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New freshwater molluscs species found in the Romanian fauna.

By

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With 2 maps and 1 Plate.

Abstract .

During the last 7 years the freshwater molluscs from the Romanian Inner Carpathian Basin, comprising four geographic regions, namely Transylvania, Banat, Crișana and Maramureș were researched by the second author. Some species, formerly unknown from Romania, were identified by the first author and the systematics was updated for several taxa. The present-paper presents these species and the new systematic catalogue of the freshwater molluscs from the researched area.

Introduction .

In Romania, until the present paper, the most used and largely accepted catalogue was that written by GROSSU (1993). Most papers published in the past 10 years used his systematics and the very few modifications are of less importance, regarding the freshwater mollusc species and superior taxa, although important revisions were made in respect of other groups. The present paper's aim is to present the new species found in the Romanian fauna in the last years and to build an updated systematic catalogue of the freshwater molluscs from the Romanian Inner Carpathian Basin. The regions comprised in this area (namely Transylvania, Maramureș, Crișana and Banat) were extensively studied during the last 7 years.

Description and systematics of the newly identified species are given in accordance with BURCH (1982, regarding the Nearctic species: 148, 174) KORNUSHIN & HACKENBERG (2000), FALKNER & al. (2001), GLÖER (2002), GLÖER & MEIER-BROOK (2003). The present-day knowledge regarding the fauna and some distribution of the species in Romania is given mainly according to SÎRBU (2003).

Results and Discussion .

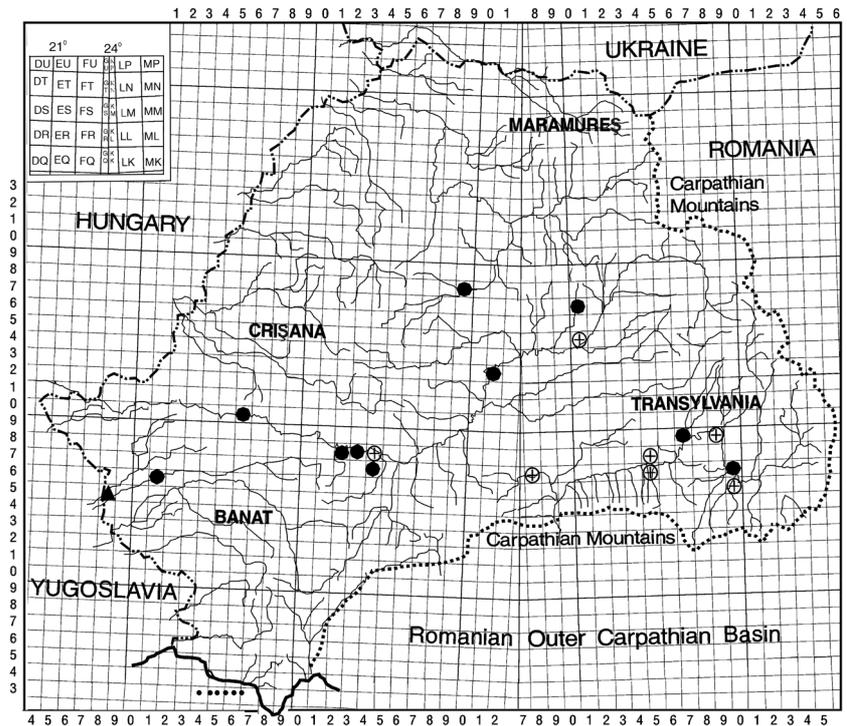
The new species found in the Romanian fauna are presented in systematical order, by a short diagnosis and some data concerning the present-day knowledge regarding their distribution.

1. *Bithynia troschelii* (PAASCH 1824) – Plate 1, Fig. 1.

Known under different names in the XIXth Century by the Saxon naturalists from the "Siebenbürgischer Verein für Naturwissenschaften zu Hermannstadt" (the last being the German name for Sibiu) it was synonymized in the past decades with *Bithynia leachii*. The separation between the two species was done only in the last year by the analyses of collections and newly sampled material.

Diagnosis of *B. troschelii*: the shell is formed by 5-5.5 well rounded whorls, marked by an intended suture. Upper edge of the aperture is rounded - bluntly angular shaped at the point it meets the body coil, being sometimes interrupted. Correspondingly the operculum is superior rounded-angulated; the umbilicus is open to slightly covered. Height 8-10 mm (seldom up to 12 mm), width 6 mm.

