

Vertebrate Fauna from the Thraco-Getic Fortress on Butuceni (Orhei County, Republic of Moldova)

CARMEN TARCAN (Iași)

The first traces of habitation were found by G.D. Smirnov (1949)¹. The investigations in this area were continued by I.T. Niculiță². The geological situation in the region is determined by the presence of river Răut. The settlement is situated on a promontory formed by the alluvial soil of the river, at about 60 meters altitude above present main river level. The site is naturally and artificially fortified with vallum and defensive ditches and it is surrounded by rocky precipices, making it an ideal and easily tenable settlement place³.

The archaeo-zoological research is based on the study of faunal material collected in the archaeological campaign carried out in summer 1993 by the Romanian Institute of Thracology and the Moldavian State University. The excavations gave a bone sample of more than 1000 faunal remains suitable for the faunal analysis. The collection of bones was found in an archaeological context, where native pottery was also present. Based on the features of the pottery in the site, the bone sample could be dated to the period between the 5-th century and the beginning of the 3-rd century B.C. From the archaeo-zoological viewpoint, the greatest importance of the animal bone sample of Butuceni is that this is the first archaeo-zoologically studied animal bone assemblage from this site. In the extracarpathian regions of Romania, Iron Age is relatively extensively investigated from the archaeo-zoological point of view. For the La Tène period we mention a report including 15 settlements⁴ and also the fortress of Stâncești⁵ (Botoșani county), dated to 6th-3rd centuries B.C.

The material studied in this research describes the faunal remains from the site. We confine data to a brief description of each species.

Out of the animal remains found at Butuceni (1067 remains), 847 specimens were identified as belonging to recognizable mammals. The unidentifiable bones belong also to mammals and consist to a great extent of vertebrae and ribs. The other fragments are mostly fragments of bone that could not be identified as part of any particular skeletal element. The distribution of the bones over the skeleton is heterogenous, almost all parts

of the skeleton being represented (Diagram I/A,B). The species occurring and their ratios are given in Diagram II. As Diagram II shows, there can be found six domestic species: cattle, sheep, goat, horse, pig and dog and five wild species: wild swine, red deer, roe deer, hare and lynx. In comparison to animal husbandry, hunting seems to be of secondary importance. The ratio of domestic, to those of wild animals is 97.87/2.13 on the basis of the percentages of the number of specimens and 88.6/11.4 on the basis of the percentages of the estimated minimum number of individuals (Diagram III). If we compare the meat quantity of the domestic and wild animals, using the method⁶ of the equivalence of domestic species in caprovine unit and of wild species in roe deer unit (table 1), the picture does not change essentially. The table shows that the meat quantity obtained by hunting was less than produced by animal keeping. The number of bones of wild animals is too small to allow any firm conclusion about this. However, it is already shown that the importance of hunting appears to decrease in the course of time.

As Diagram II clearly shows, the leading species of the animal husbandry is cattle, followed by sheep/goat, horse and pig. Dogs were very rare in the domestic fauna on Butuceni.

Domestic mammals

Cattle. A number of 439 fragments from about 25 individuals have been identified. A small fragment of skull that kept the base of the horn-core allowed the measurements of its circumference at the base = 104 mm; maximum diameter = 40 mm; minimum diameter = 24 mm. The horn-core has an elliptical cross-section. Also a skull fragment with a short and thin horn-core shows a hollow frontal ridge and belonged to a male (bull). Its measurements are: maximum length = 120 mm; circumference at the base = 105 mm; maximum diameter = 37 mm; minimum diameter = 28 mm. This horn-core has a nearly circular cross-section. Both specimens represent individuals of the so-called brachyceros type. If we combine the data for the

epiphyses and those for the teeth, then we can conclude that no cattle grew very old (the unfused vertebral epiphyses indicate also that no cattle reached the age of 9 years). The state of fusion of the epiphyses show that mass slaughter of cattle occurred at an age towards 3,5 years. In conclusion, most cattle were slaughtered after they had produced enough progeny to ascertain the continuity of the herd and before the meat would become too tough.

