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## ARCHAEOZOOLOGICAL DATA CONCERNING THE HUNTING OF THE DEERS IN MEDIAEVAL MOLDAVIA

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**Keywords:** Cervids, hunting, Middle Ages, Moldavia, archaeozoology, ecology.

**Abstract.** *This study provides some evidences for the ecological conditions in Medieval Moldavia proceeding from the hunted cervids remains. Hunted deers are described in terms of their frequencies based on the number of remains (NR). Deer species are considered in different groups, corresponding to their ecological characteristics. The paper, which synthesizes the fauna data from 20 archaeological contexts, refers to environment, importance of hunting, and the distribution of some deer species in the Moldavia territory during the Middle Ages.*

**Résumé.** *Le présent article essaie de mettre en évidence certains caractéristiques écologiques de la Moldavie médiévale, en considérant les restes squelettiques des cervidés chassés. Les cervidés chassés sont décrits conformément à leurs fréquences évaluées comme nombre de restes (NR). Les espèces sont considérées en groupes conformément aux leurs caractéristiques écologiques. L'étude, qui synthétise des données fauniques de 20 contextes archéologiques, se réfère à l'environnement, l'importance de chasse et la distribution des certaines espèces de cervidés sur le territoire de la Moldavie médiévale.*

**Rezumat.** *Articolul dorește să evidențieze unele caracteristici ecologice ale Moldovei medievale, pe baza resturilor osteologice de cervide vâdate. Acestea sunt descrise după frecvența numărului de resturi (NR). Speciile sunt considerate pe grupe, în funcție de caracteristicile lor ecologice. Studiul, care sintetizează datele faunistice din 20 de contexte arheologice, se referă la mediul înconjurător, importanța vânătorii și răspândirea unor specii de cervide pe teritoriul Moldovei medievale.*

### Introduction

The present study provides some evidence for the ecological conditions in Medieval Moldavia proceeding from the hunted cervids remains. Hunted deer remains of Medieval Moldavia are described in terms of their frequencies based on the number of remains. Deer species are considered in different groups, corresponding to their ecological characteristics. The paper, which synthesizes the archaeozoological data of previous studies as well as our unpublished results, refers to environment, importance of hunting, and the distribution of some deer species in the Moldavia territory during the Middle Ages.

After the Roman occupation came to an end and its influence waned in Dacia, a number of groups passed through the area: the Huns, the Ostrogoths, and the Slavs. The Bulgarians, the Magyars, the Pechenegs, the Mongols also held sway temporarily. In the 13<sup>th</sup> century, Hungary expanded into the area and established a line of fortifications in Moldavia, near the Siret River. The region came under Hungarian suzerainty until Prince Bogdan established an independent Moldavian principality in 1349. The principality was named Moldova, after the Moldova River, in present day Romania (SPINEI 1994). During the first half of the 16<sup>th</sup> century Moldova succumbed to the Ottoman power and was a tributary state of this empire for the next 300 years (GEORGESCU 1992).

Medieval Moldavia, stretched from the Carpathian Mountains to the Nistru River, presents three relief steps: the Eastern Carpathian Mountains, the Moldavian Sub-Carpathians and the Moldavian Plateau. The Eastern Carpathians, to the east of Moldavia, have a relatively reduced massiveness, an accentuated fragmentation and medium heights; these characteristics have facilitated contacts between the inter- and peri-Carpathian regions. The Moldavian Sub-Carpathians is divided by many depressions. To the east lies the Moldavian Plateau. The north region of this plateau consists of a depression (depression of the Middle Prut), surrounded by high hills (250-600 m). In the south region of the Moldavian Plateau there are many hills, which broaden and lower progressively to the south. Stretching for towards the North of the Danube and the Black Sea, there is a plain named Bugeac, east of Prut River (ENCICLOPEDIA ROMÂNIEI 1938). The Moldavian territory has a temperate continental climate, with a more accentuated continental influence towards the east.

### **Materials, results and discussion**

The present paper synthesizes the archaeozoological data of previous studies as well as our unpublished results.