Its range is considered to be mainly distributed in the east of Middle-Europe, reaching North-Eastern Germany (Hamburg) northwards up to Lake of Klein Siemz (Mecklenburg-Vorpommer), in East its border being still unknown.



Map 1. UTM distribution map of *Bithynia troschelii* from the Inner Carpathian Basin.

With ⊕ places where the species was recorded in the past, verified and not found; ● signifies also the past quotations, but the areas were insufficiently or not verified in the last years, ▲ means the single point where the species was encountered in the specified area in the past 5 years.

Because in Romania this species was confused with *Bithynia leachii* (SHEPPARD 1823), it is necessary to highlight the differences. The latter has 4-4.5 coiled shell, oval-rounded aperture (without upper angular shape) and operculum. Its dimensions range from 4 to 6 mm in height and 3-4 mm width. All the material sampled by the authors or belonging to collections, from the Romanian Inner Carpathian Basin, turned out to be *B. troschelii*.

B. troschelii lives in slow flowing or stagnant waters, usually rich in vegetation, but not necessarily, and in lakes' shallow water. It was frequently encountered from the XIXth to the middle of the XXth Century in Transylvania and Banat, but it underwent local or regional extinctions because the human impact on the wetlands from these areas. In the past years it was sampled from the Romanian Inner Carpathian Basin, only in the Bega channel, downstream the town of Timișoara (Banat). It is much more frequently in the lower Danube and the Danube Delta.

2. *Radix ampla* (HARTMANN 1821) – Plate 1, Fig. 2.

Until recently three species were considered in the Romanian fauna, known as *Radix peregra*, now called *Radix labiata* (ROSSMÄSSLER 1835), *R. ovata* being in present termed as *Radix balthica* (LINNAEUS 1758) and *R. auricularia* (LINNAEUS 1758). *Radix ampla* was overlooked or considered only as a form of "*R. ovata*" (GROSSU, 1987: 94, 1993: 306), its present-day range in Romania is still to be researched. Most Romanian collections are keeping only dry material, so most important taxonomical criteria cannot be recognized on older samples. The researches done by SÎRBU in the past 7 years (between 1996 and 2003) pointed out that the most frequent *Radix* species inside the Romanian Inner Carpathian Basin are *Radix labiata* (mainly at higher altitudes) and *R. auricularia* (from hilly areas to lowland waters, also in organic-loaded waste-waters). In present, *Radix balthica* is seldom encountered in the specified area. Some individuals sampled in 2002 from the Cerna River (tributary of the Danube in southern Banat region) were anatomically analysed by GLÖER and proved to be *Radix ampla*.

Diagnosis of *R. ampla*: large, globose shell, very small spire, in front-view overhanged by the aperture's upper lip. The body-whorl is particularly globose, with an expanded large, deflected aperture. Because some shells can be confused with *Radix auricularia*, very characteristic in *R. ampla* is the almost absent columellar fold or plait, the body lip of the aperture forming a nearly straight, oblique disposed line. The shell's dimensions are about 20 mm height and 19 mm width.

Its range covers the Middle and Eastern Europe, up to Siberia. In the Cerna River, where first anatomical-documented individuals were sampled from Romania, the species populates the riverbed near the banks in shallow, slow-running water, especially on boulders but also other substrata. It is sure that further research will prove a larger distribution throughout the country.

3. *Pseudosuccinea columella* (SAY 1817) – Plate 1, Fig. 3.

American ribbed fluke snail.

