

Fossil and subfossil remains of birds and mammals from the Mirizlivka cave (Vidin Region – NW Bulgaria)

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Abstract. The fossil/subfossil record of Mirizlivka cave numbers 17 taxa – 3 species of birds and 14 species of large mammals, 3 of them disappeared from the recent fauna of Bulgaria, and 6 other globally extinct.

Key words: Pleistocene, Quaternary, Fossil birds and mammals, Bulgaria, extinct mammals

Introduction

The Mirizlivka cave is located in the Bashovitsa locality of the Belogradchishki Venets rock massive near the village of Gara Oreshets (Vidin Region) at about 750 m a.s.l. The cave is 40 m long (Popov 1936).

The present short note aims to summarize all available information on the fossil record of the cave and to evaluate its importance to the Bulgarian prehistory and paleozoology.

Results

History of excavations and dating of the finds

First data on the fossil fauna of the cave has been published by Popov (1933). In 1931 this researcher uncovered Paleolithic tools and bones of carnivores and ungulate mammals (mainly of Würm age; Popov 1933). According Popov (1936) the cave was firstly excavated in 1924 and 1929 by two local teachers from Vidin, V. Atanasov and L. Filkov. In 1931 Rafail Popov and V. Atanasov started new excavations and discovered that the cave was inhabited in the Paleolithic by man.

The presence of remains of the fossil vole *Villania* sp. according V. Popov (1983) is an indication of the early-Pleistocene deposits in the cave. On the other hand, the materials collected by R. Popov date part of the deposits as late Pleistocene.

In October 1993 we made a sounding (0.60 m depth) at 12 m from the cave entrance and collected some bone remains of mammals and birds.

Birds

In contrast to mammalian remains, the avian ones according to Popov (1933) were extraordinary scant. In the Pleistocene layers he found “two bones of wings. One is a metacarpus, 51.0 mm long, and the other – a radius of 90.0 mm length.” (p. 62).

In 1993 we also collected bones of three species of birds: the disappeared from the recent Bulgarian avifauna black grouse, Eurasian magpie and an unidentified small passeriform.

Mammals

Popov (1936): All the collected material represented only Pleistocene (Paleolithic) artefacts and animal bones. He lists: “*Ursus spelaeus*, *Ursus arctos*, *Hyaena spelaea*, *Canis lupus*, *Canis vulpes*, *Canis* sp. *Cervus elaphus*, *Bos* sp., *Equus caballus fossilis*, *Equus asinus* (*Equus hydruntinus* after Spassov (1982), *Capra aegagrus*, *Rhinoceros tichorhynus*, Aves.”. In other publication Popov (1936) lists some modified list of large mammals: “*Ursus spelaeus*, *U. arctos*, *Hyaena spelaea*, *Canis lupus*, *Canis vulpes*, *Canis* sp., *E. caballus fossilis*, *Rhinoceros tichorhinus*, *C. elaphus*, *Cervus* sp., *Bos primigenius*, and *Castor fiber*”.

Nikolov (1983) lists remains of seven large mammals: *Coelodonta antiquitatis*, *Crocota spelaea*, *Canis lupus*, *Capra aegagrus* (*Capra ibex* according to N. Spassov), *Equus ferus ferus*, *Ursus spelaeus* and *Cervus elaphus*.

In October 1993 we collected some bones and teeth of brown bear (*U. arctos*), and small ruminants (sheep/goat) (Ovicaprinae indet.).

Conclusions

Thus, for the last 90 years of the excavation of the cave, the established fossil record numbers 17 taxa – 3 species of birds and 14 species of large mammals, 3 of them disappeared from the recent fauna of Bulgaria, and 6 globally extinct, i. e. over 50 per cent of the established fossil/subfossil fauna of birds and mammals is recently either disappeared or extinct (Table 1). This ranks the Mirizlivka cave along with the well known caves Magurata and Kozarnika, as one of the most important nature monuments in the Northwest Bulgaria.

All excavation campaigns so far were accidental and a special archaeological and paleozoological exploration of the cave would be very promising.

