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FAUNAL REMAINS FROM THE OTTOMAN PERIOD (16TH CENTURY AD) AT PÂNCOTA – "TURKISH FORTRESS" (ARAD COUNTY)

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Keywords: *Pâncota, Ottoman period, animal management, age profiles, cattle breeding.*
Cuvinte-cheie: *Pâncota, perioada otomană, gospodărirea animalelor, profile de vârstă, creşterea vitelor.*

(Abstract)

This paper deals with the archaeozoological material from the point "Turkish Fortress" near Pâncota locality, Arad County. The faunal sample is not very rich in taxa compared to its size (about 3,500 fragments). Seeing the type of the site, monastery or what the Turks rearranged, the situation seems normal. Overall, fourteen species identified, of which three from poultry (goose, hen, duck), six are domestic mammals (cattle, sheep, goat, pig, horse, cat) and five are wild mammals (red deer, wild boar, roe deer, hare and a rodent, perhaps rat). Both presence and amount of swine among household waste from the Ottoman period is surprising since its consumption had been banned by Muslim communities.. As a matter of course, the faunal information corroborated by the archaeological information should clarify this issue in the future. For the moment the sample from Pâncota put forward some new information on species exploited in the Ottoman period, waist and body conformation, without the pretence to exhaust the subject.

The point "Turkish Fortress" is placed eastward from Pâncota locality, at 37 km from Arad city, at the contact between Arad Plain and Zarand Mountains. Archaeological researches[1] inside the ruins of a monastery (referred to in 1217, 1252 and 1552, when it was destroyed by Turks), brought to light its precincts and over sixty tombs of the outer cemetery. The ground wave preserved only medieval traces. Faunal remains in question come mainly from three trenches, S 9B, S 9C and S 12. S 9B with dimensions 5.5 × 2 m was drawn in extension of S 9A during the 2004' campaign, as a segment of the highway section inside the monastery perimeter. S12 with dimensions 11 × 4 m and an average depth of 1.80 m was drawn parallel to S 9A and partly to S 9B, at a distance of 1 m. The purpose of the excavations was to find the southwest tower of the church. The faunal sample comes from the level of the sixteenth century (the Turkish era), when it is supposed "an intense re-layout of the premises" in the site[2]. The sample from 2005–2006' campaigns totals about 3,713 fragments, of which 3,664 derive from mammals and forty-nine from poultry (Table 1). The complex/ Cpl.1/2005 from S 9B is a large pit that sectioned the wave, descending into a sharp slope from west to east. That pit contained only twenty-six bones, originating exclusively in domestic mammals.

The sample is not very rich in taxa compared to its size (about 3,500 fragments). Seeing the type of site, monastery or what the Turks rearranged, the situation seems normal. Overall, fourteen species identified, of which three from poultry (goose, hen, duck), six from domestic mammals (cattle, sheep, goat, pig, horse, cat) and five from wild mammals (red deer, wild boar, roe deer, hare and a rodent, perhaps rat). Excepting rat[3] and cat the other species were used for food supply. This is not a settlement in the strictest sense of the word, in which case it should appear more species. For example, an analysis on different types of sites (castle, fort, rural or urban settlement, monastery) from Hungary to the Ottoman period carried forth that a "the stochastic relationship between NISP[4] and number of species is best expressed by the linear regression between the decimal logarithms of these two variables". For example, in a sample of about 1,000 bones ten taxa have been identified ... but the number depends on the type of the site[5].

Distribution of cattle remains according body regions shows a rate of 47% elements of the girdles and proximal parts of the limbs (fleshy regions). Instead, the skull (fleshless) represents only 8.5% and carcass 21%, the dry parts of the limbs about 26.5% (Fig. 2, 4). With a few exceptions, a similar dispersion reported in case of ovicaprids. That means 7.65% the quota of cephalic elements, about 52% the proximal

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[1] Thanks to researcher, Daniela Marcu Istrate for the sample offered for assessment and publication.

[2] Marcu *et alii* 2006.

[3] What will be done a gallery through the area, thusly its bones reaching the archaeological deposit.

[4] Number specimens.

[5] Bartosiewicz – Gál 2003, Fig. III.1, 366

Table 1. Taxa distribution in different contexts.

	S9B/C 5	S9B/C4	S9B/m 4–5	S9B/Cpl.1	S9B	S9C/C1
	1.4–1.72 m	**1.6–2 m**	**1.7–1.9 m**	**2–2.5 m**	**2.2–2.4 m**	**1.7–1.9 m**
Bos taurus	38	38	368	13	319	172
Sus domesticus	23	46	198	7	223	154
Ovis-Capra	8	18	108	6	138	72
Equus caballus			2		1	
Felis domestica			1		1	
Domestic mammals	**69**	**102**	**677**	**26**	**682**	**398**
Cervus elaphus	4	4	8		12	
Capreolus capreolus	1		2			
Lepus europaeus			2		1	
Vulpes vulpes			4		1	
Rattus rattus			1			
Wild mammals	**5**	**4**	**17**		**14**	
Identified mammals	74	106	694	26	696	398
Ribs	34	60	195		306	51
Splinters	12	9	30		171	41
Total mammals	120	175	919	26	1,173	490
Gallus domestica		4	3		12	5
Anas plathyrinchos					2	
Anser anser	2	3				
Total sample	**122**	**182**	**922**	**26**	**1,187**	**495**

Table 1 (continued).

	S9C/C1	S12/C1–3	S12	Total		Total	
	2–2.1 m	**1.2–1.5 m**	**2–2.3 m**	**NISP**	**%**	**MNI**	**%**
Bos taurus	166	62	33	1,209	49.53	76	33.19
Sus domesticus	87	18		756	30.97	87	38
Ovis-Capra	57	11		418	17.12	49	21.39
Equus caballus				3	0.12	2	0.87
Felis domestica				2	0.08	2	0.87
Domestic mammals	**310**	**91**	**33**	**2,388**	**97.82**	**216**	**94.32**
Cervus elaphus	8	2		38	1.56	5	2.18
Capreolus capreolus	2	1		6	0.25	3	1.31
Lepus europaeus				3	0.12	2	0.87
Vulpes vulpes				5	0.2	2	0.87
Rattus rattus				1	0.05	1	0.45
Wild mammals	**10**	**3**		**53**	**2.08**	**13**	**5.68**
Identified mammals	320	94	33	2,441	100	229	100
Ribs	200	45		891			
Splinters	45	24		332			
Total mammals	565	163	33	3,664			
Gallus domestica	6	4		34			
Anas plathyrinchos		2		4			
Anser anser	2	4		11			
Total sample	**573**	**173**	**33**	**3,713**			

limbs, 32% the column +ribs and only 9.1% distal parts of the limbs. The same prevalence of the fleshy parts is found in case of pig, the girdles and proximal ends of the limbs account for 47.6%. Little more cephalic remainders, 21.5%, fewer column elements, 19.3% and a quota of 11.5% for dry parts of the limbs reported in case of pig. If deer (the most common wild taxon), the fragments from fleshy regions (femur, radius, tibia, and scapula) prevail. On red deer skeleton from Fig. 3, the present bones are stained in different shades of gray, the absent ones by white.

