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ГЛАСНИК ОДЈЕЉЕЊА ПРИРОДНИХ НАУКА, 17, 2007.

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CATALOGUS OF THE FRESHWATER SNAILS (MOLLUSCA, GASTROPODA) OF SERBIA

Abstract

Catalogus of the freshwater snails (Mollusca, Gastropoda) in the continental waters of Serbia and its diversity are presented, based on own perennial investigations as well as based on the existing literature. Fauna of freshwater snails in Serbia belongs to three drainage systems: Black Sea, Aegean Sea and Adriatic Sea drainage systems. The review of the investigations of this fauna in Serbia is given, and all taxa known from Serbia, their synonymy, distribution and ecology are discusses. By this way, 63 species and subspecies of class Gastropoda are cited, belonging to 31 genera, 9 families, 5 orders, 4 superorders and 2 subclassis. Among them, 14 taxa have a locus typicus in Serbia, and 13 species, belonging to 8 genera, are endemic for Serbia.

Keywords: Mollusca, freshwater Gastropoda, taxonomy, diversity, Serbia.

KATALOG SLATKOVODNIH PUŽEVA (MOLLUSCA, GASTROPODA) SRBIJE

Izvod

Predstavljen je diverzitet i sastavljen katalog slatkovodnih puževa (Mollusca, Gastropoda) kontinentalnih voda Srbije, na osnovu vla-

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stitih višegodišnjih istraživanja kao i postojećih podataka iz literature. Fauna slatkovodnih puževa u Srbiji pripada trima slivovima: Crnomorskom, Egejskom i Jadranskom slivu. Dat je pregled dosadašnjih istraživanja ove faune u Srbiji, kao i svi do sada poznati taksoni vodenih puževa tog regiona, njihova sinonimika, rasprostranjenje i ekologija. Navedene su 63 vrste i podvrste vodenih puževa iz klase Gastropoda, koji pripadaju 31 rodu iz 9 familija, 5 redova, 4 superreda i 2 podklase. Među njima, za 14 taksona tipični lokalitet je na području Srbije (njihov locus typicus), dok su 13 vrsta iz 8 rodova endemiti Srbije.

Ključne Riječi: Mollusca, slatkovodni puževi, taksonomija, diverzitet, Srbija.

INTRODUCTION

The presence of very high biodiversity in Serbia, regarding all groups of animals, attracted always numerous scientists from Europe, including those interested in the diversity of the land- as well as the freshwater snails.

The first data regarding the freshwater snails in Serbia have been mentioned by MÖLLENDORFF (1873) who investigated the land- and freshwater snails in Serbia, based on the material received from various other scientists, among them by Josip PANČIĆ (1858) also. CLESSIN (1887), during his investigations of the Gastropoda from Austro-Hungarian Empire, mentioned also several freshwater species from Serbia.

Further data on snails belongs to LAZAR DOKIĆ (1907), University Professor on Velika Škola in Belgrade, who collected Bivalvia and Gastropoda. After the death of DOKIĆ, his unpublished manuscript regarding the Gastropods, has been revised for the publishing by M. NIKOLAJEVIĆ (1907). One part of DOKIĆ`s collection of the freshwater Gastropoda, which has been not published, was deposited in the Museum of Natural History in Belgrade.

WOHLBEREDT (1909), during his investigations of the malacological fauna of Sandžak in Serbia, mentioned for this region several freshwater snails also.

Our great malacologist and paleontologist PETAR S. PAVLOVIĆ (1864-1938), who published nearly 200 malacological papers regarding the recent and fossil snails in Serbia in the period of 1890-1933, pu-

blished only one paper regarding the freshwater recent snails from Serbia (1913). In this paper, he described a new genus and species from Čočića Vrela spring near the mouth of Derventa river into Drina river (*Lartetia serbica*, n. sp., i. e. *Paladilhiopsis serbica*, n. gen. n. sp.).

HESSE (1929) mentioned 23 species of freshwater snails collected during his malacological investigations in Serbia (Danube and Jezava rivers near Smederevo; Morava and Ravanica rivers near Ćuprija).

EHRMANN (1933) mentioned several freshwater snails from Serbia, but without any more detailed names of localities.

KUŠČER (1936) described a new species, *Plagigeyeria gladilini* from spring of Beli Drim river near Peć.

ZILCH (1955), GROSSU (1956) and ZILCH & JAECKEL (1962) mentioned also several freshwater snail species from Serbia, each, but without detailed names of localities.

TOMIĆ, V. (1959) has published the check-list of land- and freshwater snails from the **Petar Pavlović Collections** existing in the Museum of Natural History in Beograd.

SCHÜTT (1960, 1975) described several freshwater new species from the region of Kosovo & Metohija.

PAVLE RADOMAN, our known malacologist and University Professor in Belgrade, published numerous papers about the spring snails of the family Hydrobiidae, describing various number of new genera and species (1973, 1975, 1976, 1978, 1983, 1985).

BOLE & VELKOVRH (1987) described several new freshwater species from the springs in Serbia.

FRANK et al. (1990) gave a large review of the freshwater Gastropoda in Danube river from its spring to the mouth, with numerous localities, including certain number of localities in the Serbian part of Danube (mainly based on the data which I have sent them at disposition).

Božana JOVANOVIĆ [= Božana KARAMAN], during her studies on the land and freshwater Gastropoda of former Yugoslavia, mentioned also many freshwater gastropods from Serbia (1990, 1991, 1995, 1995 a, 1995 b, 1997, 1998, 1998 a, 1999, 2001, 2001 a, 2005).

REMARKS. The locus typicus is mentined for the species described from Serbia, Crna Gora (Montenegro) and Bosnia & Herzegovina, only.

TAXONOMIC PART

Classification of the Gastropoda is given according the www. faunaeur. org/taxon.

Class GASTROPODA Cuvier, 1795
Order NERITOPSINA Cox et Knight, 1960
Family NERITIDAE Lamarck, 1809
Genus THEODOXUS Montfort, 1810
Subgenus THEODOXUS Montfort, 1810

THEODOXUS (THEODOXUS) DANUBIALIS CARINATUS
(Schmidt, 1847)

Nerita danubialis var. *carinata* Clessin, 1887: 696, fig. 479;
Theodoxus danubialis carinatus Ehrmann, 1933: 210; Zilch & Jaeckel, 1962: 31.

MATERIAL EXAMINED: Ibar river, one exp., Krupačko vrelo-spring, 2 exp. 1911-08-21 (leg. L. Dokić, probably in 1879).

LOCALITIES CITED: In the region of Sava river, Serbia (CLESSIN, 1887; EHRMANN, 1933; ZILCH & A. JAECKEL, 1962).

GENERAL DISTRIBUTION: SE Europe.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: This species was found at the banks of the rivers and springs.

THEODOXUS (THEODOXUS) DANUBIALIS
DANUBIALIS (C. Pfeiffer, 1828)

Theodoxus danubialis Hesse, 1929: 231; Ehrmann, 1933: 210, pl. 9, figs. 126, 126 a; Jaeckel et al., 1958: 172; Frank et al., 1990: 23; Jovanović, B., 1990: 23; Karaman, B., 2001: 304; 2005: 46.

MATERIAL EXAMINED: Danube river (= Dunav): – Kladovo, 1965., one exp. (leg. A. Matvejev); – Dobra, 1966., 2 exp. (leg A. Matvejev); – Golubac, 2002-06-08., 2 exp. (leg B. & G. Karaman); – Tekija, 1966., 2 exp. (leg A. Matvejev); – Donji Milanovac. 1967. one exp. (leg. A. Matvejev); – ibid., 2002., 2 exp. (leg. B. & G. Karaman) ;

– ibid., 2003-06-03., 12 exp. (leg. B. & G. Karaman); – Ram, middle, 2002-06-17., one exp., (leg. B. Miljanović); – Sobić, 2002., 4 exp. (leg. B. Miljanović); – Smederevo, right bank of Danube, 2002., 8 exp.; – Rudna Glava, 2004-07-28., one exp. (leg. B. Miljanović);

Other waters: – Sićevo, entrance in the canyon, Nišava river, 1994-07-06., 2 exp. (leg. B. Miljanović); – Sava river near Ostružnica, Beograd, 1998-04-23., 4 exp. (leg. B. Jovanović); – Toplica river, 2000., 36 exp., (leg. I. Živić); – Vrujci, 2001-1-30., one exp. (leg. I. Živić); – Mačvanska Mitrovica, Riblje jezero- lake, 2001-08-26., one exp. (leg. B. & G. Karaman).

LOCALITIES CITED: Danube river near Smederevo; Morava river near Ćuprija (HESSE, 1929); „Serbia" (EHRMANN, 1933); Serbia (JAECKEL et al., 1958); Karaš, Jasenovo, Deliblatska peščara sandy area (JOVANOVIĆ, B., 1990); Danube river near Beograd and Novi Sad (FRANK et al., 1990); Danube river near Kladovo; Dobra; Tekija; Donji Milanovac; Kusjak; Negotin; Karataš (KARAMAN, B., 2001); Crvena reka river; Južna Morava river; Nišava river; Temska river (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: SE Europe-Pontic-Balkan; Danube from the source to the mouth.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: In the rivers and along their banks, on sandy and gravel bottoms.

THEODOXUS (THEODOXUS) DANUBIALIS STRAGULATA (C. Pfeiffer, 1828)

Neritina stragulata Möllendorff, 1873: 147;
Neritina danubialis var. *stragulata* Clessin, 1887: 695, fig. 478;
Theodoxus danubialis var. *stragulata* Grossu, 1956: 61;
Theodoxus danubialis stragulata Grossu, 1986: 156.

MATERIAL EXAMINED: – Danube river near Banjica, one exp.; – Svrljiški Timok river, one exp.; – Sava river near Obrenovac, 3 exp.; – Ibar river, one exp.; – Drina river near Zvornik, 2 exp.; – Danube river near Kladovo, 4 exp.; – Danube river near Gradište, 2 exp.; – Crnica, Paraćin, one exp. [all these localities have been collected in 1879 by L. Dokić].

LOCALITIES CITED: Danube (MÖLLENDORFF, 1873); Region of Sava river in Serbia and Banat (CLESSIN, 1887); „Sava river, Yugoslavia, Banat" (GROSSU, 1956; 1986);

GENERAL DISTRIBUTION: SE Europe.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living on hard bottom of the rivers (gravel and sand).

THEODOXUS (THEODOXUS) FLUVIATILIS

(Linnaeus, 1758)

Theodoxus fluviatilis Karaman, B., 2001: 304.

MATERIAL EXAMINED: Danube river: – Karataš, 1992-07-22., 6 exp. (leg. B. & G. Karaman); – Kladovo, 2001-12-10., 8 exp. (leg. B. Miljanović); – Bela Stena, right bank, 2002-07-09., 3 exp. (leg. B. & G. Karaman); – 1200 km, right bank, 2002., 2 exp.; (leg. B. Miljanović); – Kostolac, left bank, 2002., one exp. (leg. B. Miljanović); – Veliko Gradište, right bank, 2002., one exp. (leg. B. Miljanović); – Ritopek, Beograd, 2002., 4 exp. (leg. B. Miljanović).

LOCALITIES CITED: DANUBE RIVER: Kusjak, near dam „Djerdap II" (Negotin); Karataš (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: W Palearctic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: On the stones and sands along the banks of the rivers and dam.

THEODOXUS (THEODOXUS) TRANSVERSALIS

(C. Pfeiffer, 1828)

Neritina transversalis Möllendorf, 1873: 147;

Theodoxus transversalis Hesse, 1929: 231; Karaman, B. & Živić, I., 2001: 204; Karaman, B., 2001: 304; 2005: 46, 47.

MATERIAL EXAMINED: – Moravica river, 2 exp.; – Danube river near Kladovo, one exp.; – Danube river near Gradište, 5 exp.; – Sava river near Obrenovac, 3 exp. [all these localities have been collected in 1879 by L. Dokić]; – Jelenački potok- torrent, Ruma, 2000-04-16., one exp. (leg. I. Živić).

LOCALITIES CITED: Danube river in Golubac (MÖLLENDORFF, 1873); Danube river: Smederevo; Beograd; Kladovo; Gradište: Kusjak near dam „Djerdap II" (Negotin); Usje (KARAMAN, B., 2001); Morava river near Ćuprija (HESSE, 1929); Jelenački potok- torrent on Fruška Gora Mt. (KARAMAN, B. & ŽIVIĆ, I., 2001); Južna Morava river; Nišava river (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: Central and SE Europe.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Along the coasts of the rivers, on the hard bottom (stones and sand).

Order ARCHITAENIOGLOSSA Haller, 1892
Family VIVIPARIDAE Gray, 1847

Genus VIVIPARUS Montfort, 1810

VIVIPARUS ACEROSUS ACEROSUS (Bourguignat, 1862)
Vivipara hungarica Hesse, 1929: 237;
Viviparus acerosus Jaeckel et al., 1958): 172;
Viviparus danubialis Tomić, 1959: 54;
Viviparus acerosus Karaman, B., 2001: 305.

MATERIAL EXAMINED: Danube river: – Sremska Kamenica near Novi Sad, 2001-02-10., 12 exp. (B. Karaman & G. Karaman); – Smederevo, Jerinin Grad, 2001-06-06., 11 exp. (leg. M. Stanković); – Donji Milanovac, 2003-06-04., 63 exp. (leg. B. & G. Karaman);

Other waters: – Sava river in Sremska Mitrovica, 2001-08-29., 16 exp. (leg. B. & G. Karaman); – Batar, Zasavica, 2001., 44 exp. (leg. B. & G. Karaman); – Riblje jezero- lake, Mačvanska Mitrovica, 2001., 12 exp. (leg. B. & G. Karaman); – Šumareva Ćuprija in Zasavica, 2001., one exp. (leg. B. & G. Karaman); – ibid., 2002., 5 exp. (leg. B. & G. Karaman) ; – Banovo polje, Trebljevina, Zasavica, 2002., 3 exp. (leg. B. & G. Karaman); – Banovo polje near Jovača, Zasavica, 2002., 5 exp. (leg. B. & G. Karaman); – Divčibare, in peat-bog, 2003-07-28., 4 exp. (leg. M. Stanković); – Jazačin potok- torrent, Fruška Gora Mt., 2004., one exp. (leg. M. Stanković); Šišatovac, Fruška Gora Mt., 2004., 3 exp. (leg. M. Stanković).

LOCALITIES CITED: Danube river near Smederevo (HESSE, 1929); Serbia (JAECKEL et al., 1958); Brzansko Moravište (TOMIĆ, 1959); Danube river: Donji Milanovac; between Pesače and Lepenski Vir; Golubac; Kusjak near Negotin; Kladovo; Karataš; Usje (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: SE Europe; in central and lower part of Danube river; up to 780 m a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: On the muddy bottom, in stagnant or poorly running waters.

VIVIPARUS ACEROSUS MARITZANUS (Haas, 1913)

Viviparus acerosus maritzanus Zilch*,* 1955: 57, pl. 4. fig. 23.

LOCALITIES CITED: Lepenica river near Lapovo (ZILCH, 1955).

GENERAL DISTRIBUTION: Balkan (Serbia and Bulgaria).

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: On the bottom in the slowly running waters.

VIVIPARUS CONTECTUS (Millet, 1813)

Paludina fasciata Möllendorf, 1873: 146;
Vivipara contecta var*.,* Zilch, 1955: 47;
Viviparus contectus Frank et al.,1990: 26; Karaman, B., 2001: 305.