This Nearctic species was first sampled in 1999 and afterwards in 2003 from the same (single) spot namely the thermal lake from the Peșea rivulet (also known as "Ochiul Mare" meaning "The Big Eye", in the resort termed as Bile Episcopesci or Bile 1 Mai, "Püspökfürdő" in Hungarian and "Bischofsbad" in German language) near the town of Oradea. This lake is well known because of three relict species that are also local endemites (two species - a fish and a snail - and a plant subspecies), namely the thermal snail *Melanopsis parreyssii* (PHILIPPI 1847), the rudd *Scardinius racovitzai* MÜLLER 1958 and the lotus *Nymphaea lotus thermalis* TUZSON 1908. Although declared since 1931 as natural reserve, the thermal lake and its ancient species are endangered because of too much scientific interest and collectors, but also because of the adventive species that were brought both intentionally and accidentally (mainly by aquarists and other less educated people). Anyhow, scientists from whole Europe sampled and studied the endemites from this area, and an explanation for the actual distribution of the thermal snail, is that it was transported from its locus typicus to several countries. A lot of other thermal plant species were brought and released in the pool, being able to bloom and overpopulate this fragile habitat. Ten species of freshwater molluscs could be found here, among them at least three autochthonous taxa have disappeared in the last two centuries, four adventive species being encountered in the past years, namely *Physella acuta*, *Ferrissia wautieri*, *Sinanodonta woodiana* and *Pseudosuccinea columella* (newly identified species in Romania in this single location).

Diagnosis of *P. columella*: coiled shell, succiniform (thin and fragile), large foot and triangular tentacles. Oval and large aperture, much more than half the length of the shell; large body whorl. Sculpture consisting of distinct, raised, spiral striations and threads superimposed on growth striations. It is considered as a common vector of the sheep liver fluke. The diet consists of aquatic plants and algae. It is an amphibious species that lives on mats of floating vegetation.

It is a matter of question if it will persist in the thermal lake from the Peșea rivulet. Anyhow, because of the adventive species (both plants and animals) released in this habitat and because of too many scientists and scientific interest, the lake is a highly endangered environment together with its native species.

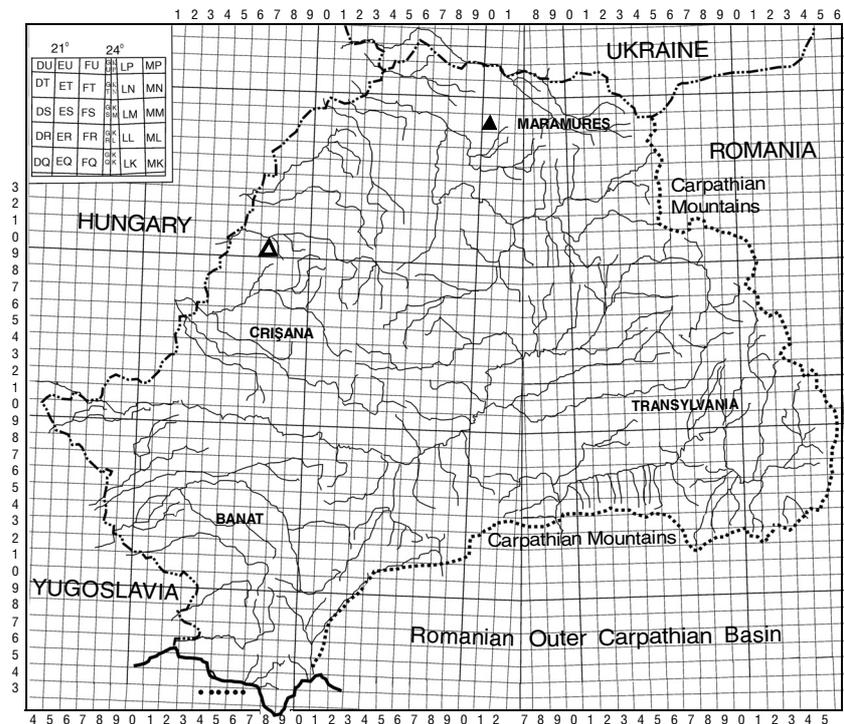
4. *Planorbella anceps anceps* (MENKE 1830) – Plate 1, Fig. 4.

Two-ridged Ramshorn.

This Nearctic species was known in the European free waters only from Italy (CLARKE 1981), but it was assumed that its range will expand, being largely raised by aquarists. It was sampled only in 1999 from the thermal Felix Baths (near the town of Oradea and in the very proximity of the thermal lake from Peșea rivulet, formerly mentioned). The material sampled by M. PETRESCU from some human-made thermal pools in the resort was revised by the first author of the present paper. The species was thoroughly searched in the whole area in the spring of 2003 but it was not found again. It is evident that it was not able to survive in the artificial pools, and is not to be considered as an element of the Romanian fauna. But it seems probable to appear sporadically in this region (and also in the natural thermal lake from the vicinity), for what reasons we are introducing it hereby.

