

## *Contribution to the Knowledge on the Gastropod Fauna of the Natural Park "Balgarka" (Stara Planina Mts., Bulgaria)*

*Dilian G. Georgiev\**

Department of Ecology and Environmental Conservation, University of Plovdiv,  
Tzar Assen Str. 24, BG-4000 Plovdiv, BULGARIA

\* Corresponding author: diliangeorgiev@abv.bg

**Abstract.** A total of 35 species of snails were found: 6 freshwater and 29 terrestrial. One species was considered as local endemic and 5 species as endemics for Stara Planina Mts. One species was invasive.

**Keywords:** protected area, malacofauna, Bulgaria.

The malacofauna of the Bulgarian natural parks situated in Stara Planina Mts. is poorly known. Detailed research on the "Sinite kamani" park area was provided by Dian Georgiev from the Trakia University, Stara Zagora (GEORGIEV, 2008). A total of 23 species of terrestrial snails were found and data on their habitat distribution was represented.

Before description of the new stygobiotic species *Bythiospeum dourdeni* Georgiev, 2012 from the Chuchura cave near the village of Stantchov Han (Veltchovtsi area) by GEORGIEV (2012) there was no any other information on the malacofauna of the natural park "Balgarka" situated in the central part of the Stara Planina Mts., Bulgaria. As an associated mollusc species in the cave also a *Belgrandiella* (Wagner, 1927) species was recorded, determined as *B. cf. stanimirae* Georgiev, 2011.

The park area is consisted of steep mountain terrains occupied by broad leaf forests, meadows, streams, springs, and some small caves. Some anthropogenic

areas as some villages and town vicinities (Platchkovtsi and Gabrovo surroundings) are also included in this protected area.

As it is well known that all the information on biodiversity supports its better conservation, in this paper I represent some original data on the species of snails (Mollusca: Gastropoda) which I found on the territory of this natural park.

### **Material and Methods**

Most of the finds were made accidentally during a large mammal study in the park area together with my colleagues from NGO "Green Balkans" in the periods between 3-7.7.2007 and 23.5.2012-13.4.2013 (Table 1).

The snails were collected by hand or a sieve for the soil samples. Species were determined mainly by DAMJANOV & LIKHAREV (1975), WELTER-SCHULTES (2012), and a reference shell collection of the author (deposited in the Regional Natural History Museum - Plovdiv).

**Table 1.** Collection localities in the natural park "Balgarka" during present study.

№	Date	GPS coordinates	alt.	Area	Habitat
1	3-7.7.2007	N42 48 08.3 E25 34 40.0	558 m	cave Mokrata near vill. Stantchov Han	cave
2	3-7.7.2007	N42 45 50.0 E25 29 57.5		steep slope above Kokalenata cave near Balgarka Hut	<i>Fagus sylvatica</i> forest
3	3-7.7.2007	N42 49 E25 10	-	near the beginning of the road Partizanska Pesen hut	<i>Fagus sylvatica</i> forest near water source
4	23.5.2012	N42 50 19.1 E25 10 14.1	952 m	near Partizanska Pesen hut	<i>Fagus sylvatica</i> forest
5	24.5.2012	N42 47 23.8 E25 15 56.9	674 m	south of Zeleno Darvo vill.	spring near the river
6	25.5.2012	N42 47 38.9 E25 15 47.8	750 m	west of Zeleno Darvo vill.	broad leaf forest and bush
7	25.5.2012	N42 47 54.4 E25 16 16.5	720 m	vill. Zeleno Darvo	near a stream and buildings
8	25.5.2012	N42 49 11.7 E25 13 10.6	562 m	Todortchetata vill.	meadows and bush near a river
9	24.6.2012	N42 47 17.9 E25 28 31.9	662 m	Platchkovtsi town, Stoevtsi area	broad leaf forest near houses
10	6.4.2013	N42 48 14.0 E25 34 48.1	548 m	a hill near vill. Stantchov Han	bush areas, open terrains
11	6.4.2013	N42 50 30.6 E25 28 01.6	524 m	Dryanovska Reka River near Plachkovtsi town	river
12	6.4.2013	N42 50 30.6 E25 28 01.6	524 m	along Dryanovska Reka River near Plachkovtsi town	<i>Alnus glutinosa</i> river bank forest
13	12.4.2013	N42 48 09.6 E25 34 43.4	555 m	at the entrance of Kilyikite cave near vill. Stantchov Han	<i>Fagus sylvatica</i> and <i>Carpinus</i> sp. forest
14	13.4.2013	N42 48 06.7 E25 34 45.3	511 m	the stream below Mokrata cave	stream
15	25.6.2012, 13.4.2013	N42 47 58.0 E25 34 23.7	573 m	cave Chuchura near vill. Velchovtsi	unknown, deposits inside the cave stream
16	25.6.2012	N42 47 58.0 E25 34 23.7	573 m	cave Chuchura near vill. Velchovtsi	the spring emerging from the cave
17	26.6.2012	N42 46 10.0 E25 33 07.2	859 m	Ktastets railway station	near a wall of abandoned building
18	26.6.2012	N42 44 53.5 E25 31 56.2	978 m	near Izvora hut	near a wall of abandoned building

## Results and Discussion

A total of 35 species of snails were found: 6 freshwater and 29 terrestrial (Tab. 2). The species *Bythiospeum dourdeni* is known only from its type locality, so it is probably a local endemic. The other hydrobiids related to the genus *Belgrandiella* can be considered as endemics for the region of Stara Planina, and knowing the high levels of endemism of these Bulgarian species also the unidentified one from the entrance of the Chuchura cave can be included in this group.

