

SYNTHESIS OF RESULTS RELATED TO THE ANIMAL ECONOMY OF THE PREHISTORIC SETTLEMENT IN PARȚA (TIMIȘ COUNTY): AN ARCHAEOZOOLOGICAL STUDY

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Abstract. *The faunal material that is the subject of this archaeozoological project comes from archaeological research on a Neo-Eneolithic settlement located on the border of Parța village (Timiș County). The settlement represents one of the most important Neolithic settlements in northern Banat, and is believed to have been one of the region's major settlements in the late Neolithic period. This paper offers a synthesis of all the osteological material from Parța that has been analysed so far, and uses it to explore how animals fitted into the life of this society. It outlines some characteristics of the animal economy, observing the relative importance of activities such as animal husbandry, hunting and fishing. These findings provide insight into certain socioeconomic features of the communities of this period, as well as possible cultural characteristics.*

Keywords: *Parța, archaeozoology, Neolithic, Banat Culture, Tiszapolgár Culture.*

Introduction

The settlement at Parța is one of the most important Neolithic sites in northern Banat, believed to be the region's main settlement in the late Neolithic period. It is located on the boundary of Parța village, in Timiș County, approximately 15 km from the city of Timișoara, on the right bank of the Timiș River. It is known for the richness of the archaeological material discovered there, but especially for its architecture, which includes residential (multi-storey dwellings), military (fortifications) and religious (sanctuaries, community and household altars) constructions.

Archaeological investigations at the Parța site have not only contributed to our knowledge of Neolithic habitation on the last step of the Banat high plains, but were the basis for the definition and periodization of the Banat Culture.¹

A series of archaeological research campaigns on this prehistoric settlement began in 1931 with Ioachim Miloia. Investigations resumed in 1954 and 1960–1963 under Marius Moga and Ortansa Radu, and were continued from 1978 to 2009 by Gheorghe Lazarovici. During these

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¹ Lazarovici et al. 1985, p. 7–8; Lazarovici et al. 2006, p. 27.

excavations, rich archaeological material was obtained that has since been subject to various specialised analyses, including a number of archaeozoological studies.²

In the present paper we present a synthesis of results obtained from these archaeozoological studies, to which we add a new set of unique results. First, we present an overview of the faunal material and the distribution of osteological remains found on various archaeological levels. From this foundation, we go on to discuss the results of an anatomical-comparative study of the animal remains. Finally, we present our analysis evaluating the animal resources at the settlement at Parța, and share our conclusions so far with regards to the animal economy of the settlement.

The presentation of osteological remains and distribution on archaeological levels

The analysed faunal material includes 8,653 animal bones. The list of identified species is typical of prehistoric settlements in the region. Domestic mammals include cattle (*Bos taurus*), pig (*Sus domesticus*), sheep (*Ovis aries*), goat (*Capra hircus*) and dog (*Canis familiaris*). The wild fauna are red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), wild boar (*Sus scrofa*), aurochs (*Bos primigenius*), fox (*Vulpes vulpes*), wolf (*Canis lupus*), bear (*Ursus arctos*), wildcat (*Felis silvestris*), rabbit (*Lepus europaeus*), marten (*Martes martes*) and beaver (*Castor fiber*) (**Table 1**).

The prehistoric settlement at Parța originated during phase IA of the Banat Culture, which corresponds to Vinča A1; based on absolute dating, this period was in the second half of the sixth millennium BCE. For the Banat Culture in Parța, ordered from the earliest to the most recent, the levels are: Level 7a – Banat Culture IA-IB; Level 7b – Banat Culture IC; Level 7c – Banat Culture IIA; Level 6a-b – Banat Culture IIB; Level 5a – Banat Culture IIC; and Level 5b – Banat Culture IIIA.³ The prehistoric habitation of the settlement ends in the first phases of Tiszapolgár culture – Level 4 (**Fig. 1**).

According to the faunal analysis report, 1,334 animal remains have been documented for *Level 7a*, of which 1,233 fragments (92.4%) are from mammals. Domestic mammals are better represented than wild mammals, by about ten percent (**Table 1**). Of the domestic mammals, in terms of number of identifiable specimens (NISP), the greatest proportion are cattle, followed by ovicaprids (including both sheep and goats) and pigs.

Wild mammals, though represented in a smaller number of remains, contain a rich range of taxa. Of the hunted species, the best represented by

² Lazarovici et al. 2001, p. 16–41.

³ Ibid., p. 68–70; Lazarovici, Lazarovici 2006, p. 210–212.

number of remains is wild boar, followed by red deer. Roe deer contribute 9.0% of the NISP, and aurochs only 1.2%.

The other wild species identified were bear, marten and beaver, which together represent less than 0.2% of specimens (**Fig. 2**). There were 81 mollusc remains, with 77 fragments of bivalve shell (5.8% of the total sample) and four fragments of gastropod (snail) shell (0.3%). Fish remains constituted almost 1% of the sample, with 12 fragments. The share of bird bones was low (six specimens, so less than 0.5% of the sample). Two fragments of turtle were also identified (**Table 1**).

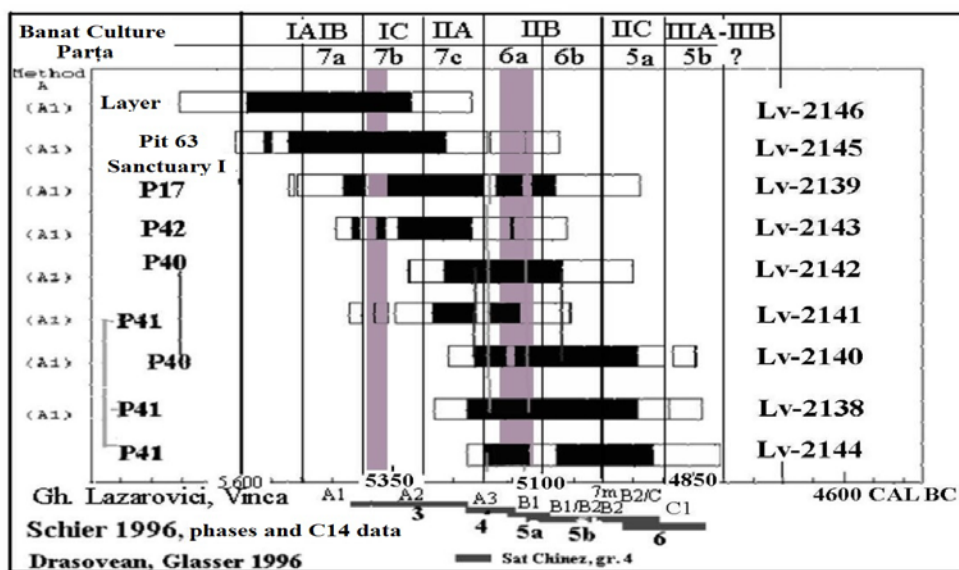


Fig. 1. The relative and absolute chronology of the Banat Culture and the cold periods (grey colour) of the respective time (after Lazarovici and Lazarovici 2006)

In terms of minimum number of species (MNI), the frequencies of the main species differ due to the varied representation of the maxillary remnants. For example, the ovicaprids prevail, with remnants from 21 individuals (23.8%) identified. Of these, five were from sheep (5.7%), three from goats (3.4%), and 13 were not specifically assigned (14.7%). Cattle (19.3%) were the second most common, followed by pigs (11.3%) (**Fig. 2**). For wild species the NISP frequencies do not differ significantly from MNI counts. Wild boar predominates (15.9%), followed by red deer (12.5%), roe deer (8%), aurochs (4.5%) and beaver (2.2%) (**Table 1**).

The faunal sample from *Levels 7b* and *7c* combined contains 3,901 bone remnants, 96.8% of which are from mammals. Among the identified mammalian remains, cattle predominate, with 33% NISP, followed by pigs

(11.8%) and ovicaprids (8.8%). There are few remains of dog. Domestic and wild species represent 53.9% and 45.8% of the sample respectively. Among wild mammals, red deer is the best represented (24.2%), followed by wild boar (15.3%), roe deer (4.8%) and aurochs (1.2%). Other wild animals identified include fox, bear, wolf, rabbit, beaver and wildcat, each representing less than 0.1% of the sample (**Fig. 2**). The relative proportion of domestic to wild species based on MNI is very similar, at 54.2% to 45.8%. The domestic group is dominated by cattle (26%), followed by small ruminants (16.2%) and pigs (10.5%). Among hunted species, the proportions of taxa by MNI are similar to the NISP figures: red deer prevail with 17.7%, followed by wild boar (14.4%) and roe deer (6.9%) (**Table 1**). In addition to mammalian osteological debris, various fragments from molluscs, fish, birds and reptiles have been identified. Molluscs include 10 bivalve fragments (*Unio* sp.) and five snail shells, together totalling 2.7% by NISP of all fauna identified. There were 14 remains from fish (0.4%), two fragments from reptiles (turtle), and two fragments from birds (**Table 1**).

From *Levels 6a* and *6b*, osteological finds total 1,789 remnants. In this faunistic horizon, the ratio of domestic to wild species favours wild animals, in terms of both NISP (49.7% to 50.3%) and MNI (48.6% to 51.4%). Among domestic mammals, cattle for the largest proportion, both by NISP (26.3%) and MNI (18.5%). They are followed by swine (14.8%; 14.4%) and ovicaprids (8.2%; 14.4%) (**Fig. 2**). In the case of wild mammals, wild boar and red deer predominate, both by NISP (21.7% and 14.1% respectively) and MNI (17.1%; 11%). Roe deer (NISP 5.4%; MNI 8.9%) and aurochs (8.4%; 8.2%) also form an important part of the sample. The rest of the wild species – that is, bear, wolf, fox, rabbit, marten and wildcat – are represented by 1 sample each, i.e. 0.06% of the sample. Fish and molluscs together form less than 4% NISP (**Table 1**).

The faunal sample obtained from *Levels 5a* and *5b*⁴ is numerically smaller than those found in other Neolithic levels, with 446 fragments, of which over 99% are from mammals. Domestic mammals represent 51.8% of remains by NISP, compared to 48.2% from hunted mammals. For MNI, the proportions are 54.2% to 45.8%. Of the domestic mammals, cattle are best represented (20% of NISP), followed by ovicaprids (18.2%) and pigs (13.2%). However, by MNI, the relative proportions are different: pigs and ovicaprids are present in equal proportions (18.8%), while cattle are in second place with

⁴ From these levels, a mixture of Banat Culture and Tiszapolgár Culture materials was noted. They also contain traces of a humification process which marks a hiatus between phase IIIA of Banat Culture (Level 5b) and Tiszapolgár Culture (Level 4), according to Lazarovici et al. 2001, p. 69.

14.6%. Two osteological fragments from dogs were obtained, both from a single individual (**Fig. 2**).