MATERIAL EXAMINED: – Šumareva ćuprija in Zasavica, Sremska Mitrovica, 2001-06-29., 2 exp. (leg. B. & G. Karaman); – Banovo polje, Trebljevina, Zasavica, Sremska Mitrovica: 2002., 23 exp. (leg. B. & G. Karaman); – Banovo polje, Jovača, Zasavica, 2002., 3 exp. (leg. B. & G. Karaman); – Ravnje, Staniševac, Sremska Mitrovica, 2004-01-06., one exp. (leg. M. Stanković); – Ludoško jezero- lake, Hajdukovo, Subotica, 2002-07-26., one exp. (leg. M. Stanković); – Noćaj, Preseka, Sremska Mitrovica, 2003-07-20., one exp. (leg. M. Stanković); – Šišatovac, Fruška Gora Mt., 2004-05-02., one exp. (leg. M. Stanković).

LOCALITIES CITED: Serbia (MÖLLENDORFF, 1873); Makiš near Beograd (ZILCH, 1955); Danube river in Banovci near Beograd (FRANK et al., 1990); Danube river: Beograd; Donji Milanovac; Kusjak near Negotin (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: ENW Europe, up to 780 m. a. s. l.
DISTRIBUTION IN SERBIA: Black Sea drainage system.
ECOLOGY: In the stagnant waters between the water plants.

VIVIPARUS VIVIPARUS (Linnaeus, 1758)

Vivipara vivipara Hesse, 1929: 237;
Viviparus viviparus Jovanović, B., 1990: 23; Karaman, B., 2001: 305; 2001 a: 197.

MATERIAL EXAMINED: – Petrovaradinsko-Karlovački rit- bogland, 1995., 9 exp. (leg. Fojkart); – Sava river, Orlača, Šabac, 1988-05-19., 9 exp. (leg. B. Jovanović).

LOCALITIES CITED: Danube river near Smederevo (HESSE, 1929);

Kanal DTD (=Channel Danube- Tisa- Danube), Đavolji most-bridge in Deliblatska peščara – sandy area; Karaš, Jasenovo in Deliblatska peščara sandy area (JOVANOVIĆ, B., 1990); Danube river in Kusjak near Negotin and Kladovo (KARAMAN, B., 2001); Pančevački rit-bogland near Pančevo (KARAMAN, B., 2001 a).

GENERAL DISTRIBUTION: Central and E Europe, up to 1794 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: In the stagnant and running clean waters, in the swamps, lakes and slowly running torrents, usually on muddy bottoms.

Order NEOTAENIOGLOSSA Haller, 1892
Family MELANOPSIDAE H. & A. Adams, 1854

Genus AMPHIMELANIA P. Fischer, 1885

AMPHIMELANIA HOLANDRII HOLANDRII
(C. Pfeiffer, 1828)

Melania holandri Möllendorff, 1873: 146;
Amphimelania holandrii Hesse, 1929: 231; Jaeckel et al., 1958: 177; Jovanović, B., 1990: 23; 1995 a: 338; 1998: 241; Reh et al., 1997: 130; Karaman, B., 2001: 305;
Holandriana holandrii Karaman, B., 2005: 46, 47.

MATERIAL EXAMINED: Danube river: – Tekija, 1967., 5 exp. (leg. A. Matvejev); – Višnjica, Beograd, 1983, 2 exp. (leg. B. Jovano-

vić); – Kusjak near dam „Đerdap II", 1984-09-12., 17 exp. (leg. B. Jovanović); – Usje (Golubac), 1985-06-29., one exp. (leg. B. Jovanović); – Karataš, 1992-07-22., 5 exp. (leg. B. Jovanović); – Kladovo, 1997-07-29., 14 exp. (B. Jovanović & G. Karaman); – Ritopek (Beograd) left bank, 2002-07-10, one exp. (leg. B. Miljanović).

Other waters: – Slanački put- road, Beograd, 1983-08-11., 3 exp. (leg. B. Jovanović); – Savsko jezero- lake, 1983., one exp. (B. Jovanović); – Village Konatice near Beograd, 1991-06-15., one exp. (leg. V. Simić); – Nišava river near Prosek, 1994-07-09. 4 exp. (leg. B. Jovanović); – Sićevo, entrance into the canyon of Nišava river, 1994-07-06, 2 exp. (leg. B. Jovanović); – Tisa river near Titel, 1996-07-26., 17 exp. (leg. B. Miljanović); – Zapadna Morava river, near village Mrzenica, Kruševac, 1998-08-20., 3 exp. (leg. B. Jovanović & G. Karaman); – Sava river near Ostružnica by Beograd, 1998-04-23., 4 exp. (leg. B. Jovanović & G. Karaman); – Ravnje, Široka Bara, Zasavica, Sremska Mitrovica, 2004-11-07., 2 exp. (leg. M. Stanković); – Banja Vrujci, 2000-04-29., 120 exp. (leg. I. Živić); – Brodarevo, 2000-06-26., 22 exp. (leg. M. Stanković); Sava river near Mačvanska Mitrovica, 2001, 2 exp. (leg. B. & G. Karaman).

LOCALITIES CITED: Danube river near Beograd; spring of Mlava river; Danube river near Greben Mt. (MÖLLENDORFF, 1873); Danube river near Smederevo; Morava river near Ćuprija (HESSE, 1929); Serbia (JAECKEL et al., 1958); Kanal DTD (=Channel Danube-Tisa-Danube), Đavolji most- bridge, Deliblatska peščara- sandy area; Karaš, Jasenovo, Deliblatska peščara- sandy area (JOVANOVIĆ, B., 1990); Brestovačka reka- river in Brestovačka Banja (Bor region) (JOVANOVIĆ, B., 1995 a); Brestovačka reka- river in Brestovačka Banja 50 m downstream of the mouth of Banjski potok- torrent; Džanovo Polje, downstream of the bridge; Brestovačka reka- river upstreams of Metovnica village (REH et al., 1997); Brestovačka reka- river (JOVANOVIĆ, B., 1998); Danube river in Višnjica near Beograd; Danube river near Tekija; ibid, by Kusjak near the dam„Đerdap II"; Usje; Golubac; Karataš (KARAMAN, B., 2001); Bućinska reka- river; Gaberska reka- river; Gradska reka- river; Južna Morava river; Crvena reka- river; Jerma- river; Jošanica river; Moravica river; Nišava river; Saselska reka- river; Toplica river; Temska river (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: NW Balkan.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Present in the slowly running waters, on various hard bottoms or on the vegetation.

Genus FAGOTIA Bourguignat, 1877
Subgenus FAGOTIA Bourguignat, 1877

FAGOTIA (FAGOTIA) ESPERI ESPERI (Férussac, 1823)

Melanopsis Esperi Möllendorff, 1873: 146;
Hemisinus Esperi Nikolajević, 1907: 22;
Fagotia esperi Jaeckel et al., 1958: 177; Jovanović, B., 1990: 23; Karaman, B., 2001: 305; 2005: 46.

MATERIAL EXAMINED: Danube river: – Višnjica, Beograd, 1983-08-16., 11 exp. (leg. B. Jovanović); – Pančevački most- bridge, Krnjača, Beograd, 1984-08., 2 exp. (leg. J. Budisavljević); – Ilok, 1985-05-02., 4 exp. (leg. Đ. Ivković); Kladovo, 1997-07-29., 72 exp. (B. Jovanović & G. Karaman); – Golubac, 2002-06-08., 5 exp. (leg. B. & G. Karaman); – Mihajlovac, 2002., one exp. (leg. B. Miljanović); – Radujevac, right bank, 2002., one exp. (leg. B. Miljanović); – Tekija, right bank of Danube, 2002-06-17, one exp. (leg. B. Miljanović); – Donji Milanovac, 2003-06-03., 10 exp. (leg. B. & G. Karaman);

Other waters: – Ibar river, 2 exp.; – Nišava river, on the sand, 2 exp.; – Drina river near Zvornik, 4 exp. [these 3 localities have been collected in 1879 by L. Dokić]; – Sava river near Ada Ciganlija, Beograd, 1987-06-02., 30 exp. (leg. N. Aleksić); – Channel Bogaz near its mouth into Sava river, Zasavica, 2000-08-20., 15 exp. (leg. M. Stanković); – Toplica river, 2000-10-19., 21 exp. (leg. I. Živić); – Sava river in Mačvanska Mitrovica, 2001-08-29., one exp. (leg. B. & G. Karaman).

LOCALITIES CITED: Danube river; spring of Mlava river (MÖLLENDORFF, 1873); Danube river; Ibar river; Timok river; Mlava river; Drina river; Nišava river (NIKOLAJEVIĆ, 1907); Serbia (JAECKEL et al., 1958); Karaš, Jasenovo, Deliblatska peščara- sandy area (JOVANOVIĆ, B., 1990); Dunav (KARAMAN, B., 2001); Južna Morava river; Nišava river (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: SE Europe -Pontic-Panonic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.
ECOLOGY: In the running waters, on the muddy bottom.

Subgenus MICROCOLPIA Bourguignat, 1884

FAGOTIA (MICROCOLPIA) DAUDEBARTII ACICULARIS (Férussac, 1823)

Melanopsis acicularis Möllendorff, 1873: 146;
Fagotia acicularis Hesse, 1929: 232, 237; Jaeckel et al., 1958: 177; Jovanović, B., 1990: 23; Frank et al., 1990: 46; Karaman, B., 2001: 305;
Esperiana daudebartii acicularis Karaman, B., 2005: 46.

MATERIAL EXAMINED: Danube river: – Kusjak, 1984-09-12., 35 exp. (leg. B. Jovanović); – Usje, 1985-06-29., 15 exp. (leg. B. Jovanović); – Karataš, 1992-07-22., 35 exp. (leg. B. Jovanović); – Sremska Kamenica near Novi Sad, 2001-02-10., 4 exp. (B. Karaman & G. Karaman); – Kladovo, entrance in the port, 2001-10-15., 4 exp. (leg. B. Miljanović); – Smederevo, 2002-06-17., one exp. (leg. B. Miljanović); – Donji Milanovac, 2003, 7 exp. (leg. M. Stanković); – Poročica river, Glavica Mt., Đerdapska klisura- canyon, 2003., one exp. (leg. M. Stanković).

Other waters: – Drina river near Zvornik, 5 exp.; – Trgoviški Timok in village Rgošte, Knjaževac, 3 exp.; – deposit of Mlava river, Brdarac, 6 exp.; – Danube in Donji Milanovac, 6 exp.; – Gradište, 3 exp.; – Crnica, Paraćin, 3 exp., 1882 [all these localities have been collected in 1879 by L. Dokić]; – Savsko jezero- lake in Beograd, 1982., 4 exp. (leg. J. Budisavljević); – Channel Bogaz near the mouth of Zasavica into Sava river, 2000-08-20., 10 exp. (leg. M. Stanković); – Sava river in Mačvanska Mitrovica, 2001-08-29., 50 exp. (leg. B. & G. Karaman); – Toplica river, 2001-01-30., 3 exp. (leg. I. Živić).

LOCALITIES CITED: Danube river in Beograd; Greben (Đerdap); Spring of Mlava river (MÖLLENDORFF, 1873); Danube river near Smederevo; Morava river near Ćuprija (HESSE, 1929); Serbia (JAECKEL et al., 1958); Karaš river, Jasenovo, Deliblatska peščara – sandy area (JOVANOVIĆ, B., 1990); Danube river in Beograd (FRANK et al., 1990); Danube river: Donji Milanovac; Gradište; Kusjak near Negotin; Usje; Karataš (KARAMAN, B., 2001); Južna Morava river; Nišava river (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: SE Europe-Pontic-Panonic.
DISTRIBUTION IN SERBIA: Black Sea drainage system.
EKOLOGY: Slowly running waters, on the muddy bottom.

Family BITHYNIIDAE Gray, 1857

Genus BITHYNIA Leach, 1818
Subgenus BITHYNIA Leach, 1818

BITHYNIA (BITHYNIA) TENTACULATA (Linnaeus, 1758)
Bithynia tentaculata Hesse, 1929: 232; Tomić, 1959: 55; Frank et al., 1990: 41; Jovanović, B., 1990: 23; Karaman, B., 2001: 305.

MATERIAL EXAMINED: Danube river: – Danube near Donji Milanovac, 1966., 2 exp. (leg. A. Matvejev); – Channel Sibnica, Beograd, 1983-10-04., one exp. (leg. B. Jovanović); – Village Hajdukovo near Subotica, 1984-08., 3 exp. (leg. V. Nikolić); – Danube near Usje, 1984-06-29., 10 exp. (leg. B. Jovanović); – Danube near Kusjak, Negotin, 1984-09-12., 6 exp. (leg. B. Jovanović); – Danube near Karataš, 1992-07-22., 40 exp. (leg. B. Jovanović & G. Karaman); – Right bank of Danube near Zemun, 1996-10-05., 35 exp. (leg. B. Jovanović & G. Karaman); – Danube, Lepenski Vir near Donji Milanovac, 1997-06-13., 18 exp. (B. Jovanović & G. Karaman); – Danube, Kladovo, 1997-07-29., one exp. (B. Jovanović & G. Karaman); – Danube, Brza Palanka near Kladovo, 1997-08-02., 6 exp. (B. Jovanović & G. Karaman); Golubac, 2002., 48 exp. (leg. B. & G. Karaman); – Donji Milanovac, 2002., 3 exp.; (leg. B. & G. Karaman); – Sremska Kamenica, Novi Sad, 2001-02-10., 12 exp. (B. & G. Karaman); – Ritopek (Beograd), right bank, 2002., 5 exp. (leg. B. & G. Karaman); – Ram, 2002., 3 exp. (leg. B. Miljanović); – Surduk, right bank, 2002., 3 exp. (leg. B. Miljanović); – Kostolac, right bank, 2002., 12 exp. (leg. B. Miljanović); – Tekija, right bank, 2002., 3 exp. (leg. B. Miljanović); – Kladovski ritbogland, Kladovo, 1985-06-29., 3 exp. (leg. B. Jovanović); – Srebrno jezero- lake, Veliko Gradište, 1997-06-08., 6 exp., (leg. B. Jovanović & G. Karaman); – ibid., 2001-6-02., 59 exp. (leg. B. & G. Karaman).

