

Contribution to the knowledge of the terrestrial gastropods (Mollusca:Gastropoda) from Vrachanska Planina Mountains

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Abstract. Gastropods fauna from the Vrachanska Planina Mountains (= Vrachanska Planina), Northwest Bulgaria, as well it presents the up to now unpublished results of several research trips of the authors and further collectors in the region. In total 90 terrestrial gastropods species are now known from this mountain area. 78 species were published from the beginning of research in this area up to recently. 56 species were confirmed with new findings and 22 species were not found again while the courses of our investigations. 12 gastropod species are newly recorded for the range.

Key words: Bulgaria, Vrachanska Planina Mountains, terrestrial gastropods.

Introduction

From the beginning of the 20th century until present, 28 authors have published 40 studies concerning the Vrachanska Planina Mts. gastropods fauna. Until the present work 78 terrestrial gastropods species are known to live in this restricted northwestern area of the Stara Planina Mountains Ridge. The Vrachanska Mts. are in shape of an inverted triangle, with about side lengths of 20 and 22 km and a base of 30 km only.

In the course of our studies 56 species were confirmed and summarised in Table 2. The present work is adding 12 new species for the region. The new number of 90 species for the Vrachanska Mts. represents about 32% of the 280 terrestrial gastropods species known for Bulgaria (Mitov and Dedov 2014).

For the region, we consider the following 9 species as erroneously reports or misidentifications. These are not included in the new list and numbers: *Zebrina varnensis* (L. Pfeiffer, 1847) – Wohlberedt (1911), Cherepishki Monastery; *Mastus carneolus* (Mousson, 1863) – Wagner (1927), Cherepishki Monastery; *Lehmannia marginata* (O. F. Müller, 1774) – Oshanova (1964), Damjanov and Likharev (1975), 5 km SE of Vratsa, Dabnika area, below Veslets; *Bulgarica fraudigera* (Rossmässler, 1839) – Pinter (1968), Sajo (1968), Damjanov and Likharev (1975), Lakatnik, SE of railway station; *Laciniaria bajula* (A. Schmidt, 1868) – Sajo (1968), Vratsa town; *Bulgarica rugicollis carissima* (Rossmässler, 1839) – Urbanski (1969), Vrachanska planina; *Bulgarica vetusta* (Rossmässler, 1836) – Urbanski (1969), Damjanov and Likharev (1975), Ledena; *Bulgarica bulgariensis bulgariensis* (L. Pfeiffer, 1848) – Damjanov and Likharev (1975), from village Lakatnik to Veliko Turnovo; *Vitrea subrimata* (Reinhardt, 1871) – Damjanov and Likharev (1975), Ledena. Probably a part of the species and subspecies has been labeled with the wrong locality names (*B. rugicollis carissima*, *M. carneolus*, *Z. varnensis*), while others are identification errors (*B. bulgariensis*

bulgariensis, *B. fraudigera*, *B. vetusta*, *L. bajula*, *L. marginata*, *V. subrimata*). None of the species mentioned here ever where found in the wider surroundings of the Vrachanska Mts..

Notwithstanding the relative high number of species, past and present research efforts were concentrated mainly on 4 lime-stone localities near to the main roads: area of Vratsata, area near the cave Ledenika, the lime stone cliffs Ritlite in the Iskar Gorge and surroundings of the village Lakatnik (see Table 1 and 2.). Therefore we have to consider the whole area of the Vratsa Mountains as not studied systematically and more species are to be expected in future.

Material and Methods

The present study summarizes all information available from literature up to now and gives new data for the terrestrial malacofauna of the region of the Vratchanska Mts..

Collecting of the material was done by hand-collecting at day and night and the soil-sifting method was used. The morphological examinations were carried out with a stereomicroscope. Because of many collectors and different spellings of locality names, all data for localities were summarized and simplified in Table 1. The full names of the species are given in the Table 2. The specimens (= shelled gastropods) are stored in Collection I. Dedov, Bulgaria, Sofia, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (= BG Catalogue Number) as well partly in the Collection U. E. Schneppat (= species of slugs), Bündner Naturmuseum, CH-7000 Chur, Switzerland. Taxa of slug species newly found and which are published with cf. are determined from exterior characters only.