For wild mammals, the taxonomic list is no longer as large as in previous levels. Of the hunted species, in terms of the number of fragments, red deer ranks highest (15.9%), followed by wild boar (13%) and roe deer (11.8%). Many remains of hunted aurochs are also present (7.3%). Considered in terms of MNI, the rankings differ: wild boar prevails with 14.6%, followed by aurochs (12.5%), roe deer (10.4%) and red deer (6%). A single osteological fragment from a wolf was identified, plus one fragment from a mollusc and one from a fish (**Table 1**).

For *Level 4*, faunal analysis has so far only targeted 463 fragments. The situation is similar to that seen in the last Neolithic level. About 93% of the debris comes from mammals; molluscs represent 4.1% of the sample; fish constitute 1.5%; while turtles and birds are poorly represented, both below 1%.

The proportion of domestic to wild mammals is closer to even, with 48.1% of the former and 51.9% of the latter. Of the domestic mammals, the largest share of identified fragments are from cattle (22.2%), followed by pigs (15.8%), and small ruminants (10.0%). By MNI, ovicaprids dominate, with 18.0%, followed by pigs (14.0%) and cattle (12.0%) (**Table 1**).

At this level, too, the list of wild species is slightly diversified. For wild species, the rankings by NISP and MNI are similar: red deer totals 20.3% NISP, 16.0% MNI, followed by wild boar (18.6%; 14.0%), roe deer (9.7%; 14.0%) and aurochs (2.8%; 8.0%). Two bear bones were identified at this level.

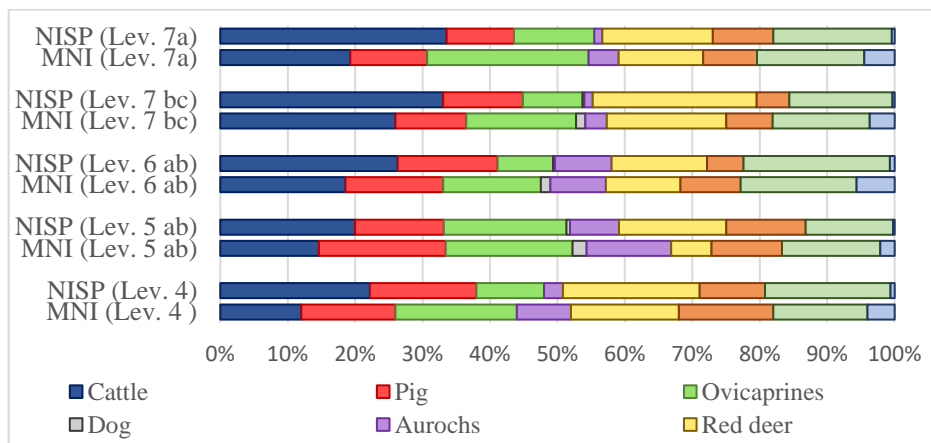


Fig. 2. Distribution by number of identified specimens (NISP) and minimum number of individuals (MNI) across the archaeological levels

Results from the anatomical-comparative study of osteological remains

Archaeozoological analysis was conducted to help reconstruct the morphometric types of the identified animals, on the basis of the osteometric data obtained from complete or almost complete parts of the mature animals.⁵ The measurements obtained provide direct information about the length, width and circumference of the various pieces of bone, which was used to reconstruct the dimensions and determine the sex of the animal. Osteometric calculations were performed in millimetres, according to standardised norms given by Angela von den Driesch.⁶

Cattle

In the settlement of Parța, cattle remains are present in the greatest proportion, with 2,071 attributed to the domestic species and 225 to wild species (aurochs). Fifty-four of the bovine bone fragments could not be assigned to any specific species (**Table 1**). Regarding the cephalic skeleton, the remains of bovine skulls are fragmented. The only measurements taken are of horns and there are only a few instances recorded. From all the Neolithic levels, four cornual processes were measured (**Table 2**), one from a wild ruminant (morphological type “primigenius”); from the Eneolithic level, a single bovine horn was measured. Of these horns, four are of the “brahyceros” type; one of them (piece 4) lies in the upper domain of variation of this type of horn, the rest lying within the average range for this type.⁷ Related to the morphology of the horns, pieces 1 and 4 present a wide spiral, with the tip twisted laterally and upwards, the intercornual line being flat, starting from the base of the horn slightly upwards. The remainder of the analysed horns (pieces 2, 3 and 5) are weakly or moderately arched, being placed in line with the frontal bone along its entire route, with only the tip slightly twisted to the anterior and upwards.⁸ In terms of the relationship between the post-cerebral skeleton and the cornual processes, it is observed that the latter individuals are more gracile, due to the fact that individuals of this species have been domesticated for several generations.⁹

In all the prehistoric levels analysed, the post-cranial skeleton is massive, with measurements well above those for cattle from the south of Banat. Remains from the appendicular skeletons of cattle have also provided a number of measurements. Osteometric calculations of the width of the

⁵ Udrescu et al. 1999, p. 50–51.

⁶ Von den Driesch 1976.

⁷ Armitage, Clutton-Brock 1976, p. 331–332.

⁸ El Susi 1995, p. 39.

⁹ Bolomey 1988, p. 214.

bones indicate that cattle from Parța (both domestic and wild species) had a much more robust skeleton than southern Banat species.¹⁰ The height of cattle from Parța varies between 123.1 and 137.8 cm, with an average of 128.9 cm. There is a wide variability in size, with medium, large and very large individuals¹¹ (**Table 3**).

Comparing the results of herd size for cattle from southern Banat, it is observed that animals from Parța existed in larger herds.¹² Also, Parța cattle were taller than those from the Cucuteni and pre-Cucuteni communities¹³ (whose size ranges between 123 and 125 cm) or those unearthed in the settlements at Zau de Câmpie¹⁴ and Iclod.¹⁵ Compared to cattle from the Neolithic settlements in Vinča (Serbia)¹⁶ and Gomolova,¹⁷ which tend to sit within the average range of variation, bovines from Parța are taller.

Swine

In terms of the number of osteological remains, pigs take second place in the faunal sample from Parța, with wild species better represented (1,171 bone fragments) than domestic species (858 fragments). It was not possible to assign 196 of the fragments to one or the other species (**Table 1**).

Due to the fact that most of the maxillary debris came from young individuals, in order to separate the domestic from the wild species, measurements were also made for deciduous teeth.

This method was initiated in the first archaeozoological analysis by Alexandra Bolomey¹⁸ and was continued in subsequent archaeozoological analyses. Thus, for the domestic species, the upper limit for deciduous premolars (Pd4) was 19 x 8.5 mm (length by width) and the lower limit for wild species was 21.5 x 9.8 mm. For molars, the upper limit for M1 in domestic species was around 14–15.5 x 10–11.5 mm (length/width), and the lower limit of the wild species near the values of 17–20 x 13–14 mm (length/width). For M2, measuring the length and width of the tooth, the upper limit of the domestic species is around 20–21.4 x 13–14 mm, and the lower limit of the wild species is near the values of 21–25 x 16–18 mm.

¹⁰ Ibid., p. 216.

¹¹ El Susi 1995, p. 39–40.

¹² Necrasov et al. 1977, p. 11–17; El Susi 1991, p. 9–17.

¹³ Bolomey 1980, p. 104; Haimovici 1987, p. 162.

¹⁴ El Susi 1989–1993, p. 190.

¹⁵ Haimovici, Man 1986, p. 335.

¹⁶ Bórkónyi 1981, p. 26.

¹⁷ Clason 1979, p. 91–196.

¹⁸ Bolomey 1988, p. 211–213; they used as a model the data from: Bolomey 1973, p. 46; Bolomey 1983, p. 27.

Based on these data and their correlation with a sample from Gomolova (Serbia),¹⁹ a database was created to show the correct distribution of domestic pig breeding to that of wild boar. Furthermore, the data obtained for the settlement from Parța prove that pigs from the Banat Plain had more robust dentition than those from southern Banat and, more precisely, those from the Danube Valley.²⁰ Also, thanks to the numerous measurable osteological remains,²¹ it was possible to obtain dimensions for many domestic pigs. Height measurements were obtained for seven individuals, ranging from 57.2 to 75.1 cm, giving an average height of 66.2 cm.

Wild boar are much better represented in terms of the number of remains. A well-expressed sexual dimorphism can be observed, evidenced by the difference between the minimum and maximum limits of variability, with large individuals predominating. Size calculations for wild boars range from 89.5 to 108.2 cm, average 98.3 cm (n = 26). According to measurements from Parța, the exploited boar population was more robust than that of the Danube Valley,²² but similar to populations living near the Neolithic settlements of southern Banat.²³

Ovicaprids

Of the domestic species, ovicaprids come third in terms of number of remains. Their ranks include two domestic species, *Ovis aries* and *Capra hircus*, represented through 676 osteological fragments. Within the Neolithic levels, sheep are better represented (in terms of NISP) compared to goats. For the Eneolithic level, due to the small number of remains, a significant comparison cannot be made between the two species (**Table 1**). A small number of cornual processes from the cephalic skeletons of both species have been found, offering the possibility of detailed analyses. Seventeen *Ovis aries* horns were harvested from both males and females. Hornless females, representing an advanced stage of domestication, are highlighted among this sample.²⁴ Similar examples are frequently encountered in early Neolithic settlements of the Starčevo-Criș Culture which spanned southeast Hungary and northeast Serbia.²⁵ Morphologically, the male horns are identified with the type “Copper-sheep,” and the female ones are of the “Ziegenartig” type. The section of the base is triangular; the sagittal face is flat, with a tendency for the tip to become concave; the lateral face is convex and the frontal face is

¹⁹ Clason 1979, p. 91–196.

²⁰ Necrasov et al. 1977, p. 11–17; El Susi 1991, p. 9–17.

²¹ Payne, Bull 1988, p. 27–66.

²² Bolomey 1988, p. 215.

²³ El Susi 1991, p. 12; El Susi 1993, p. 56.

²⁴ Bolomey 1988, p. 214.

²⁵ Bórkönyi 1973, p. 74.

wide. Sheep horns are somewhat more robust than the postcranial skeleton, which is more gracile²⁶ (**Table 4**). One particularly noteworthy example is a ram's skull found in Sanctuary II when dismantling a monumental pedestal for a statue – the only such structure found on the site;²⁷ this skull may be connected to a ritual deposition. The cornual processes of this skull are extremely massive, and the individual was of the “copper-sheep” type. According to the morphological report, the horns have a very flat sagittal face, a broad (almost flat) frontal face, a convex lateral face, and the nuchal edge is well highlighted.²⁸ As analogues, only two cases have been identified that are closer to the dimensions of the one from Parța: one from a Neolithic complex in Argissa-Magula (Greece)²⁹ and one from a layer of mixed material from the Starčevo and Vinča Cultures in Anzabegovo (Macedonia).³⁰

For the species *Capra hircus*, 11 cornual processes were analysed including horns of males and females. The morphological report details “aegagrus” found in females and “prisca” types found in males (in some cases this type being in unusual proportions, with a small length, but large circumference).³¹ “Aegagrus” horns are twisted, with a sword-like appearance.³² They have a planoconvex section, due to the orbital face flaring and the sagittal face flattening. The frontal and nuchal edges are well highlighted, the tip being either rounded or sharp, and the walls are thin, with short, thick burrs (**Table 5**). “Prisca”-type horn sections have a planoconvex base, with the sagittal face flattened, the orbital face convex, a prominent anterior margin, and the posterior margin weakly expressed. The nuchal and frontal edges are well expressed and sharp, while the lateral one is rounded. The texture of the dowel is compact, with thick walls, and bears perforations and gutter holes that are typical of the type. In terms of dimensions, goat horns from Parța do not differ much in size from those of the same species found in southern Banat.³³

Analysis of fragments from the post-cranial skeleton indicates that sheep from Parța were small and gracile. Height calculations for this species were carried out on five faunal fragments, resulting in values ranging from 53.3 to 58.0 cm, with an average of 56.1 cm (**Table 6**). This type of small

²⁶ El Susi 1995, p. 40.