Twenty-one wastes bear cut marks, mostly the cattle bones (seventeen cases). To mention a proximal phalanx with a trace below the proximal end, to junk feet. Detaching head from trunk was done by cutting the cranial articular process of the axis. Removing the mandible was executed by cutting the coronoid process. In another case, the oral part of the jawbone was removed before P_2. Six ribs with oblique or perpendicular cut-marks on shaft, to process the carcass were also observed in cattle sample (Fig. 14). Trimming and cutting the joints and limbs into smaller parts left some traces. For example, the shoulder blade was cut out above the glenoid cavity; we note two occurrences (Fig. 15 b). Humerus with marks above trochlea for articulation posting or on the median shaft to note in two cases. Two radii with transverse marks on shaft (Fig. 15 c) or two marks on the olecranon of an ulna, complete the list of such foundings. We have not detected such-and-such pieces from pelvic belt or hindlimb although femora and tibiae are plenty of them. Only two pubis fragments showing cutting-marks halving the bone identified. In four cases, calcaneal tuberosity is cut out, presumably to ease the splitting of metatarsal joint and removing the foot. Given that, in some cases, have been highlighted the same type of marks shows that unskilled person portioned the animals for consumption, possible locally people. The same "technical" cutting applies everywhere. It seems that the problems have arisen to portion the large carcases (bovines) and not the smaller ones. Again it surprises the lack of cattle cores. If the horn were processed, why were not found their core? A single splinter of wall from a juvenile horn-core identified in the sample. If pig, it should be noted a shoulderblade with a powerful mid-cutting, to portion the part (Fig. 15 a). The operation was done with a hatchet, how deep looks the mark. A humerus portion shows three scratches on shaft, probably to get the meat off (Fig. 15 d). If ovicaprids, there are only two bones with such evidence, a scapula with a mark on neck, a radius with a shalow cutting below the proximal epiphysis.

Table 2. Complete bones from cattle.

Bone	**Metacarpal**		**Metatarsal**				
GL	170.1	198.2	204.3	209.5	212.5	213.8	219.8
I. Nobis	29.4	27.7	19.6	19.1	18.9	20.8	21.1
I. diaf.	15.1	15.7	11.2	11.2	10.9	11.8	12.2
I. dist.	–	–	24.23	–	22.16	24.46	22.8
Sex	F	F	F	F	F	F	C
Tall	102.5	119.5	108.8	111.6	113.3	113.9	120.2

Metric assessment

No horn-cores were found to provide information on cattle types. On metapodii from cows, a variation waist of 102.5–119.5 cm (N = 6), with an average of 111.6 cm estimated. For a gelding appreciated a withers height of 120.2 cm (Matolcsi). Cattle herds included individuals of different size, small and medium values prevailing. Wither height values are reduced, they place at the lower range of variation allowed for cattle populations in the Banat and surrounding areas, during 15th–16th centuries AD. A small cattle of 104.4 cm and a castrated specimen of 122,9 cm were found in similar material dated in the 16th century, from excavations carried out in the Square "Saint George" in Timişoara[6]. Values of 107.1 cm and 105.5 cm were obtained from bones in a medieval house, on the street E. Ungureanu, no. 2, Timişoara[7]. This type of small cattle was found in Hungarian sites, chronologically close. For example, in the 16th–17th centuries Hungarian sites the following data estimated: 113.3 cm in Gyula, 113.3 cm in Szolnok, 113.3 cm in Buda – Castle Hill, 111.2 cm Vác, etc...[8]. For cows, a variance of 100–120 cm, with a mean of 113 cm established in Hungarian sites from Ottoman epoch[9]. Measurements of bones' widths suggest the preva-

[6] El Susi 2007, 249–250.
[7] Personal data.
[8] Vörös 2003, Table 5, 356.
[9] Vörös 2003, 355.

lence of animals not too robust. Metapodials are slender and distal not widened (cf. values in Table 2). Distal index shows reduced values, varying from 22 to 24.5, meaning less flared metapodials. They do not reach values of 30–39 as those from medieval sites in Moldova (for instance). The flaring-shaped would be an indication for cattle using at traction[10]. The coefficient of variation of some measurements shows a low variability in case of length of the third molar and distal breath of metatarsal. If distal humerus and proximal radius, the values are somewhat higher (Table 3, Fig. 4). In this case we can rely on age[11], sexual dimorphism, castration, and some "racial" diversification.

Pig dentition is not too massive, in one case M3 reaches 37 mm; the other values are small, ranging from 30 to 34 mm. A lacrimal bone with an index of 1.45 suggests a piece not too elongated away from boar values. Pig kept in the area was pretty tall. A complete radius of 156.5 cm provided an increased size, 81 cm. The bone is not too wide (see the list of measurements). It is about a pig with a high withers and slender limb bones. Coefficient of variation of some measurements shows significant oscillations (Table 5, Fig. 5). Excepting distal tibia with a small variation coefficient, the other ones are higher, suggesting a less homogeneous population due, in some cases to bones with incomplete growth, interbreeding with wild boar or a "racial" diversification. A relatively massive pig with many dimensions entering the range-size of the wild boar was raised in the surroundings. The scatter-diagram from Fig. 6 illustrates this variability in case of distal humerus. Much of the values are distributed over 37/40 mm (Bd/Dd). There are few values of 33–35/34 mm, not to mention those of 28–32/30 mm. It would not exclude a "racial" diversification, existing at least two types of pig. According to some medieval documents referring to Hunedoara Domain from the beginning of the 16th century, for payment of tithe, there was a difference between pigs farmed besides household, also called meadow pigs (cespitales) and those driven to acorns for fattening[12]. A withers height variation of 65.6–84.4 cm, with an average of 77.74 cm (N = 22) calculated in Pâncota sample. There are two specimens under 70 cm height, but those over 75–80 cm are prevalent (Table 4).

The small ruminants have few remnants from skull, it must be noted a ram front with the horn chopped and another piece from a horned female. The ram's horn has two sharp edges, the third rounded, he is twisted outward, the inter-front suture is open. Based on complete bones it was estimated a 54.5–64.2 cm variation at the withers, with an average of 61 cm (Table 6). Perhaps the Turkish influence on stocks of sheep in the sense of bringing more robust specimens is not felt in the area. As yet, it was exploited an indigenous type with small specimens, existent in previous centuries in the Banat. In the "*Broader description of Transylvania*" at 1566–1567, Giovanni Andrea Gromo talking about Romanians' clothes shows that "they were woven by themselves from coarse wool and goatskin"[13]. Perhaps, in the middle of the sixteenth century in Transylvania was exploited such a race with coarse wool; according to livestock data, only sheep of "țurcana" breed (a landrace type) had such wool and sized between 61–67 cm[14]. Our metric evaluation would suggest the exploitation of such a local breed. Higher values of 61.8–77.6 cm, average – 68.2 cm estimated in the samples from Timişoara, during Ottoman period[15]. A low average was also recorded in the 16–17th centuries AD material from Pásztó; in other Hungarian sites from the same period, the mean values fluctuates around 67–72 cm[16]. If goat, a metacarpal with GL 107.2 mm provided a height of 61.6 cm.

The bone originates in a specimen killed around 1.5–2 years, not too tall. The proportion sheep/goats is about 4/1. As regards the sheep, the ratio of males/ females is 3/1 on horns and 3/6 on coxae. Overall (including the remains of atlas, axis) were identified eleven ewes and six rams.

A fragment of a distal humerus, a tarsal bone and a metacarpal with greatest length of. 219.8 mm (a height at the withers of 135.2 cm) belong to horse. The slenderness index of the metapodium is 16.06, suggesting a smaller-sized specimen with semi-massive extremities. It is not an elite individual, used for riding, that type was introduced by Turks in conquered territories, but one with multiple uses. In general, for those times there is a wide variation in height and conformation. For example in Hungarian sites Bökönyi estimated an average of 138.5 cm, with a range between 120–156 cm[17].

[10] Bejenaru 2000, 253.