Results and Discussion

The new total number of the terrestrial gastropods known from the Vratchanska Mts. now is 90. Among them, 12 are newly recorded for the mountains as well as 56 previously published for the region were confirmed (Table 2). The richest family is Clausiliidae (11 species) which easily can be explained with the limestone rock formations of the most studied habitats (rocks – Lakatnik, Ritlity and Vratsata and deciduous forests on limestone-rock base – area of Ledenika cave). For the same reason the number of the species of some further and less common families are well represented: Vertiginidae – 5 species, Argnidae – 4 species, Chondrinidae – 2 species, etc. In deciduous forests as well as in shadowed gorges and in the soil below rocks some predominantly subterranean families of snails and slugs are also well represented: Oxychilidae – 8 species, Pristilomatidae – 3 species, Agriolimacidae – 6 species, Arionidae – 4 species, Limacidae – 4 species, Milacidae – 4 species, etc. (Tabable 3).

In concern of the terrestrial gastropods, the region of Vrachanska Mts. have a high conservation value. Among all known terrestrial gastropods for the region, 21 species are included in "The IUCN Red List of Threatened Species" (=23%), one (*A. langaleta*) in category "NT" – near threatened, one (*C. acicula*) in category "DD" – Data Deficient and 19 in category "LC" – Least Concern. Another two species (*H. lucorum* and *H. pomatia*) are objects of the Bulgarian conservation legislation, as they are included in Section III (Regulated use of plant and animal species), Art. 41 (1), Annex 4 of the "Biodiversity Act" (State Gazette, 2002).

TERRESTRIAL GASTROPODA

Table 1. Localities of newly published data and species collected.

Nº	Catalogue No.	Coordinates	Locality	Date / Leg.	Species
1.	BG990, BG991	UTM: GN 08, GN 09, GN 18, GN 19	Vratsa district, Vratchanska Dolina	11.08.1995 / Z. P. Eröss; 04.2001 / Z.P.Eröss	<i>A. vratzatica</i> , <i>M. pinteri</i>
2.	BG1251, 2007/128,	UTM: 43°11'26.30"N 23°31'49.30"E, 447 m.	Vratsa district, along road to Sgorigrad, steep and I. Dedov and P. Subai; dry habitat with little grass vegetation	/ D. brevipes, D. rufa, D. cf. leave, <i>F. fruticum</i> , U. Schneppat, F. Knechtle, I. Dedov	<i>A. minor</i> , <i>A. biplicata euphychia</i> , <i>A. vratzatica</i> , <i>A. parreyssi</i> , <i>A. bulgarica</i> , <i>C. trizona</i> , <i>C. acicula</i> , <i>C. vindobonensis</i> , <i>C. arcadicabulgarica</i> , <i>C. lubricella</i> , <i>T. cylindrica</i> , <i>V. costata</i> , <i>V. pulchella</i> , <i>V. pusilla</i> , <i>V. contracta</i> , <i>V. diaphana</i> , <i>V. pellucida</i> , <i>Z. derrita</i>
3.	BG665, BG669, BG952, BG966	UTM: GN 08	Vratsa district, near "Dom na alpinista" hut, open terrain, on rocks	10.04.1997 / S. Lazarov; 10.04.1998 / I. Dedov; 09.05.1999 / S. Lazarov	<i>A. biplicata euphychia</i> , <i>A. vratzatica</i> , <i>C. trizona</i> , <i>C. arcadicabulgarica</i> , <i>M. pinteri</i> , <i>Monacha</i> sp.
4.	BG1212, BG1239, BG1252, 2007/127, 2014/1, 2014/2	UTM: GN 08:	Vratsa district, near Ledenika cave, mixed forest, Fagus, Quercus, Pinus nigra, limestone (=Vratsa district, near Ledenika cave, deciduous forest, limestone=Ledennika, about 160m SE of Ledenika Restaurant)-hut in the forest, mixed leaf bearing forest with <i>Fagus sylvatica</i> dominating and some <i>Sambucus nigra</i> , <i>Carpinus betulus</i> , on very moist lime stone slope=Ledennika, Ledennika Restaurant/-hut, Granite wall near Restaurant=Ledennika, along the way from Ledenica hut to Ledenica cave, habitat is a roadside along <i>Picea abies</i> -forest and meadows with limestone boulders)	/ 20.21.06.2005 / I. Dedov and P. Subai; 22.05.2007 / I. Dedov and P. Subai; 29.09.2014 / U. Schneppat, F. H. pomatia, <i>L. plicata</i> , <i>L. flavus</i> , <i>L. cf. cinereoniger</i> , <i>M. marginata</i> , <i>M. obscura</i> , <i>Monacha</i> sp., <i>M. incarnatus</i> , <i>P. similis</i> , <i>P. cephalonica</i> , <i>Sph. doliolum</i> , <i>T. budapestensis</i> , <i>T. kusceri</i> , <i>V. ranojevici</i> , <i>V. diaphana</i>	<i>A. pura</i> , <i>A. biplicata euphychia</i> , <i>A. vratzatica</i> , <i>A. bulgarica</i> , <i>A. cf. fasciatus</i> , <i>A. cf. silvaticus</i> , <i>A. cf. subfuscus</i> , <i>C. tridentatum</i> , <i>C. trizona</i> , <i>C. laminata</i> , <i>Deroberas</i> cf. leave, <i>D. cf. reticulatum</i> , <i>Deroberas</i> cf. <i>turcicum</i> , <i>E. fulvus</i> , <i>E. strigella</i> , <i>F. fruticum</i> , <i>H. lucorum</i> , <i>I. pomaria</i> , <i>L. plicata</i> , <i>L. flavus</i> , <i>L. cf. cinereoniger</i> , <i>M. marginata</i> , <i>M. obscura</i> , <i>Monacha</i> sp., <i>M. incarnatus</i> , <i>P. similis</i> , <i>P. cephalonica</i> , <i>Sph. doliolum</i> , <i>T. budapestensis</i> , <i>T. kusceri</i> , <i>V. ranojevici</i> , <i>V. diaphana</i>

