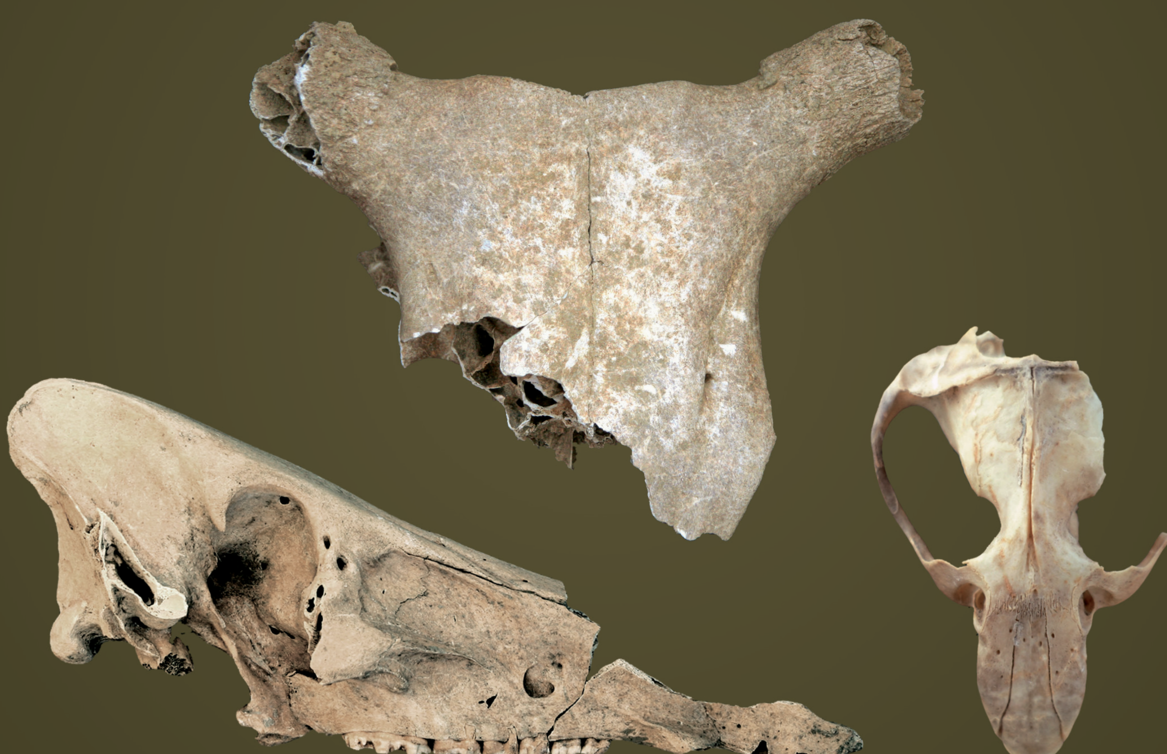
Erika Gál

Animals at the Dawn of Metallurgy in South-Western Hungary

Relationships between People and Animals in Southern Transdanubia during the Late Copper to Middle Bronze Ages



Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences

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ANIMALS AT THE DAWN OF METALLURGY IN SOUTH-WESTERN HUNGARY

RELATIONSHIPS BETWEEN PEOPLE AND ANIMALS IN SOUTHERN TRANSDANUBIA DURING THE LATE COPPER TO MIDDLE BRONZE AGES

Institute of Archaeology, Research Centre for the Humanities,
Hungarian Academy of Sciences

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Cover illustration
Skulls of wild boar, cattle and lesser mole rat (photos by Erika Gál)

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Introduction

Archaeozoological information concerning the Late Copper and Early Bronze Ages in southern Transdanubia are still rather limited. In contrast to the Great Hungarian Plain, where 19th-century river regulations, large-scale tillage and motorway constructions have exposed numerous sites from these prehistoric periods, in largely hilly southern Transdanubia mostly recent excavations and research into environmental history (FÁBIÁN 2014; HORVÁTH 2014; ZATYKÓ *et al.* 2007) have begun directing attention to economic conditions and social hierarchies characteristic of these time periods. Changes in the structure of horizontal settlements show the emergence of centers indicative of the socio-economic dynamics resulting from the development of metallurgy, long distance trade and increasing overall mobility.

Fundamental changes from the Copper to the Bronze Age and the transition between various cultures raise similar questions. How much are the changes recorded in ceramic style, metallurgy and mortuary tradition reflected in the modes of food production, bone manufacturing as well as in changing relationships between humans and animals? Are these changes markers of new collective identities? Is it possible to draw general conclusions for these periods and how much variability can be explained by climatic and other environmental conditions? It is just as important to understand how much of the change may have been culturally driven, caused more by social developments rather than shifts in the local environment.

Bronze Age was a term introduced by Christian J. THOMSEN (1836) as part of the *Three-Age System*, based on the newly introduced raw material of artifacts: stone, bronze and iron. This evolutionary model became the basis of prehistoric relative chronologies. Originally Bronze Age meant that objects either in copper or bronze were being produced during this period. As the use of copper frequently preceded the invention of bronze, John EVANS (1881) distinguished between a transitional Copper Age and the Bronze Age proper, still within Thomsen's three-age system.

While the nuanced technological difference in producing a new, sophisticated copper alloy, bronze, had revolutionary long term implications, it had no immediate effect in the rural backwaters of southern Transdanubia. Although none of the sites under discussion here revealed metal finds, their relative chronologies could be fine-tuned on the basis of Copper and Bronze Age ceramic styles. This time of overall transition can be detected in a number of correlates in material culture, including changes in animal exploitation.

Thanks to preventive excavations carried out along the designated path of the M7 motorway at the beginning of this century, for the first time quantities of animal bone were accumulated in this region whose identification and analysis has been greatly decelerated by the lack of a steady source for post-excavational funding. The thorough evaluation and publication of these valuable results is lagging even farther behind. This is why it should be considered particularly lucky that detailed studies could already be carried out at the Late Copper Age sites of Balatonkeresztúr-Réti-dűlő and Balatonőszöd-Temetői-dűlő during the recent years (FÁBIÁN – SERLEGI 2009; GÁL 2014a; HORVÁTH 2014; NAGY 2014, SERLEGI *et al.* 2012; VÖRÖS 2014). Additional results gained by the study of animal bone assemblages from the Early Bronze Age sites of Kaposújlak-Várdomb and Paks-Gyapa during my own project (granted by the Hungarian Scientific Research Fund, OTKA PD 71965) between 2008–2011 have also been continuously published (GÁL 2009a; GÁL 2011; GÁL 2014b; GÁL 2015a; GÁL 2016; GÁL – KULCSÁR 2012).

The recent project (granted by the Hungarian Scientific Research Fund, OTKA NF 104792), was aimed at the thorough study of animal bones from a number of Copper and Bronze Age settlements excavated between 1999 and 2007. A special emphasis was laid on cooperation with the excavating archaeologists. However, except for two sites, the detailed archaeological study of settlements is still in progress, to be published in the near future. Those forthcoming monographs will help further interpreting the archaeozoological results in the present work. Extensive studies on the settlement and find materials concerning the EBA localities at Dombóvár-Tesco and Paks-Gyapa have recently been described in a major article and a master thesis respectively (Szabó – Gál 2013; Péró 2016).

Methods

The animal remains available for study were collected by hand only, wet sieving or dry screening were not applied during these excavations. The animal bones were mostly studied using morphology-based standard archaeozoological methods following international protocols. This includes the identification of bones and building of individual databases for each assemblage. These databases contain information on the species, skeletal part, side, bone fragmentation and size range, and the age of the animal for each fragment. The weight of the remains was also recorded in the case of five assemblages where the bones were not covered by exogenous limestone concretions precluding the use of this method. Additionally, bone measurements were collected using the internationally accepted standard (von den Driesch 1976).

Withers height estimates are given when the appropriate bone(part) was preserved in full length. The methods developed by Matolcsi (1970) and Nobis (1954) were followed in estimating the stature and sex of cattle. The withers heights of sheep, pig and dog were calculated using the coefficients developed by Teichert (1975; 1969) and Koudelka (1885). The stature and metapodial slenderness index of horse were estimated following the methods by Kiesewalter (1888), Brauner (1916) and Vitt (1952).

The analysis of age at death followed the method developed by Terry P. O'Connor that focuses on the dental eruption and attrition in mandible on the one hand, and the fusion of epiphyses on the other (O'Connor 1989: 174; 1991: 248–254; 2003: 165–170). The latter method is based on the sequence of fusion of long bone epiphyses in the skeleton of each species. Although the different points representing the percent of fused epiphyses in the remains of killed animals are connected on the epiphyseal fusion curve, in reality these data represent the structure of the assemblage deposited at the site, rather than the mortality profile of a single animal group, as the bones often derive from several populations. Consequently, in contrast to traditionally used kill-off curves the data may produce an upturn of the curve in the intermediate and late fusing bone groups (O'Connor 2003: 166). In small samples of ageable bone, this phenomenon may also be influenced by random bias.

The anatomical distribution of bones was studied according to Kretzoi's (1968) grouping of skeletal parts from prehistoric sites. Notes regarding taphonomic characteristics (human modification, burning, etc.) and bone pathologies were also systematically recorded.

Tools made from hard animal tissues such as antler, bone and various teeth (including boar tusk) were categorized according to two methods. Detailed typology followed the work by Jörg Schibler, completed on the prehistoric lake dwelling of Twann in Switzerland (Schibler 1981). The other grouping according to the manufacturing continuum was elaborated by Alice M. Choyke. This classification is based on the multiple criteria of raw material selection (species and skeletal part), the degree of manufacturing as well as the extent of use and curation. At one extreme, the raw materials of Class I artifacts are carefully selected. They are thoughtfully planned and considerable labor is invested in their manufacture. Many of them serve a definite purpose and show clear marks of extensive use as well as curation, usually interpreted as a sign of relatively great utilitarian value. Class II or *ad hoc* tools on the other end of the manufacturing continuum were usually produced in a short time from casually picked up butchery refuse or food remains. In their case, both the selection of raw material and manufacturing are inconsistent and such tools typically do not show marks of curation (CHOYKE 1997). Most worked animal remains can be seen as being in-between these extremes but closer to one end than the other.

Digital photographs were taken of the most important animal remains, such as horn core types, skulls, skeletal parts of rarely occurring species (e.g. brown bear, wild cat and rodents), tools and bone pathology.

Radiocarbon dating was carried out by the Isotoptech Public Limited Company, successor of the Hertelendi Laboratory of Environmental Studies (Institute of Nuclear Research of the Hungarian Academy of Sciences, Debrecen) in order to determine the absolute age of certain bones (*Appendix 1*). Preference was given to rarely occurring horse remains and to artifacts found in reliable stratigraphic positions as they offer dates for the archaeological context, as well as the animal identified and the style of bone working. Samples from the dated horse remains were also handed over to the Laboratory of Archaeogenetics of the Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences for aDNA analyses to be accomplished in the future, following the publication of this volume.

Acknowledgements

The complete archaeozoological research of animal remains as well as the publication of the present volume was generously granted by the Hungarian Scientific Research Fund (OTKA PD 71965 and OTKA Project NF 104792). The Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences provided the institutional background for these projects. Both the former and the current directors of the Institute of Archaeology, Csanád Bálint and Elek Benkő, respectively are acknowledged for housing the project and providing the required facilities.

Archaeologist colleagues are thanked for inviting me to work on the archaeozoological materials studied in this book: Zsolt Gallina, Gabriella Kulcsár and Krisztina Somogyi (Kaposújlak-Várdomb), Gábor Váczi (Paks-Gyapa), Viktória Kiss (Ordacsehi-Bugaszeg), Borbála Nagy (Szűr-Cserhát), Krisztina Somogyi (Kaposvár-Road 61, Site no. 1), and Géza Szabó (Dombóvár-Tesco). In addition, I am also grateful for the archaeological information given by Anett Osztás, Kriszta Péró and Zoltán Schultz. Szilvia Honti and Dóra Tari are thanked for providing their help in accessing the assemblages.

My fellow archaeozoologist Anna Zsófia Biller helped me with the identification of remains and data recording in part of assemblages from Kaposújlak-Várdomb and Paks-Gyapa, respectively. The fish remains were identified by László Bartosiewicz, while Zsófia Eszter Peuser helped me with the rodent remains. Sharing the office with Éva Ágnes Nyerges, another fellow archaeozoologist for years, meant that we could make several inspiring conversations.

I am especially indebted to László Bartosiewicz for his continuous encouragement and creative ideas during my work, as well as for the scientific and linguistic revision of the draft manuscript. Erzsébet Jerem, director of the publishing house Archaeolingua kindly embraced the publication of this volume. Desktop editing was done by Rita Kovács. The cover design was made by Móni Kaszta. The final English correction was made by Kyra Lyublyanovics.

Last, but not least, I am grateful to my family for their permanent support and patience during my research and writing this book.

1. LATE COPPER AGE SITES

1.1 Kaposújlak-Várdomb (Baden culture)

Introduction

Kaposújlak-Várdomb, located in the western outskirts of modern-day Kaposvár town in south-western Hungary (*Fig. 1*), was excavated by Zsolt Gallina and Krisztina Somogyi in 2002. They uncovered a settlement in the marshy, once forested floodplain of the Kapos river, intensively inhabited between the Late Neolithic and the Late Bronze Age. Preliminary research shows that the chronological development of the Baden–Kostolac–Late Vučedol–Somogyvár-Vinkovci–Kisapostag cultural sequence between the Late Copper Age (LCA) and the Early Bronze Age (EBA) can be studied at a single site here (Somogyi 2002; 2004). Excavation data and aerial photographs indicate that this peninsular area was protected by a defensive ditch at the beginning of the Bronze Age.

Fig. 1. Map showing the location of sites under study (square) and of already published sites with assemblages that yielded NISP>500 (triangle) in the region

Results

A total of 178 LCA features were found at the site that contained over 12,000 animal remains. These archaeological features may be grouped in three categories:

(1) sacrificial pits containing animal skeletons and other archaeological finds such as ceramic fragments, as well ad stone and bone tools;
(2) refuse pits from which butchery and food remains were recovered; and
(3) a ‘carrion pit’ that contained a rather great number of complete sheep skeletons.

Animal sacrifices including 21 skeletons were found in 15 features. Usually a single animal was placed into the pit, but there were a few exceptions: Feature 249 contained a cattle and three sheep skeletons together, Features 408 and 1326 both yielded 2 cattle skeletons, while Feature 1237 contained two pig skeletons (*Table 1*). Cattle was the most frequent species in these deposits, represented by 16 individuals.

There are three sheep and two pig skeletons at the site, respectively. The age of the slaughtered animals varied from juvenile to adult. Usually not fully grown animals were sacrificed, but an adult sheep and three adult cattle were also killed.

Table 1. List of LCA structured animal deposits with information regarding age, sex and withers height

No. of Feature	Species	Age group, Sex, Withers height
249	Cattle Sheep Sheep Sheep	Juvenile Juvenile Subadult Adult (Female, WH=56.4 cm)
276	Cattle	Subadult
407	Cattle	Subadult
408	Cattle Cattle	Juvenile Subadult
427	Cattle	Juvenile
439	Cattle	Adult (Male, WH=124.1 cm)
454	Cattle	Juvenile
524	Cattle	Juvenile
713	Cattle	Subadult
780	Cattle	Juvenile
814	Cattle	Adult
1237	Pig Pig	Juvenile Subadult
1239	Cattle	Juvenile
1326	Cattle Cattle	Juvenile Adult
1417	Cattle	Juvenile

The withers height of the adult sheep found in Feature 249 was 56.4 cm. This size corresponds to an ewe as suggested by a range of dimensions obtained from sexed specimens found at the coeval site of Balatonőszöd-Temetői-dűlő in Sout-western Hungary (Vörös 2014: 307). A bull of a withers height of 124.1 cm was found in Feature 439 (*Table 1*). The rest of the adult skeletons were not available for direct examination, therefore neither the sex nor the withers heighs of these specimens could be identified. Information regarding these animal deposits, however, is available in two earlier published works (Csippán 2012: 388-395; Vörös 2013, DVD 1, Table 49).

In addition to the skeletons, bone artifacts were also found in some pits along with the animal burials. Fragments of bevel-ended tools made from red deer antler came to light from Features 249 and 454, respectively. The latter also contained an *ad hoc* polished bone tool. Feature 713 included the fragment of a round diaphysis bevel-ended tool made from the metapodium of a small ruminant. A polished and rounded end of a red deer antler tine with a base cracked by fire was found in Feature 780. A detailed analysis of the bone and antler tool assemblage found at Kaposújlak-Várdomb follows later in this chapter.

Feature 1365, described as a 'carrion pit', contained a total of 6,487 remains from sheep, which represented complete skeletons. The distribution of skeletal parts by the side and age group indicated that these bones belonged to at least 46 individuals. The summary of tooth eruption and wear in mandibles showed that over half of the mandibles belonged to adult sheep whose M_3 was already in wear (*Table 2*). According to Sebastian Payne's kill-off patterns observed in sheep and goat, this stage of tooth wear would correspond to individuals older than 2 years (Payne 1973: 293, Table 1).

Table 2. Age composition of caprines based on mandibles with teeth according to age groups (Abbreviations: LCA = Late Copper Age; EBA = Early Bronze Age; S-V = Somogyvár-Vinkovci culture; K = Kisapostag culture; MBA = Middle Bronze Age)

Neonatal	Juvenile	Immature	Subadult			Adult			Elderly	No. of tooth row	Age	Site
			S1	S2	S3	A1	A2	A3				
		10	22			40		2		74	LCA (Feature 1356)	Kaposújlak-Várdomb
	2	4	1			10				17	LCA	Kaposújlak-Várdomb
	1	15	3	1	1	7				28	LCA	Szűr-Cserhát
	1					4				5	LCA	Paks-Gyapa
	1									1	LCA	Ordacsehi-Bugaszeg
	2	1	1	2		18		3		27	EBA	Kaposújlak-Várdomb
	1		1			2				4	EBA	Dombóvár-Tesco
						3				3	EBA (S-V)	Ordacsehi-Bugaszeg
		1		2		13				16	EBA (K)	Ordacsehi-Bugaszeg
						4				4	MBA	Ordacsehi-Bugaszeg
						2				2	MBA	Kaposvár-Road 61, Site no. 1

This result corroborates the information gained from the epiphyseal fusion data of long bones, showing that around 50% of all ageable skeletal elements corresponded to the epiphyseal fusion stage ‘Intermediate II’ (*Fig. 2*). According to the data on the epiphyseal fusion of bones in domestic animals by Chaix – Méniel (2001), the skeletal parts in question fuse around the age of 2 years in sheep and goat.

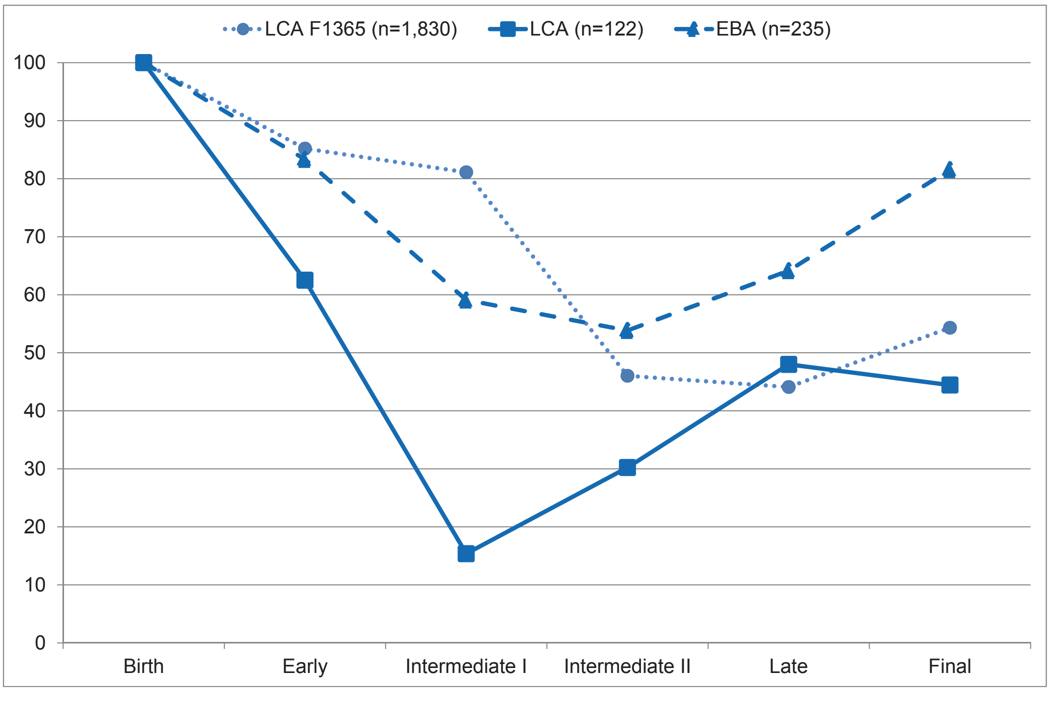

Fig. 2. Epiphyseal fusion curves in sheep and goat, showing percentages of fused elements at each fusion stage (Abbreviations: LCA = Late Copper Age; EBA = Early Bronze Age; F1365 = Feature 1365)

*Table 3. Table summarizing the withers heights of various species from each site (*skeletal parts of a single individual from Feature 1258)*

No. of bones	Min-Max	Mean	Sex	Age	Site
Cattle (*Bos taurus* Linnaeus, 1758)					
n=1	124.1		M	LCA (Feature 439, sacrifice)	Kaposújlak-Várdomb
n=1	112.0		M	LCA	Kaposújlak-Várdomb
n=2	110.3-117.5	113.9	F	LCA	Szűr-Cserhát
n=1	127.7		?	LCA	Szűr-Cserhát
n=4	122.6-130.9	126.8	F	EBA	Kaposújlak-Várdomb
n=1	124.3		M	EBA	Paks-Gyapa
n=2	122.9-128.1	125.5	F	EBA	Paks-Gyapa
n=1	126.8		?	EBA	Paks-Gyapa
n=1	126.2		?	EBA	Dombóvár-Tesco
n=4	121.8-133.6	126.7	F	EBA	Ordacsehi-Bugaszeg
n=2	118.0-126.4	122.2	?	EBA	Ordacsehi-Bugaszeg
n=2	118.3-119.2	118.0	M	MBA	Kaposvár-Road 61, Site no. 1
n=2	114.0-116.5	115.3	F	MBA	Kaposvár-Road 61, Site no. 1
n=1	114.9		?	MBA	Kaposvár-Road 61, Site no. 1
Sheep (*Ovis aries* Linnaeus, 1758)					
n=1	56.4		F	LCA (Feature 249, sacrifice)	Kaposújlak-Várdomb
n=70	53.1-61.7	57.1	F	LCA (Feature 1365, carrion pit)	Kaposújlak-Várdomb
n=2	56.4-57.3	56.9	F	LCA	Paks-Gyapa
n=1	59.1		F	EBA	Kaposújlak-Várdomb
n=2	65.7-73.6	69.7	M	EBA	Kaposújlak-Várdomb
n=1	64.2		F?	EBA	Paks-Gyapa
n=1	60.0		F?	EBA	Dombóvár-Tesco
n=1	62.6		F?	EBA	Ordacsehi-Bugaszeg
Pig (*Sus domesticus* Erxleben, 1777)					
n=1	70.1			LCA	Kaposújlak-Várdomb
n=1	74.3			LCA	Szűr-Cserhát
n=4	73.4-77.7	75.1		EBA	Kaposújlak-Várdomb
n=11	70.3-80.2	75.4		EBA	Paks-Gyapa
n=1	74.1			EBA	Dombóvár-Tesco
Horse (*Equus caballus* Linnaeus, 1758)					
n=1	132.5			EBA	Kaposújlak-Várdomb
Dog (*Canis familiaris* Linnaeus, 1758)					
n=10*	41.6-45.4	43.3		EBA	Kaposújlak-Várdomb
n=1	48.8			EBA	Kaposújlak-Várdomb
n=1	40.5			EBA	Paks-Gyapa
n=1	40.9			EBA	Ordacsehi-Bugaszeg

Only a few individuals (19%) were slaughtered before the stage 'Intermediate' I' that would roughly correspond to one year in sheep. This age category is represented by 10 mandibles, while another 22 mandibles indicated individuals of the age between 1–2 years. The latter kill-off pattern is also shown in the epiphyseal fusion graph by the significant drop between stages 'Intermediate I' and 'Intermediate II'.

The fusion curve slightly upturns towards the end which would mean that more animals are represented by the final fusing group than by the late fusing group of bones. This would look impossible in a single population. Therefore this result may be due to the loss of a number of unfused vertebrar.

Due to the great number of complete long bones from adult individuals, a total of 71 calculations could be made for estimating the size of sheep buried in Feature 1365. The withers height varied from 53.1–61.7 cm, the mean being 57.1 cm (standard deviation= 2.0 cm; *Table 3*). According to the aforementioned source of data (VÖRÖS 2014: 307), all the adult and mature sheep in our material were ewes.

The sheep remains buried in Feature 1365 did not display traces of any contagious disease. Exostoses of a slight degree were identified on the distal leg bones as well as dental pathologies. These are related to the old age of animals on the one hand, and to possibly poor quality grazing fielde on the other (*Fig. 3*).

In addition to the commingled sheep skeletons, somw cattle remains of unidentifiable age and a subadult pig, as well as a partial skeleton of a rodent were found in Feature 1365.

The rest of the 162 LCA features represented refuse pits, which contained 4,156 animal remains. Four of these features were remarkable as they also included human remains. Feature 333 contained the skeleton of a child and the fragments of another human skull (possibly from an adult individual) in addition to the partial skeletons of a juvenile and an adult dog, two wild boars as well as cattle, pig and red deer bones. The contracted skeleton of an adult individual was found in Feature 1414 along

Fig. 3. Irregular tooth growth (top) and wear (middle and bottom) in sheep

with a few bones from cattle, pig and wild boar. Feature 292 contained only a human skull beside a goat skeleton. In Feature 1397, a human skull was accompanied by a number of remains from cattle, caprines, pig, wild boar and a fragment of a red deer antler. The contents of these features thus differ from those found in the rest of the pits as they suggest a ritual act or series of actions. Aside from the presence of human bones, however, their general characteristics do not distinguish them from the overall assemblage from an archaeozoological point of view.

The most frequent species in the LCA assemblage from this site was cattle, represented by 1,129 remains. It was followed in frequency by pig (642 remains) and sheep and goat (556 remains). Horse was not present at all. Dog was under-represented by less than 1% of the assemblage (*Table 4*).

Table 4. Distribution of species by NISP and % in the assemblage

Species	NISP	%
Cattle (*Bos taurus*)	1,765	17.16
Sheep (*Ovis aries*)	6,683*	69.67
Goat (*Capra hircus*)	24	
Sheep and Goat (Caprinae)	459	
Pig (*Sus domesticus*)	767	7.46
Dog (*Canis familiaris*)	99	0.96
Domestic animals	**9,797**	**95.25**
Aurochs (*Bos primigenius*)	1	0.01
Red deer (*Cervus elaphus*)**	157	1.53
Roe deer (*Capreolus capreolus*)**	127	1.23
Wild boar (*Sus scrofa*)	130	1.26
Red fox (*Vulpes vulpes*)	12	0.12
Wild cat (*Felis silvestris*)	3	0.03
Marten (*Martes martes*)	1	0.01
Brown bear (*Ursus arctos*)	1	0.01
Hare (*Lepus europaeus*)	27	0.26
Beaver (*Castor fiber*)	3	0.03
European hedgehog (*Erinaceus europaeus*)	1	0.01
Unidentifiable rodent (Rodentia sp. indet.)	16	0.16
Mallard (*Anas platyrhynchos*)	1	0.01
Goose (*Anser* sp. indet.)	1	0.01
Rook/Hooded crow (*Corvus frugilegus*/*C. corone*)	1	0.01
Unidentifiable bird (Aves sp. indet.)	3	0.03
European pond turtle (*Emys orbicularis*)	2	0.02
Unidentifiable frog (Anura sp. indet.)	1	0.01
Wild animals	**488**	**4.75**
Number of identifiable specimens (NISP)	**10,285**	**100.00**
Small ungulate	398	
Large ungulate	646	
Pig /Wild boar	11	
Dog-size mammal	198	
Small mammal	6	
Unidentifiable bone	2	
Total animal bone	11,546	

* 6,487 remains found in a single feature
** Bone and antler together

Domestic species

Cattle

In contrast to the withers height of the individual in the structured deposit interpretable as a bull sacrifice in Feature 439 (*Table 1*), the stature of another bull could be estimated. The metacarpus found in Feature 1314 was indicative of a withers height of 112.0 mm (*Table 3*). Complete horn cores have not been preserved in the assemblage. A number of cranium fragments with the attached bases of horn cores offered evidence of cattle with curved horn cores of an oval cross-section at Kaposújlak-Várdomb. Among the 11 measurable specimens the greatest diameters of horn core bases reached 78.0, while the smallest diameters were as large as 55.0 mm (*Appendix 4*).

One of the largest cranial fragments, the left half of a split skull found in Feature 1314, showed a broad and straight intercornual ridge that would indicate the presence of the *primigenius* cranial type (BÖKÖNYI 1974: 96, 124, Figures 19–20). The cross-section of its thick horn core is almost round, the greatest diameter measuring 68 mm, and the smallest diameter measuring 63 mm (*Fig. 4*).

The age structure for cattle indicates that 22% of the animals were slaughtered by the 'Early' stage that would correspond to the age of 1–1.5 years. There is a further drop-off to the stage' 'Intermediate I', suggestingrhigher meat consumption of young cattle (beyond 2–2.5 years of age). At least 60% of the individuals killed seems to have been kept alive beyond the 'Final' fusion stage (around 4–4.5 years), which points to the secondary exploitation of this species (*Fig. 5*). The survivorship pattern based on mandibles also supports the greater representation of adult specimens whose age was over 2.5 years (*Table 5*), but the poor preservation of tooth wear as well as small sample size do not allow an accurate tracking of age structure the same way as was the case with the epiphyseal fusion curve in long bones.

Fig. 4. Fragment of split cattle skull (frontal view)

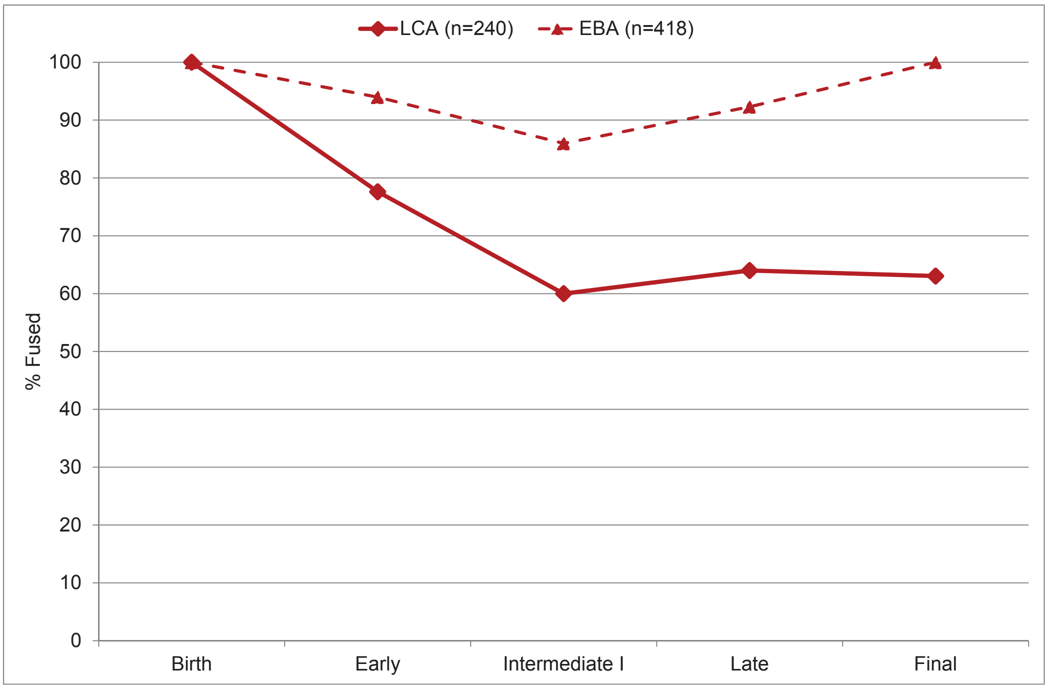

Fig. 5. Epiphyseal fusion curves in cattle, showing percentages of fused elements at each fusion stage

Table 5. Age composition of cattle based on mandibles with teeth according to age groups (Abbreviations: LCA = Late Copper Age; EBA = Early Bronze Age; S-V = Somogyvár-Vinkovci culture; K = Kisapostag culture)

Neonatal	**Juvenile**	**Immature**	**Subadult**			**Adult**			**Elderly**	**No. of tooth row**	**Age**	**Site**
			S1	**S2**	**S3**	**A1**	**A2**	**A3**				
	2		2			5				9	LCA	Kaposújlak-Várdomb
		1	1			6				8	LCA	Szűr-Cserhát
						1				1	LCA	Ordacsehi-Bugaszeg
	1		1			9				11	EBA	Kaposújlak-Várdomb
		1	2			5				8	EBA	Dombóvár-Tesco
		1				7				8	EBA (S-V)	Ordacsehi-Bugaszeg
	2	1		1		10				14	EBA (K)	Ordacsehi-Bugaszeg
	1									1	MBA	Ordacsehi-Bugaszeg

The distribution of skeletal parts from cattle indicated that bones from the proximal, meaty limb segment dominated in the assemblage. The trunk and the head were also well-represented. The presence of bones from the dry limb and of terminal bones indicates the slaughtering of animals and discard of butchery refuse at the settlement (*Table 6*). A number of metacarpi and metatarsi served subsequently as raw materials for producing bone implements (*Table 8*).

Table 6. Distribution of the material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig	Red deer	Roe deer	Wild boar	Hare
cornus*	9	3		2	2		
neurocranium	43	12	14	4	4	2	
viscerocranium	33	9	24	3	4	3	1
mandibula	71	36	46	3	10	4	1
linguale	2						
dentes	60	36	41	1	2	9	
atlas	10	3	7			3	
axis	8	1	2				
Head	**236**	**100**	**134**	**13**	**22**	**21**	**2**
vert. cervicalis	21	4	17		1		
vert. thoracalis	16	3	30			3	
vert. lumbaris	8	2	23			1	
os sacrum	2	2	3				
sternum	1						
costa	231	70	98	1	7		5
Trunk	**279**	**81**	**171**	**1**	**8**	**4**	**5**
scapula	45	12	37		6	4	
humerus	40	35	37	7	2	17	1
radius	57	56	27	6	9	15	5
ulna	24	12	24	2	1	8	1
pelvis	32	10	29	2	2	2	2
femur	43	31	33	6	2	7	2
patella	4		3				
tibia	74	76	42	7	16	11	5
fibula			20			1	
Meaty limb	**319**	**232**	**252**	**30**	**38**	**65**	**16**
carpalia	28	3			1		
metacarpalia	45	41	15	4	10	10	
calcaneus	13	3	11			5	
astragalus	23	2	6			8	
centrotarsale	14	2	6				
metatarsalia	75	74	25	7	26	8	4
Dry limb	**198**	**125**	**63**	**11**	**37**	**31**	**4**
vert. caudalis	6						
ph. proximalis	47	8	16	14	8	4	
ph. media	32	4	3	3	3	3	
ph. distalis	12	2	2	2	1	1	
Terminal bones	**97**	**14**	**21**	**19**	**12**	**8**	
Long bone		4		1			
Flat bone			1			1	
Grand total	1,129	556	642	75	117	130	27

* shed antler not counted

Fifteen remains (0.8% of all cattle bones) displayed traces of pathological conditions. Lesions typical of working animals included seven cases of sub-pathological strengthening of the medial half, causing asymmetry in the metacarpus, and deformations on two first and four second phalanges. In addition, exostoses due to inflammatory disease were identified on the humerus, metacarpus and first phalanges

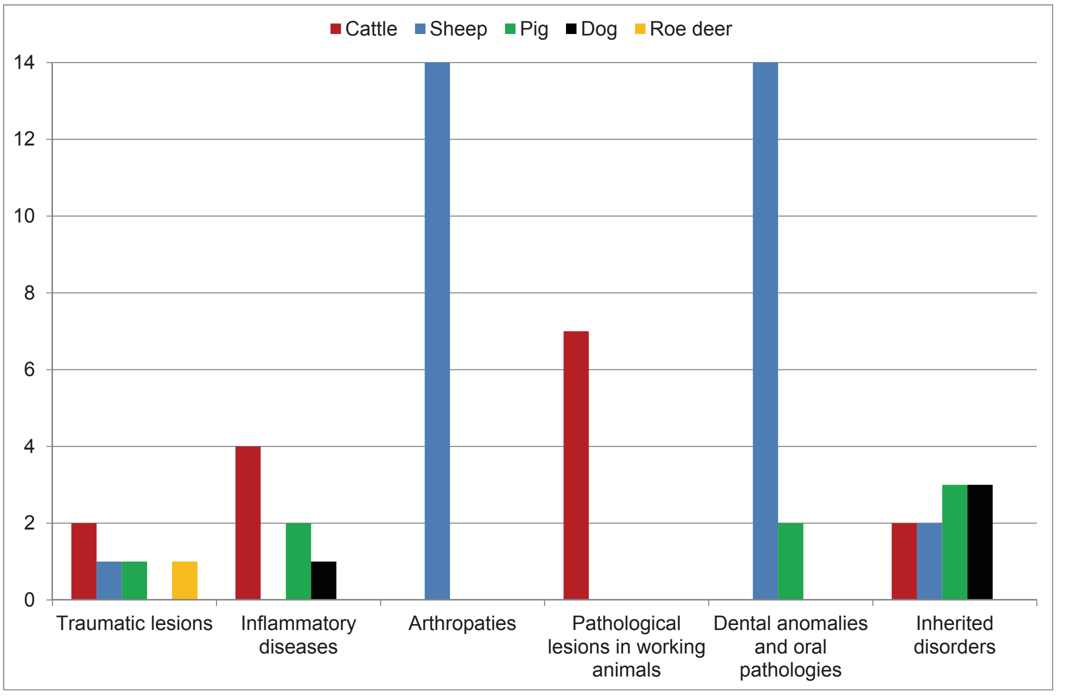

Fig. 6. The taxonomic distribution of pathological lesions

of a subadult cattle from Feature 277. Traumatic lesions included lesions and healed fractures of the ribs that may have been caused by the accidental fall of animals as well as intraspecific fights and beating by humans alike. Oligodonty – the lack of the second premolar tooth – was observed in tha maxilla and mandible of two individuals (*Fig. 6*).

Sheep and goat

Two skull fragments with the attached horn cores found in the ‘carrion pit’ indicated that at least two types of sheep were present at Kaposújlak-Várdomb: one with more upright, almost ‘goat-like’ horns, and one with laterally bent horn cores (*Fig. 7*). The stature of sheep could be estimated in the case of individuals found in the ‘carrion pit’ only (*Table 3*). The rest of the features did not contain complete long bones suitable for calculating the withers height.

Goat could be distinguished on the basis of 24 skulls, mandibles and distal leg bones. The latter represented a partial skeleton in Feature 1397. Neither horn cores indicating the type, nor complete long bones suitable for calculating the withers height were preserved from this species.

The epiphyseal fusion curve for sheep and goat is rather different from that of cattle. Almost 40% of the lambs did not survive beyond the fusion stage ‘Early’, which means an age younger than 6 monthd. Further 45% of the bones indicate slaughter by the ‘Intermediate I’ stage. These one-year-old sheep may have provided one shearing of wool before their slaughter. Then there is a steep upturn of the curve indicating that considerable numbers of sheep were kept for a longer time (*Fig. 2*). Since these remains cannot originate from the animals slaughtered earlier, most probably cumulative data of several populations are illustrated in the graph, including older animals also exploited for their milk and wool. Five foetal sheep remains offer evidence that ewes in lamb were also slaughtered, or died before or during lambing.

Fig. 7. Sheep horn core types.
Left: 'goat-like' horn core (frontal view); right: laterally bent horn core (lateral view)

Similarly to cattle, the bones of the meat-rich proximal limb sections dominated in the assemblage. They were followed in frequency by the bones of the distally located dry limb, while the head and the trunk were less represented. This distribution of skeletal elements can perhaps be best explained by a number of taphonomic features such as the greater fragility of flat bones as well as the loss of small skeletal parts such as teeth and terminal bones during hand-collection in the absence of sieving. In addition, the metapodia of sheep and goat were frequently used as raw materials for producing points, therefore they may have been accumulated and deposited elsewhere at the place of manufacturing. This tendency is also likely in the case of roe deer, a small ruminant of skeletal conformation comparable to those of sheep and goat (*Table 6*).

Most of the pathological conditions (31=0.5% of sheep bones) were found in this species. Dental anomalies and oral pathology including irregular tooth wear and parodontal disease were the most frequent types, followed by periarticular exostoses (*Fig. 3*). Both types of lesions are related to the old age of animals. In addition, a traumatic lesion also occurred on the rib of sheep or goat.

Pig

Among the meat-purpose domesticates, the fewest remains originated from pig at Kaposújlak-Várdomb. Only a single skeletal part, an astragalus was suitable for calculating the withers heighs of 70.1 cm. No skulls survived in the assemblage that could have provided information on the shape of the head.

Pig epiphyseal fusion data showed that 74% of the bones originate from individuals which did not survive beyond the 'Early' fusion stage of one-year-old animals (*Fig. 8*). The age distribution of mandibles with teeth also shows the killing of young swine (*Table 7*). In addition, a newborn individual was also identified. It looks that a number of older animals (ca. 25%) were kept until or over the age of 3.5 years, most probably as breeding stock to guarantee a sustainable population growth.

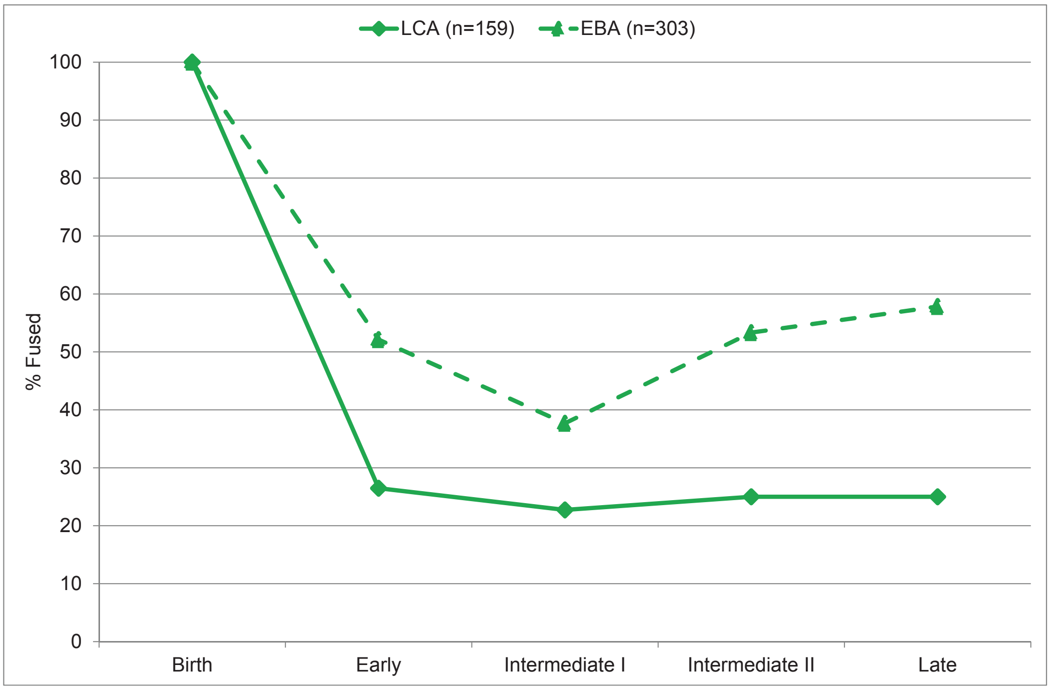

Fig. 8. Epiphyseal fusion curves in pig, showing percentages of fused elements at each fusion stage

Table 7. Age composition of pig based on mandibles with teeth according to age groups (Abbreviations: LCA = Late Copper Age; EBA = Early Bronze Age; S-V = Somogyvár-Vinkovci culture; K = Kisapostag culture; MBA = Middle Bronze Age)

Neonatal	Juvenile	Immature		Subadult			Adult			Elderly	No. of tooth row	Age	Site
		I1	I2	S1	S2	S3	A1	A2	A3				
	2	2	2	8	5		5				24	LCA	Kaposújlak-Várdomb
		2		4	2		2				10	LCA	Szűr-Cserhát
	1									1	2	LCA	Paks-Gyapa
	3	5	5	6	2		11		2	1	35	EBA	Kaposújlak-Várdomb
	1	1		2			7				11	EBA	Dombóvár-Tesco
				1							1	EBA (S-V)	Ordacsehi-Bugaszeg
		2	3	3	3		15				26	EBA (K)	Ordacsehi-Bugaszeg
				2			1				3	MBA	Ordacsehi-Bugaszeg
	2				1		1		1		5	MBA	Kaposvár-Road 61, Site no. 1

The distribution of bones by body part was similar to that of cattle, where the dominance of remains from the meaty limb segment was followed by bones from the trunk and the head. The number of preserved vertebrae is notable, especially in contrast with the two other meat-providing domesticates. Metapodia, however, were poorly represented. The metacarpus and metatarsus of pig are much shorter and more curved than in small ruminants, therefore they are more exposed to taphonomic loss (*Table 6*). In addition, they are rarely selected as raw materias for producing bone artifacts.

Fig. 9. Pig remains displaying pathological conditions. Left: inflammation on distal parts of radii (palmar view); right: mechanical trauma on the diaphysis of tibia (cranial view)

Eight remains (1% of pig bones) displayed pathological conditions. Five of them represented hereditary dental disorders by crowded teeth in the maxilla or in the mandible. This is a symptom of the evolutionary shortening of the head as a result of domestication in this species, as may also be seen in a number of modern dog breeds. Two remains showed traces of inflammatory diseases. A subadult pig suffered from an unidentifiable pathogen agent as shown by the inflammation in the distal part of both the left and right radius. The wreath-like fistulated osteosclerotic ring on the tibia of another young pig suggests a compound mechanical trauma (*Fig. 9*).

Dog

The only 99 remains, although they often representeg partial skeletons, did not contain well-preserved bones suitable for appraising the withers height or cranial type of dogs. In addition, 20% of the dog bone assemblage originated from young individuals. Nevertheless, the dimensions of skeletal parts originating from adult and mature specimens indicated the presence of middle and small-size dogs alike, rather typical in the area during this time period (*Appendix 4*). The lower carnassials of three specimens from Features 50, 333 and 408, respectively, are 19 mm long. This size falls slightly behind the mean size (20.3 mm) of 37 carnassials originating from 'turbary dogs' found at the Copper Age/Early Bronze Age pile dwellings of Ig in central Slovenia (Bartosiewicz 2002).