[11] Dataset of the distal humerus and proximal radius measurements may include values of bones from immature specimens (proximal not epiphysed in the first case, and distal in the second)

[12] Pataki 1973, XLIX.

[13] Holban *et alii* 1970, 336.

[14] Bejenaru 2000, 256

[15] El Susi 2007, 251.

[16] Vörös 2003, 357, Tab. 7; Bartosiewicz 1997, 138.

[17] Bökönyi 1974, 535; Vörös 2003, 358.

Table 3. Coefficient of variation (CV) of cattle measurements.

Measurement	N	Min	Max	M	St. E	SD	CV
Mandibula-LM3	8	33	38.2	34.6	0.5684	1.60779	4.64
Humerus-BT	10	60.6	88	70.5	2.7585	8.72316	12.37
Humerus-Dd	13	65.2	83.5	73.8	1.7096	6.16421	8.35
Radius-Bp	16	57.1	85.2	74	1.788	7.15211	9.66
Radius-Dp	20	32.7	42.4	37.4	0.7427	3.32124	8.88
Metatarsal-Bd	8	45.4	52.3	48	0.8429	2.38414	4.96
Tibia-Bd	25	49.8	63.7	55.7	0.8171	4.08574	7.33
Tibia-Dd	22	36.6	47.8	41.9	0.5597	2.62545	6.26
Talus-GLl	25	56.1	67.6	60.8	0.6792	3.39609	5.59
Talus-Bd	23	34.7	42.4	38.3	0.5643	2.7061	6.38
Calcaneus-GL	21	110	140	122	1.8329	8.39931	6.9

Table 4. Complete bones from pig.

Bone	Mc III				Mc IV					Humerus	
GL	69.7	72.1	72.4	75.4	76.7	79.3	80.2	80.2	81.5	80.1	191
Tall	71.8	74.4	74.7	77.9	79.3	82.1	83.1	84.4	82.9	81.4	75.2
Bone	**Mt III**		**Mt IV**		**Calcaneus**			**Talus**		**Radius**	
GL	81.7	86.1	74.7	80	37.1	39.5	41.5	42.6	44.5	44.9	156.5
Tall	76.8	81	65.6	77.3	68.7	73	76.6	78.5	82	82.7	81

Table 5. Coefficient of variation (CV) of pig measurements.

	N	Min	Max	M	St. E	SD	CV
Maxila-LM3	11	27.5	33.3	30.69	0.616951	2.04619	6.67
Mandibula-LM3	12	30	36.9	32.15	0.565077	1.95748	6.08
Scapula-GLP	13	30.4	40.2	35.6	0.773558	2.7891	7.83
Scapula-LG	13	27.1	40	31.82	0.960179	3.46197	10.88
Humerus-Bd	33	28	42.9	37.96	0.606663	3.48501	9.18
Humerus-Dd	33	29.7	43.5	38.53	0.540368	3.10418	8.05
Radius-Bp	24	26.5	35	30.33	0.454194	2.22509	7.33
Radius-Dp	24	15.2	23.6	18.62	0.421973	2.06723	11.1
Tibia-Bd	11	26.9	30.5	28.86	0.288341	0.956319	3.31
Tibia-Dd	11	23.6	33.4	26.6	0.78433	2.60133	9.77
Pelvis-LA	17	25.2	37.2	32.3	0.671996	2.77071	8.58

Table 6. Complete bones from small ruminants.

	Ovis							Capra
Bone	**Humerus**	**Radius**	**Metacarpus**			**Metatarsus**		**Metacarpus**
GL	150.1	160.5	120.5	127.5	128.5	120	131	107.2
Tall (Teichert)	64.2	64.5	58.9	62.3	62.8	54.5	59.5	61.6

According to different samples from Timişoara citadel, a variation of 135.9–141.2 cm has been established by now for the Ottoman era. About four "types" of horse, with sizes ranging from 130–148 cm, and metapodii of different thickness emphasised in medieval Romanian sites[18]. The Arabian horse with high waist was introduced during Turkish occupation[19]. The sample from domestic mammals also includes two cat bones, a humerus with GL–87.2 mm and a mandible with cheek row of 18.7 mm, from an adult specimen.

Among wild mammals, red deer is the most numerous. The remainders derive from meaty parts of the body (scapula, humerus, radius, femur, tibia), few elements originating in the axial skeleton. No maxillary parts identified. Possibly were brought into the habitation only important parts from hunted specimens. The thirty-eight bones derive from five individuals; one of them is below 2–3 years, another around 3–4 years, and the others elderly. Six fragments come from three adult roe deer. The number of specimens is relatively high because their bones come from different depths. A proximal femur, a complete radius (GL–120.1 mm) and a pelvic fragment originate in two hares. Although the animals were destined for consumption, the radius is complete that raises the question unless the bone comes from any specimen dead somewhere, in a burrow. From a rodent, possibly rat, belongs a femur with GL-49.4 mm. The fowls are represented by remnants of hen, goose and duck. The thirty-four chicken bones come from at least eleven exemplars, of which two are cocks. The eleven goose bones come from six individuals; the four duck bones originate in two animals. The measurements show some variation, prevailing small and medium-sized specimens (Fig. 7).

Slaughter Profiles

The sample of cattle provided material for at least 76 specimens, of which 9.21% are slaughtered between 12–18 months, 15.5% below 2 years, 29.5% between 2–4 years, 8.2% to 6–7 years, 9.21% between 7–9 years and 6.58% over this limit (fig. 8). The statistic emphasizes few slaughtering of calves, maybe to stimulate lactation, obtaining of dairy products as a main target[20]. At a rate of 61.8% getting beef was prevalent from animals culled between 1–4 years. Almost 30% of animals kept until an old stage means using cattle as beast of burden and of course breeding. The slaughter of cattle around 3 years "*bouem mactabilem triennale*" was cited in some documents related to sixteenth century in Transylvania. Taxes in cattle "*tretina*" refer to oxen less than 3 years, heifers 1–2 years old or barren cows. Cattle were used for meat, milk, traction skins. The beef was a little cheaper food than pork, especially when swine herds were hit by plague[21].

Pig provided the highest number of specimens, on account of a large sample of jaw remains. Although, cattle are worth 10% more bones than pig, their maxillary splinters are fewer. By token, there is discrepancy between evaluation of NISP (fragments) and MNI (individuals). The 87 presumed exemplars were distributed to the following age groups. The quota of piglets is only 9%, that of specimens 6–12 months old is 10.3%. The highest percent was reached between 1–1.5 years (33.3%). Then should have been achieved the best body weight. Less material assigned to grouping 18–24 months (13.8%). There are a large percentage of animals killed between 2–3 years (20.7%), 7% between 3–4 years and 5.5% over. It is the breeding stock (Fig. 9). Sex ratio indicates an equal proportion between sows/ boars 14/14. Obviously, this report does not say too much because there are numerous sexual unassigned exemplars. Among females, ten exemplars were killed between 1–2 years, one is an old mature and one is 2–3 years old. Presumably they were not kept to much, after a certain number of births they were culled. Unlike females, half of the boars were slaughtered between 2–4 years, the others at 10–12 months or 12–24 months.The kill-off patterns of Caprinae highlight the following issues: 30.61% of specimens were slaughtered between 0–6 months (categories AB), 14.29% between 6–12 months (C), 22.45% between 1–2 years (D) 14.29% 2–4 years (EF), 12.25% between 4–6 years (G) and 6.11% over 6 years (H) (Fig. 10). The statistics suggest intensive slaughtering early spring or spring, about a third of the flock. Whether, it is about slaughter of lambs to obtain a higher milk production, or a tender meat. Cuts did not really take place in summer (noted only several cases), then intensified towards the end of the year (fall and winter), targeting animals 8–12 months old (about 14%). Between 1–2 years (mostly 1.5–2 years) slaughtering intensified, it is about getting meat from sub-adult (probably male or barren ewes); the percentage is about 22%. Rate of specimens kept many years for milk, wool, and

[18] Bejenaru 2000, 257–259.
[19] Bartosiewicz 1997, 140; Bartosiewicz – Gál 2003, 370.
[20] Blaise 2009, 133–134.
[21] Prodan 1967, 246.

breeding is significant, about 18%. Goats were less numerous in small ruminant flocks. Only five individuals of the forty-nine presumed ovicaprids are goats (three of them are she-goats after atlas features) and twenty-one are sheep.

