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POROLISSUM COMPLEX - ARCHAEOLOGICAL STUDIES REGARDING BONE MATERIAL FROM HOUSES OL-5

Damian, A., C.Lisovschi, Al.Gudea, F.Stan, M.F.Tuns

Facultatea de Medicină Veterinară Cluj-Napoca

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Abstract: Over investigation aimed to perform a complete study of the bone pieces discovered at Porolissum; the OL-5 dwelling.

Measurements and determinations of the bone pieces catalogued 833 - took to species differentiation: 482 horned cattle; 48 horse; 42 meat-eaters; 201 ovicaprinae; 53 pigs and 7 birds. Then; we differentiated each species according to age; sex and established the morphoprductive type of these species. The bone pieces were categorised as domestic litter; discovered in the OL-5 dwelling.

INTRODUCTION

The Porolissum archaeological complex is situated 12-km north-east from Zalău; near the Moigrad village. It is a museum in the open air. During Roman settlement (106-277) it was one of the most important strategically area of the Dacic province. On the Pomet hill there is a large Roman camp where the detachment of the IIIrd legion Gemina – Flavia; Galica and Gemina – as well as auxiliary military units were stationed.

Afterwards; around the defence works; the Roman town was born. It was made of soldiers'; merchants'; craftsmen's and so on families. Today; researches revealed several dwellings in OL; L; L-2 and LM areas (Gudea; 1989). The town quickly develops into a municipality and then declared the capital of Dacia Porolissensis; where lived the governor of the province; too.

The paper we tackle an osteological study of the bone material fund in dwelling OL.

Dwelling OL-5 is situated on the first terrace in the of S-E the large Roman camp. It was called so because; on the same terrace four other buildings were discovered (Gudea; 1989). The buildings represent a dwelling of 14.50/19.90/12.70 m; has the shape of a trapezium; with six rooms: a hall; two rooms with no source of heat; two rooms partially heated and a totally heated room. The building was dated at half IIrd century AD.

The archaeological research revealed at this level; rich animal bone material; which represents the topic of this paper.

MATERIAL AND METHOD

We investigated 833 bone pieces (Porolissum complex; dwelling OL-5). Determinations and measurements of bone pieces took to species differentiation: 482 horned cattle; 48 horses; 42 meat-eaters; 201 ovicaprinae; 53 pigs and 7 birds. Then we differentiated each species according to age and sex and stabilised their morphoproductive type; too.

When collecting bone pieces; it is highly important not to deteriorate the integrity of each piece and maintain intact all surface bone accidents specific for each. It is known that the identification process of some bone piece or bone fragments mostly relies on surface accidents which must be as complete as possible; in order to constitute the defining comparative elements.

Bone material collection is completed by bone mechanic hygiene. It intends to remove remainders of bone pieces by current washing.

The bone pieces; collected as mentioned above; are differentiated by inscribing on the diaphysis a number and origin indicative. The latter marks the place of origin; depth of stratum and historical dating. Osteological pieces are wrapped according to dwelling or appendages in carton boxes and are taken to the osteological laboratory.

The process of identification of fragments and whole bones is complex and defining. Specialists in the laboratory of comparative anatomy perform it. Identification is accomplished through comparison; easy operation on whole bones and a more difficult one on fragments. Comparisons refer to minute observations on the whole bone in the following areas: epiphysis; proximal and distal and diaphysis; observing the specific surface accidents It is more difficult to identify bone fragments. Identifications relieve on specific surface accidents. This observation must be judicious as it differentiates the bones on species. The identified bone pieces are measured using ribbon; ruler or calliper; in order to determine length; breadth; thickness; diameter and circumference. Measurements take place at the level of diaphysis and epiphysis; they are variable according to each bone category: long bone; broad bone; short or elongated bone. The numbers are inserted into a primary table species name there we present the main primary tables that resulted from the paleofauna research at Porolissum dwellings.

RESULTS AND DISCUSSION

The bone pieces identified in dwelling OL-5 were distributed on areas and species (Table 1; Graphic 1 and Graphic 2).

The 833 pieces were differentiated on species as it follows:

Horned cattle: 482 – 143 whole bones; 399 fragments. The first were like this: 10 metacarpus; 32 phalanxes I; 26 phalanxes II; 20 phalanxes III; 24 astragalus and 31 tali. The main fragments refer to skull bones; jambone; horn cores; humerus; radius; cervical vertebrae; thoracic vertebrae and ribs. These bones represent 99 individuals; of average age and size. They were killed; because of some marks found on some diaphyses of long bones.

