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CONTRIBUTIONS TO THE KNOWLEDGE OF THE MOLLUSKS FROM THE ROMANIAN SECTOR OF THE DANUBE BETWEEN CALAFAT AND OLTENIȚA

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Abstract. In this paper we present qualitative data on the distribution of the terrestrial and aquatic mollusk fauna from the Romanian sector of the Danube, between Calafat and Oltenița. We identified 54 terrestrial and aquatic mollusk species, 10 of them being bivalves and 44 gastropods. Also, we mention the presence of *Sinanodonta woodiana* (Lea, 1834) from two new collecting sites, the Danube km 514 and the Penciu Forest, km 482.

Résumé. Dans ce travail on présente des données qualitatives sur la distribution de la faune de mollusques terrestres et aquatiques du secteur roumain du Danube, entre Calafat et Oltenița. On a identifié 54 espèces de mollusques terrestres et aquatiques, dont 10 espèces sont bivalves et 44 gastropodes. De même, on mentionne la présence de *Sinanodonta woodiana* (Lea, 1834) en deux sites nouveaux de capture, le Danube km 514 et la Forêt Penciu, km 482.

Key words: Mollusca, Romanian sector of the Danube, Bivalvia, Gastropoda

The observations were made during April 2004 - June 2004 within the Phare CBC Programme RO 0103.03 - 02 "Protection of wetlands of the Danube - a pilot project for Cama Dinu islet area", whose general objective was the protection and ecological reconstruction of the Danube, along the Romanian-Bulgarian border. The project was directed towards Cama and Dinu islets, as a pilot study. One of the specific objectives of this project was the detailed analysis of the fauna, flora and the habitats of the Cama and Dinu area and of the sector bordered by kms 838 - 383. Within this context, we drew up this study on the diversity of the mollusk species from the Romanian sector of the Danube, between Calafat and Oltenița.

A large part of the mollusk species is very important within the trophic chain, being a food source for many species of fish, amphibians, reptiles, birds and mammals.

The estimation of the mollusk species diversity is very important being a fundamental element in the wave of matter and energy within the aquatic, terrestrial and ecotonal ecosystems (Negrea, 1994). Mollusks are used as biological indicators of the health state of the aquatic ecosystems. For instance, the bivalves gather different pollutants (heavy metals) (Ponta et al., 2002).

Studies on the mollusks from the Romanian sector of the Danube were made by Băcescu (1948), Popescu & Prunescu-Arion (1961), Grossu (1963), Enăceanu (1967), Bușniță et al. (1970), Cure et al. (1974-1975), Popescu-Marinescu et al. (1980), Popescu-Marinescu (1992), Negrea (1994).

MATERIAL AND METHOD

During this study, we followed only the qualitative aspect of the fauna diversity of the mollusks, collected both from the aquatic habitats (the Danube, backwaters and temporary pools) and from the terrestrial ones, adjacent to them (banks, shores and islets).

Collectings were made from 20 stations, out of them 11 islets and 9 stations on the Danube bank. The studied islets were: Acalia, Pietriș, Nebuna, Vană, Gâtanului, Copănița, Cărăbulea, Cama, Dinu, Mocanu, Ostrovelul. The stations from the Danube bank were: Gura Jiului, the Danube km 514, the Danube km 510, the Danube km 502, Șaica, Slobozia Fishfarm, Penciu Forest, Gostin Channal, mouth of Argeș (Fig. 1).

The material collectings were made manually, by direct sampling, with the hydrobiological net, dredger and Van Veen bodengreifer for the benthic mollusks, for the aquatic samples.

The material collected during this study, consisting of 142 bivalve and 446 gastropod specimens, was inventoried and included in the patrimony of „Grigore Antipa” National Museum of Natural History (Bucharest).

Systematical cataloguing of the mollusk species was made according to CLECOM I (Falkner et al., 2001)

In order to follow the aquatic gastropod dynamics within the researched area, we made references to the data published by Negrea (1994). The author divided the Romanian water flow of the Danube in 10 sectors. The sectors 2 – 5 superpose with the sector 1 deal with in this study, the place of the stations being presented in table 1.

Table 1

The distribution of the stations from 2004 along the sectors of the Danube, according to Negrea (1994).

