



Archaeozoological material from the Late Antique fortified settlement near the modern-day town of Dimovo, northwestern Bulgaria

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ABSTRACT

In 2022–2023, a complete rescue archaeological excavation was carried out at the Late Antique fortified settlement (the late 4th–6th c. AD) discovered in 2021 near the modern-day town of Dimovo (Vidin Region, NW Bulgaria). A total of 14,045 fragments of animal remains representing 50 taxa were identified from these two field seasons. Along with animal husbandry, hunting still had a significant place. Some wild mammals (such as wild boar, European hare, red deer, roe deer, fallow deer, aurochs, and European bison) were hunted for food, while others (such as red fox, wild cat, grey wolf, brown bear, and beaver) were hunted for their fur. Livestock breeding (cattle, sheep, goat, horse, donkey and pig) was the basic source of meat, transportation, or harnessing for agriculture. Interestingly, numerous remains of Greek/Hermann's tortoises have been found, which hints that this species' meat was also used for food. A large set of bone and antler finds bears traces of different stages of processing, indicating that some animals were used as a source of raw material for the production of crafted items. Wild birds, albeit in significantly smaller amounts, were represented by the great bustard, mute swan, graylag goose, lesser white-fronted goose, grey partridge, grey heron, common woodpigeon, common buzzard, white-tailed sea-eagle, rook, and the disappeared black grouse. The wild faunal diversity around the settlement was much richer than it is today. About 1/10 of the established animal composition are species that have disappeared in the last millennium from the modern fauna of Bulgaria – Eurasian black grouse, great bustard, aurochs, wisent and Eurasian beaver.

KEYWORDS

Subfossil terrestrial vertebrates, archaeozoology, Holocene animal remains, Game in Late Antiquity, locally extinct species, Late Antique archaeology, fortified settlement

Introduction

Between 2021 and 2023, a rescue archaeological excavation was conducted (AM, AH) near the modern-day town of Dimovo (figs 1–2), in relation to the construction work for the new I–1 high-



Fig. 1. The Late Antique fortified settlement near the modern-day town of Dimovo, NW Bulgaria on a relief map (map source: <https://www.mapsof.net/>)

Обр. 1. Късноантичното укрепено селище край гр. Димово върху физикогеографска карта (<https://www.mapsof.net/>)

way (E79 European route). After the preliminary excavation in 2021 (Manev, Harizanov in press), a comprehensive research programme was carried out over the course of several months in 2022 and 2023. The site is located within the administrative territory of the village of Shipot (43°44'48"N, 22°44'35"E), in the vicinity of the modern-day town of Dimovo, Northwestern Bulgaria (Harizanov, Manev in press; Manev et al. in press).

The present study aims to establish the species composition of wild and domestic animals based on the bone and dental remains collected during the consecutive archaeological excavations in 2022 and 2023. For this purpose, the taxonomic (and in individual cases also the sex and age) affiliation of the collected bone findings was determined based on the osteo-morphological features.

As a result of the preliminary excavation in 2021, a total of 1700 animal bone remains were analysed and 35 taxa were identified out of the 210 samples (Boev 2022a). During the subsequent two seasons of archaeological research, the site proved exceptionally rich in faunal remains, with an extremely large and diverse archaeozoological assemblage.

Apart from the site near Dimovo (Boev 2022a), only eight other Late Antique settlements have been comprehensively studied in Bulgaria in terms of archaeozoological research: Arbanas (Boev 1997), Barkach (Boev 2019a), Bela Voda (Iliev et al. 1992), Chavdarova Cheshma (Boev 2017a), Dolni Lukovit (Boev 2023), *Iatrus* (Bartosiewicz, Choyke 1991), *Nicopolis ad Istrum* (Boev 1991; Boev, Beech 2007; Beech 2007), *Novae* (Schramm 1975; 1979; 1987; Chrzanowska, Molenda 1983; Gręzak, Piątkowska-Malecka 2001), and *Serdica* (Boev 2017b; 2018; 2019b; 2020). The present analysis is significant as no sites have been studied to this degree in the northwestern region of Bulgaria in respect to the collected animal material.