Reviewing interspecies frequencies, the following would summarize: although the surroundings were rich in game, hunting was not a common practice, it was occasionally done. Red and roe deer, wild boar, hare were captured. About richness in wild species of the lower regions of the Banat (and probably beyond the Mureş river), Nicolaus Olahus noted in a description "About Timisean province", in the middle of the sixteenth century "... often one can see herds of red deer, roe deer and roe deer off springs, in number of 3–4 thousands and more..."[22]. We should not forget the role of poultry in the community diet, their percentage certainly would have been higher, but the friability of bones have encroached on their preservation. Cattle prevail as number of fragments in a ratio of 49.53%, followed by pig with 30.97% and sheep and goats with 17.12%. In terms of the minimum number of individuals pigs dominate by 38%, cattle rank the second by 33.19% and small ruminants the third by 21.39%. The pig prevalence as MNI (minimum number individuals) could be explained by the large amount of dentition, as mentioned above. It is surprising the presence, not only of swine among household waste from the Ottoman period, but its increased quota. Its consumption has been banned in Muslim communities. Possibly the animal bones accumulated, maybe something before the Ottoman conquest, or there were Christians in the site. As a matter of course, the faunal information corroborated by the archaeological information should clarify this issue in the future. For the moment the sample from Pâncota put forward some new information on species exploited in the Ottoman period, waist and body conformation, without the pretence to exhaust the subject.

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MEASUREMENTS

Maxilla				**Mandibula**				
P1-P4	M1-M3	M3	Taxon	P2-M3	P1/2-P4	M1-M3	M3	Taxon
	73.2	26.8	cattle	118		81.4	34.8	cattle
	75.5	28.5	cattle	123.9		80.1	34	cattle
		27.1	cattle	127.1		83.1	38.2	cattle
		28.5	cattle				33.9	cattle
		25.7	cattle				33.4	cattle
40			pig				34.3	cattle
40			pig			73.4	33	cattle
41.5	64.2	33	pig				35	cattle
42.2			pig	92.1		60	31	pig
42.8			pig				30.1	pig
43			pig				30.5	pig
44.2			pig				32.1	pig
44.8			pig				32.8	pig
45.2			pig				33.6	pig
45.7			pig				33.9	pig
		29.3	pig				36.9	pig
		30	pig			61.1	30	pig
		32.1	pig			65.5	32.2	pig
		32.1	pig			65.7	31.4	pig
		33	pig		46			pig
	60.4	27.5	pig		34		31.4	pig
	62.9	28.7	pig		35.7			pig
	59.6	29.3	pig		32.9			pig
	59.6	29.3	pig		35.6			pig
	64.5	33.3	pig		34.9			pig
	41.3	19.2	ovic.		36.9			pig
60,6/M1-M3	34.5	16.2	roe deer			48.6	23.2	sheep
				73.8		50.5	23.4	sheep
Horn cores						48.2	22.2	sheep
GL	GD	SD	Circonf.	Taxon			22.8	ovic.
204	58.8	37.8	173	sheep		49.6	23.4	goat
80	28.6	18.8	75	sheep		47.9		ovic.

Atlas					**Axis**			
BFcr	BFcd	GB	GL	Taxon	BFcr	LCDe	SBV	Taxon
72.1				cattle	70.9			cattle
87.8				cattle	75.4			cattle
			77.1	cattle	86.8			cattle
			96.8	cattle		93.4	35.5	cattle
				cattle				cattle
47.2				pig	43.5			pig
49.4				pig	44.9		26	sheep
50.3			42.3	pig				
50.4	46.3			pig				
51.6	47.5		40.6	pig				
57.8	52	90.2	45.6	pig				
			49.4	pig				
			43.5	sheep				
			51.8	sheep				
			49	goat				
			66.1	goat				

Scapula			
SLC	GLP	LG	Taxon
38.5	56.4	47.9	cattle
41	59.2	51.1	cattle
45.6			cattle
46.1	60.1	50.6	cattle
		43.5	cattle
		51.5	cattle
	57.6	43.9	cattle
	59.4	49.2	cattle
	63.2		cattle
	66.1	53.6	cattle
	34.7	28.4	pig
	34	31.6	pig
	35.8	30.4	pig
	37.8	31.8	pig
	40.2	32.6	pig
19	30.4	27.8	pig
20.1	33.8	30	pig
21.2	35.3	35.3	pig
23.1	34.4	34.4	pig
23.3	40	40	pig
23.7			pig
24.3			pig
24	32.6	27.1	pig
25.4	37.2	31.2	pig
26.1			pig
26.3	36.7	33.1	pig
18.9	31.2	25	sheep
21.9	34	27.1	sheep
20.5	32.8	26.7	sheep
20.4	33.4	26.7	sheep
20	33.8	27.6	sheep

Humerus			
BT	Bd	Dd	Taxon
35.2	39.2		pig
36.4	41	42	pig
36.8	42.9	43	pig
38.3			pig
38.9	40.1		pig
		32.5	pig
		41.3	pig
		41.5	pig
	38.8		pig
	39.4	37.5	pig
26.5	27.9	24.3	sheep
29.6	30.2	26.4	sheep
30.6	32	25.9	sheep
31.5	33.1	28.4	sheep
32	32.4	28.3	sheep
		25.7	sheep
53.7			red deer
		82.5	horse

Humerus			
BT	Bd	Dd	Taxon
60.6	65.6	65.2	cattle
62.8			cattle
63.5		69.8	cattle
63.6			cattle
67.1			cattle
69.9	79.4		cattle
74.1			cattle
77.1	81.5	82.5	cattle
78	87.9	80.1	cattle
88			cattle
		68	cattle
		69.4	cattle
		69.6	cattle
		71	cattle
		72	cattle
		78.7	cattle
		79.7	cattle
	65.5	69.8	cattle
	76.7	83.5	cattle
19.3	28	30.1	pig
22.9	31.7		pig
24.1	30.6	29.7	pig
27.3	35.1	34	pig
27.5	33.6	34.5	pig
28	37.6	37.5	pig
28.6	38.4	38.1	pig
28.7	37.5	38.8	pig
29.1	36.9	36.7	pig
29.2	38.1	38.3	pig
29.5	35.3		pig
29.7	37.6	39.5	pig
29.8	37.6	38.4	pig
30	37	36.8	pig
30.2	38.3	39	pig
30.4	37.4	39.2	pig
30.5	38.1	38.1	pig
30.6	37.1	36	pig
30.7	38.1	38.9	pig
31	38.5	39.2	pig
31.5	29	38.5	pig
31.7	40.7	39.1	pig
31.8	38.8	40.1	pig
32	39.4	39.3	pig
32.1	42.1	42.2	pig
32.3	40.2	40.6	pig
32.4	40.8	43.5	pig
32.5	41.8	41.6	pig
32.7	37.8	40.1	pig
32.8	38.7	40.8	pig
33.1	39.8		pig
33.9	40.8	40.8	pig
34.8	42	41.7	pig