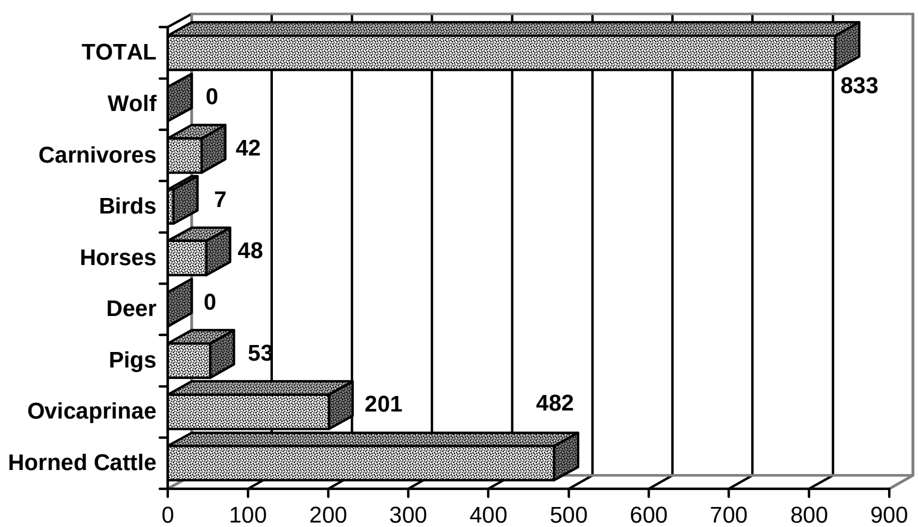
Ovicaprinae are represented by 201 pieces: 60 whole bones and 141 fragments. The first were as it follows: 10 metacarpus; 10 phalanx I; 4 phalanx II; 10 phalanx III; 9 astragalus; 14 tali; 2 tibiae and 1 femur. In latter: jambone shoulder blade; radius; pelvis; metatars; cervix vertebrae and ribs. These fragments were attributed to 43 mature individuals; of average size; according to sex.

Pigs are represented by 53 bone pieces: 5 whole bones and 48 fragments. The first: 1 metacarpus; 2 shoulder blades and 2 pelvis pieces. Of the latter; the most representative are jambones; jaws and ribs. These bone pieces indicated 13 individuals: 12 mature ones and 1 young one. Some fragments show obvious traces of hurtful objects sectioning which suggests processing for culinary products.