Sector 2 kms 943-690 Gura Văii-Jiu	Sector 3 kms 690-660 Jiu-Olt	Sector 4 kms 660-488 Olt-Giurgiu	Sector 5 kms 488-368 Giurgiu-Călărași
Acalia Islet Pietriș Islet Nebuna Islet Vană Islet Gâtanului Islet Copănița Islet km 696 Mouth of Jiu km 692	Cărăbulea Islet km 688	Cama Islet km 511 Dinu Islet km 510 The Danube km 514 The Danube km 510 Șaica Slobozia fish farm, km 498	Mocanu Islet, km 484 Penciu Forest, km 482 Bank of the Danube, km 480 Gostinu Channal, km 475 Ostrovelul Islet, km 450 Mouth of Argeș, km 434

RESULTS

The list of the taxa identified in each station can be found in table 2. As a result of the collected material analysis, 54 taxa, grouped in 20 families, were identified.

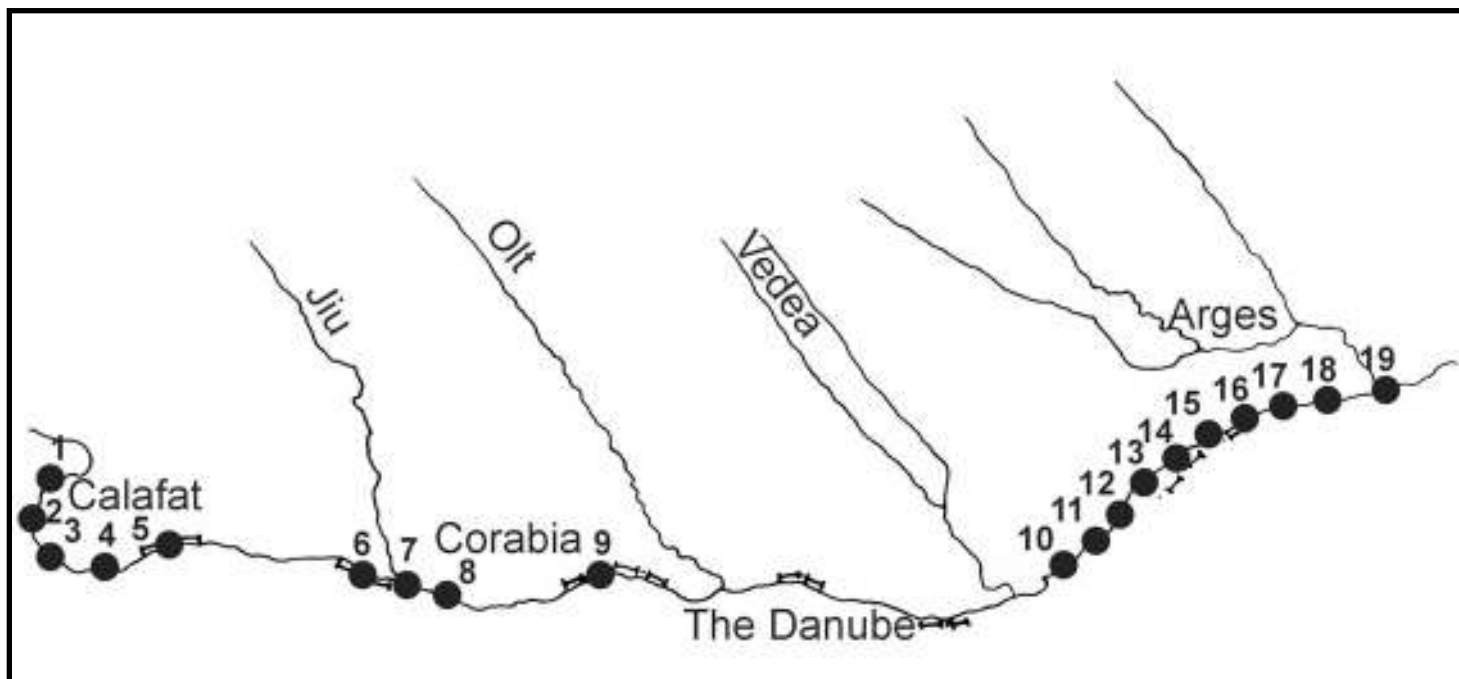


Fig. 1 – Distribution of the stations in the Romanian sector of the Danube, between Calafat and Oltenița.
 Stations: 1. Acalia Islet, km 767-765; 2. Pietriș Islet, km 760-757; 3. Nebuna Islet, km 752-750; 4. Vană Islet, km 738-730; 5. Gătanului Islet, km 727-721; 6. Copănița Islet, km 698-691; 7. Mouth of Jiu, km 692; 8. Cărăbulea Islet, km 689-685; 9. Corabia; 10. Km 514; 11. Cama Islet, the Danube km 510; 12. Dinu Islet ; 13. The Danube km 502; 14. Slobozia Fishfarm, km 498; 15. Mocanu Islet, km 490; 16. Penciu Forest, km 482; 17. Gostinu Channal, km 475; 18. Ostrovelul Islet, km 455; 19. Mouth of Arges, km 434.