Other waters: – Sava river near Orlača, Šabac, 1988-05-31., 10 exp. (leg. B. Jovanović); – Mala Krsna, 1990-10-20., 36 exp. (leg. M. Jovano-

vić); – Savsko jezero- lake, Beograd, 1990-09-02., 10 exp. (leg. J. Budisavljević); – Obedska bara- pool, Vojvodina, 1996-09-14., 13 exp. (leg. I. Dedov); – – Dolovo village near Pančevo, 1995-05-08., 5 exp. (leg. S. Tutić); Village Dolovo near Pančevo, brook near ort Mala Šuma, 1997-05-07., one exp. (leg. B. Jovanović & G. Karaman); ibid., 1998-04-24., 30 exp. (leg. B. Jovanović & G. Karaman); – Ledena pećina- cave, Tupižnica near Zaječar, 1997-06-17., one exp. (B. Jovanović & G. Karaman); – – Sava river in Beograd, 1998., 5 exp. (leg. B. Jovanović & G. Karaman); – Ostružnica, 1998., one exp. (leg. B. Jovanović & G. Karaman); – Krnjača, swamps near Danube, 1998., 32 exp. (leg. B. Jovanović & G. Karaman); – Zasavica, Sremska Mitrovica, 1999-06-01., 2 exp. (leg. M. Stanković); – Mačvanska Mitrovica, Sava river, 2001-08-29., 23 exp. (leg. B. & G. Karaman); – Šumareva ćuprija, Zasavica, 2001., one exp. (leg. B. & G. Karaman); – ibid., 2002., 17 exp. (leg. B. & G. Karaman); – ibid., 2004., 3 exp. (leg. M. Stanković); – ibid., 2005., 2 exp. (leg. M. Stanković); – Torrent Batar, 5 exp. (leg. B. & G. Karaman); Batar, Zasavica, 2002., 4 exp. (leg. B. & G. Karaman); Banovo Polje, springs, Zasavica, 2001., 18 exp. (leg. M. Stanković); Trebljevina, Banovo polje, Zasavica, 2002., 22 exp. (leg. B. & G. Karaman); – Valjevac, Zasavica, 2001., one exp. (leg. M. Stanković); ibid., 2005., 30 exp. (leg. M. Stanković).- Jovača, Zasavica, 2002., 2 exp. (leg. B. & G. Karaman); – Čevrtinja, Mačvanska Mitrovica, 2002-08-16., 2 exp. (leg. M. Stanković); – Noćaj, Preseka, Zasavica, 2003-07-19., 11 exp. (leg. M. Stanković); – Ravnje, Zasavica, 2004., one exp. (leg. M. Stanković); –

LOCALITIES CITED: Danube near Smederevo (HESSE, 1929); Makiš; Rogot; Tamnavica (TOMIĆ, 1959); Banovci «desna», Beograd; Sremski Karlovci (FRANK et al., 1990); Kanal DTD (=Channel Danube-Tisa-Danube), Đavolji most- bridge, Deliblatska peščara- sandy area; Karaš, Jasenovo, Deliblatska peščara- sandy area (JOVANOVIĆ, B., 1990); Danube river: Golunački Grad; Donji Milanovac; Negotin (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Palearctic, up to 1800-2000 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in stagnant as well as in the clean running waters, also in the polluted waters and in the periodically dry water beds.

Subgenus CODIELLA Locard, 1894

BITHYNIA (CODIELLA) LEACHII (Scheppard, 1823)
Bithynia leach Tomić, 1959: 55;
Bithynia leachi Frank et al., 1990: 45; Karaman, B., 2001: 305.

MATERIAL EXAMINED: – Danube river near Velika Padina (=Objaga Mare) below Donji Milanovac, 1997-06-10., 3 exp. (B. Jovanović & G. Karaman); – Danube river near Lepenski Vir, Donji Milanovac, 1997-06-13., one exp. (B. Jovanović & G. Karaman).

LOCALITIES CITED: Bitva (Glušci); Grabovačka bara- pool (Obrenovac); Golubački Grad; Donji Milanovac; Zasavica; Jerez; Krupačko vrelo- spring; Lepenica; Makiš; Moravište; Negotinsko blato- swamp; Nurča; Paraćin; Radenkovići (TOMIĆ, 1959); Danube, Beograd (FRANK et al., 1990); Danube: Golubački Grad; Donji Milanovac; Negotin (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Palearctic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the zone of the vegetation in the stagnant and slowly running waters.

Family HYDROBIIDAE Troschel, 1857

Genus BELGRANDIELLA (A. J. Wagner, 1928)

BELGRANDIELLA BUMASTA Schütt, 1960
Belgrandiela bumasta Schütt, 1960: 151, fig. 6; Bole 1967: 77; Jovanović, B., 1995: 300.

LOCUS TYPICUS: Rugovska klisura- canyon near Peć. Holotype: SMF 163514; Paratypes: SMF 163515/2, SLG. Schlickum & Angelov, Schütt.

LOCALITIES CITED: Rugovska klisura- canyon near Peć (SCHÜTT, 1960; BOLE, 1967; Serbia (JOVANOVIĆ, B., 1995).

GENERAL DISTRIBUTION: W Balkan, Kosovo & Metohija reg., Serbia.

DISTRIBUTION IN SERBIA: Adriatic Sea drainage system.

ECOLOGY: Living in the springs and the subterranean waters.

Genus BYTHINELLA Moquin – Tandon, 1855

BYTHINELLA AUSTRIACA (Frauenfeld, 1857)

Bythinella austriaca Tomić, 1959: 54.

LOCALITIES CITED: Vrujce; Široke Luke; Čočića vrelo- spring (TOMIĆ, 1959).

GENERAL DISTRIBUTION: E Karpats, Serbia;

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the sources.

BYTHINELLA DRIMICA ALBA Radoman, 1976

Bythinella drimica alba Radoman, 1976: 146, pl. II, fig. 10; Radoman, 1983: 179, pl. 12, fig. 213; Jovanović, B., 1991: 250, pl. 11, fig. 7; 1995: 296.

LOCUS TYPICUS: Spring SW. of Monastery Dečani near Kožnjar (Beli Drim drainage system, Kosovo & Metohija reg.). Lectotype: BEO 370; Paralectotype: BEO 371.

LOCALITIES CITED: Source SW. of Monastery Dečani near Kožnjar (Beli Drim drainage system (Kosovo & Metohija reg.) (RADOMAN, 1976; 1983); Monastery Dečani (JOVANOVIĆ, B., 1991); Serbia (JOVANOVIĆ, B., 1995).

GENERAL DISTRIBUTION: Kosovo & Metohija reg, Serbia.

DISTRIBUTION IN SERBIA: Adriatic Sea drainage system, known only from loc. typ.

ECOLOGY: Subterranean and source species.

BYTHINELLA OPACA DISPERSA Radoman, 1976

Bythinella dispersa Radoman, 1976: 144, pl. 1, fig. 7;

Bythinella schmidti dispersa Radoman, 1983: 176, pl. 12, fig. 205; Jovanović, B., 1991: 248; 1995: 296; 1998 a: 123.

LOCUS TYPICUS: Spring in the village Dubnica, 13 km S. of Sjenica (Drim river drainage system). Lectotype: BEO 352; Paralectotype: BEO 353/4.

LOCALITIES CITED: Spring Savina Voda in the village Zvijezd, on road Pljevlja-Prijepolje, nearly 15 km. from Prijepolje; Fountain in the village Srđevac, on road Berane-Bijelo Polje, near Berane;

Uvac river drainage system: Spring in the village Šušure, 3 km W. of Sjenica; Spring in the village Bukovik, 22 km from Sjenica (road towards Kladnica); Great spring Sredović in the village Peršići, 2 km N. of road Kokin Brod-Partizanske Vode, nearly 7 km from Kokin Brod;

Ibar river drainage system: Source in the village Melaje in Koštan Polje, on road from Sopoćani, nearly 15 km W. of Novi Pazar; Source Vrelo near the village Osaonica on road Novi Pazar-Sjenica, near Novi Pazar; Source in Bać on road Rožaje-Kosovska Mitrovica near Rožaje;

Đetinja drainage system: Large source Vrelo near the village Bioska, N. of road Užice-Višegrad, nearly 3 km from Bioska and 20 km from Užice (RADOMAN, 1976, 1983); Serbia, Crna Gora (JOVANOVIĆ, B., 1995); Sjenica, Dubnica (JOVANOVIĆ, B., 1998 a).

GENERAL DISTRIBUTION: Serbia, Crna Gora.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the sources only.

BYTHINELLA OPACA OPACA (M. von Gallenstein, 1848)
Bythinella opaca Jaeckel et al., 1958: 174;
Bythinella schmidti schmidti Radoman, 1983: 172, pl. 12, fig. 204.

LOCALITIES CITED: Serbia (JAECKEL et al., 1958); Zapadna Morava drainage system: Source Vrelo near Bioska village (20 km. from Užice; Source Volujak 8 km from Užice; Large source Vrelo near Rupeljevo village, S. of road Požega-Užice; Two sources near cave in the Podpeć village, 9 km. from Užice; Large source in Trnova village, Sirogojno; Gostiljsko Vrelo- source below the road in the village Gostilje on road Užice- Ljubiš; Source Rujevac in the Gostilje village, 7 km from Ljubiše; Stamatsko vrelo- source in the Stamatovići village, Sirogojno (nearly 20 km from the road Užice- Partizanske Vode); Ljubiško vrelo -source in the village Gornji Ljubiš on Zlatibor Mt. (RADOMAN, 1983);

Ibar river drainage system: Kovačko Vrelo- source near village Crkvine, below the road Novi Pazar-Tutin; Fountain Belica in Ribarići

on road Rožaje-Kosovska Mitrovica; Small source in village Pridvorica near Velji Brijeg on road Ribarići – Kosovska Mitrovica; (RADOMAN, 1983);

Drina drainage system: Source Perućac, nearly 13 km from Bajina Bašta; Source Biser Vode in Perudol, nearly 12 km from Bajina Bašta; Large source Mlaka Voda in village Lađevac, Koprivna (near Monastery Rača); Second source near the same Monastery: Large source in the village Jovičići, Vardište, above the road Užice- Višegrad; (RADOMAN, 1983);

Zapadna Morava drainage system: Large source Vrelo in the village Bioska, nearly 20 km from Užice; Volujak spring, nearly 8 km from Užice, on road toward Bajina Bašta; Large source in Rupeljevo village, S. of road Požega-Užice; Two sources near the cave in the village Potpeć, 9 km. from Užice; Large source in the village Trnova, Sirogojno; Gostiljsko Vrelo- spring below the road in the village Gostilje near the road Užice-Ljubiš, nearly 7 km. from Ljubiš; Rujevac source in the village Gostilje, nearly 7 km from Ljubiš; Stamatsko vrelo- source in the village Stamatovići, Sirogojno, nearly 20 km from the road Užice-Partizanske Vode; Ljubiško vrelo- source in the village Gornji Ljubiš on Zlatibor Mt.; (RADOMAN, 1983);

GENERAL DISTRIBUTION: SE – Alpes.

DISTRIBUTION IN SERBIA: Black Sea and Adriatic Sea drainage systems.

ECOLOGY: Living in the sources.

BYTHINELLA SERBORIENTALIS Radoman, 1978

Bythinella serborientalis Radoman, 1978: 37, pl. 5, figs. 24-26; 1983: 179, pl. 12, fig. 211; Jovanović, B., 1991: 249; 1995: 296.

LOCUS TYPICUS: Large source Vrelo in the village Vrelo, nearly 33 km N. of Pirot, and 3 km from Visoka Ržana; Holotype and paratypes: SMF 249616/2.

LOCALITIES CITED: Large source Vrelo in the village Vrelo, nearly 33 km N. of Pirot, and 3 km from Visoka Ržana; (RADOMAN, 1978; 1983); (JOVANOVIĆ, B., 1991); Serbia (JOVANOVIĆ, B., 1995).

GENERAL DISTRIBUTION: Serbia.

DISTRIBUTION IN SERBIA: Black Sea drainage system.
ECOLOGY: Living in the sources only.

Genus GROSSUANA Radoman, 1973

GROSSUANA EUXINA EUXINA (A. J. Wagner, 1928)
Grossuana serbica codreanui Radoman, 1983: 58, pl. 4, fig. 49.

LOCALITIES CITED: Obrenovačko vrelo- source in the locality Obrenovac, nearly 9 km W. of Dimitrovgrad; Source in Gradište near Mali Vrtop; -Zaplanje NW. of Dimitrovgrad; Sources in Rsovci, Podpeće and Visok, nearly 25 km NE. of Pirot; Source in Ljuborađa nearly 7 km from Babušnica; Mokranjsko vrelo- source in Mokranja, NW. of Bela Palanka; Source in locality Kopajkošara, nearly 12 km W. of Svrljig, NE. of Niš; Source Kravljansko točilo in the locality Kravlje Oko 25 km N. of Niš; Source in the locality Čitluk near Soko Banja; Source Toplik near locality Vratarnica, 12 km S. of Zaječar (RADOMAN, 1983).

GENERAL DISTRIBUTION: SE Alpes- Dinaric.
DISTRIBUTION IN SERBIA: Black sea drainage system.
ECOLOGY: Living in the sources.

GROSSUANA EUXINA REMESIANA Radoman, 1973
Grossuana remesiana Radoman, 1973: 20;
Grossuana serbica remesiana Radoman, 1983: 59, pl. 4, fig. 50; Jovanović, B., 1991: 221; 1995: 300; 1998 a: 110; 1999: 173.

LOCUS TYPICUS: Large spring in Bela Palanka between Niš and Pirot, Serbia. Lectotype: BEO 096; Paralectotype: BEO 097.

LOCALITIES CITED: Big spring in Bela Palanka between Niš and Pirot, Serbia (RADOMAN, 1973); Source in the village Vrgodinac, NW. of Bela Palanka; Source in the village Divljani S. of Bela Palanka; Krupačko vrelo- source near the village Krupac nearly 10 km E. of od Pirot (RADOMAN, 1983); Bela Palanka (JOVANOVIĆ, B., 1991; 1998 a); Serbia (JOVANOVIĆ, B., 1995); Large source in Bela Palanka (JOVANOVIĆ, B., 1999).

GENERAL DISTRIBUTION: Serbia.

DISTRIBUTION IN SERBIA: Black Sea drainage system.
ECOLOGY: Living in the sources.

GROSSUANA EUXINA SERBICA Radoman, 1973

Grossuana serbica Radoman, 1973: 19;
Grossuana serbica serbica Radoman, 1983: 58, pl. 4, fig. 48; Jovanović, B., 1991: 220; 1995: 300; 1998 a: 110.

LOCUS TYPICUS: Spring zone of the river Raška near the Monastery Sopoćani, Serbia. Lectotype: BEO 092; Paralectotype: BEO 093.

LOCALITIES CITED: Spring zone of the river Raška near the Monastery Sopoćani (RADOMAN, 1973); Spring of river Raška by Monastery Sopoćani; Spring near the village Osaonica near Novi Pazar along road towards Sjenica (RADOMAN, 1983); Sopoćani, Raška river (JOVANOVIĆ, B., 1991); Serbia (JOVANOVIĆ, B., 1995); Raška river by the Monastery Sopoćani (JOVANOVIĆ, B., 1998 a).

GENERAL DISTRIBUTION: Serbia.
DISTRIBUTION IN SERBIA: Black Sea drainage system.
ECOLOGY: Collected in the springs only.

Genus IGLICA A. J. Wagner, 1927
Subgenus RAPHICA Schütt, 1975

IGLICA (RHAPHICA) ILLYRICA Schütt, 1975

Iglica (Rhaphica) illyrica Schütt, 1975: 8, pl. 2, figs. 26-27;
Rhaphica illyrica Bole & Velkovrh 1986: 194;
Iglica illyrica Jovanović, B., 1995: 300.

LOCUS TYPICUS: Spring of Beli Drim near Peć. Holotype: SMF 236778; Paratype: SMF 236779

LOCALITIES CITED: Kosovska Mitrovica, small spring 6 km. towards Peć; Spring near Šoljani, 5 km from Rožaj on road towards Peć (SCHÜTT, 1975); Springs in Kosovo & Metohija reg. (BOLE & VELKOVRH, 1986); Serbia (JOVANOVIĆ, B., 1995).

GENERAL DISTRIBUTION: Kosovo & Metohija reg, Serbia.
DISTRIBUTION IN SERBIA: Adriatic Sea drainage system.
ECOLOGY: Living in the subterranean waters and sources.

Genus LITHOGLYPHUS Hartmann, 1821

LITHOGLYPHUS APERTUS (Küster, 1852)

Lithoglypus apertus Radoman, 1983: 163, pl. 11, fig. 196; Jovanović, B., 1991: 247; Karaman, B., 2001: 306.

MATERIAL EXAMINED: – Danube near Beograd, 2 exp.; Danube river near Karaburma (Beograd), 3 exp. (both leg. L. Dokić in 1882); – Sava river in Ostružnica near Beograd, 1998-08-23., one exp. (leg. B. Jovanović & G. Karaman).