Dental anomalies were identified in dog, too. Oligodonty in the form of missing P_4 teeth was observed in the mandibles of two specimens, while a third individual showed crowded teeth in the mandible. Traces of an inflammatory disease were also noted in this species. Hyperostosis in the marrow cavity of a femur fragment pointed toward osteomyelitis.

Wild species

In addition to the domestic species, various wild animals were recognised whose remains, however, formed only 4.6% of the assemblage. The small number of finds originating from diverse wild species implies the opportunistic character of hunting. In some cases (wild cat, marten, brown bear) the identified skeletal parts suggest that only part of the game, e.g. the fur, possibly with head elements as the trophy or distal leg bones, were carried to the site. The hedgehog, the turtle and the frog most probably represent intrusive animals in the deposit since signs of human activity could not be identified on their remains.

Red deer, wild boar and roe deer were the most frequent species among the hunted animals, yielding comparable numbers of remains, each making 1.2–1.5% of the assemblage. It is notable, however, that half of the red deer remains were antler fragments. Only a very few of thesm (with skull fragments attached) could be unambiguously assigned to hunted specimens, while the rest of the antler remains may have also been collected as shed antler. Therefore, wild boar is considered the most frequently hunted species, represented by 130 bones. The majority of roe deer remains also originated from killed specimens; only one piece of shed antler was identified.

The habitat preferences of hunted animals point to a mosaic-like environment around the settlement. Most of the identified game live in forests, but grassland species such as the aurochs and the hare, as well as animals indicative of humid environments such as the beaver and the mallard were also identified.

Taphonomic observations

The pits containing structured animal bone deposits reminiscent of sacrifices and the 'carrion pit' (Feature 1365) are special from a taphonomic point of view, as they contained complete skeletons. The rest of the pits, however, seem to have contained butchery remains and food refuse that had been exposed to a number of taphonomic agents. Among the great number of species identified from the assemblage, the three main meat-purpose domestic species have been compared. The small number of wild animal remains and the special deposition of dog carcassesewould have made such comparisons unrealistic, and therefore, these species were not included in the analysis.

First, the fragmentation of bones from different species was studied by size categories. As illustrated in *Fig. 10*, fragments between 51–100 mm were the most numerous in the assemblage, regardless of species. Cattle bones in this category are indicative of a relatively high fragmentation for this large species. The rest of the cattle remains were mostly larger, while the smallest number of cattle bones belonged to the first two size groups (1–25 mm and 26–50 mm, respectively). On the other hand, the second most abundant size group for sheep and goat and pig was the size of 26–50 mm. Generally the distribution of remains followed the Gaussian curve, and was in accordance with the actual size of these latter species.

Deliberate chopping of skeletal parts could be identified on a very few remains even in cattle. Cut marks were similarly rare. Nevertheless, due to the calcareous soil, exogenous concretions were so common on the bones that many of these may have remained invisible underneath the crust. The weight of remains could not be measured for the same reason. More visible taphonomic marks such as traces of fire and gnawing could be better observed, and appeared to a roughly similar extent in all three species (*Fig. 11*).

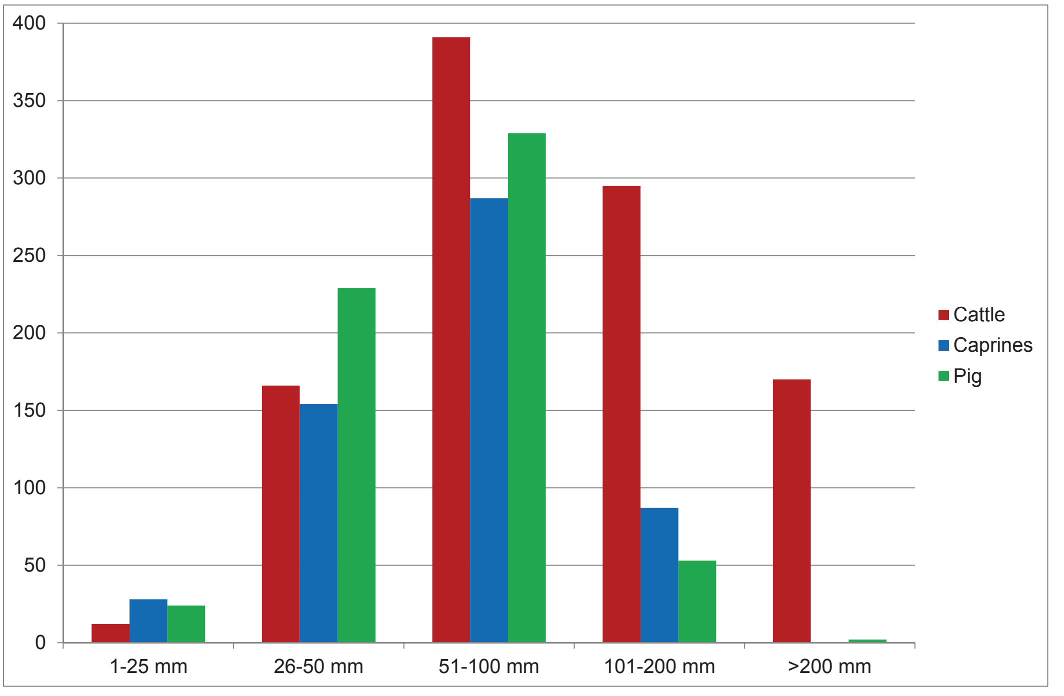

Fig. 10. Fragment lengths of bones from cattle, caprines and pig

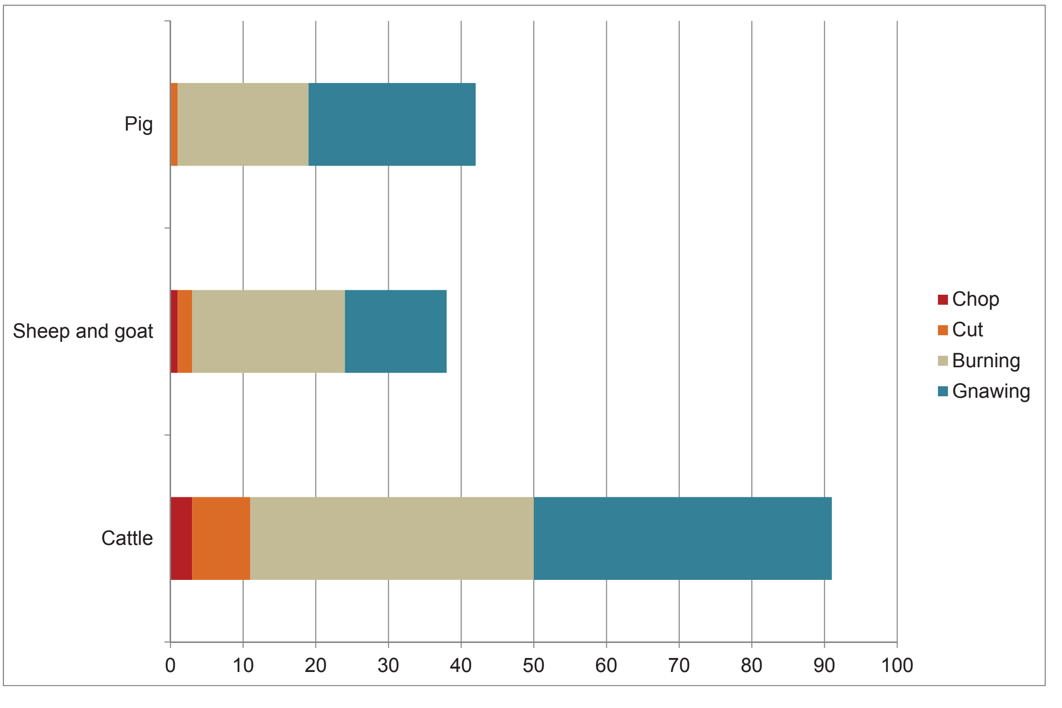

Fig. 11. Taphonomic observations on the remains from of meat-purpose species

Bone and antlert artifacts

The LCA material contained a rather abundant worked osseous assemblage including 85 bone and antler tools that represent 0.8% of the total bone collection. It is not only the great number of artifacts, but also the variety of raw materials and manufacturing methods that make this assemblage outstanding (*Table 8*).

Bones from a number of species were used in tool making at Kaposújlak-Várdomb. Among the domesticates, cattle and caprines seem to have supplied skeletal parts to a similar extent, and together form almost half of the assemblage. Red deer was the most frequently exploited wild species for this purpose. One should remember however, that the antler, the skeletal element most extensively utilized from this animal can be procured not only from hunted specimens but by gathering shed antler as well. Interestingly, no tusks, only bones were manufactured from wild boar, and no domestic pig bones seem to have been used in tool making (*Fig. 12*).

The majority (70=82.4%) of implements were carved out of bones and represent points of different types and sizes (GÁL 2011: 139, Figures 4–5). Bevel-ended tools, commonly referred to as "chisels", formed the second most frequent category, while other types such as scrapers and spatulae (most often made from cattle ribs), were identified in smaller numbers (*Fig. 13*).

In addition to bone, red deer antler was also often used in carving implements. Five of the antler tools represent hafted, axe-like tools with rounded or square-shaped haft holes (*Fig. 14*). Antler points, chisels and picks were produced in smaller numbers. In addition to the finished implements, 15 pieces of antler represent deposited raw material and workshop debitage in the assemblage.

From the viewpoint of the manufacturing continuum, less than one third (26=30.6%) of the artifacts could be assigned to carefully planned Class I tools. In their case, both the selection of raw material and the elaboration of artifacts demanded more attention, time and energy than in the case of Class II or *ad hoc* tools (59=69.4%), which usually were produced in a short time from casually picked up butchery

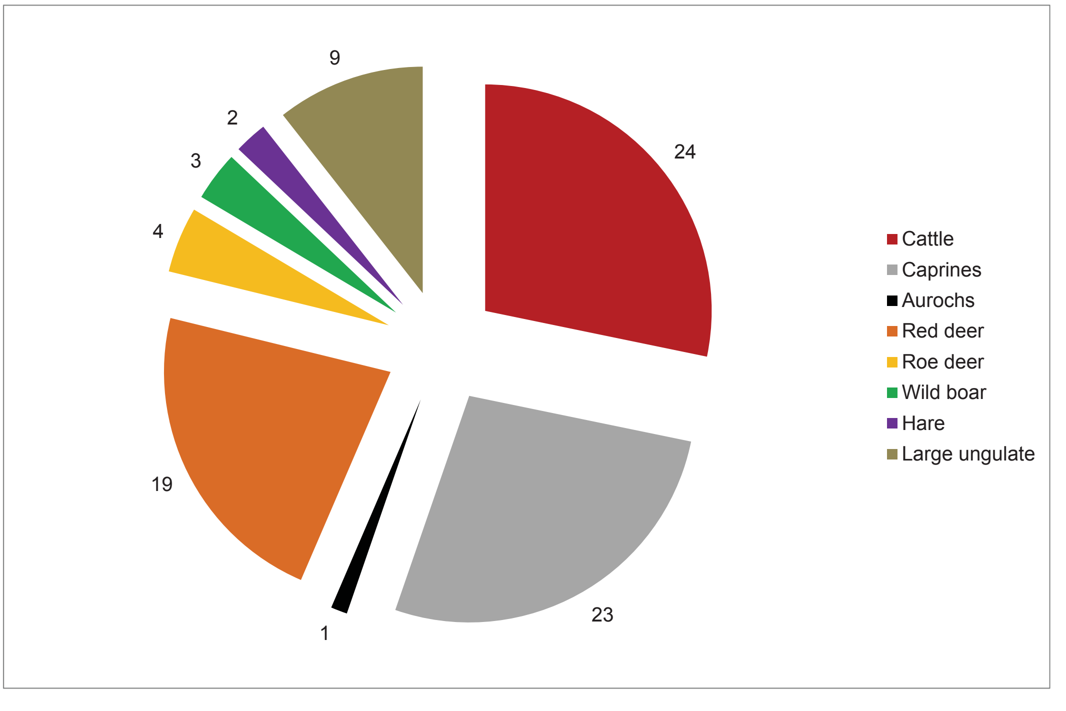

Fig. 12. The taxonomic distribution of osseous tools

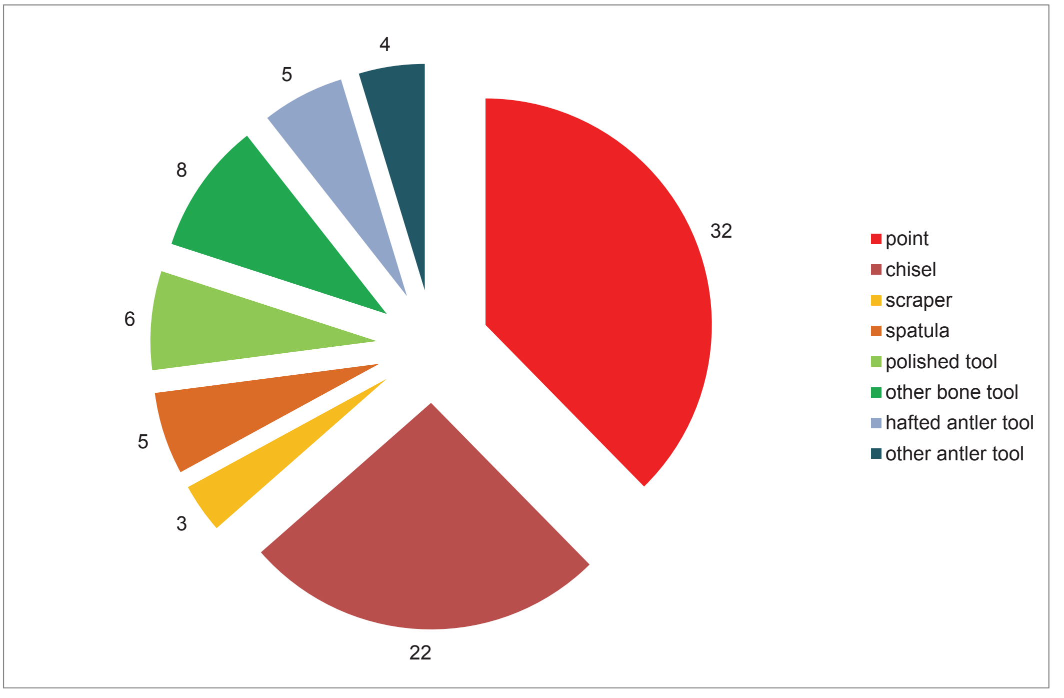

Fig. 13. The distribution of main tool types

Fig. 14. Hafted burr and beam antler tools

or food remains and used for simple tasks. Twelve (14%) tools, from both groups, showed clear marks of curation, usually interpreted as a sign of relatively great utilitarian value indicating that the tool was worth repairing (*Table 8*).

Summary

The LCA archaeozoological material found at Kaposújlak-Várdomb is special as it includes assemblages created through likely ritual actions and commingled complete skeletons deposited in a 'carrion pit' in addition to the usual butchery remains and food refuse. Sheep seems to have been the most frequent species on the basis of fragment numbers, followed by cattle. This trend is reflected in the preference for raw materials in bone manufacturing as well. Pig was underrepresented, many slaughtered at a young age as is typical for this purely meat-purpose animal.

The variety and frequency of wild species point to a mosaic-like habitat where hunting was occasionally practiced, although antler gathering as well as bone and antler manufacturing seem to have been important activities at the settlement. Noteworthy is the lack of horse despite the size, abundance and taxonomic richness of the assemblage.

Table 8. The distribution of worked material by skeletal parts and species

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Small ruminant point (Type 1/1)	Metapodium	1	11	3/1	46.1	7.6	5.0	-	4.2	334	Pit-complex	334.116	Fragment
Small ruminant point (Type 1/1)	Metapodium	1	0	-	46.8	7.3	4.5	-	-	1127	Pit	1127.1	Fragment, polished and burnt
Small ruminant point (Type 1/1)	Metapodium	1	11	6/7	48.6	8.7	4.2	-	5.0	88	Pit fall	88.1	Fragment
Small ruminant point (Type 1/1)	Metatarsus	1	22	31	58.8	-	-	-	-	401	Pit of owen		Broken tip
Small ruminant point (Type 1/1)	Metapodium	1	2	2/5	62.1	14.7	11.5	-	2.5	614	Clay pit	614.5	Curated
Small ruminant point (Type 1/1)	Metapodium	1	1	8/11	89.2	14.8	8.2	-	3.3	279	Pit	279.370	
Round diaphysis point (Type 1/3)	Metatarsus (small ruminant)	2	11	-	64.2					334	Pit-complex		Broken top
Round diaphysis point (Type 1/3)	Tibia (small ruminant)	2	1	2/1	90.0	17.8	21.9	-	3.4	1195	Pit	1195.4	Curated
Small point with articular end (Type 1/4)	Metatarsus (red deer)	1	1	-	55.2	16.4	9.7	-	-	401	Pit of owen		Groove and split (G&S) technique, broken tip
Small point with articular end (Type 1/4)	Radius (hare)	2	1	10/2	60.5	10.5	6.5	-	3.9	222	Workshop		Polished
Small point with articular end (Type 1/4)	Metatarsus (red deer)	1	31	-	65.8	15.2	8.7	-	-	428	Pit		G&S technique, broken tip
Small point with articular end (Type 1/4)	Fibula (wild boar)	2	2	3/1	79.2	16.4	7.9	-	2.7	680	Pit of owen	680.1	Curated
Small point with articular end (Type 1/4)	Tibia (hare)	2	1	2/1	116.8	21.0	22.5	-	1.8	340	Pit with a body	340.1	

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Small point with articular end (Type 1/4)	Metatarsus (roe deer)	1	31	-	-	-	-	-	-	1176	Pit		G&S technique, missing tip
Small point with articular end (Type 1/4)	Tibia (sheep)	2	31	-	-	-	-	-	-	334	Pit-complex		Fragment, handling polish
Large, massive point with articular end (Type 1/6)	Metatarsus (cattle)	1	1	-	120.4	31.2	24.6	-	-	1176	Pit		G&S technique, missing tip
Large, massive point with articular end (Type 1/6)	Metatarsus (red deer)	1	1	10/1	158.0	25.3	15.4	-	3.5	1177	Pit-complex	1177.2	The proximal end is drilled through by a hole of 2.5x1.5 mm
Small point without articular end (Type 1/7)	Long bone diaphysis (small ruminant)	2	11	9/9	45.4	4.5	2.9	-	2.5	88	Pit fall		Curated
Small point without articular end (Type 1/7)	Long bone (small ruminant)	2	11	-	54.5	-	-	-	-	401	Pit of owen		Fragment
Small point without articular end (Type 1/7)	Metacarpus (roe deer)	1	13	8/3	64.0	14.8	11.7	-	3.8	614	clay pit	614.4	Fragment
Small point without articular end (Type 1/7)	Metacarpus (roe deer)	1	0	2/1	70.1	12.7	5.5	-	2.9	334	Pit-complex	334.185	
Small point without articular end (Type 1/7)	Metacarpus (cattle)	2	1	3/4	73.5	17.0	31.4	-	3.2	36	Pit		Curated
Middle size point without articular end (Type 1/8)	Long bone diaphysis (large ruminant)	2	0	3/10	72.0	9.1	7.5	-	2.9	1053	Pit	1053.34	Recently broken fragment
Middle size point without articular end (Type 1/8)	Metacarpus (small ruminant)	2	13	8/5	76.5	11.4	6.2	-	3.7	563	Pit	563.1	Curated

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Middle size point without articular end (Type 1/8)	Metapodium (small ruminant)	2	0	2/1	79.4	6.6	3.8	-	1.7	568	Pit	568.1	Curated
Middle size point without articular end (Type 1/8)	Antler (red deer)	2	-	-	85.3	12.4	10.0	-	-	211	Pit		Broken tip
Middle size point without articular end (Type 1/8)	Metatarsus (small ruminant)	1	11	-	88.0	11.5	5.3	-	-	1176	Pit		Broken base and tip, curated, handling polish
Large, massive point without articular end (Type 1/9)	Metapodium (large ruminant)	2	0	9/5	56.0	22.8	9.5	-	8.6	518	Pit	518.1	Fragment
Large, massive point without articular end (Type 1/9)	Metapodium (red deer)	2	0	-	64.0	23.4	10.4	-		99	Pit	99.21	Fregment
Large, massive point without articular end (Type 1/9)	Long bone diaphysis (large ruminant)	1	13	-	93.8	9.5	6.9	-	-	1313	Pit-complex	1313.1	Fragment
Large, massive point without articular end (Type 1/9)	Long bone diaphysis (red deer)	2	0	5/11	98.2	27.7	18.3	-	9.4	633	Pit	633.5	Fragment
Large, massive point without articular end (Type 1/9)	Metacarpus (cattle)	2	0	-	63.1	28.2	19.8	-	-	712	Pit of owen		Fragment, broken tip
Point without articular end and flat base(Type 1/10)	Tibia (small ruminant)	2	12	2/1	105.1	16.2	5.8	-	3.1	292	Pit-complex	292.99	
Double point from long bone (Type 2/1)	Long bone diaphysis (large ruminant)	1	-	-	53.9	13.0	7.3	-	7.9	864	Pit-complex	864.2	

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Double point from long bone (Type 2/1)	Long bone diaphysis (large ruminant)	1	-	5/1	115.5	8.3	7.6	-	3.6	36	Pit	36.1	Completely polished
Double point from long bone (Type 2/1)	Metacarpus (roe deer)	1		8/7	79.0	8.0	3.7	-	3.4	735	Pit	735.1	Flat double point
Projectile point (Type 3/2)	Tibia (small ruminant)	2	0	2/2	53.2	10.0	2.8	-	2.4	211	Pit	211.1	Fragment
Chisel-fragment (Type 4/4)	Antler (red deer)	2	-	-	40.0	26.1	12.7	-	-	454	Pit with cattle skeleton		Fragment
Chisel-fragment (Type 4/4)	Antler (red deer)	2	-	-	41.4	12.2	13.4	9.5	-	279	Pit	279.369	Fragment
Chisel-fragment (Type 4/4)	Antler (red deer)	2	-	-	75.0	32.0	16.6	36.6	-	61	Pit fall	61.2	
Chisel-fragment (Type 4/4)	Antler (red deer)	2	-	-	163.4	25.0	32.5	43.3	-	249	Pit	249.80	
Chisel-fragment (Type 4/4)	Antler (red deer)	2	-	-	194.0	28.5	39.2	24.7	-	279	Pit	279.582	
Massive *ad hoc* chisel (Type 4/7)	Tibia (cattle)	2	11	29/21	106.6	28.5	14.9	15.5	10.0	1176	Pit		Blunt tip
Small *ad hoc* chisel (Type 4/8)	Tibia (small ruminant)	2	11	30/23	57.5	13.1	14.3	3.6	9.6	401	Pit of owen		
Small *ad hoc* chisel (Type 4/8)	Metapodium (small ruminant)	2	11	29/22	63.9	11.4	6.2	27.0	6.8	675	Pit		Probably curated
Small *ad hoc* chisel (Type 4/8)	Metatarsus (small ruminant)	2	6	-	65.5	13.3	8.9	15.1	11.6	92	Pit		
Small *ad hoc* chisel (Type 4/8)	Ulna (cattle)	2	11	22/23	77.3	14.3	10.2	6.3	9.0	1314	Pit		Handling polish

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Small *ad hoc* chisel (Type 4/8)	Long bone diaphysis (large ruminant)	2	11	29/22	79.0	12.9	7.4	5.8	6.7	36	Pit		
Small *ad hoc* chisel (Type 4/8)	Long bone diaphysis (cattle)	2	11	30/23	81.4	27.6	7.9	15.0	27.1	634	Pit		Handling polish
Rib chisel (Type 4/10)	Rib (cattle)	2	0		69.0	26.7	8.8	-	-	87	Pit		Recently broken base and tip
Rib chisel (Type 4/10)	Rib (large ruminant)	2	0	29/23	74.6	24.0	6.6	8.1	-	50	Pit	50.67	
Rib chisel (Type 4/10)	Rib (large ruminant)	2	0		97.9	23.6	9.8	3.2	-	1060	Pit	1060.101	
Rib chisel (Type 4/10)	Rib (large ruminant)	2	0	29/23	110.8	33.6	9.8	3.6	-	279	Pit	279.581	Fragment
Rib chisel (Type 4/10)	Rib (cattle)	2	0		172.5	43.9	9.3	-	-	87	Pit		
Massive chisel with articular end (Type 4/13)	Radius (cattle)	2	5	29/23	108.7	41.0	32.2	-	14.7	626	Pit		Curated
Massive chisel with articular end (Type 4/13)	Metatarsus (cattle)	2	1	29/23	133.7	43.1	25.7	14.5	16.1	1057	Pit		
Massive chisel with articular end (Type 4/13)	Tibia (cattle)	2	6	22/21	151.0	39.1	29.9	5.6	12.3	88	Pit fall		Epiphysis not yet ossified; curated
Round diaphysis chisel (Type 6)	Metapodium (small ruminant)	1	11	21/23	56.9	8.5	4.3	14.8	-	713	Pit with cattle skeleton		Fragment
Round diaphysis chisel (Type 6)	Tibia (small ruminant)	1	11	30/23	65.4	12.5	9.2	10.7	10.5	735	Pit		Curated
Rib spatula (Type 12)	Rib (cattle)	2	-	-	87.4	21.0	6.6	-	-	1191	Pit fall		
Rib spatula (Type 12)	Rib (cattle)	2	-	-	89.5	25.2	10.5	-	-	192	Pit		

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Rib spatula (Type 12)	Rib (cattle)	2	-	-	111.5	31.1	6,0	-	-	279	Pit		Completely polished
Rib spatula (Type 12)	Rib (cattle)	2	-	-	172.0	25.8	19.1	-	-	279	Pit		Completely polished
Rib spatula (Type 12)	Rib (cattle)	2	-	-	180.9	24.7	6.9	-	-	1057	Pit		Handling polish
Rib spatula (Type 12)	Rib (cattle)	2	-	-	210.8	23.8	24.2	-	-	1428	Pit		
Rib spatula (Type 12)	Rib (cattle)	2	31	-	260.0	31.1	11.3	-	-	36	Pit		
Rib spatula (Type 12)	Rib (cattle)	2	-	-	-	-	-	-	-	639	Pit		Fragment
Polished tool (Type 19)	Flat bone (small ruminant)	2	-	-	31.5	17.3	2.7	2.7	-	242	Pit	242.5	Fragment
Polished tool (Type 19)	Tibia (cattle)	2	31	-	51.5	41.7	29.1	-	-	633	Pit		Fragment
Polished tool (Type 19)	Metacarpus (cattle)	2	-	-	79.1	19.3	20.3	-	-	278	Pit		Polished palmar surface, fragment of a smoother or runner
Polished tool (Type 19)	Antler (red deer)	1	-	-	121.3	15.3	11.8	-	-	1246	Pit		Heavily polished
Polished tool (Type 19)	Antler (red deer)	2	-	-	128.2	23.1	27.3	-	-	780	Pit with cattle skeleton		Polished and rounded end of tine, base broken by fire
Polished tool (Type 19)	Rib (aurochs)	2	-	-	143.8	39.0	8.4	-	-	1217	Pit fall	1217.1	Fragment
Polished tool (Type 19)	Antler (red deer)	2	-	-	148.7	35.0	28.3	-	-	279	Pit		Handling polish
Polished tool (Type 19)	Mandible (cattle)	2	-	-	165.0	76.1	24.5	-	-	334	Pit complex		Rounded surface and edges, but without notches characteristic to thong smoothers
Polished tool (Type 19)	Mandible (cattle)	2	-	-	228.0	63,8	29.0	-	-	334	Pit complex		Polished teeth, rounded edges, but without notches characteristic to thong smoothers
Bone with manufacture/ use wear (Type 22)	Scapula (cattle)	2	-	-	136.0	52.7	15.8	-	-	1288	Pit		Fragment of scapula scraper
Bone with manufacture/ use wear (Type 22)	Thoracic vertebra (wild boar)	2	-	-	160.4	74.4	46.3	-	-	480	Pit		Polished spina dorsalis, the cranial edge shaved-off and sharp

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Bone with manufacture/ use wear (Type 22)	Thoracic vertebra (wild boar)	2	-	-	200.2	55.3	49.1	-	-	634	Clay pit		Polished spina dorsalis, the cranial edge is partly curved and rounded
Hafted burr and beam axe-like tool	Antler (red deer)	1	-	-	116.7	68.2	36.2	-	-	352	Pit	352.29	Hole diameter =20.9 mm, bored in a medio-lateral direction
Hafted burr and beam axe-like tool	Antler (red deer)	1	-	-	180.0	48.0	41.7	70.5	-	76	Pit	76.57	Quadri-lateral hole diameter =38.6 x 15.7 mm
Hafted antler beam axe-like tool	Antler (red deer)	1	-	-	101.0	29.1	21.9	-	-	211	Pit		Broken at the hole
Hafted antler beam axe-like tool	Antler (red deer)	1	-	-	209.0	48.8	32.1	-	-	222	Workshop		Hole diameter =22.0 x 14.0 mm. Broken base,
Hafted antler beam tool	Antler (red deer)	1	-	-	-	-	-	-	-	401	Pit of owen		In fragments
Antler pick	Antler (red deer)	1	-	-	214.2	35.9	33.4	-	-	634	Pit		Blackish

1.2 Szűr-Cserhát (Baden culture)

Introduction

The prehistoric site excavated under the direction of Borbála Nagy in 2007 is located on a hilltop near the village of Szűr in the region of the south Baranya Hills (*Fig. 1*). A total of 227 features were found that contained archaeological finds from the Early Neolithic (Starčevo culture), the Late Copper Age (Baden culture) and the Early Bronze Age (Somogyvár-Vinkovci culture). The LCA settlement, mostly concentrated in the northern part of the site, was the best represented by 111 features: 107 pits, two post holes, a house (?) and a deposit of building rubble (Schultz 2011: 55).

Results

Animal bones were found in 98 LCA features. Complete skeletons were recovered from two pits. Feature 101 contained the skeleton of a piglet in addition to a few cattle remains, some articulated bones of a hare, and the fragment of a hafted tool made from a red deer antler beam. According to the field documentation, the piglet was placed on the bottom of the pit in a contracted position, the body laying on its left side, while the skull on its right side. Feature 102, also a pit, contained three roe deer skeletons, however, they were not available for examination. One of them lay on the bottom of the feature, while the other two skeletons were placed 15–20 cm above it (Schultz 2011: 27–28).

A total of 1,564 animal bones was received for study (NISP=1,537), most of which belonged to domestic species (95.3%). Cattle remains dominated by representing almost half of the assemblage (46.1%). The second most frequent species were sheep and goat (30.1%), followed by pig (14.8%). Dog was also well-represented, contributing 4.2% to the material (*Table 9*).

Domestic species

Cattle

This species yielded a single skull fragment with horn core, found in Feature 57. It had a relatively straight horn with a round cross section (*Fig. 15*). Information regarding the size of cattle could be gained on the basis of three complete metapodia. The withers heights of two cows were 110.3 and 117.5 cm. The sex of the third specimen of a withers height measuring 127.7 cm could not be identified, but the great difference compared to contemporaneous cows would point to a bull or an ox (*Table 3*).

The age distribution in cattle shows that only a very small proportion of the animals were slaughtered at a young age, meaning calves up to 2–2.5 years old (stage 'Intermediate II' is not calculated for this species). This result may be interpreted as a sign of milk production and animals retained for the maintenance of breeding stock. Then there is a massive drop in the 'Late' fusion category indicating a preference for the meat of 3.5–4 year-old cattle. Data regarding mandibular tooth eruption and wear support the meat exploitation of older specimens (*Table 5*). The curve sharply turns up at the stage 'Final' that may point either to a second batch of bones from old animals in the assemblage or to unreliable data due to the small sample of skeletal parts that fuse at this latter stage (*Fig. 16*).

Table 9. The distribution of species by NISP and % in the assemblage

Species	NISP	%
Cattle (*Bos taurus*)	709	46.13
Sheep (*Ovis aries*)	108	30.13
Goat (*Capra hircus*)	6	
Sheep and Goat (Caprinae)	349	
Pig (*Sus domesticus*)	228	14.83
Dog (*Canis familiaris*)	65	4.23
Domestic animals	**1,465**	**95.32**
Aurochs (*Bos primigenius*)	8	0.52
Red deer (*Cervus elaphus*)*	25	1.62
Roe deer (*Capreolus capreolus*)*	9	0.58
Wild boar (*Sus scrofa*)	13	0.85
Hare (*Lepus europaeus*)	11	0.72
Unidentifiable rodent (Rodentia sp. indet.)	2	0.13
Unidentifiable bird (Aves sp. indet.)	4	0.26
Wild animals	**72**	**4.68**
Number of identifiable specimens (NISP)	**1,537**	**100.00**
Small ungulate	9	
Large ungulate	15	
Small mammal	3	
Total animal bone	1,564	

* Bone and antler together

Fig. 15. Cattle skull fragment with horn core (frontal view)

The distribution of skeletal parts indicated the dominance of bone fragments from the meat-rich, proximally located limb segments. Nevertheless, other body parts are also well-represented suggesting the slaughter and butchery of cattle within the settlement and the utilization of the entire animal (*Table 10*).

Table 10. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig	Aurochs	Red deer	Roe deer	Wild boar	Hare
cornus*	5	2						
neurocranium	23	10	9	1		2		
viscerocranium	24	13	22					
mandibula	55	57	29	1			1	1
linguale	1							
dentes	31	18	22	1			1	
atlas	3		4	2				
axis	5	1	2					
Head	**147**	**101**	**88**	**5**	**0**	**2**	**2**	**1**
vert. cervicalis	16	9	4					
vert. thoracalis	9	12	10					
vert. lumbaris	14	4	7					
os sacrum								
sternum								
costa	77	37	22					1
Trunk	**116**	**62**	**43**	**0**	**0**	**0**	**0**	**1**
scapula	40	15	15			2	2	2
humerus	38	32	13		1		3	1
radius	33	43	5		5	2		
ulna	12	4	15				1	1
pelvis	28	11	7	1			1	1
femur	28	22	4	1				1
patella	2		1					
tibia	37	68	7					2
fibula								
Meaty limb	**218**	**195**	**67**	**2**	**6**	**4**	**7**	**8**
carpalia	7	1	1					
metacarpalia	35	23	4		4	2	3	
calcaneus	11	4	4	1				
astragalus	19		3		1		1	
centrotarsale	4				2			
metatarsalia	46	32	9		1			
Dry limb	**122**	**60**	**21**	**1**	**8**	**2**	**4**	**0**
vert. caudalis								
ph. proximalis	30	6	5					
ph. media	19		3					
ph. distalis	10	1	1					
Terminal bones	**59**	**7**	**9**	**0**	**0**	**0**	**0**	**0**
Long bone	42	38						
Flat bone	5							1
Grand total	709	463	228	8	14	8	13	11

* shed antler not counted

Of the total of 14 pathological conditions identified in the assemblage, six were recognized on cattle bones. They include irregular tooth wear in mandible, mechanical trauma on a rib, haematoma on a tibia, and metatarsal asymmetry and exostosis on a proximal phalanx (*Fig. 17*).

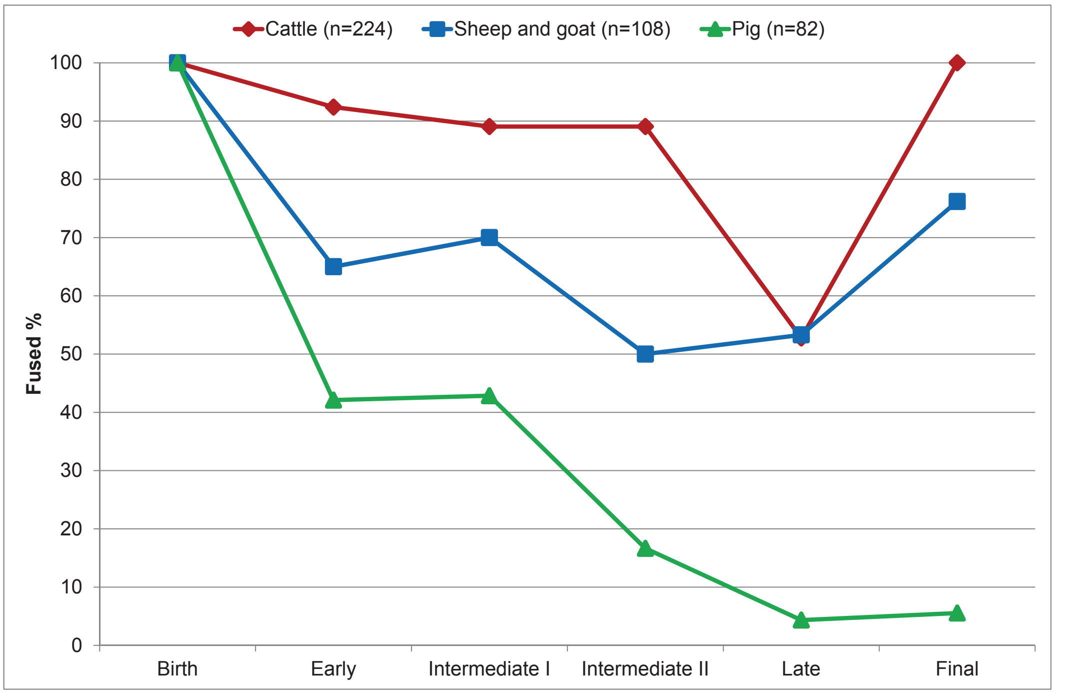

Fig. 16. Epiphyseal fusion curves in cattle, sheep and goat, and pig, showing percentages of fused elements at each fusion stage

Sheep and goat

The assemblage from Szűr-Cserhát did not contain horn core remains or complete long bones from sheep and goat that may have provided information on the type and size regarding these two species.

Both the epiphyseal fusion curve and the data on tooth eruption and wear indicate that a much greater proportion of young animals were killed than in the case of cattle. Thirty-five percent of lambs seem to have been slaughtered before stage 'Early' that comprise specimens up to 6 months old, and another 15% did not survive beyond the stage 'Intermediate II', which includes animals around 2 years of age. More than half (54%) of the mandibles fell into the 'Immature' category that includes six to twelve-month-old individuals (*Table 2*). As was observed in cattle, a number of vertebrae from mature specimens were recognized in the assemblage (*Fig. 16*).

The distribution of bones by body parts also showed a pattern similar to that of cattle. Meaty limb sections as well as the head provided most of the remains, but the rest of the skeleton was also represented (*Table 10*).

Sheep and goat yielded only three remains with pathologies. Irregular tooth wear in the first molar was recognized on both a maxilla and mandible fragment from Caprinae. In addition, crowded teeth were identified in a sheep mandible (*Fig. 18*).

Pig

The stature of a pig could be estimated using a complete astragalus that indicated a withers height of 74.3 cm. The age composition of this species shows a completely different pattern as compared to that of ruminants. This may be explained by the primary exploitation for meat in the case of swine. According to epiphyseal fusion, 59% of the ageable bones originated from specimens that did not survive beyond stage 'Early' that represent the age around one year old. There is further culling for meat between the

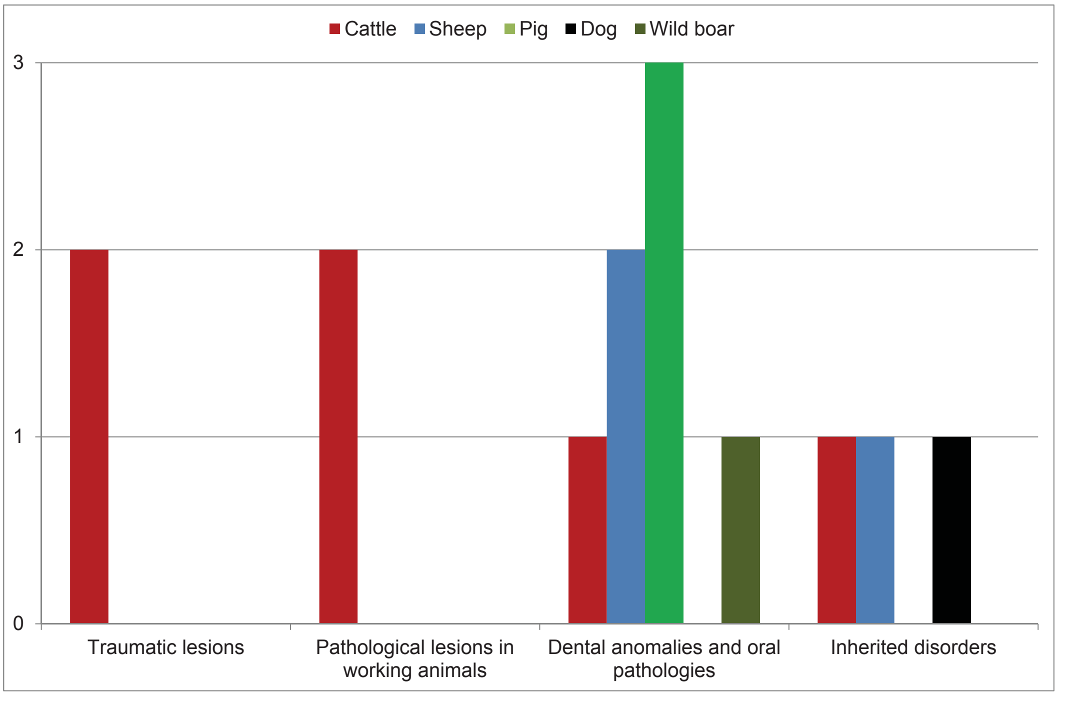

Fig. 17. The taxonomic distribution of pathological lesions

Fig. 18. Crowded teeth in a sheep mandible (lateral view)

stages 'Intermediate I', 'Intermediate II' (25%), and 'Intermediate II' – 'Late' (10%), respectively, while only 5–6% of the pigs were raised to maturity (*Fig. 16*, *Table 7*).

The skeletal element distribution is also slightly different from those of the previously discussed species. Bones of the head dominated the assemblage of pig bones, followed in frequency by the meaty regions of the limbs and the trunk. This pattern, however, is most probably related to the greater fragmentation of flat bones in young specimens, and the relatively good survival of teeth (*Table 10*).

Only oral pathologies were identified in swine. They included irregular tooth wear in both the maxilla and the mandible, which is relatively common in pigs, as well as *ante-mortem* loss of the third molar in the mandible (*Fig. 17*).

Dog

This species seems to have been common at the settlement based on the representation (4.2%) of dog remains in the total LCA bone assemblage. Nevertheless, generally only two or three isolated, disarticulated bones were found in the features that yielded any dog remains, the only exception being Pit 45, which contained twelve skeletal elements of an adult individual.

The withers height of dogs at Szűr-Cserhát could not be established since no complete long bones were preserved. The mean length of the lower carnassial tooth calculated from five specimens (16.4–21.3 mm) is 19.1 mm that fits the value observed at the previous site, Kaposújlak-Várdomb (19.0 mm). However, an almost entirely preserved right mandible found in Feature 209 represented a dog of rather small size in comparison with other coeval dog mandibles (*Appendix 3*).

Oligodonty, a hereditary phenomenon was identified in the mandible found in Feature 144, in which the second premolar was missing. Feature 108 contained a partially drilled canine tooth that is described in detail among the bone artifacts.

Wild species

The representation of game in this assemblage (4.7%) is rather similar to that observed at the previous site, Kaposújlak-Várdomb (4.6%). The diversity of wild animals, however, is much less broad since only five species could be identified from Szűr-Cserhát (*Table 9*). The diminished abundance of species is probably also influenced by assemblage size: the identifiable LCA animal remains brought to light at Kaposújlak-Várdomb counted almost seven times as much as at Szűr-Cserhát.

Among the few wild animal bones found at this site, red deer was most frequent. Of the 25 skeletal parts (making up 1.6% of the total bone assemblage), 11 represent antler fragments that may have equally originated from hunted specimens and gathered antler. The rest of the bones represent both the meaty and the dry limb segments (*Table 10*).

With 13 bones that represented most of the body parts, wild boar was the second most frequent game species. Ante-mortem tooth loss (M_3), followed by healing of the alveolus, was recognized in a mandible found in Feature 59.

Hare contributed 11 remains, including articulated bones in two features. Skeletal parts of a juvenile hare were found in Feature 101, while Feature 121 contained the bones of an adult specimen.

Aurochs and roe deer provided fewer than 10 remains each. Most skeletal parts of the latter species represented hunted animals, except for an antler fragment that may have originated from collected antler.

In addition, two femora from a rodent, and four avian bones (fragments of a mandible, humerus and long bone diaphyses) belong to the category of wild animals. A more precise identification of these remains was not feasible, but the bird mandible and humerus belonged to a goose-sized species (*Table 9*).

Taphonomic observations

The archaeozoological assemblage is rather homogeneous in terms of preservation, and mostly represents butchery and food refuse. The large hole observed on a cattle cranium from Feature 38 may be indicative of pole-axing, but neither this specimen, nor the few partial or complete skeletons found in the other features did suggest any systematic ritual activity.

Similarly to the animal bones found at Kaposújlak-Várdomb, calcareous concretions cemented to the finds hindered the reliable weighing of remains from Szűr-Cserhát. It is likely that chopping and cut marks remained hidden and thus could not be identified because of this same reason. Burning marks were more frequent than gnawing marks on the skeletal parts from sheep and goat, while this ratio was

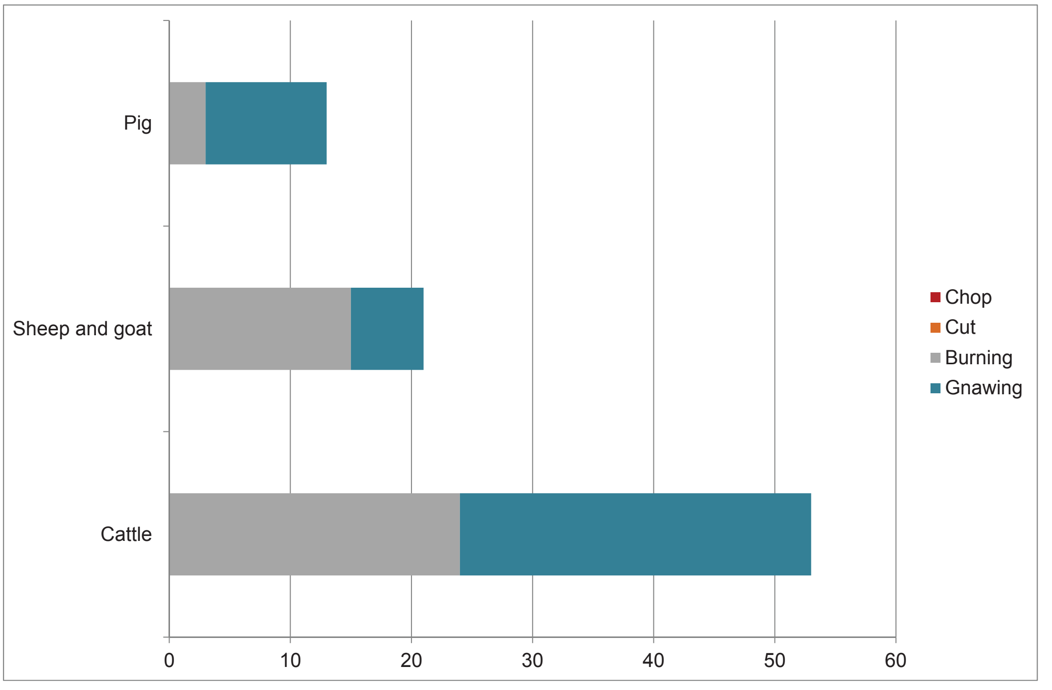

Fig. 19. Taphonomic observations on the remains of meat-purpose species

inverse in the case of pig remains, which were more damaged by dogs. Cattle yielded similar numbers of burnt and gnawed bones (*Fig. 19*).