Table 2

List of the identified taxa.

Station	Family	Species	Wet/Dry material
Acalia Islet	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Physidae	<i>Physa fontinalis</i> (Linnaeus, 1758)	shell
	Fam. Planorbidae	<i>Planorbarius corneus</i> (Linnaeus, 1758)	shell
	Fam. Gastrodontidae	<i>Zonitoides nitidus</i> (O. F. Müller, 1774)	shell
	Fam. Hygromiidae	<i>Trichia (Trichia) sericea</i> (Draparnaud, 1801)	shell
		<i>Eomphalia strigella</i> Draparnaud, 1801	shell
	Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758	
		<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)	
	Fam. Sphaeriidae	<i>Sphaerium (Amesoda) rivicola</i> (Lamarck, 1818)	shell
<i>Pisidium casertanum</i> (Poli, 1791)		empty valves	
Fam. Dreissenidae	<i>Dreissena polymorpha</i> (Pallas, 1771)	empty valves	
Pietriș Islet	Fam. Viviparidae	<i>Viviparus (Viviparus) acerosus</i> (Bourguignat, 1862)	shell
	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Lymnaeidae	<i>Lymnaea stagnalis</i> (Linnaeus, 1758)	shell
	Fam. Planorbidae	<i>Planorbarius corneus</i> (Linnaeus, 1758)	shell
	Fam. Gastrodontidae	<i>Zonitoides nitidus</i> (O. F. Müller, 1774)	shell
	Fam. Hygromiidae	<i>Trichia (Trichia) sericea</i> (Draparnaud, 1801)	shell
		<i>Trichia (Trichia) hispida</i> (O. F. Müller, 1774)	shell
	Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758	
<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)			
Fam. Unionidae	<i>Unio pictorum</i> Linne, 1758	empty valves	
Nebuna Islet	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758	
Vană Islet	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758	
<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)			
Gătanului Islet	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Planorbidae	<i>Planorbarius corneus</i> (Linnaeus, 1758)	shell
	Fam. Hygromiidae	<i>Monacha cartusiana</i> (O. F. Müller, 1774)	shell
	Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758	
<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)			
Copănița Islet	Fam. Viviparidae	<i>Viviparus (Viviparus) acerosus</i> (Bourguignat, 1862)	shell
	Fam. Bithyniidae	<i>Bithynia tentaculata</i> (Linnaeus, 1758)	shell
	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Planorbidae	<i>Planorbarius corneus</i> (Linnaeus, 1758)	shell
	Fam. Hygromiidae	<i>Monachoides incarnata</i> O. F. Müller, 1774	shell
	Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758	
<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)			