TERRESTRIAL GASTROPODA

Table 2. Terrestrial gastropods of Vrachanska Planina Mts.. In every cell of the column “Authors” the authors are in chronology by data of publications. In the column “Localities” the localities are in alphabetical order and separated with “;”. Localities from literature are written, while the localities of newly collected materials are given with numbers. The numbers of localities in the last column (“Localities”) correspond with the numbers of the first column of Table 1 (“№”). All rows of species which are new for the region are marked with color.

№	Species	Authors	Localities
1	<i>Agardhiella armata</i> (Clessin 1887)	Subai (2011)	Ritlite (=NE of Cherepishki Monastery); № 6
2	<i>Agardhiella langaleta</i> Subai 2011	Subai (2011)	Lakatnik; Ritlite (=NE of Cherepishki Monastery); № 5; 6
3	<i>Agardhiella macrodonta</i> (P. Hesse 1916)	Urbanski (1960 a), Damjanov and Likharev (1975), Irakov and Georgiev (2008), Subai (2011)	Lakatnik; № 5
4	<i>Agardhiella parreyssii</i> (L. Pfeiffer 1848)	Urbanski (1960 a, 1969), Pinter and Pinter (1970), Subai (2011)	Lakatnik; Ledenika cave; Vratsa; Vratsata; Ritlite (=NE of Cherepishki Monastery); № 2; 6
5	<i>Aegopinella minor</i> (Stabile 1864)	Urbanski and Wiktor (1968), Pinter, L. (1968), Pinter and Pinter (1970)	Lakatnik; Vratsata; № 2
6	<i>Aegopinella pura</i> (Alder 1830)	present work	№ 4; 5; 6
7	<i>Alinda biplicata euptychia</i> (Ehrmann 1960)	Urbanski and Wiktor (1968), Oshanova (1968); Pinter (1968); Sajo (1968), Hudec and Vašatko (1971), Nordsieck, H. (1974, 2008); Urbanski (1977)	Cherepish; Iskrets; Lakatnik, Ledenika cave; Medkovets; Ritlite; Veslets; Vratsa; Vratsa 7 km towards Ledenika; Vratsata; Zgorograd; № 2; 3; 4; 5; 6
8	<i>Alinda vratzatica</i> (Likharev 1972)	Sajo (1968), Nordsieck, H. (1974, 2008), Damjanov and Likharev (1975)	Bistrets near Vratsa; Cherepish; Ledenika; Medkovets; Ritlite; Vratsa; Vratsata № 1; 2; 3; 4
9	<i>Arion cf. fasciatus</i> (Nilsson 1823)	present work	№ 4
10	<i>Arion cf. lusitanicus</i> J. Mabille 1868	Oshanova (1964, 1968, 1970, 1972), Altena (1971), Wiktor (1983)	Dabnika area, 5 km SE of Vratsa, below Veslets; Vratsa, Veterinary Institute, Leva river valley