The fragmentation of bones also showed a size distribution similar to that of the previous site. Remains of 51–100 mm length were the most frequent in all species, while the other size groups were much less represented. Cattle, in accordance with its large body size compared to the other three

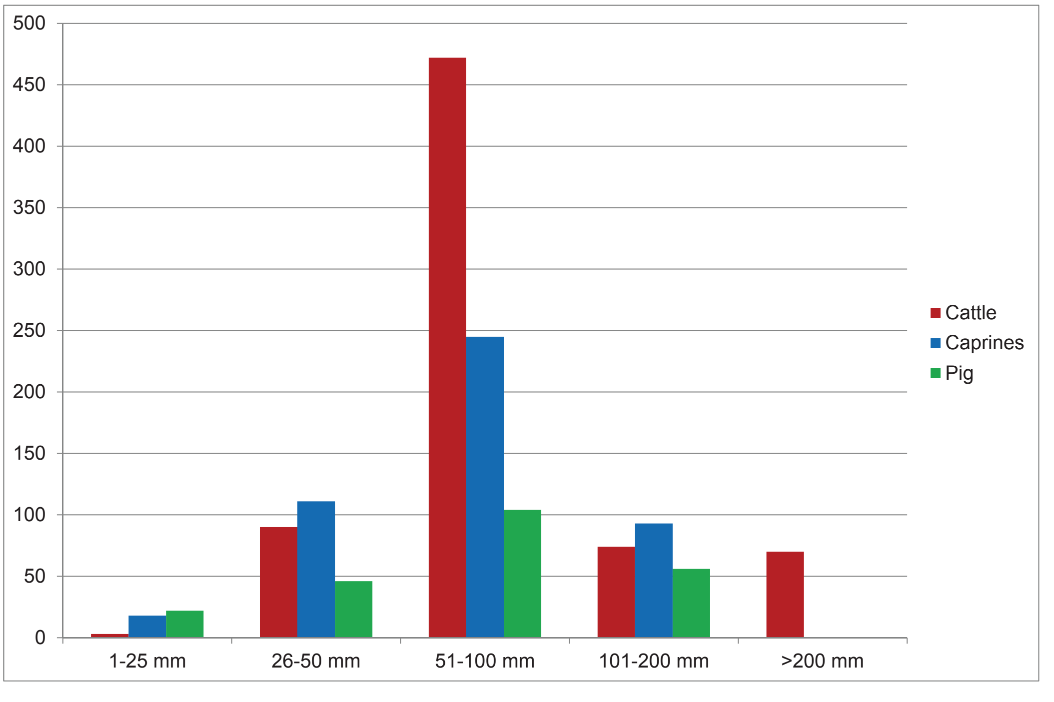

Fig. 20. Fragment lengths of bones from cattle, sheep and goat, and pig

livestock species, yielded an extremely small number of fragments smaller than 25 mm, and it was the only species that provided skeletal parts of over 200 mm fragment length (*Fig. 20*).

Bone and antler artifacts

The assemblage found at Szűr-Cserhát included 27 antler and bone implements that form 1.7% of the total LCA bone collection from the site. Contrary to the previously described site, antler seems not to have been frequently gathered and manufactured. Only the fragment of a hafted beam tool and a handle were prepared from this raw material (*Table 11*).

Differences and scarcity in the inventory of tool types could be also recognized. Chisels (9) were better represented than points and awls (7) at Szűr-Cserhát (*Fig. 21*). The round diaphysis chisel type made from the tibia of sheep or goat (Schibler Type 6), as well as the massive chisel (Schibler Type 4/3) were especially frequent. Six of the seven points were small and medium-sized points. The only worked tooth was a partially drilled through canine of a dog (*Fig. 22*).

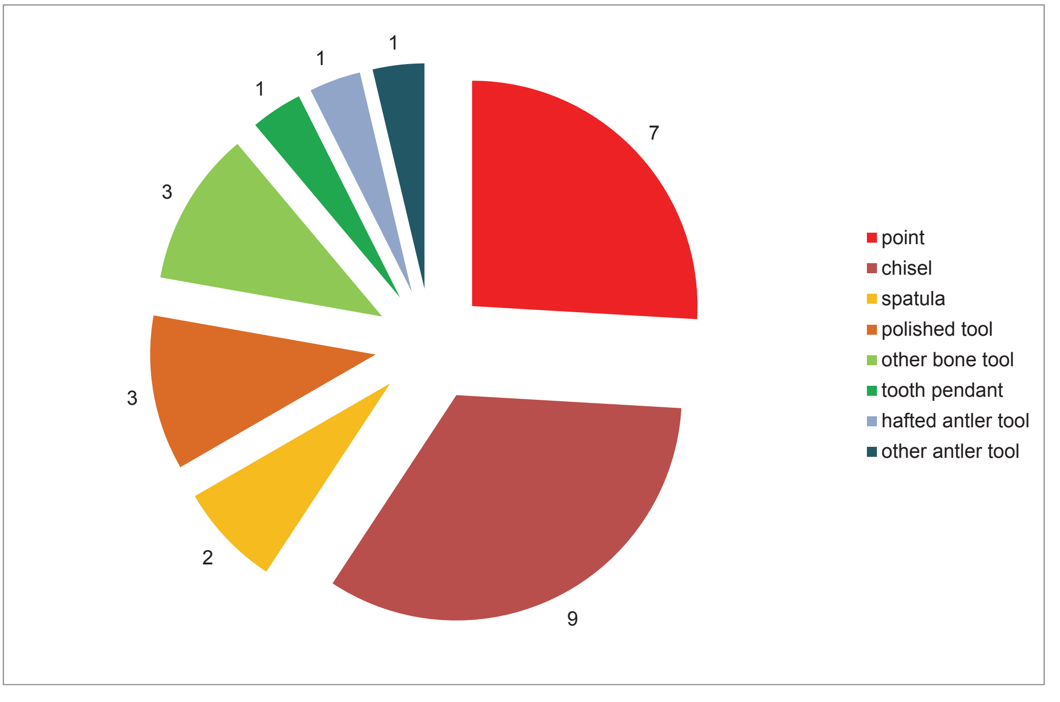

Fig. 21. The distribution of main tool types

On the other hand, cattle and caprines seem to have supplied skeletal parts to a similar extent, and artifacts made from pig bones were absent, just as in the case of the tool assemblage from Kaposújlak-Várdomb. In contrast to the latter LCA settlement, however, red deer was underrepresented at Szűr-Cserhát (*Fig. 23*).

Of the 27 implements, 11 (40.7%) may be assigned to Class I tools, while the rest of 16 worked bones (16=59.3%) represented more casually made Class II or *ad hoc* tools.

Fig. 22. Points, chisels and an unfinished tooth pendant

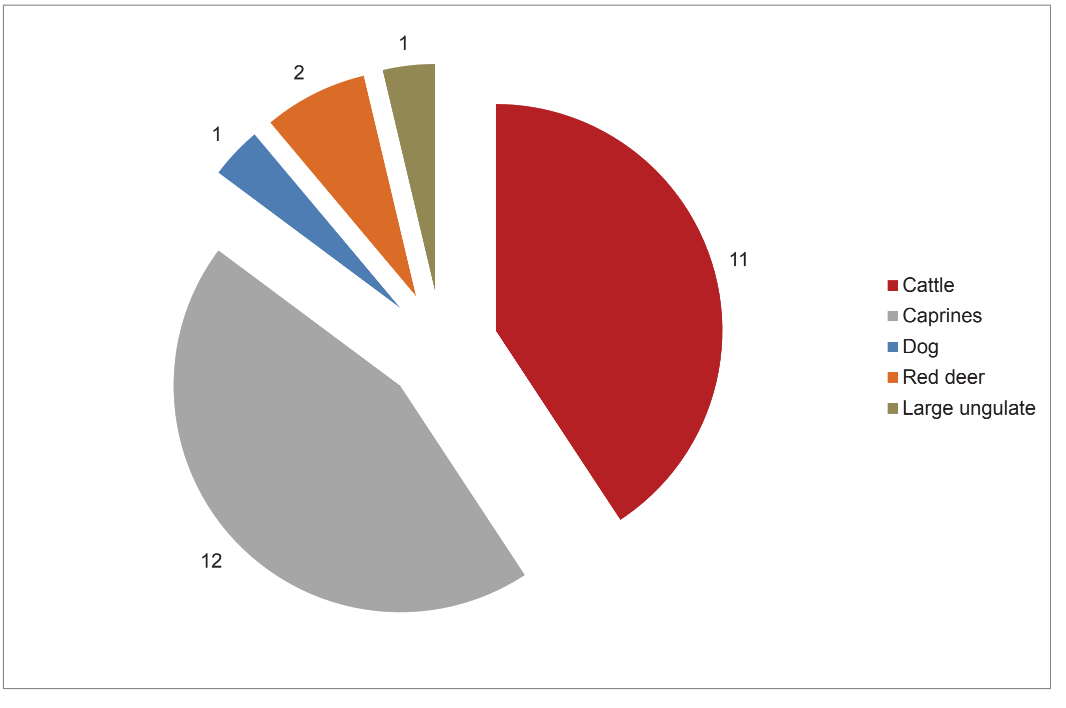

Fig. 23. The taxonomic distribution of osseous tools

Summary

The assemblage found at the LCA site of Szűr-Cserhát seems to have represented refuse bones. Meat provision was based on raising ruminants. Cattle was the most frequently represented species both in the butchery and food remains as well as in the tool assemblage. According to its kill-off pattern, this species seems to have been exploited for its secondary products (dairy and possibly draught exploitation), although potentially work-related lesions were rare among the small number of pathologically modified cattle bones. Cattle was followed in frequency by the bones of sheep and goat in the food refuse, while pig was slaughtered at a young age for its meat.

Wild animals were hunted both in the forest and steppe environment, but in rather small numbers. Gathering shed antler does not seem to have been important either for the inhabitants of this settlement. Most artifacts made from animal hard tissue were bone tools made from the skeletal elements of domestic ruminants.

Table 11. The distribution of worked material by skeletal parts and species

Tool Type (Schibler's Typology)	Bone	Class	Base	Top	GL	GB	GD	LMF	GSB	No. and Feature Type		Note
Small ruminant point (Type 1/1)	Metapodium	1	11	2/2	86.6	9.5	8.9	-	3.8	190-208		Unossified epiphysis, used for a short time
Small point with articular end (Type 1/4)	Metatarsus (small ruminant)	1	1	2/1	10.6	19.0	9.6	-	3.1	73	Pit	
Small point without articular end (Type 1/7)	Metapodium (small ruminant)	2	11	12/1	45.1	6.8	4.0	-	2.4	190-208		
Small point without articular end (Type 1/7)	Metapodium (small ruminant)	1	0	7/4	52.0	10.1	4.3	-	3.9	73	Pit	Recently broken base, curated top
Middle size point without articular end (Type 1/8)	Tibia (small ruminant)	2	11		66.5	13.2	5.5	-	-	190+196	Pits	Broken base and top
Middle size point without articular end (Type 1/8)	Tibia (small ruminant)	1	0	12/1	106.9	12.9	7.3	-	3.2	121-202	Pit	
Large, massive point without articular end (Type 1/9)	Metatarsus (cattle)	2	11	-	104.4	17.8	9.4	-	-	190-208		Broken top
Massive chisel (Type 4/3)	Metapodium (large ruminant)	2	11	29/22	81.0	20.5	10.4	15.0	-	55	Pit	Polished and curated top
Massive chisel (Type 4/3)	Long bone diaphysis (cattle)	2	11	31/21	93.7	11.0	11.4	7.4	-	108	Pit	
Massive chisel (Type 4/3)	Long bone diaphysis (cattle)	2	11	31/21	104.5	17.2	16.1	9.0	-	59	Pit	
Small *ad hoc* chisel (Type 4/8)	Long bone diaphysis (cattle)	2	12	29/22	75.0	15.4	8.4		-	69	Pit	Handpolished haft
Large ulna chisel (Type 4/12)	Ulna (cattle)	2	17	29/23	123.8	29.0	39.0	6.0	-	108	Pit	
Round diaphysis chisel (Type 6)	Tibia (small ruminant)	1	11	21/25	43.1	13.8	7.9	13.5	8.5	190-208		
Round diaphysis chisel (Type 6)	Tibia (small ruminant)	1	11	21/23	48.0	13.4	10.0		8.0	161	Pit	Calcined
Round diaphysis chisel (Type 6)	Tibia (small ruminant)	1	11	-	75.0	15.5	15.2			150	Pit	Recently broken top
Round diaphysis chisel (Type 6)	Tibia (small ruminant)	1	11	29/23	111.1	20.9	21.0			144	Pit	
Rib spatula (Type 12)	Rib (cattle)	2	-	-	48.2	24.6	6.0	-	-	57	Pit	Recently broken base
Rib spatula (Type 12)	Rib (cattle)	2	-	-	130.9	23.0	4.0	-	-	110	Pit	Both ends slightly rounded and polished

Polished tool (Type 19)	Metatarsus (small ruminant)	2	11	-	62.7	12.3	10.3			73	Pit	
Polished tool (Type 19)	Metatarsus (cattle)	2	11	-	99.3	12.8	15.0	-	-	190+196		Fragment
Polished tool (Type 19)	Mandible (cattle)	2	-	-	133.4	85.5	13.3	-	-	121-202		
Bone with manufacture/use wear (Type 22)	Scapula (cattle)	2	-	-	67.3	38.9	15.0	-	-	69	Pit	Both the lateral and medial side is polished, the ventral edge was used for (leather?) working
Bone with manufacture/use wear (Type 22)	Tibia (small ruminant)	2	-	-	114.0	24.0	19.3	-	-	110	Pit	Slightly handpolished
Bone with manufacture/use wear (Type 22)	Tibia (cattle)	2	11	-	127.5	20.2	13.4	-	-	64	Pit	
Tooth pendant (Type 23/2)	Canine (dog)	1	11	-	39.1	10.2	6.0	-	-	108	Pit	Partially drilled through
Hafted antler beam tool	Antler (red deer)	1	-	-	103.7	32.4	25.7	-	-	127	Pit	Adze-like tool, broken at the hole of 14.8 mm diameter
Antler handle	Antler (red deer)	1	-	-	214.2	35.9	33.4	-	-	634	Pit	Antler crown cut to size

1.3 Ordacsehi-Bugaszeg (Boleráz group of the Baden culture)

Introduction

The multi-period site is to be found on a range of rolling hills surrounded by the marshy Orda meadow, less than 2 km south of Lake Balaton (*Fig. 1*). Excavations preceding the construction of the M7 highway were carried out by Zsolt Gallina, Szilvia Honti, Viktória Kiss, Péter Gergely Németh and Krisztina Somogyi in 2000–2002. The LCA archaeozoological assemblage is small compared to the Early and Early-Middle Bronze Age animal bone assemblages from this site. The few archaeological features assigned to the Boleráz group of the Baden culture were characterized by thick layers of mussel shells in the deposits (HONTI *et al.* 2002: 15; GALLINA *et al.* 2007: 213–214).

Results

A total of 270 animal bones were found in 12 LCA features. Domestic species dominated in the assemblage by 98.52% (*Table 12*). Sheep and goat yielded over half of the remains. Cattle and pig followed in frequency by 86 (31.85%) and 20 specimens (7.40%), respectively. Dog yielded 18 remains (6.66%). Horse was not identified at all.

Table 12. The distribution of species by NISP and % in the assemblage

Species	NISP	%
Cattle (*Bos taurus*)	86	31.85
Sheep (*Ovis aries*)	20	52.59
Sheep and Goat (Caprinae)	122	
Pig (*Sus domesticus*)	20	7.40
Dog (*Canis familiaris*)	18	6.66
Domestic animals	**266**	**98.52**
Red deer (*Cervus elaphus*)*	1	0.37
Hare (*Lepus europaeus*)	1	0.37
European pond turtle (*Emys orbicularis*)	1	0.37
Carp-like fish (Cyprinidae sp. indet.)	1	0.37
Wild animals	4	1.48
Number of identifiable specimens (NISP)	**270**	**100.00**
Total animal bone	270	

* Antler tool

The short and robust horn core fragment found in Feature 1168 indicated that 'Copper sheep' was present at Ordacsehi-Bugaszeg (*Fig. 24*). Feature 1198 contained the skeleton of a sheep that was approximately one year old. No complete long bones suitable for calculating withers heights have been preserved from any of the species present at the site (*Table 13*).

According to the degree of ossification of skeletal parts, pig seems to have been killed for meat at a young age. Cattle was rarely slaughtered for prime meat, but raised to maturity, and exploited for secondary products such as milk and possibly labor. Juvenile and adult Caprinae were equally slaughtered, a sign of exploitation for both meat and secondary products.

Wild species were extremely underrepresented by only four remains. Among them, only hare and the carp-like fish were hunted and caught for sure. Red deer is represented by a 88.8 mm long fragment of a

Fig. 24. "Copper sheep" horn core (lateral view)

hafted burr and beam tool, evidently made of shed antler. The rounded and worn base of this implement suggests that it was in use for a long time. The tool is broken at the haft hole of 24.6 mm diameter. The size of the antler burr is 55.0 x 58.0 mm. European pond turtle is represented by a fragment of plastron that may originate from an intrusive individual.

Very few remains showed features related to specifics of the taphonomic process. Fine cut marks could be observed on a single cattle rib, and a single long bone diaphysis from cattle showed traces of burning. Gnawing marks were identified on a single cattle and two sheep bones.

Summary

The size and composition of this assemblage is rather similar to that of the major assemblage found at LCA Paks-Gyapa to be discussed next. The most interesting find is the 'Copper sheep' horn core, which is the only evidence for this animal type in the material under study. Animal husbandry seems to have been focused on ruminants, while hunting, fishing and gathering was most likely practiced on an opportunistic basis.

Table 13. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig
cornus	2	3	
neurocranium		2	
viscerocranium		2	1
mandibula	5	6	1
linguale			
dentes	5	2	
atlas			
axis		3	
Head	**12**	**18**	**2**
vert. cervicalis	3	4	1
vert. thoracalis	3	7	1
vert. lumbaris	1	4	
os sacrum	1		
sternum			
costa	31	24	2
Trunk	**39**	**39**	**4**
scapula	4	6	2
humerus		12	2
radius	1	9	2
ulna	5	3	1
pelvis	5	7	1
femur		6	
patella			
tibia		11	
fibula			1
Meaty limb	**15**	**54**	**9**
carpalia			
metacarpalia	4	8	1
calcaneus	1		1
astragalus		1	
centrotarsale			
metatarsalia	3	9	
Dry limb	**8**	**18**	**2**
vert. caudalis			
ph. proximalis	2	2	3
ph. media	1		
ph. distalis			
Terminal bones	**3**	**2**	**3**
Long bone	6	10	
Flat bone	3		
Grand total	86	141	20

1.4 Paks-Gyapa (Baden culture)

Introduction

The multi-period site of Paks-Gyapa, unearthed under the direction of Gábor Váczi in 2008 (VÁCZI 2009: 254), is located in the eastern outskirts of Gyapa village, 10 km north of the city of Paks (*Fig. 1*). Contrary to the EBA (Makó and Somogyvár-Vinkovci culture) assemblage from this same site (the most abundant EBA material known so far from Hungary; GÁL – KULCSÁR 2012), the LCA (Baden culture) assemblage was small. It contained only 559 animal bones weighing a mere 11,065 g. Moreover, this small material was recovered from 18 pits.

Results

The number of identifiable specimens is only 387 (10,411 g). Domestic animals dominated in the assemblage by 95.87% (*Table 14*). Sheep and goat were the most frequent species yielding 42.38% of the NISP. They were followed by cattle (39.02%) and pig (12.92%). Dog was represented by only six finds (1.55%), while horse was absent.

Table 14. The distribution of species by NISP and % in the assemblage

Species	**NISP**	**%**	**Weight (g)**	**%**
Cattle (*Bos taurus*)	151	39.02	7,651.6	73.49
Sheep (*Ovis aries*)	20		448.3	
Goat (*Capra hircus*)	3	42.38	993.0	14.54
Sheep and Goat (Caprinae)	141		71.3	
Pig (*Sus domesticus*)	50	12.92	889.6	8.54
Dog (*Canis familiaris*)	6	1.55	36.3	0.35
Domestic animals	**371**	**95.87**	**10,090.1**	**96.92**
Red deer (*Cervus elaphus*)	6	1.55	221.3	2.13
Roe deer (*Capreolus capreolus*)	6	1.55	78.2	0.74
Hare (*Lepus europaeus*)	3	0.77	20.5	0.20
Carp (*Cyprinus carpio*)	1	0.26	1.1	0.01
Wild animals	**16**	**4.13**	**321.1**	**3.08**
Number of identifiable specimens (NISP)	**387**	**100.00**	**10,411.2**	**100.00**
Small ungulate	94		163.7	
Large ungulate	65		464.2	
Dog-size mammal	12		25.6	
Small mammal (Micromammalia sp. indet.)	1		0.3	
Total animal bone	559		11,065.0	

Due to the small size of the assemblage, only the sheep remains provided information considering animal types. Based on a complete metatarsus and a radius from this species, the withers heights of these two sheep were 56.4 and 57.3 cm, respectively. These sizes correspond to ewes according to coeval data from the region (VÖRÖS 2014: 307). The only complete horn core from Feature 398 is of medium size, flat and laterally bent (*Fig. 25*).

The single pathological specimen identified in this assemblage, a dental anomaly represented by crowded teeth, also originates from sheep. Regarding the degree of epiphyseal fusion of bones, remains

Fig. 25. Sheep horn core (lateral view)

from juvenile and subadult individuals dominated in the assemblage, suggestive of the primary meat exploitation of these animals. The distribution of skeletal parts confirmed this result as bones from the trunk and fleshy proximal limb segments were encountered most frequently (*Table 15*).

The dimensions of dog bones pointed to small and gracile specimens not very much exceeding the size of foxes. Remains of this type occur commonly at prehistoric sites in the region (Bartosiewicz 2002).

The merely 16 remains of hunted animals represent four species. Skeletal parts from both red and roe deer originate from hunted specimens. Antler was absent at this site. In addition to these two species preferring forested areas, hare and carp were also identified. The lack of wild boar remains is noteworthy, but may partly be related to the small number of identifiable bones.

These bones were not covered by exogenous limestone concretions, thus it was possible to weigh them reliably. While cattle was only the second most frequent species at 39.0% NISP, the actual weight of cattle bones showed an overwhelming dominance of this species by 73.5% (*Table 14*). Also, caprine bones (NISP=42.4%) seem to have been three times more frequent than those of swine (12.9%), while the difference between the weight of their bones is less marked (14.5% vs. 8.5%, respectively). One of the reasons for this patterned difference may be the rather great contribution of maxillae and mandibles with teeth from pig that tend to be heavier than ordinary skeletal bone (*Table 15*).

Most of the bones were rather heavily fragmented, their sizes ranging between 0–50 mm and 51–100 mm, respectively. Traces of burning could be observed on 12 remains, while gnawing marks were identified on five bones. Two bones each showed chopping and cut marks, respectively.

Table 15. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig
cornus		1	
neurocranium	7	5	3
viscerocranium	2	3	4
mandibula	11	10	9
linguale	1		
dentes	3	2	1
atlas	3		
axis	2	1	
Head	**29**	**22**	**17**
vert. cervicalis	4	2	1
vert. thoracalis	4	7	
vert. lumbaris		11	
os sacrum		1	
sternum	2		
costa	45	50	
Trunk	**55**	**71**	**1**
scapula	4	10	3
humerus	7	9	4
radius	8	8	3
ulna	4	1	2
pelvis	2	1	3
femur	6	15	4
patella	2		
tibia	7	7	1
fibula			
Meaty limb	**40**	**51**	**20**
carpalia	1		
metacarpalia	4	7	4
calcaneus	4		
astragalus	2		
centrotarsale	2		
metatarsalia	7	12	2
Dry limb	**20**	**19**	**6**
vert. caudalis			
ph. proximalis	4	1	5
ph. media	3		1
ph. distalis			
Terminal bones	**7**	**1**	**6**
Long bone			
Flat bone			
Grand total	151	164	50

The assemblage also contained four bone tools: a small point without articular end (Type 1/7), a small *ad hoc* chisel (Type 4/8), a small chisel with articular end (Type 4/14) and a faceted bone fragment

Fig. 26. Small point, small chisel with articular end, and scraper

(Type 22). The first three, easily identifiable utensils were made from skeletal parts of sheep or goat (*Fig. 26*). According to the clear hand-polish on their surfaces, and evidence for curation in the case of the small point and chisel, these tools have been used for a long time.

The fourth artifact was made from a cattle radius. The faceted diaphysis fragment suggests a runner-like tool, but since only a small part of the object has been recovered, the exact function of this implement remains unclear.

From the point of view of the manufacturing continuum, the point and chisels fall close to the less systematically executed Class II group of tools. The targeted selection of a large ungulate radius as well as its planned working into a faceted tool ranks it among the Class I artifacts (CHOYKE 1997).

Summary

The small assemblage from this site does not allow substantial conclusions. Nevertheless, sheep and goat seem to have been the most frequend animals at the settlement as suggested by their dominance both in the kitchen midden and among the bone tools. In addition to the small and large ruminants, the presence of hare bones also points to grassy areas around the settlement. Red and roe deer as well as carp illustrate the occasional exploitation of wild resources provided by the Danube and its extensive gallery forests.

Discussion of Late Copper Age settlements

The emergence, prosperity and decline of the LCA Baden culture (ca. 3600/3500–2800 BC) coincided with the end of the Atlantic (5500–3000 BC) and the beginning of the Subboreal (3000–800 BC) climatic phases in Hungary. The beginning of the Atlantic phase is characterized by mixed deciduous woodland, but as a result of increasing precipitation, oak forests became typical toward the end. Water levels – including that of Lake Balaton – rose. Previously dry areas along riverbanks and lakeshores became temporarily or permanently inundated. The Subboreal phase was cooler but likewise humid. Oak was gradually replaced by beech forests both in the lowlands and hillier areas. Lake Balaton reached its highest ever water level during the Holocene epoch (Bajzáth 1996).

Periodical and prolonged rises in the level of Lake Balaton resulted in changes in the settlement structure, a phenomenon clearly visible in the case of Balatonkeresztúr-Réti-dűlő, a major LCA site excavated during the past decade (Fábián 2014; Fábián–Serlegi 2009; Serlegi *et al.* 2012). Results of classical typo-chronological and radiocarbon dating divided LCA occupation at that site into three periods:

1. Boleráz phase from 3510 calBC to 3360 calBC (NISP=1,675 animal bones),
2. early classical Baden phase from 3360 calBC to 3110 calBC (NISP=657), and
3. late classical Baden phase from 3090 calBC to 2920 calBC (NISP=1,749)

These periods have been compared using geochemical and archaeozoological results from Balatonkeresztúr-Réti-dűlő. The main border could be established at 3370 calBC, when the temperate climate of the Boleráz phase – in which sheep and goat dominated the animal bone assemblage – was interrupted by a cool and wet period, resulting in the shifting of the settlement from the lakeshore to a higher hillside area. Not only the settlement structure but the pottery style also changed.

The species composition of the Baden assemblages showed interesting – and somehow surprising – results when compared with the climatic record based on carbon and oxygen stable isotope analyses of bivalve shells. During the early classical Baden phase, characterized by a dryer climate, cattle (43%) - sheep and goat (28%) - pig (15%) was the NISP based rank order of the main meat-providing domestic species. This changed to pig (61%) - cattle (34%) - sheep and goat (4%) in the late classical Baden assemblage, when the climate returned to temperate again and became similar to that of the Boleráz phase. In addition to pig, a species that prefers more humid environments, the ratio of wild animals also increased towards the later phases of the Baden period. Although the 23 pig skeletons found in a total of nine sacrificial pits led to the dominance of this species by 61% (NISP) in the latest period of the settlement, it is clear that changes in the species composition do not necessary reflect the climatic oscillations but may be influenced by a number of cultural factors.

The other site on the shore of Lake Balaton, from where a significant numbers of archaeozoological finds are available, is Balatonőszöd-Temetői-dűlő, located some 40 km north-east of the previous site (*Fig. 1*). The interpretation of radiocarbon and archaeological results from this settlement suggests that the Boleráz and Baden phases did not sharply separate, but possibly two communities with different material cultures were settled at this locality for about 300 years (3300–3000 BC (Horváth 2014: 592–593). The two periods can be assigned to 3519–3373 (68.2%) cal BC and 2458–2291 (68.2 %) cal BC at this site (Horváth 2014: 571–579; Kulcsár 2013: 650–651, Table 1).

At Balatonőszöd-Temetői-dűlő, the 'separate' Baden assemblage (NISP=11,469) was approximately three times larger than the 'separate' Boleráz assemblage (NISP=3,315). Remains of ruminants dominated in both phases showing only a small difference relative to each other. Sheep and goat was the most frequent species in the Boleráz assemblage by 44.5%, followed by cattle (40.7%) and pig (9.8%).

In the Baden assemblage, cattle dominated by 38.2%, but sheep and goat yielded a similar proportion of remains (37.5%). The representation of pig increased in this phase, yielding 14.6% of the total NISP.

Ruminants dominated not only in the assemblages representing butchery and food remains, but in the structured, presumably sacrificial deposits as well. The majority of animals found in ritual contexts were cattle, but sheep, pig and dog burials were also recovered. Considering the age of animals, more young than adult or mature individuals were buried (HORVÁTH 2014: 159-178). Contrary to the previous occupation, the ratio of wild species decreased from a mere 1.8% to 1% towards the end of the LCA (VÖRÖS 2013, DVD 1, Table 1).

Among the previously published animal bone assemblages of statistically representative sizes from southern Transdanubia, Andocs-Nagytoldipuszta and Pécs-Hőerőmű also need to be mentioned. Although the previous site, located about 20 km southeast of Lake Balaton was referred to as an exclusively Baden culture settlement (BÖKÖNYI 1978: 30), the archaeologist of the excavation indicated that most of the finds belonged to the Boleráz group (TORMA 1969: 97). This information gains importance when one considers the species composition of the assemblage, since here – similarly to the aforementioned Boleráz assemblages – the remains of sheep and goat were more frequent than those of cattle (BÖKÖNYI 1978: 32, Table 7). The same results were found at the Boleráz sites of Gyöngyöshalász-Encspuszta and Kétegyháza in the northern and southeastern parts of the country (VÖRÖS 1982–1983; VÖRÖS 2013, DVD 1, Table 51). In the Boleráz assemblage found at Győr-Szabadrét-domb (Northwestern Hungary) the NISP ratio of cattle slightly exceeded the ratio of sheep and goat that has been explained by the location of the site in the floodplain near the confluence of major rivers, especially favorable for cattle grazing (BARTOSIEWICZ *et al.* 1994: 111).

Both sacrificial deposits and food remains came to light at the Baden site of Pécs-Hőerőmű as well. Out of the six sacrificial pits, four contained five cattle skeletons (two adult cows, a calf, and an adult cow and a calf, respectively), while a double pit yielded the skeletons of two ewes and three dogs including a female dog, a male dog and a puppy. The refuse bone assemblage was dominated by cattle remains, which were followed in frequency by those of sheep and goat, and finally pig (VÖRÖS 2011a).

In addition, a number of other sites in the region such as Aparhant-Felső legelő (BARTOSIEWICZ 2000), Boglárlelle (today: Balatonlelle), Úszó u. 74-76. (VÖRÖS 1982) and Keszthely-Fenékpuszta (BÖKÖNYI 1978) yielded LCA animal bone assemblages. These, however, were too small for in-depth quantitative analyses.

In the case of the assemblages analyzed in this volume, environmental, faunal and cultural changes could not be studied on a similar fine scale as at Balatonkeresztúr-Réti-dűlő and Balatonőszöd-Temetői-dűlő due to the lack of archaeological analyses and radiocarbon dates. Moreover, only the assemblages found at Kaposújlak-Várdomb and Szűr-Cserhát contained sufficient numbers of animal bones to substantiate concluding remarks. The LCA assemblages from the other two sites in the region, Ordacsehi-Bugaszeg and Paks-Gyapa, were too small from a statistical point of view. Their results, however, still contribute valuable detail to the archaeozoological 'map' of the area, consistent with the main trends shown by assemblages of representative sizes.

Although Kaposújlak-Várdomb is slightly more closely located (ca. 50 km) to Balatonkeresztúr-Réti-dűlő than Balatonőszöd-Temetői-dűlő (ca. 60 km), the results concerning meat consumption and ritual customs are more reminiscent of those observed at Balatonőszöd-Temetői-dűlő. Bovids, both small and large dominated, while pig was under-represented both in the kitchen midden and sacrificial contexts. Considering the age of sacrificed animals, predominantly young individuals were killed at all three sites. Cattle burials, which usually included young individuals, were also the most common at other Baden sites across Hungary such as Budapest XVIII, Rákoscsaba, Major-hegy Dél; Hódmezővásárhely–Kopáncs, Olasz-tanya (CSIPPÁN 2012) and Tahitótfalu-Váci rév (VÖRÖS 1985). Similarly, cattle – usually an adult and a young individual buried together – appear as grave offerings in the Baden cemeteries at Alsónémedi (BÖKÖNYI 1951) and Budakalász-Luppa csárda. At the latter site, the skeletons were found in a double human burial of a male and female (BÁNFFY *et al.* 2003: 136; GÁL 2009b).

Except for the dominance of pig remains at Balatonkeresztúr-Réti-dűlő during the late classical Baden phase, the species compositions of the Baden assemblages show that animal husbandry was based on keeping small and large ruminants in southern Transdanubia, and pig was only the third most frequent species. Whether cattle or sheep and goat were more preferred and became the prevailing species, it may have largely depended on the secondary exploitation of these animals. Dairy production may have been important in all three bovid species. The draught power of cattle and its manure may have been utilized at the settlements where the agriculture was developed. The communities that mostly kept sheep must have been familiar with wool production as well.

The different exploitation of cattle and sheep/goat is well reflected in the age composition of bones from these species at Kaposújlak-Várdomb and Szűr-Cserhát. Bone specimens from young sheep and goat are better represented at the latter site, where cattle remains dominated and the stock seems to have consisted mostly of fully grown animals (*Fig. 16*). On the other hand, twice as many calves as lambs seem to have been culled for meat at Kaposújlak-Várdomb, where sheep dominated in the animal bone assemblage (*Fig. 2*).

Although there is a minor difference in the relative frequency of cattle and sheep (in favor of the former) in the Baden assemblage from Balatonőszöd-Temetői-dűlő, considerably more adult cattle were identified there (VÖRÖS 2014: 322–323, Fig. 234). Likewise, the majority of cattle remains from Pécs-Hőerőmű originated from adult cattle, while sheep and goats were mostly slaughtered at a young age, and exploited for meat and possibly fur (VÖRÖS 2011a: 16–17, Table 6). It may be generally stated that cattle became the most important livestock by the Baden period both from an economic and ritual point of view in many regions of Hungary (VÖRÖS 2013, DVD 1, Table 51; VÖRÖS 2014: 323). Pigs, as single-purpose meat animals were generally killed young, and represented a substitute for the meat of ruminants whose secondary exploitation for milk, wool or labor made more sense than their culling before their working lives ended.

Due to the poor preservation of cattle skulls and horn cores in the assemblages under study the grouping of remains into traditional craniological types is rather difficult. Nevertheless, the partially preserved cattle skull from Kaposújlak-Várdomb (*Fig. 4*) has been tentatively identified as the *primigenius* type. This sort of cattle was also described from the Baden graves at Alsónémedi, as well as the sites of Baja-Dózsa György út 233 and Pécs-Hőerőmű, respectively (BÖKÖNYI 1951: 122–124, Fig. 19; VÖRÖS 2011a: 416). On the other hand, a number of small, curved horn cores with oval cross section found at Kaposújlak-Várdomb would point to the presence of the *brachyceros* type. The Baden horn core finds illustrated in the monograph on the Balatonőszöd-Temetői-dűlő settlement were described as being narrow and relatively long, and differing from the prehistoric short horned *brachyceros* type (VÖRÖS 2014: 302–303, Fig. 220–221).

Data regarding the withers height of cattle both from the recently identified specimens (*Table 3*) and published records from southern Transdanubia indicated slightly larger sizes for bulls than for cows. The withers heights of adult and mature bulls vary between 112.0 and 125.3 cm, while the withers height of similar types of cows is limited to a narrower range between 96.3 and 121.5 cm. These dimensions actually almost cover the size variation of LCA cattle described from other regions of the country (VÖRÖS 2013, DVD 1, Table 49). The only exception is a bull from Monor-Berek, whose stature (135.3 cm) is slightly beyond the aforementioned maximum (*Table 16*).

The skull and horn core remains of sheep found in Transdanubia indicate the presence of several sheep types in the region. While the small assemblage excavated from Ordacsehi-Bugaszeg offers evidence for the 'Copper sheep' characterized by a robust horn core (*Fig. 24*), sheep with goat-like, V-shaped, 'palustris' type horn cores and with short, vestigial horns have also been identified from Kaposújlak-Várdomb (*Fig. 7*). The latter two types were also unearthed from Balatonőszöd-Temetői-dűlő. Skull remains of hornless sheep were also found at that settlement (VÖRÖS 2014: 305–306, Figs. 224–225). In addition, a fifth type, with long, laterally bent horn cores was identified from Paks-Gyapa (*Fig. 25*).

Table 16. Table summarizing the parameters for withers heights (in cm) of LCA cattle in Hungary

	Female		**Male**	
	Southern Transdanubia	**Hungary**	**Southern Transdanubia**	**Hungary**
n	11	19	6	14
Min	96.3	96.3	112.0	112.0
Max	121.5	122.3	125.3	135.3
Mean	110.9	112.1	122.6	125.9
SD	6.909	6.470	4.739	5.710

The withers height of sheep did not show major variation. The stature of ewes varied between 48.2 and 62.5 cm, while the withers heights of rams were between 60.2 and 74.8 cm at Kaposújlak-Várdomb, Pécs-Hőerőmű and Balatonőszöd-Temetői-dűlő alike (Table 3; VÖRÖS 2011a: 423, Table 4; VÖRÖS 2014: 306–307).

The great diversity of sheep during the LCA, similarly to that of cattle (VÖRÖS 1982–1983: 38), could be observed in other regions in Hungary as well. 'Copper sheep' has been described from Szigetcsép-Tangazdaság, located in the central part of the country (VÖRÖS 1988: 21), and from Gyöngyöshalász-Encspuszta in Northeastern Hungary. The latter site also yielded remains of hornless and 'palustris' type sheep (VÖRÖS 1982-1983: 38–39, Fig. 2/4).

Pig as a prolific species kept for meat was slaughtered at a young age at all sites. Consequently, in most cases, neither the skull fragments nor the long bone remains are fully developed and suitable for identifying types and sizes. On the basis of a few data, however, the withers heights could be estimated at three Baden settlements in Transdanubia. The sizes calculated from Kaposújlak-Várdomb and Szűr-Cserhát (*Table 3*) fell within the size range of 71.0–79.8 cm obtained at the settlements of Balatonőszöd-Temetői-dűlő (VÖRÖS 2014: 308).

Dog was best represented in the Baden phase of Balatonőszöd-Temetői-dűlő by 8.2% of the NISP. The next assemblages relatively rich in dog remains were Szűr-Cserhát and Andócs-Nagytoldipuszta, both yielding 4.2% dog bones. At the other sites this species was rather under-represented. Data regarding the withers heights of LCA dogs in Transdanubia are available only from Balatonőszöd-Temetői-dűlő where two types were described. The average size of the small-medium ('turbary dog') type was 45.0 cm (n=20), while that of a medium type ('ancient shepherd dog') reached 53.2 cm (n=13) (VÖRÖS 2014: 309).

Horse has not been identified from the recently analyzed settlements, but it was described from all the assemblages of representative sizes in southern Transdanubia. However, only a very few specimens were found in most cases. The withers heights for this species could be calculated only for four Baden period remains from Balatonőszöd-Temetői-dűlő, which yielded estimates between 135.0 and 143.0 cm (mean 138.0 cm). Horse appears to be more frequent in Central and Eastern Hungary during this archaeological period (VÖRÖS 2013, DVD 1, Tables 28 and 51).

Wild species dominated at a single site in southern Transdanubia. The majority (65.6%) of remains in the Baden culture assemblage from Keszthely-Fenékpuszta (former name: Fenékpuszta-Nádgazdaság) represented hunted animals including mammals, birds and fish. Wild boar was especially frequent (35.4%), but it must be noted that all the remains may have resulted from a single hunt according to the relatively small size of the assemblage (NISP=573; BÖKÖNYI 1978: 36, Table 10).

At Kaposújlak-Várdomb and Szűr-Cserhát, where assemblages suitable for quantitative analyses were brought to light, the ratios of wild species were 4.6% and 4.7%, respectively. Andocs also yielded a similar proportion of remains (5.1%) from game animals (BÖKÖNYI 1978: 32, Table 7). On the other hand, the ratio of bones from hunted species did not exceed 2% at Balatonőszöd-Temetői-dűlő and Pécs-Hőerőmű. Except for the aforementioned assemblage from Keszthely-Fenékpuszta, red deer yielded most of the remains from game animals not only in southern Transdanubia, but also in the other regions of Hungary. A major, often undefined part of these skeletal parts, however, consists of shed antler and non-identifiable antler fragments that may have been procured either by hunting or gathering. Therefore wild boar and aurochs, and to a smaller degree, roe deer may be considered the most frequently hunted mammals. Hare remains were also recovered from a number of sites but – similarly to avian and fish remains – the small size and fragility of hare bones make this species vulnerable to various taphonomic agents (VÖRÖS 2013, DVD 1, Tables 1 and 51), therefore its representation is difficult to compare to that of large game. Generally, the lack of wet and dry screening results in a great loss of small finds that would provide valuable information regarding paleo-environmental conditions around the sites as well as the exploitation of various wild resources. Nevertheless, the fish material found at Balatonőszöd-Temetői-dűlő forms an exception because of the recovery of both scales and bones even by hand-collection (NAGY 2014).

The greatest variety of wild species was described from Kaposújlak-Várdomb. Among the eleven mammalian species identified from here, eight and six were also identified in the assemblages from Balatonőszöd-Temetői-dűlő and Balatonkeresztúr-Réti-dűlő, respectively. The most special find from Balatonőszöd is the ulna from Persian lion, dated to the Boleráz phase (VÖRÖS 2014: 302, Fig. 219). This is the third LCA record for this species following the evidence from Gyöngyöshalász-Encspuszta and Hódmezővásárhely-Koppáncs, Olasz Tanya, both located in the Great Hungarian Plain. Kaposújlak-Várdomb also yielded a carnivore rarely identified from LCA archaeozoological assemblages: brown bear was previously discovered only at Budapest, XVIII Rákoscsaba, Major-hegy and Salgótarján-Pécskő (CSIPPÁN 2012; VÖRÖS 2013, DVD 1, Table 51).

Implements made from animal osseous tissue are available in numbers suitable for quantitative analyses from four settlements in southern Transdanubia. The variety and development of bone and antler manufacturing may be compared between three of these assemblages based on the typological description of artifacts. Of these, Balatonőszöd-Temetői-dűlő yielded the largest tool assemblage of 26 pieces from the Boleráz phase, and 94 pieces from the Baden phase, respectively. A rather great selection of points and chisels were described from both, without showing significant qualitative differences (GÁL 2013, DVD 1, Tables 1–2; GÁL 2014a).

The Boleráz phase assemblage from Balatonkeresztúr-Réti-dűlő contained 16 bone and six antler tools. The Baden period was slightly better represented: 10 bone and seven antler implements were found in the features representing the early classical phase, and nine bone and an antler tool were dated to the late classical phase of the Baden period. The typological distribution of artefacts is similar to the tool assemblage described from Balatonőszöd-Temetői-dűlő (FÁBIÁN 2014: 76-78).

Although the Boleráz worked bone assemblages from these two sites are much smaller than the coeval tool material of 120 specimens found at Győr-Szabadrét-domb in northern Transdanubia, the small number (one at Balatonőszöd-Temetői-dűlő, and two at Balatonkeresztúr-Réti-dűlő) of tooth pendants is still striking. The complete absence of orally modified caprine mandibles described as 'thong smoothers', the two most frequent type of implements at the latter site (Choyke 2015) is likewise remarkable.

The second largest tool assemblage was found at Kaposújlak-Várdomb that comprised 86 Baden implements. The proportion of worked osseous materials to food remains appeared to be the same (0.8%) as in the aforementioned two assemblages. Moreover, Class I artefacts were also represented in the same ratio (31.9% and 31.4%, respectively). Nevertheless, while diaphysis points (Schibler Type 1/3) and medium size points without epiphysis (Schibler Type 1/8) dominated in the assemblage from Balatonőszöd-Temetői-dűlő, the small ruminant metapodium point with distal end (Schibler Type 1/1) and the small point with articular end (Schibler Type 1/4) were the most frequently identified types at Kaposújlak-Várdomb. Interestingly enough, both the number of antler tools and antler waste are negligible at Balatonőszöd-Temetői-dűlő in contrast to the numerous antler fragments among the red deer remains from the latter site (*Table 8*).

The Baden tool assemblages found at Szűr-Cserhát and Pécs-Hőerőmű included 27 and 22 specimens, which represented 1.7% and 1.2% of the total refuse bone collection, respectively. The worked specimens identified from Szűr-Cserhát differed from the aforementioned two large assemblages not only by the frequency of chisels relative to points, but also in lacking any artefact made from antler (*Table 11*).

The proportion of pathological cases at Balatonőszöd-Temetői-dűlő (Vörös 2013, DVD 1, Table 1; Vörös 2014: 312), Kaposújlak-Várdomb and Szűr-Cserhát, from where data is available, showed values varying between 0.24 and 0.91%. The greater the value of NISP, the smaller the proportion of such rare finds, as individual pieces contribute a greater percentage to small assemblages. Also, in line with the law of large numbers, the most frequent species within individual assemblages yielded the most pathological cases. Especially dental and oral pathologies, arthropaties and pathological lesions attributable to working animals were the most common diseases, not unrelated to the advanced age of domesticates, especially those exploited for secondary products.