Diagnosis of *P. anceps anceps*: shell distinctly carinated above and below, but not close to the shoulder; both apex and base tunnel-shaped. Sculpture consisting of fine incremental threads and spiral striations that may become obsolete at maturity

(adults 9-15 mm wide). In the native area, it is widely distributed in North America but not common in the states from the South-Eastern part.



Map 2. Position of the Felix and 1 Mai (Episcope ●) Thermal Baths (with Δ), the location where *Pseudosuccinea columella* and *Planorbella anceps* were sampled (the latter having already disappeared), and the UTM square where *Gyraulus rossmaessleri* was found (Igri ●-Gutin Mountains in the Maramureș region, coded with ▲).

5. *Gyraulus (Lamorbis) rossmaessleri* (AUERSWALD 1852) – Plate 1, Fig. 5.

Among the three (maybe four) species of *Gyraulus* known from Romania until now, *G. albus* (O. F. MÜLLER 1774) – the most spread throughout the country – and *G. acronicus* (A. FÉRUSSAC 1807) – according to GROSSU, 1987: 149, only shells were found in a location from Moldova region – belong to the nominal subgenus. *G. laevis* (ALDER 1838) – seldom sampled in different areas – is ascribed to the *Torquis* subgenus, and *G. crista* (LINNAEUS 1758) – also very seldom encountered, especially in the last years – belongs to the *Armiger* taxon. The first sampling of *G. rossmaessleri* in Romania means also the premier encounter of the *Lamorbis* subgenus. Because the brown, tumid and not transparent shell, and especially the whitish columellar callus the species is almost unmistakable. The characteristic anatomical feature is the sharp-conical terminal part of the penis and its swollen basis.

Diagnosis of *G. rossmaessleri*: Solid and opaque, shiny shell, with spiral raised striae, 4-4.5 rounded whorls, the last being slightly broader than the penultimate. The aperture has on the columellar wall a very characteristic white lip (but sometimes, like it happened to the individuals sampled from Romania until now, this can be obsolete). The shell is up to 1.3-1.5 mm height and 4-6 mm wide. Regarding the anatomy, besides the conical penis with reduced stilet, the narrowed Phalloteca, kidney with roundly wavy margins, 8-21 regularly diverticulitis Prostate have to be considered. The Phalloteca: Praeputium ratio of 0.3-0.6 was found by MEIER-BROOK (1983).

It is a Holarctic species. According to GLÖER (2002) the species was found mainly in temporary pools and ditches, especially in spring. In Northern and Middle-Europe it seems to behave like a typical lowland species. In Romania it was found in some mountain pools supplied by brooks, rich in vegetation, in a mountainous area from the Maramureș region (near Izvoare holiday-resort, Igri - Gutin Mountains).

6. *Sphaerium ovale* (A. FÉRUSSAC 1807) – Plate 1, Fig. 6.

Diagnosis: oval shell, surface with silky gloss, apex broader than in *Sphaerium corneum*, hinge-plate uniformly wide, cardinal teeth c2 and c3 bent, lateral left teeth c4 short, reaching just the middle part of c2; dense and regularly placed pores, the distance between them being about 30-45 μ (KORNIUSHIN & HACKENBERG 2000). Separated muscular impression of the posterior adductor and siphons (length 9-12, height 7, width 6).

It lives both in stagnant and running waters, disregard of dimension but with a certain environmental quality, from the hilly to the plain areas.

In Romania this species was confused with the sympatrical *Sphaerium corneum* (LINNAEUS 1758). This species is to be distinguished from *S. ovale* by a more protruding umbo, delicately and irregularly striated, not glossy, hinge-plate thinner below the umbo, c4 about the same length as c2, both slightly bent, posterior adductor and siphons muscular impressions united, rare and randomly placed pores (distance between them about 100 μ according to KORNIUSHIN & HACKENBERG, 2000). Cardinal teeth c2 and c3 often placed on the lower edge of the hinge-plate.