The metapodial bones show the difference between sexes, so from ten specimens 5 are from cows, 2 are from bulls and 3 were unidentifiable. We did not identify the presence of bullock. We cannot explain this phenomenon, mentioned also at Stâncești⁷, because cattle were more important for plough-work, since horse could hardly be used for traction. For the estimation of withers height the values recommended by Tzalkin have been used on ten metapodials of known and unknown sex. The mean value is 109,8 cm. The size of cattle decreased in the course of time and in the Iron Age the cattle became even much smaller⁸. The mean value of cattle from Butuceni is lower than that established by Tzalkin (113,5 cm)⁹ for the early Iron Age settlements in the northern coastal region of the Black Sea and higher than those found at Stâncești (106-107 cm)¹⁰.

Sheep/goat. Within the sheep/goat group the presence of both sheep and goat could be ascertained. It has always proved difficult to distinguish the bones of the two species. The discovered sheep skull belonged to a male. A brain skull fragment of sheep with rudimentary horn-core and an almost perfect circular cross-section came from a female. Hornless female individuals do not occur in this sample. A metatarsus and a radius of sheep were available for the estimation of withers height. The factors of Teichert gave for a sheep metatarsus, with a maximum length of 125 mm, a height at the withers of 56,75 cm. From the 165 mm length of the whole radius, the estimated withers height is 66,3 cm. The goat bone sample contains horn-cores suitable for the type determinations and a whole metacarpal that can be used for the determination of withers height. Two horn-cores are one from a he-goat and another from a she-goat. They are of medium size, outward leaning and very slightly twisted, typical features of the so-called prisca type. The withers height determined with the coefficient of Schramm for 100 mm greatest length of the whole metacarpus is about 57,5 mm. The ratio between sheep and goat is approximately 2/1. However, this ratio cannot be considered representative, because of the small number of cases. An important indication of the use of these

animals is the age at which they were slaughtered. The age distribution of slaughtered animals calculated on the basis of teeth age data is presented graphically in Diagram IV, showing a double-peaked distribution. The teeth age data do not provide any evidence that the animals were slaughtered before the age of 6 months. 17,85% died in their first year of life. 21,43% died in their second year of life and 42,88% in their fifth year of life between ages of 4-5 years. The fact that half of the sheep/goats reached maturity indicates that they had an economic value in addition to the provision of meat, which lay in the production of wool and milk.

Horse accounts for 15,58% of the material by (NR) and 12,87% (by NMI). The percentage is rather unusual and differs from the above mentioned settlements. We notice a lower jaw fragment. The degree of wearing of the incisives indicates the age at the time of death of about 20 years. The sex of the animal can be ascertained from one larger canine present in alveolus. The animal concerned was certainly a male. There was also found another large loose canine which came from a male. In determining the age at the time of death we have to rely on scanty data provided by the degree of epiphyseal fusion and data concerning teeth. Teeth age data indicates one individual which died between 7-8 years and another at approximately 9 years. On the ground of the degree of epiphyseal fusion, one individual died before it reached 15-18 months and another before 3 years of age. The withers height of horse could be estimated on the basis of three metacarpals. These are from three different individuals. The withers height are presented according to the division into classes made by Vitt. The estimated withers heights fall into the size class (136-144 cm) which means that horses were of medium size. According to factors of Kissewaller the mean value of withers height of horse is 138,6 cm with a minimum of 137,1 cm and a maximum of 139,7 cm (N=3), higher than that found at Stâncești (132 cm)¹¹, Brad (133,8 cm)¹² and Zimnicea (132,8 cm)¹³.

