

# ECONOMIC ROLE OF PIG (*SUS SCROFA DOMESTICUS*) IN SETTLEMENTS OF EASTERN AND SOUTH-EASTERN ROMANIA DURING THE PAST TWO MILLENNIA

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**Abstract.** Pig skeletal remains of the first and second millennia AD, in eastern and south-eastern Romania are described in terms of their frequencies based on the minimal number of individuals (MNI). A summary of previous studies in the area shows that regional variation characterizes the assemblages. The analysis of the samples was performed considering the historical evaluation of the sites, and these were chronologically grouped. Animal husbandry was an important subsistence practice in the economy of settlements over the past two millennia. Most farmers were raising cattle (*Bos taurus*), pig (*Sus scrofa domesticus*), sheep (*Ovis aries*) and goat (*Capra hircus*), their ratios varying according to local geographic factors. In point of food-related preferences, the pig generally comes on the second place, after cattle and before sheep/goat, as indicates the minimal number of individuals (MNI).

**Keywords:** pig, husbandry, Romania, archaeozoology, first and second millennia AD.

## 1. Introduction

Previous archaeozoological studies in Romania have addressed questions mainly related to subsistence practices such as animals used as food in each site, proportions of identified species in the samples. This archaeozoological synthesis examines the issue of the importance played by pig husbandry during the past two millennia in the territory of Eastern and South-eastern Romania.

During Late Antiquity, as the grip of the Romans over this territory loosened, several migratory populations passed through the eastern and south-eastern areas of Romania (Goths, Huns, Slavs). Later, during the Early Middle Ages, spanning the second half of the first millennium and the first two centuries of the second millennium AD, the territories were successively under the sway of the migratory Bulgars, Petchenegs, Cumans, and Mongols (Spinei 1996). Starting with the 13th century, the main historical reference points coincide with the founding of the medieval Romanian polities. The founding of the Romanian principalities of Wallachia and Moldavia were followed by a short period of stability, until the invasions, the wars, and the internal clashes began anew. During the 15th–16th centuries, Wallachia and Moldavia were subdued by the Ottoman Empire. Over the next 300 years, the two principalities would remain under the sovereignty of the Ottomans, with Dobrudja stripped entirely from Wallachia.

The archaeozoological data were arranged into groups according to region, while in evaluating the

natural potential of the territory and in analysing the circumstances that most probably influenced the ancient human populations in the areas, we took into account first of all the distribution of this territory into physical-geographical units. The multi-tiered terrain of the eastern and south-eastern territory of Romania (consisting of the Eastern Carpathians and the Subcarpathians, and the Moldavian and Dobrudjan lowlands) strongly correlates with the climate, the soil, the vegetation and the fauna, and, implicitly, with the pattern of human settlement.

## 2. Material and Methods

The archaeozoological data used in the present paper proceed from previous studies (Figure 1), and are mainly based on specimen identification and quantification. The identification of the archaeozoological remains aimed to establish the anatomical and taxonomical origin of the specimens according to their morphology. The separation of the domestic pig (*Sus scrofa domesticus*) from its wild ancestor (*Sus scrofa ferus*) was achieved by identifying several osteometric differences, as the morphological criteria were absent in this case.

The archaeozoological quantification aimed at evaluating the relative frequencies of pig in the samples. The quantification method used in this work was based on estimating the number of identified specimens (NISP) and the minimum number of individuals (MNI) (Figure 1). The estimation of the MNI represented in the assemblages was calculated starting in the majority of cases from the most frequently encountered