From the terrestrial snails Bulgarian endemics are *Cattania balcanica* and *Alinda wagneri*. As an invasive species *Tandonia budapestensis* can be considered.

As most of the finds were made accidentally it can be supposed that many other species (as for example the widely distributed in the country *Pupilla muscorum* (Linnaeus, 1758), *Sphyradium doliolum* (Bruguère, 1792), *Vallonia costata* (O. F. Müller, 1774), *Vallonia pulchella* (O. F. Müller, 1774), *Acanthinula aculeata* (O. F. Müller, 1774), *Cochlicopa lubrica* (O. F. Müller, 1774), *Zebrina detrita* (O. F. Müller, 1774), and many others) could also be found on the territory of this protected area. The rare slug species *Lehmanna horezia* Grossu & Lupu, 1962 found in the Shipka Pass very close to the park border (WELTER-SCHULTES,

2012) can also be expected. Detailed further research is recommended.

**Table 2.** Gastropod species found in the natural park "Balgarka" with their localities

№	Species	Locality №
1	<i>Belgrandiella angelovi</i> Pintér, 1968	5
2	<i>Belgrandiella stanimirae</i> Georgiev, 2011	15
3	<i>Belgrandiella</i> sp.	16
4	<i>Bythiospeum dourdeni</i> Georgiev, 2012	15
5	<i>Galba truncatula</i> (O. F. Müller, 1774)	14
6	<i>Ancylus fluviatilis</i> O. F. Müller, 1774	11
7	<i>Pomatias rivularis</i> (Eichwald, 1829)	10, 15
8	<i>Carychium minimum</i> O. F. Müller, 1774	12, 15
9	<i>Truncatellina cylindrica</i> (J. Ferrussac, 1807)	7
10	<i>Chondrina</i> sp.	13
11	<i>Macedonica marginata</i> (Rossmässler, 1835)	4
12	<i>Laciniaria plicata</i> (Draparnaud, 1801)	12
13	<i>Alinda wagneri</i> (Wagner, 1911)	2
14	<i>Arion</i> ( <i>Arion</i> ) sp. cf. <i>lusitanicus</i>	7
15	<i>Arion</i> ( <i>Mesarion</i> ) sp.	1, 12
16	<i>Arion silvaticus</i> Lohmander, 1937	4
17	<i>Vitrea</i> sp.	13, 15
18	<i>Aegopinella minor</i> (Stabile, 1864)	12
19	<i>Oxychilus glaber</i> (Westerlund, 1881)	15
20	<i>Oxychilus</i> cf. <i>urbanskii</i> Riedel, 1963	12
21	<i>Oxychilus</i> cf. <i>inopinatus</i> (Uličny, 1887)	13
22	<i>Tandonia budapestensis</i> (Hazay, 1881)	12
23	<i>Punctum pygmaeum</i> (Draparnaud, 1801)	12
24	<i>Limax maximus</i> Linnaeus, 1758 - complex	7, 17
25	<i>Deroceas turcicum</i> (Simroth, 1894)	7, 12, 13
26	<i>Cattania balcanica</i> (Kobelt, 1876)	4, 15
27	<i>Cepaea vindobonensis</i> (Ferrussac, 1821)	10
28	<i>Helix lucorum</i> Linnaeus, 1758	7, 9, 12, 17
29	<i>Helix pomatia</i> Linnaeus, 1758	4
30	<i>Arianta arbustorum</i> (Linnaeus, 1758)	3
31	<i>Bradybaena fruticum</i> (Müller, 1774)	12
32	<i>Xerolenta obvia</i> (Menke, 1828)	6, 10, 18
33	<i>Perforatella incarnata</i> (Müller, 1774)	12, 13, 15
34	<i>Monacha carascaloides</i> (Bourguignat, 1855)	8, 12
35	<i>Euomphalia strigella</i> (Draparnaud, 1801)	6, 13, 17

**References**

- DAMJANOV S., LIKHAREV I. 1975. *Terrestrial snails (Gastropoda terrestria)*. Fauna Bulgarica, Marin Drinov Publ., Sofia, vol. 4, 425 pp. (in Bulgarian).
- GEORGIEV D. 2008. The terrestrial snails of NP "Sinite Kamani"- habitat distribution and conservation importance. - In: Velcheva I., A. Tsekov (Eds.). *Anniversary Scientific Conference of Ecology, Proceedings, 1 November 2008*, Plovdiv, p. 136-146. (in Bulgarian).
- GEORGIEV D. 2012. Two New Species of Stygobiotic Snails from the Genus *Bythiospeum* (Gastropoda: Hydrobiidae) from Bulgaria. - *Acta Zoologica Bulgarica*, Suppl. 4: 15-18.
- WELTER-SCHULTES F. 2012. *European non-marine molluscs, a guide for species identification*. Planet Poster Editions, Göttingen, 674 p.

Received: 30.10.2013

Accepted: 20.12.2013