LOCALITIES CITED: Rivers Sava and Danube (RADOMAN, 1983);

Beograd, Sava river (JOVANOVIĆ, B., 1991); Danube river in Beograd (Karaburma) (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Pontic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: On hard bottom as well on the muddy bottom in the zone of the submerse vegetation. Sometimes was found together with *L. naticoides,* as allopatric species also (RADOMAN, 1983).

LITHOGLYPHUS FUSCUS (C. Pfeiffer, 1828)

Lithoglyphus fuscus Möllendorff, 1873: 147; Karaman, B., 2001: 306;

MATERIAL EXAMINED: – Pools near Paraćin, one exp.; Resavina, one exp.; Morava river near Dragovac, 3 exp.[all these localities have been collected in 1879 by L. Dokić];

LOCALITIES CITED: Sava and Danube river (MÖLLENDORFF, 1873); ibid (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: N Balkan.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: On hard bottoms in the torrents and fast running waters, i. e. similar to that of *L. naticoides.*

REMARKS. BOLE (1981) considered *fuscus* as a subspecies of *Lithoglyphus naticoides* and mentioned that it is characteristic for the northern Balkan.

LITHOGLIPHUS NATICOIDES (C. Pfeiffer, 1828)

Lithoglyphus naticoides Möllendorff, 1873: 147; Nikolajević, 1907: 22; Hesse, 1929: 232; Jaeckel et al., 1958: 176; Radoman, 1983: 162, pl. 11, fig. 195; Frank et al., 1990: 38; Jovanović, B., 1990: 23; 1991: 247; Karaman, B., 2001: 306; 2001 a: 197; 2005: 46.

MATERIAL EXAMINED: Danube river: – Kazan, 5 exp.; Gradište, 7 exp. (all leg. L. Dokić in 1882); – Kladovo, 1966-07-12., 21 exp. (leg. A. Matvejev); – Sip – Tekija, 1967., 5 exp. (leg. A. Matvejev); – Kladovo, 1967., 5 exp. (leg. A. Matvejev); – Channel Sibnica towards Pančevo (Beograd reg.), 1983-10-04., 9 exp. (leg. B. Jovanović); – Beograd near Pančevački most- bridge, 1984-08., 40 exp. (leg. J. Budisavljević); – Ilok, 1985-05-02., 8 exp. (leg. Đ. Ivković); – Zemun, 1996-10-05., 6 exp. (leg. & B. Jovanović & G. Karaman); – Brza Palanka, 1997-08-02., 2 exp. (leg. B. Jovanović & G. Karaman); – Sremska Kamenica, Novi Sad, 2001-02-10., 67 exp. (leg. B. & G. Karaman); – Veliko Gradište, 2001., 3 exp. (leg. B. Miljanović); – Kladovo, 2001., 7 exp. (leg. B. Miljanović); – Ram, 2001., 23 exp. (leg. B. Miljanović); – Velika Padina (Objaga Mare), Donji Milanovac, 1997-06-10., 27 exp. (leg. B. Jovanović & G. Karaman); – Srebrno jezero- lake near Veliko Gradište, 2001-06-02., one exp. (leg. B. & G. Karaman); – Golubac, 2002-06-08., 5 exp. (leg. B. & G. Karaman); – Donji Milanovac, 2002-06-03., 20 exp. (leg. B. & G. Karaman); – Tekija, 2002., 13 exp. (leg. B. Miljanović); – Mali Štrbac Mt., 2002., 3 exp. (leg. B. Miljanović); – Kostolac, 2002., 7 exp. (leg. B. Miljanović); – Veliko Gradište, 2002. 18 exp. (leg. B. Miljanović); – Donji Milanovac, 2002., 17 exp. (leg. B. Miljanović); – Ram, 2002. 3 exp. (leg. B. Miljanović); – Smederevo, 2002., 28 exp. (leg. B. Miljanović); – Begeč, 2002., 8 exp. (leg. B. Miljanović); – Bezdan, 2002., 3 exp. (leg. B. Miljanović).

Other waters: – Fruška Gora, Šišatovac, 2004-05-02., 2 exp. (leg. M. Stanković); – Sava river near Orlača, Šabac, 1988-05-19., 4 exp. (leg. B. Jovanović); – Channel Vizelj near PKB Beograd, 1990-05-13., one exp. (leg. J. Budisavljević); – Sava river near Savsko jezero- lake, Beograd, 1990-09-02., 3 exp. (leg. J. Budisavljević); – Sava river near Ostružnica, Beograd, 1998-04-23., 7 exp. (leg. B. & G. Karaman); – Sava river in Beograd, 2002-07-08., 6 exp. (leg. B. Miljanović); – Sava river in Sremska Mitrovica, 2002-08-16., 2 exp. (leg. B. & G. Ka-

raman); – Jezava river, Mala Krsna, 1990-10-20., one exp. (leg. M. Jovanović); – Tisa river, Ada, 1996-07-28., 42 exp. (leg. B. Miljanović); – Obedska bara- pool, Vojvodina, 1996-09-14., 5 exp. (leg. I. Dedov); – Beograd, Borča, Crvenkin channel, 1997-08., one exp. (leg. J. Budisavljević); – Jelenački potok- torrent, Irig, 2000-04-15., one exp. (leg. I. Živić); – Zasavica, Sremska Mitrovica, 2001-08-26., 3 exp. (leg. B. & G. Karaman).

LOCALITIES CITED: Rivers Sava and Danube near Beograd (MÖLLENDORFF, 1873); Sava river near Beograd; Danube near Beograd; Danube river near Gradište, Tekija, Kladovo (NIKOLAJEVIĆ, 1907); Serbia (JAECKEL et al., 1958); Danube river near Smederevo (HESSE, 1929); Sava river near Beograd (RADOMAN, 1983); Karaš, Jasenovo, Deliblatska peščara- sandy area (JOVANOVIĆ, B., 1990); Banovci right; Beograd; Majur; Novi Sad; Sremski Karlovci (FRANK et al., 1990); Beograd, Sava river (JOVANOVIĆ, B., 1991); Pančevački rit- bogland, Pančevo (KARAMAN, B., 2001 a); Danube river: Kazan; Gradište; Kladovo; between Sip and Tekija; Kusjak near dam „Djerdap II" (Negotin); Beograd (Višnjica); Beograd (Pančevački most- bridge, Krnjača); Usje; Golubac; Kladovo (channel near the village Mala Vrbica); Karataš (KARAMAN, B., 2001); Južna Morava river (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: SE Europe-Pontic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: In small low running waters in the channels, on the hard bottom and mudd.

REMARKS. RADOMAN (1983) mentioned that this species is distributed in Podunavlje and in Posavina, exclusively in the Black Sea drainage system, and that he never found any species of this genus in the Adriatic and Aegean Sea drainage sysmems, despite the fact that some authors cited these species for last two drainage systems.

Genus PALADILHIOPSIS Pavlović, 1913

PALADILHIOPSIS SERBICA (Pavlović, 1913)

Lartetia serbica Pavlović, 1913: 71, figs. 1-8;
Paladilchia serbica Jaeckel et al., 1958: 173;

Paladilhia (*Paladilhiopsis*) *serbica* Schütt, 1970: 307, pl. 15, fig. 17; Jovanović, B., 1995: 300; 1997: 233.

LOCUS TYPICUS: Čočića vrelo- spring, in the carstic rocks Drumdebela near the mouth of Derventa river into river Drina. Syntype: BEO 4232.

LOCALITIES CITED: Čočića vrelo in the carstic rocks Drumdebela near the mouth of Derventa river into river Drina (PAVLOVIĆ, 1913); Serbia (JAECKEL et al., 1958); Spring under Podpeška Jama near Užice, W. Serbia (SCHÜTT, 1970); Serbia (JOVANOVIĆ, B., 1995); Tara Mt., Čočića vrelo- spring (JOVANOVIĆ, B., 1997, 1998 a).

GENERAL DISTRIBUTION: Serbia.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Found in the springs.

Genus PLAGIGEYERIA Tolmin, 1930

PLAGIGEYERIA GLADILINI GLADILINI Kuščer, 1936

Plagigeyeria gladilini Kuščer, 1936: 102, figs. 1-6; Bole & Velkovrh, 1986: 202;

Plagigeyeria gladilini gladilini Schütt, 1972: 114, pl. 8, fig. 27; Jovanović, B., 1995: 300.

LOCUS TYPICUS: Spring of Beli Drim near Peć.

LOCALITIES CITED: Spring of Beli Drim near Peć (KUŠČER, 1936); Spring of Bistrica river in the canyon Crvska near Novi Pazar; Karajukovica bunar- well near Novi Pazar; Cave near Limska Kapa; Cave Soko near the village Dupilo (SCHÜTT, 1972); Spring of Beli Drim near Peć, and cave, sources and wells near Novi Pazar, near Dupilo and near Virpazar (BOLE & VELKOVRH, 1986); Serbia (JOVANOVIĆ, B., 1995).

GENERAL DISTRIBUTION: Dinaric, Serbia and Crna Gora.

DISTRIBUTION IN SERBIA: Black and Adriatic drainage systems.

ECOLOGY: Found in carstic sources and caves.

PLAGIGEYERIA MINUTA Bole & Velkovrh, 1987

Plagigeyeria minuta Bole & Velkovrh, 1987: 81, pl. 2, fig. 2.

LOCUS TYPICUS: In the deposits of the large karstic spring near the village Perućac, 11 km E. of Bajina Bašta. Holotype: Collection of

the Biological Institute „Jovan Hadži" ZRC SAZU in Ljubljana 15338 a; Paratypes: ibid, 15338/45.

LOCALITIES CITED: In the deposits of the large karstic source near the village Perućac, 11 km E of Bajina Bašta (BOLE & VELKOVRH, 1987).

GENERAL DISTRIBUTION: Serbia.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Known only from the spring.

PLAGIGEYERIA PIROTI Bole & Velkovrh, 1987

Plagigeyeria piroti Bole & Velkovrh 1986: 202; 1987: 81, pl. 3, fig. 3.; Jovanović, B., 1999: 173.

LOCUS TYPICUS: Small spring on the village Gradište, 7 km E. of Pirot. Holotype: Collection Velkovrh 34291 a; Paratypes: Collection Velkovrh 341291/75.

LOCALITIES CITED: Spring in the village Gradište, 7 km E. of Pirot (BOLE & VELKOVRH, 1986; 1987); Spring Vrelo in the village Malo Gradište, 7 km S. of Pirot (JOVANOVIĆ, B., 1999).

GENERAL DISTRIBUTION: Serbia.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the springs.

Genus SARAJANA Radoman, 1975

SARAJANA APFELBECKI DRINIANA Radoman, 1975

Sarajana driniana Radoman, 1975: 60, pl. 4, fig. 3;
Sarajana apfelbecki driniana Radoman, 1983: 104, pl. 7, fig. 119; Jovanović, B., 1991: 234; 1995: 301.

LOCUS TYPICUS: Spring in the village Kaoštica, 2 km above the river Drina, above the road Višegrad-Ustiprača. Lectotype: BEO 240; Paralectotype: BEO 241.

LOCALITIES CITED: Spring in the village Kaoštica, 2 km above the river Drina, above the road Višegrad-Ustiprača (RADOMAN, 1975); Two small springs near the torrent Perućac, 13 km from Bajina Bašta (RADOMAN, 1983); Spring in the village Kaoštica, 2 km abo-

ve the river Drina, above the road Višegrad-Ustiprača (JOVANOVIĆ, B.,1991); Serbia (JOVANOVIĆ, B., 1995).

GENERAL DISTRIBUTION: Serbia; Bosnia & Herzegovina.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the springs.

Genus SAXURINATOR Schütt, 1960

SAXURINATOR SCHLICKUMI Schütt, 1960

Saxurinator schlickumi Schütt, 1960: 148, fig. 2.; Jovanović, B., 1995: 301.

LOCUS TYPICUS: Rugovska klisura- canyon near Peć. Holotype: SMF 163504; Paratype: SMF 163505/42 – Collection Schlickum & Angelov & Schütt.

LOCALITIES CITED: Rugovska klisura- canyon near Peć (SCHÜTT, 1960); Serbia (JOVANOVIĆ, B., 1995).

GENERAL DISTRIBUTION: Serbia.

DISTRIBUTION IN SERBIA: Adriatic Sea drainage system.

ECOLOGY: Living in the springs.

Genus TERRANIGRA Radoman, 1978

TERRANIGRA KOSOVICA Radoman, 1978

Terranigra kosovica Radoman, 1978: 28, fig. 1; pl. 4, figs. 1-2; 1983: 66, pl. 4, fig. 59; Jovanović, B., 1991: 223; 1995: 301.

LOCUS TYPICUS: Spring near Crna Zemlja (Terra nigra) near Mala Reka, nearly 6 km W. of Nerodimlje, and 12-13 km W. from Uroševac.

Holotype and paratypes: SMF 249612/8.

LOCALITIES CITED: Spring near Crna Zemlja (Terra nigra) near Mala Reka, nearly 6 km W. of Nerodimlje, and 12-13 km W. of Uroševac; Small spring in the village Pridvorica near Velji Breg on the road Ribarići-Kosovska Mitrovica; Spring above the rock in the village Crnoljevo, Gornja Mahala above the road Štimlje-Prizren; Spring near the mouth of Mala- and Velika reka- rivers in the beginning of Ne-

rodimka river (RADOMAN, 1978; 1983); Serbia (JOVANOVIĆ, B., 1991, 1995).

GENERAL DISTRIBUTION: Serbia.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Known only from the springs.

Order ECTOBRANCHIA Fischer, 1884
Family VALVATIDAE, Gray, 1840

Genus VALVATA O. F. Müller, 1774

Subgenus BORYSTHENIA Lindholm, 1913

VALVATA (BORYSTHENIA) NATICINA Menke, 1845
Valvata naticana Frank et al., 1990: 35; Karaman, B., 2001: 306.

LOCALITIES CITED: Banovci „desna" (FRANK et al., 1990); (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Pontic-Baltic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Under stones in the shallow waters.

Subgenus CINCINNA A. Férussac, 1821

VALVATA (CINCINNA) PISCINALIS (O. F. Müller, 1774)
Valvata piscinalis Hesse, 1929: 231; Jaeckel et al., 1958: 173; Tomić, 1959: 54; Frank et al., 1990: 32; Karaman, B., 2001: 306; 2005: 46.

MATERIAL EXAMINED: Danube river: – Zemun, 1996-07-22., one exp. (leg. B. Jovanović); – Beograd, 5 exp.; Makiš, Beograd, 4 exp.; Resavina, 3 exp.[all collected in 1882 by L. Dokić); – Smederevo, 2002-07-11., one exp. (leg. B. Miljanović); – Usje (Golubac), 1985-06-29., 2 exp. (leg. B. Jovanović); Golubac, 2002., 6 exp. (leg. B. & G. Karaman); Veliko Gradište, Srebrno jezero- lake, 2001-06-02., 8 exp. (leg. B. & G. Karaman); Donji Milanovac, 2002., 2 exp. (leg. B. & G. Karaman); – Lepenski Vir, 2002., 6 exp. (leg. B. & G. Karaman); Velika Padina (=Objaga Mare) below Donji Milanovac, 1997., 8 exp.

(leg. B. Jovanović & G. Karaman); – Karataš, 1992-07-22, 2 exp. (leg. B. Jovanović); – Kladovo, 1985-09-12, one exp. (leg. B. Jovanović); – ibid., 2001-10-15., 3 exp. (leg. B. Miljanović); – Brza Palanka, Kladovo, 1997-08-02., 4 exp. (B. Jovanović & G. Karaman);

Other waters: – Jezava river, Mala Krsna, 1990-10-20., 9 exp. (leg. M. Jovanović); – Zapadna Morava river, village Mrzenica, Kruševac, 1998-08-20., 16 exp. (B. Jovanović & G. Karaman); – Spring Batar, Zasavica, 2002-08-27., one exp. (leg. B. & G. Karaman).