Region	Samples	Dating (centuries)	NISP mammals	NISP <i>Sus scrofa domestica</i>	MNI <i>Sus scrofa domestica</i>
Moldavia	Cârligi-Filipești	3–5	81	15	6
Moldavia	Podeni	4	1023	214	42
Moldavia	Gara Banca	3–5	1769	215	20
Moldavia	Nicolina	4–5	945	80	13
Moldavia	Todirești	4–6	277	46	9
Moldavia	Davideni	5–7	183	28	9
Moldavia	Ștefan cel Mare	5–7	95	20	10
Moldavia	Udești	7	718	308	56
Moldavia	Lozna Străteni	7–8	721	184	35
Moldavia	Izvoare Bahna	6–9	53	14	5
Moldavia	Mălești	6–8	165	59	13
Moldavia	Vărărie	7–8	81	35	11
Moldavia	Poiana	8–9	867	243	16
Moldavia	Ghilănești	8–10	217	26	6
Moldavia	Bârlălești	10–11	928	66	13
Moldavia	Gara Banca	9–10	870	92	21
Moldavia	Baia	14–17	7064	1031	73
Moldavia	Siret	14–15	5113	991	57
Moldavia	Nicolina	12–13	41	4	2
Moldavia	Hlincea	14–15	152	38	7
Moldavia	Vaslui	15	1470	298	23
Moldavia	Bârlad	13–14	652	49	9
Moldavia	Negrești-Neamț	17	305	166	17
Moldavia	Borniș-Mălești	14–15	370	117	11
Moldavia	Borniș-Obârșia	14–18	663	223	28
Moldavia	Borniș-Siliște	14–18	745	259	39
Moldavia	Târgu Trotuș	14–17	258	38	7
Dobrudja	Telița-Amza	2–3	341	41	6
Dobrudja	Horia	2–3	241	32	7
Dobrudja	Niculitel	2–3	189	13	4
Dobrudja	Isaccea	2–3	232	38	4
Dobrudja	Telița Amza	4	406	40	8
Dobrudja	Jurilovca	6	38	3	1
Dobrudja	Capidava	4–6	161	16	4
Dobrudja	Slava Rusă	4–6	4001	670	56
Dobrudja	Adamclisi	5–7	199	25	6
Dobrudja	Dinogetia	4–6	106	24	11
Dobrudja	Oltina	10–11	940	268	20
Dobrudja	Capidava	10–11	1028	172	20
Dobrudja	Isaccea	11–13	6890	634	62
Dobrudja	Hârsova	11–13	698	192	9
Dobrudja	Piatra Frecăței	11–12	1947	214	27

Figure 1. Remains quantification (after Stanc 2006; Stanc 2009; Bejenaru 2006).

anatomic element, after performing a separation in accordance to the laterality (left/right), but without excluding other estimation criteria, such as age or size (Udrescu *et al.*, 1999).

### 3. Results and Discussion

Animal husbandry was an important subsistence practice in the economy of the settlements from the aforementioned area over the past two millennia. Most farmers were raising cattle (*Bos taurus*), pig

(*Sus scrofa domestica*), sheep (*Ovis aries*), and goat (*Capra hircus*), with their ratios varying according to local geographic factors. In terms of food-related preferences, the pig generally comes on the second place, after cattle and before sheep/goat, as indicates the minimal number of individuals (MNI).

During the first millennium AD, in some samples cattle represent half of the live-stock. In the settlements from the lower parts of Moldavia

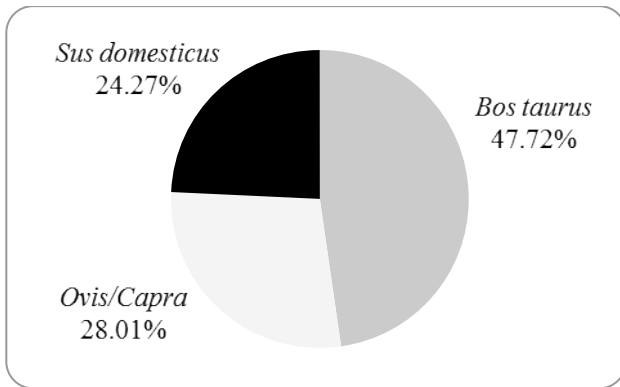


Figure 2. Proportions (MNI) of the main domestic species in eastern Moldavia (Moldavian Plain and Bârlad Plateau), 3th–10th centuries.

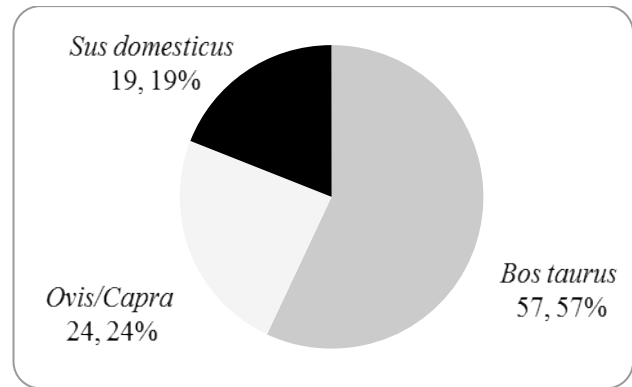


Figure 6. Proportions (MNI) of the main domestic species in the Bârlad Plateau, 10th–15th centuries.

