistica Hungarica*, 5, 30-31, 1942a.

Wagner J, Neue Beiträge zur Kenntnis der Mollusken-Fauna Siebenbürgens und des Partiums. *Mathematikai és Természettudományi Értesítő*, 61, 385-399, 1942b.

Wagner J, Az 1942. évi erdélyi kutatóutak malakológiai eredményei. *Állattani Közlemények*, 40, 35-49, 1943.

Wiktor A, Agriolimacidae (Gastropoda: Pulmonata) - a systematic monograph. *Annales Zoologici (Warszawa)* 49 (3), 347-590, 2000.