Table 1. Species composition of the fossil birds and mammals from the Mirizlivka cave (after modern systematics)

No	Common Name	Scientific name	Disappeared from the recent fauna of Bulgaria	Globally extinct
BIRDS (AVES)				
Galliformes				
1.	Black Grouse	<i>Tetrao tetrix</i> (Linnaeus, 1758)	+	
Passeriformes				
2.	Eurasian Magpie	<i>Pica pica</i> Linnaeus, 1758		
3.	Unidentified small passeriform	Passeres fam. indet.		
MAMMALS (MAMMALIA)				
Carnivora				
4.	Cave bear	<i>Ursus spelaeus</i> Rosenmüller, 1794		+
5.	Brown bear	<i>Ursus arctos</i> Linnaeus, 1758		
6.	Cave hyena	<i>Crocota crocota spelaea</i> (Goldfuss 1823)		+
7.	Grey wolf	<i>Canis lupus</i> Linnaeus, 1758		
8.	Red fox	<i>Vulpes vulpes</i> (Linnaeus, 1758)		
9.	Unidentified canine	<i>Canis</i> sp.		
Artiodactyla				
10.	Alpine ibex	<i>Capra ibex</i> Linnaeus, 1758	+	
11.	Red deer	<i>Cervus elaphus</i> Linnaeus, 1758		
12.	Auroch	<i>Bos primigenius</i> (Bojanus, 1827)		+
13.	Unidentified large bovid	<i>Bos</i> sp.		
Perissodactyla				
14.	Woolly rhinoceros	(<i>Coelodonta antiquitatis</i> (Blumenbach, 1807)		+
15.	Tarpan	<i>Equus ferus ferus</i> Boddaert, 1785		+
16.	European ass	<i>Equus hydruntinus</i> Regalia, 1907		+
Rodentia				
17.	Eurasian beaver	<i>Castor fiber</i> Linnaeus, 1758	+	

References

- Boev, Z. (1999) Neogenski i Kvaternerni ptici (Aves) ot Balgaria (Neogene and Quaternary birds (Aves) from Bulgaria). National Museum of Natural History, BAS, Sofia. D. Sci. Thesis. Volume I. Basic Part. 1-243; Volume II. Supplement 1 - Figures, 1-135; Volume II. Supplement 2 - Tables, 1-108. (In Bulgarian).
- Nikolov, I. (1983) Nyakoi belezhki varhu peshternata fosilna bozayna fauna v Balgariya (Some notes on the cave fossil mammalian fauna in Bulgaria). *In: IV Evropeyska regionalna konferentsiya po speleologiya (IVth European Regional Conference on Speleology)*. October 1981, Sofia, 215-218. (In Bulgarian).
- Popov, V. (1983) Paleontological researches in the caves (importance, methods, achieved results and trends of development). *In: 4th National Conference on Speleology: "Relation between science and practice in Speleology"*. HIS "F.-J. Curie", Varna, 31.03.-3.04.1983 Varna, 36-48. (In Bulgarian, English Summary).
- Popov, R. (1933) Cave Mirizlivka. A contribution to the Deluvial fauna and the culture of the Diluvial man. *Bulletin of the People's Museum*. Sofia, 26: 1-74. (In Bulgarian, English Summary).
- Popov, R. (1936) Fosilni i subfosilni zivotinski ostanke v izsledvanite do sega peshteri na Balgariya (Fossil and subfossil animal remains in the explored until now caves of Bulgaria). *Izvestiya na Balgarskoto peshterno druzhestvo (Bulletin of the Bulgarian Speleological Society)*. Sofia, Vol. I: 1-12. (In Bulgarian).
- Spasov, N. (1982) Fosili ot alpiyskiya kozirog i gigantskiya elen v Balgariya i rolyata na rogata pri gigantskiya elen (Fossils of the Alpine Ibex and the Irish Elk in Bulgaria and the role of the antler of the Irish Elk). *Priroda, BAN (Nature, BAS)*. 5: 21-27. (In Bulgarian).