

THE MOLLUSKS (*MOLLUSCA: GASTROPODA ET BIVALVIA*) OF SAKAR MOUNTAIN (SOUTHERN BULGARIA): A FAUNAL RESEARCH

Dilian G. Georgiev

*Department of Ecology and Environmental Conservation,
Faculty of Biology, University of Plovdiv,
Tzar Assen Str. 24, BG-4000 Plovdiv, Bulgaria
e-mail: diliangeorgiev@abv.bg*

Abstract. The study provides faunal and distributional data about 53 species of mollusks (*Gastropoda* et *Bivalvia*) in the Sakar Mountain (Southern Bulgaria).

Key words: *Mollusca*, *Gastropoda*, *Bivalvia*, the Sakar Mountain, Bulgaria.

INTRODUCTION

The malacofauna (*Gastropoda* et *Bivalvia*) of the Sakar Mountain is poorly known. Only seven terrestrial species have been reported so far (DAMJANOV & LIHAREV, 1975): *Deroceras thersites* (Simroth, 1886), from three localities in the south of the village Dervishka Mogila, *Limax macedonicus* Hesse, 1928, *Tandonia cristata* (Kaleniczenko, 1851) both near the town Topolovgrad, and also *Arion silvaticus* Lohmander, 1937, *Vitrea pygmaea* (O. Boettger, 1880), *Oxychilus urbanskii* Riedel, 1963, *Oxychilus inopinatus* (Ulicny, 1887) (all of the last localities were not pointed). There isn't any published data for the freshwater mollusks in the mountain (ANGELOV, 2000).

ACKNOWLEDGEMENTS. I would like to thank Anelia Popova for the collection of the material from Momkovo Village, and Slaveja Stoycheva for the collection of a large amount of material and for the technical support. And I would also like to thank Ivelin Mollov for the technical assistance and the revision of the manuscript. My thanks also go to Dr. Atanas Irikov for the help during the beginning of the research and for the personal comments. I thank Prof. Georgi Bachvarov for the literature sources I was given. I would also like to thank NGO "Green Balkans" for supporting most of my trips to Sakar Mountain.

MATERIAL AND METHODS

The research was carried out during the period 2001-2006. The mollusks were gathered by means of the standard procedures (DAMJANOV & LIHAREV, 1975). The species were determined mainly through the keys of DAMJANOV & LIHAREV (1975) and WIKTOR (1983) for the terrestrial gastropods and by ZHADIN (1952) for the freshwater mollusks. The Latin names used are after HUBENOV (2005).

RESULTS

The following species of mollusks were found in Sakar Mountain:

1. *Pomatias elegans* (O. F. Muller, 1774)

29.04.2006, east from Sladun Village, deciduous forest, and grass terrains, UTM MG 53, leg. D. Georgiev.

2. *Carychium minimum* O. F. Muller, 1774

03.05.2006, deciduous forest east from Sladun Village, UTM MG 53, leg. D. Georgiev.

3. *Radix auricularia* (Draparnaud, 1801)

02.05.2006, Sladun Village, Karabaiska River, UTM MG 53, leg. D. Georgiev.

4. *Galba truncatula* (O. F. Muller, 1774)

01.05.2006, Sladun Village, Karabaiska River, UTM MG 53, leg. D. Georgiev.

5. *Ancylus fluviatilis* O. F. Muller, 1774

08.06.2004, small river between villages Branitza and Izvorovo, UTM MG 24, leg. D. Georgiev;

04.05.2006, Fishera River, UTM MG 53, leg. S. Stoicheva.

6. *Planorbis carinatus* O. F. Muller, 1774

02.05.2006, Sladun Village, Karabaiska River, UTM MG 53, leg. D. Georgiev.

7. *Physella acuta* (Draparnaud, 1801)

09.06.2004, small river near Jerusalimovo Village, UTM MG 23, leg. D. Georgiev;

29.04.2006, micro dam lake east from Svilengrad Town, UTM MG 32, leg. D. Georgiev;

02.05.2006, micro dam lakes north from Sladun Village, UTM MG 53, leg. D. Georgiev;

03.05.2006, Sladun Village, Karabaiska River, UTM MG 53, leg. D. Georgiev.

8. *Cochlicopa lubrica* (O. F. Muller, 1774)

08.06.2004, between villages Branitza and Izvorovo, UTM MG 24, leg. D. Georgiev.