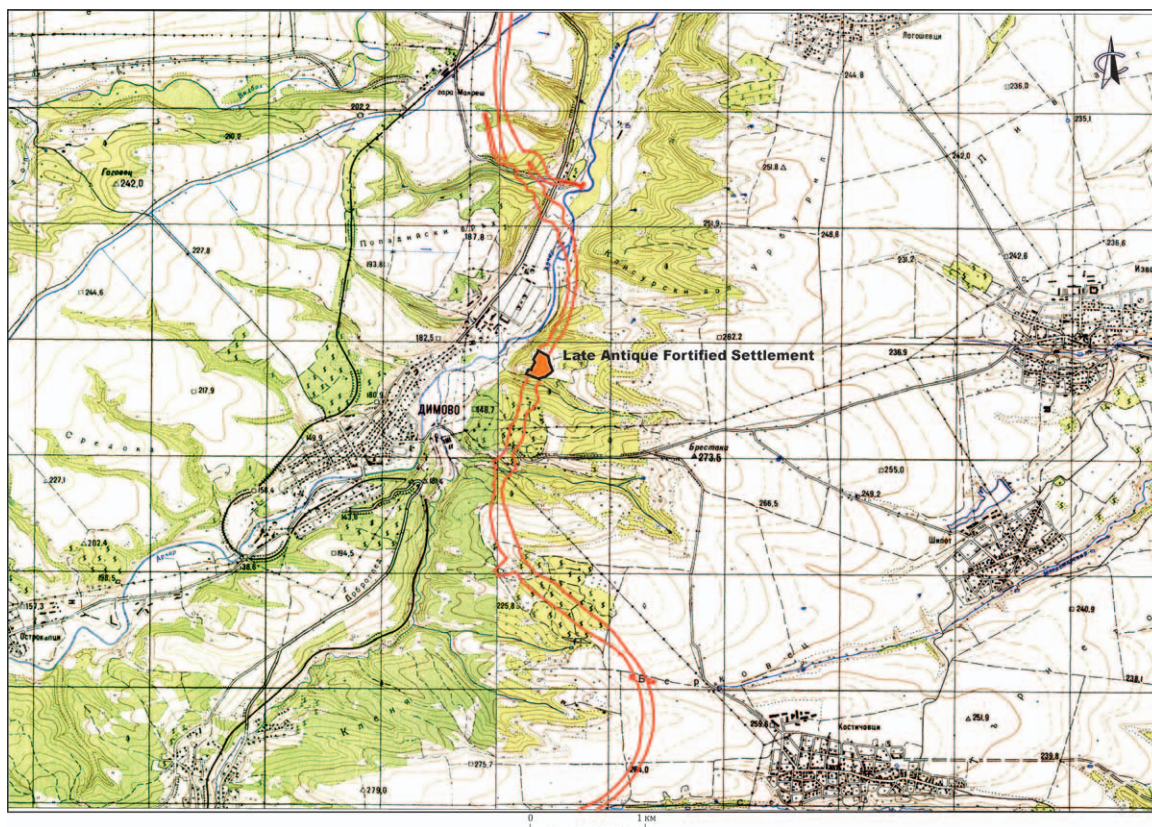


Fig. 2. The Late Antique fortified settlement near the modern-day town of Dimovo and the route of the new highway on a topographic map (cartography A. Kamenarov)

Обр. 2. Късноантичното укрепено селище край гр. Димово и трасето на проектирания път върху топографска карта (картография А. Каменаров)

The archaeological site

On top of a prominent, steep hill, on the right bank of Archar River, a small fortress was built in the Late Antique period. The fortifications encompassed an area of 0.4 ha. Additionally, the slopes of the hill were also used by the local inhabitants, which adds up to a utilized terrain of over 1 ha (Manev, Harizanov in press; Harizanov, Manev in press).

In the last decades of the 4th and the first half of the 5th c. AD, the site was used as a provisions depot, which stored and safeguarded foodstuffs and fodder in multiple, deep pits carved into the bed-rock. A military or semi-military garrison of limited size occupied around twenty buildings, situated within the fortified area. The settlement was located along the *Ratiaria – Naissus – Lissus* road that led south of *Ratiaria*, the capital of the Late Antique province of *Dacia Ripensis* (Dintchev 2021). It is highly probable that this supply centre was under the management of a representative of the official administration. Shortly before the middle of the 5th c. AD, the site was abandoned, probably as a result of an enemy attack. There are remains of burned-down buildings and several dispersed coin hoards. Some of the casualties were subsequently placed into obsolete storage pits, as witnessed by the remains of eight individuals, recovered during the excavation (Manev, Harizanov in press; Harizanov, Manev in press; Manev et al. in press).

In the 6th c. AD, life in the settlement was restored and the fortification wall was rebuilt. Habitation in this period was of a more civic type, with the site possibly used as a refuge for local civilians in times of crisis. A small church was erected during the same time over the ruins of one of the abandoned buildings, adjacent to the northern curtain wall. Finally, occupation of the site ceased

before the end of the same century (Manev, Harizanov in press; Harizanov, Manev in press; Manev et al. in press).

A chronological hiatus of ca. 1,5 millennia followed, during which the archaeological remains were covered by soil and vegetation due to the lack of occupation. The hill was not inhabited again until the beginning of the 20th c., when a military facility was dug into the northern slope of the hill. A signal-transmitting tower and adjacent infrastructure were built on the summit in the 1950s and 1960s, which partially disturbed the archaeological layers (Manev, Harizanov in press; Harizanov, Manev in press).

Archaeozoological material and methods of research

The archaeozoological material from the 2022–2023 excavations consists of 708 samples. A total of 14,045 bone remains were recovered and dated to the late 4th–6th c. AD. The material was collected by macroscopic (hand-collected) extraction from the excavated soil during the excavation process. The taxonomical identification (ZB) of remains of vertebrates was made through the osteological collections (mammals, birds, reptiles) of the National Museum of Natural History (NMNHS) at BAS (Vertebrate Animals Department). Conchological finds of molluscs were identified (ID) through comparative collection of the Institute of Biodiversity and Ecosystem Research at BAS.

All bird bone material (88 specimens) was inventoried in the NMNHS's osteological archaeo-ornithological collection. Carnivorous mammal finds have been deposited in the NMNHS's "Palaeontology and Mineralogy" department.

In Table 1 the TNF (total number of finds) is given for each species/breed of animals.

Results

Taxonomic diversity

The established composition of species is rich and diverse (Table 1) — the studied remains belong to 50 taxa, comprising wild and domesticated animals. Remains of both invertebrates and vertebrates were found, which include terrestrial snails, reptiles, birds, and mammals. However, fish and amphibians were absent. The excavated material includes: molluscs – 185 pcs.; reptiles – 109; birds – 88, mammals – 13,663.

Due to their larger size, mammals were generally the preferred food source. As a result, they dominate in the collected material and their bone/antler/teeth remains are better preserved. Birds are typically less appealing for hunting, because of their relatively small size.

A significant portion of the collected bone remains is unsuitable for taxonomic determination due to the high degree of their fragmentation. A total number of 5277 finds (tantamount to 38.07% of all specimens) are unidentifiable fragments (referred to as bone splinters), which lack species-diagnostic marks for osteological identification. An additional 411 (3.0% of total assemblage) mammalian bone fragments are partially indeterminable to a specific taxon (only identified at the genus levels). These are presented in Table 1 as "small ruminants *Ovis/Capra* – Sheep/goat", "*Bos taurus/primigenius* – Domestic cattle/aurochs", "*Bos/Bubalus* – Cattle/buffalo", "*Bos/Bison* – cattle/European bison" and "*Canis lupus/familiaris* – Wolf/dog". Domestic cattle are the most common animal species/breed, constituting almost 1/4 or 24.24% of the examined material. Domestic pig ranks second among domestic mammals at 10.53%. Surprisingly, red deer (a large wild hunting mammal) takes third place among the collected bone remains (742 pieces or 5.28%). It is apparent that deer antlers held special interest to the settlement's inhabitants. The most common small domestic ruminant mammals, goats and sheep, rank after it, at 4.34% and 3.72% respectively. The ratio of 1.16:1

Archaeozoological material from the Late Antique fortified settlement near the ...