Radius							
GL	BFp	Bp	Dp	Sd	Bd	Dd	Taxon
	52.1	57.1	33.9				cattle
	58.7	64	32.7				cattle
	61.5	67.8	34.2				cattle
	61.8		36.7				cattle
	63.6		35.1				cattle
	65	68.6	36.5				cattle
	65.3		35.1				cattle
	66.5	71.6	37.9				cattle
	67	72.4					cattle
	67	72.4	38.5				cattle
	70.5	76.4	36.6				cattle
	70.5	76	41				cattle
	72.7						cattle
	72.7	79.8	40.5				cattle
	73.5	78.6	39.7				cattle
	73.8	79.8					cattle
	73.8	80.4	42.1				cattle
	77.4						cattle
			32.8				cattle
			33.3				cattle
			35.4		55	37.9	cattle
			42.4		56.3		cattle
		73.6			60.1	39.8	cattle
		80.2	41		61.3	37.9	cattle
		85.2	42		62.5	38.8	cattle
					65.9	41.8	cattle
					67.5		cattle
					68.1	44.6	cattle
					68.4	43.5	cattle
					69	38.9	cattle
					69.1	38.5	cattle
					69.7	47.8	cattle
					70.8	46.7	cattle
					76.9	49.2	cattle
156.5		30.8	23.6	19.2	36.1	25.3	pig
			21				pig
		26.5	19				pig
		26.8	17.6				pig
		27.8	17.6				pig
		28.5	18.1				pig
		28.6	19				pig
		28.6	19.3				pig
		28.7	18.8				pig
		29.1	18.6				pig
		29.4	19.5				pig
		29.4	19.5				pig
		29.7	18.8				pig
		29.7	20.3				pig
		30.2	20.4				pig
		30.8	23.6				pig
		30.9	22.2				pig
		31.5	19.3				pig
		32.7	21.5				pig
					37.5	27.9	pig

160.5	28.9	31.4	16.1	17.2	30.1	21.5	sheep
	26.5	27.8					sheep
	28.5	30.6	15.2				sheep
	29						sheep
	29.5	31.4	16.1				sheep
	29.7	32.9	16.3				sheep
	30.5	34.4	17.5				sheep
	30.5	33.4	16				sheep
	32.5	35	16.8				sheep
					27.5	19.5	sheep
					27.7	19.1	sheep
					30	20.4	sheep
					30.4	19.3	sheep
					34	21.9	sheep
	31.2	32.9	15.2				goat
			32.8				red deer
					52.1	42.5	red deer

Metacarpus						
Gl	Bp	Dp	Sd	Bd	Dd	Taxon
170.1	50.1	30.1	25.7		27	cattle
198.2	55	32.9	31.1		31	cattle
	48.7	28.9				cattle
	51.8	30.9				cattle
	53.5	32.1				cattle
	56.4	33.8				cattle
	59	36.7				cattle
				47.6	25.3	cattle
				49.2		cattle
				50.2	28	cattle
				51.7	27	cattle
				52.1	28.1	cattle
120.5	21.7	16.9	13.2	24.3	15.5	sheep
127.5	20.5		13.4	27.1	16.9	sheep
128.5						sheep
	22.7	17.1				ovic.
107.2	24.7	18.6	16.4	28.7	16.2	goat
				30.5	17.5	goat
lg, mx/ 219,8	lg. lat/ 211		35.3	47.6	48.1	horse

Mc III		**Mc IV**		**Mt III**	
GL	Taxon	GL		GL	Taxon
69.7	pig	80.1	pig	81.7	pig
72.1	pig			86.1	pig
72.4	pig				
75.4	pig			**Mt IV**	
76.7	pig			GL	Taxon
79.3	pig			74.7	pig
80.2	pig				
80.2	pig				
81.5	pig				

Tibia		
Bd	Dd	Taxon
57.1		cattle
49.8	41.6	cattle
49.8	41.6	cattle
49.9	41	cattle
50.7	36.6	cattle
51		cattle
51.4	39.2	cattle
53	40	cattle
53.1	39.1	cattle
53.5		cattle
54	41	cattle
55	41.8	cattle
55.4	39.9	cattle
55.6	42.1	cattle
56.3	42.5	cattle
57.4		cattle
58		cattle
58	42.5	cattle
58.6	43.9	cattle
58.9	43.6	cattle
59	42.5	cattle
60.1	45.7	cattle
61.8	44.2	cattle
62.3	47.8	cattle
63.7	45.5	cattle
	37.9	cattle
	42.7	cattle
26.9	24.9	pig
28.3	23.6	pig
28.5	26.3	pig
28.5	33.4	pig
28.6	26.5	pig
28.6	28.3	pig
28.7	24.3	pig
29.4	26.8	pig
29.7	26.5	pig
29.8	25.5	pig
30.5	26.6	pig
24.8	18.9	ovic.
25.4	18.4	ovic.
25.7	19.3	ovic.
26.2	20.7	ovic.
26.4	21.2	ovic.
26.8	21.1	ovic.
27.2	20	ovic.
27.2	218	ovic.

Talus			
GLl	GLm	Bd	Taxon
56.1	51.3	36	cattle
56.1	51.4	36.4	cattle
56.8	52.7		cattle
57.5	51.6	36.8	cattle
57.8	53.6	36.6	cattle
58	50	37.1	cattle
58.4	53.3	36.1	cattle
58.6	52.1	37	cattle
58.6			cattle
59			cattle
59.1	54.2	37.3	cattle
60.1	54.3	38.7	cattle
60.1	56.4	35.2	cattle
60.7	55.1	39.4	cattle
60.8	54.2	36.8	cattle
61			cattle
61.3	57	42.4	cattle
61.4	54.8	38.3	cattle
62.5	58.5	40.2	cattle
64	59.5	42.4	cattle
64.8	60.1	42	cattle
65	60	42.1	cattle
66.2	59.5	42.4	cattle
67.4	61.7		cattle
67.6	59.8	42.1	cattle
		35	cattle
		34.7	cattle
		36.2	cattle
	56.5		cattle
	59.9		cattle
37.1	33.9	23.8	pig
39.5			pig
41.5	38.5	26.4	pig
42.6	38.7	28.2	pig
44.5	39.9	26.4	pig
44.9	41.4	26.7	pig
	36.7	25.6	pig
54.3	52	35	red deer
56.1	52.6	36.7	red deer

Tibia		
Bd	Dd	Taxon
28.5	23.1	ovic.
28.7	22.4	ovic.
30.2	21.6	ovic.

27.4	20.3	ovic.
27.5	20.2	ovic.
27.6	22.6	ovic.
27	19.6	ovic.
27	21.5	ovic.