9. *Cochlicopa lubricella* (Rossmassler, 1835)

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

10. *Vertigo antivertigo* (Draparnaud, 1801)

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev

11. *Vertigo pygmaea* (Draparnaud, 1801)

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

12. *Truncatellina cylindrica* (Ferussac, 1821)

05.04.2001, south from Levka Village, into moss on rocks, UTM MG 33, leg. D. Georgiev;

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

13. *Vallonia costata* (O. F. Muller, 1774)

03.05.2006, in the house yards of Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

14. *Vallonia pulchella* (O. F. Muller, 1774)

03.05.2006, in the house yards of Sladun Village, deposits of Karabaiska River, river bank and *Quercus* sp. forest, UTM MG 53, leg. D. Georgiev.

15. *Zebrina detrita* (O. F. Muller, 1774)

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L., bushes *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

16. *Zebrina kindermanni* (L. Pfeiffer, 1850)

03.05.2006, agricultural and grass lands, deposits of small micro dam lake south from Sladun Village, UTM MG 53, leg. S. Stoicheva, D. Georgiev.

17. *Multidentula ovularis* (Olivier, 1801)

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L., bushes *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

18. *Pseudochondrula seductilis* (Rossmassler, 1848)

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L., bushes *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

19. *Chondrula microtragus* (Rossmassler, 1848)

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L., bushes *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

20. *Chondrula bicallosa* (L. Pfeiffer, 1846)

03.05.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L. bushes, *Carpinus orientalis* Mill., UTM MG 53, leg. S. Stoicheva.

21. *Mastus rossmaessleri* (L. Pfeiffer, 1846)

05.04.2001, south from Levka Village, grass and bush areas, UTM MG 33, leg. D. Georgiev;
03.05.2006, in house yards of Sladun Village, deposits of Karabaiska River, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L. bushes, *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

22. *Balea biplicata* (Montagu, 1803)

30.04.2006, *Quercus* spp. forest east from Sladun Village, in leaf detritus and under rocks, UTM MG 53, leg. S. Stoicheva.

23. *Bulgarica denticulata* (Olivier, 1801)

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L. bushes, *Carpinus orientalis* Mill., *Quercus* spp. and river bank forest in leaf detritus, UTM MG 53, leg. D. Georgiev.

24. *Succinea oblonga* (Draparnaud, 1801)

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev;
04.05.2006, grass lands near Fishera River, UTM MG 53, leg. D. Georgiev.

25. *Cecilioides spelaeus* (A. Wagner, 1914)

30.04.2006, east from Sladun Village, in rock crevices, UTM MG 53, leg. D. Georgiev;
03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

26. *Vitrina pellucida* (O. F. Muller, 1774)

05.04.2001, south from Levka Village, into moss on rocks above Levchenska River flowing to Dimitrovche Village, UTM MG 33, leg. D. Georgiev.

27. *Vitrea neglecta* Damjanov et Pinter, 1969

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

28. *Vitrea riedeli* Damjanov et Pinter, 1969

01.2004, north from Knyazhevo Village, in *Quercus* spp. leaf detritus near Tundza River, UTM MG56, leg. D. Georgiev.

29. *Vitrea pygmaea* (O. Boettger, 1880)

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

30. *Vitrea vereae* Irikov, Georgiev et Riedel, 2004

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

31. *Aegopinella minor* (Stabile, 1864)

30.04.2006, *Quercus* spp. forest east from Sladun Village, in leaf detritus and under rocks, UTM MG 53, leg. D. Georgiev.

32. *Oxychilus inopinatus* (Ulicny, 1887)

03.05.2006, in house yards of Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

33. *Oxychilus glaber* (Rossmassler, 1835)

05.04.2001, south from Levka Village, under stones near a small river, UTM MG 33, leg. D. Georgiev;

03.05.2006, Sladun Village, yards and deposits of Karabaiska River, small caves east from the village, UTM MG 53, leg. D. Georgiev.

34. *Daudebardia rufa* (Draparnaud, 1805)

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

35. *Tandonia kusceri* (H. Wagner, 1931)

03.05.2006, in house yards of Sladun Village, UTM MG 53, leg. D. Georgiev.

36. *Punctum pygmaeum* (Draparnaud, 1801)

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

37. *Deroceras sturanyi* (Simroth, 1894)

03.05.2006, grasslands near Karabaiska River and micro dam lakes north from the village, under artificial materials, UTM MG 53, leg. D. Georgiev.

38. *Deroceras turcicum* (Simroth, 1894)

03.05.2006, in house yards of Sladun Village, grasslands near Karabaiska River and micro dam lakes north from the village, under stones and artificial materials, UTM MG 53, leg. D. Georgiev.

39. *Cepaea vindobonensis* (Ferussac, 1821)

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L., *Carpinus orientalis* L. bushes, *Quercus* spp. and river bank forest, UTM MG 53, leg. D. Georgiev.