Swine accounts only for a small number of remains in this sample. Mass slaughter of pigs occurred before reaching 2 years of age, characteristic of a more primitive breed which requires a much longer period of growth. The fact that only few pigs reached a mature age makes it clear that they were kept primarily for the production of meat. On the basis of a small canine tooth from the lower jaw the sex of the animal can be ascertained so the animal was certainly a female.

Dog. It is conspicuous that dogs were also present locally during this phase, in view of the distinctive gnaw-marks that are present on some of the bones of

other species. 12 fragments were found from approximately 4 individuals. No bone was available for measurements, but it seems to be a middle-sized dog used for the protection of herds.

The presence of the *domestic fowl* has not been ascertained. This situation is similar at Stăncești¹⁴. Is it possible that this species did not become spread yet. But, at the same time the bones of this species could disappear easier or it could be gnawed by dogs.

Wild mammals

In addition to the domesticated animals, also larger game animals: wild swine, red deer and roe deer have been found. Within the group of wild animals, wild swine is the most important species, followed by red and roe deer, on the second and third place respectively.

Wild swine. The 10 bones are coming from three individuals: one of 3-4 years, one of 4-6 years and one of 6-8 years, on the basis of teeth age data. The sex could be estimated only for one of them. The animal concerned was certainly a female.

The 5 *red deer* bones are from 2 individuals. None of these bones were available to give information about the size and age of the animal.

The only discovered *roe deer* bone does not reveal anything about the size of the animal.

A fragment of the coxal bone is the only *hare* remain from the site.

The last species which found is *lynx*: a fragment of the left part of the mandibula. This animal was accidentally hunted. It has no food use. Its presence is important for the eto-ecology of this species.

The smaller presence of game does not tell us very much, in view of the small number of remains found. It

is probable that game contributed only to a minor extent to the meat diet of the inhabitants. The remains of game animals in the settlement are not necessarily indicative of hunting as current activity. It could just well be the result of the effort to protect the crops or the herds.

Bone fragments of fishes have not been found. We mention that the sieving procedure, useful for the recovery of fragments of small species has not been carried out. Undoubtedly some fragments were lost during the collecting procedure, despite the fact that collecting was carried out rather carefully and, also, the fragile material became more fragmented in the course of time.

To gain further information concerning this material, an analysis has to be made, according to a rigidly applied research method, for the different factors that play a role in the interpretation of data.