Conclusions drawn from Late Copper age assemblages

Results gained from LCA animal bone assemblages of appropriate size from southern Transdanubia indicated that a strong dominance of domesticates was characteristic of the Boleráz phase. Cattle became the leading species before sheep and goat and pig by the Baden phase in most cases. Short-term climatic changes detected by carbon and oxygen stable isotope analyses do not seem to have caused changes in animal husbandry, but an increasing ratio of pig remains in the Baden phase was noted in comparison with the preceding Boleráz phase. This trend was indicated by two assemblages of representative size (Balatonkeresztúr-Réti-dűlő and Balatonőszöd-Temetői-dűlő, respectively).

Similarly to other sites within the distribution area of the Baden culture, cattle was also the species most frequently found in possibly sacrificial deposits during the Baden period. The slaughter of juvenile and subadult cattle was most characteristic in these special features, although sheep and pig skeletal remains were also found in similarly structured deposits. The dominance of pig in putative sacrificial contexts – paralleling an increasing contribution of pork to the diet as shown by the food refuse – is noteworthy at Balatonkeresztúr-Réti-dűlő by the end of the classical Baden phase. It shows the targeted exploitation of a single-purpose meat animal under the influence of increased sedentism on the one hand, and local ecological conditions (such as the expansion of oak forests) on the other. The increasing importance of pig was thus probably a multicausal phenomenon rather than the sign of a single climatic or cultural shift.

Except for Balatonőszöd-Temetői dűlő, where horse yielded a few dozen remains, bones of this species appeared but sporadically in the studied assemblages. Cattle, often kept until old age, was evidently the main source of animal power. Pathological symptoms on bone characteristic of draught cattle have been identified from a number of sites. It is likely that due to its versatile exploitation, cattle became the economically most important species by the end of the LCA. Its importance was also connected to the Late Neolithic invention and subsequent spread of wheeled transport and thus increased mobility (Bondár 2007: 25). This species not only provided the greatest quantity of meat and probably milk to the diet. Its other secondary products such as manure and draught power brought about development in land cultivation. The appreciation and great value of cattle is reflected by the frequency of its remains – often articulated skeletons – in sacrificial deposits throughout the Baden period.

The type and size of cattle, caprines and pig appear to have been uniform insouthern Transdanubia, resembling their conspecifics identified in other regions of Hungary. The horn core finds suggest a great diversity of bovids, especially sheep. The selective breeding of types for wool and dairy products, and the infiltrations of new types by the migration of peoples should not be excluded as a source of this diversity.

The greatest abundance and variety of wild animals was observed in assemblages from sites located at a maximum distance of 60 km from the shore of Lake Balaton. The increasing contribution of game to the diet was paralleled by developed bone and antler manufacturing at these settlements. The results from sites located farther to the east indicated only a minor activity both regarding the exploitation of wild resources and producing implements from the osseous remains of wild animals.

The distribution of skeletal elements by body part indicates on-site butchery of both domestic and wild animals. At least part of the game seems to have been transported to the sites prior to dismemberment for the utilization of meat, fur and antler (in the case of cervids) alike, although differential deposition in this sense is difficult to clearly demonstrate due to the characteristically small number of finds.

2. EARLY BRONZE AGE SITES

2.1 Kaposújlak-Várdomb (Somogyvár-Vinkovci culture)

Introduction

The EBA archaeozoological material found at Kaposújlak-Várdomb (*Fig. 27*) was much smaller than the previously discussed LCA assemblage unearthed at this site (see Chapter 1.1). The radiocarbon dating of horse remains (from Features 258, 462 and 1038) and four cattle mandible artifacts (from Features 262, 334, 452 and 869) indicated an almost two-century-long time span of occupation, ranging from 2460–2340 to 2620–2490 cal BC for this phase of the settlement (*Appendix 1*).

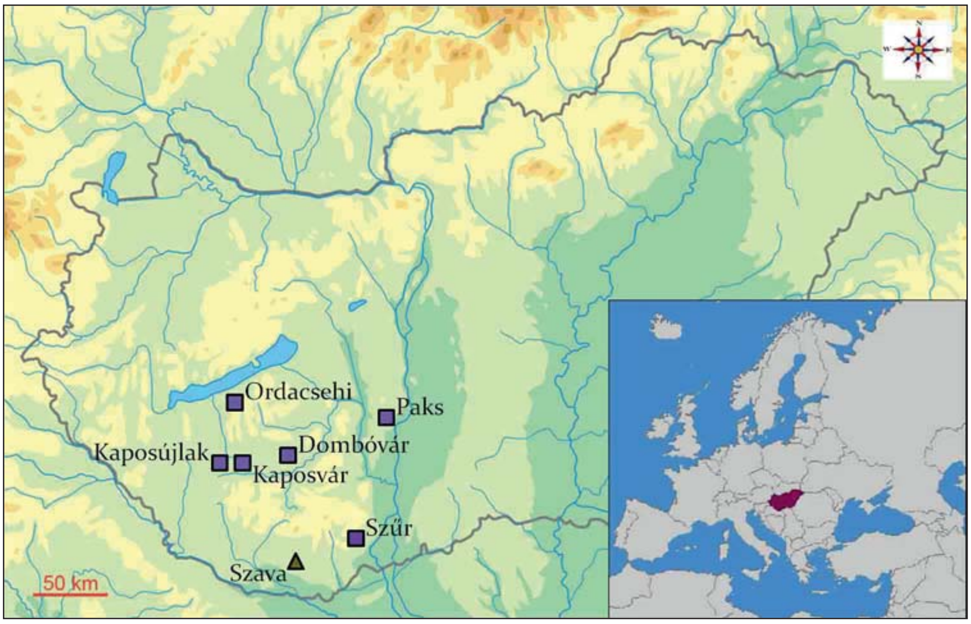

Fig. 27. Map showing the location of sites under study (squares) and of the already published sites with assemblages that yielded NISP>500 (triangle) in the region

Most of the remains brought to light from a total of 184 features seem to have represented butchery refuse and food remains. Nevertheless, four features differed from the others in terms of what they yielded. Feature 104 was a small pit that contained a cattle skull only. Human remains and the fragment of a big bowl were also found in this feature. Feature 449 included the incomplete skeleton of a 3–3.5-year-old cattle whose skull was missing, and the rest of its bones seem to have been disturbed as well. In addition, the partial skeleton of a pig younger than two years, and the fragment of a casting mold also came to light among the other finds. Feature 1038 contained the articulated skeleton of a 2–3-month-old puppy, two horse skulls from foals younger than one year, and nine skulls from adult male wild boars. In addition, the partial skeleton of a cow, and some sheep remains were also identified from this feature. Feature 1258, a pit, yielded the skeleton of an adult dog beside the skeletal parts of three cattle, two sheep, two pigs, an aurochs, a red deer and a wild boar, as well as a number of antler and bone tools and workshop debitage.

Results

Most of the 4,634 identifiable bones found in this assemblage represent domestic species, but their ratio (81.7%) is considerably smaller than in the LCA assemblage (95.4%). By the EBA, cattle became the most frequent species yielding 34.1% of the remains in terms of NISP. It was followed by sheep and goat, and pig in rather similar proportions (21.9%, and 21.6%, respectively). Horse appeared as a new domestic species, but was rather underrepresented (39 remains that form 0.8% of the assemblage). Dog bones made up 3.2% of the remains (*Table 17*).

Table 17. The distribution of species by NISP and % in the assemblage

Species	NISP	%
Cattle (*Bos taurus*)	1,582	34.14
Sheep (*Ovis aries*)	210	21.88
Goat (*Capra hircus*)	12	
Sheep and Goat (Caprinae)	792	
Pig (*Sus domesticus*)	1,002	21.62
Horse (*Equus caballus*)	39	0.84
Dog (*Canis familiaris*)	150	3.24
Domestic animals	**3,787**	**81.72**
Aurochs (*Bos primigenius*)	32	0.69
Red deer (*Cervus elaphus*)*	219	4.74
Roe deer (*Capreolus capreolus*)*	147	3.17
Wild boar (*Sus scrofa*)	278	6.00
Wolf (*Canis lupus*)	1	0.02
Red fox (*Vulpes vulpes*)	6	0.13
Wild cat (*Felis silvestris*)	5	0.11
Badger (*Meles meles*)	13	0.28
Brown bear (*Ursus arctos*)	2	0.04
Hare (*Lepus europaeus*)	90	1.94
Beaver (*Castor fiber*)	2	0.04
European hamster (*Cricetus cricetus*)	2	0.04
Lesser mole rat (*Nannospalax leucodon*)	2	0.04
Unidentifiable rodent (Rodentia sp. indet.)	17	0.35
Goose (*Anser* sp. indet.)	2	0.04
Rook/Hooded crow (*Corvus frugilegus*/*C. corone*)	1	0.02
Unidentifiable bird (Aves sp. indet.)	4	0.09
European pond turtle (*Emys orbicularis*)	7	0.15
Unidentifiable frog (Anura sp. indet.)	16	0.35
Unidentifiable fish (Pisces sp. indet.)	1	0.02
Wild animals	**847**	**18.28**
Number of identifiable specimens (NISP)	**4,634**	**100.00**
Small ungulate	475	
Large ungulate	757	
Pig /Wild boar	6	
Dog-size mammal	124	
Small mammal	10	
Unidentifiable bone	10	
Total animal bone	6,016	

* Bone and antler together

Domestic animals

Cattle

The rather well-preserved skull with a narrow and wavy intercornual ridge found in Feature 104 (*Fig. 28*) as well as slender, slightly curved horn cores (*Fig. 29*) would point to the brachyceros cranial type. Nevertheless, the horn cores appear to have been relatively long (up to 240 mm; see *Appendix 4*), similarly to the horn cores identified from the Baden phase of Balatonőszöd-Temetői-dűlő (Vörös 2014: 302–303, Figure 220). The horns of EBA cattle had oval cross sections at Kaposújlak-Várdomb (*Fig. 4*). The size of this species could be estimated on the basis of four metapodia from cows. They indicated a withers height that varied from 122.6 cm to 130.8 cm, resulting in a mean of 126.8 cm (*Table 3*).

Fig. 28. Cattle skull fragment (frontal view)

Fig. 29. Cattle horn cores (frontal view)

Table 18. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig	Horse	Aurochs	Red deer	Roe deer	Wild boar	Hare
cornus*	28	5			4	1	5		
neurocranium	70	10	34	1		1	3	6	
viscerocranium	43	16	65	7	1		6	27	
mandibula	109	64	92	1		4	10	27	2
linguale	1								
dentes	67	44	57	3		2		19	
atlas	14	5	6				1	4	1
axis	8	3	4				1		
Head	**340**	**147**	**258**	**12**	**5**	**8**	**26**	**83**	**3**
vert. cervicalis	35	9	12		1		4	5	
vert. thoracalis	22	23	38			1	1	8	5
vert. lumbaris	25	8	21		2		5	14	3
os sacrum	6	2	3						1
sternum	2								
costa	218	221	127	7	4	1	16	9	12
Trunk	**308**	**263**	**201**	**7**	**7**	**2**	**26**	**36**	**21**
scapula	46	41	70			3	8	9	2
humerus	60	44	70	6	3	2	2	18	3
radius	76	90	36		2	6	15	10	6
ulna	32	26	28			3	5	10	4
pelvis	45	26	36	1	3	4	2	6	6
femur	73	54	55		6	2	2	9	9
patella	7	1	5				1	1	
tibia	113	127	80	1	1	8	9	8	8
fibula			31					5	
Meaty limb	**452**	**409**	**411**	**8**	**15**	**28**	**44**	**76**	**38**
carpalia	47	1	4					4	
metacarpalia	81	58	26	4		6	9	29	10
calcaneus	25	8	20		2	2	3	7	3
astragalus	28	6	13		1	1		2	2
tarsalia	17	4	1	2					
metatarsalia	94	90	25	5		7	19	24	13
Dry limb	**292**	**167**	**89**	**11**	**3**	**16**	**31**	**66**	**28**
vert. caudalis	3		3						
ph. proximalis	75	8	17	1	1	12	2	11	
ph. media	42	1	13			4		4	
ph. distalis	26	3	9		1	2		3	
Terminal bones	**146**	**12**	**42**	**1**	**2**	**18**	**2**	**13**	**0**
Long bone	42	15	1					4	
Flat bone	2								
Grand total	984	574	606	39	32	72	129	208	90

* shed antler not counted

According to the epiphyseal fusion curve, only a small number of animals (ca. 15%) was slaughtered by the 'Intermediate I' stage (*Fig. 5*). The upturning curve is indicative of a number of individuals that survived beyond the late and final fusion stage. This would mean that several groups of cattle were killed at this settlement. Most of the recovered mandibles also originate from adult individuals over 2.5–3 years of age (*Table 5*). This age structure indicates an emphasis on the secondary exploitation of this species such as milking and draught power in tillage and transport. The anatomical distribution of bones shows that most of the remains represent meaty segments of the limb, but skeletal parts from the head and trunk were also numerous (*Table 18*).

Minor pathological symptoms were identified on three remains. They included an obliquely worn upper molar, an astragalus with a spongy outgrowth and a thoracic vertebra with deformed cranial articular surface (*Table 19*). A more detailed description and pictures of these specimens are to be found in a separate publication (GÁL 2015a).

Table 19. List of pathological specimens by groups of diseases and species

Pathological condition		Cattle	Sheep/Goat	Pig	Dog	Roe deer	Wild boar
Dental anomalies and pathologies	Irregular tooth wear	1	1				
	Tooth loss				1		
	Parodontal disease		1		1		
Arthropaties	Exostosis	1					1
Inflammatory diseases	General infection					1	
Traumatic lesions	Fracture, injury		1	1	1	1	2
Inherited disorders	Oligodonty				2		
	Dental deformation			1			
	Axial anomaly						
Other		1					

Sheep and goat

Of the 1,014 caprine bones, 210 belonged to sheep, while goat could be identified only in 12 cases (six mandibles, three teeth, a metacarpus, a tarsal bone and a metatarsus). The rest of the skeletal parts could not be assigned to species level. 'Copper sheep' was identified based on a 170 mm long horn core found in Feature 1258 (*Fig. 30*). Based on three complete long bones, the withers height of a female sheep was 59.0 cm, while those of rams fell between 65.7 and 73.6 cm (mean=69.7 cm) (*Table 3*). No goat horn cores were found in this assemblage.

The epiphyseal fusion curve showed a different pattern to that seen in the LCA assemblage. In the EBA, only 41% of caprines were slaughtered by stage 'Intermediate I' (the age of about one year), and a rather great number of sheep seem to have been kept for over 4–5 years, presumably for their milk and/or wool (*Fig. 2*). Mandibular tooth eruption and wear support the dominance (66.7%) of adult individuals among those killed (*Table 2*). Since sheep and goat are relatively more prolific than cattle (although they provide considerably less meat and milk), it is likely that slaughtering young animals from these species, in addition to pig, was more affordable in terms or sustainable herd use. The anatomical distribution of bones was similar to that of cattle. The number of bones from the dry limb, however, slightly exceeded that from the head, although this pattern may be related to the greater loss of small teeth in caprines (*Table 18*).

Pathological conditions were identified in three cases: parodontal disease on a sheep mandible as well as irregular tooth wear and a healed rib fracture in a sheep or goat (GÁL 2015a: 216–217).

Fig. 30. 'Copper sheep' horn core (lateral view)

Pig

Swine yielded almost as many bones (21.6% of the assemblage) as sheep and goat (21.9%). In spite of the large size of the pig assemblage, skulls that would have showed evidence of facial shortening, a sign of advanced domestication (BÖKÖNYI 1974: 212) were not preserved. Complete long bones did not survive either. Four unbroken astragali indicated withers heights of 73.4–77.7 cm (mean=75.1 cm).

Among the EBA domestic animals at Kaposújlak, pig seems to have been the only species exploited exclusively for meat. Almost half of the pig remains originate from animals slaughtered at the 'Early' fusion stage that is the age of about one year, and further 15% of the animals did not survive beyond the stage 'Intermediate I', which represents pigs of about 2 years old. Twenty-one of the 35 mandibles (60%) also originate from individuals up to 2.5 years old (*Table 7*). Similarly to the previously discussed two species, the upturning fusion curve is indicative of several groups of pig bones contributing to the overall picture (*Fig. 8*). The rather great proportion (55–60%) of adult and mature pig would suggest that a considerable number of individuals was kept as breeding stock.

Skeletal parts representing the meaty, proximal segments of limbs were found in the greatest numbers. The head and the trunk were also well-represented, as was the case with cattle (*Table 18*). Traces of disease or anomaly could be identified on two remains only: crowded teeth in a mandible, and a slightly deformed calcaneus (*Table 19*).

Horse

Horse yielded only 39 remains that form less than 1% of the assemblage. A single complete long bone was recovered. Based on VITT's (1952) method, the withers height calculated from this metatarsus is 132.5 cm, which corresponds to a small-medium size horse. BRAUNER's (1916) metacarpal slenderness index for this specimen is 10.7, that points to a very slender legged horse.

Most of the remains represent articulated skeletal parts and therefore, the age of these animals could be identified. Bones from the heads of two horses younger than one year were found in Feature 1038. Remains of a 15–18-month-old individual came to light from Feature 488. Features 188, 212, 462, 1004, 1005, 1144 and 1154 contained bones of mature horses. In addition, the tarsal bones of an individual whose age could not be identified were found in Feature 431.

The number of bones from the head and the dry limb slightly exceeds that of the remains from the trunk and the meaty limb, but the assemblage is too small to make these differences significant (*Table 18*). The skulls deposited in Feature 1038 may be the result of a ritual act, while the numerous remains from fully developed individuals may have originated from old animals which were slaughtered at the end of their working lives or died a natural death. No pathological lesions were identified on horse remains.

Dog

Dog contributed 150 bones that represent 3.2% of the assemblage. These included the complete skeletons from a 2–3-month-old puppy (Feature 1038) and a mature dog (Feature 1258) as well as bones from partial skeletons. Feature 462 contained the remains of a small and two medium size dogs; Feature 467 yielded a 6-month-old juvenile dog; remains of mature dogs were brought to light from Features 469, 1355 and 1358, while Feature 1141 contained the bones of two mature specimens.

The stature of dogs could be estimated based on 11 bones. Ten of these originate from the individual found in Feature 1258. The calculations using KOUDELKA's (1885) method indicated that its withers height was 43.3 cm. The length of the tibia of another individual found in Feature 495 resulted in an estimated height of 48.8 at the shoulder (*Table 3*). Regarding the stature of prehistoric dogs, these sizes correspond to a small-medium and a medium size dog, respectively (VÖRÖS 2014: 309). They notably exceed the statures of 'turbary dogs' (34.8–39.0 cm; mean=36.9 cm, n=2) found at the Copper Age/Early Bronze Age Ig pile dwellings (central Slovenia), and even the mean withers height of a male 'puli' (42.0 cm), a Hungarian sheepdog among the modern breeds. The skull of the specimen from Feature 1258, however, seems to have been more gracile than the dog skulls from Ig and especially than that of the 'puli' breed (*Fig. 31*, *Appendix 2*). The mean length of three lower carnassials (20.2 mm) corresponds to the mean length (20.3 mm) of 37 carnassials originating from Copper Age/Early Bronze Age dogs found at Ig in Slovenia (BARTOSIEWICZ 2002).

Dog yielded most of the pathological lesions in the EBA assemblage from Kaposújlak-Várdomb. Intra vitam tooth loss with alveolar resorption was identified in a loose mandible, as well as in the maxilla and left mandible of the skeleton found in Feature 1258 (GÁL 2015a: 216, Fig. 2). In addition, the mandible excavated from Feature 1038 showed traces of inflammation on the lingual surface. The rib found in Feature 467 displayed signs of a healed fracture.

Wild species

Compared to the LCA, the wild animal species identified in the EBA assemblage are even more diverse and abundant, making up no less than 18.31% of the bone material. This ratio is four times more than

Fig. 31. Dog skull (frontal view)

in the case of the LCA assemblage and may be indicative of some role played by subsistence hunting at the settlement.

Wild boar

Wild boar was especially well-represented in the assemblage by 278 remains (6.0%). As already mentioned in the introduction to this chapter, nine skulls from adult male wild boars, among others, were placed into the structured deposit of Feature 1038 (*Fig. 32*). In addition to the skulls and mandibles, only an astragalus from this species was found in this feature, which points to the putative ritual role this species may have played beyond its exploitation for meat and raw materials such as fur, bone and tusk.

As opposed to the remains from young domestic pigs that have been constantly available to people, the large bones from wild boar mostly represent well-developed adult and mature individuals. Considering the anatomical distribution of skeletal parts, the dominance of bones from the head is notable. This would confirm the aforementioned assumption concerning the symbolic role of wild boar beyond meat provisioning. In addition to the meat-rich parts of the body, the dry limbs of this species are also well-represented, indicating that the entire body of the prey had been carried to the settlement prior to butchering (*Table 18*).

Traumatic lesions were identified on three remains. They included a healed fibula fracture and a similar mechanical trauma on a metacarpus found in Feature 1008. In addition, exostoses were observed on both the cranial and caudal articular surfaces (caput and fossa vertebrae) of a thoracic vertebra found in Feature 431 (GÁL 2015a: 217, Fig. 4).

Red deer and roe deer

The second and third most frequently encountered wild species were cervids, red and roe deer, yielding 4.7% and 3.2% of the assemblage, respectively. Out of 219 red deer remains, however, only 72 (33%) could be assigned to hunted individuals. This species was represented by a rather great number of antler pieces in the form of artifacts, workshop debitage and possibly deposited raw material. Manufacturing marks indicate that five metapodia had also served as raw material for bone implements. In contrast to

Fig. 32. Wild boar skull (lateral view)

red deer, 129 of the 147 roe deer remains (87.8%) originated from hunted individuals. This remarkable difference suggests that roe deer was mostly killed for its meat and skin, while red deer provided raw material for antler manufacturing mostly in the form of shed antler. The diverse exploitation of cervids at Kaposújlak-Várdomb during the EBA has recently been discussed in detail in a separate publication (GÁL 2014b).

According to the epiphyseal fusion of bones, the remains of both hunted red deer and roe deer belonged to mature animals. Measurements taken on ten red deer antler burrs indicated a rather homogeneous distribution of external diameters (45.2 and 43.7 mm to 57.7 and 55.3 mm) except for three individuals (69.5 and 61.8 mm to 83.5 and 78.4 mm), which showed greater dimensions (*Appendix 4*). The small assemblage of red deer remains from killed animals did not contain skeletal parts with any traces of disease.

Incomplete skeletons of roe deer were found in Features 144, 188 (two specimens) and 365 (two specimens). Two remains showed pathological symptoms. The fistula found on the diaphysis of a humerus from Feature 144 pointed to a general infection. Mechanical trauma causing the deformation of the antler beam was identified on the specimen found in Feature 794. It must have been the 'young', growing antler that was damaged during its development within the velvet that aided subsequent recovery.

Wild carnivores

Five species were identified from the order of Carnivora. The rarest finds are the two long bones (a humerus and a tibia) from brown bear, found in Feature 188. According to the epiphyseal fusion of bones in this species, the distal epiphysis of the humerus ossifies the earliest, at the age of 3–4 years (WEINSTOCK 2009: 418, Fig. 2). Nevertheless, the lack of fused epiphyses as well as the length of both the humerus (77.0 mm) and tibia (79.0 mm) indicate that they belonged to a very young, possibly few months old bear cub (*Fig. 33*).

Red fox yielded six disarticulated remains from Features 462, 1005, 1121 and 1154. Five articulated remains from wild cat were found in Features 11 and 252. Wolf was identified based on a single scapula found in Feature 188. All the remains from these latter species originated from adult animals.

A total of 13 badger remains were found in four features. Most of them probably represent intrusive animals. The character of bones from the incomplete skeleton found in Feature 213 especially suggested that they post-dated the archaeological deposit. Four remains found in Feature 126 represented another individual, while a single badger bone was found in Feature 252. The canine and premolars in the badger mandible from Feature 467 showed traces of intense burning. The heat affected the crown of the teeth to the extent that their enamel cracked off. This shows that the bone is contemporaneous with the archaeological material.

Other wild species

Aurochs was underrepresented in the assemblage by only 32 (0.7%) remains. They originated from subadult and adult individuals alike. Hare was the most frequent species among the small game by 90 remains (1.9% of the assemblage). The majority of hare bones represent partial skeletons of relatively young individuals. Feature 11 contained such a specimen, while Feature 1281 yielded the remains of two young hares.

In addition to the aforementioned species that live in forest and steppe environments, respectively, a mammal adapted to aquatic habitats was also present at Kaposújlak-Várdomb: beaver yielded an atlas from Feature 371, and an ulna from Feature 262.

Of the 20 remains from small rodents, bones of European hamster and lesser mole rat were identified. Since these species hibernate in underground nests during the winter, their remains may have originated

Fig. 33. Humerus and tibia from a brown bear cub (anterior views)

from intrusive specimens. This, however, could be confirmed only by in situ observations. Aside from mammalian remains, bones of birds, reptiles and amphibians were also identified in the assemblage (*Table 17*).

The avian remains represented a goose and a crow. Identification to species level was not possible in either case due to the fragmentation of skeletal parts and the great similarity both in morphology and size of closely related species (greylag goose vs. its domestic form, as well as rook vs. hooded crow).

European pond turtle was identified by carapace fragments only. Frog yielded an incomplete skeleton from Feature 737. In addition, loose bones were found in another two features. These species indicate an aquatic environment in the surroundings but since both hibernate in the soil, their remains may represent intrusive individuals.

Taphonomic observations

Animal remains found in the EBA features of the site mostly represented butchery refuse and food remains, but the ritual function of skulls found in Features 104 and 1038 and of the incomplete cattle skeleton in Feature 449 is likely.

The distribution of bones in meat-purpose species illustrates the main exploitation of animals for food. The presence of most skeletal parts, including those of the head and the dry limb region suggest that the slaughtering of domestic animals took place within the settlement. Similarly, the entire body of hunted animals seems to have been transported to the site. Skulls of wild boars were placed into Feature 1038 en masse, and the separated tusk served as raw material in tool manufacturing.

Similarly to the LCA assemblage, fragments of 51–100 mm length were the most numerous, regardless of the species. The next most frequent size category was 101–200 mm in cattle and pig, and 1–50 mm in sheep and goat. Only cattle yielded a few remains whose fragment lengths exceeded 201 mm (*Fig. 34*).

Traces of butchering and skinning could be recognized on a few skeletal parts only. Chop marks were almost exclusively characteristic of robust cattle bones, only a few sheep/goat and wild boar remains displayed similar marks. Cut marks were also identified on cattle bones mostly. They could be associated with skinning and horn exploitation. No trace of human impact was observed on horse bones. Burning and gnawing marks were observed on a rather great number of remains. The number of skeletal elements gnawed by dogs (and probably pigs, too) was slightly larger in the case of cattle, pig and wild boar, while burning was more characteristic of sheep, goat and roe deer remains (*Fig. 35*).

Beyond the bone tools commonly found at prehistoric sites, a considerable number of antler fragments was found in many features. They represented implements, workshop debitage and un-worked raw material alike. On the one hand, this suggests that antler was continuously gathered and deposited at the site. On the other, it indicates that a workshop or at least designated manufacturing areas may have existed at the settlement.

Bone, antler and tusk artifacts

A total of 137 tools made from bone, antler and wild boar tusk was found in the EBA assemblage of Kaposújlak-Várdomb (*Tables 20–21*). In addition, 14 blanks made from the metapodial bones of cattle, red deer and roe deer as well as red deer antler were also recognized. Thirty-three red deer and three roe deer antler fragments showed traces of chopping and cutting; these were identified as workshop debitage. In summary, the tools (2.19%) and the waste (0.78%) made up a rather remarkable proportion of the total bone assemblage.

Points of various types and sizes dominated. There were 70 complete or fragmented point specimens in the assemblage (*Fig. 36*). Small ruminant metapodial points with articular ends or flat bases (Schibler Types 1/1 and 1/2) were most commonly found, represented by 25 (2+23) pieces. The next most frequent type of points was the large, massive point without articular end (Schibler Type 1/9) and the

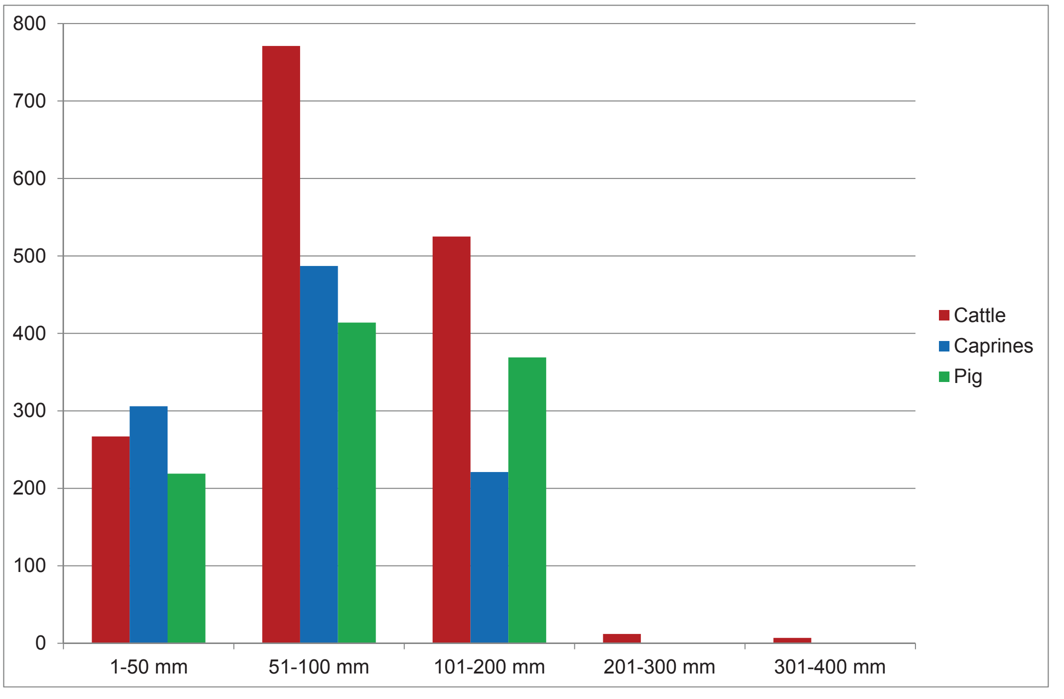

Fig. 34. Fragment lengths of bones from cattle, sheep and goat, and pig

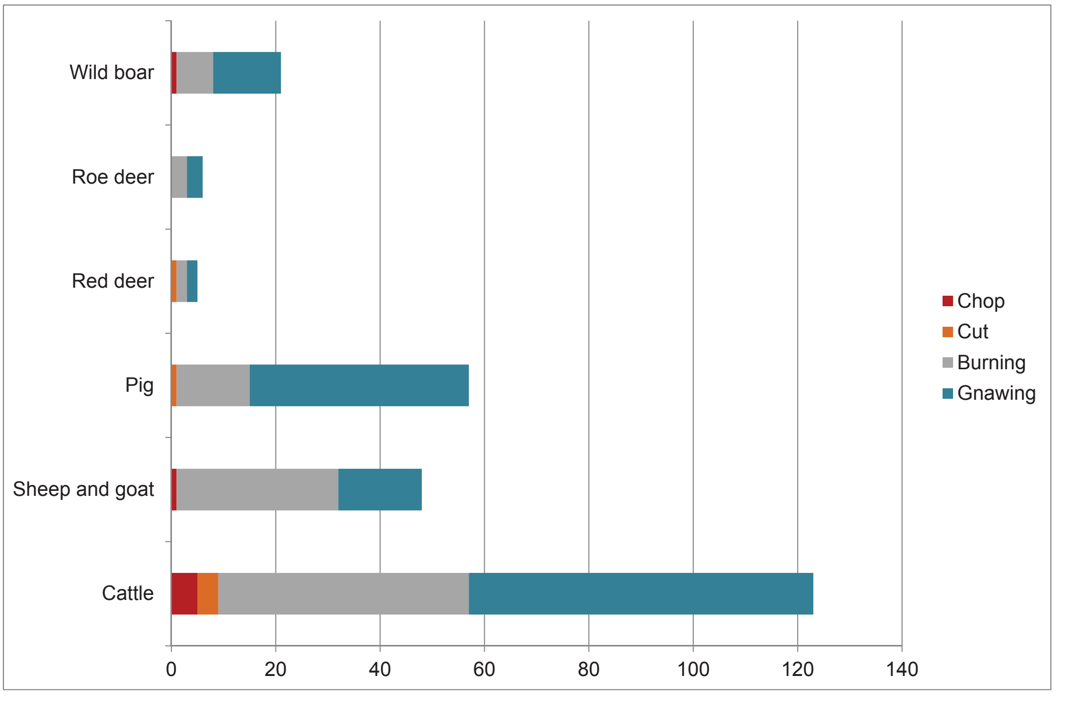

Fig. 35.Taphonomic observations on the remains of meat-purpose species

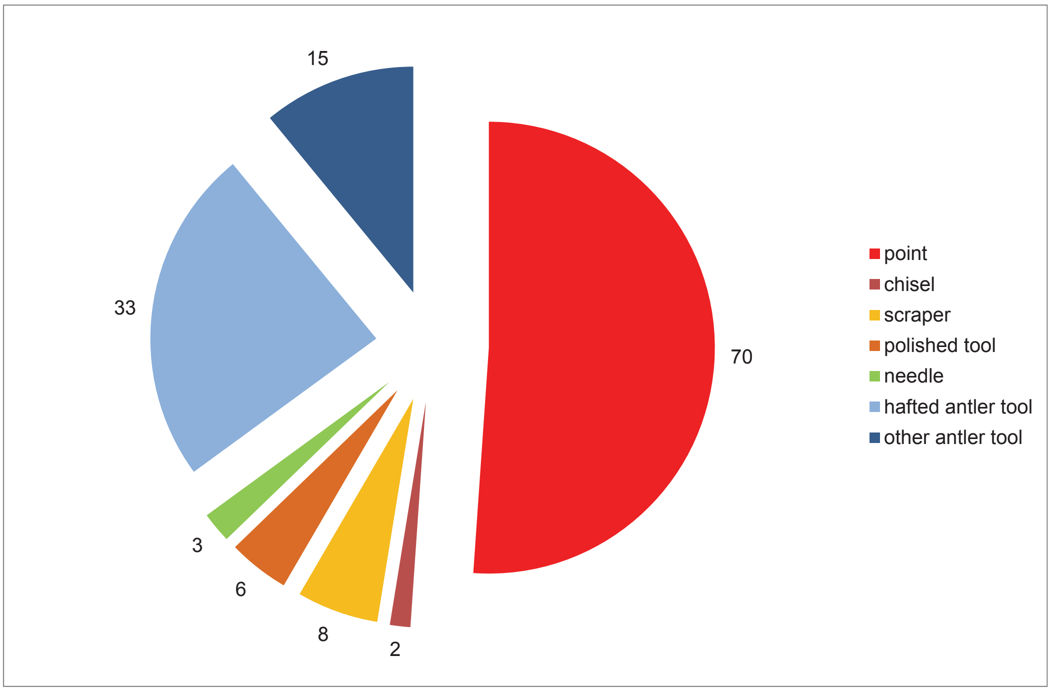

Fig. 36. The distribution of main tool types

point without articular end with a flat base (Schibler Types 1/10), represented by nine specimens each. Projectile points (Schibler Type 3/2) were identified in eight cases. The full diversity of these points was illustrated in a separate publication (GÁL 2011: 141, Fig. 8).

In contrast to the great variety and number of points, only two bevel-ended tools were found at Kaposújlak. In addition, eight scrapers, made from various flat and long bones of large ruminants as well as pig tusk, were also discovered. In comparison to the LCA tool assemblage, two new types could be identified. Three fine-eyed needles were carved from the ribs of large ruminants (two specimens) and the metapodium of a small ruminant. The most special finds, however, are the so-called thong smoothers made from cattle mandibles.

This type of tool was first identified at the Copper Age site of Botai in Kazakhstan, occupied in 3600–3100 BC. Here, horse remains dominated by 99%. Consequently, the bones of this species served as raw material for most of the artifacts, 30% of which were classified as thong smoothers. This type of implement was always prepared from mandibles following several steps of manufacturing, including the separation of the pair of mandibles, knocking out the cheek teeth, and knapping and smoothing the surface in the angle of the vertical and horizontal rami of mandible. The result was a boomerang-shaped tool with one or more notches that were abraded to smoothen their working edges. According to ethnographic parallels, thongs cut off from the hide would have been pulled back and forth across the edge of the tool, helping to straighten, stretch, de-hair or soften the strap (OLSEN 2001).

Based on morphological characteristics as well as marks of manufacturing and use, six cattle mandible tools found at Kaposújlak-Várdomb have been interpreted as thong smoothers. Their radiocarbon dated ages ranged from 2460–2340 to 2480–2340 cal BC. Working marks appeared in the notch grooved in the angle of the mandible on two specimens (illustrated on the top of *Fig. 37*). On four smaller fragments, only the rounded edges could be identified as use wear (bottom of *Fig. 37*).

Aside from the bone implements, a total of 48 antler tools were found (*Table 21*). The majority (44) were made from red deer antler. Among these, 33 represented complete and fragmented hafted antler

Fig. 37. Cattle mandible thong smoother fragments (lateral views)

tools. They may be grouped in two main categories on the basis of the cross-section of the manufactured antler. There were 24 implements made from the antler base, i.e. the burr (or antler rose) and beam in comparison with objects from other parts of the antler rack. When producing these hafted artifacts, the eye- and bez-tines were cut off of the beam and their bases were polished. The beam was perforated by a round or slightly oval hole whose diameters varied between 18–26 mm. The hafting hole was made at the level of the eye-tine, and drilled in a medio-lateral direction in most cases, creating a tool used like an adze. Only one of these objects was drilled cranio-caudally, exactly through the axis of the eye-tine.

The second group of hafted antler tools is represented by implements made from cut-off sections of beam and tine. Nine complete and fragmented artifacts could be assigned to this category. A detailed description and illustration of these tools are to be found in a specialist report (GÁL 2011: 142–145, Figs. 10–11). In addition to the most frequent hafted antler tools, a few scrapers and chisel-like tools were also manufactured from red deer antler.

Roe deer antler served as raw material for a special type of implement of which four fragmented specimens were found. The two better preserved pieces indicated that the end of the first tine was transformed into a point, while the end of the second tine was modified to form a bevel-ended tool (*Fig. 38*). It is expected that the end of the third tine was also manufactured or used, but complete implements supporting

Fig. 38. Roe deer antler multi-purpose tool

this hypothesis are so far missing. The antler rose – when preserved – did not show any modification, but the beam that represented the handle of the tool was covered by handling polish.

Red deer yielded the raw material of 46 implements, including the 33 aforementioned hafted tools and 11 other types of worked antler. Consequently, only two bone tools could be identified as made from the remains of this species. The total of 31 implements made from the skeletal elements of large ruminants may also have included tools carved from red deer bones, whose diagnostic morphological features had been removed. It is likely, however, that mostly cattle bones were used when implements were made from the remains of large ruminants, since this species was far more easily available in the refuse bone assemblage, while aurochs yielded a mere 0.7% of the remains. Forty-one objects were made from sheep and goat bones while two objects were made from the metapodia of roe deer in the same size-range. Points manufactured from small ruminant metapodia and tibiae made up the biggest part of this latter group. In addition, a medium-size point without articular end (Type 1/8) and a point without articular end and flat base (Type 1/10) were made from pig bone, while two scrapers were carved from a wild boar tibia and a tusk (*Fig. 39*). Interestingly enough, suids were barely exploited for their skeletal parts in spite of their relatively outstanding representation in the refuse bone assemblage. Several bone tools were made of the straight and relatively long, fused 3rd–4th metapodia of ruminants. The corresponding bones of the hand and feet are far shorter in pigs, making them a far less attractive raw material in tool making.

From the viewpoint of the manufacturing continuum (Choyke 1997), all the hafted antler tools belong to the Class I category, because of the selection of raw material and the labor invested in their manufacture. In addition, 55 bone artifacts (out of a total of 89) also fall into this category. The remaining 34 bone and 15 antler artifacts represent Class II or ad hoc tools. A number of utilitarian bone tools at both ends of the manufacturing continuum seems to have been curated. By this criterion, 64.2% of the EBA tool assemblage belonged to the Class I category, and only one third could be considered Class II or ad hoc tools.

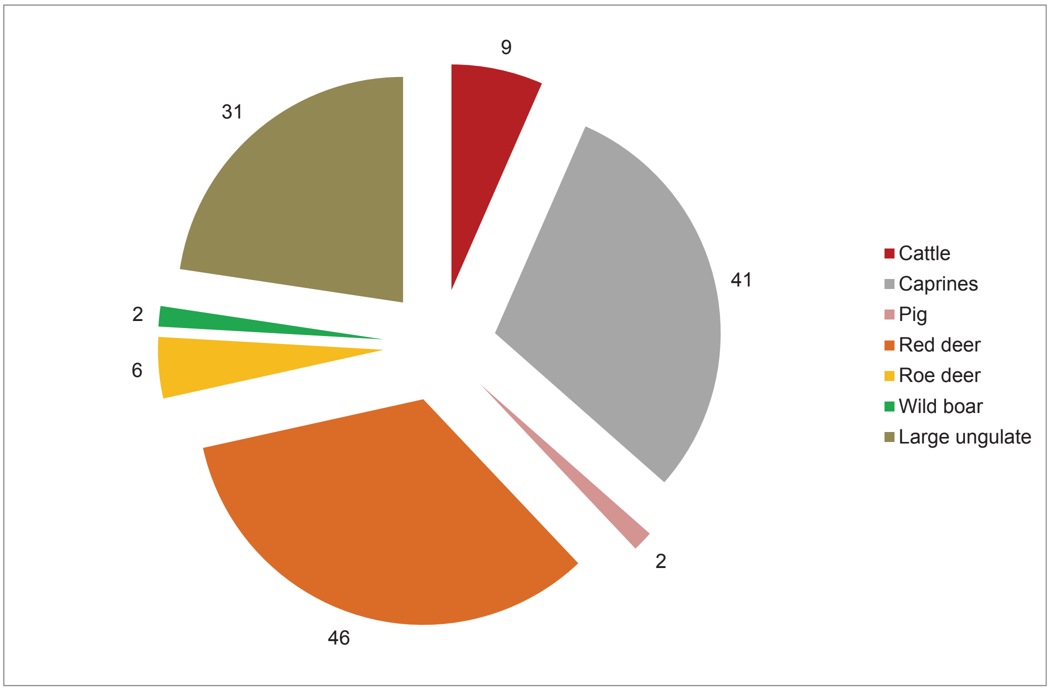

Fig. 39. The taxonomic distribution of osseous tools

Summary

The EBA refuse bone assemblage found at Kaposújlak-Várdomb was dominated by cattle remains, followed by those of caprines and pig. Horse was identified in a few cases, which may be due to the rarity of this new domestic species at the beginning of the Bronze Age, but also to the fact that if horses were used as mounts, they most possibly died off-site, far from the settlement. The Kaposújlak assemblage is outstanding in terms of the relatively high proportion and concomitant great diversity of wild species which mostly include fur animals. The great number and assortment of bone and antler implements are likewise noteworthy.