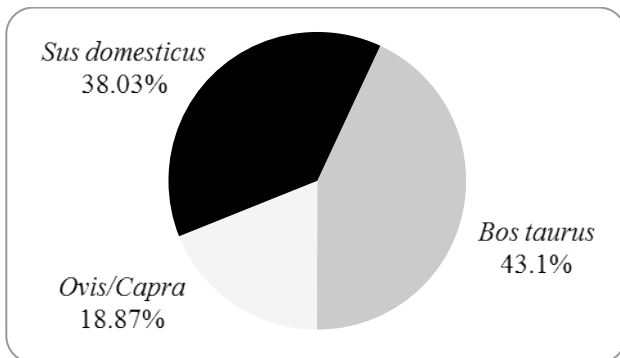


Figure 3. Proportions (MNI) of the main domestic species in the Subcarpathians of Moldavia (Suceava Plateau and Moldova–Siret couloir), 3th–10th centuries.

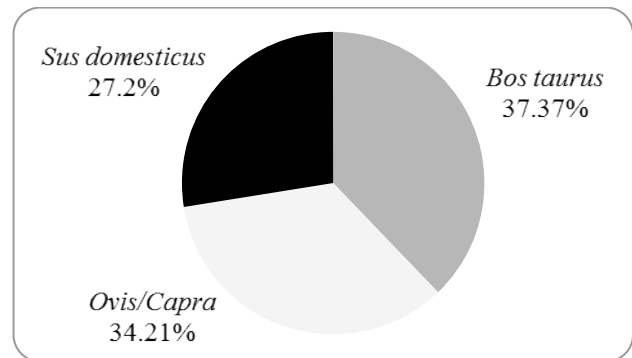


Figure 7. Proportions (MNI) of the main domestic species in the Subcarpathians of Moldavia, 14th–18th centuries.

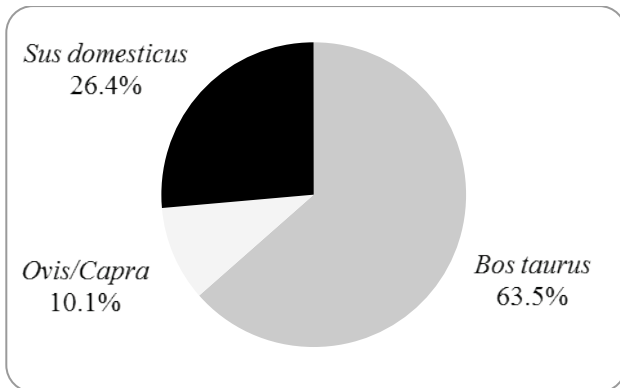


Figure 4. Proportions (MNI) of the main domestic species in the Suceava Plateau, 14th–17th centuries.

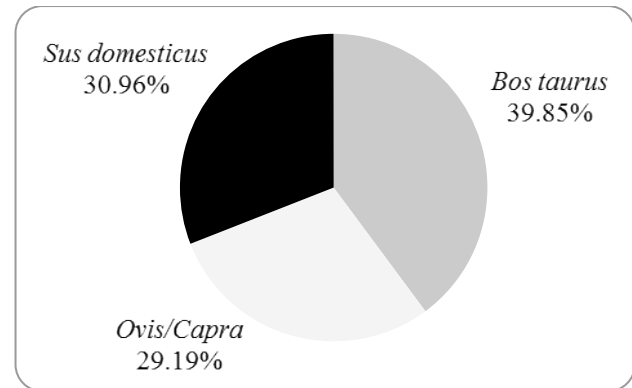


Figure 8. Proportions (MNI) of the main domestic species for the samples coming from Dobrudja, 2th–6th centuries.