31.2	25	ovic.
54	37.8	red deer
51	37.5	red deer
52.6	39.4	red deer
	35.1	red deer

Metatarsus						
Gl	Bp	Dp	Sd	Bd	Dd	Taxon
204.3	40.1	40.4	22.9	49.5	26.7	cattle
209.5	40.1		23.5		27.2	cattle
212.5	40.3	37.8	23.3	47.1	26.9	cattle
213.8	44.6	40.1	25.3	52.3	36.9	cattle
219.8	46.3	45.4	26.8	50.2	27.4	cattle
	50	46.8				cattle
				45.4	26.8	cattle
				46.2	25.7	cattle
				46.6	37.6	cattle
				46.8	26.9	cattle
120	20.5	20.1				sheep
131	21	20.4	13.4	23.4	16.1	sheep
	23.1	25.1				sheep
	24.2	16				roe deer

Calcaneus			**Ph I**		**Pelvis**	
GL	GB	Taxon	GL	Taxon	LA	Taxon
109.5		cattle	46.5	cattle	52.2	cattle
110.4	29.8	cattle	49	cattle	56.5	cattle
112		cattle	49.4	cattle	56.7	cattle
115.4	37.5	cattle	49.5	cattle	57.4	cattle
115.5	38.5	cattle	49.5	cattle	57.5	cattle
117.6		cattle	50.2	cattle	58.4	cattle
117.6		cattle	50.2	cattle	59.5	cattle
118.6		cattle	50.3	cattle	61.8	cattle
119.5	39.8	cattle	50.4	cattle	25.2	pig
119.5	40.1	cattle	50.8	cattle	27.5	pig
119.8	36.9	cattle	50.9	cattle	31.1	pig
120.4	34.5	cattle	51.2	cattle	31.3	pig
121.1		cattle	51.4	cattle	31.7	pig
121.1	39.2	cattle	51.4	cattle	31.8	pig
121.8	39.9	cattle	51.6	cattle	32	pig
123.6		cattle	52	cattle	32.4	pig
126.9	41	cattle	52.7	cattle	32.5	pig
127.6	37.4	cattle	52.9	cattle	32.6	pig
136	42	cattle	53.3	cattle	32.8	pig
139.4	44	cattle	53.6	cattle	33.5	pig
139.6	44	cattle	53.7	cattle	33.5	pig
80		pig	54.1	cattle	33.9	pig
61.5		sheep	54.5	cattle	34.5	pig
			54.7	cattle	35.7	pig
			55.6	cattle	37.2	pig
			55.6	cattle	24.4	sheep
			55.6	cattle	24.5	sheep
			56.1	cattle	27.7	sheep

57.2	cattle	27.8	sheep
57.3	cattle	27.9	sheep
57.5	cattle	29.2	sheep
57.6	cattle	29.5	sheep
57.9	cattle	30	sheep
58.5	cattle	30.3	sheep
59.4	cattle		

Fowls

Humerus					**Tibiotarsus**	
GL	Bp	Sd	Bd	Taxon	GL	Taxon
58.1	16	5.2	12.2	hen	93.7	hen
63.2	17.5	5.7	13.5	hen	97.8	hen
63.7	18.5	6.1	13.8	hen	112.5	duck
64		6.1	13.1	hen	112.1	duck
	30.8			goose	Ulna	
	31.5			goose	GL	Taxon
	33			goose	60.1	hen
	35.8			goose	111.1	goose
			23	goose	111.1	goose
			22	goose		
			22.9	goose	**Coracoid**	
93.7	25.6	8.2	21.1	duck	GL	Taxon
93.7	25.7	8.1	21.1	duck	63.5	goose

Femur					**Tarsometatarsus**	
GL	Bp	Sd	Bd	Taxon	GL	Taxon
68.3	14.3	5.5	13	hen	67.4	hen
68.4	15.1	6	14.2	hen	68.7	hen
68.4	15.2	6	19.3	hen	75.7	hen
70.3	14.7	5.8	13.7	hen	78.3	hen
71.9	14.3	5.6	13.7	hen	80.3	hen
	13.7			hen		
	14			hen		
	17.6			goose		
78.5	17.1	6.5	15.7	duck		

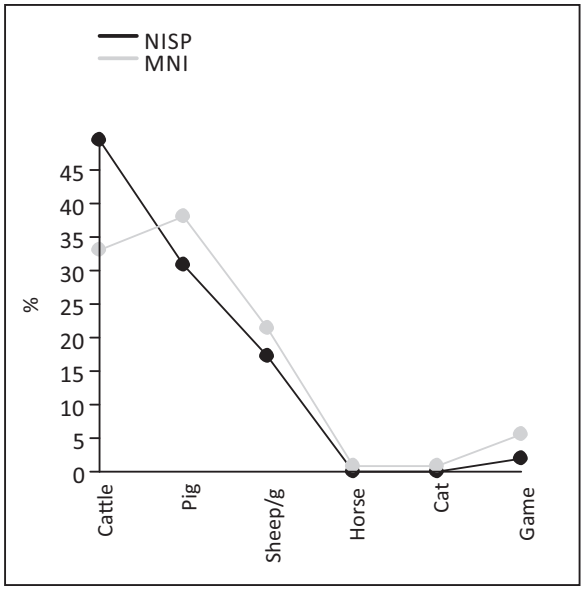

Fig. 1. Mammals frequencies at Pâncota. / *Frecvențele mamiferelor la Pâncota.*

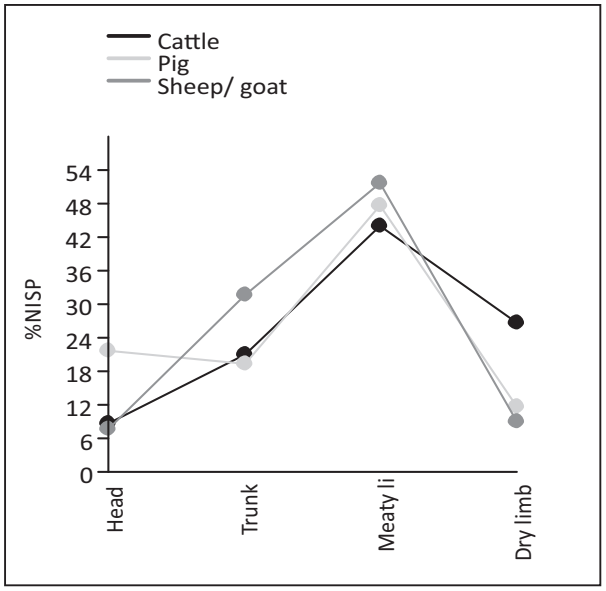

Fig. 2. The body-part distribution. / *Ponderea regiunilor cu importanță alimentară.*