²⁷ Lazarovici et al. 2001, p. 226–229.

²⁸ Bolomey 1988, p. 214.

²⁹ Boessneck 1962, p. 29–30.

³⁰ Bórkónyi 1976, p. 343.

³¹ Bolomey 1988, p. 215.

³² Kobryn, Lasota-Moskalewska 1991, p. 163–170.

³³ El Susi 1995, p. 40–41.

sheep has been found in Neolithic settlements in Oltenia,³⁴ Transylvania³⁵ and Moldova.³⁶ Looking further afield, the population differs from sheep identified in Neolithic settlements in the area of Greece,³⁷ but they are similar to those found in contemporary settlements on the territory of Serbia³⁸ and the Pannonian Plain.³⁹ Analysis of the post-cranial skeletons of goats revealed that they are more robust than sheep. Calculations of the dimensions of *Capra bircus* were made on the basis of three whole bones, obtaining height values of 56.9 cm, 64.4 cm and 65.68 cm, respectively.⁴⁰

Cervids

A substantial number of remains in the sample from Parța are from cervids; namely, *Cervus elaphus* (red deer) and *Capreolus capreolus* (roe deer).⁴¹ There are 1,320 bone fragments from red deer, but only 422 fragments from roe deer (**Table 1**). The red deer population exploited by the prehistoric communities of Parța are characterised by massive individuals that were much larger than those of the same species in southern Banat. To measure the cephalic skeleton, several fragments of deer horn have been identified: a deer horn base with traces of cutting off the branches, 92 mm in diameter; a horn on a peduncle with a diameter of 94 mm and a 61 mm peduncle; and a frontal bone bearing the peduncles for horns in which the circumference of the base of the horn is 284 mm, indicating a robust individual. All these pieces (some being gathered) indicate the presence in Parța of a red deer population characterised by large males with well-developed horns. This is further evidenced by measurements of the post-cephalic skeleton,⁴² which indicate a robust population with a large height. Similar populations of this species have been identified in the settlements at Luncavița,⁴³ Iclod⁴⁴ and Gomolova.⁴⁵

³⁴ Bolomey 1986, p. 146.

³⁵ El Susi, Rusu 1995, p. 181–188.

³⁶ Necrasov, Bulai-Știrbu 1980, p. 29.

³⁷ Bórkónyi 1989, p. 320.

³⁸ Bórkónyi 1992, p. 80.

³⁹ Bórkónyi 1981, p. 26.

⁴⁰ Bolomey 1988, p. 215.

⁴¹ Prummel 1988; Stranojević, Drekić 1975, p. 597–604; Stanojević, Nikolić 1975, p. 291–295; Stanojević, Drekić 1976, p. 559–564; Stanojević et al. 1976, p. 701–708.

⁴² El Susi 1995, p. 34.

⁴³ Haimovici, Gheorghiu 1969, p. 87.

⁴⁴ El Susi 1989–1993, p. 191.

⁴⁵ Clason 1979, p. 83–88.

However, the red deer identified at Parța are more robust than those found in the Divostin,⁴⁶ Opovo⁴⁷ and Ljuljaci⁴⁸ settlements.

For the roe deer population, analysis of the post-cephalic skeleton dimensions indicates the prevalence of large and medium-sized robust animals in the area around Parța. Similar conclusions are indicated by the analysis of the cephalic skeleton.

The number of cornual processes identified for this species is not great: a frontal with horns, which has open sutures and a pedicle diameter of 18.5 mm; a frontal with dowel present and open sutures; a straight horn with three branches, with a dowel diameter of 26.5 mm, a length of 240 mm, and open sutures. Size measurements for the roe deer population around Parța indicates that this species is more robust than the population in southern Banat, probably as a result of different environmental conditions.⁴⁹ However, the roe deer exploited in the southwestern part of Romania have a similar fragility to the population found in Neolithic settlements in the southeast of the country.⁵⁰

Other mammals

The remains of other mammals identified represent a very small proportion of the osteological remains and therefore cannot be considered as species that made a significant contribution to the faunal sample. Of dog, 18 faunal remains were identified, but only in the Neolithic levels. Mostly these are maxillary fragments. There is very little in the way of metric data, but the few measurements in existence indicate medium-sized individuals. This is backed up by measurements of the mandibles found in the sample, which indicate the presence of medium-sized and also small individuals.⁵¹

The rest of the identified species (fox, wolf, bear, wildcat, rabbit, pine marten and beaver) are very poorly represented in the collection of osteological remains, and for these species no measurable remains have been identified that provide information regarding their dimensions. However, as we will see in the discussion of hunting, below, there is a possibility that these species were hunted for purposes other than food.

Evaluation of animal resources

Archaeozoological studies make it possible to describe the species of animals and the relationships between people and animals in the area of a settlement

⁴⁶ Bórkönyi 1988, p. 419–446.

⁴⁷ Greenfield 1986, p. 372.

⁴⁸ *Ibid.*, p. 134.

⁴⁹ El Susi 1991, p. 14–15.

⁵⁰ Necrasov, Haimovici 1963, p. 136.

⁵¹ El Susi, 1995 p. 41.

and highlight how animals were used in the community (food, raw material for tools, clothing, traction force, etc.). They also illustrate certain ecological consequences of human intervention and can be used to reconstruct the palaeoeconomics and paleoenvironment of the historical communities investigated.⁵²

In the case of the site at Parța, most of the excavated faunal remains represent the household waste of the prehistoric population. Thus, the identified species allow us to reconstruct details about nutrition in these communities. The presence or absence of certain species gives us information about the activities involved in obtaining food, such as animal husbandry, hunting, fishing and gathering.

Animal husbandry

Animal husbandry was the main source of meat for the prehistoric communities of Parța, based on the presence of many relatively large bones of domestic mammals. The taxa identified in the archaeozoological analysis were domestic beef (*Bos taurus*), pig (*Sus domesticus*), sheep (*Ovis aries*), goat (*Capra hircus*) and dog (*Canis familiaris*). Of the domestic species, as mentioned above, cattle remains are the most numerous among the analysed samples. Following the representation of this species through the various archaeological levels, we noticed that by NISP, from the earliest Neolithic level to the Eneolithic level, cattle remains decrease from around 30% to 18.6%. By minimum number of individuals (MNI) the situation is similar, starting around 20% in the earliest layers, increasing slightly in levels 7 b-c (27%), then decreasing to 12% in the level that corresponds to the Tiszapolgár Culture (**Fig. 3**).

The situation with pigs is different from that of cattle, with prevalence rising from around 9% NISP at the earliest Banat Culture level to 13% in the Tiszapolgár level. The overall trend is similar from the MNI point of view: starting at about 12% in Level 7a, it decreases to 10%, then rises to over 16% in the last Neolithic level but, similar to cattle, presenting a slight decline in the Tiszapolgár level (14%) (**Fig. 3**).

The proportion of sheep and goat remains (considered together) by NISP stays within a fairly narrow range (8%–10%) throughout most of the life of the settlement, except for in Level 5, when it suddenly increases to 18%. However, figures for the minimum number of individuals gives a different perspective to the story. Ovicaprids represent 24% MNI at the earliest Neolithic level (exceeding cattle), then drop sharply to about 12% in the levels of phase IC–IIA of the Banat Culture (Levels 7 b–c), then show a slight increase, reaching 18% in the Tiszapolgár level (**Fig. 3**).

⁵² Bălășescu, Radu 2004, p. 185.

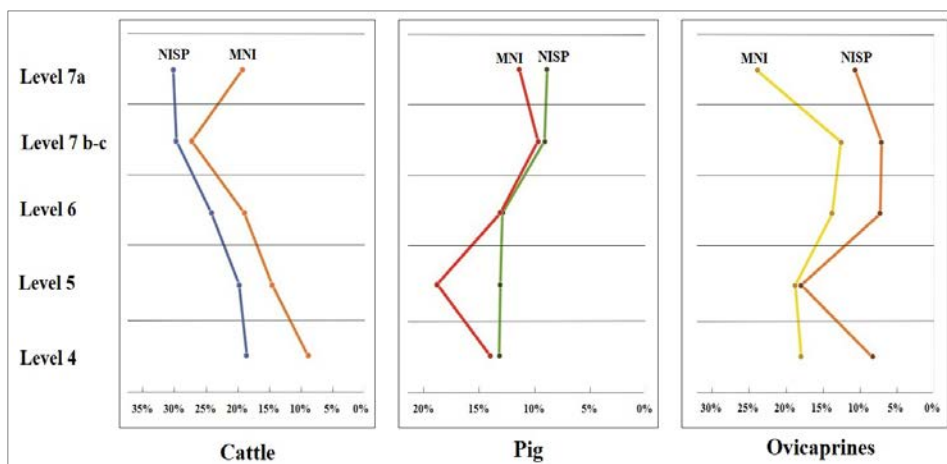


Fig. 3. Change in NISP and MNI of domestic species from Parța through the archaeological levels

Dogs (not shown on the graph) are much less prevalent in the sample, both by NISP and MNI. They only appear in levels associated with the Banat Culture and maintain a consistent presence of less than 0.5% NISP and around 1% MNI. Also worth noting is that no traces were observed on the surface of dog bones to suggest they were consumed for meat.