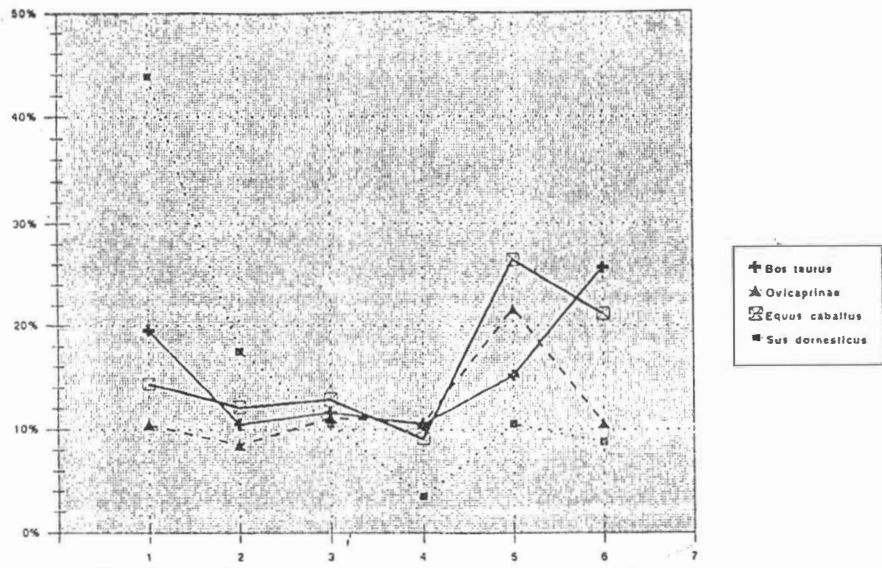
NOTES

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4. S.Haimovici, *Thraco-Dacica*, VIII, 1-2, 1987, pp.144-153.
5. Idem, *Din trecutul județului Botoșani*, Botoșani, 1974, pp.55-62.
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9. V.I.Tzalkin, *MIA*, 53, Moskva, 1960, p.34.
10. S.Haimovici, *op.cit.*, p.57.
11. *Ibidem*, p.59.
12. S.Haimovici, *Thraco-Dacica*, VIII, p.146, table 1.
13. *Ibidem*, p.147, table 1.
14. S.Haimovici, *Din trecutul...*, p.60.

The relative meat quantity of the different species

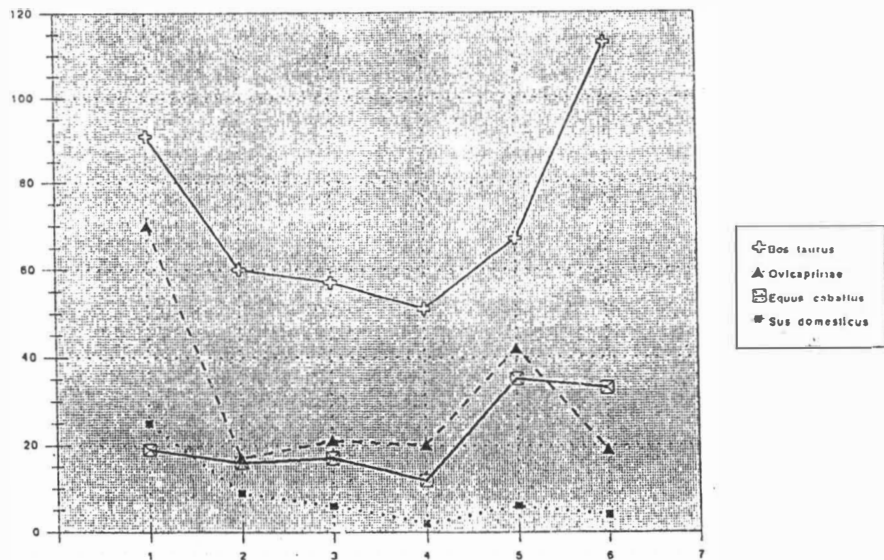
Domestic animals				Wild animals			
species	individual	caprovine unit	%	species	individual	roe deer unit	%
cattle	25	175	86.63	red deer	2	20	51.28
sheep/goat	18	18	8.91	roe deer	1	1	2.56
pig	6	9	4.46	wild swine	3	18	46.16
total	49	202	100		6	39	100

Diagram I/A. Distribution of the mammalian faunal remains over the skeleton using the percentage of the number of remains of each species