Table 20. The distribution of worked material by skeletal parts and species

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Small ruminant point (Type 1/1)	Metapodium	1	1	2/1	63.6	11.2	6.6	-	1.9	910	Pit	910.1	Curated
Small ruminant point (Type 1/1)	Metapodium	1	1	12/4	80.0	9.1	5.5	-	2.1	262	Pit	262.355	
Small ruminant point with flat base (Type 1/2)	Metapodium	1	4	-	34.2	8.0	3.9	-	-	41	Pit		Fragment. Handling polish
Small ruminant point with flat base (Type 1/2)	Metatarsus	1	12	-	52.0	9.9	4.1	-	-	239	Pit		Recently broken tip
Small ruminant point with flat base (Type 1/2)	Metatarsus	1	4	-	54.2	9.3	5.3	-	-	389	Pit		Fragment. Handling polish
Small ruminant point with flat base (Type 1/2)	Metapodium	1	0	7/1	55.1	5.0	4.0	-	2.2	751	Storage pit	751.2	Fragment
Small ruminant point with flat base (Type 1/2)	Metapodium	1	12	-	55.4	8.2	4.9	-	-	1009	Pit	1009.41	Fragment
Small ruminant point with flat base (Type 1/2)	Metapodium	1	12	-	61.5	9.0	5.3	-	-	205	Pit		Fragment
Small ruminant point with flat base (Type 1/2)	Metapodium	1	12	-	62.3	9.8	8.2	-	-	239	Pit		Recently broken tip
Small ruminant point with flat base (Type 1/2)	Metapodium	1	2	-	64.3	10.1	6	-	2.5	113	Pit	113.6	
Small ruminant point with flat base (Type 1/2)	Metapodium	1	2	-	70.4	9.7	3.7	-	-	1144	Storage pit		Fragment
Small ruminant point with flat base (Type 1/2)	Metapodium	1	2	21/1	75.0	12.3	6.3	-	2.2	994	Pit	994.1	Curated
Small ruminant point with flat base (Type 1/2)	Metapodium	1	0	2/1	75.4	5.4	5.0	-	1.6	1009	Pit	1009.1	Fragment
Small ruminant point with flat base (Type 1/2)	Metatarsus	1	2	-	76.7	7.1	4.2	-	-	239	Pit		Recently broken tip
Small ruminant point with flat base (Type 1/2)	Metapodium	1	0	2/1	78.0	7.5	4.1	-	-	732	Storage pit	732.101	Fragment
Small ruminant point with flat base (Type 1/2)	Metapodium	1	2	2/8	79.6	11.3	7.1	-	-	968	Pit	968.39	

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Small ruminant point with flat base (Type 1/2)	Metapodium	1	12	2/1	81.3	5.6	3.7	-	2.1	785	Pit	785.1	
Small ruminant point with flat base (Type 1/2)	Metapodium	1	0	12/1	89.3	9.2	5.9	-	2.0	218	Pit		Handling polish
Small ruminant point with flat base (Type 1/2)	Metatarsus	1	12	2/1	92.2	7.0	6.4	-	1.8	399	Pit	399.38	
Small ruminant point with flat base (Type 1/2)	Metapodium	1	11	29/10	92.9	7.5	6.8	-	5.1	191	Pit		Fragment
Small ruminant point with flat base (Type 1/2)	Metapodium	1	12	-	96.1	5.9	4.2	-	-	1263	Storage pit	1263.1	Fragment. Handling polish
Small ruminant point with flat base (Type 1/2)	Metapodium	1	1	2/1	97.8	10.8	4.7	-	1.7	1154	Storage pit	1154.1	Curated
Small ruminant point with flat base (Type 1/2)	Metacarpus	1	12	-	101.2	10.0	6.3	-	-	701	Pit		Broken tip
Small ruminant point with flat base (Type 1/2)	Metapodium	1	12	-	107.1	7.4	3.9	-	-	239	Pit		Recently broken tip
Small ruminant point with flat base (Type 1/2)	Metapodium	1	12	2/1	111.4	5.4	6.7	-	1.8	371	Pit	371.116	Fragment
Round diaphysis point (Type 1/3)	Tibia (small ruminant)	1	2	5/7	77.4	13.8	8.6	-	-	1258	Storage pit		Fragment. Handling polish
Round diaphysis point (Type 1/3)	Metacarpus (sheep)	1	1	2/8	87.8	24.5	16.5	-	4.3	298	Pit	298.50	Curated

Table 21. The distribution of antler tools

Tool Type	GL	GB	GD	No. and Feature Type		Inventory no.	Note
Hafted burr and beam antler tool	105.6	-	-	272	Pit	-	Hole diameter=23.0 x 26.6 mm, bored in a medio-lateral direction. Rounded and polished base. Polished tip
Hafted burr and beam antler tool	115.5	-	-	163	Pit	-	Hole diameter=22.3 mm, bored in a medio-lateral direction. Rounded and polished antler rose and bases of eye- and bez-tines. Polished tip
Hafted burr and beam antler tool	122.2	54.3	33.3	1115	Storage pit	1115.140	Hole diameter=16.2 x 17.9 mm, bored in medio-lateral direction. Slightly rounded and polished antler rose and base of eye-tine. Polised oblique tip
Hafted burr and beam antler tool	140.5	59.6	46.9	293	Pit	293.8	Hole diameter=22.9 x 24.1 mm, bored in a medio-lateral direction. Rounded base. Handling polish over all. Polished around the hole for inserted blade.
Hafted burr and beam antler tool	147.5	65.2	47.4	239	Pit	239.7	Hole diameter=23.0 mm, bored in a medio-lateral direction. Rounded and polished base. The base of eye-tine is also highly polished
Hafted burr and beam antler tool	185.1	78.3	-	1121	Pit	1121.2	Hole diameter=23.0 mm, bored in a medio-lateral direction. Well-preserved antler rose. barely polished or used
Hafted burr and beam antler tool-fragment	72.4	-	-	371	Storage pit	-	Broken and burnt
Hafted burr and beam antler tool-fragment	83.5	-	-	113	Pit	-	Most probably used without a haft as well. High hand polished
Hafted burr and beam antler tool-fragment	86.8	-	-	113	Pit	-	Hole diameter=25.1 mm, drilled through the eye-tine. Polished but fragmented tip
Hafted burr and beam antler tool-fragment	92.0	53.5	50.3	85	Pit	-	Broken at hole
Hafted burr and beam antler tool-fragment	105.2	-	-	917	Pit	-	Only the obliquely polished tip is preserved
Hafted burr and beam antler tool-fragment	107.5	-	-	853	Storage pit	853.197	Drilled in a medio-lateral direction. cut off eye- and bez-tines. Their bases are polished. The tip is broken and polished
Hafted burr and beam antler tool-fragment	109.1	62.8	48.4	1009	Pit	1009.2	Hole diameter=22.1 x 19.0 mm, bored in a medio-lateral direction. The antler rose is not polished unlike the base of the eye-tine and the oblique tip
Hafted burr and beam antler tool-fragment	120.4	29.2	10.7	106	Pit	-	Broken tip
Hafted burr and beam antler tool-fragment	122.0	56.0	39.0	1318	Pit	1318.1	Broken and very much used
Hafted burr and beam antler tool-fragment	126.1	100.7	25.0	152	Pit	-	

Tool Type	GL	GB	GD	No. and Feature Type		Inventory no.	Note
Hafted burr and beam antler tool-fragment	129.0	-	-	359	Pit	359.2	Hole diameter=23.8 mmn, bored in a medio-lateral direction. Fragmented tip
Hafted burr and beam antler tool-fragment	129.7	85.4	68.0	389	Pit	-	Broken at hole in a medio-lateral direction. Polished base of cut-off eye-tine
Hafted burr and beam antler tool-fragment	130.0	71.0	43.8	383	Pit	-	Hole diameter=23.1 mm. Rounded and polished antler rose
Hafted burr and beam antler tool-fragment	131.5	64.3	47.0	368	Pit	368.86	Hole diameter=21.0 mm, bored in a medio-lateral direction. Rounded and polished antler rose and eye-tine base. Hand-polish over all. Polish on the tip
Hafted burr and beam antler tool-fragment	138.6	62.5	53.1	1349	Pit	1349.1	Hole diameter=26.0 mm, bored in a medio-lateral direction. Rounded and polished antler rose and eye-tine base. Slightly polished on the tip
Hafted burr and beam antler tool-fragment	139.0	-	-	359	Pit	359.1	Hole diameter=20.4 mm, bored in a cranio-caudal direction through the bez tine. Poorly preserved. Fragmented tip
Hafted burr and beam antler tool-fragment	168.9	61.6	54.4	259	Pit	-	Hole diameter=28.0 mm, bored in a medio-lateral direction, but broken. Rounded and polished antler rose
Hafted burr and beam antler tool-fragment	235.0	92.0	70.8	191	Pit	-	Very heavily used
Hafted beam tool	57.0	39.6	35.1	462	Clay pit	-	Hole diameter= cca. 20 mm; blackish discoloration (burnt?)
Hafted beam tool	61.9	-	-	218	Pit	-	Hole diameter=23 mm
Hafted beam tool	102.3	62.4	33.5	256	Pit	-	Broken at hole whose diameter is 20 mm. Rounded tip with modified spongious tissue. Most probably used with a stone blade
Hafted tine tool	83.7	25.5	21.3	268	Pit	-	Hole diameter=12.2 mm. Polished and sharped edge
Hafted beam tool-fragment	-	-	-	256	Pit	-	Broken at hole whose diameter is 15 mm
Hafted beam or tine antler tool-fragment	97.9	30.0	28.2	1008	Storage pit	1008.1	Broken at the hole. Well preserved, obliquely polished edge 62.8 mm

2.2 Paks-Gyapa (Makó/Somogyvár-Vinkovci) culture

Introduction

The EBA was much better represented at this settlement than the preceding archaeological phase. A total of 150–160 pits formed small groups across the site. They were assigned to the Makó and Somogyvár-Vinkovci cultures, respectively (Váczi 2009). The recent archaeological evaluation of the settlement established the number of EBA pits at 108 (Péró 2016: 41). Animal bones were found in 88 features. The preservation of skeletal parts was better than at other sites. The finds from Paks-Gyapa could be entirely cleaned from the sediment and were not damaged by exogenous limestone concretions, therefore their weight could also be included in the quantitative analyses.

Results

Of the total of 7,300 animal bone remains, 7,238 could be identified. Over 90% of the NISP belonged to domestic species. Cattle bones made up over half (61.3%) of the assemblage. They were followed by the remains of caprines (18.1%) and pig (9.6%). Dog and horse were represented by only 1.0% and 0.5%, respectively (*Table 22*).

Table 22. The distribution of species by NISP and % in the assemblage

Species	NISP	%	Weight (g)	Weight (%)
Cattle (*Bos taurus*)	4,435	61.27	211,872	73.42
Sheep (*Ovis aries*)	1,010	13.95	11,046	3.83
Goat (*Capra hircus*)	2	0.03	15	0.01
Sheep and goat (Caprinae)	298	4.12	2,049	0.71
Pig (*Sus domesticus*)	695	9.60	14,970	5.19
Horse (*Equus caballus*)	36	0.50	2,889	1.00
Dog (*Canis familiaris*)	72	1.00	555	0.19
Domestic animals	**6,548**	**90.47**	**243,396**	**84.35**
Aurochs (*Bos primigenius*)	348	4.81	37,751	13.08
Red deer (*Cervus elaphus*)*	213	2.94	6,032	2.09
Roe deer (*Capreolus capreolus*)*	94	1.30	1,006	0.35
Wild boar (*Sus scrofa*)	17	0.24	340	0.12
Wild cat (*Felis silvestris*)	1	0.01	4	<0.00
Hare (*Lepus europaeus*)	11	0.15	30	0.01
European hedgehog (*Erinaceus europaeus*)	1	0.01	1	<0.00
European hamster (*Cricetus cricetus*)	4	0.06	3	<0.00
Rook/Hooded crow (*Corvus frugilegus*/*C. corone*)	1	0.01	1	<0.00
Wild animals	**690**	**9.53**	**45,168**	**15.65**
Number of identified specimens (NISP)	**7,238**	**100.00**	**288,564**	**100.00**
Small ruminant	5			
Large ruminant	51			
Unidentifiable animal	6			
Total animal bone	7,300			

* Bone and antler together

Domestic species

Cattle

A number of cattle horn cores have been partially or almost entirely preserved in the assemblage. They resemble the horn cores found at Kaposújlak-Várdomb both in length and shape (*Fig. 40*). Cut marks on the base of the horn core found in Feature 1075 offer evidence for the utilization of the horn sheath.

Fig. 40. Cattle horn core (frontal view)

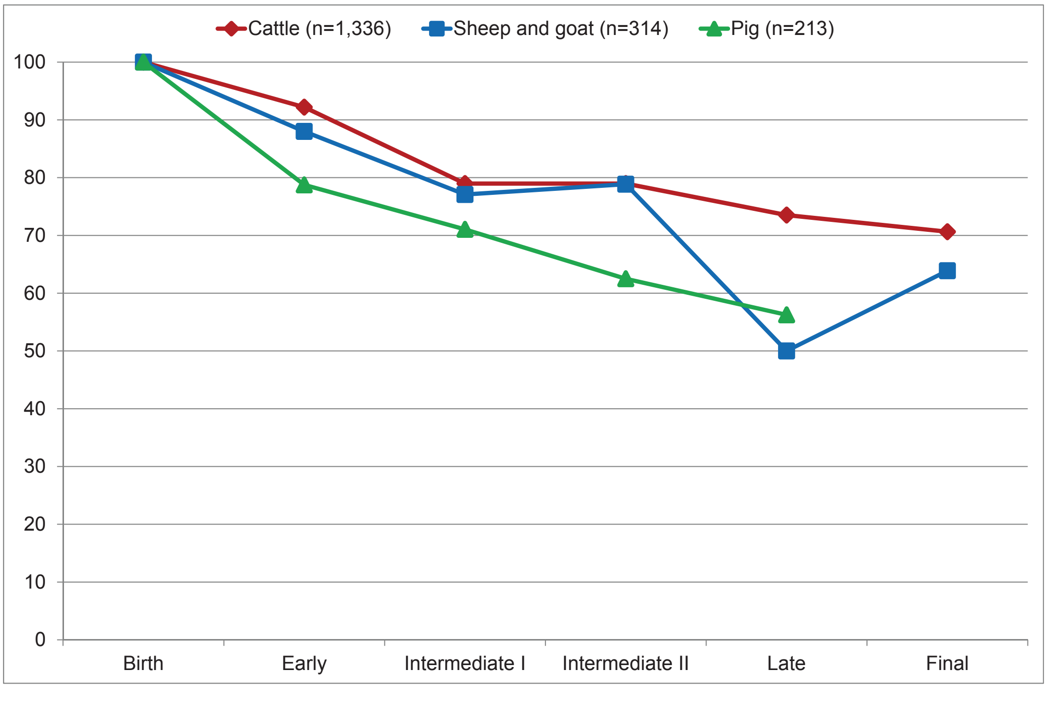

Fig. 41. Epiphyseal fusion curves in cattle, sheep and goat and pig, showing percentages of fused elements at each fusion stage

Table 23. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig	Horse	Aurochs	Red deer	Roe deer	Wild boar	Hare
cornus*	38	1			9				
neurocranium	98	10	16	1	4			1	
viscerocranium	52	22	46		3	3	2		
mandibula	206	141	99	1	5	5	5		
linguale	1								
dentes	202	49	13	2	5	3	5	4	
atlas	30	2	8		1	1			
axis	21	1	2						
Head	**648**	**226**	**184**	**4**	**27**	**12**	**12**	**5**	
vert. cervicalis	88	4	3	3	8	1			
vert. thoracalis	81	1	33	4	10	1	7		
vert. lumbaris	74	38	24	6	6				
os sacrum	10		2		3				
sternum									
costa	502	129	79		38	18	22		4
Trunk	**755**	**172**	**141**	**13**	**65**	**20**	**30**	**0**	**4**
scapula	127	34	32	1	25	4	2	1	
humerus	225	101	61		19	2	2	1	
radius	182	90	33		28	14	5		
ulna	67	8	37		6	6	2	1	
pelvis	117	49	38	1	19	3	2		
femur	132	51	35	2	15	3	2		1
patella	11	2	3	4	1				
tibia	186	247	28	2	12	9	8		4
fibula			5						
Meaty limb	**1047**	**582**	**272**	**10**	**125**	**41**	**24**	**3**	**5**
carpalia	175	7	2	3	1		1		
metacarpalia	132	77	24		21	5	2	2	1
calcaneus	69	18	8	1	20	1	2		
astragalus	87	36	18	1	24	3	2		
centrotarsale	36				12	3			
metatarsalia	153	91	13	4	15	12	2	6	1
Dry limb	**652**	**229**	**65**	**9**	**93**	**24**	**9**	**8**	**2**
vert. caudalis	1		3						
ph. proximalis	221	20	8		15	5	2	1	
ph. medialis	160	3	11		14	1	2		
ph. distalis	73	3	1		8				
Terminal bones	**455**	**26**	**23**	**0**	**37**	**6**	**4**	**1**	
Long bone	571	67	7						
Flat bone	307	8	3		1		15		
Grand total	4,435	1,310	695	36	361	103	92	17	11

* shed antler not counted

Four complete metapodia provided information concerning the stature of cattle at Paks-Gyapa. The withers height of a bull was 124.3 cm. The sizes of two cows were 122.9 and 128.1 cm (mean=125.5 cm). The sex of the fourth specimen whose withers height was 126.8 cm could not be identified (*Table 3*).

The age distribution of remains indicates that few cattle were killed at a young age. Only 21% of the animals were slaughtered at prime meat age (stage 'Intermediate I'), while 70% of the specimens fell into the oldest, 'Final' category (*Fig. 41*). Feature 1075 included the partial skeleton of a newborn calf. Since the EBA assemblage from this settlement was identified during an earlier project in 2008–2011, when mandibular tooth eruption and wear were not yet recorded, these data are missing in the present study.

According to the anatomical distribution of body parts, bones from meaty limb sections were the most numerous in the assemblage. Among these, humeri provided the most remains. However, skeletal parts from the rest of the body, including terminal bones such as phalanges, were also well-represented. Noteworthy is the great number of mandibles among the remains of the head (*Table 23*).

In accordance with the 61.3% dominance of cattle remains in the assemblage, six of the ten pathologically modified bones originated from this species. They represent dental anomaly and deformation, exostosis on a proximal phalanx and axial anomaly, each affecting two skeletal elements. Since these remains, together with the bones deformed by pathological conditions in the EBA assemblage from Kaposújlak-Várdomb, have formed the subject of a very recent paper (GÁL 2015a), they are not further discussed in the present work.

Sheep and goat

Remains from caprines were only half as many as cattle bones. Therefore, the number of bones offering information on the type and size of these animals is also smaller. A single sheep skull fragment has been preserved with the horn core base (*Fig. 42*). It shows a skull type with laterally bent horns. Only a single complete sheep long bone, a metatarsus was recovered. Based on its greatest length, a withers height of 64.2 cm was calculated (*Table 3*). Goat could be identified from two skeletal parts only. A horn core fragment was found in Feature 1075, and the distal part of a metacarpus in Feature 1062.

Fig. 42. Sheep skull fragment with horn core (frontal view)

Feature 857 included the diaphyses of femora from a foetal sheep or goat, indicating a spring deposit. In addition, Features 1054 and 1075 comprised the skeletal parts of newborn lambs. The epipyseal fusion curve for small ruminants showed a trend similar to that of cattle, indicating a low culling rate of young animals for meat. In caprines, however, there is a drop of the curve by the stage 'Intermediate II', demonstrating that almost 30% of the animals were slaughtered by the 'Late' stage. Then there is an upturn of the curve, indicating a higher number of old individuals in comparison with the previous age category (*Fig. 41*). This, of course, would be impossible within a single herd, but the results show cumulative effects of selective slaughter. The secondary use of sheep for wool production is clearly demonstrated by seven spindle whorls and loom weights in the find material (PÉRÓ 2016: 142–144).

Similarly to cattle, bone fragments from the meaty, proximal limb segment dominated in the assemblage of caprine remains. Tibia was the most frequently encountered skeletal element within this category. Mandible was the best represented bone from the head, and the metapodial fragments were most numerous among bones of the dry limb (*Table 23*).

Three sheep remains displayed pathological conditions. They included irregular tooth wear, parodontal disease and exostoses on the proximal end of the radius (*Fig. 43*). The latter seems related to a number of arthropaties observed on sheep elbow joints attributed to environmental stress at Early Neolithic sites in the marshy Great Hungarian Plain. Similar cases were also noted at the Late Neolithic site of Opovo-Ugar Bajbuk in Serbia (BARTOSIEWICZ 2013a: 118–119, Fig. 95).

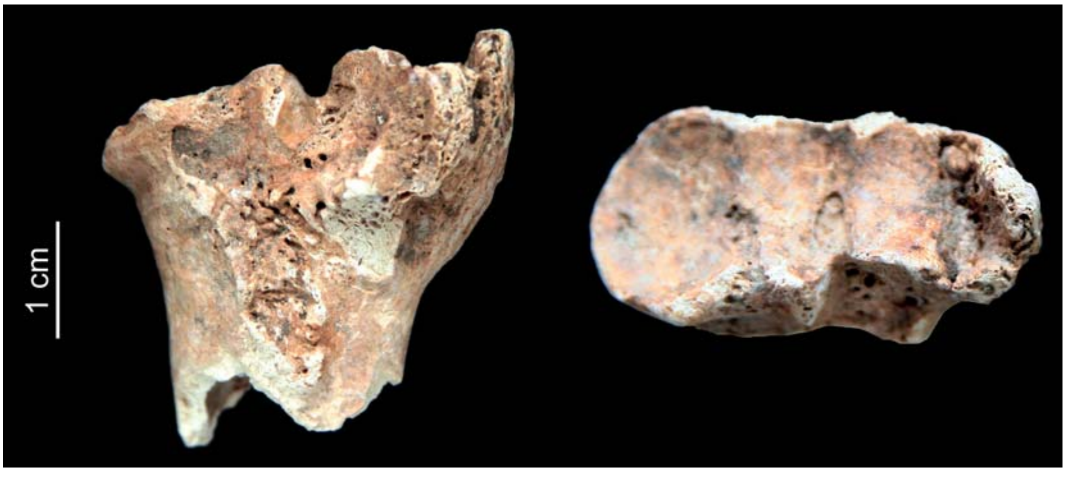

Fig. 43. Exostosis on the proximal end of sheep radius (left: posterior view, right: view from the articular surface)

Pig

This species was under-represented in comparison with ruminants. Its bones yielded less than 10% of the remains. Nevertheless, 11 complete astragali were found in the assemblage that indicated withers heights between 70.3 and 80.2 cm (mean=75.4 cm, standard deviation=2.555 cm).

Since (aside from present-day truffle-hunting) there is no known secondary exploitation for pig (BARTOSIEWICZ 2006a: 86, Fig. 45), the emphasis on killing pigs for meat at a young age looks reasonable. Over 20% of these animals seems to have been slaughtered already by the 'Early' stage of epiphyseal fusion, and the ratio of slaughtered animals reached 30% by the 'Intermediate I' fusion stage. There is, however, a slow increase of culling towards the 'Late' stage, indicating that over half of the stock was still being kept to reach adulthood (*Fig. 41*). Meanwhile, Features 512, 855, 1061 and 1075 comprised the disarticulated skeletal parts of newborn piglets.

Similarly to ruminants, the meaty limb was the best represented body part by the dominance of the usually well-preserved humerus. Mandibles were also frequent in the pig bone assemblage, making the head the second best represented body part.

A single pig bone specimen showed a pathological symptom: gingivitis was identified on the mandible of an adult individual.

Horse

Horse yielded only 36 remains that make up 0.5% of the assemblage. The majority represent partial skeletons including bones from all parts of the body, as found in Features 493, 744, 1062 and 1075 (*Table 23*). Complete metapodia or other long bones were not preserved, therefore the withers heights of EBA horses at Paks-Gyapa could not be estimated. All remains originated from well-developed adult individuals.

Dog

Dog remains formed 1% of the NISP, contributing 72 remains. Similarly to horse, they also mostly represent partial skeletons from adult animals found in Features 493, 497, 512, 520, 1075 and 1106. Complete long bones, i.e. skeletal parts suitable for appraising stature have not been preserved. The mean length of six lower carnassial teeth is 19.6 mm. This size is slightly smaller than the mean length of carnassials in the coeval dog sample at Kaposújlak-Várdomb and Ig, Slovenia. The single skull from Feature 1075 is more robust than the one from Kaposújlak-Várdomb (*Fig. 44*, *Appendix 2*), but still more gracile than the dogs from Ig (Bartosiewicz 2002).

Wild species

Nine wild animal species were identified from Paks-Gyapa, yielding a total of 690 remains (9.5%). Half of them belonged to aurochs. Similarly to the domestic form of this game species, as a result of meat

Fig. 44. Dog skull (frontal view)

exploitation, the remains from the meaty limb were the most numerous. Some heavy bones of this large hunted game may have been left behind at the kill-site.

The second best represented species was red deer, forming 2.9% of the identifiable specimens in this assemblage. Among these skeletal parts, a number of antler fragments were also found which may equally have been parts of shed or gathered antlers. Most of the roe deer remains belonged to the single skeleton of a juvenile specimen found in Feature 502. In the same way, half of the hare remains represented a partial skeleton of an adult individual recovered from Feature 493.

Similarly to pig in the category of domesticates, the bones of wild boar were also underrepresented among the remains of hunted animals. Wild cat was identified from a right calcaneus (*Fig. 45*). Small mammals were represented by the European hedgehog (*Fig. 46*) and the European hamster, yielding five remains altogether. Since traces of human activity were not identified on these remains, they may also have originated from the natural deposition of intrusive animals. Judged by the known habitat preferences of game species, hunting and gathering took place in wooded and open environments alike.

In addition to those of the mammalian species, an avian bone was also found in the assemblage. It belonged either to a rook or a hooded crow.

Fig. 45. Wild cat calcaneus (anterio-medial view)

Fig. 46. European hedgehog facial skull fragment (palatal view)

Taphonomic observations

The archaeological features generally contained a few dozens or some hundreds of animal remains, the only exception being Feature 1075 whose sub-assemblage comprised over 1,600 skeletal parts. They included partial skeletons of newborn lambs and piglets and a number of partial skeletons from older animals, as mentioned in the general description of domestic species.

The distribution of fragments by size and species indicated that most of the cattle bone fragments were 101–200 mm long, while the majority of caprine and pig remains fell within the 51–100 mm size

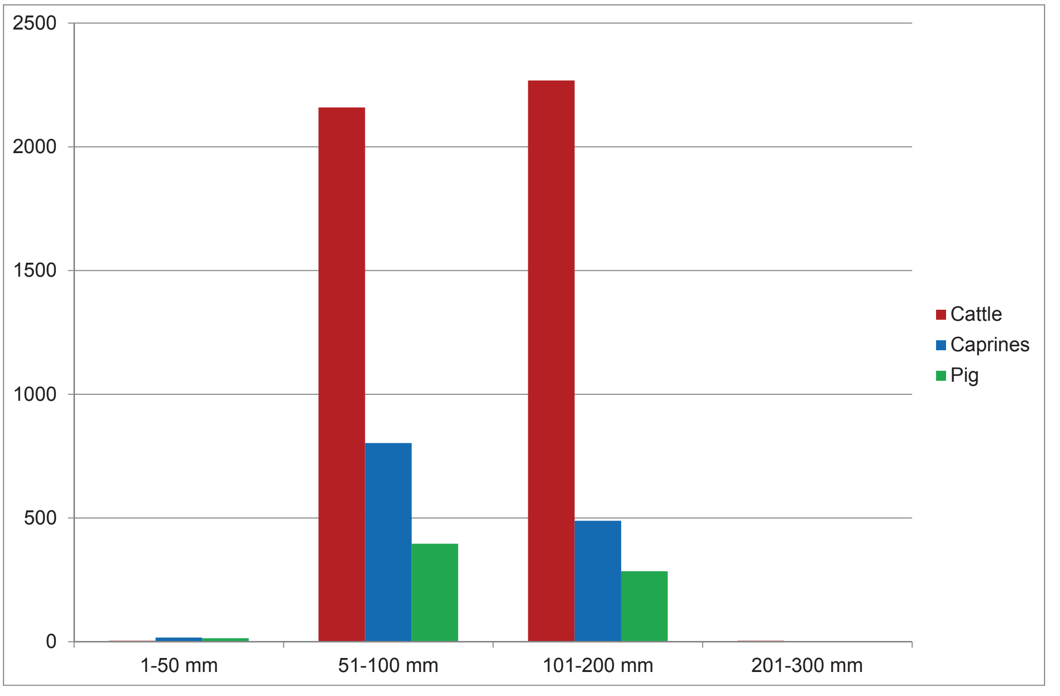

Fig. 47. Fragment length of bones in cattle, caprines and pig

interval. Regardless of species, very few bone remains were smaller than 50 mm and longer than 200 mm in the assemblage (*Fig. 47*).

The proportion of animal remains by NISP and weight showed reversed percentages in the case of large and small animals. In accordance with the size of skeletal parts from large mammals, the

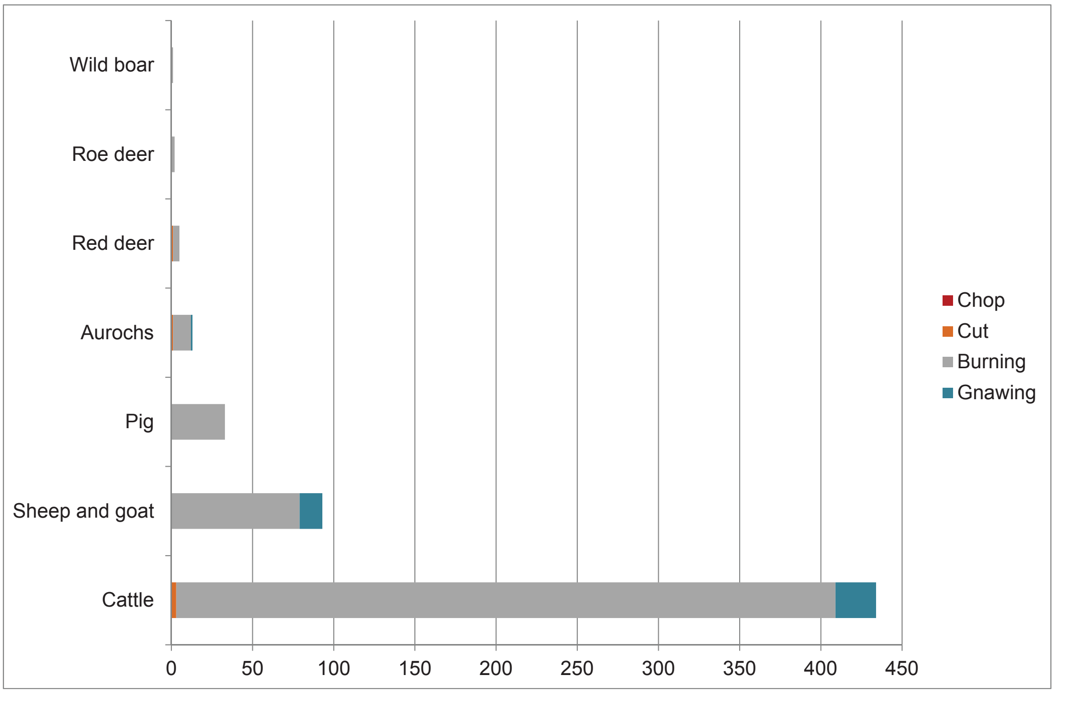

Fig. 48. Taphonomic observations made on the remains of meat-purpose species

contribution of bones by weight was greater in the case of cattle, horse and aurochs than in terms of NISP. The remains of small animals counted more in NISP than in weight, indicating their somewhat lesser contribution to the meat diet than shown by fragment numbers (*Table 23*).

Aside from fragmentation, the most frequent taphonomic traces observed on the animal remains were the marks of heat exposure. It remains a question how much of these may be primary, i.e. attributable to food processing. Bones may also be burned accidentally when exposed to fire in a secondary position or incinerated as garbage. In addition, gnawing marks were identified on a number of cattle and caprine remains. Very few skeletal parts from large-bodied cattle, aurochs and red deer displayed cut marks, while chop marks were not observed at all (*Fig. 48*).

Bone, antler and tusk artifacts

Twenty-seven implements made from hard animal tissue were recovered at Paks-Gyapa that represent a rather small part (0.4%) of the total bone assemblage. The most frequently occurring general type of tools was that of the points by 16 specimens (*Fig. 49*). The round diaphysis point with full circumference (Type 1/3) made from the tibiae of small ruminants was especially common within this group. In addition, the curved scrapers made from the scapulae of large mammals as well as polished astragali from large ruminants were typical implements used at this settlement (*Table 24*).

According to the small number of tools made from boar tusk and antler, these two types of raw material were rarely manufactured at the settlement. A single fragment of a pointed pig tusk was found in Feature 724. Of the two antler implements, one is a rather non-distinct hafted burr and beam axe-like tool, frequently identified in prehistoric assemblages. The other antler artifact is a small object whose base includes the rather well-preserved antler burr. When preparing this tool, the greatest part of the eye tine was cut off, and a hole was made in the spongy tissue thus exposed, which may have served as an attachment point to a blade (*Fig. 50*).

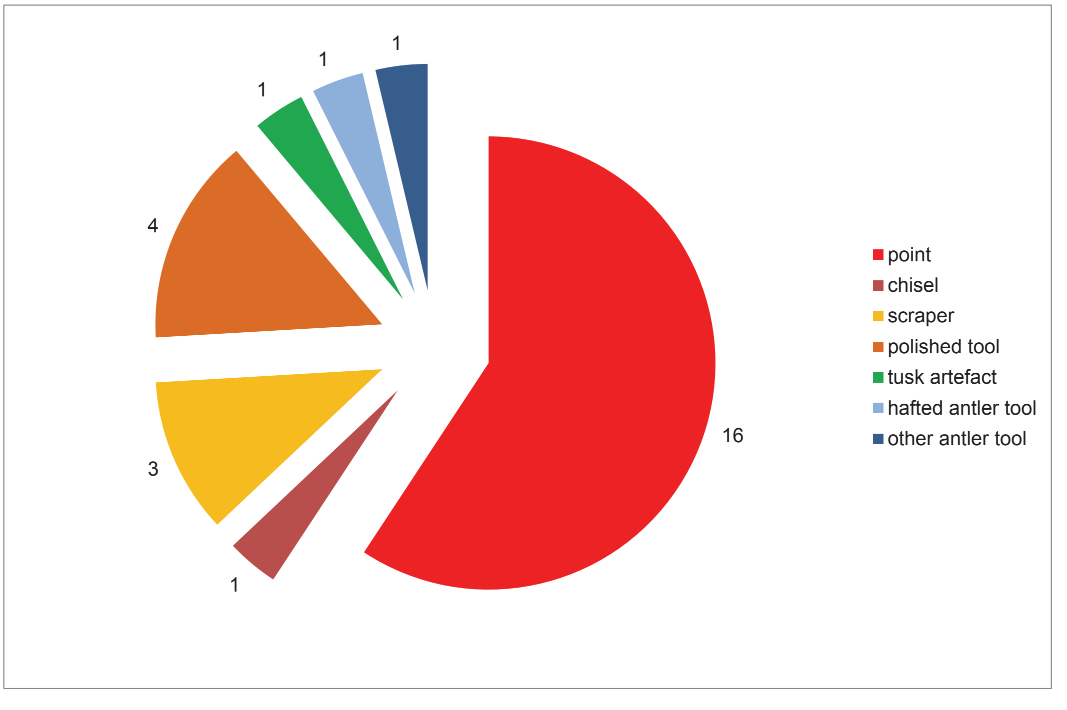

Fig. 49. The distribution of main tool types

Fig. 50. Antler tool with blade(?) hole (anterior view)

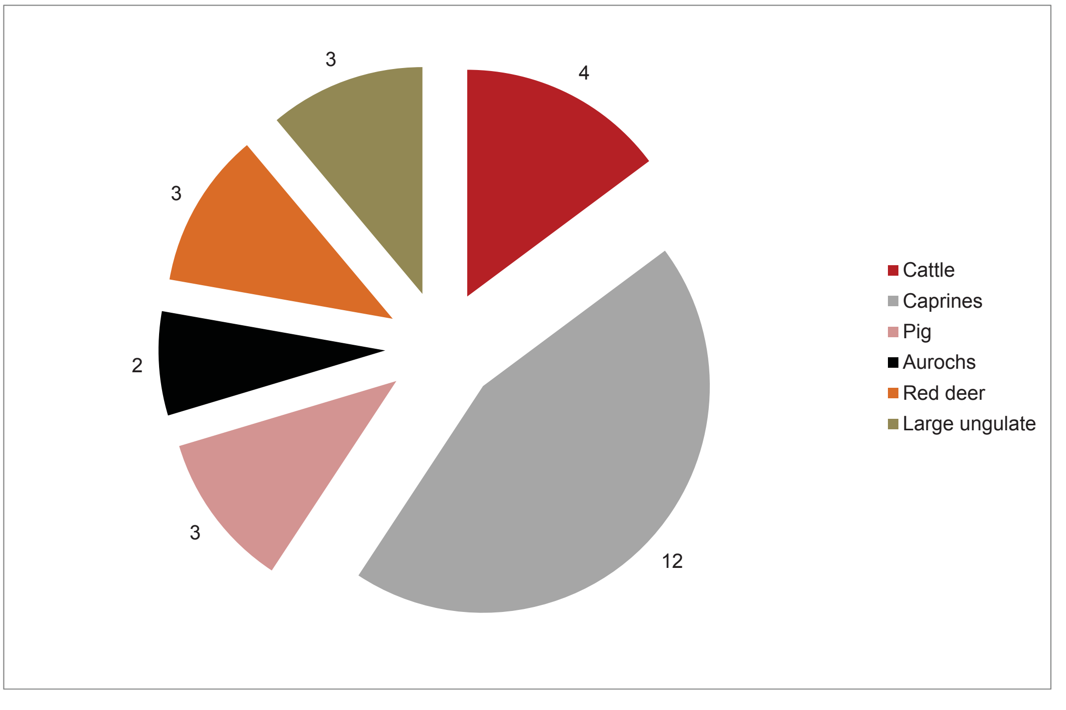

Fig. 51. The taxonomic distribution of osseous tools

Bones of sheep and goat were the most frequently manufactured types of animal raw material. Skeletal parts from cattle and pig, as well as from wild species such as aurochs and red deer were modified only occasionally (*Fig. 51*). Carefully planned and manufactured Class I artifacts dominated in the small tool assemblage by 15 objects.

Summary

The archaeozoological assemblage found at Paks-Gyapa was dominated by cattle remains, but their NISP ratio is twice as high as that observed in the large EBA animal bone assemblage from Kaposújlak. Cattle was followed by sheep and goat (less than 20%), and pig (less than 10%). The importance of beef in the diet was even more pronounced in terms of bone weight, cattle reaching 75% of the identifiable bones. Horse, dog and the wild species were underrepresented. According to the distribution of remains by age categories, a small part of cattle and caprines were killed for prime meat, but many were probably kept alive well after maturity for the purposes of secondary exploitation. The frequency of aurochs points to extensive grassland habitats in the proximity of the settlement in the Danube floodplain. The small number and variety of modified bones illustrates the manufacturing of a narrow range of tool types only.

Table 24. The distribution of worked material by skeletal parts and species

Type of tool (Schibler's typology)	Bone	Class	Top	GL	GB	GD	LMF	GSB	Feature	Note
Round diaphysis point (Type 1/3)	Tibia (sheep)	1	2/1	68.5	12.6	8.1	-	3.7	1075	Used for long time, broken base
Round diaphysis point (Type 1/3)	Tibia (sheep)	1	-	71.4	28.1	21.6	-	-	1075	Used for long time, broken top
Round diaphysis point (Type 1/3)	Tibia (sheep)	1	-	84.0	29.0	23.0	-	-	1075	Used for long time, broken top
Round diaphysis point (Type 1/3)	Tibia (sheep)	1	-	89.5	25.7	20.0	-	-	1077	Used for long time, broken top
Round diaphysis point (Type 1/3)	Tibia (sheep)	1	-	90.7	28.6	21.8	-	-	1075	Broken top
Round diaphysis point (Type 1/3)	Tibia (Caprinae)	1	3/4	97.3	29.2	22.4	-	-	1080	Used for long time, curated, blunt top
Round diaphysis point (Type 1/3)	Tibia (Caprinae)	1	-	99.4	28.6	21.1	-	-	858	Broken top
Round diaphysis point (Type 1/3)	Metacarpus (Caprinae)	1							715	
Small point with articular end (Type 1/4)	Radius (pig)	2	8/9	79.5	24.8	17.9	-	-	1078	Polished handle
Small point without articular end (Type 1/7)	Humerus (cattle)	2	3/8	59.0	18.6	8.5	-	5.0	1062	Possibly curated
Small point without articular end (Type 1/7)	Femur (Caprinae)	2							715	
Middle size point without articular end (Type 1/8)	Tibia (Caprinae)	2	12/9	97.8	14.2	5.5	-	-	851	Possibly curated
Middle size point without articular end (Type 1/8)	Metapodium (cattle)	2							1075	
Large, massive point without articular end (Type 1/9)	Metapodium (large ruminant)	2	7/1	94.3	22.4	8.0	-	-	1062	Curated, blunt top

Type of tool (Schibler's typology)	Bone	Class	Top	GL	GB	GD	LMF	GSB	Feature	Note
Projectile point with long haft stem and point (Type 3/5a)	Long bone diaphysis (large ruminant)	1	2/2	83.8	11.0	3.9	-	4.1	520	Flat, polished top, well preserved top
Projectile point with long haft stem and point (Type 3/5a)	Metapodium (red deer)	1	2/1	120.4	8.5	6.5	-	3.0	1111	Round, eroded surface, well preserved top
Small chisel (Type 4/5)	Tibia (Caprinae)	2	-	58.0	14.3	8.2			1075	Fragment
Curved scraper (Type 4/11)	Scapula (large ruminant)	ad-hoc	-	68.0	35.4	11.8	-	-	1080	Burnt fragment
Curved scraper (Type 4/11)	Scapula (aurochs)	ad-hoc							938	Scapula scraper
Curved scraper (Type 4/11)	Scapula (pig)	ad-hoc							715	Scapula scraper
Polished tool (Type 19)	Rib (cattle)	ad-hoc	-	195.0	24.1	10.1	.	.	715	Scraper-like tool
Polished tool (Type 19)	Tibia (sheep)	ad-hoc							493	
Polished tool (Type 19)	Astragalus (cattle)	1	-	67.7	47.4	38.5	-	-	858	Polished on both surfaces
Polished tool (Type 19)	Astragalus (aurochs)	1	-	74.4	49.4	41.7	-	-	857	Polished on both surfaces
Pig tusk pendant(?) (Type 23)	Lower canine (pig)	1	-	16.2	11.0	12.5	-	-	724	The base is broken
Antler rose and beam tool with blade	Antler (red deer)	1	-	86.8	82.2	56.6			855	Blade hole drilled into the eye-tine
Hafted antler rose and beam axe-like tool	Antler (red deer)	1	-	142.0	86.8	55.6	-	-	1103	Fragment; medio-laterally drilled through by a rectangular hole of 23.1 x 20.7 mm

2.3 Dombóvár-Tesco (Somogyvár-Vinkovci culture)

Introduction

The site is located on the upper plateau of the Konda Creek valley (*konda* meaning flock of pigs in Hungarian), between Lake Balaton and the Danube River (*Fig. 27*). Excavations preceding the construction of a Tesco supermarket were directed by Géza Szabó in 2007. A total of 528 features associated with five prehistoric and historic periods were unearthed, among which almost 140 seem to belong to the EBA. Nevertheless, only 24 features could be reliably assigned to the Somogyvár-Vinkovci culture. The list of archaeological finds coming from these features, a rough archaeozoologial evaluation as well as thoughts regarding EBA archaeology in southern Transdanubia have recently been published (Szabó – Gál 2013). The radiocarbon dating of the mandible tool from Feature 169 indicated an absolute age of 2570–2470 cal BC, which dates this site as coeval with the previously presented EBA settlement deposits at Kaposújlak-Várdomb.

Results

A total of 1,368 identifiable animal bones were found in the 24 features attributed to the Somogyvár-Vinkovci culture. Four of these (Features 169, 299, 318 and 483) have been interpreted by the excavator as *bothroi*, special pits in which offerings to the nether gods were deposited. Their archaeozoological contents, however, did not show remarkable differences in comparison with the animal remains recovered from the other pits at this settlement, and therefore, the animal bone assemblage is discussed as a whole in this chapter.

The remains of domestic animals dominated in the NISP in this assemblage by 95.9%. Cattle was the most frequently encountered species yielding almost half (48.5%) of the animal bones. Sheep and goat together made up 29.4% of the assemblage, while pig was represented only by 15% of the remains. Horse yielded only 6 bones (0.5%), and dog 35 bones (2.6%), respectively (*Table 25*).

Domestic species

Cattle

According to the horn core fragments, EBA cattle at Dombóvár had slightly curved horns with an oval cross section (*Fig. 52 left*). Evidence of horn exploitation is clearly visible by a sharp blade mark identified on the fragment found at the bottom of Feature 210 (*Fig. 52 right*). A single complete metatarsus was found in the assemblage, coming from an animal with an estimated withers height of 126.2 cm. The sex of this specimen could not be established.

The epiphyseal fusion curve indicates that 10% of cattle were slaughtered by the 'Early' fusion stage (ca. 1–1.5 years old), and 19% by the 'Intermediate I' stage (ca. 2–2.5 years old). Then there is a drop suggesting the consumption of another 30% in the 'Final' stage. As a result it looks that animals represented by 40% of the ageable bones in this assemblage, were kept alive until the age of around 4–4.5 years (*Fig. 53*). Most of the ageable mandibles with teeth attached also originated from adult animals (*Table 5*).

The distribution of skeletal parts indicated, that bones from the trunk (160 remains) and the meaty portions of limbs (159 remains) were the most numerous, followed in frequency by the remains from the head (140). Although to a much lesser degree, remains of the dry limb (69) and terminal bones (38) were also recovered. This points to the slaughter and primary butchery of at least some cattle within the site (*Table 26*).

Table 25. The distribution of species by NISP and % in the assemblage

Species	NISP	%
Cattle (*Bos taurus*)	664	48.54
Sheep (*Ovis aries*)	16	29.39
Goat (*Capra hircus*)	3	
Sheep and goat (Caprinae)	383	
Pig (*Sus domesticus*)	205	15.00
Horse (*Equus caballus*)	6	0.51
Dog (*Canis familiaris*)	35	2.56
Domestic animals	**1,312**	**95.91**
Aurochs (*Bos primigenius*)	2	0.15
Red deer (*Cervus elaphus*)*	23	1.68
Roe deer (*Capreolus capreolus*)	3	0.22
Wild boar (*Sus scrofa*)	9	0.66
Badger (*Meles meles*)	3	0.22
Hare (*Lepus europaeus*)	8	0.57
Rodent (Rodentia sp. indet.)	2	0.15
Rook/Hooded crow (*Corvus frugilegus*/*C. corone*)	2	0. 15
European pond turtle (*Emys orbicularis*)	4	0.29
Wild animals	**56**	**4.09**
Number of identified specimens (NISP)	**1,368**	**100.00**
Small ruminant	65	
Large ruminant	93	
Pig/Wild boar	1	
Unidentifiable animal	4	
Total animal bone	1,531	

* Bone and antler together

Fig. 52. Cattle skull fragments with horn core (right: frontal view; left: caudal view)

Table 26. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig	Horse	Aurochs	Red deer	Roe deer	Wild boar	Hare
cornus*	5	2			1				
neurocranium	30	9	18			1			
viscerocranium	11	8	13						
mandibula	45	12	28						
linguale									
dentes	52	27	15	1		1		4	
atlas	2		4						
axis	2						1		
Head	**147**	**58**	**78**	**1**	**1**	**2**	**1**	**4**	**0**
vert. cervicalis	16	3	1						
vert. thoracalis	14	28	5						
vert. lumbaris	22	15	5			1			1
os sacrum	2	2							
sternum									
costa	106	67	9						
Trunk	**160**	**115**	**20**	**0**	**0**	**1**	**0**	**0**	**1**
scapula	19	16	10						
humerus	31	15	14						1
radius	27	15	9	1					1
ulna	13	6	6	1				1	
pelvis	19	5	2	1					
femur	18	16	6		1				2
patella	1		2						
tibia	31	52	8						2
fibula			5						
Meaty limb	**159**	**125**	**62**	**3**	**1**		**0**	**1**	**6**
carpalia	14		1						
metacarpalia	18	11	13			3	1	1	
calcaneus	10	4	4						1
astragalus	9	5	4					1	
tarsalia	4	2							
metatarsalia	14	8	6			2	1	1	
Dry limb	**69**	**30**	**28**	**0**	**0**	**5**	**2**	**3**	**1**
vert. caudalis	1								
ph. proximalis	18	2	9	1		4		1	
ph. media	10		3						
ph. distalis	9	2	4	1					
Terminal bones	**38**	**4**	**16**	**2**	**0**	**4**	**0**	**1**	
Long bone	91	70	1						
Flat bone									
Grand total	664	402	205	6	2	12	3	9	8

* shed antler not counted

Only two remains were indicative of pathological conditions. Two ribs found in Feature 309 showed healed fractures, relatively common in prehistoric large stock.

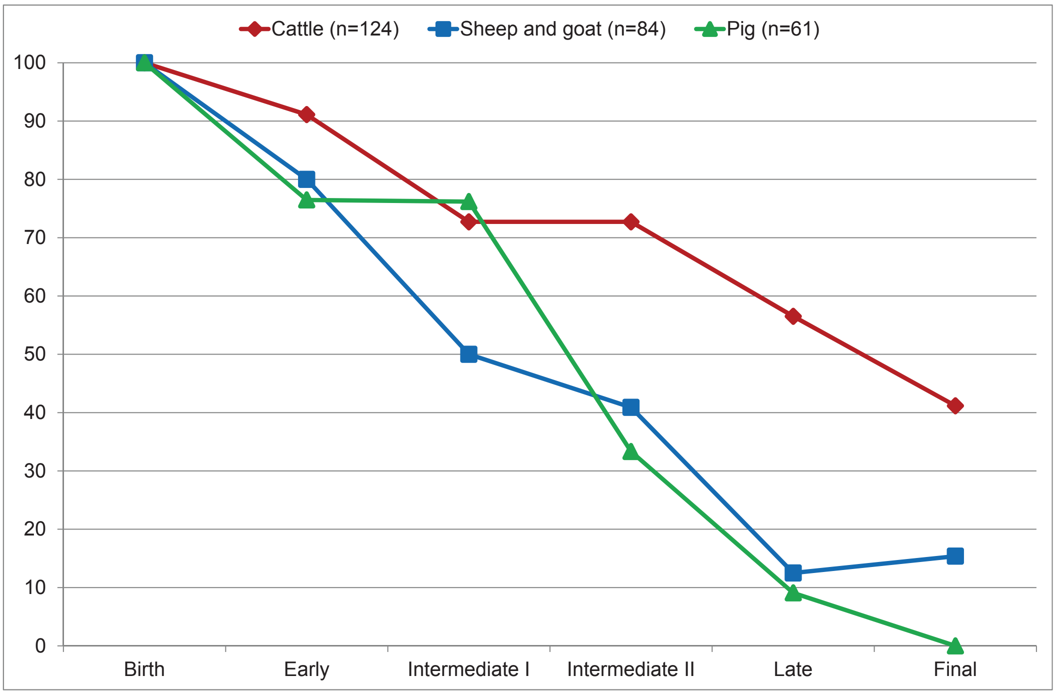

Fig. 53. Epiphyseal fusion curves in cattle, sheep and goat and pig, showing percentages of fused elements at each fusion stage

Sheep and goat

A partially preserved sheep horn core found in Feature 210 may be classified as the so-called *palustris* type (*Fig. 54 left)*. A goat horn core fragment from the same feature displayed a chop mark (*Fig. 54 right*), suggesting the removal of horn in addition to the aforementioned cattle horn core fragment that bore a blade mark. Goat also yielded the distal end of a humerus and an astragalus.