TERRESTRIAL GASTROPODA

11	<i>Arion silvaticus</i> Lohmander 1937	Urbanski and Wiktor (1968), Oshanova (1968, 1970), Wiktor (1983)	Dabnika area, Vratsa district; Lakatnik, Ledenika cave; Purshevitsa; Veslets; Vratsa; № 4 (cf.)
12	<i>Arion subfuscus</i> (Draparnaud 1805)	Wiktor (1983)	Milanovo; Purshevitsa; № 4 (cf.)
13	<i>Aspasita bulgarica</i> Subai & Dedov 2008	Urbanski (1964, 1969), Damjanov and Likharev (1975), Subai and Dedov (2008)	Ledenika (= W of Vratsa), on limestone rocks next to the cave; Vratsata gorge W of Vratsa, on limestone rocks; № 2; 4
14	<i>Bulgarica hiltrudae</i> H. Nordsieck. 1974	Nordsieck, H. (1974), Damjanov and Likharev (1975)	Cherepish; № 6
15	<i>Bulgarica varnensis</i> (L. Pfeiffer 1848)	Oshanova (1968), Pinter, L. (1968), Sajo (1968), Nordsieck, H. (1974)	Bistrets; Veslets; Vratsa; № 5
16	<i>Candidula rhabdotoides</i> (A. J. Wagner 1928)	Damjanov and Likharev (1975)	Lakatnik
17	<i>Carychium minimum</i> O. F. Müller 1774	Urbanski (1960 b)	Lakatnik
18	<i>Carychium tridentatum</i> (Risso 1826)	present work	№ 4
19	<i>Carpathica stussineri</i> (A. J. Wagner 1895)	Riedel (1967)	Ledenika cave; between Vratsa and hut Purshevitsa and cave Ledenika
20	<i>Cattania balcanica</i> (L. Pfeiffer 1843)	A.J.Wagner (1927), Knipper (1939), Urbanski (1960 b, 1978), Damjanov and Likharev (1975)	Gorna Bela Retschaka near Vratsa; Lakatnik; Ledenika cave; between Osikovo and Gorna Bela Retschaka, near Vratsa; № 5, 6
21	<i>Cattania trizona</i> (Rossmässler 1835)	Urbanski (1960 b), Urbanski and Wiktor (1968), Pinter (1968), Urbanski (1977)	Lakatnik (?); Vratsa; Vratsata; № 2; 3; 4
22	<i>Cecilioides acicula</i> (O. F. Müller 1774)	present work	№ 2
23	<i>Cepaea vindobonensis</i> (C. Pfeiffer 1828)	Knipper (1939), Oshanova (1968), Pinter, L. (1968)	Lakatnik, Veslets; № 2; 5; 6
24	<i>Chilostoma pelia</i> (P. Hesse 1912)	Urbanski (1960 b), Pinter, L. (1968), Kroupa (1994)	Lakatnik
25	<i>Chondrina arcadica bulgarica</i> H. Nordsieck 1970	Pinter (1968), Pinter and Pinter (1970), Urbanski (1977)	Vratsata; № 2; 3; 5; 6
26	<i>Chondrula tridens</i> (O. F. Müller 1774)	Pinter and Pinter (1970), Wohlberedt (1911)	Cherepishki Monastery; Lakatnik
27	<i>Cochlicopa lubricella</i> (Rossmässler 1834)	Urbanski (1960 b), Oshanova (1968), Pinter, L. (1968), Pinter and Pinter (1970), Damjanov and Likharev (1975)	Lakatnik; Veslets; Vratsata; № 2; 6

TERRESTRIAL GASTROPODA

28	<i>Cochlodina laminata</i> (Montagu 1803)	Damjanov and Likharev (1975), Urbanski (1977)	Ledenika; Vratsata; № 4
29	<i>Daudebardia brevipes</i> (Draparnaud 1805)	Riedel (1967), Oshanova (1968), Pinter, L. (1968)	Veslets; Vratsa; № 2
30	<i>Daudebardia rufa</i> (Draparnaud 1805)	Riedel (1967); Oshanova (1968), Pinter, L. (1968)	Lakatnik; Lakatnik village, Zidanka cave; Veslets; Vratsa; between Vratsa and huts Purshevitsa and Ledenika; № 2
31	<i>Deroceras laeve</i> (O. F. Müller 1774)	Wiktor (1983)	Lakatnik; № 2 (cf.); 4 (cf.)
32	<i>Deroceras reticulatum</i> (O. F. Müller 1774)	Oshanova (1964, 1970, 1972), Wiktor (1983)	Ledenika; Purshevitsa; Vratsa; Vratsa, Veterinary Institute, Leva river valley № 4 (cf.)
33	<i>Deroceras sturanyi</i> (Simroth 1894)	Wiktor (1983)	Lakatnik
34	<i>Deroceras turcicum</i> (Simroth 1894)	Wiktor (1983)	Lakatnik, Ledenika; № 4 (cf.)
35	<i>Deroceras zilchi</i> Grossu 1969	Wiktor (1983)	Lakatnik
36	<i>Deroceras (Liolytopelte) bureschi</i> (H. Wagner 1934)	Wagner (1934 a), Urbanski and Wiktor (1968), Hudec and Vašatko (1971), Oshanova (1970, 1972), Wiktor (1983)	Lakatnik; Ledenica cave; Mednik cave, near copper mine Plakalnitsa, 1100m; Purshevitsa; Vratsa; Vratsata, Vratsa distr.; Zgorigrad
37	<i>Euconulus fulvus</i> (O. F. Müller 1774)	present work	№ 4
38	<i>Euomphalia strigella</i> (Draparnaud 1801)	Urbanski (1960 b), Hudec (1965), Urbanski and Wiktor (1968), Oshanova (1968), Pinter (1968)	Lakatnik; Veslets; Vratsata № 4; 5
39	<i>Fruticicola fruticum</i> (O. F. Müller 1774)	Urbanski (1960 c), Oshanova (1968), Pinter and Pinter (1970)	Lakatnik; Veslets; № 2; 4; 5; 6
40	<i>Granaria frumentum hungarica</i> (M. von Kimakowicz 1890)	Feher, Deli, Solymos (2010)	Cherepishki Monastery; Ritlite; № 6
41	<i>Helix albescens</i> Rossmässler 1839	Neubert (2014)	“Ritlite”, 500–700 m E of Cerepiski Monastir, 43.0933 23.6247, 425 m; № 2; 6
42	<i>Helix lucorum</i> Linnaeus 1758	Neubert (2014)	“Ritlite”, 500–700 m E of Cerepiski Monastir, 43.0933 23.6247, 425 m alt.; Gara Lakatnik, Iskar River; № 2; 4; 5; 6
42	<i>Helix pomatia</i> Linnaeus 1758	Urbanski (1960 c), Oshanova (1968), Zapryanov (2006), Neubert (2014)	Lakatnik; Ledenika; Veslets; Vratsata; № 4
44	<i>Laciniaria plicata plicata</i> (Draparnaud 1801)	Nordsieck, H. (1974, 2008), Urbanski (1977)	Bistrets; Ledenika cave; Vratsata; № 4

