

SNAIL FAUNA OF THE PANGEO MTS (N GREECE): A SYNOPSIS OF PUBLISHED DATA AND NEW RECORDS

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Abstract

A total of 32 snail species are recorded at Pangeo Mts. during the present study from which 10 species are new records to this area: *Cattania kattingeri*, *Chondrina arcadica*, *Chondrula macedonica*, *Ena monticola*, *Limax graecus*, *Oligolimax annularis*, *Pyramidula cephalonica*, *Tandonia kusceri*, *Vallonia costata*, *Vitrea botterii*. Summarizing all published, and new records, the known species for this mountain are 56. The current literature synopsis and terrain survey stress that the snail fauna of this region is rich and is in need of further research.

Keywords: North Greece, Gastropoda, diversity.

Introduction

The Pangeo Mountains is a mountain range in North Greece, approximately 40 km east from the city of Kavala. The highest peak is Mati (1,961 m). The mountain ranges covers the southeastern portion of the Serres Regional Unit as well as northwestern part of the Kavala Regional Unit which covers the most part of the hills. Total ridge length is about 15 kilometers, and its width about 10 km. The base rock consists mainly of marbles, sand and gravel.

There are several papers (taxonomic, faunistic, synopses, monographs) concerning the snail fauna of Pangeo Mts., reporting a total of 46 species (43 terrestrial and 3 freshwater species): Brandt (1961, 1962), Nordsieck (1977, 2007), Rähle (1982), Reischütz (1984, 1985, 1988), Subai (1990), Bank & Menkhorst (1992), Riedel (1992), Gittenberger (2000), Wiktor (2001), Gittenberger & Uit de Weerd (2004), Reischütz et al. (2008), Eross et al. (2011), Welter-Schultes (2012), Subai & Neubert (2014).

This paper is intended to summarize all data concerning the malacofauna of Pangeo Mts. and to report some new records of species and species localities in the area.

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Material and Methods

The material was collected by hand or by sieving litter in 2010 and 2016 during tree trips to Pangeo Mts. from 10 localities (Table 1, Fig. 1), determined in the laboratory, and deposited in the collection of the author. Coordinates were taken by GPS eTrex 30, and pictures were made by camera Canon.

The taxonomy followed Bank (2011).

Fig. 1. Location map of the investigated area in N Greece (map from e-geographia.eduportal.gr)

Tab. 1. The collection sites at Pangeo Mts. for the present study.

Nº	Date	Locality	Coordinates	Alt.	Habitat
1	05.2010	near Mesolakkia	N40 50 52.3 E23 54 51.0	270	maquis
2	05.2010	near Mesolakkia	N40 51 44.4 E23 58 54.9	882	rocky terrain
3	07.05.2016	in Nikisiani town	N40 56 49.6 E24 08 39.0	332	rocks among broad leaf trees
4	20.06.2016	2.6 km N of Exochi	N40 54 07.6 E24 13 51.5	167	shrubs dominated by <i>Carpinus orientalis</i>
5	20.06.2016	near the road to the crest of the mountain	N40 55 24.1 E24 11 18.1	930	<i>Fagus</i> forest, among limestone rocks and <i>Geranium</i> sp.
6	20.06.2016	near the road to the crest of the mountain	N40 54 14.0 E24 07 13.7	1487	grass vegetation near watersource
7	20.06.2016	at the path to the top of the mountain	N40 54 48.8 E24 05 54.0	1766	among grass and rocks crevices at the alpine zone
8	20.06.2016	rocks and short grass	N40 54 57.1 E24 05 24.6	1839	around Mati Peak
9	21.06.2016	near the road to the crest of the mountain	N40 54 26.6 E24 07 26.9	1415	<i>Fagus</i> forest, among limestone rocks
10	21.06.2016	near the road to the crest of the mountain	N40 55 10.6 E24 12 01.6	646	<i>Fagus</i> forest, among limestone rocks



Fig. 1. Views from some of the localities surveyed: 1 - loc. №7, 2 - loc. №8, 3 - loc. №5, 4 - loc. №10.

Results and Discussion

A total of 32 snail species are recorded at Pangeo Mts. during the present study from which 10 species were new records to this area. Summarizing all data published and the new records, the known species for this mountain are 56 (Table 2, Fig. 2). The current literature synopsis and field survey stress that the snail fauna of this region is rich and is in a need of detailed research. Considering the data obtained it can be supposed that only about the half of the gastropod species of Pangeo are known. Many species with palearctic or holarctic distributions are still not registered in this mountain (*Acanthinula aculeata* (Müller, 1774), *Pupilla muscorum* (Linnæus, 1758), *Vallonia pulchella* (Müller, 1774), etcetra). Some other species, for example the slug *Tandonia sowerbyi* (Férussac, 1823), not found in Pangeo till now seems to be more widely distributed in N Greece than known before (Wiktor, 2001): I have registered *T. sowerbyi* at the nearby Simvolo Mts. (08.05.2016, N40 49 05.3 E24 17 15.1, 35 m a.s.l.), Rhodopes Mts. (08.05.2016, N41 15 27.0 E24 56 24.0, 398 m a.s.l.), and Ismaros Mts. (10.04.2015, N40 55 38.3 E25 36 49.5, 102 m a.s.l.).