No	Taxa	English name	Total number of finds	Number of samples	Number of processed finds	Number of burnt finds
MOLLUSCA						
Gastropoda						
1.	<i>Caucasocressa vindobonensis</i>	Austrian cepea	72	3		
2.	<i>Euomphalia strigella strigella</i>	Bald snail	8	2		
3.	<i>Fruticicola fruticum</i>	(No common name)	10	2		
4.	<i>Helix pomatia</i>	Roman snail	94	2		
5.	<i>Oxychilidae gen. indet.</i>	Shiny snails	1	1		
	Mollusks total		185			
REPTILIA Reptiles						
Testudines Turtles						
6.	<i>Emys orbicularis</i>	European pond turtle	4	1		
7.	<i>Testudo graeca/ hermanni</i>	Greek tortoise/Hermann's tortoise	105	10		
	Reptiles total		109			
AVES Birds						
Anseriformes Anseriforms						
8.	<i>Cygnus olor</i>	Mute swan	2	2		
9.	<i>Anser anser</i>	Greylag goose	1	1		
	Anseriforms total		3			
Galliformes Galliforms						
10.	<i>Tetro tetrix</i>	Eurasian black grouse	5	4		
11.	<i>Gallus gallus domestica</i>	Domestic chicken	67	35		
12.	<i>Alectoris/ Gallus</i>	Rock partridge/Domestic chicken	1	1		
13.	<i>Perdix perdix</i>	Grey partridge	5	1		
	Galliforms total		78			
Ardeiformes Ardeiforms						
14.	<i>Ardea cinerea</i>	Grey heron	3	1		
	Ardeiforms total		3			
Accipitriformes Accipitriforms						
15.	<i>Haliaeetus albicilla</i>	White-tailed sea-eagle	1	1		
	Accipitriforms total		1			
Otidiformes Otidiforms						
16.	<i>Otis tarda</i>	Great bustard	1	1		
	Otidiforms total		1			
Columbiformes Columbiforms						
17.	<i>Columba palumbus</i>	Common woodpigeon	1	1		
	Columbiforms total		1			
Passeriformes Passeriforms						
18.	<i>Corvus frugilegus</i>	Rook	1	1		
	Passeriforms total		1	1		
	Birds total		88			
MAMMALIA Mammals						
Insectivora Insectivores						
19.	<i>Erinaceus roumanicus</i>	Northern white-breasted hedgehog	18	5		
	Insectivores total		18			
Lagomorpha Lagomorphs						
20.	<i>Lepus europaeus</i>	European hare	91	11		
	Lagomorphs total		91			

No	Taxa	English name	Total number of finds	Number of samples	Number of processed finds	Number of burnt finds
Carnivora Carnivorans						
21.	<i>Ursus arctos</i>	Brown bear	4	4		
22.	<i>Martes foina</i>	Beech marten	26	3		
23.	<i>Martes foina/martes</i>	Beech marten/European pine marten	9	1		
24.	<i>Meles meles</i>	European badger	183	8		
25.	<i>Vulpes vulpes</i>	Red fox	24	12		
26.	<i>Mustela putorius</i>	European polecat	1	1		
27.	<i>Mustela eversmanii</i>	Steppe polecat	3	1		
28.	<i>Canis familiaris</i>	Domestic dog	22	10		
29.	<i>Canis lupus/familiaris</i>	Gray wolf/Domestic dog	15	8		
30.	<i>Canis lupus</i>	Gray wolf	13	6		
31.	<i>Felis silvestris</i>	Wildcat	4	1		
32.	<i>Felis silvestris/chaus</i>	European wildcat/Jungle cat	10	1		
33.	<i>Felis catus</i>	Domestic cat	5	5		
	Carnivorans total		319			
Artiodactyla Even-toed ungulates						
34.	<i>Sus scrofa domestica</i>	Domestic pig	1480	224	9	11
35.	<i>Sus scrofa scrofa</i>	Eurasian wild boar	476	96		1
36.	<i>Capra hircus</i>	Domestic goat	610	118	9	7
37.	<i>Ovis aries</i>	Domestic sheep	523	106	1	3
38.	<i>Ovis /Capra</i>	Domestic sheep/Domestic goat	369	111		2
39.	<i>Bos taurus</i>	Domestic Cattle	3406	452	4	15
40.	<i>Bos primigenius</i>	Aurochs	28	9		
41.	<i>Bos taurus/ primigenius</i>	Domestic Cattle/Aurochs	6	2		
42.	<i>Bos/ Bison sp.</i>	Domestic Cattle/European bison	1	1		
43.	<i>Bison bonasus</i>	European bison	10	3		
44.	<i>Bubalus bubalis</i>	Asian water buffalo	1	1		
45.	<i>Bos/Bubalus</i>	Cattle/Asian water buffalo	1	1		
46.	<i>Cervus elaphus</i>	Red deer	742	115	12	3
47.	<i>Capreolus capreolus</i>	Roe deer	96	36	1	
48.	<i>Dama dama</i>	Fallow deer	30	5		
	Even-toed ungulates total		7779			
Perissodactyla Odd-toed ungulates						
49.	<i>Equus ferus caballus</i>	Domestic horse	101	26		
50.	<i>Equus africanus asinus</i>	Domestic donkey	51	21		
	Odd-toed ungulates total		152			
Rodentia Rodents						
51.	<i>Spalax leucodon</i>	Lesser blind mole-rat	24	6		
52.	<i>Castor fiber</i>	Eurasian beaver	3	3		
	Rodents total		27	9		
	(Large) Mammals	(bone splinters)	5277	95	10	18
	Mammals total		13 663			
	Vertebrates total		13 860			
	Animal remains total		14 045	[918]		

Table 1. Distribution of the collected archaeozoological material from the Late Antique site near the town of Dimovo, Vidin region

Таблица 1. Разпределение на събрания археозоологичен материал от укрепеното късноантично селище край Димово, Видинско



*Fig. 3. The Late Antique fortified settlement near Dimovo and its environment. Aerial view
(photo A. Harizanov)*

*Обр. 3. Късноантичното укрепено селище край гр. Димово и неговата околност
(снимка А. Харизанов)*

between the two is the same as found in the 2021 material (Boev 2022a).