TERRESTRIAL GASTROPODA

45	<i>Lehmannia nyctelia</i> (Bourguignat 1861)	Oshanova (1964, 1968, 1970, 1972), Damjanov and Likharev (1975), Wiktor (1983)	Dabnika area, 5 km SE of Vratsa, below Veslets; Ledenika; Purshevitsa; Veslets; Vratsa
46	<i>Limacus flavus</i> (Linnaeus 1758)	Oshanova (1970)	Vratsa; № 4
47	<i>Limax cinereoniger</i> Wolf 1803	Oshanova (1964, 1968, 1970, 1972), Urbanski and Wiktor (1968), Wiktor (1983)	Dabnika area, 5 km SE of Vratsa, below Veslets; Lakatnik, Ledenika; Veslets; Zgorograd S of Vratsa; № 4 (cf.)
48	<i>Limax maximus</i> Linnaeus 1758	Oshanova (1970), Wiktor (1983)	Lakatnik
49	<i>Lindholmiola girva</i> (Frivaldszky 1835)	Oshanova (1968), Pinter (1968), Subai and Neubert (2014)	Lakatnik, Veslets; 2.5 km from Gara Lakatnik towards Milanovo, UTM FN 97, 43.10°N 23.39°E; № 5; 6
50	<i>Lindholmiola pirinensis</i> S.H.F. Jaeckel 1954	Subai and Neubert (2014)	Lakatnik
51	<i>Macedonica frauendorfii regia</i> H. Nordsieck 1974	Wagner (1927), Nordsieck, H. (1974)	Bistrets; Cherepish; Cherepishki Monastery; Medkovets; Vratsa; № 2
52	<i>Macedonica frauendorfii sigma</i> (Westerlund 1884)	Jaeckel (1954), Pinter, L. (1968), Sajo (1968), Nordsieck, H. (1972, 1974)	Between Isrets and Breze; Lakatnik; № 2; 5; 6
53	<i>Macedonica marginata</i> (Rossmässler 1835)	Urbanski and Wiktor (1968), Oshanova (1968), Pinter, L. (1968), Sajo (1968), Urbanski (1977)	Lakatnik; Veslets; Vratsata; № 2; 4
54	<i>Macedonica pinteri</i> Sajo 1968	Pinter, L. (1968), Sajo (1968), Nordsieck, H. (1972), Damjanov and Likharev (1975), Urbanski (1977)	Vratsa; Vratsata area; № 1; 2; 3
55	<i>Mediterranea depressa</i> (Sterki 1880)	Riedel (1969), Damjanov and Likharev (1975)	near Vratsa, cave Propasta
56	<i>Mediterranea inopinata</i> (Ulicný 1887)	present work	№ 5; 6
57	<i>Merdigera obscura</i> (O. F. Müller 1774)	Oshanova (1968), Pinter, L. (1968)	Veslets; № 4; 6
58	<i>Milax parvulus</i> Wiktor 1968	Urbanski and Wiktor (1968), Wiktor (1968, 1983)	Iskrets, in the vicinity of Purshevitsa; Milanovo; between Purshevitsa hut and Milanovo; Purshevitsa hut
59	<i>Monacha cartusiana</i> (O. F. Müller 1774)	Oshanova (1968)	Veslets; № 3 (?); 4 (?)
60	<i>Monachoides incarnatus</i> (O. F. Müller 1774)	Oshanova (1968)	Veslets; № 4