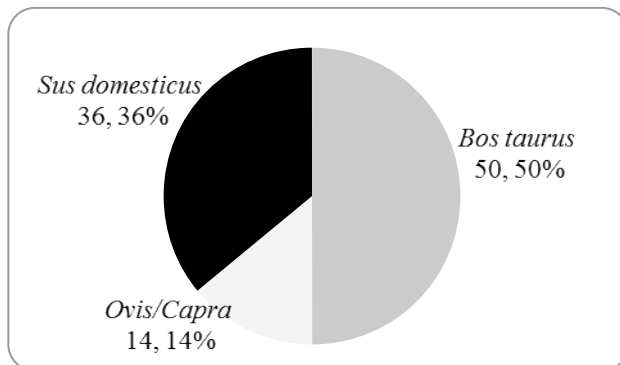


Figure 5. Proportions (MNI) of the main domestic species in the Moldavian Plain, 12th–15th centuries.

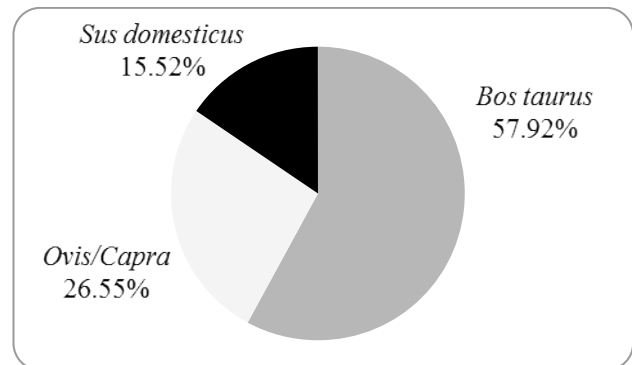


Figure 9. Proportions (MNI) of the main domestic species for the samples coming from Dobrudja, 9th–13th c.

(Moldavian Plain and Bârlad Plateau), sheep/goats are on the second place (28.01% MNI), and pig on the third (24.27% MNI), the quite small difference being only of 4% (Figure 2). In the Suceava Plateau and the Moldova–Siret couloir, pig is on the second place (38.03%), quite close to cattle (43.1% MNI) and almost double the percentage of sheep/goat (18.87% MNI); this is an evidence for another type of animal breeding (Figure 3) in which cattle and pig predominate (Stanc 2006). In Dobruđja, the percentage of pig is higher, averaging 30.96% (Figure 8).

During the second millennium AD, a specialized breeding of cattle, as borne out by over half of the domestic animal group, was practiced in the Suceava Plateau (Figure 4) and in the Moldavian Plain (Figure 5). In these areas, the second place was occupied by pig, with averages of about 26% MNI and 36% MNI, respectively; conversely, sheep/goat played a minor role (Bejenaru 2006). This animal-breeding pattern is similar to the one recorded in other areas from Central and Northern Europe (Audoin-Rouzeau 1997).

For the second millennium, in the Subcarpathian area (*i.e.*, the Carpathian piedmont) of Moldavia, a region with high levels of humidity and large surfaces of land covered by forest, the husbandry of pig was predominant. Sheep and goat remains have higher frequencies, although they do not predominate, in settlements situated in the more arid lowland areas characterized by xerophile vegetation, such as the Bârlad Plateau (Figure 6). For other regions (Suceava Plateau, Moldavian Plain) (Figures 4 and 5), the medieval livestock was dominated by cattle (Bejenaru 2006).

In Dobruđja, cattle are the predominant part of the livestock, while sheep/goats and pig have almost the same percentage during the 2–6th centuries (Figure 8). During the 9–13th centuries (Figure 9), cattle has a higher proportion (57.9%), sheep/goat is on the second place (26.55%), while pig is on the third (15.5%) (Stanc 2009; Bejenaru 2003).

#### 4. Conclusions

The present work is an archaeozoological synthesis developed on the basis of the samples found in archaeological sites from eastern and south-eastern Romania that have been dated to the last two millennia.

Animal breeding played a major role in the economy of the analysed settlements, and most

household had focused on breeding cattle, pigs and sheep/goats; the relative representation of the pig varies according to geographical factors. Pig occurs constantly in all the investigated settlements. In the regions with stretches of woodland, the intensity of pig breeding was higher.

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