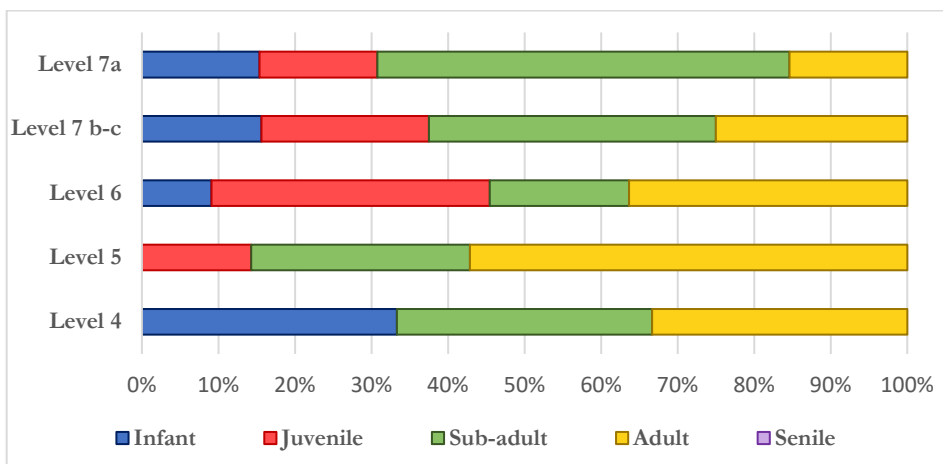


Fig. 4. The age at which cattle were slaughtered through the historical ages of the settlement in Parța

Information obtained on features such as the age and sex of slaughtered animals allows us to observe how prehistoric communities

managed and used their domestic species.⁵³ Analysis of the age at which cattle in the Parța sample were slaughtered indicates changes in the management of this species from the earliest Neolithic levels up to the Eneolithic period. In Level 7a, the greatest proportion of individuals were sacrificed when sub-adults. In levels 7b–c, there is a more even distribution of age at slaughter (only the oldest animals are missing). In Levels 6 and 5 it can be observed that the inhabitants increasingly favoured the slaughter of juvenile and adult animals, a strategy for managing cattle that supports the maintenance of a greater proportion of useful stock. Under this model, infant and sub-adult animals were slaughtered more rarely. In the Tiszapolgár Culture level, only three individuals' age could be determined: namely, one infant, one sub-adult and one adult, so given the tiny sample, the results are inconclusive (**Fig. 4**).

The results show that in the first phases of the Neolithic habitation at Parța, domestic cattle were primarily exploited for meat. But the observed reorientation of how cows were managed towards the end of the settlement's existence probably reflects a shift towards exploiting them for milk and labour as well. It is probably that deficiencies in the way the breeding stock was managed and maintained, possibly including intense culling of immature animals, led to their numerical diminution, as reflected by the decreasing share of this species seen throughout the period of habitation.⁵⁴

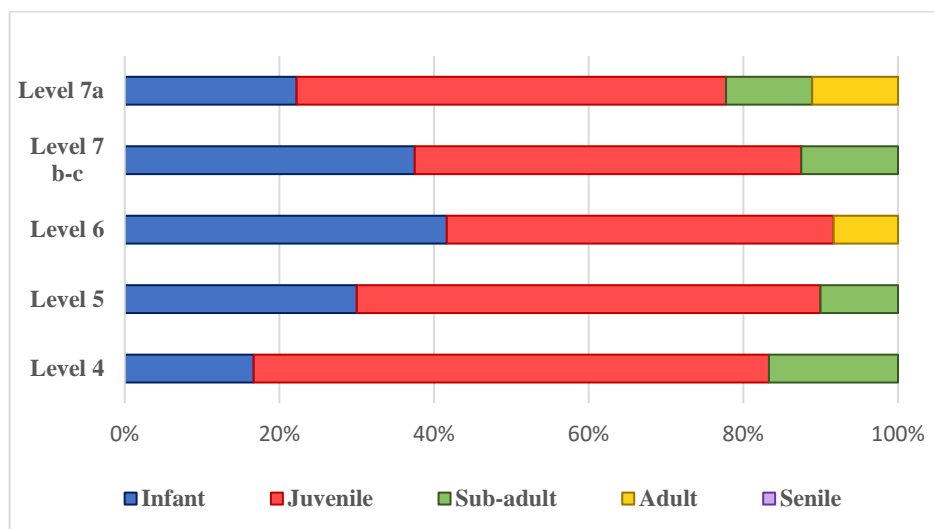


Fig. 5. The age at which domestic pigs were slaughtered through the historical ages of the settlement in Parța

⁵³ Silver 1969, p. 298–299; Habermehl 1961, p. 181–185; Bull, Payne 1982, p. 55–71; Prummel, Frisch 1986, p. 567–577.

⁵⁴ Bolomey 1988, p. 214; El Susi 1995, p. 42–43.

With regards to pigs, analysis of age at slaughter reveals that they were exploited in much the same way throughout the entire history of the prehistoric settlement. The highest percentage were slaughtered when under two years old, thus leaving only a small percentage of breeding stock (sub-adult and adult animals) (**Fig. 5**).

The correlation between the increasing reliance on domestic pigs from earlier levels to the most recent ones, and the slaughter of a large number of young individuals, could be evidence for the reproduction of domestic animals based on the population of wild pigs that were abundant in the area around Parța (thus, explaining the wild osteological remains with dimensions close to those of domesticated hybrids).⁵⁵ This would explain the increased maintenance of the young pig population despite the very low breeding stock of the domestic species.

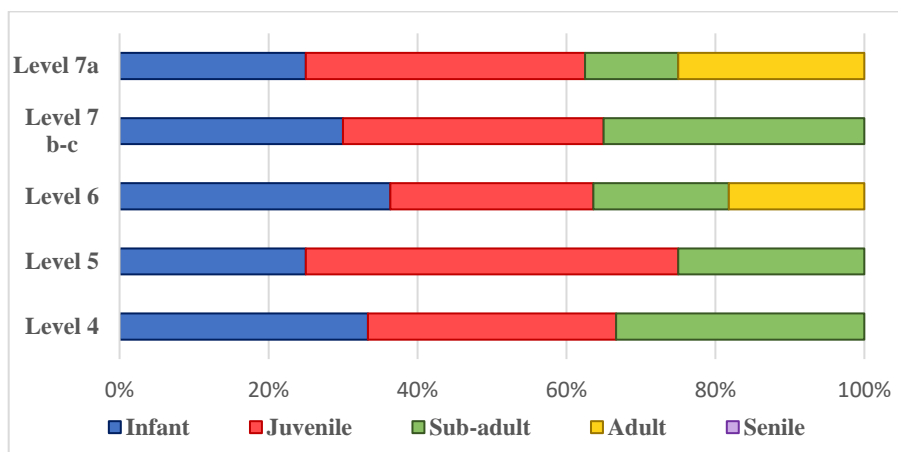


Fig. 6. The age at which domestic pigs were slaughtered through the historical ages of the settlement in Parța

As in the case of swines, ovicaprids were exploited in much the same way throughout the entire habitation of the settlement. In terms of slaughter ages, these animals appear in similar proportions for each of the age categories. Overall, young animals (up to 1.5 years old) represent around 25% of those slaughtered, those aged 2–3 years old around 20–22%, and adult animals (over 3.5 years old) form around 23% of the sample (**Fig. 6**).

The wide variety of slaughter ages, with a mix of young (infant and juvenile), subadult and adult animals suggests these species were raised for milk, meat, fleece, hide and breeding, implying the settlement maintained sufficient breeding stock for constant maintenance of its herds.⁵⁶

⁵⁵ Animal resulting from the crossing, in our case, a domestic pig with the wild boar.

⁵⁶ Bolomey 1988, p. 214; El Susi 1995, p. 43.

Hunting

The presence in the faunal sample of bone debris from wild animals suggests that the people of the settlement at Parța hunted. The list of wild mammals identified in this settlement is quite long, a fact which correlates with the fairly large share of remains from wild species (about 45%). This suggests that the prehistoric inhabitants relied on animal husbandry and hunting to a similar degree. As we will see below, some species of wild animals were hunted throughout the year, others seasonally, both cases aiming to supplement and improve the diet. However, it seems likely that some of the wild species occurring in the faunal remains were killed to protect the settlement and its livestock from predators. As mentioned above, the taxonomic list of wild animals identified at Parța consists of red deer, wild boar, roe deer, aurochs, bear, wolf, fox, marten, beaver, wildcat and rabbit.

Of the wild species, red deer predominate in the faunal record. Considered through time, NISP fluctuated throughout the life of the settlement, starting around 15% in Level 7a, rising significantly within Levels 7b–c to almost 26%, then to dropping again to 12.5% in Level 6. In the level associated with the Tiszapolgár Culture, the proportion goes up to almost 17%. Figures for minimum number of individuals follow a similar trajectory, rising from about 13% in the earliest Neolithic level to almost 20% in Levels 7 b–c, dropping to 11% in Level 6, and rising again in the last level of the Neolithic to 20%. In the Tiszapolgár Culture layer, red deer prevalence dropped to 16% MNI (Fig. 7).

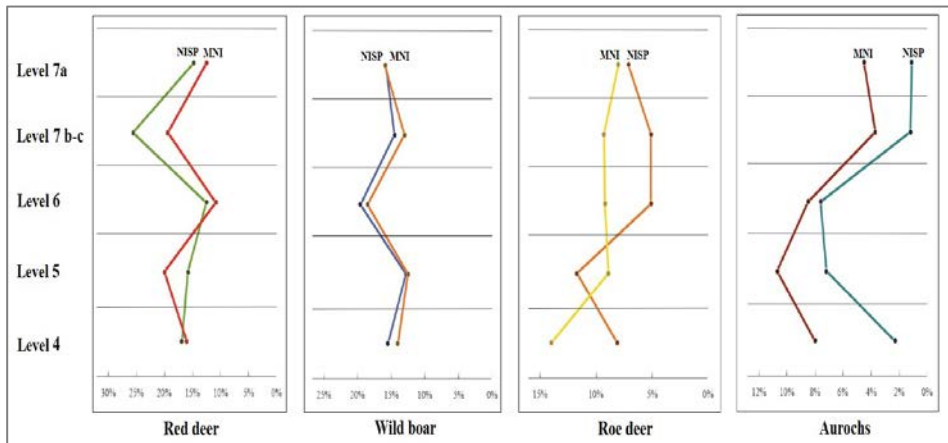


Fig. 7. Change in NISP and MNI of domestic species from Parța through the archaeological levels

As with red deer, the proportion of wild boar in the sample fluctuated from one period to another, but in the opposite direction, increasing when

deer residues decreased and vice versa. In the earliest Neolithic level, wild boar represented about 16% by both NISP and MNI, dropping to almost 14% NISP and 13% MNI in Levels 7b–c; rising to almost 20% NISP and 19% MNI in Level 6; down to 13% NISP and 12.5% MNI in the last Neolithic level; and rising again to almost 16% NISP and 14% MNI in the Tiszapolgár level (**Fig. 7**).

Roe deer increase overall in prevalence from the earliest Neolithic level to the Tiszapolgár Culture layer, from a range of around 5% to 8% NISP in earlier ages, increasing to 11% in Level 5, and dropping again in the final age of the settlement. Figures for MNI paint a much clearer picture, starting from 8% in the earliest Neolithic era and reaching 14% in the Tiszapolgár Culture layer (**Fig. 7**).

Aurochs also form an increasingly large proportion of remains from the first phase of the Neolithic period until the end of the habitation during the Eneolithic period. From a very low base of around 1% NISP and 4% MNI, prevalence increased in the mid-to-late Neolithic: in Level 6 both NISP and MNI stood around 8%, while Level 5 contained 7% by NISP and over 12% by MNI. In the Tiszapolgár Culture layer, aurochs were less important to the settlement, prevalence dropping to just under 3% NISP and around 8% MNI (**Fig. 7**).