The most numerous remains among birds is the domestic chicken, making up 0.47% of all found bone remains. Remains of mute swan, grey goose, Eurasian black grouse, grey heron, sea eagle, great bustard, wood pigeon, and a crow (rook) are also of considerable interest. The Eurasian black grouse has disappeared from the modern fauna of Bulgaria, while the great bustard has disappeared as a breeding species in the country. The sea eagle is currently placed in the “vulnerable species” category in Bulgaria. It is plausible that large flight feathers from its wings were used as stabilizers for hunting arrows, a practice that was preserved in our country until the Middle Ages.

Approximately 1/10 of the established animal composition includes species that have disappeared in the last millennium from the modern fauna of Bulgaria: Eurasian black grouse, great bustard, aurochs, European bison, and Eurasian beaver. The Eurasian black grouse is a locally extinct species in Bulgaria (Iankov, Boev 2007). The great bustard disappeared as a breeding bird (Zehtindzhiev et al. 2011). The aurochs is a globally extinct mammal, although probably the latest remains of that species were found in Bulgaria (Boev 2021). The European bison survived in the country until the 16th–17th c. AD (Boev 2022b). The Eurasian beaver was long considered an extinct species (Boev 1958; Boev, Spassov 2019), but it was rediscovered very recently in dozens of localities in the rivers flowing into the Danube in northern Bulgaria (Kodzhabashev et al. 2021).

From a zoological perspective, the finding of the steppe polecat – a small carnivore whose modern presence on the territory was established relatively recently (in 1950; Buresh, Boev 1951) –

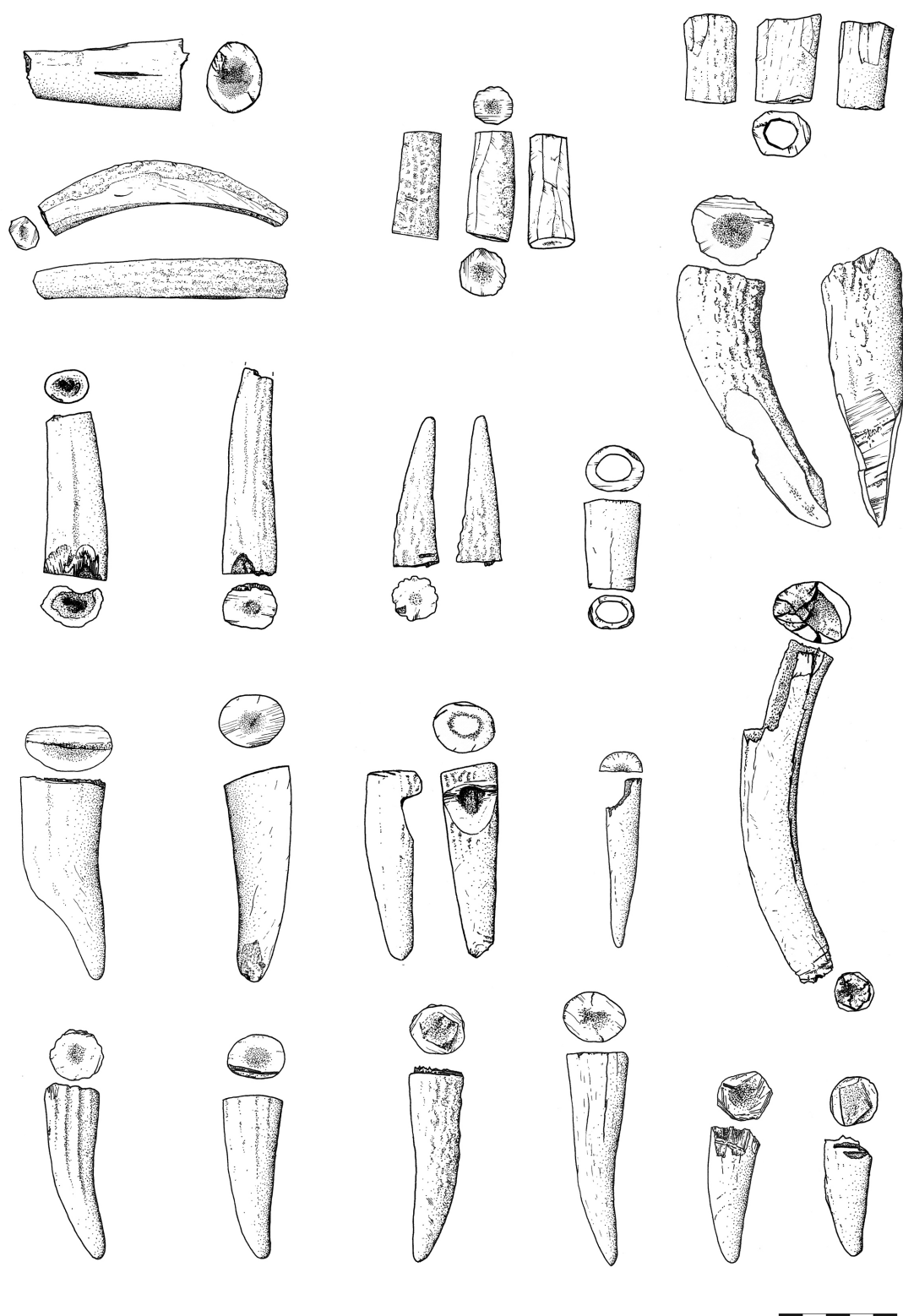


Fig. 4. Worked red deer antlers from the Late Antique fortified settlement near Dimovo
(drawings O. McIlpatrick).