TERRESTRIAL GASTROPODA

61	<i>Morlina glabra striaria</i> (Westerlund 1881)	Oshanova (1968), Pinter, L. (1968), Pinter and Pinter (1970)	Lakatnik; Veslets; № 2; 5; 6
62	<i>Oligolimax annularis</i> (S. Studer 1820)	present work	№ 2; 6
63	<i>Oxyloma elegans</i> (Risso 1826)	Oshanova (1968), Pinter (1968), Damjanov and Likharev (1975)	Veslets; Vratsa
64	<i>Platyla similis</i> (Reinhardt 1880)	Urbanski (1960 c)	Lakatnik; № 2; 4; 5; 6
65	<i>Pomatias elegans</i> (O. F. Müller 1774)	Wagner (1927), Urbanski (1960c), Pinter, L. (1968)	Lakatnik; Cherepishki Monastery
66	<i>Pomatias rivularis</i> (Eichwald 1829)	Oshanova (1968), Pinter (1968), Urbanski and Wiktor (1968), Urbanski (1960 c, 1977)	Lakatnik; Vratsata; Veslets; № 2; 5; 6
67	<i>Pseudotrichia rubiginosa</i> (Rossmässler 1838)	Jaeckel (1954)	Lakatnik
68	<i>Punctum pygmaeum</i> (Draparnaud 1801)	present work	№ 5
69	<i>Pupilla sterrii</i> (Voith 1840)	present work	№ 2
70	<i>Pyramidula cephalonica</i> (Westerlund 1898)	Pinter (1968)	Vratsata; № 4
71	<i>Pyramidula pusilla</i> (Vallot 1801)	Pinter (1968)	Vratsata; № 2; 6
72	<i>Sphyradium doliolum</i> (Bruguière 1792)	Urbanski and Wiktor (1968), Pinter (1968), Pinter and Pinter (1970), Urbanski (1977)	Vratsata; № 2; 4; 5; 6
73	<i>Tandonia budapestensis</i> (Hazay 1880)	present work	№ 4
74	<i>Tandonia kusceri</i> (H. Wagner 1931)	Wagner (1934b), Oshanova (1964, 1970), Wiktor (1983)	Cherepishki Monastery; Iskrets; Lakatnik; Moravitsa; Vratsa; Vratsa, Veterinary Institute, Leva river valley; № 4
75	<i>Tandonia serbica</i> (H. Wagner 1931)	Urbanski and Wiktor (1968), Oshanova (1970), Damjanov and Likharev (1975), Wiktor (1983)	Lakatnik; Vratsa № 5
76	<i>Truncatellina claustralis</i> (Gredler 1856)	Pinter (1968)	Veslets, № 5
77	<i>Truncatellina cylindrica</i> (A. Féruccac 1807)	present work	№ 2; 5; 6
78	<i>Vallonia costata</i> (O. F. Müller 1774)	present work	№ 2; 5; 6
79	<i>Vallonia pulchella</i> (O. F. Müller 1774)	Pinter and Pinter (1970)	Vratsata, № 2; 6
80	<i>Vertigo alpestris</i> Alder 1838	Urbanski (1969), Damjanov and Likharev (1975)	Ledenika
81	<i>Vertigo pusilla</i> O. F. Müller 1774	Urbanski (1969), present work	№ 2, 6
82	<i>Vertigo pygmaea</i> (Draparnaud 1801)	Urbanski (1960 c), Oshanova (1968), Pinter (1968)	Lakatnik; Veslets
83	<i>Vestia ranojevici</i> (Pavlovic 1912)	Damjanov and Likharev (1975)	Ledenika; № 4
84	<i>Vitrella contracta</i> (Westerlund 1871)	Pinter (1968, 1972)	Lakatnik; № 2; 6