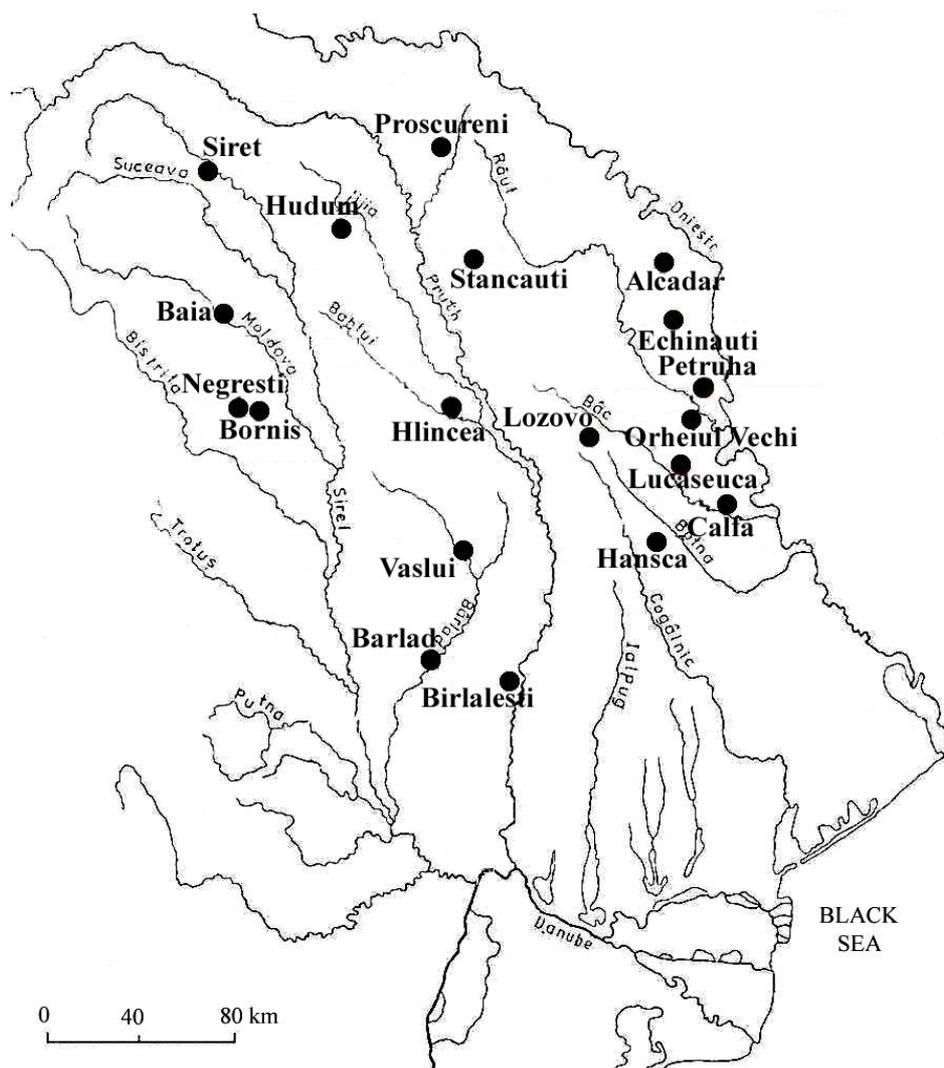


Fig. 1. Map of Medieval Moldavia showing the sites that have been archaeozoologically analysed.

The archaeozoological samples are represented by the fauna remains discovered during the archaeological diggings performed in certain sites of Medieval Moldavia. Twenty archaeozoological samples from medieval settlements are referred to in the present paper (Fig. 1). Chronologically, the settlements are dated to a quite long time span, the first half of the second millennium, and they are located in different geographic units: the sub-Carpathian area and the Moldavian Plateau (Table 1).

**Table 1.** Assemblages referred in the present paper.

Present-day Romania		Republic of Moldavia	
Site	Reference	Site	Reference
<b>Moldavian Plateau</b>		<b>Moldavian Plateau</b>	
1. Baia	Bejenaru 2003	10. Proscureni	David 1982
2. Siret	Haimovici <i>et al.</i> 1993, Haimovici and Bejenaru 1994, Bejenaru and Tarcan-Hrișcu 1996	11. Pohorniceni	<i>Ibidem</i>
3. Hudum	Haimovici 1993	12. Hansca	<i>Ibidem</i>
4. Hlincea	Haimovici and Cojocaru 1987	13. Lucașeuca	<i>Ibidem</i>
5. Vaslui	Haimovici 1992	14. Orheiul Vechi I	<i>Ibidem</i>
6. Bârlad	<i>Idem</i> 1980	15. Orheiul V. II	Bejenaru <i>et al.</i> 2003
7. Bârlălești	<i>Idem</i> 1984	16. Lozovo	David 1982
<b>Sub-Carpathians</b>		17. Stâncăuți	<i>Ibidem</i>
8. Negrești	Haimovici and Cojocaru 1987	18. Alcedar	<i>Ibidem</i>
9. Borniș	Haimovici 1994	19. Echimăuți	<i>Ibidem</i>
		20. Calfa	<i>Ibidem</i>

The archaeozoological remains, sampling under the guidance of the archaeologists, have been subjected to anatomic and taxonomic identification analysis and to quantification. The quantification of the archaeozoological data has been performed by the calculation of the number of remains for every species (NR).