Обр. 4. Обработени рогове от благороден елен от късноантичното укрепено селище край гр. Димово
(графична документация О. МакИлфатрик)

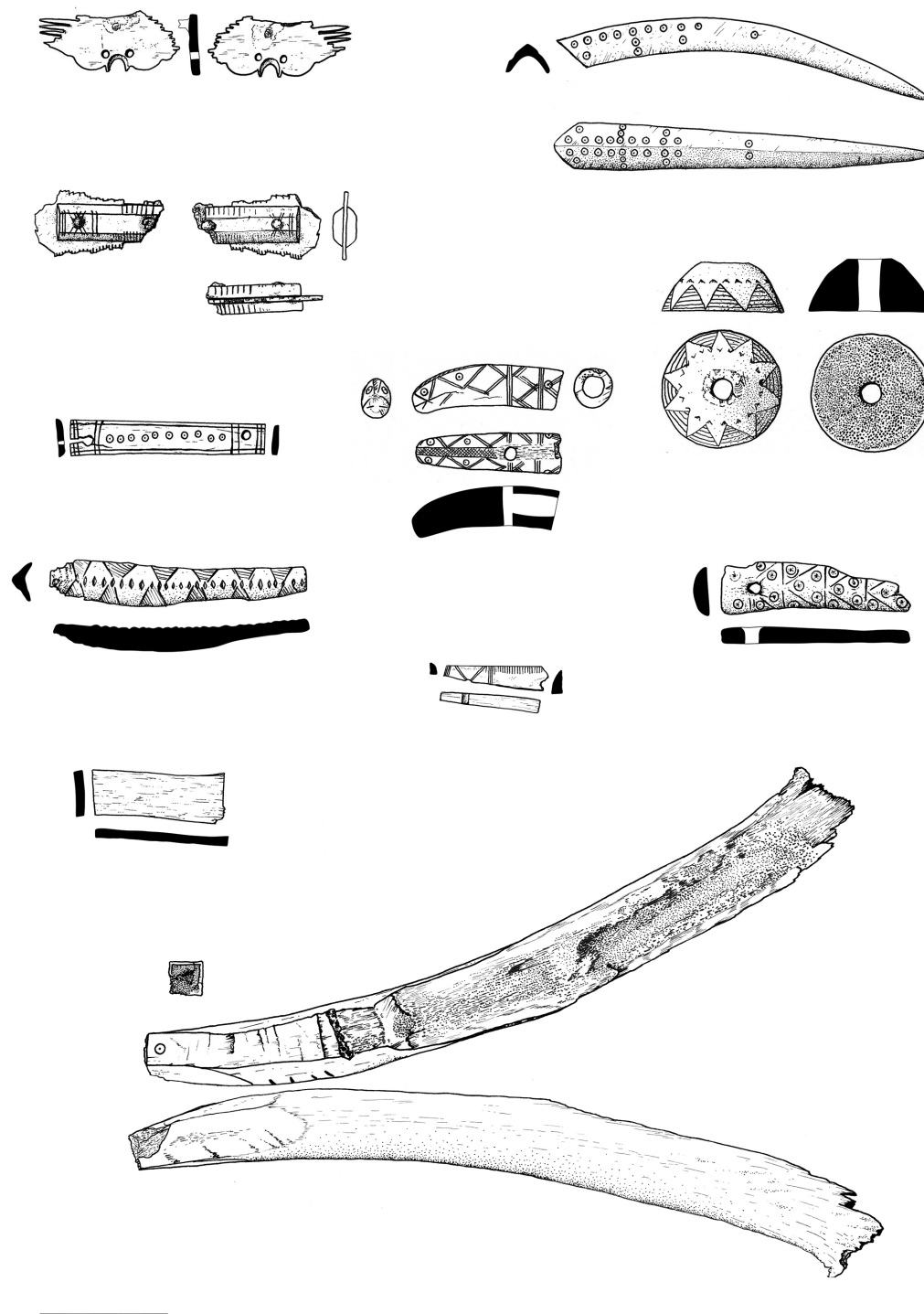


Fig. 5. Artifacts made of bone and antlers from the Late Antique fortified settlement near Dimovo
(drawings O. McIlfatrick)

Обр. 5. Изделия от кост и рог от късноантичното укрепено селище край гр. Димово
(графична документация О. МакИлфатрик)

is of particular interest.

A complete lower jaw (right and left semi-mandibles) of a very large cat (but not a lynx, *Lynx lynx*) is a most intriguing find (fig. 6a). In terms of dimensions and morphology, it closely resembles the lower jaw of the Jungle Cat (*Felis chaus*), an exotic species native to Asia Minor and the Middle East. However, there are no comparative materials available in Bulgaria for further identification. The closest part of its fragmented geographical range today is 450 km from Bulgaria.

Numerous are the red deer remains. They have been found in 115 samples at the site.

The large proportion of forest species is an indication of the predominance of forest landscapes in the vicinity of the site ca. 1400–1600 years ago (fig. 3). The majority of these established species are common inhabitants of mixed deciduous forests in lowland plains, hilly areas, and mid-high mountain landscapes. These include the wild boar, red deer, fallow deer, roe deer, beech marten, European badger, wildcat, red fox, grey wolf and brown bear among mammals. Among birds, the Eurasian black grouse, rook and common woodpigeon are included. Typical steppe faunal elements are also well represented, including the great bustard, steppe polecat, European polecat, European hare and lesser blind mole-rat. A third habitat group could be defined as aquatic species. This group comprises the grey heron, mute swan, greylag goose, white-tailed sea-eagle and Eurasian beaver. This combination of representatives of different habitat types indicates the presence of a rich and diverse paleoenvironment in the vicinity of the ancient settlement.

The analysis of the 2022–2023 material reconfirms the practice of two subsidiary livelihoods: animal husbandry and hunting. We can consider that, in addition, the ancient inhabitants of the settlement also practiced gathering. It is argued here that land snails were collected as a food resource. This is supported by the 185 snail shells most of which were found in isolated clusters (Table 1). *Helix pomatia* (the most numerous species among snails in the material) is the largest European land snail. The large number (94 shells) of this snail collected in only two samples (in two archaeological contexts) excludes their natural distribution and their accidental presence among the collected materials. All established species are edible. Such a large number of shells of land snails has not been found so far in Bulgaria, not only in the Late Antique period, but also in the medieval archaeological sites.

Animal husbandry is represented by the poultry, pig, cattle, and horse/donkey breeding sub-sectors. The domestic horse is twice as common as the domestic donkey among the studied bone material. Domestic cattle remains are found in 452 out of all 918 specimens. Similarly, domestic pig remains are present in relatively large numbers (N=224).