TERRESTRIAL GASTROPODA

85	<i>Vitreana diaphana</i> (S. Studer 1820)	Pinter (1968, 1972); Pinter and Pinter (1970)	Lakatnik; Ledenika; № 2; 4; 5; 6
86	<i>Vitreana neglecta</i> Damjanov & L. Pinter 1969	Pinter (1972), Damjanov and Likharev (1975)	Ledenika; Vratsata
87	<i>Vitrina pellucida</i> (O. F. Müller 1774)	Pinter and Pinter (1970)	Vratsata; № 2
88	<i>Xerolenta obvia</i> (Menke 1828)	Oshanova (1968), Pinter and Pinter (1970)	Lakatnik; Veslets
89	<i>Zebrina detrita</i> (O. F. Müller 1774)	Wagner (1927), Jaeckel (1954), Pinter (1968), Pinter and Pinter (1970)	Cherepishky Monastery; Lakatnik; Vratsata; № 2; 5; 6
90	<i>Zonitoides nitidus</i> (O. F. Müller 1774)	Oshanova (1968), Pinter, L. (1968)	Lakatnik; Veslets

TERRESTRIAL GASTROPODA

Table 3. Conservation status and endemic species from the region of the Vrachanska Mts..

Abbreviations: BSG – Bulgarian State Gazette; LBD-41 – Law for the Biodiversity, art. 41, § 1, annex 4; IUCN – The IUCN Red List of Threatened Species, DD – data deficient, LC – least concern, NT – near threatened; BGE-Vr, Ir – Bulgarian endemic species, known from the regions of Vratsa Mountains and/or Iskar river gorge only; BGE – Bulgarian endemic species, BLE – Balkan endemic species.

	species	family	conservation status	endemics
1	<i>A. armata</i>	Argnidae	IUCN: LC	--
2	<i>A. langaleta</i>	Argnidae	IUCN: NT	BGE-Vr, Ir
3	<i>A. macrodonta</i>	Argnidae	IUCN: LC	BLE
4	<i>A. parreyssii</i>	Argnidae	IUCN: LC	BLE
5	<i>A. minor</i>	Oxychilidae	--	--
6	<i>A. pura</i>	Oxychilidae	--	--
7	<i>A. biplicata eptychia</i>	Clausiliidae	--	BLE
8	<i>A. vratzatica</i>	Clausiliidae	--	BGE-Vr, Ir
9	<i>A. cf. fasciatus</i>	Arionidae	--	--
10	<i>A. cf. lusitanicus</i>	Arionidae	--	--
11	<i>A. cf. sylvaticus</i>	Arionidae	--	--
12	<i>A. cf. subfuscus</i>	Arionidae	--	--
13	<i>A. bulgarica</i>	Strobilosidae	--	BGE-Vr, Ir
14	<i>B. hiltzudae</i>	Clausiliidae	--	BGE-Vr, Ir
15	<i>B. varnensis</i>	Clausiliidae	--	BLE
16	<i>C. rhabdotoides</i>	Hygromiidae	IUCN: LC	BLE
17	<i>C. minimum</i>	Carychiidae	--	--
18	<i>C. tridentatum</i>	Carychiidae	--	--
19	<i>C. stussinieri</i>	Oxychilidae	--	--
20	<i>C. balcanica</i>	Helicidae	--	BLE
21	<i>C. trizona</i>	Helicidae	IUCN: LC	BLE
22	<i>C. acicula</i>	Ferussaciidae	IUCN: DD	--
23	<i>C. vindobonensis</i>	Helicidae	IUCN: LC	--
24	<i>C. pelia</i>	Helicidae	IUCN: LC	BGE
25	<i>C. arcadica bulgarica</i>	Chondrinidae	--	BLE
26	<i>C. tridens</i>	Enidae	--	--
27	<i>C. lubricella</i>	Cochlicopidae	--	--
28	<i>C. laminata</i>	Clausiliidae	--	--
29	<i>D. brevipes</i>	Oxychilidae	--	--
30	<i>D. rufa</i>	Oxychilidae	--	--
31	<i>D. cf. laeve</i>	Agriolimacidae	--	--
32	<i>D. cf. reticulatum</i>	Agriolimacidae	--	--
33	<i>D. sturanyi</i>	Agriolimacidae	--	--
34	<i>D. cf. turicum</i>	Agriolimacidae	--	--
35	<i>D. zilchi</i>	Agriolimacidae	--	BGE
36	<i>D. bureschii</i>	Agriolimacidae	--	--
37	<i>E. fulvus</i>	Euconulidae	--	--
38	<i>E. strigella</i>	Hygromiidae	IUCN: LC	--
39	<i>F. fruticum</i>	Bradybaenidae	IUCN: LC	--
40	<i>G. frumentum hungarica</i>	Chondrinidae	IUCN: LC	BLE
41	<i>H. albescens</i>	Helicidae	IUCN: LC	--
42	<i>H. lucorum</i>	Helicidae	BSG, LBD-41	--
43	<i>H. pomatia</i>	Helicidae	IUCN: LC, BSG, LBD-41	--
44	<i>L. plicata</i>	Clausiliidae	--	--