The stature of sheep could be estimated using a complete radius, which indicated a withers height of 60.0 cm. According to the sizes of LCA and EBA sheep from the region, this bone is likely to have originated from an adult female (*Table 3*).

The age distribution of remains indicated that half of the caprines did not survive beyond the stage 'Intermediate I'. These yearling sheep may have provided one shearing of wool before their slaughter. There is an even greater cull of sheep for meat by the stage 'Intermediate II' (about the age of 2 years), and only 12.5% of the assemblage is indicative of animals kept until the 'Late' epiphyseal fusion stage. Remains of newborn lambs were found in Features 237, 274 and 309.

Similarly to cattle, remains of the meaty limb (125) and the trunk (115) were the most frequently encountered parts among caprine bones. Head elements were recovered in much smaller numbers (58). This may partly be explained by the greater loss of small teeth and fragile cranial fragments of young animals in the absence of water-sieving.

A sub-pathological dental anomaly was observed on a single remain. Uneven tooth wear was identified on the molars of a mandible fragment from sheep or goat.

Pig

This species was rather underrepresented in comparison with ruminants. A single astragalus found in Feature 309 made the estimation of withers height possible, indicating a stature of 74.1 cm.

Fig. 54. Partially preserved horn core from sheep (left, frontal view) and goat (right, lateral view)

According to the epiphyseal fusion curve, only 25% of the animals were killed before the stage 'Intermediate I' that represents pigs about two years old. The drop of curve indicates the systematic slaughter after this stage by keeping less than 10% of pigs alive until the stage 'Late' (*Fig. 54*). Most mandibles with ageable sets of teeth also belonged to animals about and over two years of age (*Table 7*). Feature 429 contained the partial skeleton of a foetus, while Feature 356 included a few remains from a newborn piglet.

Interestingly enough, mandibles were rather frequently encountered skeletal parts in the pig bone assemblage. In general, the head was best represented (78 remains), followed by bone fragments from the meaty limb (62 remains).

Similarly to sheep and goat, a single specimen from pig was characterized by some dental anomaly. The upper third molar found in Feature 429 showed uneven tooth wear. Possibly partly related to the shortening of the facial skull and concomitant changes in the placement of teeth, this phenomenon is relatively frequent in domestic pigs.

Horse

This species yielded only six remains that made up a mere 0.5% of identifiable bones in the assemblage. In spite of the small number of finds, all body parts were represented from the head to the terminal bones. All remains belonged to adult horses. These phenomena would point to the rarity of this species at Dombóvár.

Dog

Most of the 35 dog remains represented partial skeletons of adult animals. The majority were found in Features 318 and 429, originating from one individual in each feature. Similarly to horse, this species did not yield complete long bones suitable for withers height estimations. The length of lower carnassial teeth of two individuals varies between 18.6 and 19.6 mm (mean=19.1 mm). No pathological conditions were observed on the dog bones.

Wild animals

In addition to the bones of domesticates, the remains of seven wild animal species were identified, including aurochs, red deer, roe deer, wild boar, badger, hare and crow. Of the 56 skeletal parts from hunted animals, making up only 4.1% of the total bone assemblage, 23 represented red deer (*Table 25*). Only 12 of these could be attributed to hunted specimens, the remaining 11 pieces represent antler tools and fragments from possibly shed antler. Roe deer yielded an axis vertebra and two metapodia only. The paleoecological characteristics of the identified game species are indicative of a forest-steppe environment around the site.

Taphonomic observations

All 24 archaeological features that contained the bone assemblage under study are refuse and storage pits. Deposits of complete skeletons were not identified. Feature 429, however, comprised a great number of remains in comparison with other features (Szabó – Gál 2013: 63, Table 2). They represented a number of articulated bones from two cattle (*Fig. 55*), a sheep or goat, a newborn piglet (Szabó – Gál 2013: 63, Fig. 5) and a dog in addition to the other, commingled animal remains. Moreover, Feature 237 also yielded the partial skeleton of a 6–9-month-old lamb or kid, a 1–2-year-old pig, and a juvenile hare.

The degree of fragmentation of skeletal parts in the Dombóvár-Tesco assemblage is rather uniform. The overwhelming majority of remains from the three main domestic species belong to the 51–100 mm and 100–200 mm size intervals, respectively. Interestingly enough, cattle bone fragments smaller than 50 mm were not recovered. Even caprines and pig yielded only a few remains in this size category. On the other hand, large bones over 200 mm were also underrepresented. Only a single cattle bone belongs to this fragment size group (*Fig. 56*).

The distribution of traces resulting from various taphonomic processes is illustrated in *Fig. 57*. Regardless of species, traces of burning were the most often encountered modifications on animal bones. Gnawing marks were also rather frequent. Cut marks appeared on a few cattle ribs, while chopping could be identified only on a pig skull that was split lengthwise. The latter butchery method seems to have aimed the extraction of the brain. Generally speaking, pig heads may have represented an appreciated food as indicated by the relatively high number of mandibles and other skull parts in this find material. A detailed list of taphonomic observations by archaeological feature numbers and animal taxa was published in a previous work (Szabó – Gál 2013: 66–68, Table 5).

Bone, antler and tusk artifacts

Similarly to the worked bone assemblage of exactly the same size from Paks-Gyapa, 27 bone, antler and tusk remains showed traces of manufacturing. They represent 1.8% of the total bone assemblage. Points made from bones were the most frequent types by 12 specimens (*Fig. 58*). Among these, small points without articular end (Type 1/7) and points without articular end and flat base (Type 1/10) were the most numerous. Bevel-ended tools were rare, although they were represented by four different types. These implements were carved from the skeletal parts of small and large ruminants alike (*Fig. 59*). In addition to bone artifacts, a fragment of a boar tusk ornament as well as five antler tools were also found in the assemblage (*Table 27*). Four of the latter represented hafted artifacts typical of prehistoric antler burr and beam tools (Szabó – Gál 2013: 64, Fig. 7).

Similarly to the tool assemblage found at Kaposújlak-Várdomb, a fine-eyed bone needle as well as the thong smoothers represented special artifacts at Dombóvár-Tesco. The needle (*Fig. 60*) may be an

Fig. 55. Articulated lumbar vertebrae and os sacrum of cattle (ventral view)

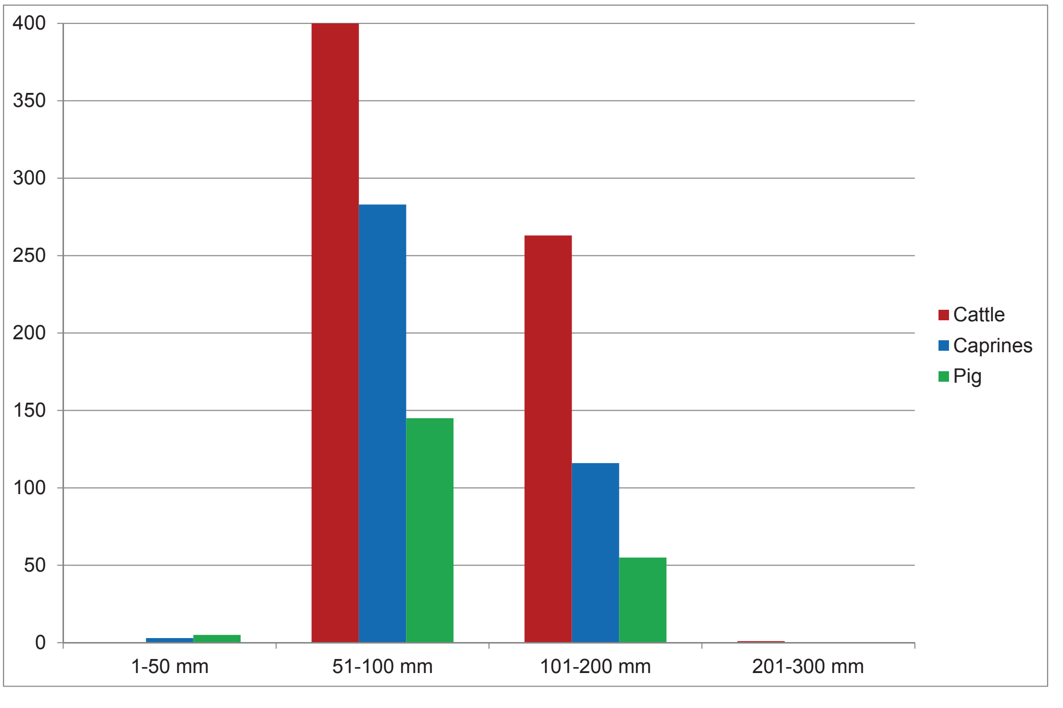

Fig. 56. Fragmentation of bones in cattle, caprines and pig

indirect evidence of wool production, although plant fiber gained from e. g. flax or hemp should also be reckoned with. The thong smoothers offer evidence for leather working (*Fig. 61*).

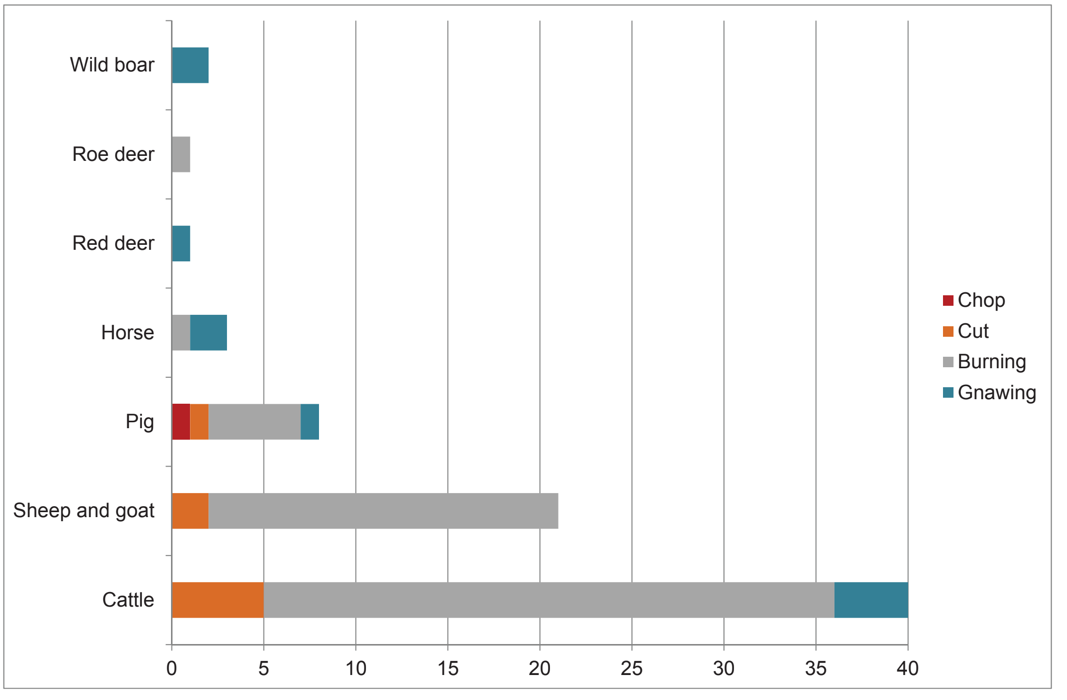

Fig. 57. Taphonomic observations made on the remains of meat-purpose species

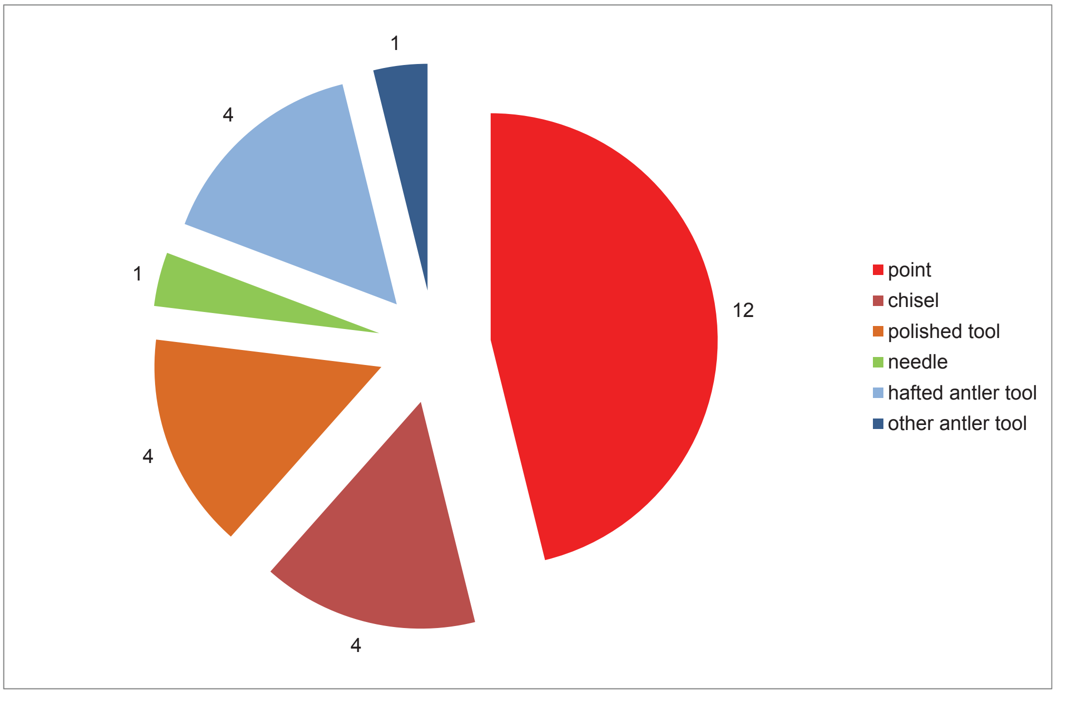

Fig. 58. The distribution of main tool types

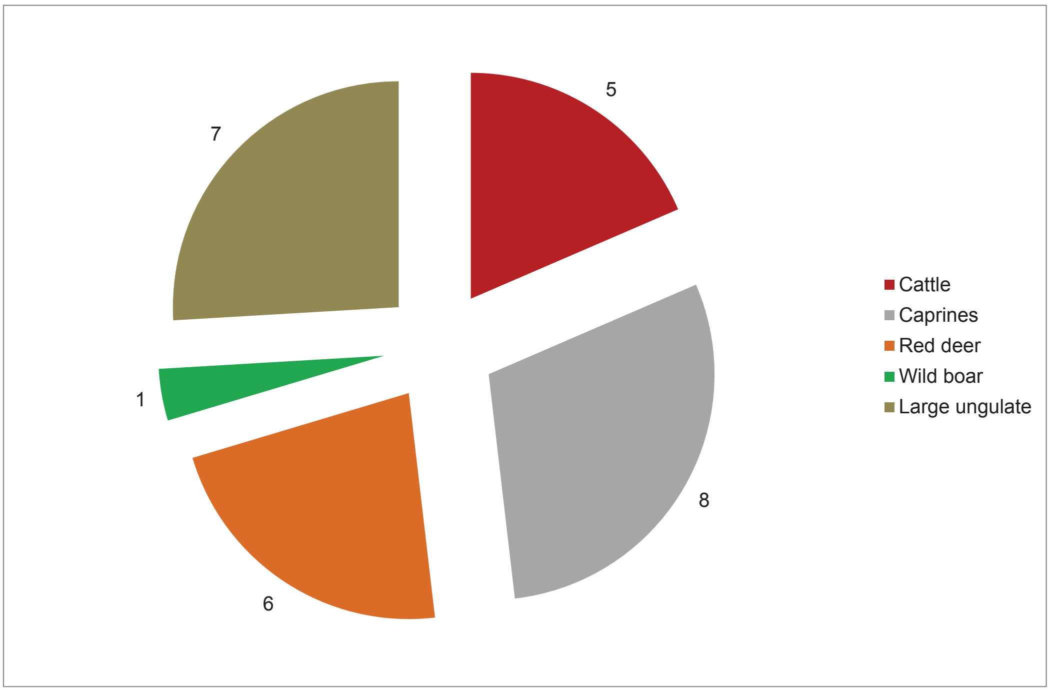

Fig. 59. The taxonomic distribution of osseous tools

From the viewpoint of the bone manufacturing continuum, 17 (63%) of the 27 artifacts represent planned, Class I tools. This means that their raw material was deliberately chosen as in the case of small ruminant metapodial points, the mandible thong smoother as well as the antler and tusk artifacts. The careful, multi-stage manufacturing (e.g. bone needle, hafted antler tool), curation as well as the specific function of these implements also places them alongside Class I tools within the manufacturing continuum.

Fig. 60. Bone needle

Summary

Animal husbandry seems to have been based on domestic bovids, cattle and caprines at Dombóvár. The bones of pig and wild animal species were underrepresented, horse yielded only a few remains. Although the size of this tool assemblage differs from the one found at Kaposújlak-Várdomb, Class I artifacts dominated over Class II and *ad hoc* tools at Dombóvár as well. Moreover, a number of artifact types, including the fine-eyed needle and the thong smoother, were common at both sites. Dombóvár-Tesco also yielded osteological evidence for the exploitation of horn. The cut surface on these horn cores is flat and straight. Although the mundane use of bronze blades was probably uncommon at this site during this early period, as much as poor surface preservation allows, one may hypothesize that these horn cores are among the rare specimens which were cut with metal tools.

Fig. 61. Cattle mandible thong smoothers (top: buccal view; bottom: lingual view)

Table 27. The distribution of worked material by skeletal elements and species

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Small ruminant point with flat base (Type 1/2)	Metapodium	1	12	11/1	96.0	7.8	3.4	-	1.5	429	Pit-complex	2008.3.429.2	Recently broken handle, prepared by G&S technique, handling polish
Round diaphysis point (Type 1/3)	Tibia (small ruminant)	1	31	5/4	117.2	27.9	24.3	-	4.3	247	Pit		
Large, massive point with articular end (Type 1/6)	Metacarpus (red deer)	1	31	7/9	130.2	43.7	28.4	-	6.7	247	Pit		
Small point without articular end (Type 1/7)	Metapodium (small ruminant)	2	11	3/1	52.7	9.3	3.5	-	2.9	237	Pit fall		Curated
Small point without articular end (Type 1/7)	Long bone (small ruminant)	2	12	12/1	58.5	6.5	3.7	-	1.7	429	Pit-complex	2008.3.429.1	Curated
Small point without articular end (Type 1/7)	Long bone (small ruminant)	2	11	10/4	66.0	10.4	3.0	-	3.1	230	Pit		Curated
Small point without articular end (Type 1/7)	Tibia (small ruminant)	2	11	7/4	66.5	12.8	4.8	-	3.2	280	Pit		Used for a short time
Middle size point without articular end (Type 1/8)	Long bone diaphysis (large ruminant)	1	12	9/1	112.0	25.1	10.9	-	6.3	429	Pit-complex		Curated, handling polish
Point without articular end and flat base (Type 1/10)	Long bone diaphysis (large ruminant)	1	12	2/1	56.8	12.7	9.2		3.0	429	Pit-complex	2008.3.429.6	Curated, handling polish
Point without articular end and flat base(Type 1/10)	Long bone diaphysis (large ruminant)	1	11	3/4	69.5	13.7	5.8	-	5.0	210	Pit fall	2008.3.210.1	Curated, handling polish
Point without articular end and flat base (Type 1/10)	Long bone (small ruminant)	2	11	7/1	94.7	10.7	4.6	-	-	483		2008.3.483.2	Handling polish, recently broken tip

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Point without articular end and flat base (Type 1/10)	Long bone diaphysis (large ruminant)	1	12		98.5	9.9	8.1	-	-	410			Recently broken tip
Small chisel (Type 4/5)	Long bone diaphysis (large ruminant)	1	13	36/23	33.4	10.3	3.3	8.2	3.1	429	Pit-complex	2008.3.429.3	Curated, used for a long time
Rib chisel (Type 4/10)	Rib (cattle)	2	-	-	136.2	21.6	11.9	22.5	17.1	237	Pit fall		Handling polish
Massive chisel with articular end (Type 4/13)	Radius (cattle)	2	31	34/21	127.3	89.9	44.0	23.0	37.5	222	Pit		Used for a short time
Round diaphysis chisel (Type 6)	Tibia (small ruminant)	2	31	29/25	163.5	25.0	19.9	19.8	44.0	237	Pit fall		Handling polish
Polished tool (Type 19)	Rib (cattle)	2	-	-	126.2	26.3	9.1	-	-	360	Pit		
Polished tool (Type 19)	Mandible (cattle)	1	-	-	156.6	23.2	13.4	-	-	237	Pit fall		Thong smoother fragment with marks of burning
Polished tool (Type 19)	Mandible (cattle)	1	-	-	188.3	71,3	32.0	-	-	237	Pit fall		Thong smoother
Polished tool (Type 19)	Mandible (aurochs/cattle)	1	-	-	245.0	76.5	30.0	-	-	169	Pit		Thong smoother
Needle (Type 21/1)	Long bone diaphysis (small ruminant)	1	12	-	42.0	3.9	1.4	-	-	429	Pit-complex	2008.3.429.4	Flat needle with eye and blunt tip
Tusk pendant/ornament unspecified (Type 23)	Canine (wild boar)	1	-	-	68.2	23.0	4.7	-	-	429	Pit-complex		Fragment
Hafted burr and beam axe-like tool	Antler (red deer)	1	-	-	96.3	63.4	52.2	-	-	483	Pit	2008.3.483.196	Drilled through with a round hole (diameters= 24.1 x 24.3 mm), short tip

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Inventory no.	Note
Hafted burr and beam tool fragment	Antler (red deer)	1	-	-	83.2	55.7	45.3	-	-	318	Pit	2008.3.318.1	Rounded, worn-off base. Diameters=20.6 x 20.9 mm, bored from a medio-lateral direction
Hafted burr and beam tool	Antler (red deer)	1	-	-	184.1	47.4	43.6	-	-	280	Pit		Abandoned after a short time
Hafted axe-like tool fragment	Antler (red deer)	1	-	-	96.3	59.8	21.4	-	-	309	Pit		Broken at the haft hole
Forked antler tool	Antler (red deer)	2	-	-	-	-	-	-	-	342	Pit		Carved out of antler branching

2.4 Szűr-Cserhát (Somogyvár-Vinkovci culture)

Introduction

In addition to the LCA (Baden culture) settlement, a few pits and storage pits associated with the Somogyvár-Vinkovci culture were excavated in the southern part of the site. The total of 346 animal remains were recovered from seven features. This assemblage of food remains is too small for drawing conclusions regarding animal keeping and hunting in this phase. However, even these few animal bones carry information worth presenting within the context of the region and archaeological period under discussion here.

Results

The majority of the 345 identifiable animal remains originated from domestic animals (*Tables 28* and *29*). Among these, cattle dominated by 158 remains. Articulated bones of this species originating from single individuals were found in Features 147 and 192.

Table 28. The distribution of species by NISP and % in the assemblage

Species	NISP	%
Cattle (*Bos taurus*)	158	45.80
Sheep (*Ovis aries*)	15	
Goat (*Capra hircus*)	3	30.72
Sheep and Goat (Caprinae)	88	
Pig (*Sus domesticus*)	60	17.39
Dog (*Canis familiaris*)	12	3.48
Domestic animals	**336**	**97.39**
Red deer (*Cervus elaphus*)*	1	0.29
Roe deer (*Capreolus capreolus*)*	5	1.45
Wild boar (*Sus scrofa*)	1	0.29
Hare (*Lepus europaeus*)	1	0.29
Carp *(Ciprinus carpio)*	1	0.29
Wild animals	**9**	**2.61**
Number of identified specimens (NISP)	**345**	**100.00**
Small ungulate	1	
Total animal bone	346	

* Bone and antler together

The second most numerous group of bones originated from the caprine subfamily (sheep and goat; 106 remains), followed by pig (60 remains). Bones representing a partial skeleton of swine were found in Feature 80. Horse bones were not identified at this site, while dog yielded 12 skeletal parts, four of them representing a skeleton in Feature 79.

A number of wild animal species were also identified in the assemblage from Szűr-Cserhát. Red deer, roe deer and wild boar represent large game living in forested environments in a foothill region some 5 km northwest of the Danube floodplain. Red deer yielded a single specimen in the form of a fragment from a hafted antler tool. Among the five roe deer remains only two could be assigned to hunted specimens. Out of the tree antler artefacts, one surely was made from a gathered shed antler as proven by the antler rose preserved on its base. In addition to the aforementioned large game species, hare and carp each yielded a single find (*Table 28*).

Table 29. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig
cornus	6		
neurocranium	6		1
viscerocranium	1		2
mandibula	13	11	8
linguale			
dentes	4	2	9
atlas			1
axis		1	1
Head	**30**	**14**	**22**
vert. cervicalis	3	2	
vert. thoracalis	2	2	1
vert. lumbaris	3	1	
os sacrum			
sternum			
costa	24	13	7
Trunk	**32**	**18**	**8**
scapula	5	7	7
humerus	4	17	
radius	1	4	3
ulna	5	2	3
pelvis	5	5	1
femur	6	4	
patella			
tibia	6	14	2
fibula			4
Meaty limb	**32**	**53**	**20**
carpalia	3		2
metacarpalia	6	2	1
calcaneus	5		
astragalus	4		4
tarsalia	4	1	
metatarsalia	11	4	1
Dry limb	**33**	**7**	**8**
vert. caudalis			
ph. proximalis	6	2	
ph. media	6		
ph. distalis	1		2
Terminal bones	**13**	**2**	**2**
Long bone	17	12	
Flat bone	1		
Grand total	158	106	60

A number of remains showed modifications attributable to various taphonomic factors. Traces of fire or even calcination were the most frequent; these could be identified on 22 skeletal elements. Eleven remains were damaged by gnawing marks. A cut mark was recognized on a single cattle femur.

In addition to these modifications, nine skeletal parts showed traces of manufacturing. The types identified included small and medium size points (4 specimens), a bevel-ended tool (1) and antler implements (4). One of the latter represents a fragment of a hafted tool made from red deer antler, while the other three specimens are complete or fragmented multi-purpose tools made from roe deer antler (*Table 30*). Similarly to the antler picks found at Kaposújlak-Várdomb (*Fig. 38*), one of the tines was pointed, while the end of another tine was modified into a bevel-ended tool. Although one of the implements was almost entirely preserved at Szűr-Cserhát (*Fig. 62*), the tip of the third tine has been chipped, therefore the working end of the third tine on this tool remains non-identifiable.

Fig. 62. Roe deer antler multi-purpose tool (medial view)

Feature 37

Feature 37 reportedly contained Somogyvár-Vinkovci style archaeological finds and an adult red deer skeleton buried on the pit's bottom (CSEKŐ 2007). I did not receive this entire skeleton, only an incisor, both patellae and nine phalanges, on the basis of which the species identification was confirmed. In addition to red deer, cattle (28 bone fragments), caprines (13), pig (3), horse (1), dog (1) and wild boar (1) were identified.

A horse first phalanx was recently radiocarbon dated to 2880–2680 cal BC. This time period would better represent the LCA Baden phase rather than the period of the EBA Somogyvár-Vinkovci culture in Hungary which makes the horse find all the more interesting. Nevertheless, since the archaeological study of the Baden settlement from this site did not include this feature (SCHULTZ 2011), I suggest further investigations on this subject, and decided to make a note on the animal finds separately from both the LCA and EBA assemblages. It is also worth mentioning that the relative proportions between the NISP values of the main meat providing species (cattle/caprines/pig) are exactly the same in the LCA and rest of EBA features of this site (Chi square=0.980, p=0.513, df=2).

Summary

Results gained from the small EBA assemblage from Szűr-Cserhát fit well the archaeozoological data from the other coeval sites in the region. Noteworthy is the high relative frequency of roe deer antler multi-purpose tools within the small sample. So far, these have only been identified from Kaposújlak-Várdomb in southern Transdanubia.

Table 30. The distribution of worked material by skeletal elements and species

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Note
Small point with articular end (Type 1/4)	Metapodium (small ruminant)	1	2		52.6	12.8	6.3	-	-	79	Pit	Prepared by groove and split technique; handling polish; broken tip; curated
Small point with articular end (Type 1/4)	Metatarsus (small ruminant)	1	1		93.6	14.8	6.7	-	-	85	Pit	Prepared by groove and split technique; broken tip
Middle sized point without articular end (Type 1/8)	Tibia (small ruminant)	2	11	12/9	76.7	14.2	8.3		3.1	27	Pit	Curated
Massive ad hoc chisel (Type 4/7)	Long bone diaphysis (cattle)	2	11	31/21	100.0	35.3	-	-	-	27	Pit	Fragment, covered with cemented limestone concretions
Polished tool (Type 19)	Mandible (cattle)	1	-	-	114.5	21.3	15.6	-	-	85	Pit	Handling polish on the medial side
Hafted beam axe-like tool fragment	Antler (red deer)	1	-	-	113.8	53.3	24.4	-	-	79	Pit	Broken at the hole, diameter= 17.5 mm
Antler multi-purpose tool	Antler (roe deer)	1	-	-	205.0	70.1	30.1	-	-	27	Pit	Antler base including frontal fragment of the skull
Antler multi-purpose tool fragment	Antler (roe deer)	1	-	-	83.2	40.0	15.9	-	-	85	Pit	
Antler multi-purpose tool fragment	Antler (roe deer)	1	-	-	120.1	82.1	13.0	-	-	27	Pit	

2.5 Ordacsehi-Bugaszeg (Somogyvár-Vinkovci culture)

Introduction

Ordacsehi is the northernmost of the EBA sites under discussion here, located near the southern shore of Lake Balaton. In contrast with the Boleráz phase of the LCA Baden culture, the EBA Somogyvár-Vinkovci culture was represented only by a few features at this settlement (Gallina et al. 2007: 214). The single horse bone (the proximal fragment of a metatarsus) in this assemblage was found in Feature 1470/2118. Its radiocarbon dated age, however, indicated 2010–1910 cal BC that corresponds to the Kisapostag phase of the Early Bronze Age (*Appendix 1*). Feature 1470 included stratigraphic units that yielded finds associated both with the Somogyvár-Vinkovci and Kisapostag cultures. In addition, the absolute age of the horse bone also suggests that both cultures are represented in unit SU 2118. Therefore, the 108 animal remains found in this context were not included in the present evaluation.

Results

A total of 302 animal remains were found in five features comprising 18 stratigraphic units. Most of them belonged to domestic mammals indicating the importance of cattle, caprines and pig in a decreasing order. Feature 1252 included the partial skeleton of a subadult cattle (10 bones). Horse was not identified in this small assemblage (*Tables 31* and *32*).

Table 31. The distribution of species by NISP and % in the assemblage

Species	NISP	%
Cattle (*Bos taurus*)	186	62.20
Sheep (*Ovis aries*)	5	25.09
Sheep and Goat (Caprinae)	70	
Pig (*Sus domesticus*)	29	9.70
Dog (*Canis familiaris*)	2	0.67
Domestic animals	**292**	**97.66**
Red deer (*Cervus elaphus*)*	2	0.67
Roe deer (*Capreolus capreolus*)*	2	0.67
Hare (*Lepus europaeus*)	2	0.67
Unidentified rodent (Rodentia sp. indet.)	1	0.33
Wild animals	**7**	**2.34**
Number of identified specimens (NISP)	**299**	**100.00**
Small ungulate	3	
Total animal bone	302	

* Bone and antler together

Four wild animal taxa were identified. Red deer and roe deer yielded two remains each. Red deer was identified by only two antler fragments, both representing broken pieces of hafted burr and beam tools made from shed antler. The surface of the burr indicated that one of the implements was used only for a short time, while the other remained in use for a longer period. Roe deer was represented by a piece of shed (and unworked) antler and the proximal fragment of a radius. In addition, hare yielded two remains from the skeleton of a subadult individual. In addition to these game animals, a non-identifiable rodent was also found in the material.

Table 32. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig
cornus			
neurocranium	2	1	
viscerocranium	4		1
mandibula	21	11	9
linguale			
dentes	11	3	5
atlas			
axis	1		
Head	**39**	**15**	**15**
vert. cervicalis	2		
vert. thoracalis	5	2	
vert. lumbaris	5		2
os sacrum			
sternum			
costa	29	7	1
Trunk	**41**	**9**	**3**
scapula	10	1	
humerus	8	5	5
radius	7	9	2
ulna	6	1	
pelvis	8	3	1
femur	5	2	
patella	1		
tibia	10	19	3
fibula			
Meaty limb	**55**	**40**	**11**
carpalia	1		
metacarpalia	8	4	
calcaneus	5		
astragalus	3		
tarsalia			
metatarsalia	11	3	
Dry limb	**28**	**7**	**0**
vert. caudalis			
ph. proximalis	12		
ph. media	1		
ph. distalis	3		
Terminal bones	**16**	**0**	**0**
Long bone	3	4	
Flat bone	4		
Grand total	186	75	29

In addition to the aforementioned two antler implements, a retoucher made from a pig lower canine and a medium size point without articular end (Schibler Type 1/8) carved from a caprine tibia were also identified among the modified animal remains.

Summary

Similarly to the large and small EBA assemblages from the region, the importance of domestic bovids seems evident in the small Somogyvár-Vinkovci culture assemblage from Ordacsehi-Bugaszeg. The exploitation of wild resources seems to have been practiced through gathering rather than hunting or fishing. The manufacturing of hard animal tissues involved producing bone, tusk and antler tools alike.

2.6 Ordacsehi-Bugaszeg (Kisapostag culture)

Introduction

Near the end of the EBA, the Kisapostag culture emerged in the areas associated with the Somogyvár-Vinkovci culture. At this site, the Kisapostag component was the largest in comparison with the LCA and BA inhabitations. Its features covered almost the entire area of the site. A rich archaeological assemblage was brought to light from a great number of pits of irregular shapes as well as beehive-shaped storage pits. Well-preserved animal remains were unearthed from 53 of these features (Gallina *et al.* 2007: 214–215). The horse bone found in Feature 1470/2118 – initially dated to the phase of the Somogyvár-Vinkovci culture, but probably including mixed finds from both phases – indicated the age between 2010–1910 cal BC (*Appendix 1*).

Results

A total of 1,208 animal remains were found in 53 features, from which 1,194 could be identified to species or at least the caprine subfamily level. Thanks to the good preservation of the material, individual bone fragment weights could be recorded as well. The NISP ratio of domestic animals was the greatest among the coeval assemblages under study, reaching 98.6%. The relative frequencies of the main meat-providing species are very similar in this case as well: cattle (57.1%) – caprines (28.8%) – pig (10.1%). Horse and dog were underrepresented and contributed to the assemblage no more than 1.0% of the remains (*Table 33*).

Domestic species

Cattle

According to the skull fragments found with attached horn cores in Feature 1233, cattle had relatively short and curved horns with oval cross sections at Ordacsehi-Bugaszeg during the end of the EBA (*Fig. 63*). Four complete metapodia allowed the estimation of withers heights of 121.8 cm, 122.4 cm, 129.1 cm and 133.6 cm for cows, their mean being 126.7 cm. Calculations for another two specimens whose sex could not be unambiguously identified on the basis of measurements, indicated the mean stature of 122.2 cm (*Table 3*).

The epiphyseal fusion curve shows that quarter of the bones originate from animals exploited for beef by the 'Early' and 'Intermediate I' stages, respectively, while another 30% of the bones represent individuals who did not survive till the 'Late' stage. As a result, 45% of the animals were kept alive until they reached an old age (*Fig. 64*). Tooth eruption and wear patterns also showed the dominance of mandibles from adult cattle in the assemblage (*Table 5*).

The majority of cattle bones belonged to the meaty limb segment (237 remains), but the head (149), trunk (112) and dry limb (115) were also well-represented in the assemblage. The mandibles and metapodia seem to have been particularly well-preserved (*Table 34*).

Only two cattle remains displayed pathological lesions, both resulting only in minor modifications. A small swelling was identified on the lateral side of the diaphysis of a cow's metatarsus, found in Feature 1303. The other specimen was a medial phalanx from Feature 1233, which showed exostoses on the axial side of the diaphysis.

Table 33. The distribution of species by NISP, weight and % in the assemblage

Species	NISP	%	Weight (g)	%
Cattle (*Bos taurus*)	681	57.09	36,261.5	80.05
Sheep (*Ovis aries*)	45	28.84	3,866.5	8.54
Goat (*Capra hircus*)	7			
Sheep and Goat (Caprinae)	292			
Pig (*Sus domesticus*)	131	10.98	3,882.5	8.57
Horse (*Equus caballus*)	9	0.67	856.0	1.89
Dog (*Canis familiaris*)	12	1.00	141.0	0.31
Domestic animals	**1,177**	**98.58**	**45,007.5**	**99.36**
Red deer (*Cervus elaphus*)*	2	0.19	224.0	0.49
Roe deer (*Capreolus capreolus*)*	1	0.08	37.0	0.08
Wild boar (*Sus scrofa*)	1	0.08	3.0	<0.00
Hare (*Lepus europaeus*)	1	0.08	2.0	<0.00
Rodent (Rodentia sp. indet.)	3	0.25	1.3	<0.00
Eurasian hobby (*Falco* cf. *subbuteo*)	1	0.08	0.5	<0.00
Unidentifiable bird (Aves sp. indet.)	1	0.08	2	<0.00
European pond turtle (*Emys orbicularis*)	3	0.25	15.0	0.03
Carp *(Cyprinus carpio)*	3	0.25	2.0	<0.00
Northern pike (*Esox lucius*)	1	0.08	3.0	<0.00
Wild animals	**17**	**1.42**	**289.8**	**0.64**
Number of identified specimens (NISP)	**1,194**	**100.00**	**45,297.3**	**100.00**
Small ungulate	3		9.5	
Large ungulate	5		23.0	
Unidentifiable species	6		24.2	
Total animal bone	1,208		45,354.0	

* Bone and antler together

Fig. 63. Cattle skull fragment with horn core (frontal view)

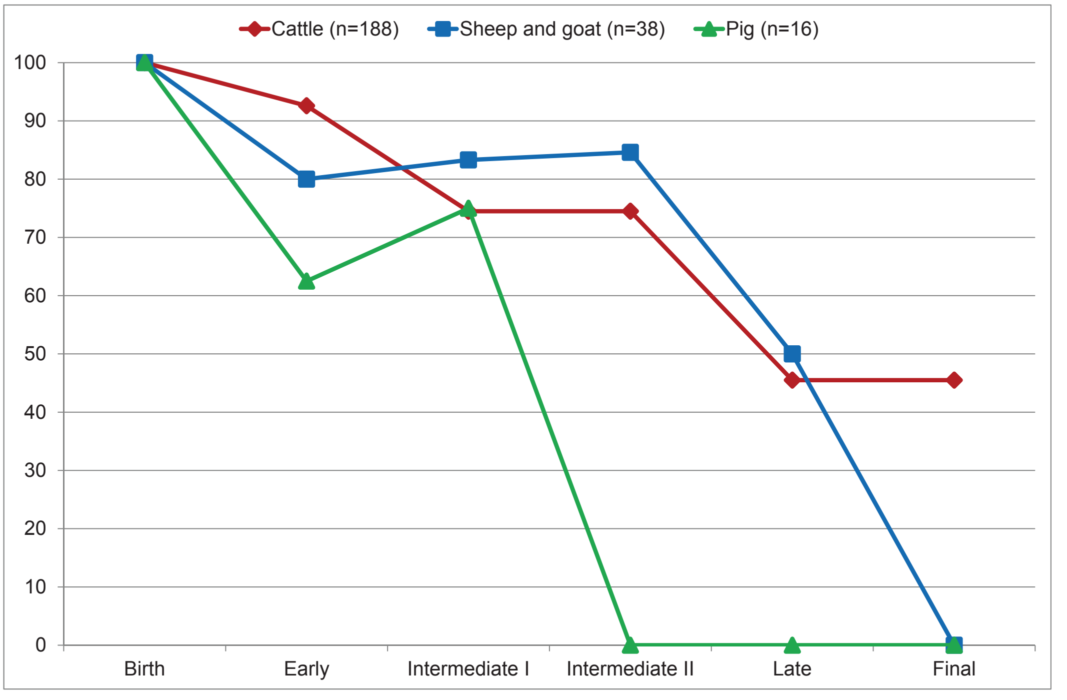

Fig. 64. Epiphyseal fusion curves in cattle, sheep and goat and pig, showing percentage of elements fused at each fusion stage

Sheep and goat

Among caprines, only goat was identified by skull and horn cores (*Figs 65–66*). On the other hand, only sheep yielded a complete metacarpus. This latter bone indicated a withers height of 62.6 cm (*Table 3*).

The distribution of remains by age groups showed that 20% of the lambs/kids did not survive beyond stage ‘Early’. The majority of sheep seems to have been kept for wool production until stage ‘Intermediate II’. After this phase, the animals were systematically slaughtered until they reached the epiphyseal fusion group ‘Late’, and no sheep or goat seems to have survived until the ‘Final’ fusion stage (*Fig. 64*). Tooth wear also indicated the greatest degree of kill-off among adult sheep (*Table 2*).

Similarly to cattle, remains of the meaty limb (179) were the most frequent among the caprine remains in this assemblage. Tibia was especially numerous, providing 77 fragments. This group was followed by bones of the head. This latter category of bones, however, counted only half as many as the tibiae (79 remains). Mandibles and teeth were rather well-preserved, but only few bones of the neuro- and viscerocranium survived. The group of dry limb bones was almost exclusively represented by metapodia (*Table 34*).

Pathological conditions could only be observed on a goat mandible with symptoms of parodontal disease at the first and second molars (*Fig. 67*).

Pig

No complete skeletal parts of this species survived that could have been used in estimating the stature of these animals. In addition to the remains of a newborn piglet found in Feature 1125, a number of bones (37.5% of the remains) originated from young animals that died before the ‘Early’ stage of epiphyseal fusion. The upturn of the curve is most probably due to the small sample size. Nevertheless, pigs do not appear to have survived beyond the ‘Intermediate II’ fusion stage (*Fig. 64*). This would mean that no pigs over the age of 2 years were kept at this site.

Table 34. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig	Horse
cornus*	5	8		
neurocranium	27	4	4	
viscerocranium	17	5	8	
mandibula	64	26	41	
linguale	1			
dentes	29	36	10	2
atlas	5		1	
axis	1			
Head	**149**	**79**	**64**	**2**
vert. cervicalis	22			
vert. thoracalis	13	1	1	
vert. lumbaris	11	1	2	
os sacrum	1			
sternum				
costa	65	18	3	
Trunk	**112**	**20**	**6**	**0**
scapula	40	10	21	
humerus	37	35	8	
radius	36	30	2	1
ulna	21	5	9	
pelvis	33	2	4	
femur	22	20	2	1
patella	2			
tibia	46	77	6	2
fibula			5	
Meaty limb	**237**	**179**	**57**	**4**
carpalia	9			
metacarpalia	35	18	2	1
calcaneus	13			
astragalus	16	1		
tarsalia	5			
metatarsalia	37	19		
Dry limb	**115**	**38**	**2**	**1**
vert. caudalis	0			
ph. proximalis	15	2		2
ph. media	9	1	1	
ph. distalis	1		1	
Terminal bones	**25**	**3**	**2**	**2**
Long bone	34	25		
Flat bone	9			
Grand total	681	344	131	9

The distribution of mandibles according to tooth eruption and wear, on the other hand, indicates a rather good representation of individuals that had reached the ‘adult’ category (*Table 7*). The lower third molar of these animals was already in wear and showed various stages of enamel attrition (O’Connor

Fig. 65. Goat skull (occipital view)

Fig. 66. Goat horn cores (left: medial view; right: lateral view)

Fig. 67. Symptom of parodontal disease in a goat mandible (buccal view)

2003: 160, Table 31). Since the third molar erupts at the age of about 1.5 year in pig, these individuals could have been slightly older than two years.

It is also worth mentioning, however, that the sample of long bones suitable for age identification (n=16) is smaller than the sample of mandibles with teeth (n=26). Mandibles were especially frequent (41 remains) among the elements of the head, the best represented body part in pig (64 remains). The next well-represented category was the meaty limb by 57 remains. In this group, scapula fragments were especially numerous (21 remains).

Among the pig remains, a single specimen displayed an anomalous morphology. Uneven tooth wear on the first molar was identified in the mandible found in Feature 1509.

Horse

Horse yielded only 9 remains representing 0.7% of the assemblage. This ratio does not show any increase of horse remains compared to the values of the previously presented Somogyvár-Vinkovci culture assemblages.

The majority of horse bones originate from fully grown specimens. Only a distal femur fragment with a yet not ossified epiphysis pointed to a specimen younger than 4 years (Chaix – Méniel 2001). Skeletal elements of all body parts of horse were present in the assemblage (*Table 34*).

Dog

Most dog remains seem to represent partial skeletons from Features 1140, 1162 and 1465. When the osteological age of skeletal parts could be established, they indicated fully grown animals. However, only the dog from Feature 1465 yielded a complete long bone suitable for estimating its stature. This radius pointed to a small dog whose withers height was 40.9 cm. This stature is slightly larger than the mean withers height of the 'turbary dog' found at Ig (Slovenia), and it is closest to the size of 'mudi' among the recent breeds (Bartosiewicz 2002: 83, Table 9). The carnassial from the left mandible (17.1 mm), however, is considerably shorter than the mean lower carnassial length of the aforementioned 'turbary dogs' (20.3 mm; n=37). The M_1 of another specimen found in Feature 1233 is 19.6 mm. The two data indicate a mean lower carnassial length of 18.4 mm for the Ordacsehi dogs.

Wild species

Game was underrepresented at Ordacsehi-Bugaszeg by only 17 remains (1.4% of the assemblage). Although a number of species preferring various habitats were identified, they yielded only one to three remains each (*Table 33*). Among cervids, roe deer was recognized from a shed antler only. Red deer yielded the proximal fragment of a tibia and a rather poorly preserved antler tool.

In addition to mammals, remains of birds, fish and a reptile were also found. The Eurasian hobby, a migratory raptor, frequents this region in the breeding season (Hume 2003: 142). It was identified based on an ulna fragment in the Kisapostag assemblage. European pond turtle was identified from three plastron fragments found in Feature 1233.