Station	Family	Species	Wet/Dry material
Mouth of Jiu	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758	
		<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)	
	Fam. Corbiculidae	<i>Corbicula fluminea</i> (O. F. Müller, 1774)	empty valves
Cărăbulea Islet	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758	shell
		<i>Cepaea (Austrotachea) vindobonensis</i> Ferussac, 1821)	shell
Șaica	Fam. Viviparidae	<i>Viviparus acerosus</i> (Bourguignat, 1862)	shell
	Fam. Bithyniidae	<i>Bithynia tentaculata</i> (Linnaeus, 1758)	shell
	Fam. Valvatidae	<i>Valvata cristata</i> (O. F. Müller, 1774)	shell
		<i>Valvata pulchella</i> Studer, 1820	shell
	Fam. Lymnaeidae	<i>Radix peregra</i> (O. F. Müller, 1774)	shell
		<i>Radix auricularia</i> (Linnaeus, 1758)	shell
	Fam. Planorbidae	<i>Planorbarius corneus</i> (Linnaeus, 1758)	shell
		<i>Planorbis planorbis</i> (Linnaeus, 1758)	shell
		<i>Gyraulus albus</i> (O. F. Müller, 1774)	shell
		<i>Gyraulus (Torquis) laevis</i> (Alder, 1838)	shell
			<i>Gyraulus crista</i> (O. F. Müller, 1774)
Fam. Succineidae	<i>Oxyloma elegans</i> (Risso, 1826)	shell	
Fam. Ferussaciidae	<i>Hohenwartiana orghidani</i> Grossu, 1955	shell	
Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758		
The Danube km 514	Fam. Melanopsidae	<i>Fagotia (Fagotia) esperi</i> (Ferussac, 1829)	shell
	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Lymnaeidae	<i>Stagnicola corvus</i> (Gmelin, 1788)	shell
	Fam. Unionidae	<i>Unio crassus</i> Philipsson, 1788	empty valves
		<i>Unio pictorum</i> Linne, 1758	empty valves
		<i>Unio tumidus</i> Philipsson 1788	empty valves
		<i>Anodonta cygnea</i> Linne, 1758	empty valves
		<i>Sinanodonta woodiana</i> Lea, 1834	
The Danube km 510	Fam. Viviparidae	<i>Viviparus</i> sp.	shell
	Fam. Planorbidae	<i>Anisus spirorbis</i> (Linnaeus, 1758)	shell
		<i>Segmentina nitida</i> (O. F. Müller, 1774)	shell
	Fam. Hygromiidae	<i>Hellicela obvia</i> (Menke, 1828)	
	Fam. Helicidae	<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)	
	Fam. Corbiculidae	<i>Corbicula fluminea</i> (O. F. Müller, 1774)	empty valves
The Danube km 502	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Helicidae	<i>Monachoides incarnata</i> O. F. Müller, 1774	
Cama Islet	Fam. Viviparidae	<i>Viviparus acerosus</i> (Bourguignat, 1862)	shell
	Fam. Planorbidae	<i>Planorbarius corneus</i> (Linnaeus, 1758)	shell
	Fam. Clausiliidae	<i>Balea biplicata</i> (Montagu, 1803)	shell
	Fam. Helicidae	<i>Helix pomatia</i> Linnaeus, 1758	
<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)			

Station	Family	Species	Wet/Dry material
	Fam. Unionidae	<i>Unio tumidus</i> Philipsson 1788	shell
	Fam. Sphaeriidae	<i>Pisidium casertanum</i> (Poli, 1791)	shell
	Fam. Dreissenidae	<i>Dreissena polymorpha</i> (Pallas, 1771)	empty valves
	Fam. Corbiculidae	<i>Corbicula fluminea</i> (O. F. Müller, 1774)	empty valves
Dinu Islet	Fam. Sphaeriidae	<i>Pisidium casertanum</i> (Poli, 1791)	shell
Slobozia Fishfarm (Giurgiu)	Fam. Viviparidae	<i>Viviparus acerosus</i> (Bourguignat, 1862)	shell
	Fam. Lymnaeidae	<i>Stagnicola palustris</i> (O. F. Müller, 1774)	shell
		<i>Radix peregra</i> (O. F. Müller, 1774)	shell
	Fam. Bithyniidae	<i>Bithynia tentaculata</i> (Linnaeus, 1758)	shell
	Fam. Valvatidae	<i>Borysthenia naticina</i> Menke, 1845	shell
		<i>Valvata (Cincinna) piscinalis</i> O. F. Müller, 1774	shell
	Fam. Planorbidae	<i>Planorbarius corneus</i> (Linnaeus, 1758)	shell
	Fam. Enidae	<i>Chondrula tridens</i> (O. F. Müller, 1774)	shell
	Fam. Milacidae	<i>Tandonia rustica</i> Millet, 1843	
		<i>Milax cristatus</i> Kaleniczenko, 1851	
	Fam. Hygromiidae	<i>Hellicela obvia</i> (Menke, 1828)	
		<i>Monacha cartusiana</i> (O. F. Müller, 1774)	shell
Fam. Helicidae	<i>Helix pomatia</i> Linnaeus, 1758		
	<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)		
Mocanu Islet	Fam. Viviparidae	<i>Viviparus acerosus</i> (Bourguignat, 1862)	shell
	Fam. Bithyniidae	<i>Bithynia tentaculata</i> (Linnaeus, 1758)	shell
	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Valvatidae	<i>Valvata (Cincinna) piscinalis</i> O. F. Müller, 1774	shell
	Fam. Planorbidae	<i>Planorbarius corneus</i> (Linnaeus, 1758)	shell
	Fam. Enidae	<i>Chondrula tridens</i> (O. F. Müller, 1774)	shell
	Fam. Clausiliidae	<i>Balea biplicata</i> (Montagu, 1803)	shell
		<i>Trichia hispida</i> (O. F. Müller, 1774)	shell
	Fam. Hygromiidae	<i>Lindholmiola corcyrensis</i> (Ferussac, 1839)	shell
		<i>Helix pomatia</i> Linnaeus, 1758	
		<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)	
	Fam. Corbiculidae	<i>Corbicula fluminea</i> (O. F. Müller, 1774)	empty valves
Fam. Dreissenidae	<i>Dreissena polymorpha</i> Pallas, 1771	empty valves	
Penciu Forest	Fam. Viviparidae	<i>Viviparus acerosus</i> (Bourguignat, 1862)	shell
	Fam. Bithyniidae	<i>Bithynia tentaculata</i> (Linnaeus, 1758)	shell
	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	shell
	Fam. Physidae	<i>Physa fontinalis</i> (Linnaeus, 1758)	shell
		<i>Physa acuta</i> Draparnaud, 1805	shell
	Fam. Lymnaeidae	<i>Radix ovata</i> (Draparnaud, 1805)	shell
	Fam. Planorbidae	<i>Planorbarius corneus</i> (Linnaeus, 1758)	shell
		<i>Anisus spirorbis</i> (Linnaeus, 1758)	shell
		<i>Gyraulus (Torquis) laevis</i> Alder, 1838	shell
	Fam. Succineidae	<i>Succinea oblonga</i> Clessin, 1885	shell
Fam. Enidae	<i>Chondrula tridens</i> (O. F. Müller, 1774)	shell	