Only traces of other wild mammals are found in the sample (both by NISP and MNI), so it is not relevant to trace the evolution of their representation through the ages.

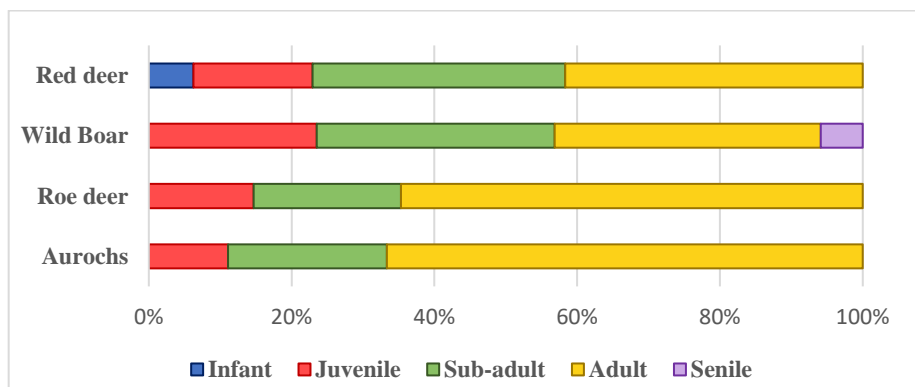


Fig. 8. Age at death of the main wild species hunted in the area of Parța

Analysis of age at death of hunted species indicates a preference for sub-adult and adult animals, with the exception of red deer, for which a significant number of remains from young individuals has been identified. In the case of wild boar, there are some remains from juveniles, but most are

from sub-adults and adults, and even some from old adults. Among roe deer and aurochs, juvenile and sub-adult individuals are poorly represented compared to adults, the latter representing well over 60% on the sample in both cases (**Fig. 8**).

For the prehistoric communities of Parța, hunting was not only undertaken during the hot season, but also during the cold periods. This is suggested by the remains from red deer remains in which the horns are still preserved on the skull, suggesting this species was hunted intensively from September to March (through autumn and winter). The presence of osteological remnants from all parts of the body implies that the animals were carried intact to the settlement, where they were later cut. Among the remains of red deer, males predominate.

In the case of the roe deer, the identification of the remains of males whose horns are visible on the cranial peduncle suggests that this species was hunted intensively in spring and summer (or at least that they were present in the territory exploited by the settlement during these seasons). As with red deer, seems there was a preference for hunting males. It is possible that cervids were not only exploited for meat, but for their hides and also their horns, which could also be gathered, and were used to make tools.⁵⁷ The variations observed in red deer's prevalence in the faunal sample probably correlate with significant periods of deforestation that took place throughout the area's habitation, as presented by the archaeological data.⁵⁸ As a result of deforestation, animals like red deer that require a well-wooded biotope declined.⁵⁹ However, over the same period, the proportion of animals that thrive in shrubland, such as wild boar,⁶⁰ and those that can survive in open areas or forests, such as roe deer and aurochs, increased.⁶¹

Among the wild mammals poorly represented in the osteological record, bear is the only species that seems to have had any importance as a food source for the prehistoric communities of Parța. The other wild carnivore species identified were probably only killed sporadically, or even accidentally.⁶²

One hypothesis is that the more dangerous predators were killed to protect the settlement's domestic animals. The sporadic hunting of species such as fox, marten, beaver, rabbit, wildcat and wolf, may have been for their fur.

⁵⁷ El Susi 1995, p. 36.

⁵⁸ Lazarovici et al. 1985, p. 7–46.

⁵⁹ Cotta et al. 2001, p. 75–109.

⁶⁰ Ibid., p. 175–192.

⁶¹ Ibid., p. 124–150.

⁶² El Susi 1995, p. 46.

Fishing and gathering

Fishing is a complex activity that requires a certain degree of organization, experience and specialised tools. In areas suited to fishing, it became an important occupation within palaeoeconomics.⁶³ The presence of fish remains in the analysed sample suggests that fishing was practiced by the prehistoric people of Parța. In the faunal sample, 44 fragments from fish were harvested. The species represented are pike (*Esox lucius*), carp (*Cyprinus carpio*) and sheatfish (*Silurus glanis*). For pike, 18 osteological remains from a minimum number of five individuals were identified. In terms of dimensions, for this species, medium-sized specimens predominate, with lengths of around 0.50 m and a mass of about 0.7–1 kg. The pike is a predatory fish that lives in clear, calm waters where fish abound. Pikes lead solitary lives, but gather in small banks during the breeding period or in the autumn.⁶⁴ For carp, 16 osteological remnants from a minimum number of six individuals were identified. The species *Cyprinus carpio* lives in the Danube, Prut and most of the major rivers in Romania.⁶⁵ Carp remains found in the Parța excavations are medium to large in size, from 0.60 to 0.75 m in length, suggesting fish that would have weight 3 to 6 kg.⁶⁶ For the species *Silurus glanis* 10 osteological remains were identified, these being attributed to a minimum number of five individuals. Sheatfish favour flowing water, and are common to the big rivers of the region, including the Danube.⁶⁷ The sheatfish specimens found at Parța were about 0.60 m in length, suggesting the whole fish would have weighed around 0.9–1.7 kg. The three species of fish identified at Parța represent native species which can be found even today in the Timiș River, which is in the immediate vicinity of the settlement.

The gathering of molluscs is attested to by the presence of a large number (233) of shell fragments in the sample from Parța. Two species have been identified: *Unio crassus* (thick-shelled river mussel) and *Unio pictorum* (painter's mussel). *Unio crassus* is considered a key bioindicator species, whose presence indicates a healthy freshwater ecosystem. This species is currently on the verge of extinction, but used to be found across almost the whole of Europe, its range extending from the Atlantic to the Ural Mountains and beyond the Tigris-Euphrates region.⁶⁸ *Unio pictorum* is a more nacreous species, found in abundance in shallow waters near river banks and in the

⁶³ Bălășescu, Radu 2004, p. 194.

⁶⁴ Bănărescu 1964, p. 292–301.

⁶⁵ Ibid., p. 472–474.

⁶⁶ Bindea 2006, p. 83–86.

⁶⁷ Bănărescu 1964, p. 547–551.

⁶⁸ Frechter Falkner, 1990.

dead arms of rivers. In the Banat area, one of the rivers where this species is found in abundance is the Timiș River.⁶⁹

Snail shell fragments from *Helix pomatia* (Roman or Burgundy snail) were also found among the animal remains. This edible species is widespread in regions that are not affected by sea breezes. In the territory of Romania, it is found in large numbers in shady and humid places (gardens, forests, vineyards), up to an altitude of 1,500 m.⁷⁰

Conclusions

In this article, we have tried to present a synthesis of the archaeozoological results obtained so far from the faunal materials excavated from the Neolithic settlement of Parța. The anatomical-comparative study of the osteological remains suggests that cattle from Parța were taller than their contemporaries from southern Banat, Transylvania or Moldova. Domesticated pigs, on the other hand, are represented by individuals of similar height to those found in other contemporaneous settlements in southern Banat, but they are more robust. Regarding ovicaprids, sheep are represented by small animals, similar to those found in other Neolithic settlements in Oltenia, Transylvania and Moldova. Turning to cervids, in the case of the red deer a population of large, robust animals predominates, and it appears that the inhabitants preferred to hunt for males. For roe deer, robust animals predominate, with a medium to large stature; similarly, the preference seems to have been for hunting males.

Based on the analytical evaluation of animal resources, it is clear that hunting and animal husbandry were both major activities in the prehistoric communities of Parța. However, there is also plenty of evidence that, at a secondary level, fishing and gathering were also important, as indicated by the remains of various species of fish and mollusc that were common to the waters near the settlement.

Changes in the relative proportion of remains from domestic species were analysed in order to show the evolution of animal husbandry and the ways in which animals and animal products were exploited throughout the history of the prehistoric settlement. It was observed that for the majority of the period covered in the archaeological record, cattle were primarily raised for meat, with dairy farming and use in labour only emerging later. Ovicaprids were used in a more a mixed economy, exploited for meat, milk and fleeces/hides. Pigs were mainly kept for meat, and it appears that in some periods residents neglected to maintain viable breeding stock of the domestic species. It is likely that this was rectified by interbreeding stock with native wild boar.

⁶⁹ Sirbu et al. 2010, p. 21–43.

⁷⁰ Grossu 1993, p. 291–366.

Hunting was an important activity for the prehistoric communities of Parța, with red deer, wild boar, roe deer and aurochs the main target species. Analysis of skulls and horns indicates that red deer were the object of active hunting in the autumn-winter period, with a preference for mature animals. In the spring-summer period, roe deer hunting was more common, again, with mature animals favoured. During periods when the local red deer population declined, possibly as the result massive deforestation that occurred at certain times, an increase was observed in the prevalence of species that can live in shrubland, such as wild boar, and open areas or forest edges, such as roe deer and aurochs.

The results presented here represent a synthesis of results from several research campaigns, offering a detailed analysis and interpretation of the gathered data on the rich and complex faunal sample excavated from the settlement of Parța. The purpose of this synthesis was to try to present a detailed description of the archaeozoological results related to the animal economy of the prehistoric communities of Parța. We hope that our ongoing archaeozoological research on the remains from this prehistoric settlement will help to build an even more extensive and comprehensive image of the relationship between humans and the animal world in the Neolithic period.