LOCALITIES CITED: Danube near Smederevo; Morava near Ćuprija (HESSE, 1929); Serbia (JAECKEL et al., 1958); Barje, Pirot; Bitva; Batar; Radenkovići; Danube; Zasavica; Lepenica; Lednik, Jagodina; Moravište; Makiš; Megbinsko Blato; Negotinsko Blato; Paraćin; Rogot; Repničko okno; Rakovički potok- torrent in Beograd; Sava river; Starača; Tamnavica (TOMIĆ, 1959); Danube: Beograd, Kovalski rit- bogland (FRANK et al., 1990); Danube: Beograd; Usje; Golubac; Kladovo; Karataš (KARAMAN, B., 2001); Južna Morava river (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: Palearctic. Vertical distribution up to 750 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: In permanent brooks, in slowly running waters, on the muddy banks, on the gravel and sandy bottoms.

VALVATA (CINCINNA) PULCHELLA Studer, 1820

Valvata pulchella Hesse, 1929: 231; Jaeckel et al., 1958: 173; Karaman, B., 2001: 306.

MATERIAL EXAMINED: – Jezava river, Mala Krsna, 1990-10-20., 11 exp. (leg. M. Jovanović); – Valjevac, Zasavica, Sremska Mitrovica, 2001-04-07., 2 exp. (leg. M. Stanković); – Batar, Zasavica, Sremska Mitrovica, 2002-08-15., 2 exp. (leg. M. Stanković).

LOCALITIES CITED: Danube near Smederevo (HESSE, 1929); (KARAMAN, B., 2001); Serbia (JAECKEL et al., 1958).

GENERAL DISTRIBUTION: Euro-Siberian.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: This species was collected in the sandy banks of Danube, in the dried trenches, and at the margins of the stagnant waters.

Subgenus VALVATA O. F. Müller, 1774

VALVATA (VALVATA) CRISTATA (O. F. Müller, 1774)
Valvata cristata Hesse, 1929: 231; Karaman, B., 2001: 306.

LOCALITIES CITED: Danube near Smederevo (HESSE, 1929); (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Palearctic. Vertical distribution till 1700 m a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: In the rivers, springs, oligo- and eutrophic lakes, up to 13 m depth.

Order PULMONATA Cuvier, 1814
Suborder BASSOMATOPHORA Keferstein, 1864
Family LYMNAEIDAE Rafinesque, 1815

Genus GALBA Schrank, 1803

GALBA TRUNCATULA (O. F. Muller, 1774)
Lymnaea truncatula Hesse, 1929: 233;
Galba truncatula Frank et al., 1990: 56;
Lymnaea truncatula Jaeckel et al., 1958: 168; Karaman, B. & Živić, I., 2001: 204;
Lymnaea (Galba) truncatula Karaman, B., 2001: 306.

MATERIAL EXAMINED: – Beograd, 1878?, 3 exp. (leg. L. Dokić); – Lazareva Reka- river near Zlot, Bor reg., 1993-07-14.7., 2 exp. (leg. B. Jovanović); – Obedska bara- pool, 1996-09-17., one exp. (leg. I. Dadov); – The ort Mala Šuma near village Dolovo, torrent (Pančevo reg., Vojvodina), 1998-04-24., 20 exp. (leg. B. Jovanović); – Danube near Sremska Kamenica, Novi Sad, 2001-02-10., 3 exp. (B. & G. Karaman); – Moravica river, Soko Banja, 2002-04-27., 4 exp. (leg. I. Živić); – Veternica river, 2003-03-04., one exp. (leg. I. Živić).

LOCALITIES CITED: Danube near Smederevo; Morava and Ravanica rivers near Ćuprija; Jezava river (HESSE, 1929); Serbia (JAECKEL et al., 1958); Majur, Sremski Karlovci (FRANK et al., 1990); Ku-

doški potok- torrent, Fruška Gora Mt. (KARAMAN, B. & ŽIVIĆ, I., 2001); Danube: Beograd; Smederevo (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Holarctic. Vertical distribution up to 2600 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: This species was collected in the various waters (rivers, pools, swamps, and flooded regions).

Genus LYMNAEA Lamarck, 1799

LYMNAEA STAGNALIS (Linnaeus, 1758)

Lymnaea stagnalis Tomić, 1959: 56; Frank et al., 1990: 51; Jovanović, B.,1990: 23; Karaman, B., 2001 a: 197;
Lymnaea (*Lymnaea*) *stagnalis* Karaman, B., 2001: 306.

MATERAL EXAMINED: – Danube river: – Sremska Kamenica, Novi Sad, 2001-02-10., 4 exp. (B. & G. Karaman); – Zemun, 2000-02-04., 5 exp. (B. & G. Karaman); Swamps near Danube (Krnjača; Beograd), 1982-08-20., one exp. (leg. J. Budisavljević); – ibid., 1998-04-24., 40 exp. (leg. B. Jovanović); Smederevo, Jerinin grad- fortification, 2001-06-06., 2 exp. (leg. M. Stanković); – Veliko Gradište, 2002-06-02., 4 exp. (leg. B. & G. Karaman); – Golubac, 1966-09-29., 2 exp. (leg. A. Matvejev); – Usje near Golubac, 1985-06-29., 3 exp. (leg. B. Jovanović); – Karataš, 1997-08-03., 2 exp. (B. Jovanović & G. Karaman); – Brza Palanka, Kladovo, 1997-08-02., 4 exp. (B. & G. Karaman);

Other waters: – Resavica, 2 exp., 1882 (leg. L. Dokić); – Channel, village Hajdukovo near Subotica, 1984-09-14., 4 exp. (leg. V. Nikolić); – Kereš near Ludoško jezero- lake (Subotica reg.), 1991-07-03., one exp. (leg. V. Savkić); – Sava river near Orlača, Šabac, 1988-05-19., 3 exp. (leg. B. Jovanović); – Kanal Vizelj near PKB Beograd, 1990-05-13., one exp. (leg. J. Budisavljević); – Jezava river near Mala Krsna, 29.11.1990-11-29., 27 exp. (leg. M. Jovanović); – Karlovačko Petrovaradinski rit- bogland, 1995., 9 exp. (leg. Fojkart); Tamiš river near Pančevo, 1995-04-30., one exp. (leg. S. Tutić); – Obedska bara- pool, 1996-09-14. 2 exp., (leg. I. Dedov); – Swamps near river Kolubara, Obrenovac, 1998-04-23., 2 exp. (leg. B. Jovanović); – Šumareva ćuprija, Zasavica, Sremska Mitrovica, 2001-06-29., one exp. (leg. M. Stanković); –

ibid., 2001., 9 exp. (leg. B. & G. Karaman); – ibid., 2002-08-13., 16 exp. (leg. B. & G. Karaman); – torrent Batar, Zasavica, 2001., 9 exp. (leg. B. & G. Karaman); – ibid., 2002., 2 exp. (leg. B. & G. Karaman); – Rašević a ćuprija, Zasavica, 2002., 3 exp. (leg. B. & G. Karaman); – Ravnje fountain, Zasavica, 2002., one exp. (leg. M. Stanković); – Banovo Polje, Zasavica, 2002., 2 exp. (leg. M. Stanković).

LOCALITIES CITED: Moravište; Makiš; Negotinsko blato- swamp; Jagodina; Radišinska bara- swamp near Paraćin; Tamnavica (TOMIĆ, 1959);

Kanal DTD (= Danube-Tisa-Danube); Đavolji most- bridge, Deliblatska peščara- sandy area (JOVANOVIĆ, B., 1990); Beograd; Majur; Novi Sad; Sremski Karlovci (FRANK et al., 1990); Pančevački rit- bogland, Pančevo (KARAMAN, B., 2001 a); – Danube: Beograd (pools near Danube; Krnjača); Golubac; Usje (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Holarctic. Vertical distribution up to 1700 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Among the vegetation of the stagnant waters, lakes, pools and fish-ponds.

Genus RADIX Montfort, 1810

RADIX AURICULARIA (Linnaeus, 1758)

Melanopsis auricularis Möllendorff, 1873: 146;
Gulnaria auricularia Tomić, 1959: 57;
Radix auricularia Frank et al., 1990: 58; Jovanović, B., 1990: 23; Karaman, B., 2005: 46, 47;
Lymnaea (*Radix*) *auricularia* Karaman, B., 2001: 306; 2001 a: 198.

MATERIAL EXAMINED: Danube river: – Zemun, 2000-02-04., one exp. (B. & G. Karaman); – Brza Palanka, 1997-08-02., 2 exp. (leg. B. Jovanović & G. Karaman); – Golubac, 2002-06-08., 10 exp. (leg. B. & G. Karaman); – Srebrno jezero- lake near Veliko Gradište, 2001-06-02., 5 exp. (leg. B. & G. Karaman); – Lepenski Vir, Donji Milanovac, 1997-06-13., one exp. (B. Jovanović & G. Karaman); – Karataš, 1992-07-24, 33 exp. (leg. B. Jovanović); – Kladovski rit- bogland, Kladovo, 1985-07-15., 25 exp. (leg. B. Jovanović);

Other waters: – Šumareva ćuprija, Zasavica (Sremska Mitrovica reg.), 2001-06-29., one exp. (leg. M. Stanković); – ibid., 2002-08-13., 16 exp. (leg. B. & G. Karaman); – Batar springs, Zasavica, 2001-08-27., one exp. (leg. B. & G. Karaman); – Valjevac, Zasavica, 2003-10-10., one exp. (leg. M. Stanković); – Raševića ćuprija, Zasavica, 2004., 5 exp. (leg. M. Stanković); – Ravnje, Zasavica, 2004., one exp. (leg. M. Stanković); – Nočaj, Preseka, Zasavica, 2004., 2 exp. (leg. M. Stanković); – Karlovačko-Petrovaradinski rit- bogland, 1995., 7 exp. (leg Fojkart); – Sava river, Savsko jezero- lake in Beograd, 1990-09-02., 9 exp. (leg. J. Budisavljević); – Novo Brdo, Prekovce, 700 m, Kriva Reka, Kosovo & Metohija, 1994-08-18., 6 exp. (leg. P. Jakšić); – Rasina river near Kruševac, 1998-08-20., 3 exp. (leg. B. Jovanović & G. Karaman).

LOCALITIES CITED: Danube: Beograd; Near Greben; Spring of Mlava river (MÖLLENDORFF, 1873); Lepenica; Topčiderska reka-river (TOMIĆ, 1959); Novi Sad (FRANK et al., 1990); Karaš; Jasenovo, Deliblatska peščara- sandy area (JOVANOVIĆ, B., 1990); Danube in Kladovo (Kladovski rit-bogland); Karataš; Karlovačko- Petrovaradinski rit- bogland (KARAMAN, B., 2001); Pančevački rit- bogland, Pančevo (KARAMAN, B., 2001 a); Južna Morava river; Toplica river (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: Palearctic. Vertical distribution up to 1921 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the vegetation zone of the running and stagnant waters, fish-ponds and pools,

RADIX BALTHICA (Linnaeus, 1758)

Lymnaea ovata Jaeckel et al., 1958: 168.

MATERIAL EXAMINED: – Sava river, Sremska Mitrovica, 2002-08-27., 4 exp. (leg. B. & G. Karaman); – Banovo polje, Zasavica (Sremska Mitrovica reg.), 2001-08-27., 10 exp. (leg. B. & G. Karaman); – Batar torrent,, Zasavica, 2002., 4 exp. (leg. M. Stanković); – Batar near village Radenkovići, Zasavica, one exp. (leg. B. & G. Karaman); – Noćaj-Preseka, Zasavica, 2003-07-19., one exp. (leg. M. Stanković); – Ravnje, fountain, Zasavica, 2004., 3 exp. (leg. M. Stanković); – Ba-

novo Polje, Troševine, Zasavica, 2004., one exp. (leg. M. Stanković); – Valjevac, Zasavica, 2005-05-21., one exp. (leg. M. Stanković).

LOCALITIES CITED: Serbia ? (JAECKEL et al., 1958).

GENERAL DISTRIBUTION: Palearctic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the vegetation zone of the the running and stagnant waters.

RADIX LABIATA (Rossmässler, 1835)

Radix peregra Jovanović, B., 1995 a: 338; 1995 b: 244; 1998: 241; Reh et al., 1997: 130; Karaman, B. 2005: 46, 47;

Radix peregra (incl. f. *fluminensis* Clessin, 1871), Frank et al., 1990: 60;

Lymnaea peregra Möllendorff, 1873: 146; Jaeckel et al., 1958: 168; Tomić, 1959: 57; Karaman, B. & Živić, I., 2001: 204;

Lymnaea (*Radix*) *peregra* Karaman, B., 2001: 307.

MATERIAL EXAMINED: – Danube river, 7 exp.; – Pools near Beograd, 10 exp.; – Šabac, 2 exp.; – Kupinska reka- river, 2 exp.; – Spring on Rudnik, one exp.; – Spring of Mlava river, one exp.; – Ibar near Raška, 6 exp.; – Moravica river, one exp.; – Vranjska reka- river and Divotin, one exp.; – Banjska reka- river near Kuršumlija, 2 exp.; – Blaca, 2 exp.; Nišava river, 2 exp.; – Donji Milanovac, 5 exp.; – Makiš near Beograd, 3 exp., [all these samples have been collected in 1882. by L. Dokić]; – Sremska Kamenica, Novi Sad, 2001-02-10., 3 exp. (B. & G. Karaman); – Pools along Danube, Pančevački most- bridge, Krnjača (Beograd region), 1998-04-24., 2 exp. (leg. B. Jovanović); – Usje, 1985-06-29., 5 exp. (leg. B. Jovanović); – Smederevo, Jerinin grad-fortification, 2001-06-29., 2 exp. (leg. M. Stanković); – Srebrno jezero-lake near Veliko Gradište, 2001-06-02., 2 exp. (leg. B. & G. Karaman); – Golubac, 2002-06-08., one exp. (leg. B. & G. Karaman); – Karataš, 1992-07-24., 26 exp. (leg. B. Jovanović); – Brza Palanka near Kladovo, 1997-08-02., one exp. (leg. B. Jovanović & G. Karaman;