40. *Helix lucorum* Linnaeus, 1758

05.04.2001, south from Levka Village, grass and bush areas, UTM MG 33, leg. D. Georgiev;

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L. bushes, *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

41. *Helix figulina* Rossmassler, 1839

05.04.2001, south from Levka Village, grass and bush areas, UTM MG 33, leg. D. Georgiev;

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L., bushes *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

42. *Lindholmiola girva* (Frivaldszky, 1835)

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L., bushes *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

43. *Xerolenta obvia* (Menke, 1828)

05.04.2001, south from Levka Village, grass and bush areas, UTM MG 33, leg. D. Georgiev;

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L., bushes *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

44. *Xeropicta derbentina* (Krinicki, 1833)

03.2005, near Momkovo Village, leg. A. Pavlova.

45. *Monacha cartusiana* (O. F. Muller, 1774)

05.04.2001, south from Levka Village, grass and bush areas, UTM MG 33, leg. D. Georgiev;

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L. bushes, *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

46. *Monacha carascaloides* (Boutguignat, 1855)

05.04.2001, south from Levka Village, grass and bush areas, UTM MG 33, leg. D. Georgiev;

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L. bushes, *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev.

47. *Monacha pilosa* Pinter, 1969 (Fig. 1, 2, 3)

30.04.2006, east from Sladun Village, grass terrains with *Paliurus spina-christi* Mill., *Jasminum fruticans* L. bushes, *Carpinus orientalis* Mill., UTM MG 53, leg. D. Georgiev;

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

48. *Unions crassus* Retzius, 1783

04.05.2006, Fishera River, UTM MG 53, leg. S. Stoicheva.

49. *Unio pictorum* (Linnaeus, 1758)

30.04.2006, east from Sladun Village, Karabaiska River, UTM MG 53, leg. S. Stoicheva.

50. *Anodonta cygnaea* (Linnaeus, 1758)

30.04.2006, east from Sladun Village, Karabaiska River, UTM MG 53, leg. S. Stoicheva;

04.05.2006, Fishera River, UTM MG 53, leg. S. Stoicheva.

51. *Pisidium amnicum* (O. F. Muller, 1774)

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

52. *Pisidium nitidum* Jenyns, 1832

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

53. *Pisidium casertanum* (Poli, 1791)

03.05.2006, Sladun Village, deposits of Karabaiska River, UTM MG 53, leg. D. Georgiev.

DISCUSSION

The taxonomic status of the *Monacha* species in Bulgaria is still unclear and the genus needs a revision (IRIKOV, pers. comm.). In our opinion after a future research the number of the *Monacha* species in the mountain would be raised to more than three species.

CONCLUSIONS

There are 51 newly found species at this region. Totally 58 species of mollusks are known now in the Sakar Mountain. All of the reported species constitute 13% of the Bulgarian malacofauna (446 species) (HUBENOV, 2005; IRIKOV, 2006).



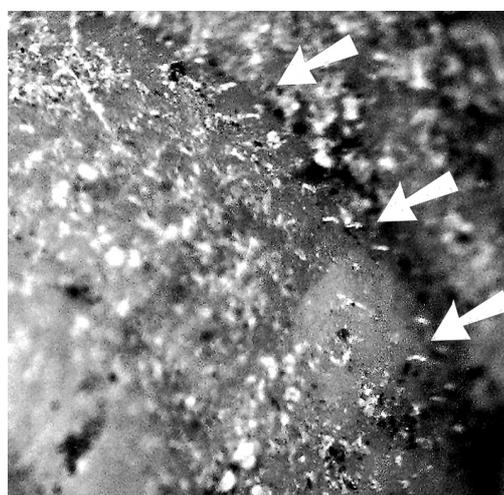
Figure 1. *Monacha pilosa* Pinter, 1969 from Sakar Mountain, top view of the shell.



Figure 2. *Monacha pilosa* Pinter, 1969 from the Sakar Mountain, umbilical view of the shell.



a)



b)

Figure 3. *Monacha pilosa* Pinter, 1969 from the Sakar Mountain, **a** - front view of the shell, **b** - pilose area of the shell surface.

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МЕКОТЕЛИТЕ (*GASTROPODA* ET *BIVALVIA*) НА САКАР ПЛАНИНА (ЮЖНА БЪЛГАРИЯ): ФАУНИСТИЧНО ПРОУЧВАНЕ

Дилян Г. Георгиев
Пловдивски Университет “Паусий Хилендарски”,
Факултет по Биология, Катедра “Екология и ООС”,
ул. “Цар Асен” №24, 4000 Пловдив
e-mail: diliangeorgiev@abv.bg

(резюме)

До този момент за района на Сакар планина са известни само 7 вида мекотели. След проведеното проучване са установени 51 нови за района видове, с което броят на видовете мекотели (*Gastropoda* et *Bivalvia*) обитаващи Сакар планина става 58, което представлява 13 % от малакофауната на България.