The vast majority of the domestic animal remains belong to adults. Juveniles and immature individuals are more common among the domestic pig, “sheep/goat” and domestic hen materials. The ratio ad./juv. individuals in domestic pig and “sheep/goat” is approximately the same – 30–40:1. It is likely that the meat of piglets, lambs and kids was not often used for food, and in most cases the animals were raised until they were fully grown. It is also possible that due to the much smaller size of the bones of piglets, lambs and kids, as well as due to the weaker ossification of their bones (Zoetis et al. 2003), they were underrepresented in the archaeozoological material. In rare cases, bones from calves have been found. Juvenile (not yet definitively developed) individuals are identified on the basis of the unfused epiphyses for the diaphyses of their long bones and the presence of deciduous teeth in the jaws (in mammals) or by the underdeveloped sculpture of the epiphyses (in birds).

Comments on bone taphonomy

Due to the shallow cultural layers within the fortified territory of the settlement, specific zones of bone accumulations are impossible to discern. All animal remains are found relatively evenly

throughout the area of the archaeological site. Their origin is without a doubt due to disposal of food scraps. Only within a few of the storage pits were the remains of entire wild and domesticated animals in anatomical order. These finds can be dated to a later stage of use of the storage facilities when they already had a different function, possibly for disposing of trash. The reason for such deposition of whole animals or large parts of them is unclear, since they are found covered mainly with rubble. A significant part of the finds originated from a sector of the site situated outside the fortification walls along the northwestern slope of the hill. This area was consistently used as a waste heap throughout the first phase of the settlement. The locations of animal bone remains within the settlement (not only for domestic, but also for wild animals) clearly shows the anthropogenic nature of taphonomy. Most of the established domestic animals would not survive without human intervention (their purposeful breeding in large numbers). On the contrary, almost all wild animals inhabit different natural habitats, far from the anthropogenic landscape (the Late Antique settlement) and the presence of their bone remains in the settlement can only be explained by human activity.

We also find traces of processing on the bones. 60 bones show clear traces of burning, being partially or even completely charred. These are most often from domestic cattle and domestic pig (Table 1), but there are also single bones from sheep/goat and domestic hen. Single burnt antler fragments from a red deer were also found.

On rare occasions cutmarks were attested on the bones/antlers. In total, 34 unburnt bones bear the traces of cutting, chopping, and filleting. Rectangular antler tile blanks are also relatively common. There is a total of 46 finds with such processing marks, which constitute only 0.33% of all finds (14,045)¹. In total, 0.76% of the collected bone remains show traces of taphonomic processes (cutting, carving, or burning).

Over 100 pieces of red deer antlers were collected during the excavation of the site. In many cases, multiple antlers were found at the same spot. Some of them bear the traces of processing related to the crafting of various objects (fig. 4).

Even though a specific workshop area was not clearly identified, several places within and outside the fortification show evidence of antler processing. There was proof of the production of various items made of antler all over the site. Knife handles, hairpins, dice, sewing tools, as well as a comprehensive collection of decorated composite combs fall within the list of finds from the research. It is probable that at least one workshop for antler-made items operated in the settlement, thereby supplementing the economic activity of its inhabitants (fig. 5).

The fauna in the Dimovo region in comparison to other Late Antique settlements

Only a few Late Antique settlements (*Serdica*, *Nicopolis ad Istrum*, and *Novae*) reveal a more varied species composition. The main factor in all cases is the size of the sites. These are all large cities, occupied over multiple centuries, with populations vastly outnumbering the fortified settlement near Dimovo. Moreover, regular archaeological excavations have been carried out in them over the last century, allowing for extensive and comprehensive archaeozoological analyses. Altogether, 78 species were found in *Serdica* (Boev 2017b; 2018; 2019b; 2020), 121 in *Nicopolis ad Istrum* (Boev 1991; Boev, Beech 2007; Beech 2007), and 42 in *Novae* (Schramm 1975; 1979; 1987; Chrzanowska, Molenda 1983; Gręzak, Piątkowska-Malecka 2001). The majority of these species have a wide modern distribution in the country. The share of domestic animals, in particular, is similar in most of

¹ The presented numbers exclude red deer antlers in an advanced stage of processing, related to the production of different utility items.