Other waters: – Pools near Ludoško jezero- lake, Selevenska šuma, Subotica, 1991-07-06., one exp. (leg V. Savkić); – Village Hajdukovo, Ludoško jezero- lake, Subotica, 2002-07-26., 2 exp. (leg. M. Stanko-

vić); – Topčiderska reka- brook, Beograd, 1987-07., 7 exp. (leg. B. Jovanović); – Topčider, brook near Milošev konak, Beograd, 1997-01-30., 5 exp. (B. Jovanović & G. Karaman); – Village Rakovica near Beograd, fountain near the road, 1997-02-18., 7 exp. (B. Jovanović & G. Karaman); – Zamna river near village Plavna, 1985-06-26., 20 exp. (leg. B. Jovanović); – Monastery Sopočani, 1985-08-13., 30 exp. (leg. B. Jovanović); – Vratna river, Vratna Prerast (near Monastery Vratna), 1985-06-16., one exp. (leg. B. Jovanović); – Brook near Monastery Vratna (Bor reg.), 1987-06-16., one exp. (leg. B. Jovanović); – Source going out from the cave Gaura Burči, Beljavina river (Bor reg.), 1994-01-20., 2 exp. (leg. B. Jovanović & G. Karaman); – Gornje Belorečko Vrelo- source near village Donja Bela Reka (Bor reg.), 1994-08-15., one exp. (leg. B. Jovanović); – Source near Monastery Bukovo, Negotin, 1997-08-05., 22 exp. (B. Jovanović & G. Karaman); – Divčibare Mt., fountain near the road, 1997-11-09., 48 exp. (B. Jovanović & G. Karaman); – Gornja Kamenica, Stara planina Mt., 1987-08-13., 16 exp. (leg. B. Jovanović); – Brook Lješnica, pouring into Zlatarsko jezero-lake on Zlatar Mt., 1991-07-17., 2 exp. (leg. B. Jovanović); – Partizanske vode, Zlatibor Mt., 1993-07-06., 32 exp. (leg. B. Jovanović); – Zapadna Morava river near village Mrzenica (Kruševac reg.), 1998-08-20., one exp. (B. Jovanović & G. Karaman); – Rasina river near Kruševac, 1998-08-20., 6 exp. (leg. B. Jovanović & G. Karaman); – Source below the motel Rtanj, foot of the Rtanj Mt., 1998-05-30., 16 exp. (leg. B. Jovanović & G. Karaman); – Kokin Brod, fountain near the road towards Nova Varoš, 1998-11-14., 5 exp. (leg. B. & G. Karaman); – ibid.,1999-05-09., 4 exp. (leg. G. Karaman); – Jablanik, Debelo Brdo (Valjevo reg.), 1999-07-03., one exp. (leg. M. Stanković); – Sava river, Sremska Mitrovica, 2001-08-29., 2 exp. (leg. B. & G. Karaman); Zasavica (Sremska Mitrovica reg.), 1999-06-01., 6 exp. (leg. M. Stanković); – Šumareva ćuprija in Zasavica, 2000-03-25., one exp. (leg. M. Stanković); – ibid., 2001-06-29, one exp. (leg. B. & G. Karaman); – Banovo Polje, Zasavica, 2002.,8 exp. (leg. B. & G. Karaman); – Trebljevina, Zasavica, 2002., 3 exp. (leg. B. & G. Karaman); – Ruma near Borkovački potok- brook, 2000-04-16., one exp. (leg. I. Živić); – Sokobanja, thermomineral source, 2000-06-06., one exp. (leg. M. Stanković); – Banja Vrujci, 2000-10-19., 2 exp. (leg. I. Živić); – Ležimir village,

Fruška Gora Mt., brook, 2001-08-28., one exp. (leg. B. & G. Karaman); – Šišatovac, source, Fruška Gora Mt., 2001-06-28., 77 exp. (leg. B. & G. Karaman); ibid., 2004-05-02., 24 exp. (leg. M. Stanković).

LOCALITIES CITED: Jošanička Banja (MÖLLENDORFF, 1873); Serbia (JAECKEL et al., 1958); Crni Vrh Mt.; Pirot (TOMIĆ, 1959); Beograd; Novi Sad (FRANK et al., 1990); Brestovačka reka- river; Brestovačka Banja; Brestovačka reka- river near the dam; Savača (Bor reg.) (JOVANOVIĆ, B., 1995 a); Vojala river, Dubašnica (Bor reg.); Lazareva reka- river near Lazareva pećina, Zlot (Bor reg.) (JOVANOVIĆ, B., 1995 b); Brestovačka reka -river after pouring of the brook Ružane, downstreams of the bridge, 500 m downstreams of the village Brestovac (REH et al., 1997); Lazareva reka- river; Banjska reka- river; Brestovačka reka- river; Beljevina-river; Ravna reka- river; Vojala- river (JOVANOVIĆ, B., 1998). Fruška Gora Mt.: Kudoški potok- brook, Jelenački potok- brook, Borkovački potok- brook (KARAMAN, B. & I. ŽIVIĆ, 2001); Danube, Beograd (pools near Pančevački most-bridge, Krnjača); Donji Milanovac; Karataš; Usje (KARAMAN, B., 2001); Pools along the river Tamiš near Pančevo (KARAMAN, B., 2001 a); Crvena reka- river; Gazdarska reka- river; Južna Morava; Jablanica; Jošanica; Lužnica; Moravica; Nišava; Toplica; Tisovik; Turija; Veternica; Visočica; Vlasina; Vošanja; Vrla (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: Palearctic. Vertical distribution up to 2500 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: This species was collected in the smaller waters, torents, brooks, as well as on the humid rocks along the waters.

Genus STAGNICOLA Jeffreys, 1830

STAGNICOLA PALUSTRIS PALUSTRIS (O. F. Müller, 1774)
Stagnicola palustris Frank et al., 1990: 55;
Lymnaea (*Stagnicola*) *palustris* Karaman, B., 2001: 307.

MATERIAL EXAMINED: Danube river: – Usje, 1985-06-29., 4 exp. (leg. B. Jovanović); – Pools along Danube, Pančevački most- bridge, Krnjača (Beograd reg.), 1998-04-24., 3 exp. (leg. B. Jovanović); –

Donji Milanovac, 2002-06-13., 4 exp. (leg. B. & G. Karaman); – Karataš, 1992-07-24., 2 exp. (leg. B. Jovanović);

Other waters: – Zrenjanin, Institut for agriculture, 2000., one exp. (leg. I. Bjelić); – Village Hajdukovo, Ludoško jezero- lake, Subotica, 2002-07-26., 2 exp. (leg. M. Stanković);); – Dolovo vilage near Pančevo, 1995-05-08., 7 exp. (leg. S. Tutić); – Obedska bara- pool, 1996-09-14., 3 exp. (leg. I. Dedov); – Crvenka- channel, Borča, Beograd, 1997-08., one exp. (leg. J. Budisavljević); – Ort Mala šuma near village Dolovo (Pančevo reg.), 1998-04-24., 42 exp. (leg. B. Jovanović & G. Karaman); – Srebrno jezero- lake near Veliko Gradište, 2001-06-02, one exp. (leg. B. & G. Karaman); Jezava river, Mala Krsna, 1990-11-29., 2 exp. (leg. L. Čaća); – Sava river near Sremska Mitrovica, 2001-06-07., one exp. (leg. B. & G. Karaman); – Čevrtinja, Zasavica, Mačvanska Mitrovica, 2002-08-16., one exp. (leg. M. Stanković); – Šumareva ćuprija, Zasavica (Sremska Mitrovica reg.), 2001, 5 exp.; – ibid., 2002-08-13, 12 exp. (leg. B. & G. Karaman); torrent Batar, Zasavica, 2001, 3 exp. (leg. B. & G. Karaman); – Banovo Polje, Zasavica, 2002-08-15., 2 exp. (leg. B. & G. Karaman); – Ravnje, fountain, Zasavica, 2004-06-19., one exp. (leg. M. Stanković); – Valjevac, Zasavica, 2005-07-21., one exp. (leg. M. Stanković).

LOCALITIES CITED: Danube, Beograd (FRANK et al., 1990);

Danube: Beograd, pools near Pančevački most- bridge, Krnjača; Karataš; Usje (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Holarctic. Vertical distribution up to 1800 m. a. s. l.

DISTRIBUTIOIN IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the stagnant and slowly running waters, among the vegetation.

STAGNICOLA TURRICULA (Held, 1836)

Stagnicula turricula Karaman, B., 2001 a: 198.

MATERIAL EXAMINED: Beograd, 2 exp. (leg. L. Dokić, probably in 1879); – Obedska bara- pool, Vojvodina, 1996-09-14., 2 exp. (leg. I. Dedov); – Along the torrent in the ort Mala šuma, Dolovo village near Pančevo, 1998-4-24., 20 exp., (leg. B. Jovanović & G. Karaman).

LOCALITIES CITED: Pools near river Tamiš, Pančevo (KARAMAN, B., 2001 a).

GENERAL DISTRIBUTION: Palearctic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Present in the stagnant waters in Danube region.

Family PHYSIDAE Fitzinger, 1833

Genus APLEXA Fleming, 1820

APLEXA HYPNORUM (Linnaeus, 1758)

Aplexa hypnovum (sic.) Tomić, 1959: 58.

Localities cited: Barje (TOMIĆ, 1959).

General distribution: Holarctic. Vertical distribution up to 640 m. a. s. l.

Distribution in Serbia: Black Sea drainage system.

Ecology: Living in smaller stagnant waters and temporary pools in the lower regions.

Genus PHYSA Draparnaud, 1801

PHYSA FONTINALIS (Linnaeus, 1758)

Physa fontinalis Tomić, 1959: 57; Karaman, B., 2001 a: 197.

MATERIAL EXAMINED: Danube river: – Pools near Pančevački most-bridge, Krnjača, Beograd, 1998-04-24., 5 exp. (B. Jovanović & G. Karaman);

Other waters: – Village Hajdukovo, Subotica, Vojvodina, 1984-8., 3 exp. (leg. V. Nikolić); – Obedska bara- pool, Vojvodina, 1996-09-13., one exp. (leg. I. Dedov); – Torrent in the ort Mala šuma, village Dolovo, Pančevo, 1998-04-24., 3 exp. (leg. B. Jovanović); – Makiš below Markovačke Stene, Beograd, 1883-03-26., 5 exp. (leg. L. Dokić); – Višnjica, fountain, Beograd, 1983-08-16., one exp. (leg. B. Jovanović); – Sava river, Savsko jezero- lake near Beograd, 1990-09-02., 2 exp., (leg. J. Budisavljević); – Šumareva ćuprija, Zasavica (Sremska Mitrovica reg.), 2001-06-29., one exp. (leg. M. Stanković); – Source Batar,

Zasavica, 2002-08-27., 3 exp. (leg. B. & G. Karaman); – Village Radenkovići, Batar, Zasavica, 2002-08-15, one exp.,(leg. M. Stanković); – Ravnje, Široka Bara, Zasavica, 2004., 5 exp. (leg. M. Stanković); – Fountain in Ravnje, Zasavica, 2004., one exp. (leg. M. Stanković); – Ravnje, Prekopac, Zasavica, 2004, 4 exp. (leg. M. Stanković); – Ravnje, Zovik, Zasavica, one exp. (leg. M. Stanković).

LOCALITIES CITED: Bitva; Batar; Blatsko jezero- lake; Zasavica; Krupačko Blato; Karaš; Moravište; Makiš; Negotinsko Blato (TOMIĆ, 1959); Pančevački rit- bogland, Pančevo (KARAMAN, B., 2001 a).

GENERAL DISTRIBUTION: Holarctic. Vertical distribution up to 1000 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the stagnant, or slowly running waters and fish- ponds.

Genus PHYSELLA Haldeman, 1843
Subgenus COSTATELLA Dall, 1870

PHYSELLA (COSTATELLA) ACUTA (Draparnaud, 1805)

Physa acuta Jovanović, B., 1990: 23; Karaman, B. & Živić, I., 2001: 204;
Physella acuta Frank et al., 1990: 89; Jovanović, B., 1995 a: 339; 1998: 241; Reh et al., 1997: 130;
Physa (*Physella*) *acuta* Karaman, B., 2001: 308;
Haitia acuta Karaman, B., 2005: 46, 47.

MATERIAL EXAMINED: Danube river: – Zemun, 1996-10-05., 6 exp. (leg. B. Jovanović); – ibid., 2000-02-04., 2 exp. (B. Jovanović & G. Karaman); – Usje, (Golubac reg.), 1985-07-29., 2 exp. (leg. B. Jovanović); – Golubac, 19 exp., 2002-06-08. (leg. B. & G. Karaman); – Srebrno jezero- lake near Veliko Gradište, 7 exp., 2001-06-02. (leg. B. & G. Karaman); – Donji Milanovac, 4 exp., 2002-06-07., (leg. B. & G. Karaman); – Karataš, 1992-07-22., 27 exp. (leg. B. Jovanović); Kladovski rit- bogland, Kladovo, 1985-07-15., one exp. (leg. B. Jovanović); – Mala Vrbica near Kladovo, 1992-07-20., one exp. (leg B. Jovanović); – Brza Palanka near Kladovo, 1997-08-02., one exp. (B. Jovanović & G. Karaman); – Kladovo, right bank, 2002-06-17, one exp. (leg. B. Miljanović);

Other waters: – Orlača, Sava river near Šabac, 1988-05-31., one exp. (leg. B. Jovanović); Mala Krsna, 1990-11-29., 4 exp. (leg. M. Jovanović); – Beograd, Topčider, torrent near Milošev konak, 1997-01-30., one exp. (B. Jovanović & G. Karaman). – Babin Zub, Stara Planina Mt., 1997-07-18., one exp. (leg. S. Pešić); – The pools near the river Kolubara, Obrenovac, 1998-04-23., 20 exp., (leg. B. Jovanović); – Zapadna Morava river near village Mrzenica, Kruševac reg., 1998-08-20., 39 exp. (B. Jovanović & G. Karaman); – Village Davidovica, Brodarevo, 2000-06-26., 7 exp. (leg. M. Stanković); – Batar, Zasavica (Sremska Mitrovica reg.), 4 exp., 2000-03-31. (leg. M. Stanković); – Ravnje, Zasavica, 2004-06-19, one exp. (leg. M. Stanković); – Sava river near Sremska Mitrovica, 3 exp., 2001-06-28. (leg. B. & G. Karaman); – Sava river near Mačvanska Mitrovica, 6 exp., 2001-08-29. (leg. B. & G. Karaman);

LOCALITIES CITED: Beograd (FRANK et al., 1990); Kanal DTD (= Danube-Tisa-Danube), Đavolji most- bridge, Deliblatska peščara sandy area; Karaš, Jasenovo, Deliblatska peščara- sandy area (JOVANOVIĆ, B., 1990); Brestovačka reka- river in Brestovačka Banja (JOVANOVIĆ, B., 1995 a; 1998); – Brestovačka reka river near pouring of the brook Ružane, downstreams of the bridge (REH et al., 1997); – Kudoški potok- torent, Fruška Gora Mt. (KARAMAN, B. & ŽIVIĆ, I., 2001). Danube: Zemun; Usje; Golubac; Karataš; Kladovski rit- bogland; Kladovo; Mala Vrbica near Kladovo (KARAMAN, B., 2001). – Gaberska reka- river; Južna Morava; Jablanica; Jošanica; Moravica; Nišava; Razgojnski potok- torrent; Toplica (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: Mediterranean region and W Europe. Vertical distribution up to 280 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the stagnant and slowly running waters.

Family PLANORBIDAE Gray, 1840

Genus ANCYLUS O. F. Müller, 1774

ANCYLUS FLUVIATILIS FLUVIATILIS O. F. Müller, 1774

Ancylus capuloides Möllendorff, 1873: 146;

Ancylus fluviatilis Jaeckel et al., 1958: 170; Jovanović, B., 1995 a: 338; 1995 b: 235; 1998: 241; Reh et al., 1997: 130; Karaman, B. & Živić, I., 2001: 204; Karaman, B., 2001: 307; 2005: 46.