Station	Family	Species	Wet/Dry material
	Fam. Gastrodontidae	<i>Oxychilus (Oxychilus) hydatinus</i> (Rossmassler, 1838)	shell
	Fam. Hygromiidae	<i>Trichia (Trichia) sericea</i> (Draparnaud, 1801)	shell
	Fam. Helicidae	<i>Helix pomatia</i> Linnaeus, 1758	
		<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)	
	Fam. Unionidae	<i>Unio tumidus</i> Philipsson 1788	empty valves
		<i>Unio pictorum</i> Linne, 1758	empty valves
		<i>Anodonta cygnea</i> Linne, 1758	empty valves
		<i>Pseudoanodonta complanata</i> Rossmassler, 1835	empty valves
<i>Sinanodonta woodiana</i> Lea, 1834		empty valves	
Fam. Corbiculidae	<i>Corbicula fluminea</i> (O. F. Müller, 1774)	empty valves	
Fam. Dreissenidae	<i>Dreissena polymorpha</i> Pallas, 1771	empty valves	
Gostinu Channal	Fam. Helicidae	<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)	
	Fam. Unionidae	<i>Unio tumidus</i> (Philipsson, 1788)	
		<i>Anodonta cygnea</i> Linne, 1758	
Fam. Dreissenidae	<i>Dreissena polymorpha</i> (Pallas, 1771)	empty valves	
Ostrovelul Islet	Fam. Cochlicopidae	<i>Cochlicopa lubrica</i> (O. F. Müller, 1774)	shell
	Fam. Hygromiidae	<i>Trichia (Trichia) sericea</i> (Draparnaud, 1801)	shell
	Fam. Helicidae	<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)	
Mouth of Argeş	Fam. Viviparidae	<i>Viviparus acerosus</i> (Bourguignat, 1862)	shell
	Fam. Hydrobiidae	<i>Lithoglyphus naticoides</i> (C. Pfeiffer, 1828)	shell
	Fam. Planorbidae	<i>Planorbis carinatus</i> O. F. Müller, 1774	shell
	Fam. Enidae	<i>Chondrula (Chondrula) tridens</i> (O. F. Müller, 1774)	shell
	Fam. Gastrodontidae	<i>Oxychilus (Longiphilus) deilus malinowskii</i> (L. Pfeiffer, 1855)	shell
	Fam. Hygromiidae	<i>Trichia (Trichia) sericea</i> (Draparnaud, 1801)	shell
	Fam. Helicidae	<i>Helix (Helix) pomatia</i> Linnaeus, 1758	
		<i>Cepaea (Austrotachea) vindobonensis</i> (Ferussac, 1821)	
	Fam. Unionidae	<i>Unio tumidus</i> (Philipsson, 1788)	empty valves
Fam. Corbiculidae	<i>Corbicula fluminea</i> (O. F. Müller, 1774)	empty valves	
Fam. Dreissenidae	<i>Dreissena polymorpha</i> (Pallas, 1771)	empty valves	

