

Contribution to the mollusc community of Someşul Cald/Meleg Szamos¹ gorges

Károly Bába and Andrei Sárkány-Kiss

Abstract

There were no earlier published data found about the snail fauna of Someşul Cald/Meleg Szamos. The authors found 9 snail species during an occasional examination in 1992. In 1996, 26 species of 10 square samples were identified. Comparing the results of these two examinations, it was concluded that at present 29 species are known in the investigated area.

Keywords: Gastropoda, Someşul Cald gorges.

Introduction

The malacofauna of the West Carpathians has very sporadically been investigated. In this respect significant data can be found in the works of Kobelt, E.A. (1867), Clessin, S. (1887), Kimakowicz, M. (1883, 1890), Csiki, E. (1906), Wagner (1942), Soós, L. (1943) and Grossu, AL. (1956, 1981, 1983, 1987, 1993). These authors performed malacological studies in Transylvania. Examining attentively the works of them can nothing be found referring to the malacofauna of Someşul Cald. During the study in 1992 Bába and Sárkány (former paper of this volume) mentioned 9 species from the Someşul Cald gorges.

Materials and methods

In July 1996 the upper valley of Someşul Cald gorges (Bazarul Someşului) was studied. In contrast to our study in 1992 (former paper also in this volume), this qualitative and quantitative malacological research refers only to the gorges of Someşul. The examined section is between 900-1200 m above the sea level. The geological layer is formed mainly of limestone. The malacological samples were collected from the following plant communities: *Thymo-comosi-Seslerietum rigidae* (Zólyomi, 1939) Pop et Hodişan, 1985; *Seseli gracile-Festucetum pallentis* (Soó, 1959) Coldea 1991, *Pulmonario-coloro-Abieti-Fagetum silvaticae*. The first two nonforest plant communities were analysed together, while the forest community was analysed

¹ The first name is Romanian, and the second Hungarian

separately (Table 1.). The 10 sampling squares, each of 25x25 cm, were taken at random from both sides of the gorges. The malacological material was selected from the 5 cm deep soil samples with a stereomicroscope.

No.	Species	1		2	
		a	b	a	b
1.	<i>Acicula banatica</i> (Rossmässler, 1842)	-	3	3	1
2.	<i>Carychium minimum</i> (O.F.Müller, 1774)	10	16	-	-
3.	<i>Pyramidula rupestris</i> (Draparnaud, 1801)	10	49	7	26
4.	<i>Vestigo pygmaea</i> (Draparnaud, 1838)	-	2	-	2
5.	<i>Vestigo alpestris</i> Alder, 1838	4	-	-	-
6.	<i>Chondrina clienta</i> (Westerlund, 1883)	1	7	-	1
7.	<i>Pupilla bigranata</i> (Rossmässler, 1838)	9	13	2	2
8.	<i>Ena obscura</i> (O.F.Müller, 1774)	-	2	-	5
9.	<i>Punctum pygmaeum</i> (Draparnaud, 1801)	-	-	1	-
10.	<i>Vitrina pellucida</i> (O.F.Müller, 1774)	3	10	3	5
11.	<i>Phenicolimax annularis</i> (Studer, 1820)	-	1	-	-
12.	<i>Vitrea subrimata</i> (Reinhardt, 1871)	-	6	1	4
13.	<i>Aegopinella pura</i> (Alder, 1830)	1	5	2	1
14.	<i>Oxychilus glaber</i> (Rossmässler, 1835)	1	-	-	-
15.	<i>Eucomulus fulvus</i> (O.F.Müller, 1774)	4	3	-	-
16.	<i>Cochlodina laminata</i> (Montagu, 1803)	-	2	-	-
17.	<i>Cochlodina maristi</i> (A.Schmidt, 1857)	19	-	-	-
18.	<i>Ruthenica filograna</i> (Rossmässler, 1836)	5	-	-	-
19.	<i>Laciniaria plicata</i> (Draparnaud, 1801)	1	-	-	-
20.	<i>Pseudalinda stabilis</i> (L.Pfeiffer, 1847)	2	4	-	2
21.	<i>Bulgarica vetusta</i> (Rossmässler, 1836)	9	24	6	24
22.	<i>Bradybaena fruticum</i> (O.F.Müller, 1774)	2	-	2	1
23.	<i>Perforatella vicina</i> (Rossmässler, 1842)	1	5	-	1
24.	<i>Hygromia transsylvanica</i> (Westerlund, 1876)	1	-	-	-
25.	<i>Chilostoma banaticum</i> (Rossmässler, 1836)	1	13	3	6
26.	<i>Isognomostoma isognomostoma</i> (Schr. 1784)	-	1	-	1
27.	<i>Helix pomatia</i> Linne, 1758	1	-	-	-
Number of individuals		85	166	30	82
Number of species		26		16	
Percentage of dead individuals		66,13		73,21	

Table 1. Snail fauna of Someşul Cald / Meleg Szamos gorges

1= *Thymo-comosi-Seslerietum rigidae* (Zólyomi, 1939)

Pop et Hodişan, 1985; *Seseli gracile-Festucetum pallentis* (Soó, 1959)

Coldea 1991; 2 = *Pulmonario-coloro-Abieti-Fagetum silvaticae*;

a = living individuals; b = dead individuals.

Discussion

363 individuals of 27 species were found in 10 examined samples. The number of species is relatively large in the two nonforest communities (*Thymo-comosi-Seslerietum rigidae* (Zólyomi, 1939) Pop et Hodişan, 1985; *Seseli gracile-Festucetum pallentis* (Soó, 1959) Coldea 1991, where we identified 85 living and 166 dead individuals belonging to 26 species. Comparing to the forest community one single species, the *Punctum pygmaeum* is missing from these nonforest communities. This hygrophyte species is very frequent on the banks of mountain brooks, although it was mentioned in few places (Grossu, 1983). Probably because of its small size it can rather be identified from soil samples. The larger number of rock-grass species is due to the fact that more variable habitats are found on the narrow gorges of Someş. In the plant community *Pulmonario-coloro-Abieti-Fagetum silvaticae* 30 living and 89 dead individuals of 16 species were found.

The numbers above point to a high percentage of dead individuals. We believe that this is not a consequence of some disturbing factor but it can be due to two particular circumstances. The soil formed on the limestone rock gets dry relatively quickly after rain and thus the snail shells preserve their characteristic structures. The vegetation covering the soil protects the empty snail shells from the current of waters running down. Otherwise the limestone would swallow up the precipitation and the water could not run on the surface. In this way the accumulation of empty shells is possible.

During the Someş expedition organised in 1992 the authors once identified 9 species in the gorges by occasional examination. They did not find *Balea stabilis* (L.Pfeiffer, 1847) and *Ena montana* (Draparnaud, 1801) in 10 quantitative samples. So far, altogether 29 species were found in this place. At the same time this finding warns that more samples are needed in order to reveal the total number of snail species living in such an area with mosaic habitats.

The fauna of the limestone-gorges of Someşul Cald is of nearly the same character as other limestone-gorges of the Western Carpathians (Bába, Sárkány, 1998), but it is the most possible that more intense searching will point to the existence of other Transylvanian endemic snails besides *Cochlodina marisii*.

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Károly Bába
Juhász Gyula Teacher Training College
Department of Biology
6 Boldogasszony St
6701 Szeged
Hungary

Andrei Sárkány-Kiss
Babeş-Bolyai University
Department of Ecology and genetics
5 - 7 Clinicilor St.
3400 Cluj
Romania