MATERIAL EXAMINED: – Danube near Karataš, 1992-07-24., one exp. (leg. B. Jovanović); – Đetinja, Užice, one exp.; – Ibar, 2 exp.; – Spring of Zlotska reka- river, 22 exp.; – Jošanička Banja, 5 exp.; – Mlava, Gornjačka klisura- canyon, 2 exp.; – Torrent in Lukavica, one exp.; – Mlava, Žagubica, 2 exp.; – Banjska reka- river in Jablan, one exp.; – Vranjska reka- river, one exp.; – Divostin, 2 exp. (leg. L. Dokić, probably in 1879] – Šarkamen, Negotin, 1985-06-26., 4 exp. (leg. B. Jovanović); – Vratna river near Monastery Vratna (Negotin reg.), 1987-06-16., one exp. (leg. B. Jovanović) ; – Monastery Vratna, brook, 1998-05-28., 6 exp. (leg. B. Jovanović & G. Karaman); – Vlasina, Ćurkovac, Vrla river, 1990-07-24., one exp. (leg. B. Jovanović); – Partizanske Vode, Zlatibor Mt., 1993-07-09., 57 exp. (B. Jovanović & G. Karaman); – Gornje Belorečko Vrelo- source, village Donja Bela Reka (Bor reg.), 1994-08-19., 13 exp. (leg. B. Jovanović); -Source of cave Gaura Burči, along the Beljevina river (Bor reg.), 1994-01-20., 12 exp. (leg. B. Jovanović & G. Karaman); – Gaura Mika cave, Boljetin (Zlot reg.), 1994-08-17., 22 exp. (leg. B. Jovanović); – Sićevo, entrance in the canyon of river Nišava, 1994-07-06., one exp. (leg. B. Jovanović); – Source below the motel Rtanj, at foot of Rtanj Mt., 1998-05-30., 7 exp. (leg. B. Jovanović & G. Karaman); – Brzećka reka- river, Kopaonik Mt., 1998-08-17., 9 exp. (leg. B. Jovanović & G. Karaman); – Toplica river, 2000-07-04., 12 exp. (leg. I. Živić).

LOCALITIES CITED: Jošanička Banja, Žagubica (MÖLLENDORFF, 1873); Serbia (JAECKEL et al., 1958); Lazareva reka, source daunstreams of motel; Brestovačka reka- river in Brestovačka Banja; Brestovačka reka-river near the dam Savača; Beljevina river near the cave Gaura Mika,; Ravna reka- river; Gornje Belorečko vrelo- source near Donja Bela Reka (JOVANOVIĆ, B., 1995 a); Source near Lazareva pećina- cave; Lazareva reka in Zlot (Bor reg.); – Vojala river, Dubašnica (Bor reg.) (JOVANOVIĆ, B., 1995 b); Brestovačka reka near Brestovačka Banja; Brestovačka Banja 50 m. downstream from mouth of Banjski potok- torrent; Banjsko polje, 100 m downstream from biodisc; Džanovo polje on Brestovačka reka river; Brestovočka reka river

near its mouth into Crni Timok river (REH et al., 1997); Lazareva reka- river; Banjska reka- river; Beljevina river; Ravna reka- river; Vojala (JOVANOVIĆ, B., 1998); Kudoški brook, Fruška Gora Mt. (KARAMAN, B. & ŽIVIĆ, I., 2001); Danube near Karataš (KARAMAN, B., 2001); Gaberska reka- river, Moravica (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: Palearctic. Vertical distribution up to 1150 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: This species was collected in brooks and sources on the medium high mountains, on the hard bottom.

Genus ANISUS Studer, 1820
Subgenus ANISUS Studer, 1820

ANISUS (ANISUS) LEUCOSTOMA (Millet, 1813)
Paraspira leucostoma Hesse, 1929: 232;
Anisus leucostomus Jaeckel et al., 1958: 169.

MATERIAL EXAMINED: – Kanal DTD (= Channel Danube-Tisa-Danube), Đavolji most- bridge, Deliblatska peščara sandy area, 1987-07-14., 4 exp. (leg. B. Jovanović).

LOCALITIES CITED: Danube near Smederevo; Jezava (HESSE, 1929); Serbia (JAECKEL et al., 1958).

GENERAL DISTRIBUTION: Palearctic. Vertical distribution up to 1700 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the small stagnant waters, trenches, swamps, fish-ponds, periodically flooded fields, as well as at the sandy banks of the rivers.

ANISUS (ANISUS) SEPTEMGYRATUS (Rossmässler, 1835)
Paraspira septemgyrata Hesse, 1929: 233;
Anisus septemgyratus Frank et al., 1990: 76; Karaman, B., 2001: 307.

MATERIAL EXAMINED: – Village Hajdukovo, Subotica, channel, 1984-8., 7 exp. (leg. V. Nikolić); – Beograd, Krnjača, pools near Pančevački most- bridge along Danube, 1998-04-24., (leg. B. Jova-

nović & G. Karaman); – Danube near Golubac, 2002-06-08., one exp. (leg. B. & G. Karaman).

LOCALITIES CITED: Danube near Smederevo (HESSE, 1929); Beograd (FRANK et al., 1990); Danube near Usje (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: SE Europe, W. Asia.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: In swamps and pools, in the vegetation zone.

ANISUS (ANISUS) SPIRORBIS (Linnaeus, 1758)

Paraspira spirorbis Hesse, 1929: 232;
Anisus spirorbis Karaman, B., 2001 a: 198;
Anisus (*Spirorbis*) *spirorbis* Karaman, B., 2001: 307.

MATERIAL EXAMINED: – Danube near Donji Milanovac, 2002-06-07., one exp. (leg. B. & G. Karaman); – Torrent in the ort Mala šuma, Dolovo (Pančevo reg.), 1998-04-24., 14 exp. (leg. B. Jovanović).

LOCALITIES CITED: Danube near Smederevo (HESSE, 1929); Bank of Danube near Zemun (KARAMAN, B., 2001); Pools along the river Tamiš, Pančevo (KARAMAN, B., 2001 a).

GENERAL DISTRIBUTION: Palearctic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Eurythermal species, common in small pools.

Subgenus DISCULIFER C. Boettger, 1944

ANISUS (DISCULIFER) VORTEX (Linnaeus, 1758)

Planorbis vortex Möllendorff, 1873: 146;
Spiralina vortex compresa Hesse, 1929: 232;
Anisus vortex Frank et al., 1990: 73; Jovanović, B., 1990: 23;
Anisus (*Disculifer*) *vortex* Karaman, B., 2001: 307.

MATERIAL EXAMINED: – Danube river: – Sremska Kamenica, Novi Sad, 2001-02-10., one exp. (B. & G. Karaman); – Pools near Višnjica, Beograd, 2 exp., (leg. L. Dokić, probably in 1879); – Usje, 1985-06-29., 5 exp. (leg. B. Jovanović – Donji Milanovac, 2002-06-07., 3 exp. (leg. B. & G. Karaman); – Lepenski Vir near Donji Milanovac,

1997-06-10., 2 exp. (B. Jovanović & G. Karaman); – Brza Palanka near Kladovo, 1997-08-02., one exp. (leg. B. Jovanović & G. Karaman).

Other waters: -Village Hajdukovo, Subotica, 1984-8., 5 exp. (leg. V. Nikolić); – Jezava river, Mala Krsna, 1990-11-29., 4 exp. (leg. M. Jovanović).

LOCALITIES CITED: Serbia (MÖLLENDORFF, 1873); Jezava (HESSE, 1929); Beograd (FRANK et al., 1990); Kanal DTD (=Channel Danube-Tisa-Danube), Đavolji most- bridge, Deliblatska peščara sandy area (JOVANOVIĆ, B., 1990); Danube: Beograd (pools near Višnjica); Usje (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Europe, W. Asia. Vertical distribution up to 1000 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the stagnant and slowly running waters, in the vegetation zone.

ANISUS (DISCULIFER) VORTICULUS (Troschel, 1834)

Anisus vorticulus Frank et al., 1990: 75;
Anisus (*Disculifer*) *vorticulus* Karaman, B., 2001: 308.

MATERIAL EXAMINED: – Zasavica, spring in Batar (Sremska Mitrovica reg.), 2002-08-27., 7 exp. (leg. B. & G. Karaman); – Banovo Polje, Zasavica, 2002-08-27., 20 exp. (leg. B. & G. Karaman).

LOCALITIES CITED: Kovalski rit- bogland (FRANK et al., 1990); (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Central and E Europe.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the clean stagnant waters, backwaters, pools, in the vegetation.

Genus FERRISSIA Walker, 1903

FERRISSIA WAUTIERI (Mirolli, 1960)

Ferrissia wautieri Velkovrh, 1974: 251, figs. 1, 2.

LOCALITIES CITED: Obreško Oko, Obedska bara- pool, Vojvodina (VELKOVRH, 1974).

GENERAL DISTRIBUTION: Central Europe.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the slowly running and stagnant waters, in the submerse vegetation.

Genus GYRAULUS Charpentier, 1837
Subgenus GYRAULUS Charpentier, 1837

GYRAULUS (GYRAULUS) ACRONICUS (Férussac, 1807)
Gyraulus gredleri Hesse, 1929: 233;
Gyraulus (*Gyraulus*) *acronicus* Karaman, B., 2001: 308.

LOCALITIES CITED: Danube near Smederevo (HESSE, 1929); (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Holarctic. Vertical distribution up to 2000 m. a. s. l. Glacial relict (ZILH & JAECKEL, 1962).

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: In stagnant waters along the banks of Danube.

GYRAULUS (GYRAULUS) ALBUS (Müller, 1774)
Planorbis albus Müller, 1774: 164; Möllendorff, 1873: 146; Wohlberedt, 1909: 135;
Gyraulus albus Hesse, 1929: 233; Karaman, B., 2005: 46, 47;
Gyraulus (*Gyraulus*) *albus* Karaman, B., 2001: 308.

MATERIAL EXAMINED: – Sava river, 2 exp., (leg. L. Dokić, probably in 1879)- Kapetanski rit- bogland near Subotica, Ludoško jezero-lake, Vojvodina, 1991-07-04., 11 exp. (leg. V. Savkić); – Šumareva ćuprija, Zasavica, Sremska Mitrovica reg., 2004-11-07., 2 exp. (leg. M. Stanković); – Danube near Usje, 1986-06-29., one exp. (leg. B. Jovanović); – Srebrno jezero- lake near Veliko Gradište, 2001-06-02., one exp. (leg. B. & G. Karaman); – Danube near Donji Milanovac, 2002-06-07., one exp. (leg. B. & G. Karaman); .

LOCALITIES CITED: Vratna (MÖLLENDORFF, 1873); Uvac river (WOHLBEREDT, 1909); Danube near Smederevo (HESSE, 1929); (KARAMAN, B., 2001); Rivers: Južna Morava; Jablanica; Nišava (KARAMAN, B., 2005).

GENERAL DISTRIBUTION:: Holarctic.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the stagnant and slowly running waters, swamps, pools, fish-ponds and backwaters.

Subgenus TORQUIS Dall, 1905

GYRAULUS (TORQUIS) LAEVIS (Alder, 1838)

Gyraulus laevis Jaeckel et al., 1958: 169; Frank et al., 1990: 81; *Gyraulus* (*Torquis*) *laevis* Karaman, B., 2001: 308.

LOCALITIES CITED: Serbia (JAECKEL et al., 1958); Beograd (FRANK et al., 1990); (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: Holarctic. Vertical distribution up to 350 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the clean slowly running waters, backwaters of the rivers, fish-ponds, between the vegetation.

Genus HIPPEUTIS Charpentier, 1837

HIPPEUTIS COMPLANATUS (LINNAEUS, 1758)

Hippeutis complanatus Hesse, 1929: 233; Karaman, B., 2001: 308.

MATERIAL EXAMINED: – Jezava river, Mala Krsna, 1990-11-29., 3 exp. (leg. M. Jovanović).

LOCALITIES CITED: Danube near Smederevo (HESSE, 1929); (KARAMAN, B., 2001).

GENERAL DISTRIBUTION: SE Europe, W Asia. Vertical distribution up to 1000 m.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the stagnant and slowly running waters, among the vegetation

Genus PLANORBARIUS Froriep, 1806

PLANORBARIUS CORNEUS (Linnaeus, 1758)

Planorbarius corneus Hesse, 1929: 232; Jaeckel et al., 1958: 169; Jovanović, B., 1990: 23; 1995 a: 338; 1998: 241; Frank et al., 1990: 86;

Reh et al., 1997: 130; Karaman, B., 2001: 308; 2001 a: 198; . Karaman, B. & I. Živić, I., 2001: 204.

MATERIAL EXAMINED: – Danube river: – Sremska Kamenica, Novi Sad, 2001-02-10., one exp. (leg. B. & G, Karaman); – Zemun, 2000-02-04., 12 exp. (B. & G. Karaman); – Beograd 1974-09-14., 7 exp. (leg. V. Simić); – Channel Vizelj (Danube), PKB Beograd, 1987-04-27., 2 exp., (leg. J. Budisavljević); – right bank in Zemun, 1996-10-05., 9 exp. (leg. B. Jovanović & G. Karaman); – Smederevo, Jerinin grad-fortification, 2001-06-06., 2 exp. (leg. M. Stanković); – Brnjica, Golubac, 1966-11.29., one exp. (leg. A. Matvejev); – Tekija, 1966., one exp. (leg. A. Matvejev); – Donji Milanovac, 1967-11-23., 3 exp. (leg. A. Matvejev); – ibid., 2002-06-07., 3 exp. (leg. B. & G. Karaman); – Brza Palanka, Kladovo, 1997-08-02., 8 exp. (B. Jovanović & G. Karaman); – Lepenski Vir, Đerdap, 2003-06-04., one exp. (leg. B. & G. Karaman);

Other waters: – Vilina česma- fountain, 2 exp.; – Makiš, Beograd, 22 exp.; – Swamps near Pančevački most-bridge at Danube, Beograd, Krnjača, 1998-04-24., one exp. (B. Jovanović & G. Karaman); – Danube, Gradište, 5 exp.; – Koviljača, 2 exp.; – Marsh near Danube, Beograd, 10 exp.; – Pools near Sava river, 3 exp.; – Aleksinac, 3 exp., – Vajfertov potok-brook, 2 exp. [all these localities have been collected by L. Dokić, probably in 1879]; – Bubanj Potok, Beograd, 1990-08., 13 exp. (leg. M. Jovanović & L. Čaće); – Srebrno jezero- lake, Veliko Gradište, 1997-06-08., 4 exp, (leg. B. Jovanović & G. Karaman); – ibid., 2001-06-02., 15 exp. (leg. B. & G. Karaman); – Channel Sibnica toward Pančevo, 1983-10-04., 7 exp. (leg. B. Jovanović); – Channel Sibnica toward Jabučki rit- bogland, Beograd, 1984-08., 5 exp. (leg. J. Budisavljević); – Sava river, Savsko jezero- lake, Beograd, 1990-09-29., 6 exp., (leg. J. Budisavljević); – Sava river, Orlača, Šabac, 1988-05-19., 9 exp. (leg. B. Jovanović); – Channel in the village Hajdukovo, Subotica, 1988-09., 10 exp. (leg. V. Nikolić); – Channel Vizelj, 1990-05-13., 15 exp. (leg. J. Budisavljević); – Mala Krsna, 1991-01., 17 exp. (leg. L. Čaće); – Ludoško jezero-lake, 1991-07-03., one exp. (leg. V. Savkić); – Karlovačko-Petrovaradinski rit-bogland, 1995, 15 exp. (leg. Fojkart); – Institut for agriculture, Zrenjanin, 2000., 4 exp. (leg. I. Bjelić); – Banks of river Tamiš near Pančevo, 1995-04-30., 2 exp. (leg. S. Tutić); – Obedska bara- pool, 1996-09-14., 4 exp. (leg. I. Dedov- Swamps ne-

ar river Kolubara, Obrenovac, 1998-04-23., 14 exp. (leg. B. Jovanović); – Brook in the ort Mala Šuma, Dolovo, Pančevo, 1998-04-24., 8 exp. (leg. B. Jovanović); – Toplica river, 2000-04-23., 62 exp. (leg. I. Živić); – Banja Vrujci, 2000-07-04., 35 exp. (leg. I. Živić); – Sava in Mačvanska Mitrovica, 2001-08-16., 5 exp. (leg. B. & G. Karaman); – Šumareva Ćuprija, Zasavica (Sremska Mitrovica reg.), 2001-06-29., one exp. (leg. M. Stanković); – ibid., 2001-08-29., 106 exp. (leg. B. & G. Karaman); ibid., 2002., 24 exp. (leg. B. & G. Karaman); – Sources in Batar, Zasavica, 2002., 21 exp. (leg. B. & G. Karaman); – Banovo polje, Trebljevina, Zasavica, 2002., 4 exp. (leg. B. & G. Karaman); – Banovo polje, Jovača, Zasavica, 2002., 7 exp. (leg. B. & G. Karaman); – Raševića ćuprija, Banovo Polje, Zasavica, 2002., 13 exp. (leg. B. & G. Karaman); – Sava river in Mačvanska Mitrovica near Čevrtinja, 2002-08-16., 11 exp. (leg. M. Stanković); – Ravnje, Široka bara-pool, Zasavica, 2004., one exp. (leg. M. Stanković); – Raševića ćuprija, Zasavica, 2004., one exp. (leg. M. Stanković).