DISCUSSIONS

Most of the studies made until now, on the Romanian sector of the Danube, were directed to the Gorge area, between kms 1,055 – 943, and were focused on the aquatic gastropods. Thus, Băcescu (1948) mentioned two rheophilic species, *Theodoxus transversalis* and *Theodoxus fluviatilis*. After the construction of the Iron Gates I dam, after 1970, important changings took place in the structure of the benthic biocenoses, in the Romanian side of the Danube: the presence of some rheophilic species diminished very much, due to the decreasing of the water velocity and to the more intensive processes of the sediment depositing (Negrea & Popescu-Marinescu, 1992). In 1972, after the filling of the Iron Gates I damlake, 15 species of aquatic, terrestrial and hygrophilous gastropods were recorded. From all aquatic species, only three resisted in the area, that is: *Lithoglyphus naticoides*, *Valvata (Cincinna) piscinalis* and *Theodoxus transversalis*. Under the circumstances of an intensive sediment depositing, the lamellibranchiates considerably diversified (Cure et al., 1974-1975). In 1973, at the confluence of the Danube with the Jiu River, in a muddy facies, it was mentioned that the prevalent species is *Lithoglyphus naticoides*. In 1972, downstream Jiu, at the confluence of the Olt River with the Danube, the gastropod fauna seemed to be more varied (Popescu-Marinescu et al., 1980), mainly consisting in the following species: *Lithoglyphus naticoides*, *Theodoxus transversalis*, *Theodoxus danubialis*. The following species are mentioned by Enăceanu & Brezeanu (1964), from Giurgiu sector: *Lithoglyphus naticoides*, *Valvata piscinalis*, *Bithynia tentaculata*. At mouth of Argeş, in a muddy and sandy facies, *Lithoglyphus naticoides* is the prevalent species, as Enăceanu & Brezeanu (op. cit.) mentioned.

From the aquatic gastropods, the most frequent ones during the studies from 2004 were *Lithoglyphus naticoides* (present in 13 collecting places) and *Planorbarius corneus* (9 collecting places). *Gyraulus laevis*, *Gyraulus albus*, *Gyraulus crista*, *Anisus spirorbis*, *Anisus vorticulus*, *Segmentina nitida*, *Radix auricularia*, *Radix ovata*, *Radix peregra*, *Stagnicola palustris*, *Stagnicola corvus*, *Lymnaea stagnalis*, *Physa fontinalis*, *Physa acuta*, *Valvata cristata*, *Valvata pulchella*, *Valvata piscinalis*, *Valvata naticina* and *Fagotia esperi* occurred in one or two collecting places.

Regarding the comparative distribution of the number of aquatic gastropods in 2004, it can be noticed the absence of the species of the genus *Theodoxus*, cited in the area by Popescu-Marinescu (1992), and the presence of the family Lymnaeidae (Tab. 3 and fig. 2).

From the specific diversity point of view, the sectors 4 and 5, between kms 660-368 (Fig. 3) are the most faunistically rich.

A number of 20 terrestrial gastropod species were identified, which belong to 10 families. Regarding the terrestrial gastropods from the Romanian sector of the Danube, the citations from the literature are absent. *Helix pomatia* (14 collecting places) and *Cepaea (Austrotachea) vindobonensis* (15 collecting places) were the most frequently occurring terrestrial gastropods. Family Hygromiidae was very well represented (Fig. 4). In comparison with on the terrestrial gastropod fauna from the Slovak sector of the Danube, between localities Bratislava and Cicov, the following species are present only in the Romanian sector of the Danube: *Trichia sericea*, *Helicella obvia*, *Lindholmiola corcyrensis*, *Oxychilus hydatinus*, *O. deilus malinovskii*, *Tandonia rustica*, *Milax cristatus*, all of them Southern-European species.

Table 3

Aquatic gastropod species identified within the Romanian sector of the Danube (km 943 - km 368), in 1994 and 2004.