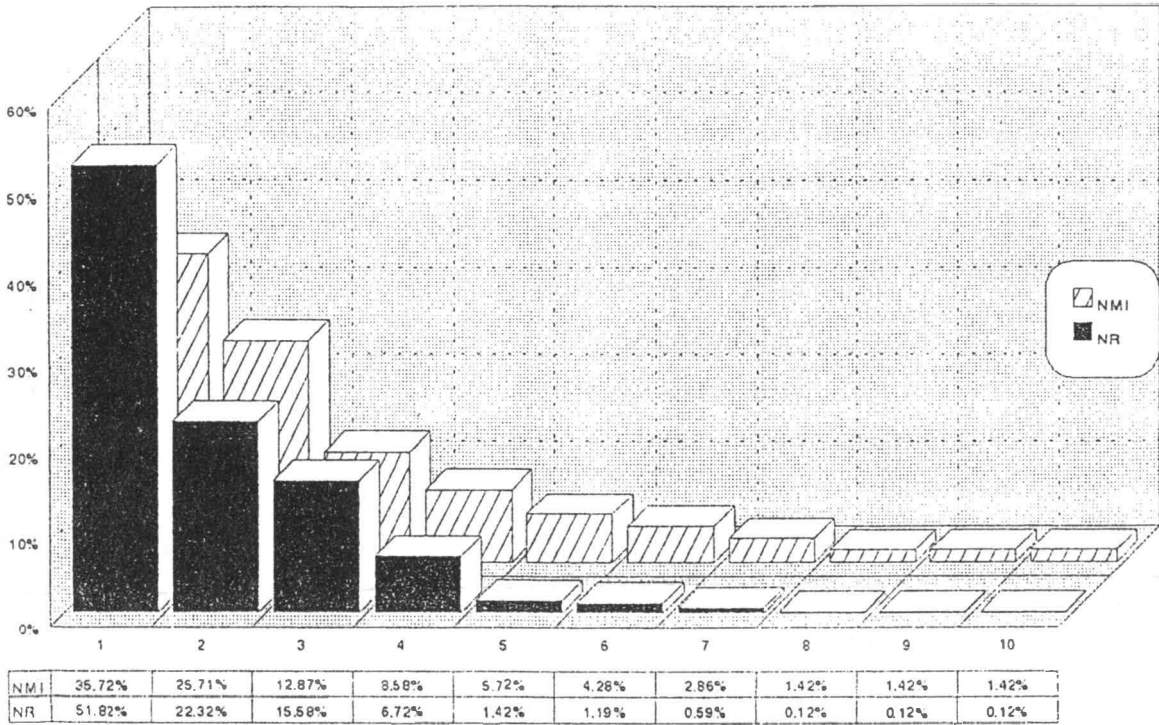
1=Cranium; 2=Vertebrae and Ribs
3=Shoulder and Pelvic Girdle; 4=Stylopodium
5=Zygopodium; 6=Autopodium

Diagram I/B. Distribution of the mammalian faunal remains over the skeleton using the percentage of the number of remains of each species



1=Cranium; 2=Vertebrae and Ribs
3=Shoulder and Pelvic Girdle; 4=Stylopodium
5=Zygopodium; 6=Autopodium

Diagram II. Frequencies of species. Percentages of NR=number of remains of each species and NMI=the estimated minimum number of individuals



1=Bos taurus; 2=Ovicaprinae; 3=Equus caballus
 4=Sus domesticus; 5=Canis familiaris; 6=Sus scrofa
 7=Cervus elaphus; 8=Capreolus capreolus; 9=Lynx lynx;
 10=Lepus europaeus

Diagram III. Ratio between wild and domestic animals: percentages on the estimated minimum number of individuals