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LEVEL SPECIES	Level 7a				Level 7b-c				Level 6a-b				Level 5a-b				Level 4			
	NISP	NISP%	MNI	MNI%	NISP	NISP%	MNI	MNI%	NISP	NISP%	MNI	MNI%	NISP	NISP%	MNI	MNI%	NISP	NISP%	MNI	MNI%
<i>Bos taurus</i>	372	33.8	17	19.3	1127	33	72	26	404	26.3	27	18.5	88	20	7	14.6	80	22.2	6	12.0
<i>Sus domesticus</i>	110	10	10	11.3	406	11.9	29	10.5	227	14.8	21	14.4	58	13.2	9	18.8	57	15.8	7	14.0
<i>Ovis aries</i>	18	1.6	5	5.7	45	1.3	6	2.2	23	1.5	6	4.1	5	1.1	2	4.2	1	0.3	1	2.0
<i>Capra hircus</i>	10	0.9	3	3.4	24	0.7	5	1.8	20	1.3	3	2.1	2	0.5	1	2.1	3	0.8	2	4.0
Ovicaprids	104	9.5	13	14.7	233	6.8	34	12.2	83	5.4	12	8.2	73	16.6	6	12.5	32	8.9	6	12.0
<i>Canis familiaris</i>					11	0.3	4	1.4	5	0.3	2	1.4	2	0.5	1	2.1				
DOMESTIC MAMMALS	614	55.9	48	54.5	1846	54.0	150	54.2	762	49.7	71	48.6	228	51.8	26	54.2	173	48.1	22	44
<i>Bos primigenius</i>	14	1.2	4	4.5	41	1.2	9	3.2	128	8.4	12	8.2	32	7.3	6	12.5	10	2.8	4	8.0
<i>Cervus elaphus</i>	182	16.5	11	12.5	832	24.3	49	17.7	216	14.1	16	11	70	15.9	3	6	73	20.3	8	16.0
<i>Capreolus capreolus</i>	88	9	7	8	164	4.8	19	6.9	83	5.4	13	8.9	52	11.8	5	10.4	35	9.7	7	14.0
<i>Sus scrofa</i>	195	17.7	14	15.9	524	15.3	40	14.4	332	21.7	25	17.1	57	13	7	14.6	67	18.6	7	14.0
<i>Vulpes vulpes</i>					1	0.03	1	0.4	1	0.06	1	0.7								
<i>Ursus arctos</i>	1	0.09	1	1.1	2	0.05	1	0.4	1	0.06	1	0.7					2	0.6	2	4.0
<i>Canis lupus</i>					1	0.03	1	0.4	1	0.06	1	0.7	1	0.2	1	2.1				
<i>Lepus europaeus</i>					6	0.2	4	1.4	1	0.06	1	0.7								
<i>Martes martes</i>	3	0.2	1	1.1					6	0.4	3	2.1								
<i>Castor fiber</i>	2	0.1	2	2.2	2	0.05	2	0.7												
<i>Felis silvestris</i>					1	0.03	1	0.4	1	0.06	1	0.7								
WILD MAMMALS	485	44.1	40	45.6	1574	46.0	127	45.8	771	50.3	75	51.4	212	48.2	22	45.8	187	51.9	28	56.0
DETERMINATED	1099	100	88	100	3420	100	277	100	1533	100	146	100	440	100	48	100	360	100	50	100
<i>Bos/Cervus</i>	27				84				57				2				12			
<i>Bos taurus/Bos primigenius</i>					45				9											
Suinae	56				68				48								24			
INDETERMINABLE	51				160				74				2				35			
TOTAL MAMMALS	1233		88		3777		277		1721		146		444		48		431		50	
<i>Mammals</i>	1233	92.4			3777	96.8			1721	96.2			444	99.6			431	93.1		
<i>Unio sp.</i>	77	5.8			101	2.6			52	2.9			1	0.2			19	4.1		
Gasteropoda	4	0.3			5	0.1			5	0.3										
Pisces	12	0.9			14	0.4			9	0.5			1	0.2			7	1.5		
<i>Emys orbicularis</i>	2	0.1			2	0.1											2	0.4		
Aves	6	0.4			2	0.1			2	0.1							4	0.9		
TOTAL	1334	100			3901	100			1789	100			446	100			463	100		

Table 1. Distribution of species as number of remains and minimum number of individuals for the Neolithic levels of the settlement at Parța

	Piece 1	Piece 2	Piece 3	Piece 4	Piece 5
Maximum length		230	272		
Greatest diameter of the horncore base	74	65.4	53	68	62
Smallest diameter of the horncore base	57	54.5	49	55	55.5
Horncore basal circumference	210	199	168	198	183
Diameter at 5 cm	69	58		60	54
Sex	M	M	-	M	M

Table 2. Osteometric data for cattle horns from Parța

	Radius	Metacarpus	Metacarpus	Metatarsus	Metatarsus
GL	298	212	224	234	231
Bp	85.5	63	66.5	52	47
SD	43	34	35	28	28
Bd	77.5	60	67	58	54.5
I ₁	-	29.7	29.6	22.2	20.3
I ₂	-	16	15.6	11.9	12.1
Sex	M	F	E	E	F
Height	128.1	127.8	137.8	127.9	123.2

Table 3. Estimation of height for the cattle from Parța

<i>OVIS ARIES</i>																		
Maximum length		118				112	82	118	98		104	121						
Greatest diameter of the horncore base	45	51	50.5	49	48	44	51	51.5	48	54.5	47	36.5	39	51.2	32	33	35	69.5
Smallest diameter of the horncore base	33	38	37.5	30	36.5	31.5	38	34	39.5	36	34.5	26	31	36	25.6	23.5	27	50
Horncore basal circumference	130	131	138	130	144	131	139	148		154	130	99	117	130	89	90	98	195
Sex	M	M	M	M	M	M	M	M	M	M	M	M	M	M	F	F	F	M

Table 4. Osteometric data of sheep horns from Parța

<i>CAPRA HIRCUS</i>													
Maximum length	-	-	-	-	-	-	-	-	-	-	-	-	-
Greatest diameter of the horncore base	36.5	36.5	37.5	44	48.5	56	36	48	29.5	39	39		
Smallest diameter of the horncore base	24.5	25	25	30	31	33	23.5	34	24	3.5	31.5		
Horncore basal circumference	98	101	107	117	128		96.5		80.5	118	118		
Sex	F	F	F	M	M	M	F	M	F	F	F		

Table 5. Osteometric data of goat horns from Parța

	METACARPUS	METATARSUS	TIBIA
GL	117	124	185
Bp	23	18	17.5
SD	13.5	10	10.1
Bd	22	21.5	20
Sex	F	F	M
Height	56.7	58	55.4

Table 6. Estimation of height for ovicaprids from Parța

	<i>Bos taurus</i>			<i>Bos primigenius</i>		
	NR	Variability	Average	NR	Variability	Average
MANDIBLE						
<i>Length M₃</i>	12	37 – 42	31.2			
<i>M₁ – M₃</i>	5	88.5 – 97	95.3			
<i>P₂ – M₃</i>	3	135 – 143	138			
SCAPULA						
<i>SLC</i>	10	54 – 67.5	59.1	3	69 – 85	77.3
<i>GLP</i>	10	70 – 85	78.4	4	93 – 102	97,8
<i>LG</i>	12	59.5 – 69.5	61.8	4	74 – 80	
HUMERUS						
<i>BT</i>	11	73 – 84	78.4	2	100; 102	
<i>Bd</i>	9	76 – 87.5	81.4	1	113	
RADIUS						
<i>BFp</i>	13	71 – 84	76.6	5	84 – 107	93
<i>Bp</i>	11	82 – 93	80.2	5	92.5 - 165	112
<i>Bd</i>	13	64 – 81	74.1			
METACARPUS						
<i>Bp</i>	17	60 – 68	62.8	2	71; 78	
<i>Bd</i>	17	60 – 67	63.2			
TIBIE						
<i>Bd</i>	25	62 – 75	67.9	1	82.3	
METATARSUS						
<i>Bp</i>	17	47 – 60	53.7			
<i>Bd</i>	23	54.5 – 66	60.7	2	73; 73.5	
PHALANX I						
<i>GL</i>	37	60 – 70	64.5	3	77.5; 78; 78.5	
ASTRAGALUS						
<i>GLJ</i>	32	61.5 – 78	72	8	78 – 85	80.1
<i>Bd</i>	35	40 – 50	45.1	7	48 – 58	52.5
CALCANEUS						
<i>GL</i>	17	132.5 – 146	139.1	6	144 – 175	155.5
<i>GB</i>	21	50 – 59	54.2	6	60 – 71	63.9

Table 7. Osteometric data of cattle from the settlement of Parța

	<i>Sus domesticus</i>			<i>Sus scrofa</i>		
	NR	Variability	Average	NR	Variability	Average
MAXILLARE						
<i>P₂-M₃</i>	1	99		1	137	
<i>M₁-M₃</i>	3	63; 64; 65		4	85 – 93	87.2
<i>Length M₃</i>	3	26; 28; 30		6	19 – 22	20.4
MANDIBLE						
<i>M₁ – M₃</i>	2	62; 63		8	82 – 92	88.5
<i>Length M₃</i>	6	28 – 38	32.8	15	40 – 50	45.4
SCAPULA						
<i>SLC</i>	12	17 – 24	19.9	31	29 – 42	32.6
<i>GLP</i>	2	32; 34		15	42 – 53	48.6
HUMERUS						
<i>BT</i>				35	35 – 45	42.8
<i>Bd</i>				34	42 – 56.3	54.7
PELVIS						
<i>LAR</i>	13	27 – 40	34.6	16	40 – 58	45.1
RADIUS						
<i>Bp</i>	7	24 – 27.5	26.3	35	34.2 – 43	40
<i>Bd</i>				9	40.5 – 54	44.7
TIBIA						
<i>Bd</i>	4	28 – 36.5	32.1	30	34 – 41.5	38.8
Mc III						
<i>GL</i>				9	89 – 101	96.8
Mt IV						
<i>GL</i>				6	93 – 104	98.7
Mt III						
<i>GL</i>				3	110; 113; 126	
ASTRAGALUS						
<i>GLJ</i>				21	48.5 – 58	103.3
CALCANEUS						
<i>GL</i>	2	73; 76		13	96.5 – 115	98.3

Table 8. Osteometric data of swines from the settlement of Parța

	NR	Variability	Average
MANDIBLE			
<i>P₂-M₃</i>	9	64 – 85	71.5
<i>M₁-M₃</i>	9	44 – 60	48.6
<i>Length M₃</i>	16	20.5 – 27.5	22.9
SCAPULA			
<i>SLC</i>	13	18.5 – 23	20.6
<i>GLP</i>	9	28.5 – 32.5	29.9
<i>LG</i>	10	18.5 – 23	22.3
HUMERUS			
<i>BT</i>	4	24 – 25	24.5
<i>Bd</i>	5	25.5 – 27	26.3
RADIUS			
<i>BFp</i>	10	24 – 28	25.3
<i>Bp</i>	8	26 – 29.5	27
<i>Bd</i>	1	23.5	
METACARPUS			
<i>Bp</i>	10	19.5 – 27	23.2
<i>Bd</i>	11	22 – 26	23.5
TIBIA			
<i>Bd</i>	8	23 – 30	27.6
METATARSUS			
<i>Bp</i>	11	17 – 19	18.1
<i>Bd</i>	14	19.5 – 25.5	21.6

Table 9. Osteometric data of ovicaprids from Parța

	<i>Cervus elaphus</i>			<i>Capreolus capreolus</i>		
	NR	Variability	Average	NR	Variability	Average
MAXILLARE						
<i>M₁-M₃</i>	2	81; 82.5				
MANDIBLE						
<i>M₁ – M₃</i>				13	66 – 72	68.8
<i>Length M₃</i>				14	34.5 – 45	39.8
SCAPULA						
<i>SLC</i>	20	33.5 – 41.5	37.4	31	16.5 – 20.5	18.4
<i>GLP</i>	14	41 – 68	54.9	21	27 – 31	29.6
HUMERUS						
<i>BT</i>	17	52.7 – 63	58.3	2	23; 26	
<i>Bd</i>	20	55 – 70.5	61.7	13	26 – 32	29.1
RADIUS						
<i>Bp</i>	14	56.5 – 67.5	63.9	11	26 – 28.5	27.2
<i>BFp</i>	13	51 – 64.5	58.8	2	24.5; 26.5	
<i>Bd</i>	22	52 – 64	56.8	2	25.5; 26.5	
TIBIA						
<i>Bd</i>	17	50 – 68	56.9	2	22; 22.5	
METACARPUS						
<i>GL</i>				1	203	
<i>Bp</i>	18	41 – 62.5	51.5	4	22.5 – 24.5	23.3
<i>Bd</i>	24	41 – 57.5	47.4	1	22	
METATARSUS						
<i>GL</i>				1	203	
<i>Bp</i>	8	44.5 – 49	45.3	5	21 – 23.5	22.1
<i>Bd</i>	16	41 – 59	51	1	25	
ASTRAGALUS						
<i>GL</i>	15	58 – 65	53.7	2	29.5; 31.5	
<i>Bd</i>	16	35 – 48	39.3	2	19.5; 21	
CALCANEUS						
<i>GL</i>	12	98 – 145	125.5	1	70	
<i>GB</i>	14	34.5 – 54	46.6	1	25.5	