Nr. crt.	Species	Family	Sector 2 km 943-690 Gura Văii-Jiu		Sector 3 km 690-660 Jiu-Olt		Sector 4 km 660-488 Olt-Giurgiu		Sector 5 Km 488-368 Giurgiu-Călărași	
			Negrea (1994)	Personal obser- vations	Negrea (1994)	Personal obser- vations	Negrea (1994)	Personal obser- vations	Negrea (1994)	Personal obser- vations
1.	<i>Theodoxus transversalis</i> C. Pfeiffer, 1828	Neritidae	•		•		•			
2.	<i>Theodoxus damubialis</i> C. Pfeiffer, 1828	Neritidae			•		•			
3.	<i>Viviparus acerosus</i> Bourguignat, 1870	Viviparidae	•	•	•		•	•	•	•
4.	<i>Valvata (Valvata) cristata</i> O. F. Müller, 1774	Valvatidae	•		•		•	•	•	•
5.	<i>Valvata (Borysthenia) naticina</i> Menke, 1845	Valvatidae					•	•	•	•
6.	<i>Valvata pulchella</i> Studer, 1820	Valvatidae					•	•	•	•
7.	<i>Valvata (Cincina) piscinalis</i> O. F. Müller, 1774	Valvatidae					•	•	•	•
8.	<i>Lithoglyphus naticoides</i> C. Pfeiffer, 1828	Hydrobiidae	•	•	•	•	•	•	•	•
9.	<i>Lithoglyphus apertus</i> Kuster, 1852	Hydrobiidae	•				•		•	
10.	<i>Lithoglyphus pygmaeus</i> Frauenfeld, 1863	Hydrobiidae					•			
11.	<i>Bithynia tentaculata</i> Linnaeus, 1758	Bithyniidae	•		•			•	•	•
12.	<i>Fagotia (Fagotia) esperi</i> (Ferussac, 1829)	Melanopsidae					•	•	•	•
13.	<i>Physa acuta</i> Draparnaud, 1805	Physidae	•					•	•	•

14.	<i>Physa fontinalis</i> Linnaeus, 1758	Physidae		•				•		•
15.	<i>Lymnaea stagnalis</i> (Linnaeus, 1758)	Lymnaeidae		•						
16.	<i>Stagnicola (Stagnicola) palustris</i> (O. F. Müller, 1774)	Lymnaeidae						•		
17.	<i>Stagnicola (Stagnicola) corvus</i> (Gmelin, 1788)	Lymnaeidae						•		
18.	<i>Radix peregra</i> (O. F. Müller, 1774)	Lymnaeidae						•		
19.	<i>Radix ovata</i> (Draparnaud, 1805)	Lymnaeidae								•
20.	<i>Radix auricularia</i> (Linnaeus, 1758)	Lymnaeidae						•		
21.	<i>Planorbarius corneus</i> (Linnaeus, 1758)	Planorbiidae		•				•		•
22.	<i>Planorbis carinatus</i> O. F. Müller, 1774	Planorbiidae								•
23.	<i>Planorbis planorbis</i> (Linnaeus, 1758)	Planorbiidae					•	•		
24.	<i>Anisus spirorbis</i> (Linnaeus, 1758)	Planorbiidae					•			•
25.	<i>Anisus vorticulus</i> Troschel, 1852	Planorbiidae						•		
26.	<i>Gyraulus crista</i> (O. F. Müller, 1774)	Planorbiidae						•		
27.	<i>Gyraulus albus</i> (O. F. Müller, 1774)	Planorbiidae					•	•	•	
28.	<i>Gyraulus (Torquis) laevis</i> (Alder, 1838)	Planorbiidae						•		•
29.	<i>Segmentina nitida</i> (O. F. Müller, 1774)	Planorbiidae						•		

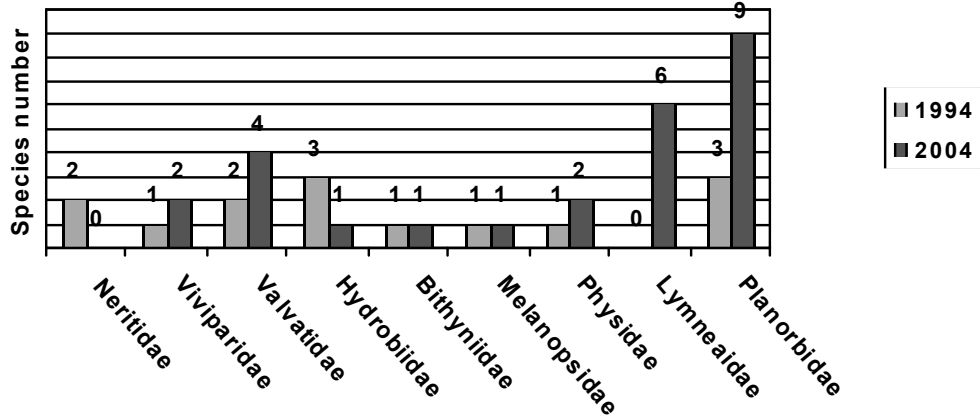


Fig. 2 – Numeric distribution of the aquatic gastropod species in families, comparatively 1994 and 2004.