It is still impossible to trace its present range because the separation was made too soon and a lot of sampled material and collections have to be revised. It was sampled from the Olt River Basin (Râu Negru, Sântionlunca; pools near ••••••, Avrig dam-lake, marsh at Turnu Ro•u; Cibin River Basin, in already desiccated pools near Sibiu), only empty shells in Cri•ul Repede River, downstream the town of Oradea and in the Ier River at Andrid. It seems to be more widely distributed than *S. corneum* but a thorough research of this genus is needed.

**The new systematic catalogue of the freshwater molluscs
from the Romanian Inner Carpathian Basin.**

Comprising the regions known as Transylvania, Cri•ana, Banat and Maramure•.

Observation: ? stands for systematical doubts (taxa that still have to be revised) and ?? for controversial quotations (no material is still available in any regional or national collection).

Classis Gastropoda CUVIER 1795

Ordo Neritopsina COX & KNIGHT 1960

Familia Neritidae LAMARCK 1809

Genus *Theodoxus* MONTFORT 1810

1. *Theodoxus transversalis* (C. PFEIFFER 1828)
2. *Theodoxus fluviatilis* (LINNAEUS 1758)
3. *Theodoxus danubialis* (C. PFEIFFER 1828)
4. *Theodoxus prevostianus* (C. PFEIFFER 1828)

Ordo Architaenioglossa HALLER 1890

Familia Viviparidae J. E. GRAY 1847 (1883)

Subfamilia Viviparinae J. E. GRAY 1847 (1833)

Genus *Viviparus* Montfort 1810

5. *Viviparus contectus* (MILLET 1813)
6. *Viviparus acerosus* (BOURGUIGNAT 1862)

Ordo Neotaenioglossa HALLER 1892

Familia Melanopsidae H. & A. ADAMS 1854

Subfamilia Melanopsinae H. & A. ADAMS 1854

Genus *Melanopsis* A. FÉRUSSAC 1807

7. *Melanopsis parreyssii* (PHILIPPI 1847)

Genus *Esperiana* BOURGUIGNAT 1877

Subgenus *Esperiana* BOURGUIGNAT 1877

8. *Esperiana (Esperiana) esperi* (A. FÉRUSAC 1823)

Subgenus *Microcolpia* BOURGUIGNAT 1884

9. *Esperiana (Microcolpia) daudebartii acicularis* (A. FÉRUSAC 1823)

Genus *Holandriana* BOURGUIGNAT 1884

10. *Holandriana holandrii* (C. PFEIFFER 1828)

Familia **Bithyniidae** TROSCHER 1857

Genus *Bithynia* LEACH 1818

Subgenus **Bithynia** LEACH 1818

11. *Bithynia (Bithynia) tentaculata* (LINNAEUS 1758)

Subgenus *Codiella* LOCARD 1894

12. *Bithynia (Codiella) troschelii* (PAASCH 1824)

Familia **Hydrobiidae** TROSCHER 1857

Subfamilia **Tateinae** THIELE 1925

Genus *Potamopyrgus* STIMPSON 1865

13. *Potamopyrgus antipodarum* (J. E. GRAY 1843)

Subfamilia **Belgrandiinae** DE STEFANI 1877

Genus *Paladilhiopsis* ••••• 1913

14. ? *Paladilhiopsis carpathica* SOÓS 1940

15. ? *Paladilhiopsis transsylvanica* ROTARIDES 1943

16. ? *Paladilhiopsis leruthi* C. R. BOETGER 1940

Subfamilia **Lithoglyphinae** TROSCHER 1857

Genus *Lithoglyphus* C. PFEIFFER 1828

17. *Lithoglyphus naticoides* (C. PFEIFFER 1828)

Subfamilia **Amnicolinae** TRYON 1862

Genus *Bythinella* MOQUIN-TANDON 1856

18. *Bythinella austriaca* (v. FRAUENFELD 1857)

19. *Bythinella molcsanyi* J. WAGNER 1941

Ordo **Ectobranchia** P. FISCHER 1884

Familia **Valvatidae** J. E. GRAY 1840

Genus *Valvata* O. F. MÜLLER 1773

Subgenus *Valvata* O. F. MÜLLER 1773

20. *Valvata (Valvata) cristata* O.F. MÜLLER 1774

Subgenus *Tropidina* H. & A. ADAMS 1854

21. *Valvata (Tropidina) macrostoma* (MÖRCH 1864)

Subgenus *Cincinna* HÜBNER 1810

22. *Valvata piscinalis* (O. F. MÜLLER 1774)