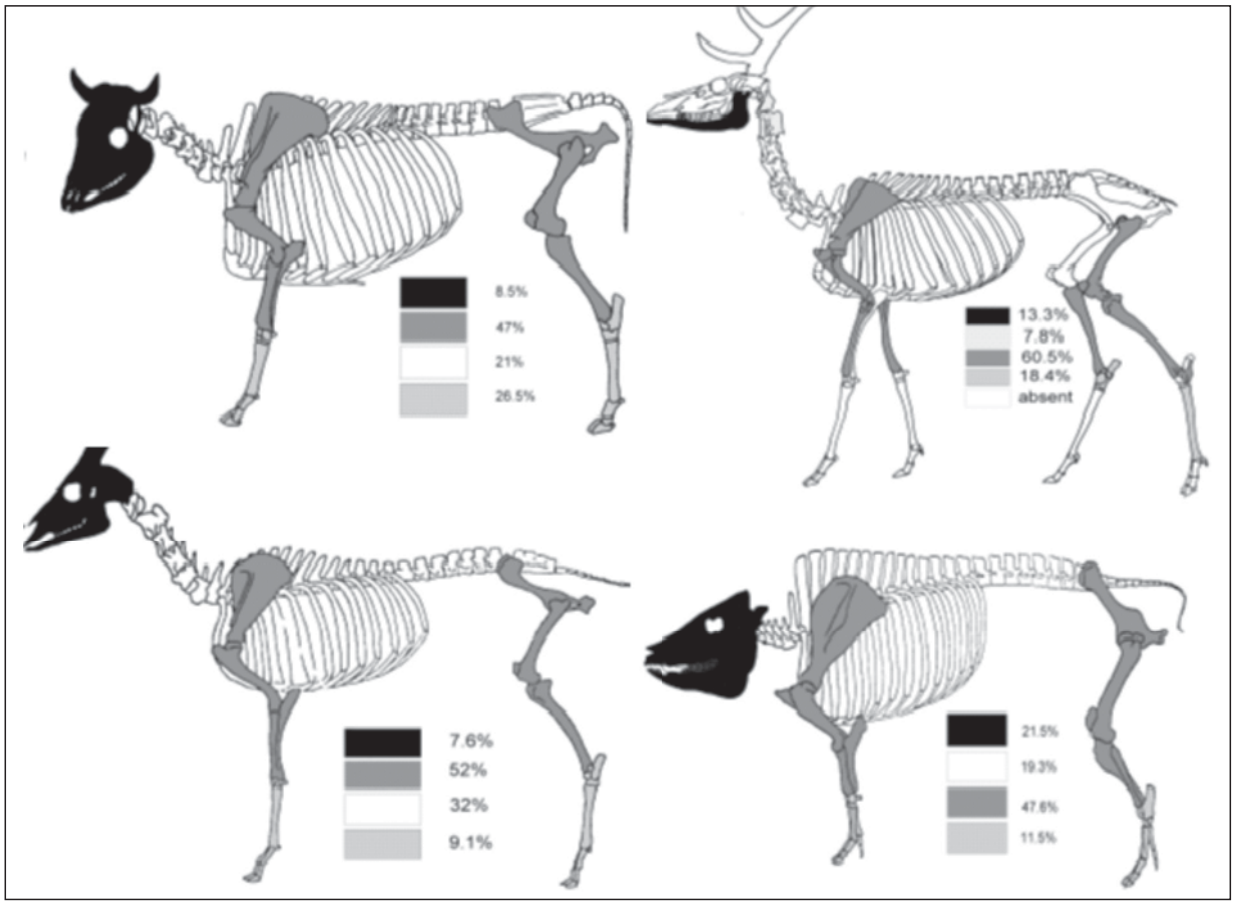

Fig. 3. The body-part distribution on skeletons. / *Ilustrarea pe schelete a distribuției corporale.*

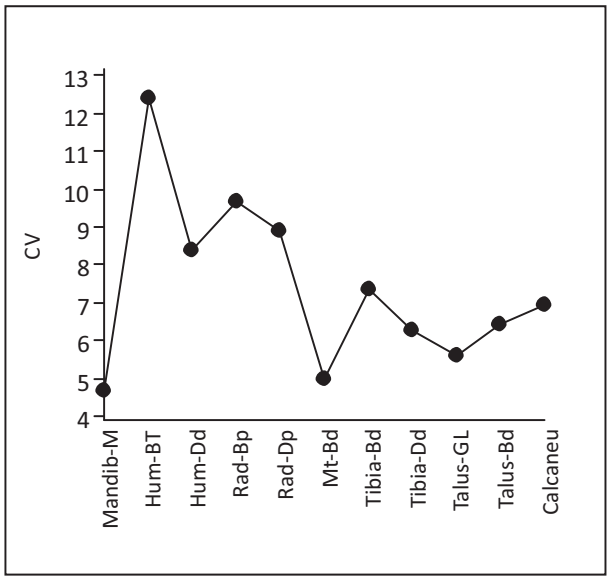

Fig. 4. Coefficients of variation of cattle measurements. / *Coeficienți de variație ai vitei.*

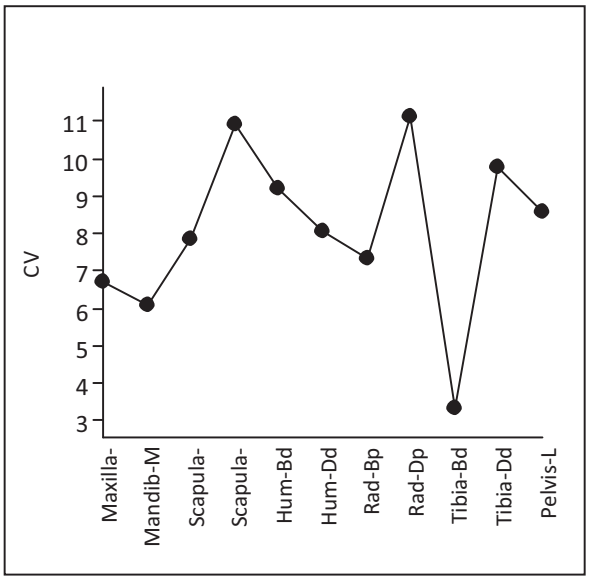

Fig. 5. Coefficients of variation of pig measurements. / *Coeficienți de variație ai porcului.*

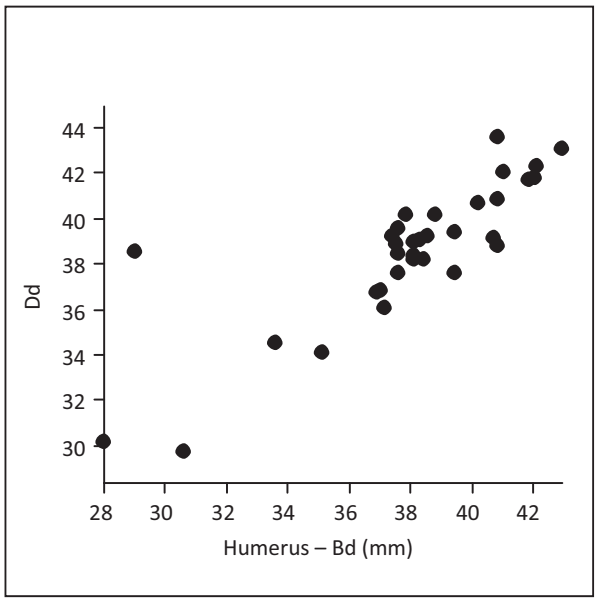

Fig. 6. Scatter-diagram of pig distal humerus. / *Distribuția parametrilor humerusului distal de porc.*