Table 10. Osteometric data of cervids from Parța

LISTA ABREVIERILOR DE PERIODICE

- AAH** – Acta Archaeologica Hungarica (actualmente Acta Archaeologica). Budapesta.
- ABLR** – Archäologische Berichte des Landkreises Rotenburg. Wümme.
- ACMI** – Anuarul Comisiunii Monumentelor Istorice, secția pentru Transilvania. Cluj-Napoca.
- Acta** – Acta (Siculica). Muzeul Național Secuiesc. Sfântu Gheorghe.
- ActaArch** – Acta Archaeologica. Budapesta.
- ActaMN** – Acta Musei Napocensis. Muzeul de Istorie a Transilvaniei. Cluj-Napoca.
- ActaMP** – Acta Musei Porolissensis. Muzeul Județean de Istorie și Artă Zalău.
- Acta Theriologica** – Acta Theriologica. Mammal Research Institute PAS.
- AÉ** – Archaeologiai Értesítő a Magyar régészeti, művészettörténeti és éremtani társulat tudományos folyóirata. Budapesta.
- AIHAI/AIIX** – Anuarul Institutului de Istorie și Arheologie „A. D. Xenopol” Iași (din 1990 Anuarul Institutului de Istorie „A. D. Xenopol” Iași).
- AIICCMER** – Anuarul Institutului de Investigare a Crimelor Comunismului și Memoria Exilului Românesc. Institutul de Investigare a Crimelor Comunismului și Memoria Exilului Românesc. București.
- AIIGB** – Anuarul Institutului de Istorie „George Barițiu”. Series Historica. Institutul de Istorie „George Barițiu” din Cluj-Napoca.
- AIP** – Arheološki institut Posebna izdanja. Belgrad.
- AISC** – Anuarul Institutului de Studii Clasice. Cluj-Napoca.
- Altertum** – Das Altertum. Deutsche Akademie der Wissenschaften zu Berlin.
- Alt-Thüringen** – Alt-Thüringen. Museum of Prehistory and Early History of Thuringia.
- AM** – Arheologia Moldovei. Institutul de Istorie și Arheologie „A. D. Xenopol” Iași.
- AMET** – Anuarul Muzeului Etnografic al Transilvaniei. Muzeul Etnografic al Transilvaniei. Cluj-Napoca.
- AMM** – Acta Moldaviae Meridionalis. Muzeul Județean Vaslui.
- AnA** – Analele Aradului. Societatea Culturală „Asociația Națională Arădeană pentru cultura poporului român”. Arad.

- AnB** – Analele Banatului (serie nouă). Muzeul Național al Banatului. Timișoara.
- AnBr** – Analele Brăilei. Muzeul Brăilei „Carol I”. Brăila.
- AnD** – Analele Dobrogei. Revista Societății Culturale Dobrogene. Constanța (1920-1923). Cernăuți (1924-1938). Din 1995, seria nouă a publicației este editată de Muzeul de Istorie Națională și Arheologie Constanța.
- Angustia** – Angustia. Muzeul Carpaților Răsăriteni. Sfântu Gheorghe.
- Antiquity** – Antiquity. A Quartely Review of World Archaeology. York.
- AO** – Arhivele Olteniei (serie nouă). Institutul de Cercetări Socio-Umane. Craiova.
- Apulum** – Apulum. Acta Musei Apulensis. Muzeul Național al Unirii Alba Iulia.
- ArcheoSciences** – ArcheoSciences, revue d'archéométrie. Groupe des Méthodes Pluridisciplinaires Contribuant à l'Archéologie.
- ArchHist** – Archaeologia historica. Masarykova univerzita, Filozofická fakulta. Brno.
- Argesis** – Argesis. Studii și comunicări. Seria Istorie. Muzeul Județean Argeș. Pitești.
- ArhMed** – Arheologia Medievală. Reșița, Cluj-Napoca.
- ArhSom** – Arhiva Someșeană. Muzeul Năsăudean. Năsăud.
- ASC** – Archeologie ve středních Čechách. Praga.
- Astra Salvensis** – Astra Salvensis. Cercul Salva al ASTRA. Salva.
- ASUAIC** – Annales Scientifiques de l'Université „Al. I. Cuza”. Iași.
- ATS** – Acta Terrae Septemcastrensis. Sibiu.
- AUASH** – Annales Universitatis Apulensis. Series Historica. Universitatea „1 Decembrie 1918” din Alba Iulia.
- AUASJ** – Annales Universitatis Apulensis. Series Jurisprudentia. Universitatea „1 Decembrie 1918” din Alba Iulia.
- AUDJG** – Analele Universității „Dunărea de Jos” Galați. Seria Istorie. Universitatea „Dunărea de Jos” Galați.
- AVSL** – Archiv des Vereins für Siebenbürgische Landeskunde. Sibiu.
- BAM** – Bibliotheca Archaeologica Moldaviae. Iași.
- Banatica** – Banatica. Muzeul de Istorie al Județului Caraș-Severin. Reșița.
- BAR** – British Archaeological Reports (International Series). Oxford.
- BB** – Bibliotheca Brukenthal. Muzeul Național Brukenthal. Sibiu.
- BCȘS** – Buletinul Cercurilor Științifice Studentești. Universitatea „1 Decembrie 1918” din Alba Iulia.

Bergbaukunde	– Bergbaukunde. Leipzig.
BHAUT	– Bibliotheca Historica et Archaeologica Universitatis Timisiensis. Universitatea de Vest. Timișoara.
BMA	– Bibliotheca Musei Apulensis. Muzeul Național al Unirii. Alba Iulia.
BMB	– Berliner Münzblätter. Berlin.
BMJT	– Buletinul Muzeului Județean Teleorman – seria Arheologie. Alexandria.
BMN	– Bibliotheca Musei Napocensis. Muzeul de Istorie a Transilvaniei. Cluj-Napoca.
BMÖ	– Beiträge zur Mittelalterarchäologie in Österreich. Österreichische Gesellschaft für Mittelalterarchäologie. Viena.
BMP	– Bibliotheca Musei Porolissensis. Muzeul Județean de Istorie și Artă Zalău.
BMS	– Bibliotheca Musei Sabesiensis. Muzeul Municipal „Ioan Raica” Sebeș.
Brukenthal	– Brukenthal. Acta Musei. Muzeul Național Brukenthal. Sibiu.
BS	– Bibliotheca Septemcastrensis, Universitatea „Lucian Blaga” din Sibiu.
BSNR	– Buletinul Societății Numismatice Române. București.
BTh	– Bibliotheca Thracologica. Institutul Român de Tracologie. București.
BUA	– Bibliotheca Universitatis Apulensis. Universitatea „1 Decembrie 1918” din Alba Iulia.
BudRég	– Budapest Régiségei. Budapesti Történeti Múzeum. Budapesta.
Bulletin	– Bulletin de l'Association Pro Aventico. Lausanne.
Bylye Gody	– Bylye Gody. International Network Center for Fundamental and Applied Research. Washington.
CA	– Cercetări arheologice. Muzeul Național de Istorie a României. București.
Caietele ARA	– Caietele ARA: arhitectură, restaurare, arheologie. București.
Caietele CNSAS	– Caietele CNSAS. Consiliul Național pentru Studierea Arhivelor Securității. București.
CAH	– Communicationes Archaeologicae Hungariae. Budapesta.
Carpica	– Carpica. Complexul Muzeal „Iulian Antonescu” Bacău.
Carinthia I	– Carinthia I. Zeitschrift für geschichtliche Landeskunde von Kärnten. Verlag des Geschichtsvereines für Kärnten. Klagenfurt.
CCA	– Cronica cercetărilor arheologice. cIMeC. București.

- Celticum** – Celticum. Supplément à OGAM-Tradition celtique. Rennes.
- CMA** – Concilium mediæ aevi. Zeitschrift für Geschichte, Kunst und Kultur des Mittelalters und der Frühen Neuzeit.
- CNRS** – Centre national de la recherche scientifique. Paris.
- CollMed** – Collegium Mediense. Comunicări științifice. Colegiul Tehnic „Medienseis” Mediaș.
- Cumania** – Cumania. A Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezetének Évkönyve. Kecskemét.
- Cumidava** – Cumidava. Muzeul Județean de Istorie Brașov.
- Dacia** – Dacia. Recherches et découvertes archéologiques en Roumanie. București, I, (1924) - XII (1948). Nouvelle série: Revue d'archéologie et d'histoire ancienne. București.
- Dacia Magazin** – Dacia magazin. Dacia Revival International Society. New York.
- DAMN.SRD** – Din activitatea muzeelor noastre. Studii, referate, documente. Sfatul Popular al Regiunii Ploiești. Muzeul Regional de Istorie Ploiești.
- Danubius** – Danubius. Muzeul de Istorie. Galați.
- DR** – Dacoromania. Institutul de Lingvistică și Istorie Literară „Sextil Pușcariu” din Cluj-Napoca al Academiei Române. Cluj-Napoca
- EJA** – European Journal of Archaeology. European Association of Archaeologists.
- EphNap** – Ephemeris Napocensis. Institutul de Arheologie și Istoria Artei Cluj-Napoca.
- FI** – Fișe de Istorie. Muzeul de Istorie Bistrița (continuată de *Revista Bistriței*).
- FolArch** – Folia Archaeologica. Magyar Történeti Múzeum. Budapesta.
- FVL** – Forschungen zur Volks- und Landeskunde. Sibiu.
- Gând românesc** – Gând românesc. Asociația culturală „Gând Românesc, Gând European”. Alba Iulia.
- Germania** – Germania, Römisch-Germanischen Kommission des Deutschen Archäologischen Instituts. Frankfurt pe Main.
- Godišnjak** – Godišnjak grada Beograda. Beograd.
- Hierasus** – Hierasus. Muzeul Județean Botoșani.
- Hileya** – Hileya: naukovyy visnyk. Natsional'nyy pedahohichnyy universytet imeni M. P. Drahomanov. Kiev.
- HU** – Historia Urbana. Academia Română. Comisia de Istorie a Orașelor din România. București.