TERRESTRIAL GASTROPODA

45	<i>L. nyctelia</i>	Limacidae	--	--
46	<i>L. flavus</i>	Limacidae	--	--
47	<i>L. cf. cinereoniger</i>	Limacidae	--	--
48	<i>L. maximus</i>	Limacidae	--	--
49	<i>L. girva</i>	Helicodontidae	IUCN: LC	--
50	<i>L. pirinensis</i>	Helicodontidae	IUCN: LC	BLE
51	<i>M. frauenfeldi regia</i>	Clausiliidae	--	BGE-Vr, Ir
52	<i>M. frauenfeldi sigma</i>	Clausiliidae	--	BGE-Vr, Ir
53	<i>M. marginata</i>	Clausiliidae	--	--
54	<i>M. pinteri</i>	Clausiliidae	--	BGE-Vr, Ir
55	<i>M. depressa</i>	Oxychilidae	--	--
56	<i>M. inopinata</i>	Oxychilidae	--	--
57	<i>M. obscura</i>	Enidae	IUCN: LC	--
58	<i>M. parvulus</i>	Milacidae	--	BGE
59	<i>Monacha sp. (carthusiana?)</i>	Hygromiidae	IUCN: LC	--
60	<i>M. incarnatus</i>	Hygromiidae	IUCN: LC	--
61	<i>M. glabra striaria</i>	Oxychilidae	--	--
62	<i>O. annularis</i>	Vitrinidae	--	--
63	<i>O. elegans</i>	Succineidae	--	--
64	<i>P. similis</i>	Aciculidae	IUCN: LC	--
65	<i>P. elegans</i>	Pomatiidae	--	--
66	<i>P. rivularis</i>	Pomatiidae	--	--
67	<i>P. rubiginosa</i>	Hygromiidae	IUCN: LC	--
68	<i>P. pygmaeum</i>	Punctidae	--	--
69	<i>P. sterrii</i>	Pupillidae	--	--
70	<i>P. cephalonica</i>	Pyramidulidae	--	BLE
71	<i>P. pusilla</i>	Pyramidulidae	--	--
72	<i>S. doliolum</i>	Orculidae	--	--
73	<i>T. budapestensis</i>	Milacidae	--	--
74	<i>T. kusceri</i>	Milacidae	--	--
75	<i>T. serbica</i>	Milacidae	--	BLE
76	<i>T. claustralis</i>	Vertiginidae	--	--
77	<i>T. cylindrica</i>	Vertiginidae	--	--
78	<i>V. costata</i>	Valloniidae	--	--
79	<i>V. pulchella</i>	Valloniidae	--	--
80	<i>V. alpestris</i>	Vertiginidae	--	--
81	<i>V. pusilla</i>	Vertiginidae	--	--
82	<i>V. pygmaea</i>	Vertiginidae	--	--
83	<i>V. ranojevici</i>	Clausiliidae	--	BLE
84	<i>V. contracta</i>	Pristilomatidae	--	--
85	<i>V. diaphana</i>	Pristilomatidae	--	--
86	<i>V. neglecta</i>	Pristilomatidae	--	BLE
87	<i>V. pellucida</i>	Vitrinidae	--	--
88	<i>X. obvia</i>	Hygromiidae	--	--
89	<i>Z. detrita</i>	Enidae	--	--
90	<i>Z. nitidus</i>	Gastropodidae	--	--

Currently in the region of Vrachanska Mts. 24 endemic species are known, 7 of them with only local distribution in the region of the mountains and Iskar river gorge, 3 Bulgarian endemics and 14 Balkan Peninsula endemic species (Table 3).

The present data are showing the high conservation importance of the region of Vrachanska Mts., but also unevenly and very scattered collecting efforts during the years. For general conclusions many more localities within the mountains area have to be investigated systematically.

Acknowledgements

We thank all our collecting friends contributing with material and literature to this work.

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Принос към изучаването на сухоземните охлюви (Mollusca: Gastropoda) на Врачанска планина

ИВАЙЛО К. ДЕДОВ, УЛРИХ ШНЕПАТ, ФАБИА КНЕЧТЛЕ ГЛОГЕР

(Резюме)

В работа е дадена обобщена и нова информация за сухоземните охлюви на Врачанския Балкан. Общо 90 вида сухоземни охлюви са известни до момента от района на планината, 78 са публикувани от различни автори в миналото, като 56 от тях са потвърдени в настоящата публикация, докато 22 не са намерени. При проведените теренни проучвания са намерени и 12 вида, които се съобщават за първи път за района.