Fish was represented by carp and northern pike. Three remains of the former were found in Feature 1283, while the latter species was identified from Feature 1261. Both carp and pike are rather common freshwater fish that must have been widespread during the EBA as well. Their presence is not surprising, given the aquatic habitats associated with Lake Balaton nearby.

Taphonomic observations

In addition to the skeletal parts of a newborn piglet found in Feature 1125, the assemblage contained a few partial skeletons, such as the cattle in Features 1212 (eight remains) and 1293 (at least two remains), and a dog in Feature 1465 (four remains).

The distribution of remains by species and fragment sizes indicated the dominance of bones of 101–200 mm in the case of cattle and pig. In the case of caprines, 51–100 mm large fragments were slightly better represented than the previously mentioned category (*Fig. 68*).

The material from Ordacsehi-Bugaszeg is one of the rare assemblages studied in this work where the bones were not covered by exogenous limestone concretions. Thus, the weight of the remains could

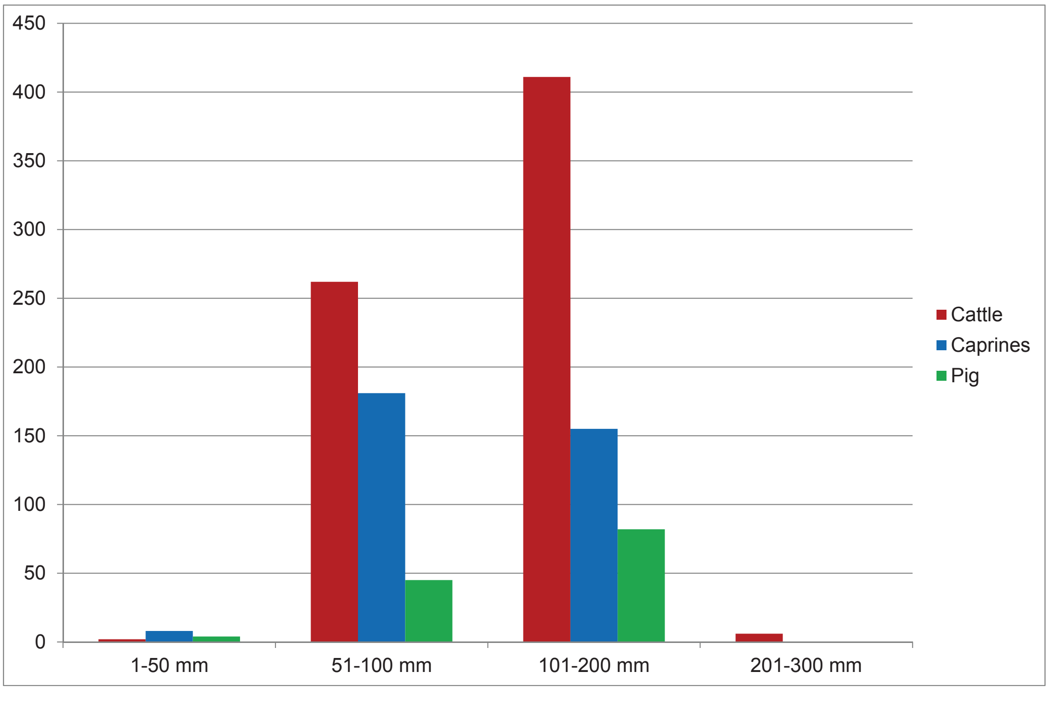

Fig. 68. Fragment lengths of bones from cattle, caprines and pig

be reliably measured. While the NISP indicated the dominance of cattle bones by 57.1%, their actual weight showed an even greater importance of this species in the diet: 80% (*Table 33*). Interestingly, the weight of caprine and pig bones showed a similar representation in the material (8.5% and 8.6%, respectively), although the NISP of caprines is almost three times as high (28.8%) as the number of pig bone fragments (11%). One of the reasons for this patterned difference may be the rather great contribution of swine mandibles with teeth (*Table 34*).

The most frequently identified taphonomic feature was gnawing marks on the bones of cattle, caprines and pig alike. In caprines, a similarly high ratio of remains displayed signs of various degrees of heat exposure. Burnt bones were less typical for cattle and pig. In addition, a small number of cattle bones showed chop and cut marks (*Fig. 69*).

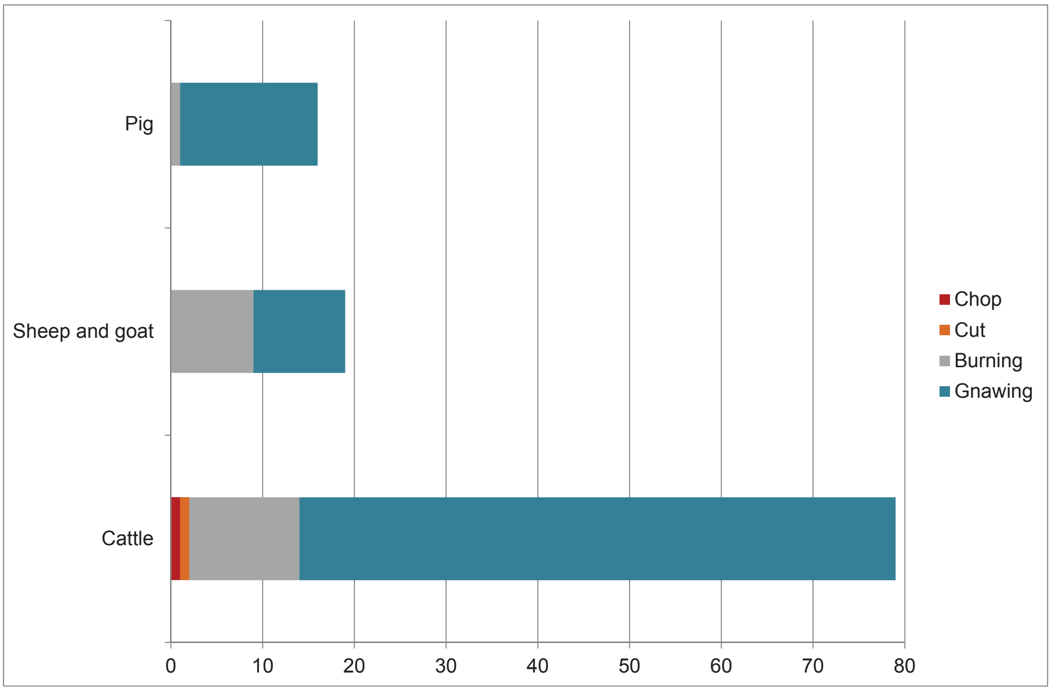

Fig. 69. Taphonomic observations made on the remains of meat-purpose species

Bone and antler artefacts

Thirteen remains showed evidence of deliberate modification. They form 1% of the total animal bone assemblage. Rib spatulae (Type 12) and bones with non-specific manufacture/use wear were the most frequent types (*Table 35*). The latter category includes two scapula scrapers made from cattle and pig (*Fig. 70*), and a seal-looking tool (*Fig. 71*). This artefact was made from the tibia of a sheep or goat by abrading the protuberances of the distal epiphysis. The flat end of the bone with the two oval concavities (originally the articulation surface for the astragalus) may have been used to leave parallel marks on surfaces such as drying raw clay.

In proportion with the scarce cervid finds in the assemblage, a single antler artefact was found. It was a rather fragmented hafted beam tool made from red deer antler. The other Class I tool is a round diaphysis point (Type 1/3) made from the metapodium of sheep or goat. This collection of tools differs

Fig. 70. Pig scapula scraper (medial view)

from the other EBA assemblages by mostly including Class II tools, although their actual proportion is hard to judge due to the small sample size.

Summary

Meat provisioning at Ordacsehi-Bugaszeg during the end of the EBA seems to have been based almost exclusively on slaughtering domestic animals. Especially caprines and pig were killed for prime meat, while cattle seem to have been kept alive longer. According to the diverse but scarce evidence for the exploitation of wild species, hunting, fishing and gathering were rarely practiced. Bone and antler manufacturing does not seem to have been a priority either, as indicated by the small tool assemblage mostly including Class II utensils.

Fig. 71. Seal-looking tool made from the tibia of sheep or goat (left: posterior view; right: enlarged distal view of the polished articulation surface)

Table 35. The distribution of worked material by skeletal elements and species

Tool Type (Schibler's Typology)	Bone	Class	Base	Tip	GL	GB	GD	LMF	GSB	No. and Feature Type		Note
Round diaphysis point (Type 1/3)	Metapodium (small ruminant)	1	11	-	63.6	14.2	7.6	-	-	1140	Pit	Broken tip, curated
Middle size point without articular end (Type 1/8)	Metacarpus (small ruminant)	2	11	-	97.4	10.7	6.5	-	-	1233	Pit	Groove and split technique, handling polish, broken tip
Massive ad hoc chisel (Type 4/7)	Long bone diaphysis (cattle)	2	11	30/22	105.4	23.7	9.3	12.7	18.6	1124	Pit	Handling polish
Small ad hoc chisel (Type 4/8)	Tibia (small ruminant)	2	31	30/24	65.6	26.7	9.5	28.8	27.0	1260	Pit	Curated
Rib spatula (Type 12)	Rib (cattle)	2	-	-	74.3	30.2	7.8	-	-	1267	Pit	
Rib spatula (Type 12)	Rib (cattle)	2	-	-	110.0	26.8	9.7	-	-	1140	Pit	
Rib spatula (Type 12)	Rib (cattle)	2	-	-	139.2	38.0	9.0	-	-	1476	Pit	
Polished tool (Type 19)	Long bone diaphysis (cattle)	2	-	-	81.1	13.9	-	-	-	1261	Pit	
Bone with manufacture/ use wear (Type 22)	Scapula (pig)	2	1	-	170.0	54.4	27.0	-	-	1465	Pit	Handling polish on *collum scapulae*
Bone with manufacture/ use wear (Type 22)	Scapula (cattle)	2	-	-	-	-	-	-	-	1293	Pit	
Bone with manufacture/ use wear (Type 22)	Tibia (small ruminant)	2	11	-	173.0	27.2	19.8	-	-	1427	Pit	Abraded distal epipysis
Bone with manufacture/ use wear (Type 22)	Long bone diaphysis (cattle)	2	-	-	126.5	27.1	13.1	-	-	1233	Pit	Smoother-like tool
Hafted beam tool fragment	Antler (red deer)	1	-	-	-	-	-	-	-	1140	Pit	

2.7 Kaposvár-Road 61, Site no. 1 (Kisapostag culture)

Introduction

This multi-period site is located on a small hill on the right bank of Deseda Creek between the city of Kaposvár and Toponár village (*Fig. 27*). A total of 809 features dated to several prehistoric and historic periods were opened over an area of 14,770 m^2, excavated under the direction of Krisztina Somogyi, Csilla Aradi and Piroska Füle in 1999. Although the Middle Bronze Age (MBA; Encrusted Pottery culture) settlement provided the most representative part of the site (Somogyi 2000: 245; Kiss – Somogyi 2004: 93), a number of EBA features were also recognized at this locality. The upper cheek tooth (M^1 or M^2) of a not fully grown horse from Feature 283 was recently radiocarbon dated to 1950–1880 cal BC.

Results

A total of 89 animal remains weighing 1,740 g were found in three Kisapostag culture features, 70 of which (1,615 g) were identifiable (*Table 36*). Almost half of the assemblage belonged to sheep and goat, includeding a partial skeleton of a sheep from Feature 283. According to the erupting lower third molar, the age of this animal was 1–2 years.

Table 36. The distribution of species by NISP and % in the assemblage

Species	NISP	%	Weight (g)	%
Cattle (*Bos taurus*)	22	31.43	1,068	66.13
Sheep (*Ovis aries*)	16	48.57	436	27.00
Sheep and Goat (Caprinae)	18			
Pig (*Sus domesticus*)	12	17.14	73	4.52
Horse (*Equus caballus*)	1	1.43	28	1.73
Domestic animals	**69**	**98.57**	**1,605**	**99.38**
Wild boar (*Sus scrofa*)	1	1.43	10	0.62
Wild animals	**1**	**1.43**	**10**	**0.62**
Number of identified specimens (NISP)	**70**	**100.00**	**1,615**	**100.00**
Pig/Wild boar	1		1	
Small ungulate	5		13	
Large ungulate	9		95	
Small mammal	4		16	
Total animal bone	89		1,740	

In this small sample, caprine bones were followed in frequency by those of cattle and pig. Horse was identified by a loose M^1 or M^2 tooth from a not fully developed individual. A single remain represented the wild fauna in this assemblage: a large, complete fifth metacarpus of wild boar was brought to light (*Table 37*).

Pathological lesions were not recognized on any of the remains. One of the cattle bones showed traces of working and use wear. The fragment of a faceted cattle mandible found in Feature 283 seems to have been used on a soft surface (e.g. leather) as shown by the intensive polish on its lingual side (*Fig. 72*).

Table 37. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig
cornus			
neurocranium	3	2	2
viscerocranium	1	1	1
mandibula	5	4	1
linguale			
dentes	1	5	
atlas		1	
axis			
Head	**10**	**13**	**4**
vert. cervicalis		2	
vert. thoracalis	1		
vert. lumbaris	1		
os sacrum			
sternum			
costa	2		
Trunk	**4**	**2**	**0**
scapula			
humerus	1	2	
radius	1	2	
ulna			
pelvis		1	
femur		2	
patella			
tibia	1	1	
fibula			
Meaty limb	**3**	**8**	**0**
carpalia	2		
metacarpalia	1	1	2
calcaneus		1	
astragalus			
tarsalia			
metatarsalia			1
Dry limb	**3**	**2**	**3**
vert. caudalis			
ph. proximalis			1
ph. media			1
ph. distalis			
Terminal bones	**0**	**0**	**2**
Long bone	2	9	3
Flat bone			
Grand total	22	34	12

Broad smoothers made from cattle and red deer mandibles were rather widespread in the northern and central part of the Great Hungarian Plain during the Early and Middle Bronze Age. The ca. 2 cm wide or even broader facet, however, covers the buccal surface of the mandible in these tools. According to the crisscrossing striations parallel to the longitudinal axis of the objects, these tools were most likely

Fig. 72. Faceted cattle mandible (lingual view)

used on hide with dirt on its surface or, more likely, for smoothing clay surfaces such as house walls or floor plastering (CHOYKE – BARTOSIEWICZ 2009: 363, Plate IV/b).

Further mandible finds from Transdanubia whose lingual surface was modified, as well as microscopic wear analyses may help revealing cultural or functional reasons in the background of this variation.

Summary

The very small Kisapostag culture assemblage from Kaposvár-Road 61, Site no. 1 does not allow meaningful conclusions. Nevertheless, the results indicate that people based their meat supply and other kinds of animal exploitation on various domestic species rather than hunting game.

Discussion of Early Bronze Age settlements

In comparison with the preceding Baden period of the LCA, a number of changes could be observed regarding animal bone assemblages in southern Transdanubia. Structured deposits of animal skeletons, whose role is usually interpreted within a sacral context, were not found, although sacrificial cattle remains have been reported from the Nagyrév culture site of Soroksár (Vörös 2002) and the Makó culture site of Üllő (Kőrösi 2005: 138) in the central part of the country. The composition of animal bone assemblages recovered from the so-called *bothroi,* identified at Dombóvár-Tesco, did not differ from the content of other refuse pits at the settlement either. Nevertheless, the animal skulls found at a number of features at Kaposújlak-Várdomb are likely the results of ritual acts. Similarly, the incomplete cattle skeleton found at this settlement points to a possible formal procedure different from everyday meat consumption.

By the EBA, cattle became the leading species as shown by the seven archaeozoological assemblages presented in this work, which included four representative (NISP>500) assemblages and three others of non-representative sizes. The previously published site of Szava-Vasúti megálló conforms this pattern (Vörös 1979). The relative frequency of cattle in the five statistically representative assemblages ranged between 34.1% (Kaposújlak-Várdomb) and 61.3% (Paks-Gyapa).

The only preserved cattle skull was found in the assemblage of Kaposújlak-Várdomb. It has been tentatively assigned to the short-horned *brachyceros* cranial type. The slender and curved, but rather long horn core fragments from the majority of the sites under study, however, pointed to a mixture between the *primigenius* and *brachyceros* types. The existence of "innumerable transitional forms of the two groups" by the Bronze Age has already been noted earlier (Bökönyi 1974: 120). The *primigenius* type was also identified at the Nagyrév culture site of Soroksár, located in the central part of the country (Vörös 2002), and the Makó-Kosihy-Čaka culture site of Csongrád-Sertéstelep in the southern region of the Great Hungarian Plain (Vörös 2001: 162). The *frontosus* cranial type was identified at Szava-Vasúti megálló (Vörös 1979: 140). The latter form seems to have appeared as early as the LCA, based on the skull found in a grave at the Pécel culture site of Üllő (Bökönyi 1974: 121, Fig. 16). While fine distinctions within this traditional classification of cranial types may not always be relevant in the Bronze Age, they certainly illustrate the great morphological variability of cattle at the time. A rather great variety of horn core base diameters was also recorded as shown by the scatter diagram (*Fig. 73*). The clustering of data points is most probably due to secondary sexual dimorphism apparent in horn core dimensions as well.

The size of cattle seems to have been rather uniform in southern Transdanubia during the EBA. The withers heights for 10 cows range from 121.8 to 133.6 cm (mean=126.5 cm; standard deviation=4.262 cm) that indicates a notable size increase compared to the stature of cows during the LCA (113.9 cm; n=2). This value also exceeds the mean withers height of cows from Soroksár (112.8 cm; n=2) and Üllő (119.8 cm) in central Hungary (Vörös 2002: 249; Kőrösi 2005: 138-139, Table 2) as well as those from the Nyírség culture site of Gáborján-Csapszékpart (111.5 cm; n=2) in the Great Hungarian Plain (Bökönyi 1988: 125, Table 3).

The stature of the single bull identified from Paks-Gyapa (124.3 cm), however, does not considerably differ from the withers height of the bull found in the animal bone deposit of Kaposújlak-Várdomb (124.1 cm; *Table 3*). Both fall behind the dimensions of bulls unearthed at Soroksár (131.2 cm) and Üllő (135.6 cm).

In the case of assemblages that most likely included the remains of a single group of animals (i.e. the epiphyseal fusion curve did not turn upwards in the oldest category), such as at Paks-Gyapa, Dombóvár and Ordacsehi-Bugaszeg, the bone remains indicated that fewer young cattle were slaughtered for

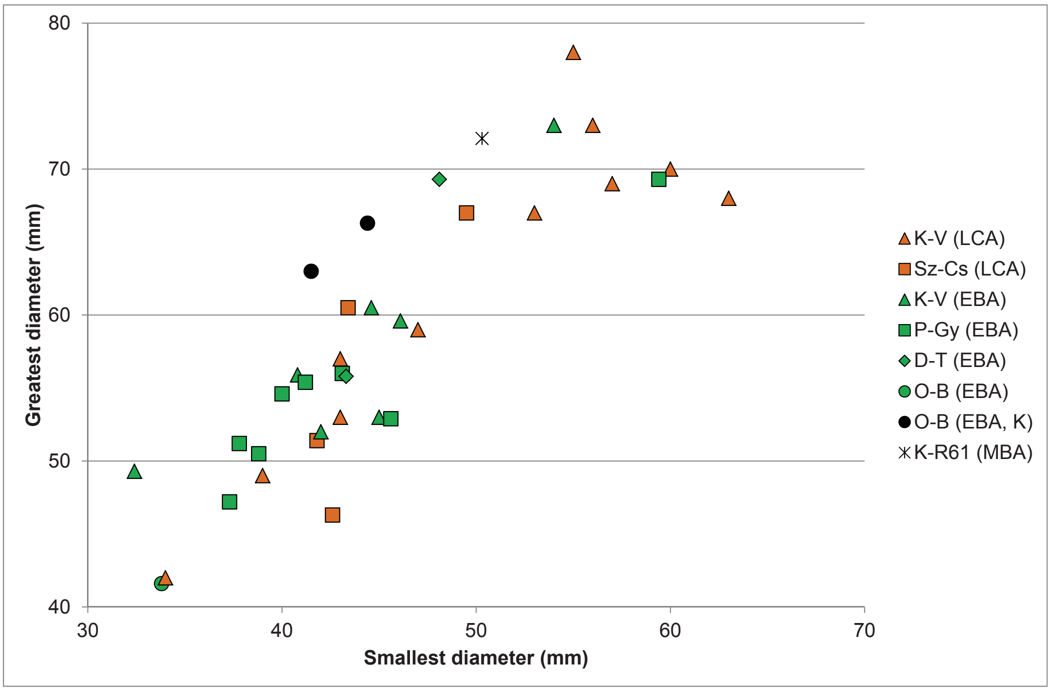

Fig. 73. The greatest and smallest diameters (mm) of cattle horn core bases (Abbreviations: K-V = Kaposújlak-Várdomb; Sz-Cs = Szűr-Cserhát; P-Gy = Paks-Gyapa; D-T = Dombóvár-Tesco; O-B = Ordacsehi-Bugaszeg; K-R61 = Kaposvár-Road 61, Site 1; LCA = Late Copper Age; EBA=Early Bronze Age; K = Kisapostag culture; MBA = Middle Bronze Age)

prime meat than young caprines and pig. Longevity in cattle seems to indicate protracted exploitation for secondary products at Paks-Gyapa (*Fig. 41*). Mostly adult and mature individuals (85%) were slaughtered at the settlement of Szava-Vasúti megálló as well (VÖRÖS 1979: 140). On the other hand, beef seems to have been more commonly consumed at Dombóvár-Tesco (*Fig. 53*), where the proportion of animals kept until the 'Final' fusion stage was the smallest (41%).

The NISP for small ruminants and pig as the second and third most common species varies among the sites. Following cattle, however, sheep and goat seem to have been the most frequently exploited domesticates in most cases (*Fig. 74*). Their relative frequencies ranged between 9.0% (Szava-Vasúti megálló) to 29.4% (Dombóvár-Tesco) in terms of NISP.

Similarly to cattle, a number of sheep types were recognized in the EBA assemblages. 'Copper sheep' was identified at Kaposújlak-Várdomb (*Fig. 30*). Evidence for the *palustris* type came to light at Dombóvár-Tesco (*Fig. 55*), while at Paks-Gyapa another form was found whose horn cores pointed in a caudal direction but were also laterally bent (*Fig. 42*).

The size of sheep also increased from the LCA towards the EBA. While the mean stature of 71 ewes seems to have been limited to 57.1 cm (with a relatively narrow range of ca. 10 cm and a standard deviation of only 2 cm) at the Pécel-Baden settlement of Kaposújlak-Várdomb, the Somogyvár–Vincovci culture assemblage of the same site yielded evidence for an ewe of 59.1 cm at the withers. Moreover, calculations on remains from three other sites indicated the same size as 60.0-64.2 cm. The mean withers height of two rams were estimated to have been 69.7 cm at Kaposújlak-Várdomb (*Table 3*). A very similar value (69.4 cm) was reported from Szava-Vasúti megálló (VÖRÖS 1979: 140). The mean withers height of 63.7 cm (n=14) described from Csongrád-Sertéstelep includes the dimensions of both ewes and rams (VÖRÖS 2001: 162).

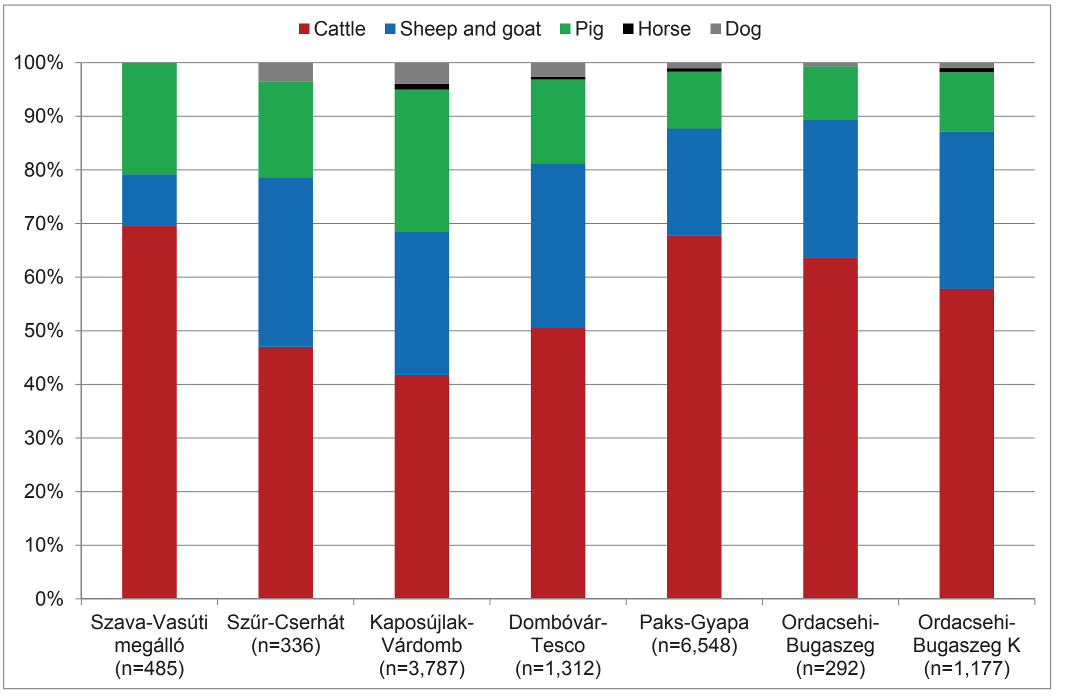

Fig. 74. Representation of domestic species at EBA sites (NISP>200) from southern Transdanubia (Abbreviation: K=Kisapostag culture)

Most of the young caprines seem to have been slaughtered at Dombóvár-Tesco (*Fig. 53*). Small bovid species were kept alive for longer at the rest of the sites, similarly to cattle, while prolific pig was more typically killed for prime meat. Moreover, the epiphyseal fusion curve of meat-providing species indicates slightly more kill-off of cattle than caprines between the 'Intermediate I' and 'Intermediate II' stages at Ordacsehi-Bugaszeg (*Fig. 64*). The increasing retention of adult sheep within the stocks in connection with wool production by the EBA has already been highlighted (Bökönyi 1974: 171).

The number of pig remains surpassed that of sheep and goat in NISP relative frequency only at the site of Szava-Vasúti megálló. At Kaposújlak-Várdomb, swine (21.6%) and small ruminants (21.9%) were equally well-represented. Although pig was only the third most common species at Dombóvár-Tesco, its relative frequency reached 15% of the NISP. The sites where pig was most common are located in the southern part of the region under study. The relatively high proportion (NISP) of wild boar, red deer and roe deer remains from these settlements offers evidence for woodland habitats in this region, in contrast to the site of Paks-Gyapa, located in a floodplain. At this latter site, grassland species provided the overwhelming majority of remains both among domestic and wild animals (*Figs 74–75*). The Kisapostag culture assemblage of representative size recovered from Ordacsehi-Bugaszeg on the shore of Lake Balaton also pointed to the importance of cattle (57.1%) and sheep and goat (28.8%), as well as a relative underrepresentation of swine (11%) in the diet.

Similarly to the aforementioned bovid species, the size of pig increased towards the EBA, although the difference is not as marked as in the case of cattle and sheep. Compared to the largest swine with a withers height of 74.3 cm, found at the Baden culture site of Szűr-Cserhát, the EBA mean values of 74.1–75.4 cm indicated a rather small size increase in the region (*Table 3*). This stature is still smaller than the large individual (77.0 cm) discovered at the EBA site of Gáborján-Csapszékpart in the Great Hungarian Plain (Bökönyi 1988: 126).

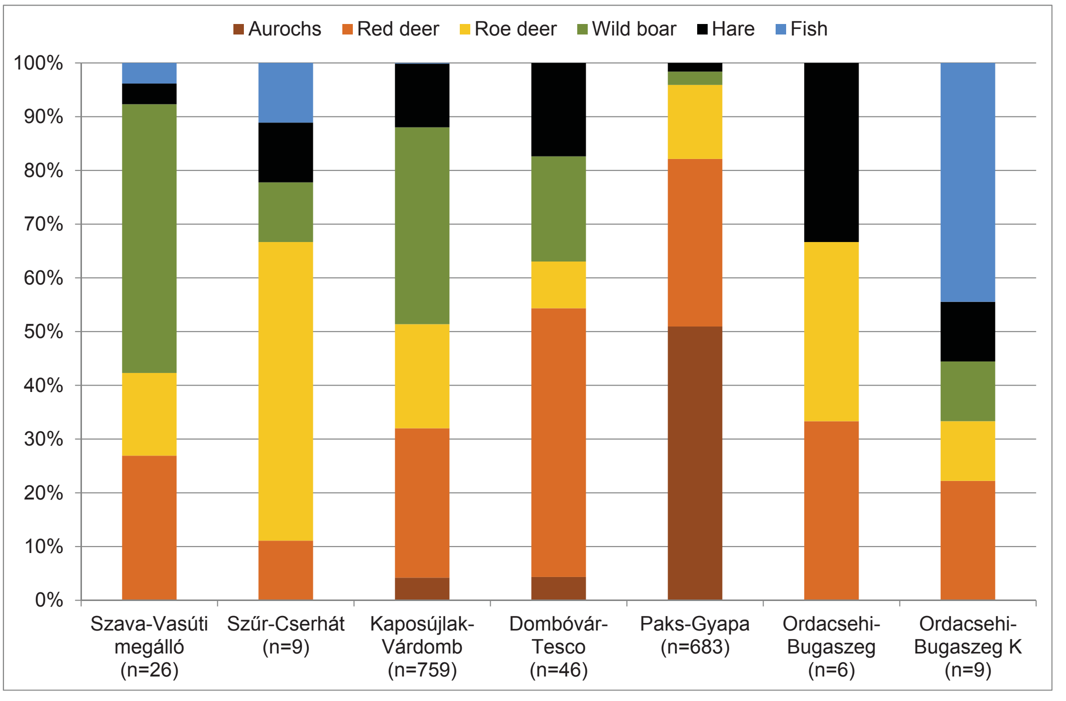

Fig. 75. Representation of the most common wild species at EBA sites (NISP>200) from southern Transdanubia (abbreviation: K=Kisapostag culture)

Nevertheless, crossbreeding between the wild form and domestic pig stocks cannot be ruled out at settlements surrounded by forests where wild boar was also frequent. The interbreeding resulted in notably large pigs, as it has been suggested earlier (Bökönyi 1974: 211-212). Pig remains of intermediate sizes from Kaposújlak-Várdomb seem to indicate the presence of such hybrids in southern Transdanubia as well (*Appendix 4*).

At sites where the epiphyseal fusion curve indicated the deposition of a single group of animals, slaughtering of young pigs was far more common than that of young ruminants. In accordance with the lack of secondary exploitation of this species, no pig was kept beyond the fusion stage 'Intermediate II' at Ordacsehi-Kisapostag (*Fig. 64*), and only an insignificant part of the stock survived until the 'Late' fusion stage at Dombóvár-Tesco (*Fig. 53*). At Paks-Gyapa, over half of the pig bones originate from the 'Late' stage, possibly in relation to sustainable stock management. In cattle as well as sheep and goat this pattern may also be explained by longevity related to secondary exploitation, whose effect would be more difficult to distinguish from the retention of breeding stock (*Fig. 41*).

In contrast to the LCA assemblages identified by myself in the present work, horse bones were brought to light at all the representative Somogyvár-Vinkovci culture sites and both of the Kisapostag culture settlements. Moreover, the earliest horse bone (2880–2680 cal BC) was found in the small assemblage from Szűr-Cserhát. The ratio of remains from this species, however, is rather small (0.5–0.8% of NISP) even in the assemblages of representative sizes. Horse was not identified in the material excavated at Szava-Vasúti megálló.

Most likely, horse was uncommon at the beginning of the EBA in southern Transdanubia. It also has to be noted that horse tends to be kept for riding and traction rather than for its meat. Therefore its bones cannot be expected to appear in large quantities among food refuse. The few remains of fully grown individuals most probably originated from old and/or sick animals, unfit for working.

In the region under study, the only estimation of stature for an EBA horse was possible at the site of Kaposújlak-Várdomb. The withers height of 132.5 cm fits well within the range defined by four horses (129.5–138 cm, mean 133.1 cm) from the Makó culture site of Üllő (KŐRÖSI 2005: 142, Table 5) as well as other Bronze Age horses of 131.9-142.5 cm (BÖKÖNYI 1974: 246, Table 3).

Dog was better represented than horse in the assemblages under study, its ratio ranging from 1% to 3.2% of the NISP. This may be explained by the fact that the old and sick individuals mostly died around the settlements, and therefore their remains were usually not deposited in the pits along with food refuse. No evidence was found for the consumption of dogs or for the ritual role of this species.

The stature of EBA dogs seems to have been rather uniform (40.5–48.8 cm) according to the data from three sites (*Table 3*). The mean withers height (43.4 cm) of these four individuals is close to the mean withers height of the small-medium size 'turbary' dog type associated with the Baden phase of Balatonőszöd-Temetői-dűlő (45.0 cm based on the measurements of 20 bones; VÖRÖS 2014: 309). The two 'turbary' dogs found at the LCA–EBA Ig pile dwellings in Slovenia were smaller (34.8–39.0 cm; mean=36.9 cm). While the latter size corresponds to the (female) '*puli*' among the modern sheepdogs, the stature of dogs from EBA Transdanubia is closer to the slightly taller (male) '*mudi*', a traditional breed in Hungary (BARTOSIEWICZ 2002: 83, Table 9).

There was a major variation in the length of the lower carnassial tooth based on a number of measurements taken at four EBA settlements. The mean size of 20.2 mm recorded from three specimens at Kaposújlak-Várdomb is the closest to the mean size of 37 carnassials from Ig (20.3 mm). The carnassials of dogs from the other three contemporaneous sites were smaller (*Fig. 76*), which reflects the consistent size difference already observed in stature (*Table 3*).

Although dog was missing from the assemblage of Szava-Vasúti megálló, a number of gnawed animal remains offered indirect evidence for the presence of this species. Interestingly, the prevalence of gnawing marks did not always coincide with a high ratio of dog remains in the assemblage. For example, dog bones were relatively numerous at Dombóvár-Tesco (2.6% of NISP), but a relatively small number

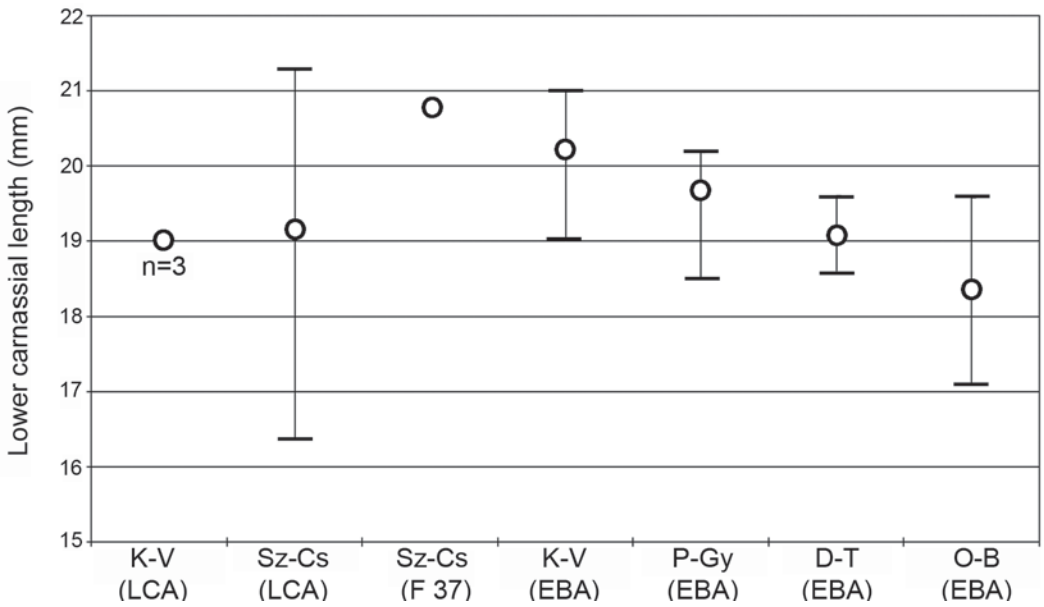

Fig. 76. Variability of lower carnassial lengths (mm) in LCA and EBA dogs (Abbreviations: K-V = Kaposújlak-Várdomb; Sz-Cs = Szűr-Cserhát; P-Gy = Paks-Gyapa; D-T = Dombóvár-Tesco; O-B = Ordacsehi-Bugaszeg; LCA = Late Copper Age; F37 = Feature 37; EBA=Early Bronze Age)

of animal remains showed gnawing marks (*Fig. 57*). On the other hand, while dog yielded only 1.0% of the assemblage at the Kisapostag culture site of Ordacsehi-Bugaszeg, traces of dog gnawing represented the majority of taphonomic damage (*Fig. 69*). This difference sheds more light on the role of dogs at the studied settlements. As they rarely (if ever) formed part of the diet, the deposition of their remains differed from that of meat purpose animals. However, they did scavenge on human food refuse at several settlements.

Additional modifications in the find material point to the particular accumulation of refuse bones and pre-depositional circumstances at each settlement. Traces of heat exposure from charring to the full calcination of bones were most frequent in the assemblages from Paks-Gyapa and Dombóvár-Tesco. Burnt finds, common in EBA assemblages, may be partly related to the evidence for frequent house fires found in the sporadically discovered villages dated to this period (Kiss 2007: 30).

At Kaposújlak-Várdomb, gnawing and burning marks were the most frequent among the taphonomic modifications. Chop and cut marks have scarcely been identified at assemblages discussed in this volume, but are reportedly frequent in the assemblage from Szava-Vasúti megálló (Vörös 1979: 141). During this time period, however, stone blades were still commonly used on a household level in rural EBA communities in the Carpathian Basin.

It must also be noted that most of the bones identified within the framework of my project were covered by calcareous soil concretions, hindering the identification of fine surface modifications the same way as it precluded the weighing of such remains.

The fragmentation and distribution of bones by body parts showed a quite uniform pattern. Except for the assemblage from Ordacsehi-Bugaszeg, remains of 51–100 mm were recovered most frequently from all three meat-purpose species. At the aforementioned site, however, remains of 101–200 mm were found in the greatest numbers (*Fig. 68*). Bone fragments of 1–50 mm were underrepresented in this assemblage, similarly to the Paks-Gyapa and Dombóvár-Tesco material. On the other hand, a good number of the bones recovered at Kaposújlak-Várdomb were small fragments in the 1–50 mm size range (*Fig. 34*). The assemblage from this latter site seems to have been the most fragmented, while the bones from Ordacsehi-Bugaszeg were best preserved. At the same time, they must have been exposed to scavengers extensively. However, when fragment sizes are compared, differences of recovery rooted in the frequently biased hand-collection method must also be kept in mind.

Body part distribution indicated that the meaty limb segments were best represented in the assemblages of representative sizes. Within this group, most fragments originated from tibiae and humeri. The underrepresentation of femora in this category may be partly explained by the high fragmentation of this bone into non-identifiable diaphysis splinters. In the assemblages from Dombóvár-Tesco (*Table 26*), Ordacsehi-Bugaszeg (*Table 34*) and Szava-Vasúti megálló (Vörös 1979: 140), however, skeletal parts from the head were the most frequent in the case of pig. This may point to the appreciation of food made from the head at certain localities. It could be argued that bones of the skull are more prone to breakage, however, the dominant bovids (cattle and caprines) yielded relatively fewer cranial fragments in these assemblages.

The presence of skeletal elements associated with the dry limb as well as terminal bones suggest the on-site slaughter of domesticates. Dry limb elements of large game, such as the aurochs, cervids and wild boar were recovered, which suggests the transport of complete carcasses of hunted animals to the settlement. People processed the carcasses of fur animals, such as the wolf, brown bear, wild cat and beaver in a similar manner: the presence of skeletal parts from the trunk or meaty limb suggests that more than just the skin was taken home after the hunt. The metapodia of ruminants, a skeletal element which is straight and is characterized by high bone density, was often used as raw material in bone tool production. These may have been selected and managed separately from ordinary food refuse.

In accordance with rather well-developed animal husbandry, subsistence hunting lost most of its significance by the EBA. Wild animals were thus usually underrepresented in the assemblages under study. Except for Kaposújlak-Várdomb, the proportion of hunted species remained below 10% of NISP. The Kaposújlak-Várdomb settlement stands out due to the considerable contribution of remains from wild game (18.3%). A wide range of taxa including cervids and a number of fur animals were hunted here. The most frequent large game species in the assemblage, wild boar, as well as the remains of fish, amphibians and pond turtle pointed to a forested wetland habitat in the settlement's immediate environment.

Cervids and wild boar seem to have been present at all the settlements in southern Transdanubia, and they were the most frequently identified game species at Dombóvár-Tesco and Szava-Vasúti megálló as well (*Fig. 75*). On the other hand, aurochs provided most of the remains from hunted species at Paks-Gyapa. This locality marks the western edge of the Pannonian forest steppe region. All the other sites discussed in this study belong to the submediterranean oak forest region (SÜMEGI – BODOR 2000: 93, Fig. 4).

Assessing the importance of fishing (and to a similar extent, fowling) is impossible in hand-collected assemblages. These non-mammalian taxa differ from domestic livestock and large game in every possible taphonomic respect, especially fragmentation and recovery (BARTOSIEWICZ – GÁL 2007). Nevertheless, two large fish species were identified from Ordacsehi-Bugaszeg, the site most closely located to Lake Balaton, where the exploitation of aquatic resources would have been most evident.

Aside from hunting, antler gathering as well as related bone and antler manufacturing were exceptionally common at Kaposújlak-Várdomb. The importance of these activities is shown by the great number of antler raw material as well as implements. Evidence for metal working such as casting became also available from this settlement. It has been therefore suggested that Kaposújlak-Várdomb was a centre of various crafts and trade in EBA southern Transdanubia (GÁL – KULCSÁR 2012: 208).

The next largest tool assemblages were found at Paks-Gyapa and Dombóvár-Tesco. Sheep and goat bones were the most frequently modified skeletal elements at all three sites. As far as tool typology is concerned, points were found in the greatest numbers in general, but the most common type within this broader category differed at each site (*Tables 20*, *24* and *27*).

The tool assemblages from Kaposújlak-Várdomb and Dombóvár-Tesco resembled in the frequency of hafted antler implements, the occurrence of fine-eyed needles and cattle mandible thong smoothers. The latter two artefacts represent new types in comparison with the previously discussed LCA tool assemblages.

Thong smoothers made from mandibles of caprines have already been identified at the Boleráz phase assemblage found at Győr-Szabadrét-domb in northern Hungary (CHOYKE 2015: 246: Fig. 10). Those objects, however, are of a smaller size and modified in the oral section (diastema), strongly differing therefore from the horse mandible thong smoothers brought to light at Botai, Kazakhstan. The earliest cattle mandible thong smoother with an aboral U-shaped notch that resembles the latter type was found at the EBA site of Ljubljansko Barje in Slovenia (CHOYKE 2010: 27, Fig. 8).

The coeval pile-dwelling of Ig, located in the marshlands of Ljubljana, also yielded a similar object made from a red deer mandible, but with a V-shaped indentation (KOROŠEC – KOROŠEC 1969: Plate 84, Fig. 20). Large ruminant mandible thong smoothers with a U-shaped notch, usually cut into the corpus in the area of cheek teeth seem to have been produced until the end of the EBA as suggested by a specimen found at the Bell-Beaker culture site of Szigetszentmiklós-Üdülősor along the Danube river in central Hungary (CHOYKE 2013: 7, Fig. 1.5).

Roe deer antler multi-purpose tools were only unearthed at Kaposújlak-Várdomb and Szűr-Cserhát. The single parallel to these specimens is known from the MBA (Vatya culture) site of Pákozdvár

(CHOYKE 1979: 14, Fig. 6876). Similarly, faceted astragali were found only at Paks-Gyapa among the EBA settlements. They seem to have been more characteristic of the Middle and Late Bronze Age in Hungary (SOFAER et al. 2013: 483-484, Fig. 26.4/3).

Antler gathering and manufacturing were rarely practiced at Paks-Gyapa, although the representation of cervids in the refuse material is close to their ratio at Kaposújlak-Várdomb (*Fig. 75*). It is perhaps the cultural and economic rather than the environmental difference that is reflected in the higher proportion of antler artefacts at certain sites.

Class I tools dominated by 55.5–63.7% in representative tool assemblages dated to the earlier phase of the EBA (Somogyvár-Vincovci culture). In the Kisapostag culture assemblage from Ordacsehi-Bugaszeg, dated to the end of the EBA, only one implement could be assigned to the group of planned and carefully manufactured tools, while Class II tools were predominant (11 specimens). Since the size of this assemblage is much smaller than the previously mentioned Somogyvár-Vincovci culture collections, it remains a question whether this difference could be explained by changes in manufacturing methods, or the result is due to random variation attributable to insufficient sample size.

Three animal bone assemblages of representative sizes have been studied in Transdanubia north of our study area. Cattle dominated by over 70% of identifiable animal bones in the assemblage found at the Makó culture site of Balatonkenese- Kapuvári utca 7 (PATAY 2003: 45). On the other hand, the remains of sheep and goat yielded almost half of the NISP (49%) here. Aurochs was the most frequent wild species at the Kisapostag culture site of Ravazd-Villibald domb, the northernmost among the EBA sites, located 80 km north of Lake Balaton. The likewise EBA Bell Beaker culture assemblage from Mezőkomárom-Alsóhegy is special due to the high relative frequency of horse bones (10.2%). The steppe environment around this locality is further illustrated by the dominance of cattle (50.6%) among the domestic species, and of aurochs (40%) among the wild animals (CHOYKE – BARTOSIEWICZ 1999: 240-242, Fig. 1, Table 1).

Mezőkomárom-Alsóhegy is located 30–40 km from the Danube. The largest river in the region, which runs across the country, seems to have influenced the location of EBA settlements dated to the end of the period, where horse remains were identified. The representation of horse was especially high at a number of Bell Beaker sites along the Danube. At Szigetcsép-Tangazdaság, the contribution of horse bones was 23.7% (VÖRÖS 1988: 24, Table 1), and it reached 44.9% and 59.3% of NISP at the sites of Csepel-Háros and Csepel-Hollandi út, respectively. Bone tools, such as runners/skates were also produced from horse bones (CHOYKE – BARTOSIEWICZ 2005: 318). Regarding the unusually high ratio of horse bones at the two aforementioned sites on Csepel Island, Sándor Bökönyi supposed that "horse domestication developed in the Carpathian Basin on such a large scale that it survived without any further horse imports from the east" (BÖKÖNYI 1978: 35-38, Tables 11–12).