Ordo **Pulmonata** CUVIER IN BLAINVILLE 1814

Subordo **Basommatophora** KEFERSTEIN 1864

Familia **Acroloxidae** THIELE 1931

Genus *Acroloxus* H. BECK 1838

23. *Acroloxus lacustris* (LINNAEUS 1758)

Familia **Lymnaeidae** RAFINESQUE 1815

Subfamilia Lymnaeinae RAFINESQUE 1815

Genus *Galba* SCHRANK 1803

24. *Galba truncatula* (O. F. MÜLLER 1774)

Genus *Stagnicola* JEFFREYS 1830

25. *Stagnicola palustris* (O. F. MÜLLER 1774)

26. *Stagnicola turricula* (HELD 1836)

27. *Stagnicola corvus* (GMELIN 1791)

Genus *Radix* MONTFORT 1810

28. *Radix auricularia* (LINNAEUS 1758)

29. *Radix labiata* (ROSSMÄSSLER 1835)

30. *Radix balthica* (LINNAEUS 1758)

31. *Radix ampla* (W. HARTMANN 1821)

Genus *Lymnaea* LAMARCK 1799

32. *Lymnaea stagnalis* (LINNAEUS 1758)

Genus *Pseudosuccinea* F. C. BAKER 1908

33. *Pseudosuccinea columella* (SAY 1817)

Familia **Physidae** FITZINGER 1833

Subfamilia Physinae FITZINGER 1833

Genus *Physa* DRAPARNAUD 1801

34. *Physa fontinalis* (LINNAEUS 1758)

Genus *Physella* HALDEMAN 1842

Subgenus *Costatella* DALL 1870

35. *Physella* (*Costatella*) *acuta* (DRAPARNAUD 1805)

Subfamilia Aplexinae STAROBOGATOV 1967

Genus *Aplexa* FLEMING 1820

36. *Aplexa hypnorum* (LINNAEUS 1758)

Familia **Planorbidae** RAFINESQUE 1815

Subfamilia Bulininae P. FISCHER & CROSSE 1880

Genus *Planorbarius* DUMÉRIL 1806

37. *Planorbarius corneus* (LINNAEUS 1758)

Genus *Planorbella* HALDEMAN 1843

38. *Planorbella anceps anceps* (MENKE 1830)

Subfamilia Planorbinae RAFINESQUE 1815

Genus *Planorbis* O. F. MÜLLER 1773

39. *Planorbis planorbis* (LINNAEUS 1758)

Genus *Anisus* S. STUDER 1820

Subgenus *Anisus* S. STUDER 1820

40. *Anisus* (*Anisus*) *spirorbis* (LINNAEUS 1758)

41. *Anisus* (*Anisus*) *leucostoma* (MILLET 1813)

42. *Anisus (Anisus) calculiformis* (SANDBERGER 1874)

Subgenus *Disculifer* C. BOETTGER 1944

43. *Anisus (Disculifer) vortex* (LINNAEUS 1758)

44. *Anisus (Disculifer) vorticulus* (TROSCHEL 1834)

Genus *Bathyomphalus* CHARPENTIER 1837

45. *Bathyomphalus contortus* (LINNAEUS 1758)

Genus *Gyraulus* CHARPENTIER 1837

Subgenus *Gyraulus* CHARPENTIER 1837

46. *Gyraulus (Gyraulus) albus* (O. F. MÜLLER 1774)

Subgenus *Torquis* DALL 1905

47. *Gyraulus (Torquis) laevis* (ALDER 1838)

Subgenus *Lamorbis* STAROBOGATOV 1967

48. *Gyraulus (Lamorbis) rossmaessleri* (AUERSWALD 1852)

Subgenus *Armiger* W. HARTMANN 1843

49. *Gyraulus (Armiger) crista* (LINNAEUS 1758)

Genus *Hippeutis* CHARPENTIER 1837

50. *Hippeutis complanatus* (LINNAEUS 1758)

Genus *Segmentina* FLEMING 1818

51. *Segmentina nitida* (O. F. MÜLLER 1774)

Familia **Ferrissiidae** WALKER 1917

Genus *Ferrissia* WALKER 1903

52. *Ferrissia wautieri* (MIROLLI 1960)