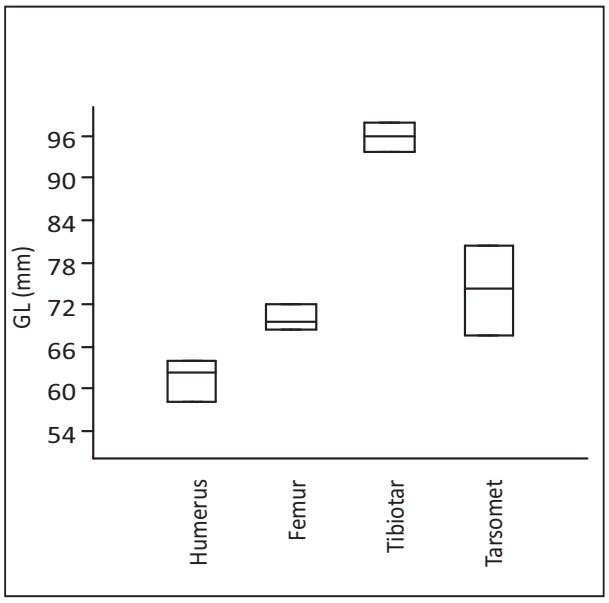

Fig. 7. Means of hen measurements. / *Mediile unor măsurători ale găinii.*

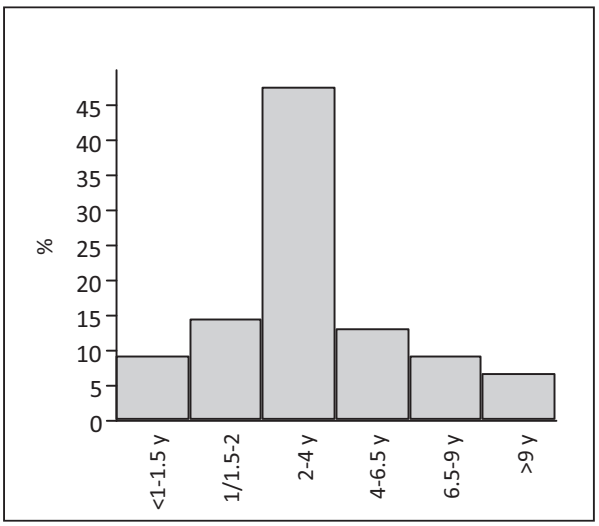

Fig. 8. Cattle age-class distibution. / *Clase de vârstă la vită.*

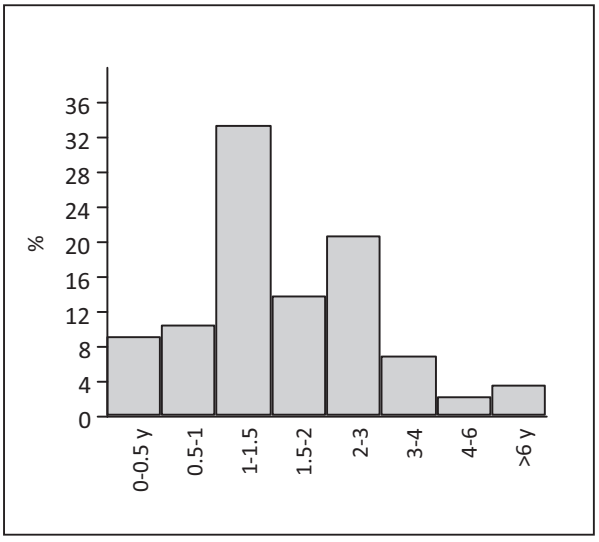

Fig. 9. Small ruminants age-class distibution. / *Clase de vârstă la rumegătoare mici.*

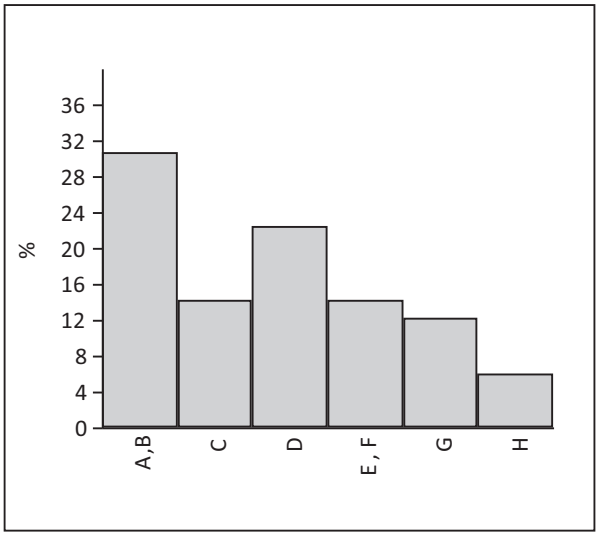

Fig. 10. Pig age-class distibution. / *Clase de vârstă la porc.*

Fig. 11. Metapodials from cattle. / *Metapodii de vită.*

Fig. 12. Humerii from pig. / *Humerusuri de la porc.*

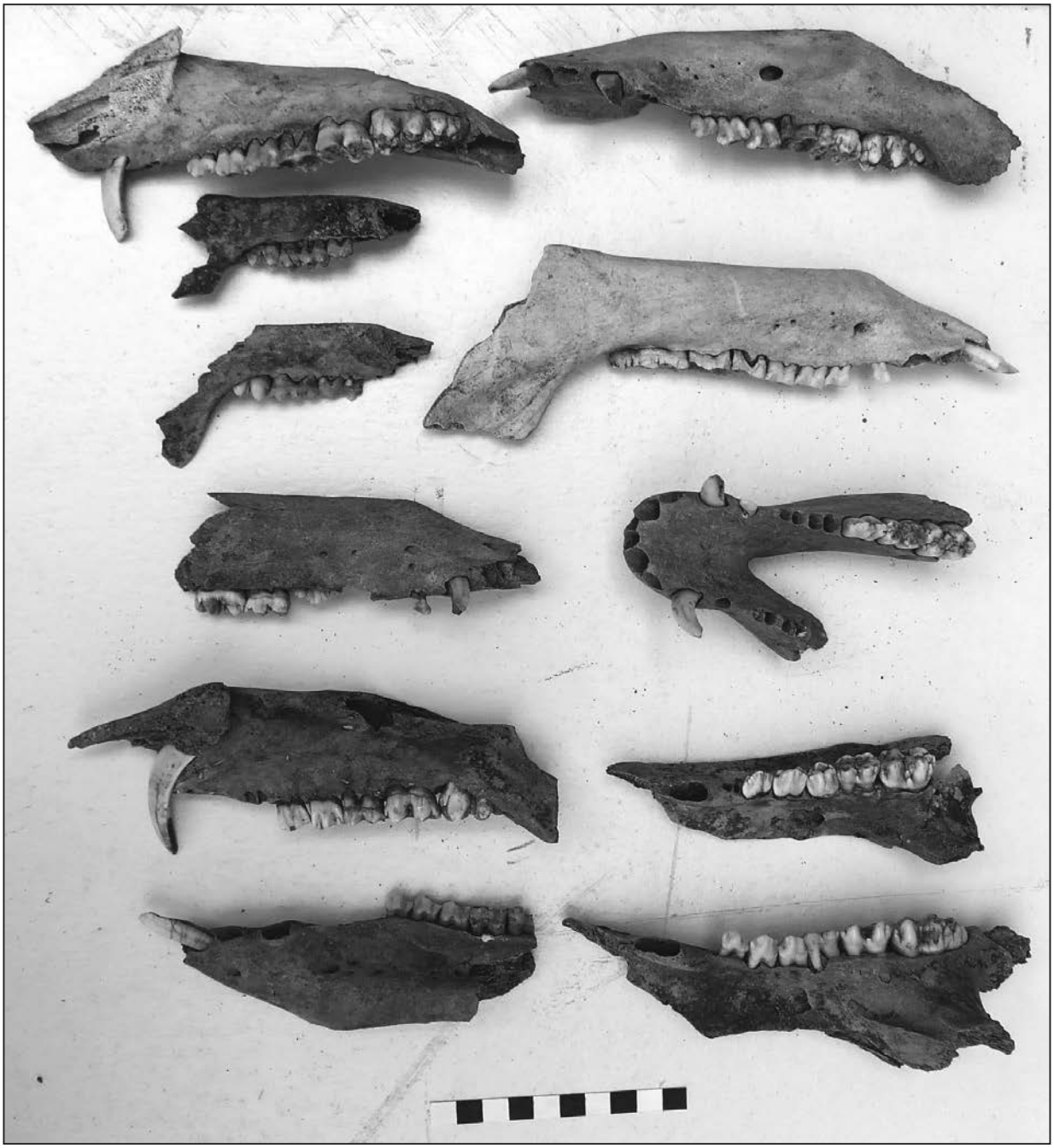

Fig. 13. Pig dentition. / *Dentiție de la porc.*

Fig. 14. Cattle ribs with cut-marks. / *Coaste de bovine cu urme tăiere.*

Fig. 15. Bones with cut-marks. / *Urme de tăiere pe oase.*