

Animal remains from the archaeological site "Ancient City of Zaldapa – Tetraconch Church Sector," (NE Bulgaria)

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Abstract. This study presents the archaeozoological analysis of animal remains recovered from the archaeological site of the Ancient City of Zaldapa, Tetraconch Church Sector, in northeastern Bulgaria. The examined material comprises 295 bone and tooth fragments and mollusc shells collected from 46 samples during archaeological excavations conducted between 2024 and 2026. A total of 22 taxa were identified, including domestic mammals, poultry, wild mammals, fish, and molluscs.

Key words: Archaeozoology, Scythia Minor, subfossil animal remains.

Introduction

The ancient City of Zaldapa is located in the Kaleto locality in the territory of the village of Dobrin (Krushari Municipality, Dobrich District) in NE Bulgaria. The ancient city was part of the former Scythia Minor. It was founded as a Thracian settlement in the 8th century BC and existed until the 7th century AD.

Materials and Methods

The animal bone material from the site, provided to me (in October 2026) for archaeozoological analysis, consists of 295 bone/tooth fragments and mollusk shells. Identification was carried out using the osteological collections of the National Museum of Natural History at the Bulgarian Academy of Sciences (Department of Vertebrates).

The material under study was collected in a total of 46 samples between June 2024 and October 2026, during archaeological excavations led by archaeologist Chief Assistant Professor Alexander Harizanov from the National Archaeological Institute with Museum at the Bulgarian Academy of Sciences. All samples were analyzed, and the archaeozoological composition of the finds is described individually for each one.

Results

The identified species composition consists primarily of domestic mammals. The examined remains belong to 22 taxa (wild animals and domestic forms). Four human limb bones from four different assemblages were also identified.

A significant number of shelled mollusks were identified (29 land snails and one marine bivalve). Two specimens of freshwater bony fish were also found: Northern pike (*Esox lucius*) and Wels catfish (*Silurus glanis*). Domestic animals are represented by two forms of poultry - domestic chicken (2 specimens) and domestic goose (1 specimen) - and six forms of domestic mammals: cattle, horse, pig, sheep, goat, and dog. The distribution of the material is presented in Table 1.

Three bone fragments are heavily charred, and one (a domestic cattle tibia) bears clear, parallel cut marks. Due to their high degree of fragmentation, 131 bone fragments remain unidentified; they lack the diagnostic features necessary for taxonomic classification. These constitute 44.4% of all collected archaeozoological remains. Birds are likely underrepresented in the assemblage due to the smaller size of their bones and the material collection methodology. However, this is more of a supposition, as the material includes small remains such as ground squirrel teeth, pelvic bones of a black rat, and a vertebra of a pike.

Of the identified mammals, two species (the aurochs and the European bison) have disappeared from the modern fauna of Bulgaria. The aurochs went extinct globally in the 17th century, but some of the last surviving individuals of the species likely persisted in Bulgaria (Boev 2021). The species has been documented in the country at over 60 fossil and subfossil sites (Boev & Boev 2018).

The Wisent (European bison) is considerably rarer; until now, it was known from only 18 sites dating from the Late Pleistocene to the 17th century AD (Boev 2022). A significant number of these sites are located in northeastern Bulgaria, which is also the location of this newly discovered 19th site (Fig. 1).



Fig. 1. Bony core of a European bison (*Bison bonasus*) horn. Photo: Z. Boev.

In addition to these two species (the largest Holocene terrestrial mammals in Europe), the roe deer, wild boar, European ground squirrel, grey wolf, and black rat were also present in the vicinity of the ancient settlement.

The black rat (*Rattus rattus*) arrived in the Balkans no later than the Roman period - likely between the 1st century BC and the 1st century AD. It is believed to have been introduced by humans via trade and maritime routes from the Eastern Mediterranean. However, the exact date of its initial entry into the Balkan Peninsula has not been established with certainty. Consequently, the discovery of a pelvic fragment belonging to a black rat is of significant archaeozoological importance, helping to complete the picture of the species' early history in this part of Europe.

Although scarce, this evidence demonstrates that, in addition to animal husbandry - which served as their primary means of subsistence - the population also engaged in hunting, fishing, and gathering. Livestock farming constituted the main component of their animal husbandry; they primarily raised cattle, pigs, and horses, along with a smaller number of sheep and goats.

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References

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Table 1. Distribution of the collected archaeozoological material from the ancient settlement of Zaldapa, near the village of Dobrin (Dobrich Region), during the years 2024 - 2026.

No	Taxa	English name	Total number of finds	Number of samples	Number of processed finds	Number of burnt finds
MOLUSCA						
Gastropoda						
1.	<i>Helix pomatia</i>	Roman snail	13	8		
	Gastropoda terrestria indet.	Land (shelled) snails	16	5		
Bivalvia						
2.	<i>Ostrea edulis</i>	European flat oyster	1			
	Molluscs total		30			
OSTEICHTHYES						
Siluriformes						
3.	<i>Silurus glanis</i>	Wels catfish	1	1		
Esociformes						
4.	<i>Esox lucius</i>	Northern pike	1	1		
	Bony fish total		2			
AVES						
Anseriformes						
5.	<i>Anser anser domestica</i>	Domestic goose	1	1		
Galliformes						
6.	<i>Gallus gallus domestica</i>	Domestic chicken	1	1		
	Birds total		3			

MAMMALIA						
Rodentia						
7.	<i>Spermophilus citellus</i>	European ground squirrel	1	1		
8.	<i>Rattus rattus</i>	Black rat	1	1		
	Rodents total		2			
Carnivora						
9.	<i>Canis familiaris</i>	Domestic dog	1	1		
10.	<i>Canis lupus</i>	Grey wolf	1	1		
	Carnivorans total		2			
Artiodactyla						
11.	<i>Sus scrofa domestica</i>	Domestic pig	30	14		
12.	<i>Sus scrofa scrofa</i>	Wild boar	4	2		
13.	<i>Capra hircus</i>	Domestic goat	5	3		
14.	<i>Ovis aries</i>	Domestic sheep	6	5		
	<i>Ovis / Capra</i>	Small ruminants	12	6		
15.	<i>Bos taurus</i>	Domestic cattle	42	21	1	
16.	<i>Bos primigenius</i>	Aurochs	1	1		
	<i>Bos taurus/ primigenius</i>	домашно говедо / тип	2	2		
17.	<i>Bison cf. bonasus</i>	Wisent	1	1		
18.	<i>Capreolus capreolus</i>	Roe deer	1	1		
	Artiodactyls total		81			
Perissodactyla						
19.	<i>Equus ferus caballus</i>	Domesrtic horse	10	18		
	Perissodactyls total		10			
Primates						
20.	<i>Homo sapiens</i>	Human (Modern man)	4	4		
	Primates total		4			
	Mammals – bone splinters		131	22		2
	Mammals total		230			
	Vertebrate animals total		265			
	Animal remains total		295			