Familia **Ancylidae** RAFINESQUE 1815

Genus *Ancylus* O. F. MÜLLER 1773

53. *Ancylus fluviatilis* O. F. MÜLLER 1774

Classis **Bivalvia** LINNAEUS 1758

Ordo **Unionoida** STOLICZKA 1871

Familia **Unionidae** RAFINESQUE 1820

Subfamilia **Unioninae** RAFINESQUE 1820

Genus *Unio* PHILIPSSON 1788

54. *Unio pictorum* (LINNAEUS 1758)

55. *Unio tumidus* PHILIPSSON 1788

56. *Unio crassus* PHILIPSSON 1788

Subfamilia **Anodontinae** RAFINESQUE 1820

Genus *Anodonta* LAMARCK 1799

57. *Anodonta anatina* (LINNAEUS 1758)

58. *Anodonta cygnea* (LINNAEUS 1758)

Genus *Sinanodonta* MODELL 1945

59. *Sinanodonta woodiana* (LEA 1834)

Genus *Pseudanodonta* BOURGUIGNAT 1877

60. *Pseudanodonta complanata* (ROSSMAESSLER 1835)

Ordo **Veneroida** H. & A. ADAMS 1856

Familia **Corbiculidae** J. E. GRAY 1847

Genus **Corbicula** MEGERLE VON MÜHLFELD 1811

61. *Corbicula fluminea* (O. F. MÜLLER 1774)

Familia **Sphaeriidae** DESHAYES 1855 (1820)

Subfamilia **Sphaeriinae** DESHAYES 1855 (1820)

Genus **Sphaerium** SCOPOLI 1777

62. *Sphaerium corneum* (LINNAEUS 1758)
63. *Sphaerium ovale* (A. FÉRUSAC 1807)
64. *Sphaerium rivicola* (LAMARCK 1818)

Subfamilia **Pisidiinae** J. E. GRAY 1857

Genus **Musculium** LINK 1807

65. *Musculium lacustre* (O. F. MÜLLER 1774)

Genus **Pisidium** C. PFEIFFER 1821

66. *Pisidium amnicum* (O. F. MÜLLER 1774)
67. *Pisidium casertanum* (POLI 1791)
68. *Pisidium personatum* MALM 1855
69. *Pisidium obtusale* (LAMARCK 1818)
70. *Pisidium henslowanum* (SHEPPARD 1823)
71. ?? *Pisidium lilljeborgii* CLESSIN 1886
72. *Pisidium nitidum* JENYNS 1832
73. ?? *Pisidium pseudosphaerium* J. FAVRE 1927
74. *Pisidium milium* HELD 1836
75. *Pisidium subtruncatum* MALM 1855
76. *Pisidium moitessierianum* PALADILHE 1866

Familia **Dreissenidae** J. E. GRAY 1840

Genus **Dreissena** VAN BENEDEN 1835

77. *Dreissena polymorpha* (PALLAS 1771)

C o n c l u s i o n s .

Among the 77 species of freshwater molluscs identified in the Romanian Inner Carpathian Basin, several are systematically ascribed to some species that were not known from Romania until now. Two are adventive (original Nearctic species). The present-day updated systematical catalogue for this area, that can be ascribed to Transylvania, Maramureş, Banat and Crişana (the Criş rivers basin; from Romanian territory) is presented hereby.

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Explanations to Plate 1.

- Fig. 1. Individual of *Bithynia troschelii* from the "Mauritius and Richard Winnicki von Kimakowicz" collection kept in the Natural History Museum from Sibiu (Hermannstadt in German), sampled from some town-pools in Cluj (Klausenburg), in the XIXth Century.
- Fig. 2. *Radix ampla* (2 x), Herkulesbad, Cerna River.
- Fig. 3. *Pseudosuccinea columella* (5 x), Băile Peșea rivulet near the town of Oradea.
- Fig. 4. *Planorbella anceps anceps* (3 x), thermal Felix Baths.
- Fig. 5. *Gyraulus rosmässleri* (10 x), mountain pools supplied by brooks, rich in vegetation, in a mountainous area from the Maramureș region (near Izvoare holiday-resort, Igriș - Gutin Mountains).
- Fig. 6. *Sphaerium ovale* (5 x), Ier River, Crișana Region.