Tab. 2. Known species of snails at Pangeo Mts. arranged in alphabetical order. In grey – new records to the area.

№	Species	Locality
1	<i>Alinda biplicata</i> (Montagu, 1803)	lit., 3, 5, 7, 10
2	<i>Balcanodiscus stummerorum</i> Reischütz, Reischütz & Fischer, 2008	lit.
3	<i>Bulgarica denticulata thessalonica</i> (Rossmässler, 1839)	lit.
4	<i>Bulgarica iniucunda</i> (Brandt, 1962)	lit.
5	<i>Carinigera buresi</i> (Wagner, 1928)	lit.
6	<i>Carinigera schuetti</i> Brandt, 1962	lit.

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7	<i>Cattania faueri</i> Subai, 1990	lit., 7
8	<i>Cattania kattingeri</i> (Knipper, 1939)	3, 5, 7
9	<i>Cattania rumelica</i> (Rossmässler, 1835)	lit., 5
10	<i>Cecilioides acicula</i> (O. F. Müller, 1774)	lit.
11	<i>Cerneuella virgata</i> (Da Costa, 1778)	lit.
12	<i>Chondrina arcadica</i> (Reinhardt, 1881)	9
13	<i>Chondrula macedonica</i> A. J. Wagner, 1915	3
14	<i>Chondrula microtragus</i> (Rossmässler, 1839)	lit., 1
15	<i>Chondrula tricuspidata</i> (Küster, 1843)	lit., 7
16	<i>Chondrula tridens</i> (O. F. Müller, 1774)	lit., 3
17	<i>Chondrus zebrula</i> (Olivier, 1801)	lit.
18	<i>Daphniola exigua pangaea</i> (Reischütz, 1984)	lit.
19	<i>Deroceras johanna</i> De Winter & Butot, 1985	lit., 7
20	<i>Ena monticola</i> (Roth, 1856)	3
21	<i>Graecophaedusa sperrlei</i> Rähle, 1982	lit.
22	<i>Granopupa granum</i> (Draparnaud, 1801)	lit.
23	<i>Idyla bicristata</i> (Rossmässler, 1839)	lit.
24	<i>Helix lucorum</i> Linnaeus, 1758	lit., 3
25	<i>Helix philibinensis</i> Rossmässler, 1839	lit., 1, 7
26	<i>Lauria cylindracea</i> (Da Costa, 1778)	lit., 3
27	<i>Limax graecus</i> (Simroth, 1889)	2
28	<i>Lindholmiola girva</i> (Frivaldsky, 1835)	lit., 2, 7
29	<i>Lindholmiola reischuetzi</i> Falkner, 1995	lit., 4, 5, 7
30	<i>Lindholmiola spectabilis</i> Urbanski, 1960	lit.
31	<i>Macedonica marginata</i> (Rossmässler, 1835)	lit., 10
32	<i>Macedonica pangaionica</i> (Brandt, 1961)	lit., 7
33	<i>Macedonica ypsilon</i> Nordsieck, 1977	lit.
34	<i>Monacha cartusiana</i> (O. F. Müller)	lit.
-	<i>Monacha cartusiana</i> (O. F. Müller) complex - shells	1, 3, 4
35	<i>Monacha parumcincta</i> (Rossmässler, 1837) complex	lit.
36	<i>Oligolimax annularis</i> (S. Studer, 1820)	7
37	<i>Oxychilus depressus</i> (Sterki, 1880)	lit.
38	<i>Oxychilus glaber</i> (Rossmässler, 1835)	lit., 3, 5, 9
39	<i>Paralaoma servilis</i> (Shuttleworth, 1852)	lit.
40	<i>Pomatias elegans</i> (O. F. Müller, 1774)	lit., 1, 4, 5, 10
41	<i>Planorbis planorbis</i> (Linnaeus, 1758)	lit.
42	<i>Punctum pygmaeum</i> (Draparnaud, 1801)	lit.
43	<i>Pyramidula rupestris</i> (Draparnaud, 1801)	lit.
44	<i>Pyramidula cephalonica</i> (Westerlund, 1898)	5
45	<i>Radix auricularia</i> (Linnaeus, 1758)	lit.
46	<i>Tandonia kusceri</i> (H. Wagner, 1931)	3, 10
47	<i>Truncatellina rothi</i> (Reinhardt, 1916)	lit., 3
48	<i>Vallonia costata</i> (O. F. Müller, 1774)	3
49	<i>Vitrea botterii</i> (Pfeiffer, 1853)	3
50	<i>Vitrea neglecta</i> Damjanov et L. Pintér 1969	lit., 7
51	<i>Vitrea contracta</i> (Westerlund, 1871)	lit., 7

52	<i>Vitrea schuetti</i> L. Pinter, 1972	lit.
53	<i>Xerolenta obvia</i> (Menke, 1828)	lit., 1, 3, 4, 7, 8
54	<i>Xerolenta pappi</i> Schütt, 1962	lit., 3, 4
55	<i>Xeropicta krynickii</i> (Krynicky, 1833)	lit.
56	<i>Zebrina detrita</i> (O. F. Müller, 1774)	lit., 1, 6, 7, 9



Fig. 2. Live specimens of *Deroceras johannae* De Winter & Butot, 1985 and *Cattania faueri* Subai, 1990 from locality №7 (pictures of live specimens from both species were never published before).

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