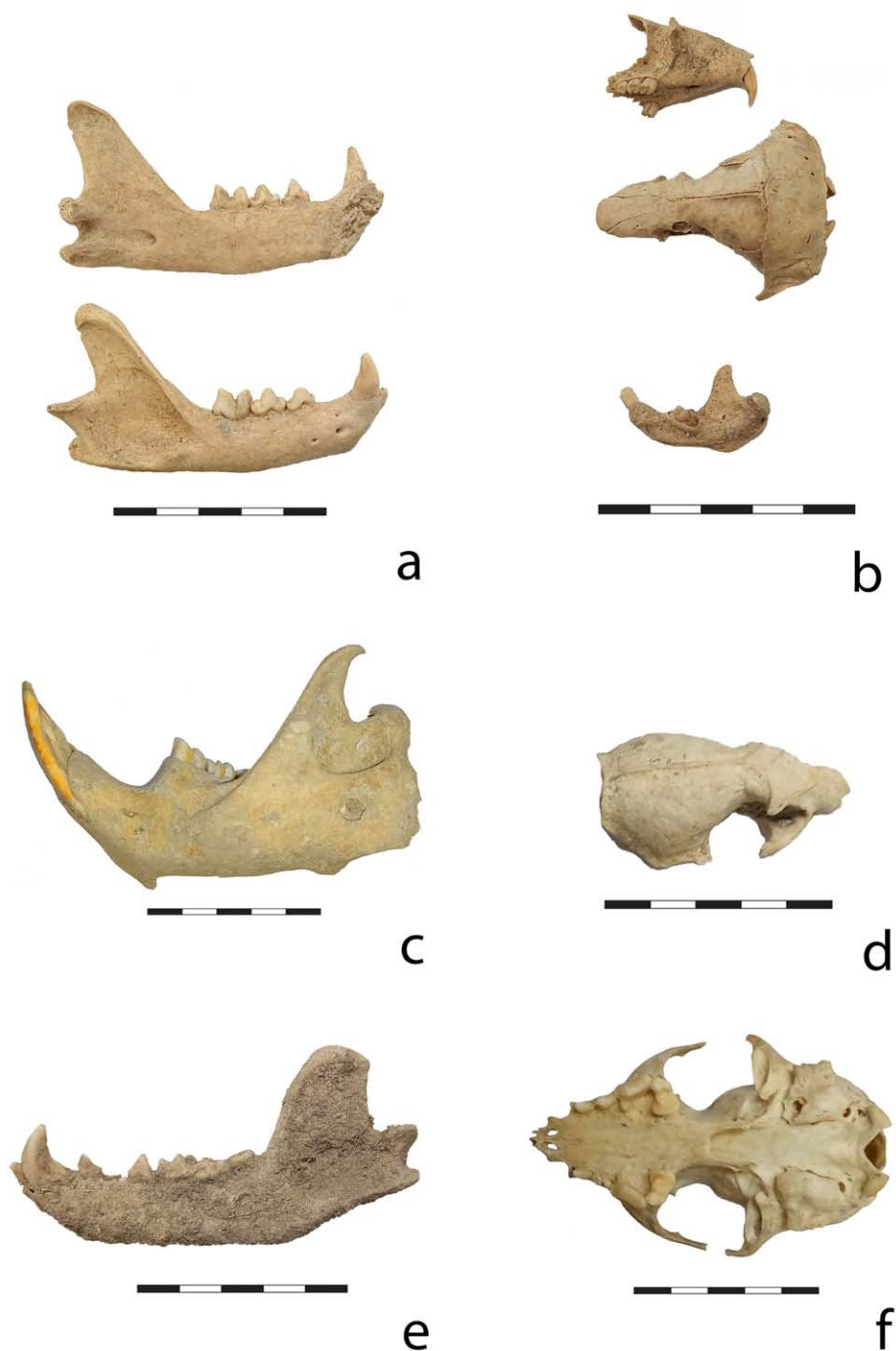


Fig. 6. Some of the animal remains from the Late Antique fortified settlement near the modern-day town of Dimovo, NW Bulgaria: mandible of European wildcat/jungle cat (*Felis silvestris/chaus*) (a), cranial finds of lesser blind mole-rat (*Nannospalax leucodon*) (b), left mandible of European beaver (*Castor fiber*) (c), skull of Steppe polecat (*Mustela eversmanii*) (d), left mandible of European badger (*Meles meles*) (e), skull of beech marten (*Martes foina*) (f) (photos Z. Boev)

Обр. 6. Някои от животинските останки от късноантичното укрепено селище край гр. Димово: лява (горе) и дясна (долу) долни челюсти на дива/тръстикова котка (*Felis silvestris/chaus*) (a), черепни находки на малко (планинско) сляпо куче (*Nannospalax leucodon*) (b), лява мандибула на евроазиатски бобър (*Castor fiber*) (c), череп на степен пор (*Mustela eversmanii*) (d), лява долна челюст на европейски язовец (*Meles meles*) (e), череп на бялка (*Martes foina*) (f) (снимки З. Боев)