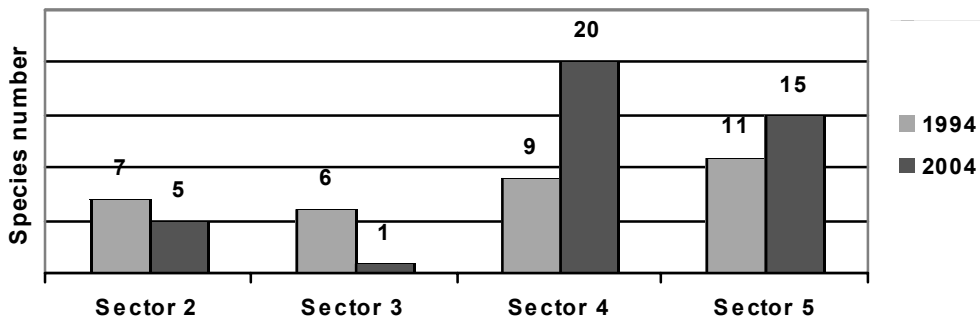


Fig. 3 – Numeric distribution of the aquatic gastropods in the sectors of the Danube, comparatively 1994 and 2004.

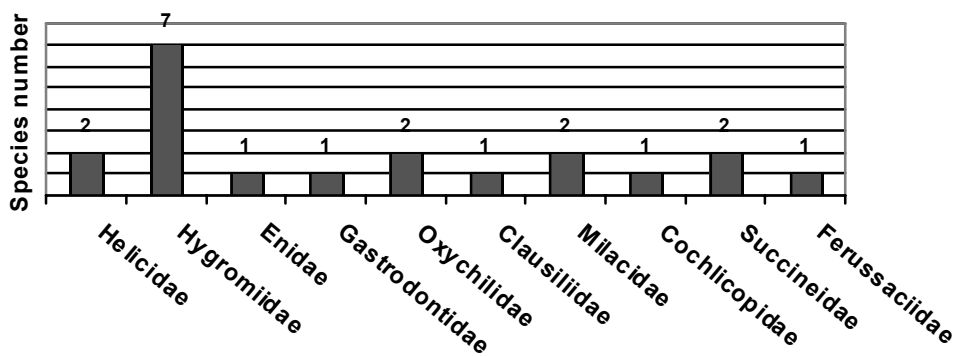


Fig. 4 – Specific diversity of the collected terrestrial gastropods.

From the 10 species of bivalves belonging to 4 families, the presence of *Unio crassus* Philipsson, 1788 is remarkable, this species being strictly protected by the European laws. The species was identified in the material collected from km 514 of the Danube.

The adventive species of bivalves are represented by *Sinanodonta woodiana* Lea, 1834, *Dreissena polymorpha* (Pallas, 1771) and *Corbicula fluminea* (O. F. Müller, 1774).

According to Sarkany-Kiss (1986), *Sinanodonta woodiana* was accidentally introduced in Romania, together with the phytophagous species of Chinese carp *Ctenopharingodon idella* (Valenciennes), *Hypophthalmichthys molitrix* (Valenciennes) and *Aristichthys nobilis* (Richardson). Since 1979, when the first specimen of *Sinanodonta woodiana* occurred at Cefa (Bihor), to 1985-86, the mussel invaded the lower area of the Criş River basin, both in the Romanian and the Hungarian territory, penetrating also in Tisa River. In Romania, the species lives in Crişul Alb, downstream Ineu, in Crişul Repede, downstream Fughiu, and in Crişul Negru, downstream Tinca (Sarkany-Kiss et al., 2000).

These new records contribute to the knowledge of the present range of this species on the Romanian territory and confirm the general opinion that *Sinanodonta woodiana* is in a continuous expansion. This species tends to become prevalent and remove the native Unionidae populations (Andrei & Popa, 2004).

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REZUMAT

În lucrare sunt prezentate date calitative asupra răspândirii faunei de moluște terestre și acvatice, din sectorul românesc al Dunării, cuprins între Calafăt și Oltenița. Au fost identificate 54 de specii de moluște terestre și acvatice, dintre care 10 specii de bivalve și 44 specii de gastropode terestre și acvatice. Este semnalată prezența speciei *Sinanodonta woodiana* (Lea, 1834) din 2 puncte noi de colectare, Dunăre km 514 și Pădurea Penciu km 482.

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