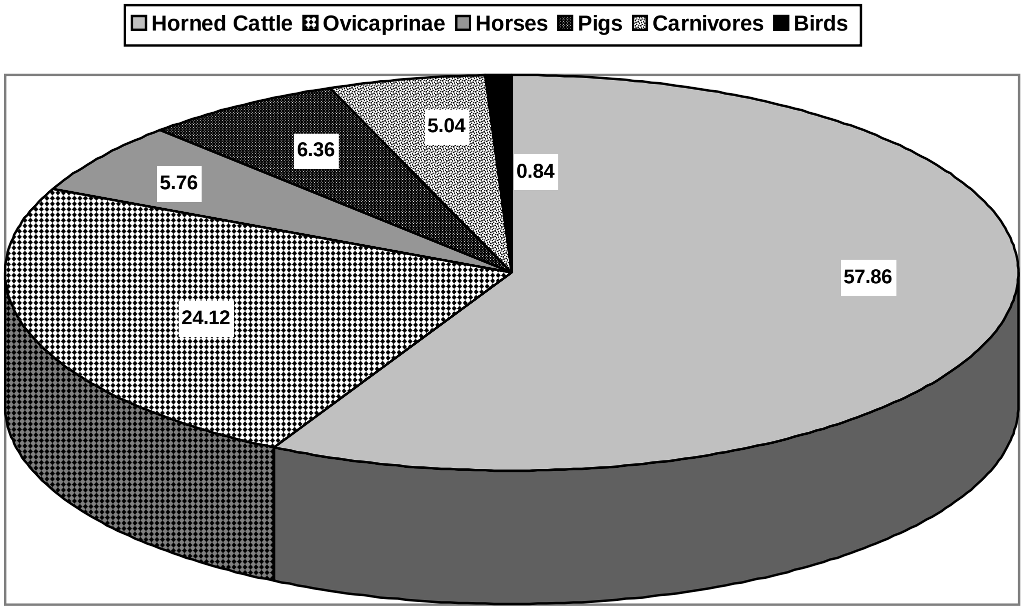
Table 1

Bone pieces at dwelling OL-5

No	Bone; fragments	Horned cattle	Ovica-prinae	Horses	Pigs	Meat eaters	Birds	Total
1.	Skull bones	6	8	-	-	-	-	14
2.	Jaw bones	50	20	13	25	15	-	123
3.	Horn cores	21	-	-	-	-	-	21
4.	Cervical vertebras	15	-	-	-	-	-	15
5.	Shoulder blade	51	24	-	3	-	-	78
6.	Humerus	23	8	3	-	9	-	43
7.	Radius	11	3	3	-	-	1	18
8.	Elbow	6	2	5	-	-	-	13
9.	Metacarpus	60	20	1	1	-	-	82
10.	Proximal phalanxes I	32	10	2	-	-	-	44
11.	Medial phalanxes II	26	4	-	-	-	-	30
12.	Distal phalanxes III	12	10	1	-	-	-	23
13.	Pelvis	20	4	-	5	2	-	31
14.	Talus	31	14	2	-	-	-	47
15.	Astragalus	24	9	1	-	-	-	34
16.	Tibia	25	14	2	-	-	2	43
17.	Metatarsus	26	13	-	-	-	3	42
18.	Axis (epistropheus)	8	1	-	-	-	-	9
19.	Thoracic vertebra	11	1	-	-	-	-	12
20.	Atlas	1	4	-	-	-	1	6
21.	Maxillae	-	-	-	3	-	-	3
22.	Femurs	12	3	5	-	1	-	21
23.	Ribs	8	29	10	16	15	-	78
24.	Hyoids	3	-	-	-	-	-	3
	Total	482	201	48	53	42	7	833
	%	57.86	24.12	5.76	6.36	5.04	0.84	99.98



Graphic 1. Bone pieces in OL-5 on species



Graphic 2. Weight of bone pieces in OL-5 on species

Horses are represented by 48 bone pieces: 7 whole bones and 41 fragments. The first: 1 metacarpus; 2 phalanx I; 1 phalanx II; 2 tali; 1 astragalus. Of the latter most representative: jambone; humerus; olecranus; femur and ribs. The bone pieces indicated 4 large individuals of average age; which show a resemblance with labour horses.

Carnivores are represented by 42 bone pieces: 8 whole bones and 34 fragments. The first: 6 humerus; 1 pelvis and 1 femurs. Of the latter; the most representative: jambone; pelvis and ribs. They indicate 5 individuals; more exactly the domestic dog of average size; similar to Carpathian shepard dog.

Birds are represented by 7 bone pieces: 3 whole bones and 4 fragments. The first: 2 tibiae and 1 metatarsus. Of latter; the most representative: humerus; metatarsus and fragments of cervical vertebrae. The bone pieces indicate average size; mature birds individuals.

The percentage of bone pieces in OL-5 show that horned cattle take a first place 57.86%; ovicaprinae a second place 24.21%; pigs a third place 6.36%; then horses 5.76%; carnivores 5.04% and birds 0.84%. If we take into consideration the total number of individuals; the order stays the same.

CONCLUSION

- Horned cattle take a first place (57.86%) in the number of bone pieces; in dwelling OL-5. As concerns the morphoproductive type; they are above the average; similar to the individuals of the *Bos taurus primigenius* species brought to Dacia by Roman conquerors.
- Ovicaprinae (24.12%) take the second place. Bone pieces are of average size; similar to the bones coming from native animals. Mature individuals suggest high killing efficiency and females had a role in breeding and milk; skin and wool production.
- Pigs (6.36%) are animal’s of average size which were introduced by Roman conquerors in order to fed with the cereal crops in the area.

- Horses (5.76%) are the paleofauna for current feeding; together with the order species used as food. We can say that the horse bone pieces represent domestic litter. The horse may have been used as a source of food when it couldn’t serve in leisure or drive any more.
- Carnivores (5.04%); present differences in size; the dog may have been killed accidentally.
- Birds (0.84%) are osteological presence with little relevance.
- Investigations showed that all bones appeared in the Roman living stratum; with no garbage pits; fire places or bone material concentrations which should suggest killing places or special processing. Thus; all bone pieces represent domestic litter.

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