As Table 2 shows, the percentages of wild mammals vary from one region to another, as well as from one site to another. The frequencies of wild mammal remains were calculated from the total number of the identified animal remains. West of the Prut River the frequencies, with a mean of 3.76 %, range between 0.40 % at Vaslui and

12.41 % at Bârlad. East of the Prut River the percentages of wild mammals are slightly higher, with a mean of 7,09 %: from 0.30 % at Echimăuți at 24 % at Calfa. Documentary sources show that restrictions were applied to ordinary people. Poor people were allowed to hunt only in order to pay their obligations in meat and furs (GIURESCU 1976, 55). Both, private and state regulated domains were protected against the utilisation of wood, grazing, fishing and hunting.

The list of identified deer species is not long and is shown in Table 2. The most frequent species, *Cervus elaphus*, are present in the majority of the assemblages while rare species, such as the *Cervus dama*, *Alces alces* appear mostly in the larger samples. The quantification of species by NR (number of remains) shows different proportions between identified deers (Table 2). We can notice the predominance of *Cervus elaphus* and *Capreolus capreolus*. The red deer dominates in 18 cases and in the Vaslui sample both red deer and roe deer are with 16 remains. Because the deer species are generally large animals, we can assume that the main aim of them hunting was food procurement. Hunting may also have been practised to obtain hide (e.g. elk), and even for enjoyment.

From the ecological point of view, a list of hunted animals suggests the exploitation of a certain biotope. Identified cervids were grouped corresponding to ecological characteristics in: forest species (*Cervus elaphus*, *Alces alces*, *Cervus dama*), and skirt (transitional zone between forest and steppe) species (*Capreolus capreolus*). As Figure 1 shows, in more than half of the assemblages, forest species are predominant, while in the rest of the samples a skirt environment are indicated.

In the case of forest species, archaeozoological identifications correspond to the existence of large forests that are known from documentary sources (GIURESCU 1976). *Cervus elaphus*, considered as present day Carpathian (COTTA 1982, 58, 133), had in the Middle Ages a large extra-Carpathian distribution (Fig. 2). There is a single archaeozoological record of *Alces alces*, east of Moldavia; this animal probably arrived here during its hibernal migration, from the North-East. Archaeozoological identification of *Cervus dama* at Orhei suggests the presence of a hunting reservation in the region, at the time of the 15th-16th centuries. As a thermophilic species, native to the Mediterranean region and Asia Minor, the fallow deer was probably acclimated in a hunting reservation in the Codrii Orheiului. Unlike most other deer species, fallow deer easily becomes semi-domesticated and has been established as a "park deer" in many parts of the world. For this species were identified the following remains: a proximal fragment of metacarpus

(proximal width = 28 mm), a distal fragment of radius (distal width = 32 mm), and a pelvis fragment (anterior-posterior diameter of acetabulum = 29 mm).

The distribution of the skirt species appears generally similar to the previous case (Fig. 2).