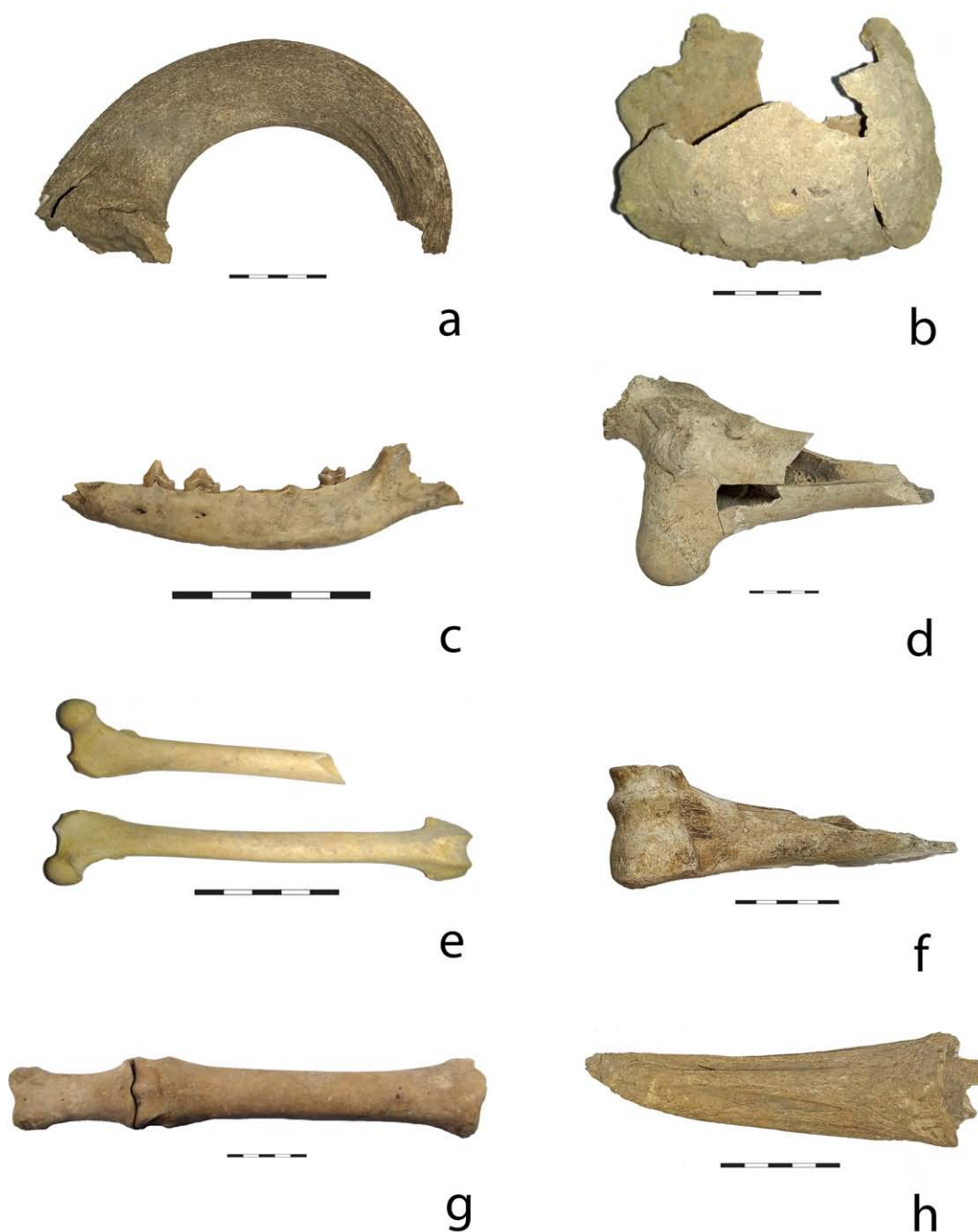


Fig. 7. Some of the animal remains from the Late Antique fortified settlement near the modern-day town of Dimovo, NW Bulgaria: horncore of domestic sheep (*Ovis aries*) (a), carapax of Greek tortoise (*Testudo graeca*) (b), semi-mandible of red fox (*Vulpes vulpes*) (c), proximal femur of aurochs (*Bos primigenius*) (d), femur of European wildcat (*Felis sylvestris*) (e), distal humerus of fallow deer (*Dama dama*) (f), metacarpus (cannon bone) and 1st phalanx of domestic donkey (*Equus africanus asinus*) (g), horncore of European bison (*Bison bonasus*) (photos Z. Boev)

Обр. 7. Някои от животинските останки от късноантичното укрепено селище край гр. Димово: рогов ствол на овен (*Ovis aries*) (a), карапакс на шипобедрена костенурка (*Testudo graeca*) (b), долна лява челюст на червена лисица (*Vulpes vulpes*) (c), проксимална бедрена кост на диво говедо (тур) (*Bos primigenius*) (d), бедрена кост на дива котка (*Felis sylvestris*) (e), дистална раменна кост на елен лопатар (*Dama dama*) (f), метакарпус (киткова кост) и първа фаланга на домашно магаре (*Equus africanus asinus*) (g), рогов ствол на зубър (европейски бизон) (*Bison bonasus*) (h) (снимки З. Боев)

these settlements. For example, in *Serdica*, 20% of the composition of the identified animals are from domestic species (Boev 2020). In *Yatrus*, this share amounts to 38% (Bartosiewicz, Choyke 1991). In *Shipot* they are 18% (present study).

Conclusions

A total of 14,045 animal remains of 50 taxa were collected during the 2022–2023 archaeological excavation of the Late Antique settlement at Dimovo. More than 1/10 (10.6 %) of the identified animal composition are species that have disappeared from the modern fauna of Bulgaria: Eurasian black grouse, Great bustard, aurochs, European bison, and Eurasian beaver. The settlement near the town of Dimovo is therefore one of the important places in archaeozoological terms, providing information on the past distribution of a large number of species, mainly mammals and birds.

They are a source of meat for food, used as draft or riding animals, or provide valuable hides. These conclusions are based on the traditional use of these animals by the population in Antique (and medieval) settlements in Europe. We have no evidence of any different or specific use of them.

The relatively large proportion of forest species is an indication of the predominance of forest landscapes in the vicinity of the site ca. 1400–1600 years ago. Steppe and aquatic species were also well represented (figs 6–7). Wild (from hunting) mammals comprise species with varying economic importance. The record of the steppe polecat, Eurasian black grouse, great bustard, white-tailed sea-eagle, and European polecat are among the rarest in the country.

It is worth noting that for the first time in Bulgaria, the remains of Steppe polecat, Jungle cat (?), Austrian cepea and Bald snail were found in this settlement; furthermore among the rare finds are those of European bison, Eurasian beaver, Eurasian black grouse, White-tailed sea-eagle and Fallow deer.

The archaeozoological assemblage from the site near Dimovo is among the very few collections found in the territory of modern-day Bulgaria that originate from a fortified Late Antique settlement, excavated in its entirety. In the Late Antique province of *Dacia Ripensis*, the currently discussed fortified settlement is among the best studied in archaeozoological terms. Furthermore, the analysis shows that the established species composition is among the richest so far. It could be concluded that the discovered faunal remains are representative of the domesticated animals and the local wildlife in this part of the province.

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Археозоологически материали от късноантичното укрепено селище до гр. Димово, Северозападна България

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(резюме)

През 2022–2023 г. беше проведено цялостно спасително археологическо проучване на откритото през 2021 г. късноантично укрепено селище край гр. Димово, обл. Видин. То е съществувало от последна четвърт на IV в. до последните десетилетия на VI в. През първия период на обитаване, който вероятно е завършил с опожаряване около средата на V в., селището е представлявало укрепен продоволствен център, където са се съхранявали големи количества зърнени храни и фураж в над 120 ями, изсечени в скалния материк. Заселено отново през VI в., укреплението е било възстановено и използвано от местно християнизирано население.

През двата археологически сезона бяха събрани и идентифицирани общо 14 054 фрагментирани животински останки, представляващи 50 таксона. Те демонстрират богато разнообразие от представители на местната фауна, което поставя укрепеното селище край Димово сред един от най-богатите на домашни и диви животни обекти, проучени досега на територията на България. Някои диви бозайници (като дива свиня, заек, благороден елен, сърна, елен лопатар и зубър) са били ловувани за храна, докато други (като червена лисица, дива котка, сив

вълк, кафява мечка и бобър), са били ловувани заради кожата им. Животновъдството (говеда, овце, кози, коне, магарета и свине) е основният източник на месо, транспорт или впряг за жителите на селището. Освен това са открити множество останки от шипоопашати костенурки, вероятно използвани за храна. От затворени контексти в рамките на укрепената площ е установена и най-голямото регистрирано в късноантични обекти у нас количество черупки от градински охлюв, също събиран с оглед хранителните си качества. Дивите птици са представени от голяма дропла, ням лебед, сива гъска, малка белочела гъска, сива яребица, сива чапла, гривяк, обикновен мишелов, белоопашат морски орел, посевна врана и изчезналият тетрев. Около 10% от установения животински състав са видове, изчезнали през последното хилядолетие от съвременната фауна на България – тетрев, голяма дропла, зубър, тур и бобър. Това означава, че фаунистичното разнообразие в района на селището е било много по-богато от днешното.

В бита на населението, ловът, наред с животновъдството, е заемал значително място. Някои от видовете са били ценени и като източници на суровина за изделия от бита. Голямото количество открити рога от благороден елен, много от които със следи от обработка, свидетелстват, че в рамките на укреплението е действало поне едно ателие за изработване на изделия от кост и рог, сред които дръжки за сечива, гребени, зарове и др.