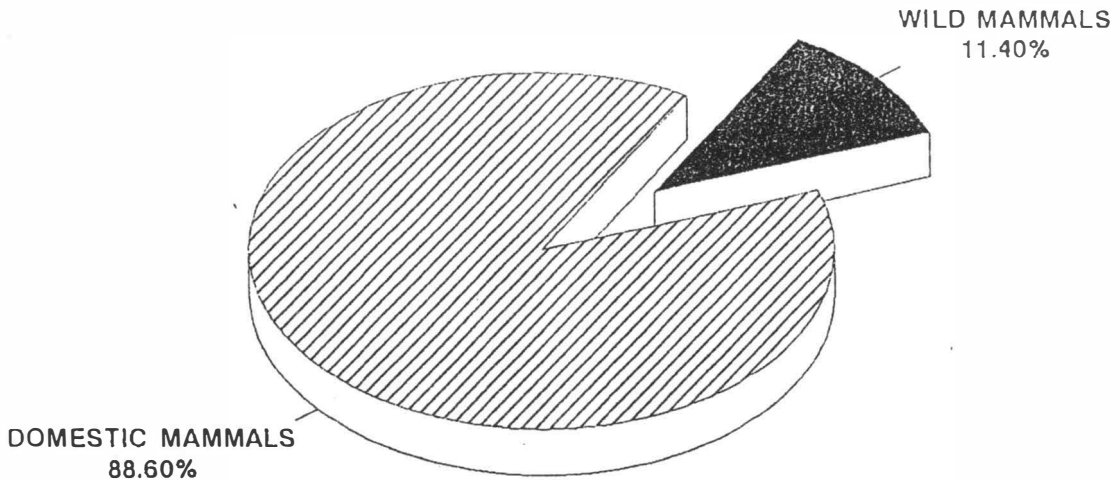
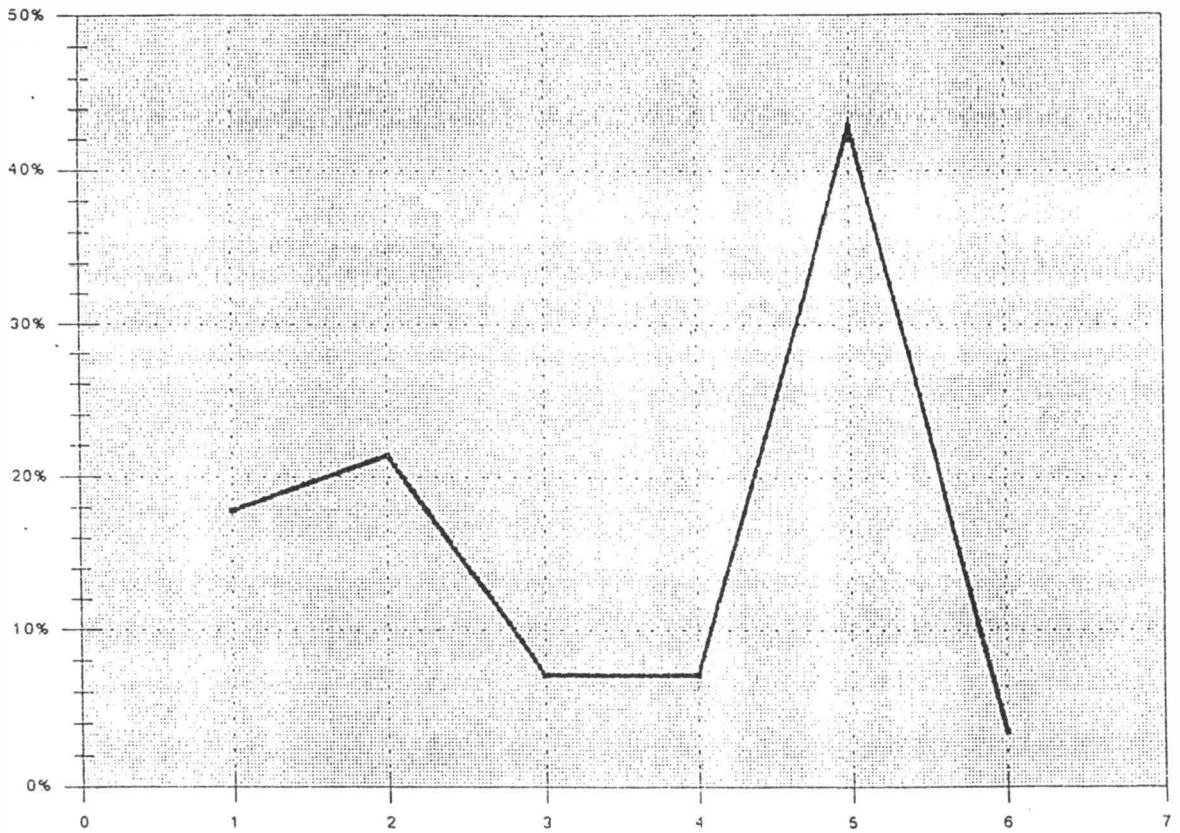


Diagram IV. Teeth age data on sheep/goat



1=0-1 year; 4=3-4 years
2=1-2 years; 5=4-5 years
3=2-3 years; 6=5-7 years