- IJMP** – International Journal of Modern Physics: Conference Series.
- Istros** – Istros. Muzeul Brăilei. Brăila.
- JAS** – Journal of Archaeological Science. Elsevier.
- JASREP** – Journal of Archaeological Science: Reports. Elsevier.
- JKK** – Jahrbuch der Kaiserlich-Königlichen Central-Commission zur Erforschung und Erhaltung der Baudenkmale. Viena.
- JRA** – Journal of Roman Archaeology. Editorial Committee of the Journal of Roman Archaeology.
- JRLS** – Journal of Romanian Literary Studies. ALPHA Institute for Multicultural Studies. Târgu Mureș.
- JSKV** – Jahrbuch des siebenbürgischen Karpathen-Vereins. Hermannstadt (Sibiu), I-XXX (1881-1922).
- JSRI** – Journal for the Study of Religions & Ideologies. The Academic Society for the Research of Religions and Ideologies. Cluj-Napoca.
- Közlemények** – Közlemények az Erdélyi Nemzeti Múzeum Érem - és Régiségtarából. Cluj-Napoca.
- Kühn-Archiv** – Kühn-Archiv. Berlin.
- LIUGC** – Lucrările Institutului de Geografie al Universității din Cluj. Institutul de Geografie al Universității din Cluj. Cluj-Napoca.
- Limba română** – Limba română. Institutul de Lingvistică al Academiei Române „Iorgu Iordan - Al. Rosetti”. București.
- LSCMIB** – Lucrările Stațiunii de Cercetări Marine „prof. Ioan Borcea” Agigea. Universitatea „Alexandru Ioan Cuza” Iași.
- Marisia** – Marisia. Muzeul Județean Târgu Mureș.
- MAQ** – Medium Aevum Quotidianum. Krems.
- MCA** – Materiale și cercetări arheologice. București.
- MI** – Magazin istoric. București.
- MKKCC** – Mittheilungen der K. K. Central-Commission zur Erforschung und Erhaltung der Baudenkmale. Viena.
- Mousaios** – Mousaios. Muzeul Județean Buzău.
- MN** – Muzeul Național. Muzeul Național de Istorie a României. București.
- Münzen Revue** – Münzen Revue. International Coin Trend Journal.
- NAC** – Numismatica e Antichità Classiche - Quaderni Ticinesi. Lugano.
- Naukovi zapysky** – Naukovi zapysky Ternopilskoho natsionalnoho pedahohichnoho universytetu im. V. Hnatiuka. Ser. Istoriia. Ternopil's'kyy natsional'nyy pedahohichnyy universytet imeni V. Hnatiuka. Ternopil'.

NIMPR	– Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms. Elsevier.
Notae Numismaticae	– Notae Numismaticae. Zapiski numizmatyczne. Cracovia.
NZ	– Numismatische Zeitung: Blätter für Münz-, Wappen- und Siegel-Kunde. Weissensee.
ONS	– Obshchestvennye nauki i sovremennost'. Rossiyskaya Akademiya Nauk. Moscova.
PA	– Patrimonium Apulense. Direcția Județeană pentru Cultură Alba. Alba Iulia.
PB	– Patrimonium Banaticum. Direcția Județeană pentru Cultură Timiș. Timișoara.
Pferdeheilkunde	– Pferdeheilkunde. Equine Medicine. Official Organ of the German Veterinary Association, Section – Equine Medicine. Baden-Baden.
PHN. Istoriia	– Problemy humanitarnykh nauk. Ser. Istoriia. Drohobych State Pedagogical University named after Ivan Franko. Drohobîci.
Plural	– Plural. Revista Departamentului de Istorie și Geografie a Universității Pedagogice de Stat „Ion Creangă” Chișinău.
PRA	– Proceedings of the Romanian Academy, Series A: Mathematics, Physics, Technical Sciences Information Science. Academia Română.
Prilozi	– Prilozi. Instituta za arheologiju u Zagrebu. Zagreb.
Problemy istorii	– Problemy istorii i istoriografii. Sbornik dokladov mezhvuzovskoy nauchnoy konferentsii. Federal'noye gosudarstvennoye avtonomnoye obrazovatel'noye uchrezhdeniye vysshego obrazovaniya Sankt-Peterburgskiy gosudarstvennyy elektrotekhnicheskiy universitet LETI imeni V. I. Ul'yanova (Lenina). Sankt Petersburg.
QFA	– Quaderni Friulani di Archeologia. Società Friulana di Archeologia onlus. Udine.
RA	– Revista arhivelor. Arhivele Naționale ale României. București.
RAE	– Revue Archéologique de l'Est. Société archéologique de l'Est. Dijon.
RAN	– Révue Archéologique de Narbonnaise. Paris.
RAP	– Revue Archéologique de Picardie. Societe des antiquaires de Picardie.
RB	– Revista Bistriței. Complexul Muzeal Bistrița-Năsăud. Bistrița.

Lista abrevierilor de periodice

REF	– Revista de Etnografie și Folclor. Institutul de Etnografie și Folclor „Constantin Brăiloiu”. Academia Română. București.
RevArh	– Revista Arheologică. Centrul de Arheologie al Institutului Patrimoniului Cultural al Academiei de Științe a Moldovei. Chișinău.
RHSEE/RESEE	– Revue historique du sud-est européen. Academia Română. București, Paris (din 1963 Revue des études sud-est européennes).
RI	– Revista de Istorie (din 1990 Revista istorică). Academia Română. București.
RITL	– Revista de Istorie și Teorie Literară. Academia Română. Institutul de Istorie și Teorie Literară „G. Călinescu”. București.
RJP	– Romanian Journal of Physics. București.
RMNK	– Rocznik Muzeum Narodowego w Kielcach. Kielce.
RMV	– Rad Muzeja Vojvodine. Novi Sad.
RN	– Revue Numismatique. Société française de numismatique. Paris.
ROB	– ROB. Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek. Amersfoort.
RP	– Revista pădurilor. Societatea „Progresul silvic”.
RRH	– Revue Roumaine d’Histoire. Academia Română. București.
RRS	– Revista Română de Sociologie. Institutul de Sociologie al Academiei Române. București.
Rusin	– Rusin. Ob’yednannyya “rus”. Toms’kyy derzhavnyy universytet. Kyshyniv. Tomsk.
SAI	– Studii și articole de istorie. Societatea de Științe Istorice și Filologice a RPR. București.
Sargetia	– Sargetia. Acta Musei Devensis. Muzeul Civilizației Dacice și Romane Deva.
SCA	– Studii și Cercetări de Antropologie. Institutul de Antropologie „Francisc I. Rainer”. Academia Română. București.
SCIV(A)	– Studii și cercetări de istoria veche (din 1974, Studii și cercetări de istorie veche și arheologie). București.
SCN	– Studii și Cercetări de Numismatică. Institutul de Arheologie „Vasile Pârvan” București.
Skhid	– Skhid. Ukrainian Cultural Centre. Institute of Industrial Economics of National Academy of Sciences of Ukraine. Institute of Philosophy named after G. S. Skovoroda of National Academy of Sciences of Ukraine. Zaporizhzhya National University.
SlovArch	– Slovenská Archeológia. Nitra.

- SP** – Studii de Preistorie. Asociația Română de Arheologie. București.
- SprArch** – Sprawozdania Archeologiczne. Instytut Archeologii i Etnologii PAN, Ośrodek Archeologii Gór i Wyzyn w Krakowie. Cracovia.
- SS** – Siebenbürgische Semesterblätter. Arbeitskreis für siebenbürgische Landeskunde. München.
- Studii Clasice** – Studii Clasice. Societatea de Studii Clasice din R.S.R. București.
- ST** – Studii teologice. Revista Facultăților de Teologie din Patriarhia Română. București.
- StComCaransebeș** – Studii și Cercetări de Etnografie și Istorie Caransebeș. Muzeul Județean de Etnografie și al Regimentului de Graniță Caransebeș.
- StComSibiu** – Studii și comunicări. Arheologie-istorie. Muzeul Brukenthal. Sibiu.
- StComSM** – Studii și comunicări. Muzeul Județean Satu Mare.
- SUCSH** – Studia Universitatis Cibiniensis. Series Historica. Universitatea „Lucian Blaga” Sibiu.
- SympThrac** – Symposia Thracologica. Institutul Român de Tracologie. București.
- Terra Sebus** – Terra Sebus. Acta Musei Sabesiensis. Muzeul Municipal „Ioan Raica” Sebeș.
- TMNHN** – Travaux du Muséum National d’Histoire Naturelle. Muzeul Național de Istorie Naturală Grigore Antipa. București.
- Transilvania** – Transilvania. Complexul Național Muzeal ASTRA. Sibiu.
- Universul Juridic** – Universul Juridic. Revistă lunară de doctrină și jurisprudență. București.
- VAH** – Varia Archaeologica Hungarica. Budapesta.
- Vestnik Nizhegorodskoy** – Vestnik Nizhegorodskoy akademii Ministerstva vnutrennikh del Rossii. Nizhegorodskaya akademiya Ministerstva vnutrennikh del Rossiyskoy Federatsii. Nizhniy Novgorod.
- Vestnik Voronezhskogo** – Vestnik Voronezhskogo gosudarstvennogo universiteta. Seriya Gumanitarnye nauki. Voronezhskiy gosudarstvennyy universitet. Voronej.
- Vestnik Tomskogo** – Vestnik Tomskogo gosudarstvennogo universiteta. Seriya Istoriya. Tomskiy gosudarstvennyy universitet. Tomsk.
- Vestnik Tverskogo** – Vestnik Tverskogo gosudarstvennogo universiteta. Seriya Istoriya. Tver.
- Veterinarski glasnik Br** – Veterinarski Glasnik Br. University of Belgrade. Belgrad.

Lista abrevierilor de periodice

- Visnyk** – Visnyk Kyyivs'koho natsional'noho linhvistychnoho universytetu. Seriya: Istoriya, ekonomika, filosofiya. Kyyivs'kyy natsional'nyy movnyy universytet. Kiev.
- Vjesnik** – Vjesnik za arheologiju i povijest dalmatinsku. Arheološki muzej Split.
- VTT** – Veszprémi Történelmi Tá. Veszprém.
- WA** – Wiadomości Archeologiczne. Państwowe Muzeum Archeologiczne w Warszawie. Varşovia.
- ZfAM** – Zeitschrift für Archäologie des Mittelalters. Bonn.
- ZfTZ** – Zeitschrift für Tierzüchtung und Züchtungsbiologie: Organ der Reichsarbeitsgemeinschaft Tierzucht im Forschungsdienst (continuă: Zeitschrift für Züchtung. Reihe B, Tierzüchtung und Züchtungsbiologie). Berlin, Hamburg.
- Ziridava** – Ziridava. Muzeul Judeţean Arad.
- ZISP** – Zhurnal issledovaniy sotsial'noy politiki. Natsional'nyy issledovatel'skiy universitet “Vysshaya shkola ekonomiki”. Moscova.
- ZSL** – Zeitschrift für siebenbürgische Landeskunde. (Arbeitskreis für siebenbürgische Landeskunde). Heidelberg.
- ZVHGL** – Zeitschrift des Vereins für hessische Geschichte und Landeskunde, Neue Folge. Kassel.