LOCALITIES CITED: Danube near Smedereva; Ravanica near Ćuprija (HESSE, 1929); Serbia (JAECKEL et al., 1958); Kanal DTD (=Channel Danube-Tisa-Danube), Đavolji most-bridge, Deliblatska peščara sandy area; Karaš, Jasenovo, Deliblatska peščara sandy area (JOVANOVIĆ, B., 1990); Danube: Beograd; Novi Sad; Majur; Sremski Karlovci (FRANK et al., 1990); Brestovačka reka- river, Brestovačka Banja (JOVANOVIĆ, B., 1995 a; 1998); Brestovačka reka near Brestovačka Banja; Brestovačka reka river downstreams of mouth of torrent Ružane, (REH et al., 1997); Kudoški potok- brook, Fruška Gora Mt. (KARAMAN, B. & ŽIVIĆ, I., 2001); Danube: Beograd (Višnjica); Gradište; Kusjak near dam „Djerdap II"; Tekija; Brnjica; Golubac; Donji Milanovac; Karataš; Karlovačko-Petrovaradinski rit-bogland; Zemun (KARAMAN, B., 2001); Swamps near the river Tamiš, Pančevo (KARAMAN, B., 2001 a).

GENERAL DISTRIBUTION: Europe and W Asia. Vertical distribution up to 750 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the pools, swamps and slowly running waters, in the zone of vegetation.

Genus PLANORBIS O. F. Müller, 1774

PLANORBIS CARINATUS O. F. Müller, 1774

Planorbis carinatus Hesse, 1929: 232; Jaeckel et al., 1958: 169; Karaman, B., 2005: 47.

MATERIAL EXAMINED: – Danube, Vilina česma- fountain, 3 exp.; Makiš, Beograd, 3 exp.; Sava river, one exp. [all these localities have been collected by L. Dokić, probably in 1879); – Beograd, Ušće, 2 exp., 1990. (leg. M. Jovanović); – Karlovačko-Petrovaradinski rit- bogland, 12 exp., 1995, (leg. M. Kerovec); – Dolovo village kod Pančeva, torrent in the ort Mala Šuma, 3 exp., 1997-05-07. (leg. G. Karaman & B. Jovanović); – Veliko Gradište, Srebrno jezero-lake, 2001-06-02., 4 exp., (B. & G. Karaman); – Šumareva ćuprija, Zasavica, Sremska Mitrovica, 2001-06-29, one exp. (leg. B. & G. Karaman); – Banovo polje, Zasavica, 2002., 3 exp. (leg. B. & G. Karaman); – Spring in Batar, Zasavica, 2002., one exp. (leg. B. & G. Karaman).

LOCALITIES CITED: Danube near Smederevo; Ravanica near Ćuprija (HESSE, 1929); Serbia (JAECKEL et al., 1958); Toplica (KARAMAN, B., 2005);

GENERAL DISTRIBUTION:: Europe-Balkanic-Pontic. Vertical distribution up to 1200 m.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY. Living in the clean and permanent stagnant and slowly running waters.

PLANORBIS PLANORBIS (Linnaeus, 1758)

Planorbis marginatus Möllendorff, 1873: 146;

Planorbis planorbis Hesse, 1929: 232; Jaeckel et al., 1958: 169; Jovanović, B., 1990: 23; Karaman, B., 2001: 307; 2001 a: 198; 2005: 47.

MATERIAL EXAMINED: – Danube river: – Sremska Kamenica, Novi Sad, 2001-02-10., 5 exp. (B. & G. Karaman); – Right bank near Zemun, 1996-10-05., 27 exp. (leg. B. Jovanović & G. Karaman); – Krnjača, pools near Pančevački most-bridge, Beograd, 1998-04-24., 36 exp. (leg. B. Jovanović & G. Karaman);

Other waters: – Makiš, Beograd, 2 exp.; Niš, one exp.; – Srebrno jezero- lake, Veliko Gradište, 1997-06-08., one exp. (leg. B. Jovanović & G. Karaman); – Pools near Paraćin,, 2 exp., (leg. L. Dokić, probably in 1879); – Sava river, Orlača, Šabac, 1988-05-19., 35 exp. (leg. B. Jovanović); – Jezava river, Mala Krsna, 1990-10-20., 3 exp. (leg. M. Jovanović); – Ludoško jezero- lake near Subotica, Kereš, input, 1991-07-03., 3 exp. (leg. V. Savkić); – Obedska bara-pool, Vojvodina, 1996-09-14., 7 exp. (leg. I. Dadov); – Torrent in the ort Mala Šuma, Dolovo, Pančevo, 1998-04-24., 15 exp. (leg B. Jovanović & G. Karaman); – Pools near the river Kolubara, Obrenovac, 1998-04-23., 16 exp. (leg. B. Jovanović); Zasavica, Sremska Mitrovica, 1999-06-01., one exp. (leg. M. Stanković); – Institut for agriculture, Zrenjanin, 2000., 4 exp. (leg. I. Bjelić); – Nišava river, mouth of river Jerma, 2001-04-29., 3 exp., (leg I. Živić); – Rasina river, Kruševac, 1998-08-20., 6 exp. (leg. B. Jovanović & G. Karaman); – Temska river, 2001-04-29., 3 exp. (leg. I. Živić); – Banovo polje downstream of Trebljevina, Zasavica (Sremska Mitrovica reg.), 2 exp., 2001-08-25., (leg. B. & G. Karaman); – Mačvanska Mitrovica, Sava river, 2001-08-29., one exp. (leg. B. & G. Karaman); – Šumareva Ćuprija, Zasavica, 2001-06-29., 5 exp. (leg. M. Stanković); – Torrent Batar, Zasavica, 2001., 4 exp. (leg. B. & G. Karaman); – Šumareva ćuprija, Zasavica, 2002., 14 exp. (leg. B. & G. Karaman); – Batar, Zasavica, 2002., 3 exp. (leg. B. & G. Karaman); – Banovo Polje, Zasavica, 2001, 6 exp. (leg. B. & G. Karaman); – Banovo polje near Jovača, Zasavica, 2002., one exp. (leg. B. & G. Karaman); – Banovo polje, Trebljevina, Zasavica, 2002., 3 exp. (leg. B. & G. Karaman); – ibid., 2004-11-07., 2 exp. (leg. M. Stanković).

LOCALITIES CITED: Serbia (MÖLLENDORFF, 1873); Danube near Smederevo; Morava and Ravanica rivers near Ćuprija (HESSE, 1929); Serbia (JAECKEL et al., 1958); Kanal DTD (=Channel Danube-Tisa-Danube), Đavolji most- bridge, Deliblatska peščara sandy area; Karaš, Jasenovo, Deliblatska peščara sandy area (JOVANOVIĆ, B., 1990); Danube: Beograd (Krnjača and Višnjica); Mosna; Tekija; Kusjak near Negotin; Usje; Golubac; Karlovačko-Petrovaradinski rit- bogland; Zemun (KARAMAN, B., 2001); Pools near the river Tamiš, Pančevo (KARAMAN, B., 2001 a); Nišava river; Toplica river (KARAMAN, B., 2005).

GENERAL DISTRIBUTION: Holarctic. Vertical distribution up to 1700 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in running and stagnant waters.

Genus SEGMENTINA Fleming, 1818

SEGMENTINA NITIDA (O. F. Müller, 1774)

Segmentina nitida Jaeckel et al., 1958: 170; Karaman, B., 2001 a: 198.

MATERIAL EXAMINED: – Village Hajdukovo, Subotica, 1984-09., 25 exp. (leg. V. Nikolić); – Torrent in the ort Mala Šuma, Dolovo near Pančevo, 1998-04-24., 26 exp. (leg. B. Jovanović).

LOCALITIES CITED: Serbia (JAECKEL ET AL., 1958); Pools near the river Tamiš, Pančevo (KARAMAN, B., 2001 a).

GENERAL DISTRIBUTION: Palearctic. Vertical distribution up to 600 m. a. s. l.

DISTRIBUTION IN SERBIA: Black Sea drainage system.

ECOLOGY: Living in the stagnant waters, pools and fish ponds, among vegetation.

DISCUSSION AND CONCLUSIONS

The freshwater gastropods in Serbia are living in various ecological conditions (subterranean waters and caves, sources, slowly to fast running waters, stagnant waters (swamps, pools, lakes, fish-ponds, periodically submerged fields, etc.), because the gastropods show remarkably selectivity on each type of habitat, in addition to their adaptation to the certain type of ecological condition: The species *Planorbarius corneus* is presented always in the slowly running or stagnant waters (pools, swamps); *Terranigra kosovica* is living in the source of the brook, and *Ancylus fluviatilis* settled stony and gravel bottom in fast running waters and sources.

The freshwater gastropods, living in slowly running and stagnant waters, swamps, pools and fish-ponds, are presented in Serbia by species of large area of distribution (Holarctic, Palearctic, European):

Aplexa hypnorum (Linnaeus, 1758), *Lymnaea stagnalis* (Linnaeus, 1758), *Planorbarius corneus* (O. F. Müller, 1774), etc.

Despite the fact, that fauna of freshwater gastropods in Serbia is only partially studied, the present knowledge indicated very large diversity of this group of animals in Serbian freshwaters: 63 species and subspecies belonging to 31 genus, 9 families, 5 orders, 4 superorders and 2 subclassis.

The freshwater fauna of Gastropoda in Serbia belongs to the three drainage systems: Black Sea, Adriatic Sea and Aegean Sea drainage system. The highest number of taxa belongs to the Black Sea drainage system (57 taxa, belonging to 30 genera and 12 families.

To the Adriatic drainage system belong much lower number of taxa (only 4, belonging to 4 different genera and only one family (*Bythinella drimica alba; Iglica (Rhaphica) illyrica; Belgrandiella bumasta; Saxurinator schlickumi*).

Two taxa, belonging to 2 different genera and one family, respectively, are present in the waters of both drainage systems (Black Sea and Adriatic Sea) (*Bythinella opaca opaca; Plagigeyeria gladilini gladilini).* RADOMAN (1985) explains well this phenomenon: One species, for example of genus *Bythinella*, settled the waters of both sides of the present Dinarids. After the elevation of Dinarids, former united Adriatic drainage system has been divided into 2 drainage systems, Black Sea and Adriatic Sea ones, and the specimens of each species [for example *Bythinella opaca opaca* (M. von Gallenstein, 1848)] remain isolated to each other now in two different drainage systems, but preserving still identical taxonomic characters.

To the Aegean drainage system belong only several small rivers and torrents in the southern part of Serbia, and no data of the freshwater fauna of Gastropoda of this region are known.

The best investigated waters in Serbia are the waters of river Danube (where 39 taxa of freshwater gastropods are found, belonging to 19 genera and 9 families, respectively), as well as the drainage system of Južna Morava river.

In Serbia, the most numerous taxa are in the family Hydrobiidae, presented by 20 species and 10 genera; that follow the familes: Planorbidae (15 species, 8 genera), Lymnaeidae (7 species, 4 genera), Mela-

nopsidae (3 species, 2 genera), Physidae (3 species, 3 genera), Neritidae (5 species, one genus); Viviparidae and Valvatidae (4 species and one genus each), and the family Bythiniidae (2 species, one genus).

The zoogeographical elements of the freshwater gastropods in Serbia indicated large spectrum of diversity and authenticity, through the relatively high number of endemic species in Serbia and Crna Gora (Montenegro) (13 species and subspecies belonging to 8 genera): *Belgrandiella bumasta; Bythinella drimica alba; Bythinella opaca dispersa*; *Bythinella serborientalis*; *Grossuana euxina remesiana*; *Grossuana euxina euxina serbica*; *Iglica* (*Raphica*) *illirica*; *Paladilhiopsis serbica*; *Plagigeyeria gladilini gladilini*; *Plagigeyeria minuta*; *Plagigeyeria piroti*; *Saxurinator schlickumi*; *Terraniga kosovica*.

Evidently, the most numerous are the taxa having Palearctic and Holarctic distribution.

The gastropods living in the sources and the caves, are the less studied taxa in Serbia, and up to now are known 17 taxa belonging to 9 genera: *Bythinella, Belgrandiella, Plagigeyeria, Saxurinator, Iglica, Sarajana, Grossuana, Paladilhiopsis* and *Terranigra,* and one family (Hydrobiidae).

Fourteen taxa of freshwater gastropods have been discovered and described at the first time from Serbia as a new species (i. e. locus typicus is in Serbia): *Bythinella drimica alba* Radoman, 1976, source of Beli Drim near Monastery Dečani; *Bythinella opaca dispersa* Radoman, 1976, source in village Dubnica; *Bythinella seborientalis* Radoman, 1978, source Vrelo in the village Vrelo near Pirot; *Belgrandiella bumasta* Schütt, 1960, Rugovska klisura-canyon near Peć; *Plagigeyeria gladilini gladilini* Kuščer, 1936, source of Beli Drim near Peć; *Plagigeyeria minuta* Bole & Velkovrh, 1987, karstic source near village Perućac; *Plagigeyeria piroti* Bole & Velkovrh, 1987, small spring in the village Gradište; *Saxurinator schlickumi* Schütt, 1960, Rugovska klisura-canyon near Peć; *Iglica (Raphica) illyrica* Schütt, 1975, source of Beli Drim near Peć; *Sarajana apfelbecki driniana* Radoman, 1975, spring in the village Kaoštica; *Grossuana euxina serbica* Radoman, 1973, source of river Raška; *Grossuana euxina remesiana* Radoman, 1973, source in Bela Palanka; *Paladilhiopsis serbica* (Pavlović, 1913),

Čočića vrelo source in the carstic rocks Drumdebela; *Terranigra kosovica* Radoman, 1978, source Crna zemlja near Nerodimlje.

RADOMAN (1985) was found the specimens of epigean species *Bythinella opaca* in the springs, as well as in the subterranean waters of the caves. He considered that these epigean species penetrated into the subterranean waters because of the presence of free subterranean ecological niches, as well as thanks to their own genetic capability for adaptation to the new ecological conditions in the subterranean waters. This considerations is in opposite to the previous opinions of some authors, who suggested that the penetration of epigean species into the subterranean waters occured only when their epigean ecological niches have been disappeared or destroyed.

Because of high anthropological pressure on the epigean and subterranean fresh waters in Serbia, pollution of many waters, capping of many sources and brooks for drinking use, destroying of many marshes, pools, periodically submerged areas along the rivers and other natural habitats, many ecological niches of numerous species of freshwater gastropods were destroyed, and this trend exists in the present time also.

For these reasons, the present freshwater fauna of gastropods is in danger, and it must be protected, because many specimens as well as entire populations or taxa can disappear.

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