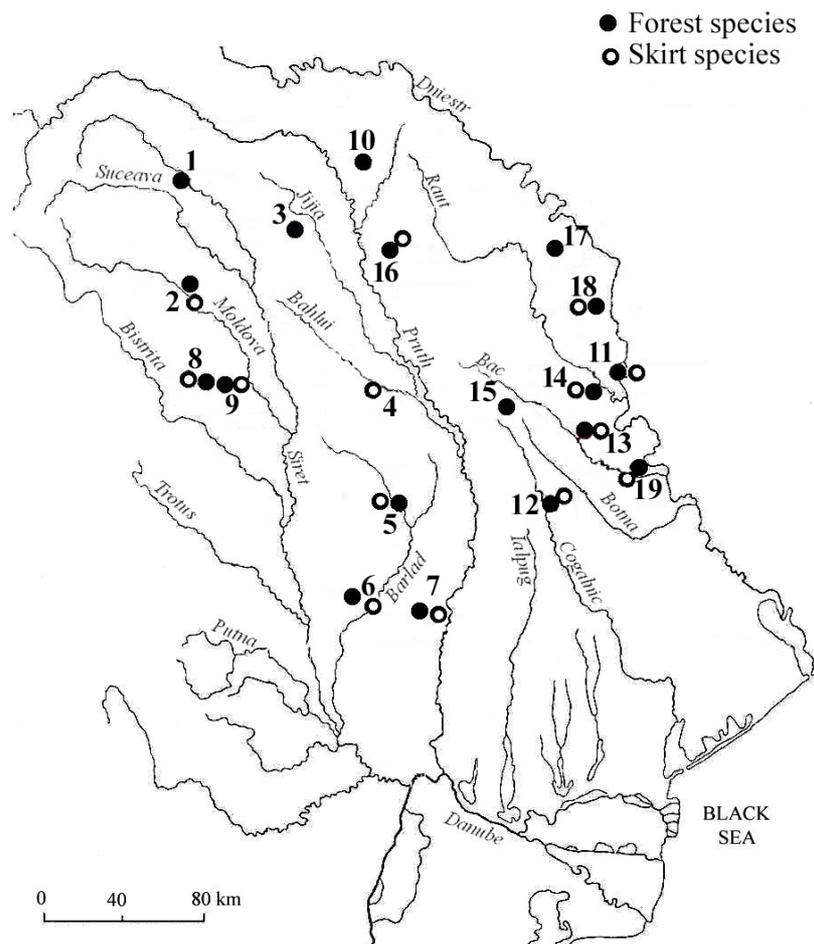


Fig. 2. Distribution of the deer species identified (1. Siret; 2. Baia; 3. Hudum; 4. Hlincea; 5. Vaslui; 6. Bârlad; 7. Bârlălești; 8. Negrești; 9. Borniș; 10. Proscureni; 11. Pohorniceni-Petruha; 12. Hansca; 13. Lucașeuca; 14. Orheiul Vechi; 15. Lozovo; 16. Stâncăuți; 17. Alcedar; 18. Echimăuți; 19. Calfa).

### **Conclusions**

Mammal hunting was generally of low importance during the Middle Ages in Moldavia, probably mainly due to hunting rights and restrictions. Increased emphasis on hunting for some medieval Moldavian settlements suggests an important contribution of the wild animals to the diet. We noticed the dominance of the large animals hunted especially for food procurement such as deer.

Four cervid species were archaeozoologically identified for the Medieval Moldavia. The assemblage size has an important effect on the number of deer species identified. The frequencies obtained for each species vary from one site to another, mainly due to local environmental factors. The red deer was generally the most frequently hunted species. This forest species was probably abundant on the medieval Moldavian territory and was probably hunted more. Moreover, the existence of the some hunting reservations is proved by the identification of the *Cervus dama*.

Towards the end of the Middle Ages the environment of Moldavia underwent changes. The intensification of human activities led especially to deforestation. As a result, the distribution area of some species such as *Cervus elaphus* decreased.

Table 2. The relative importance of wild mammal species (1. Baia; 2. Siret;

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Total identified remains	NR	3471	4947	60	145	1484	580	907	281	1760	1691	1176	5997	797	8175	1185	373	67	990	3915	100	
Wild mammals	NR	42	13	2	4	6	72	21	24	18	35	55	112	57	519	92	20	10	36	12	24	
	%	1.21	0.46	3.33	2.75	0.40	12.41	2.31	8.54	1.02	2.06	4.67	1.86	7.15	6.34	7.76	5.36	14.92	3.63	0.30	24	
<i>Alces alces</i> (Elk)	NR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-
	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-	-
<i>Capreolus capreolus</i> (Roe deer)	NR	12	-	-	2	1	8	5	3	4	-	14	10	10	20	12	-	1	-	3	2	
	%	29	-	-	50	17	11	24	13	22	-	25	9	18	4	13	-	10	-	25	8	
<i>Cervus elaphus</i> (Red deer)	NR	13	2	2	-	1	59	12	8	12	17	28	40	16	479	68	5	2	20	6	13	
	%	31	15	100	-	17	82	57	33	67	48	51	36	28	92	74	25	20	56	50	54	
<i>Dama dama</i> (Fallow deer)	NR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	
	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	
Other wild mammals	NR	17	11	0	2	4	5	4	13	2	18	13	62	31	20	9	15	7	5	3	9	
	%	40	85	0	50	66	7	19	54	11	52	24	55	54	4	10	75	70	14	25	38	

3. Hudum; 4. Hlincea; 5. Vaslui; 6. Bârlad; 7. Bârlălești; 8. Negrești; 9. Borniș; 10. Proscureni; 11. Pohorniceni-Petruha; 12. Hansca; 13. Lucașeuca; 14. Orheiul Vechi I; 15. Orheiul Vechi II; 16. Lozovo; 17. Stâncăuți; 18. Alcedar; 19. Echimăuți; 20. Calfa).

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