According to the recent archaeozoological, ancient DNA and lipid residue analyses, domestic horses were already kept in the steppe region of northern Kazakhstan at about 3500–3600 BC (OUTRAM et al. 2009). The spread of this late domesticate over the Carpathian Basin and Europe is still to be further investigated using pioneering complex research methods, including studies on the gene pool and the migrations of horses (GÁL 2015b: 370–374). Horse remains from the sites under study are under investigation in the Laboratory of Archaeogenetics of the Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences. This first step shall be followed by international collaborations to complement the results thus gained.

In the EBA assemblages excavated at sites in the Great Hungarian Plain, east of our area of study, horse was either absent (VÖRÖS 2001, 168, Table 3) or underrepresented, yielding only 2.6%–3.1% of the animal bone fragments (BÖKÖNYI 1988, 124, Table 2; CHOYKE – BARTOSIEWICZ 1999-2000: 51, Fig. 2; KŐRÖSI 2005, 139, Table 1). The only exception is the Nagyrév culture site of Tószeg-

Laposhalom, located near the Tisza River, where this species was the second most frequent after cattle (50%), contributing 19.3%. Contrary to these large domestic ungulates which require open grassy terrains for grazing, red deer and roe deer yielded most of the skeletal parts among the wild animals, although the contribution of antler was not specified. In addition, a number of wild boar bones were also indicative of a forested floodplain environment in the vicinity of Tószeg-Laposhalom (Bökönyi 1959: 62).

In addition to Tószeg-Laposhalom, cattle also dominated in the assemblages excavated at the Makó culture site of Üllő 5 in the northern part of the Great Hungarian Plain (Kőrösi 2005, 138-139, Table 1), at the Nagyrév culture site of Tiszaug-Kéménytető south of Tószeg along the Tisza River (Choyke – Bartosiewicz 1999–2000: 51, Fig. 2, Tables 1–4), and at Gáborján-Csapszékpart in the very eastern part of the Great Hungarian Plain. Pig yielded almost as many remains as sheep and goat at the latter locality, suggesting a forested and humid habitat in addition to areas suitable for grazing. This seems to be confirmed by the dominance of cervids and wild boar remains among the hunted animals (Bökönyi 1988: 124, Table 2).

In contrast with the aforementioned settlements, sheep and goat dominated by 54.2% of the remains at Csongrád-Sertéstelep, the southernmost site along the Tisza River in the Great Hungarian Plain. Cattle was the second most frequent species (28.9%), while pig yielded only 4.9% of the bones (Vörös 2001, 168, Table 3).

Surprisingly, except for a single skeletal part from aurochs, no wild animals were identified in the relatively large archaeozoological material (NISP=1,112) brought to light at Üllő 5. The almost total lack of evidence for hunting was also notable at Csongrád-Sertéstelep, where a single red deer bone was identified.

Data regarding the Bronze Age manufacture of hard animal tissues is mostly known from MBA and LBA materials in Hungary (Choyke 1984; Sofaer et al. 2013). Aside from the tool assemblages found in southern Transdanubia discussed in this volume, only two sites are known to have yielded EBA assemblages of representative sizes in the country.

A total of 35 tools were identified from Mezőkomárom-Alsóhegy, mostly including scrapers made from the ribs, long bone diaphyses of large ungulates, as well as tibia and metapodial scrapers manufactured from caprines. Only four (hafted) antler tools were recovered at this site. Similarly to the material from southern Transdanubia, 62.9% of the implements represented tools closer to the Class I end of the manufacturing continuum (Choyke 1984: 40-49, Tables 3-4 and 6).

The tool assemblage found in the EBA layers of Tiszaug-Kéménytető in the Great Hungarian Plain contained only 14 objects. Most of them are also scrapers, but fine-eyed needles made from caprine metapodia were also found (Choyke – Bartosiewicz 1999–2000: 56–57, Figs. 4/1 and 5/34). Here, nine of the 14 implements were identified as close to Class I tools.

Conclusions drawn from Early Bronze Age assemblages

The discussed animal bone assemblages dated to the EBA in southern Transdanubia seem to have been more homogeneous than the LCA assemblages from the same area. Structured animal deposits – in most cases, skeletons of cattle – characteristic of the Baden period are rarely found during this subsequent era. Partial or complete skeletons of animals that were killed either during a ritual act or died by natural causes are usually found in refuse pits, accompanied by ordinary-looking food remains and other trash including even discarded or broken bone and antler tools. However, placing animal skulls close to human remains or throwing them *en masse* into pits would suggest particular actions and roles for these animal parts as potentially ritual objects. The difference to LCA cattle burials, however, is remarkable.

Archaeozoological results both from southern Transdanubia and other parts of Hungary revealed that beef became the most important meat consumed by the EBA. Sheep and goat dominated over cattle in terms of NISP only at Ravazd-Villibald domb in northern Transdanubia and Csongrád-Sertéstelep in the southern part of the Great Hungarian Plain among the major assemblages of representative sizes. Caprines were usually the second best represented domesticates, whose ratio was rarely surpassed or approximated by pig (Szava-Vasúti megálló; and Kaposújlak-Várdomb and Gáborján-Csapszékpart, respectively). The dominance of ruminants together with the presence of pig suggests that meat provisioning was based on variegated combinations of domestic stocks according to local conditions and needs.

The emergence of horse keeping was one of the most important socio-economic innovations during the Bronze Age. Horse was generally underrepresented in EBA southern Transdanubia. Its major contribution to the assemblages has been marked at a number of Bell-Beaker and Nagyrév culture settlements along the Danube and Tisza Rivers in the central part of the country, largely corresponding to the Great Hungarian Plain. It remains a question whether the high relative frequency of horse bones at those sites was simply due to meat exploitation in a grassland habitat favorable for this species or it is a sign of breeding – and possibly trading – horses. This interesting problem requires further, in-depth investigations involving DNA analyses as well as oxygen-18 (^{18}O) and strontium ($^{87}Sr/^{86}Sr$) stable isotope measurements used in monitoring interregional movement.

Similarly to the preceding LCA, a number of types of cattle, sheep and goat could be identified on the basis of horn core remains. Size increase in these species towards the EBA was also noted. This is especially important in the case of cattle whose draught exploitation went hand-in-hand with the extension of crop cultivation and the spread of the wagon: a tall stature, that is, a large frame is a definite advantage in draught animals. As recent analyses reveal, beyond its increased value on a local scale as a species employed in traction and plowing, cattle was also traded during the European EBA (Bartosiewicz 2013b: 323–324). Keeping fully grown cattle is also shown by the age structure of animals killed. Age profiles indicate the slaughter of relatively younger caprines and pigs rather than cattle for prime meat. Pathological lesions on cattle bone are also related to the advanced age of several individuals of this species as longevity increases the probability of natural morbidity as well as the risks of trauma.

The relative frequency of pig remains decreased towards the northern (Ordacsehi-Bugaszeg) and eastern (Paks-Gyapa) edges of the region under study, and the same decline could be noted in the abundance of wild boar. In comparison with the other sites studied, these settlements were located in lowland lacustrian (Lake Balaton) and alluvial (Danube River) habitats. Cervids were also almost absent in the assemblage of Ordacsehi-Bugaszeg that would suggest the rarity of dense forests in this area, in contrast to settlements located more towards the south. At Paks-Gyapa the scarcity of wild and domestic swine as well as the small number of hafted antler implements putatively connected to wood production

(Sofaer et al. 2013: 483) are indicative of a similar trend. The dominance of remains from domestic and even wild bovids also point to a transition towards the forest-steppe habitat.

In spite of the dominance of cattle in the refuse bone assemblages, most of the EBA bone tools were made from the skeletal parts of caprines. This may be explained by the size of tools needed in the everyday life of people such as leather working, wool processing and basketry. Skeletal parts of caprines are often of the right size to serve as such hand-held tools without major modification. In addition to the tool types well-known from earlier periods and generally common in prehistoric assemblages (such as the points and bevel-ended tools made from small ruminant bones or the hafted antler tools), previously unknown new objects such as the cattle mandible thong smoothers also appeared at Kaposújlak-Várdomb and Dombóvár-Tesco. They represent less frequent implements used at individual settlements, similarly to the polished astragali found at Paks-Gyapa and the roe deer antler multi-purpose tool at Kaposújlak-Várdomb and Szűr-Cserhát.

The dominance of tools in the Class I category in the EBA assemblages (except for the later Kisapostag culture tools at Ordacsehi-Bugaszeg) point to the importance of artifacts made from hard animal tissue, before metallurgy was widespread. Aside from the lack of evidence for metal at most of the studied sites, the scarcity of chop and cut marks on animal remains also indicate the exclusive character and role of metal tools at this early period.

3. MIDDLE BRONZE AGE SITES

3.1 Ordacsehi-Bugaszeg (Kisapostag culture – Encrusted Pottery culture)

Introduction

In addition to the Somogyvár-Vinkovci and Kisapostag culture assemblages found at this site (Chapters 2.5 and 2.6), a small assemblage of 281 identifiable bones represented the transition from the Early to Middle Bronze Age (*Fig. 77*, *Table 38*).

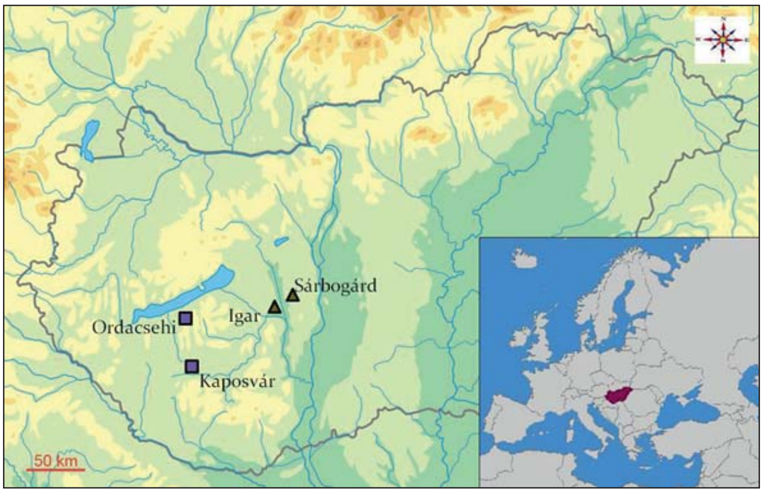

Fig. 77. Map showing the location of sites under study (square) and of already published sites with assemblages that yielded NISP>500 (triangle) in the region

Table 38. The distribution of species by NISP and % in the assemblage

Species	NISP	%	Weight (g)	%
Cattle (*Bos taurus*)	139	49.47	3,916	76.85
Sheep (*Ovis aries*)	3	29.54	60	11.49
Goat (*Capra hircus*)	1		5	
Sheep and Goat (Caprinae)	79		520	
Pig (*Sus domesticus*)	45	16.01	529	10.38
Dog (*Canis familiaris*)	8	2.84	22	0.43
Domestic animals	**275**	**97.86**	**5,052**	**99.15**
Wild boar (*Sus scrofa*)	1	0.36	13	0.26
Lesser mole rat (*Nannospalax leucodon*)	1	0.36	1	0.02
Unidentified rodent (Rodentia sp. indet.)	2	0.71	4	0.08
European pond turtle (*Emys orbicularis*)	2	0.71	25	0.49
Wild animals	**6**	**2.14**	**43**	**0.85**
Number of identified specimens (NISP)	**281**	**100.00**	**5,095**	**100.00**
Small ungulate	1		10	
Total animal bone	282		5,105	

Table 39. The distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig
cornus			
neurocranium	2	1	
viscerocranium	1	1	2
mandibula	6	5	6
linguale			
dentes	8	5	4
atlas			
axis			
Head	**17**	**12**	**12**
vert. cervicalis	11		1
vert. thoracalis	13		1
vert. lumbaris	5		
os sacrum	1		
sternum			
costa	25	15	
Trunk	**55**	**15**	**2**
scapula	4	2	4
humerus	5	7	6
radius	4	8	4
ulna	3		3
pelvis	5		3
femur	3	9	3
patella	2		
tibia	6	10	4
fibula			3
Meaty limb	**32**	**36**	**30**
carpalia	9		
metacarpalia	7	2	
calcaneus	2		
astragalus		1	
tarsalia	2		
metatarsalia	5	9	
Dry limb	**25**	**12**	**0**
vert. caudalis			
ph. proximalis	1		1
ph. media	2		
ph. distalis	1		
Terminal bones	**4**	**0**	**1**
Long bone	6	8	
Flat bone			
Grand total	139	83	45

Results

Cattle remains constituted half of this MBA assemblage. Feature 1175 contained 65 bones from the incomplete skeleton of a calf (*Table 39*). The eruption of mandibular teeth indicated that it was about 6 months old. According to a number of completely preserved long bones and the lack of specific taphonomic signatures on the remains, this animal may have been buried intact. Adult cattle were also slaughtered at the site. Due to the heavy fragmentation of remains, however, the age of the individuals could not be established in most cases.

The second best represented species were sheep and goat. Only four remains (a mandible, a humerus and a radius from sheep, and an astragalus from goat) could be identified to species level. The generally bad preservation of the remains was characteristic to these two small ruminants as well.

Feature 1175 also contained the skeletal parts of four newborn piglets (24 bones altogether) and of a juvenile dog about 6 months of age (7 bones). Pig was the third best represented species at this site. According to the tooth eruption and wear analyses, subadult and adult animals were slaughtered alike. Dog was underrepresented, while horse was absent.

A single complete metacarpus from a well-developed, mature wild boar represented hunted animals. In addition, a few remains from lesser mole rat, another rodent species and European pond turtle were found, possibly originating from natural deposition.

Summary

The composition of this small material is similar to that of the Kisapostag culture assemblage found at this same site, which indicated the almost exclusive exploitation of domestic animals. It may thus be concluded that meat provisioning was based on keeping ruminants, while it also relied on the occasional slaughter of pigs.

3.2 Kaposvár-Road 61, Site no. 1 (Encrusted Pottery culture)

Introduction

This MBA locality represents the largest Encrusted Pottery culture settlement in Hungary. Most of the 180 features are situated on the top of the low hill, spread in a north-south direction, and consist of pits of various sizes and functions. About one third were characteristic beehive-shaped pits. In addition, traces of workshops and semi-subterranean dwellings were also identified. The pottery finds suggest that the settlement was populated during the entire period of the culture, i.e. from the 19th to the 16th century BC (Kiss – Somogyi 2004).

Results

The total of 718 animal bones, of which 661 were identifiable, were found in 47 features. Sheep and goat remains dominated by 41.8% of the assemblage. Cattle and pig were nearly equally represented by 24.4% and 24.7% of the NISP, respectively. Horse and dog also yielded a number of remains, but these species were underrepresented, as well as wild animals, whose remains formed only 5.6% of the assemblage (*Table 40*).

Table 40. The distribution of species by NISP and % in the assemblage

Species	NISP	%
Cattle (*Bos taurus*)	161	24.36
Sheep (*Ovis aries*)	18	41.75
Goat (*Capra hircus*)	4	
Sheep and Goat (Caprinae)	254	
Pig (*Sus domesticus*)	163	24.66
Horse (*Equus caballus*)	6	0.91
Dog (*Canis familiaris*)	18	2.72
Domestic animals	**624**	**94.40**
Aurochs (*Bos primigenius*)	1	0.15
Red deer (*Cervus elaphus*)*	14	2.13
Roe deer (*Capreolus capreolus*)*	2	0.30
Hare (*Lepus europaeus*)	2	0.30
Lesser mole rat (*Nannospalax leucodon*)	1	0.15
Unidentifiable rodent (Rodentia sp. indet.)	10	1.51
Unidentifiable bird (Aves sp. indet.)	2	0.30
Unidentifiable frog (Anura sp. indet.)	5	0.76
Wild animals	**37**	**5.60**
Number of identifiable specimens (NISP)	**661**	**100.00**
Small ungulate	30	
Large ungulate	24	
Small mammal	2	
Unidentifiable species	1	
Total animal bone	718	

* Bone and antler together

Domestic species

Cattle

The small cattle bone assemblage mostly contained rather heavily fragmented remains. Skulls were not preserved. Only the fragment of a horn core base from Feature 389 (*Fig. 78*) indicated that cattle had curved – and most likely short – horns with oval cross sections (largest diameter = 72.1 mm; smaller diameter = 50.3 mm). Nevertheless, two metacarpals of a specimen buried in Feature 357 were recovered in their entirety. They represented a bull whose withers height was 118.0 cm. A metatarsal of a specimen with unidentifiable sex from the same feature indicated a withers height of 114.9 cm. The stature of cows could be estimated using a metacarpal (from Feature 297) and a metatarsal (from Feature 404). The minimum and maximum values (114.0–116.5 cm) resulted in a mean value of 115.3 cm (*Table 3*).

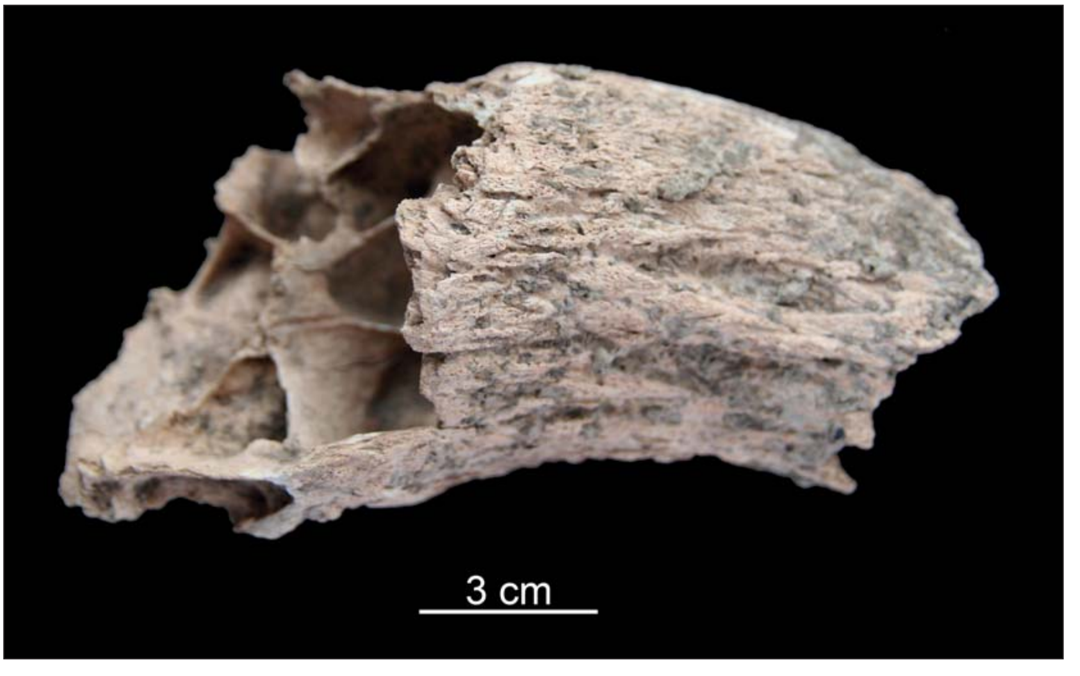

Fig. 78. Cattle horn core fragment (caudal view)

The epiphyseal fusion of cattle long bones indicates that half of the animals were slaughtered by the stage 'Intermediate 1', and the rest of the individuals do not appear to have survived beyond the 'Late' fusion stage. This would mean that most cattle were slaughtered young, possibly for prime meat (*Fig. 79*).

According to the distribution of skeletal parts, bones from the head (35) as well as from the trunk and dry limb (33 each) were the most frequent. Mandibles provided most of the remains from the first group, while ribs and metapodia represented most of the fragments in the second and third category (*Table 41*).

No evidence of animal disease was discovered in this material. Sub-pathological anomalies were limited to two cattle teeth that showed irregular tooth wear.

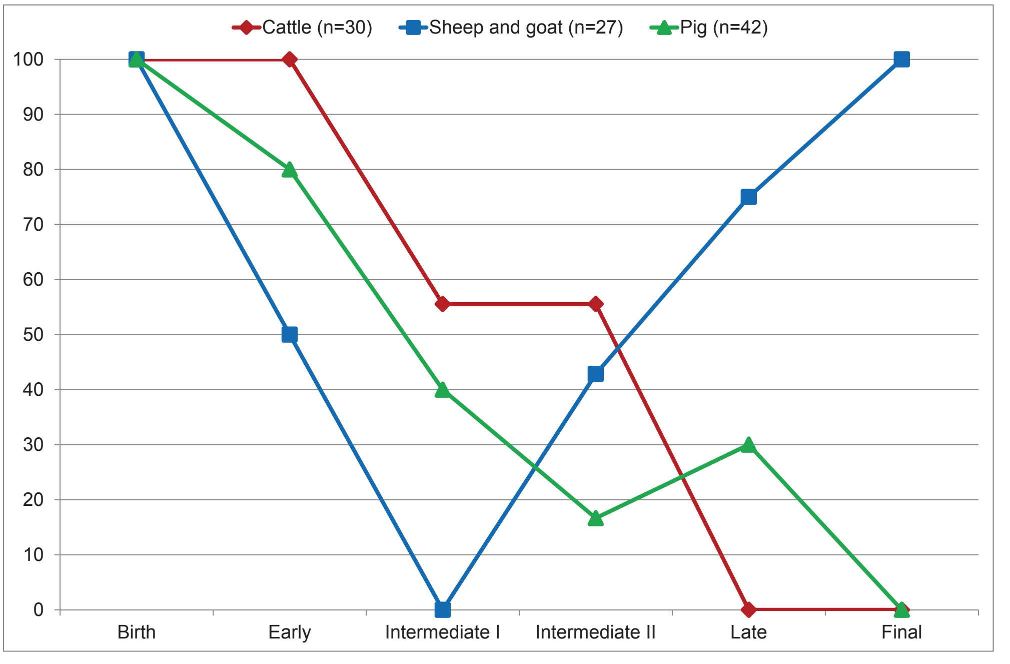

Fig. 79. Epiphyseal fusion curves in cattle, sheep and goat and pig, showing percentage of elements fused at each fusion stage

Fig. 80. Sheep skull fragment with horn core (frontal view)

Sheep and goat

Sheep and goat were the most frequently identified species at Kaposvár-Road 61, Site no. 1. Eighteen remains were assigned to sheep, while only four bones from a partial skeleton found in Feature 715 could be identified as goat. The rest of the 254 remains could be identified only to subfamily level.

The skull fragment with horn core from Feature 715 testifies that sheep had V-shaped (goat-like) horns at this site (*Fig. 80*). Complete long bones suitable for the calculation of withers height were not preserved.

The epiphyseal fusion curve of caprines is difficult to interpret. There are only two specimens from juvenile animals in the stage 'Intermediate I', and so the curve drops to value 0 indicating that no sheep and goat were killed at this fusion stage. However, a number of later fusing skeletal parts was found in the assemblage, pointing to older animals. Moreover, all nine vertebrae – standing for the 'Final' stage – were fused. Since the size of the ageable sample is generally small (n=27) due to the bad preservation of bones, it is likely that this curious fusion curve is influenced by the small number of skeletal parts and the loss of bones from juvenile animals, and therefore it provides an unreliable result.

Table 41. Distribution of material by skeletal parts and species

Skeletal parts	Cattle	Sheep and goat	Pig	Horse
cornus	2			
neurocranium	4	6	7	
viscerocranium	6	10	8	
mandibula	12	13	12	
linguale				
dentes	8	9	10	1
atlas	1	1	2	
axis	2	1	1	
Head	**35**	**40**	**40**	**1**
vert. cervicalis		2	1	
vert. thoracalis	6	10	14	
vert. lumbaris	6	1	3	
os sacrum	2			
sternum				
costa	19	30	20	
Trunk	**33**	**43**	**38**	
scapula	3	4	11	1
humerus	9	30	5	1
radius	4	15	3	2
ulna	1	2	6	1
pelvis	4	5	9	
femur	1	12	2	
patella				
tibia	4	29	4	
fibula			9	
Meaty limb	**26**	**97**	**49**	**5**
carpalia	1			
metacarpalia	11	7	9	
calcaneus	3	1	7	
astragalus	3		3	
tarsalia	5		3	
metatarsalia	10	6	10	
Dry limb	**33**	**14**	**32**	
vert. caudalis				
ph. proximalis	4	1	1	
ph. media	6			
ph. distalis	8			
Terminal bones	**18**	**1**	**1**	
Long bone	9	80	3	
Flat bone	7	1		
Grand total	161	276	163	6

The anatomical distribution of bones also differs from that seen in cattle. Skeletal parts forming the meaty limb were the most frequent, represented by many fragments of the humerus, radius and tibia. Mandibles and ribs were also frequent, but only a single terminal bone, a proximal phalanx was found (*Table 41*). The reason for this is most likely the small size of caudal vertebrae and phalanges, many of which may not be recovered without the wet or dry sieving of the sediment.

No pathological conditions were identified on caprine remains.

Pig

Although the pig bone assemblage included several skeletons (from Features 371, 378 and 715), they all represented immature animals, and therefore the withers height of this species could not be estimated. Remains of newborn piglets were found in Features 357, 518 and 565.

The epiphyseal fusion of bones indicated that 60% of pigs were slaughtered by the stage 'Intermediate I', and another 23% did not survive beyond the fusion stage 'Intermediate II' that would represent two-year-old animals. Then there is a slight upturn of the curve in this case as well, most probably due to the loss of certain bones from young animals.

Similarly to sheep and goat, remains from the meaty limb segments were the most frequent. In pig, however, the scapula, pelvis and fibula were the most numerous within this category. Mandibles from the head region and metapodia from the dry limb were also well-represented by 12 and 19 remains, respectively. Terminal bones were underrepresented, limited to a single phalanx, just as was the case with caprines.

A single pig bone showed sub-pathological alteration: irregular tooth wear was recognized on the molars of a mandible from an adult individual found in Feature 234.

Horse

This species yielded only six remains, four of them representing the front limb (shoulder to the forearm) of the same individual found in Feature 426, although none of the elements survived in full length to make the estimation of withers heights possible. All the bones originated from adult horses, and none of them showed either taphonomic signatures or pathological modifications.

Dog

Dog was also underrepresented in the assemblage by 18 remains (2.7%). Half of these belongs to a partial skeleton of an adult individual found in Feature 715. Moreover, most of these remains were calcined. In addition, the metatarsals from the right foot of a dog were found in Feature 565. Similarly to the horse bones, all dog remains represented adult animals.

Fig. 81. Skull fragment of lesser mole rat (left: frontal view; right: palatal view)

Wild species

In contrast to domesticates, only a few bones represented this group of animals. A total of 37 remains (5.6% of the assemblage) were assigned to eight taxa. Of these, five could be identified to species level. Red deer was best represented by 14 antler fragments (2.1%). None of these, however, unambiguously represented hunted animals, as they were antler tools and fragments with or without traces of manufacture. On the other hand, both of the discovered skeletal parts of roe deer (a skull fragment with antler and a proximal metatarsus fragment) originated from killed specimens. Aurochs was identified from a large humerus fragment found in Feature 518. Hare yielded two tibiae.

The skull of lesser mole rat found in Feature 352 may have belonged to an intrusive, more recent specimen, since this is a burrowing species. No traces of human modification can be seen on the find (*Fig. 81*). In addition, remains from unidentifiable rodents, birds and amphibians were included in this group (*Table 40*).

Taphonomic observations

Feature 715 differed from the others as it contained a rather great number of animal finds (151=21% of the total assemblage). They included the complete or partial skeletons of two fully grown sheep, two subadult pigs and an adult dog. A number of remains displayed traces of calcination, just as in the case of remains found in Feature 357. Heat marks were generally the most frequent taphonomic modifications on the remains, while traces of gnawing and cutting were much less common. Chopping marks were not found in this assemblage at all (*Fig. 82*).

The fragmentation of bones indicated that remains within the 51–100 mm size interval were the most frequent in all three meat-purpose domesticates. Interestingly, cattle yielded more remains in the smallest size group (1–50 mm) than pig. In this latter species, the second most numerous set of fragments

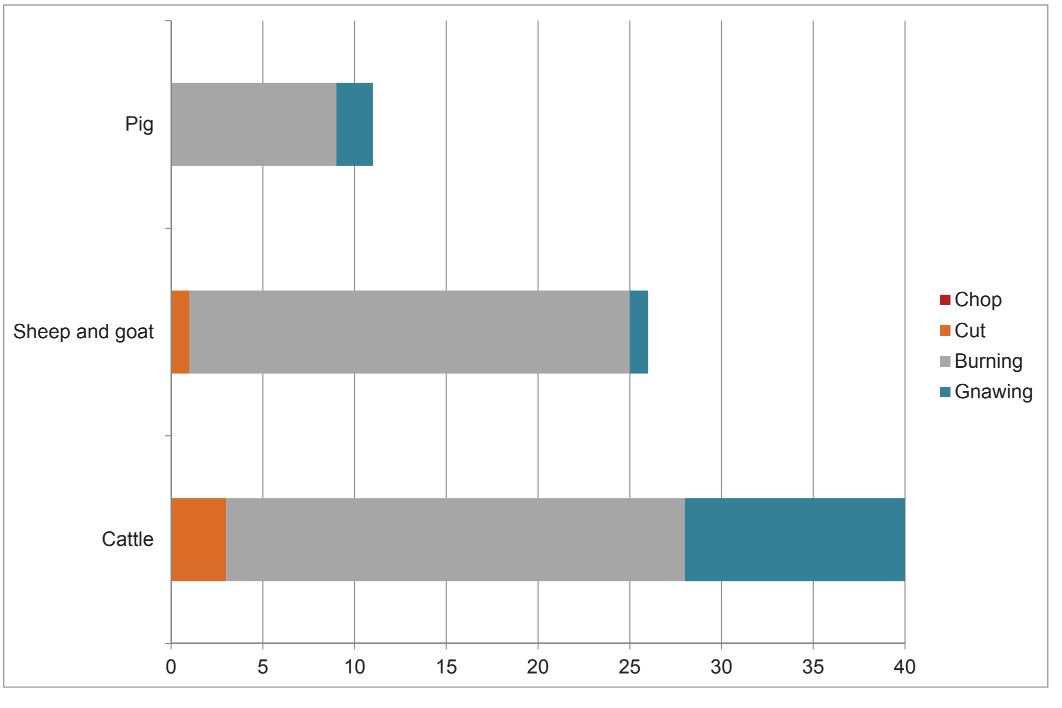

Fig. 82. Taphonomic observations on the remains from cattle, sheep and goat and pig

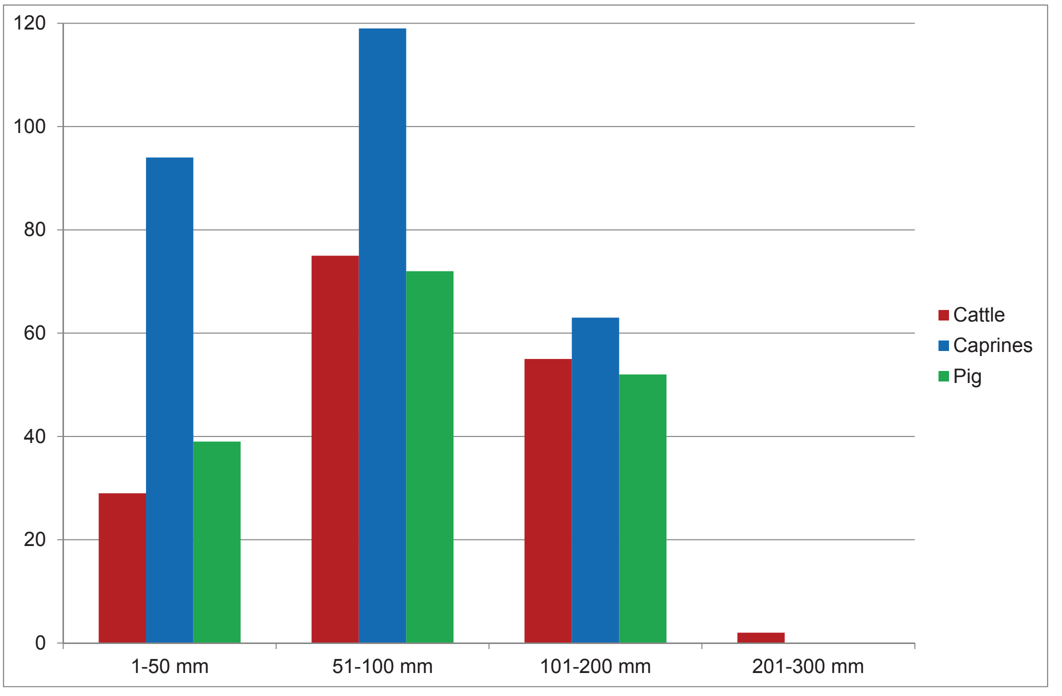

Fig. 83. Fragmentation of bones in cattle, sheep and goat, and pig

Fig. 84. Drilled antler tine and small ad hoc antler point

was between 101–200 mm. Only cattle yielded remains falling into the largest size category (201–300 mm) (*Fig. 83*).

Bone and antler artifacts

Only five specimens (0.7% of the assemblage) may be grouped into this category of finds. The single bone tool was a pig scapula scraper found in Feature 442. The other four implements were made from red deer antler. The poorly preserved fragment of a heavy antler tool was found in Feature 198. Feature 352 contained the sawn-off and drilled end of a tine (*Fig. 84*). This object did not have a narrowing facet towards the naturally pointed end of the tine as opposed to a number of tine picks/hoes discovered at the MBA site of Jászdózsa-Kápolnahalom (Choyke – Bartosiewicz 2009: 366, Plate II/g). A two-pronged antler also showed polish, and a piece of antler represents unprocessed/unused raw material. The small *ad hoc* antler point illustrated in *Fig. 84* was found in Feature 357. In addition, four fragments of antler represented raw material or workshop debitage.

Summary

Results from Kaposvár-Road 61, Site no. 1 suggest that the meat of sheep and goat was most frequently consumed at this settlement during the MBA. Mutton seems to have been complemented by beef and pork in similar proportions, while hunting was rarely practiced. On the other hand, red deer antler gathering and manufacture seem to have been commonly practiced as indicated by the number of antler implements as well as workshop debitage and unprocessed raw material encountered in the assemblage.

Discussion of Middle Bronze Age settlements

The recently studied Encrusted Pottery culture Site no. 1 at Kaposvár-Road 61 is the southernmost known MBA settlement in Hungary and the only Encrusted Pottery culture site in Transdanubia that yielded sufficient numbers of identifiable animal remains (NISP>500) for a detailed analysis. The rather intensive fragmentation of bones, however, resulted in scarce information regarding the type and size of animals, and the distribution of age groups was also influenced by discrepancies in the preservation of skeletal parts. Nevertheless, the composition of this single assemblage does not confirm the tentative suggestion that cattle was the most preferred domestic species by the Encrusted Pottery culture people in the area of present-day Hungary (Sørensen – Rebay-Salisbury 2008: 53, 56, Figure 3).

The MBA Vatya culture is well-represented in archaeozoological research as several of its assemblages in Central Hungary were analyzed and published. While the eponymous site of Vatya is located some 40 km east of the Danube in the Great Hungarian Plain (near the village of Újlengyel), several of its settlements have been discovered in central Transdanubia, north of our study area (Choyke 1984).

The closest sites offering assemblages of representative sizes are located about 90 km north of Kaposvár. The Vatya culture site of Igar-Vámpuszta yielded 1,579 remains. Cattle bones (43.9%) dominated in that assemblage, followed by caprines (23.5%) and pig (11.5%). Wild animals contributed a rather great proportion of remains (15.1%), the skeletal parts of red deer being especially frequent (8.4%). The assemblage found at the coeval site of Sárbogárd-Cifrabolondvár less than 20 km northwest of Igar-Vámpuszta was smaller (NISP=607). A decreasing order of cattle – caprines – pig was reported from this assemblage as well, but the representation of hunted animals was smaller (6.8%) than at Igar-Vámpuszta (Choyke – Bartosiewicz 1999: 242, Table 1). Both sites are situated on elevations in the generally lowland environment of the Mezőföld plain.

Two Vatya hill-forts located further to the north are Lovasberény-Mihályvár and Százhalombatta-Téglagyár. The first yielded 3,712 identifiable animal remains, while 2,138 bones were identified at Százhalombatta-Téglagyár. Similar rank orders and percentages of cattle, caprines and pig were observed at both sites (51.0% – 20.5% – 8.0% and 42.2% – 36.5% – 11.0%, respectively; Choyke 1984: 52, Table 8; Choyke – Bartosiewicz 1987; Choyke – Bartosiewicz 1999: 242, Table 1), similarly to the coeval assemblage originating from Levels IV–II at the fortified site of Százhalombatta-Földvár that yielded 2,265 identifiable remains (Vretemark – Sten 2005: 158, Table 2).

The estimated withers height of cattle indicated that cows were smaller (105.7–107.4 cm; mean=108.6 cm; n=3), while bulls (123.5–127.5 cm; mean=125.5 cm; n=2) were larger at Százhalombatta-Földvár (Vretemark – Sten 2005: 167, Table 7) than at Kaposvár-Road 61, Site no. 1. Most cattle and sheep were kept until they reached an adult and mature age, while pigs were mostly slaughtered while young. This recurring trend corresponds to the single-purpose meat exploitation of pig, and the secondary exploitation of domestic ruminants.

Butchery marks identified on a number of horse and dog remains indicated that these rarely consumed species were also killed for their meat at Százhalombatta-Földvár, most probably at particular occasions. Some dog skulls and jaws as well as articulated bones of a paw found in house foundations may have represented building sacrifices, similarly to the dog construction offerings discovered at the MBA sites of Füzesabony-Öregdomb, Jászdózsa-Kápolnahalom and Tószeg-Laposhalom in the Great Hungarian Plain. Dog teeth and metapodia were also drilled for producing pendants at Százhalombatta-Földvár. Among the small number of remains from wild animals (19=0.8%), the presence of the rarely encountered lynx is notable (Choyke et al. 2004; Vörös 1996; Vörös 2011b; Vretemark – Sten 2005, 2010).

Three well-represented animal bone assemblages have been published from tell-sites in the northeastern part of the country, at which cattle remains dominated. This species was followed in frequency by caprines and pig in the Hatvan and Füzesabony culture assemblage of Tard-Tatárdomb (NISP=1,617), at Füzesabony-Öregdomb (NISP=5,243) and in the Hatvan culture layers of the fortified tell settlement of Jászdózsa-Kápolnahalom (CHOYKE – BARTOSIEWICZ 2009, FISCHL et al. 2014: 361–367; VÖRÖS 2011b). All these settlements are located in the southern foothill area of the North Hungarian Mountains. The Koszider culture assemblage from the latter site indicated the slight dominance of pig remains (13.5%) over those of caprines (10.0%). Measurements on cattle bones testified to various dimensions at Füzesabony-Öregdomb. The withers height of cows varied from 105.0 cm to 124.2 cm (mean=112.5 cm; standard deviation=5.3 cm; n=17). The statures of two bulls were 110.7 and 127.2 cm (mean=119.0 cm), while an ox measured 130.4 cm at the withers. The proportion of oxen associated with draught exploitation is outstanding in that cattle bone assemblage (NISP=120; 30.4%; VÖRÖS 2011b).

Remains from hunted animals were also well-represented at Füzesabony-Öregdomb, yielding 10.4% of the bone material. The presence of brown bear, lynx and wild cat is notable. Evidence for hunting brown bear was also discovered at Tard-Tatárdomb (FISCHL *et al.* 2014: 366). Nevertheless, red deer was the most frequent game animal at all three sites. Moreover, this species must have had a special status at Jászdózsa-Kápolnahalom, as suggested by the three red deer skulls with intact racks found in the inner ditch fortification that surrounded the tell, and the amount of worked red deer bone and antler (CHOYKE 2005). Modified red deer bones and antler were also frequent in both assemblages collected in 1931–1937 and in 1976 at Füzesabony-Öregdomb (VÖRÖS 2011b).

In the southern part of the Great Hungarian Plain, the early MBA Nagyrév and Hatvan culture site of Tiszaug-Kéménytető (NISP=3,401) and the Vatya culture site of Csongrád-Vidre-sziget (NISP=1,010) yielded animal bone assemblages of representative sizes (CHOYKE – BARTOSIEWICZ 1999–2000; VÖRÖS 2001). Similarly to the majority of the aforementioned MBA assemblages from the central and northern parts of the country, the largest group of domesticates was cattle, followed by caprines and pig (36.5%, 34.0%, 14.8%; and 37.0%, 35.0%, 11.4%, respectively; CHOYKE 1984: 52, Table 8). Body size estimations are available from Tiszaug-Kéménytető. Here the withers height of cows (122.0–125.0 cm) was greater than in the western part of the country. Cattle were culled as subadults and young adults, while caprines and pigs were slaughtered as juveniles and subadults at this site.

At Tiszaug-Kéménytető the contribution of wild mammalian remains is notable (10.0% of the total assemblage). Interestingly, it is not red deer (3.7%), but aurochs (4.8%) that was the most frequently represented species among hunted game at this lowland settlement in the floodplain of the Tisza River. In addition, hundreds of fish bones were also recovered from this site using water-sieving (CHOYKE 1998: 169–170; CHOYKE – BARTOSIEWICZ 1999–2000). Although fish are not necessarily counted among “wild animals” due to their fundamental differences from terrestrial game (modes or procurement as well as taphonomic properties, including recovery), they certainly represent a reliance of wild resources rather than productive economy.

Finally, the Gyulavarsánd-Ottomány culture site of Békés-Városerdő (NISP=6,305) from the southeastern corner of the Great Hungarian Plain yielded a considerable number of animal remains representing both food refuse and worked skeletal parts. The frequency of wild animal species is outstanding in this assemblage (25.7%). In addition to fish and birds, rarely hunted mammals such as brown bear and lynx were reported from this easternmost MBA site in Hungary. Red deer remains dominated (12.5%) followed by wild boar (5.7%) and aurochs (5%). Cattle was the most frequent species among the domesticates by 33.4% of the total NISP, but pig (25.2%) yielded more than twice as many remains as caprines (11.1%). The lengths of five metapodials indicated a rather small withers height for cows (103.7–116.4 cm; mean=108.9 cm; Bökönyi 1974: 347, 462–495), resembling those from Százhalombatta-Földvár.

MBA bone and antler manufacturing has been especially well-documented and discussed in detail in a number of papers in the past decades (e.g. Choyke 1979; Choyke 1984; Choyke 1998; Choyke – Bartosiewicz 1999–2000, Choyke – Bartosiewicz 2009). Among the bone tools, scrapers made from cattle and red deer ribs, mandible, first phalanx and diaphysis splinters of non-identifiable long bones, as well as sheep or goat tibia scrapers and metapodial perforators were especially frequent. The tool assemblage found at Jászdózsa-Kápolnahalom is special: red deer bone and antler was manufactured in large quantities, and this activity intensified from the Hatvan period toward the Koszider period. Scrapers made from the first phalanx of this species as well as hafted burr and beam antler tools were numerous. The latter type of implement was characteristic not only of the sites where red deer was abundant in the refuse bone assemblage, but also of MBA settlements where the species was represented only by a few antler tools, such as at Kaposvár-Road 61, Site no. 1 and Csongrád-Vidre-sziget. These examples show that hunting large game (including red deer) and gathering shed antler were two very different types of activities that involved different processes and group engagement. The only link between these two forms of subsistence activity is the animal species, red deer itself.

A rather great number of hafted and other types of antler tools as well as bone implements have been published from Füzesabony-Öregdomb as well. A workshop was identified in the tell section of the settlement during the 1931–1937 excavations (Vörös 2011b: 660). In addition, evidence for worked antler and related workshop debitage as well as modified red deer bones came to light at the Koszider culture sites of Zagyvapálfalva-Homokbánya and Kisterenye-Hársas in northern Hungary. These tool assemblages, however, are notable for including a number of short bones – such as astragali and first phalanges from sheep and goat and pig – worked flat, which were probably used for specific purposes (Bartosiewicz 2009; Meier 2009). These objects, most probably used in smoothing ceramic surfaces, hide working and gaming, fall into the category of Class I tools along the manufacturing continuum. Their choice of raw material, modifications and presumed uses must have been rather strictly defined. The same holds true for the numerous antler tools characteristic of the period. Their frequency in the eastern part of the country is in contrast with the tool manufacturing traditions in Transdanubia where mostly Class II tools were found (Choyke 1998: 162), characterized by less patterned ways or raw material selection, manufacturing and identifiable use.

Conclusions drawn from Middle Bronze Age assemblages

The Incrusted Pottery culture Site no. 1 at Kaposvár-Road 61 is the only MBA settlement in Hungary where caprines seem to have been the most frequent domestic animals in terms of bone remains. Although the size of this archaeozoological sample is small, wool or milk production may have been important at this locality. The archaeological analysis of the settlement as well as the complete description of other archaeological finds will reveal additional information concerning the way of life of people who populated this region.

Cattle was the most common species both in the northern section of Transdanubia and in the eastern part of the country, most often followed in frequency by sheep and goat. Pig was usually the third best represented domestic animal except for the Koszider period at Jászdózsa-Kápolnahalom and the Gyulavarsánd-Ottomány culture site of Békés-Városerdő, where more pig bones were recovered than those of caprines. The age profile of these species was usually complex, indicating their consistent use in meat production and the exploitation of adult and mature individuals alike.

Horse was generally underrepresented in MBA assemblages. Evidence for its slaughter and butchery were brought to light at Százhalombatta-Földvár. Dogs also seem to have been eaten at this site. Both Százhalombatta-Földvár and Jászdózsa-Kápolnahalom yielded evidence for the use of dogs as construction offerings. The symbolic use of red deer skulls has also been reported at the latter settlement.

Red deer was often exploited for its skeletal parts as raw material as well. Antler was especially frequently stockpiled and manufactured. Hafted burr and beam tools are regularly found even in assemblages with a small number of red deer skeletal bones. Hunting was generally unimportant for subsistence at such sites.

FINAL SUMMARY

This work discusses the archaeozoological results and their interpretations regarding four LCA, seven EBA and two MBA animal bone assemblages from the southern part of Transdanubia, southwestern Hungary. The hallmark of technological development during this time was the invention and gradual emergence of metallurgy. In addition to the undeniable importance of copper and bronze during these periods, major changes are visible in the entire material culture, from settlement patterns through pottery style to food habits, including the exploitation of and attitudes toward wild and domestic animals. While these developments are not necessarily in causal relationship with the advancement of metallurgy, they are indicative of a broader societal change at a time of transition, manifested in diverse aspects of daily life.

Animal bone assemblage sizes in this project varied broadly, between NISP=70 (Kaposvár-Road 61, Site no. 1; EBA, Kisapostag culture) and NISP=10,285 (Kaposújlak-Várdomb; LCA, Baden culture). Consequently, the description of assemblages of representative sizes was longer and included a more detailed analysis, while the chapters on small assemblages mostly included descriptive information only. Nevertheless, an attempt was made to compare the taxonomic richness of all 13 assemblages in order to find real trends considering either the transitions between the different periods or the geographical position of the sites. In light of widely varying assemblage sizes, this step was indispensable before further comparisons could be made between phases and sites.

The graph in *Fig. 85* indicates that three of four LCA assemblages were poor in taxonomic terms relative to their sizes. This may be due to the absence of horse from the list of domesticates (in contrast to the EBA assemblages) on the one hand, and to a moderate interest in hunting on the other. Among

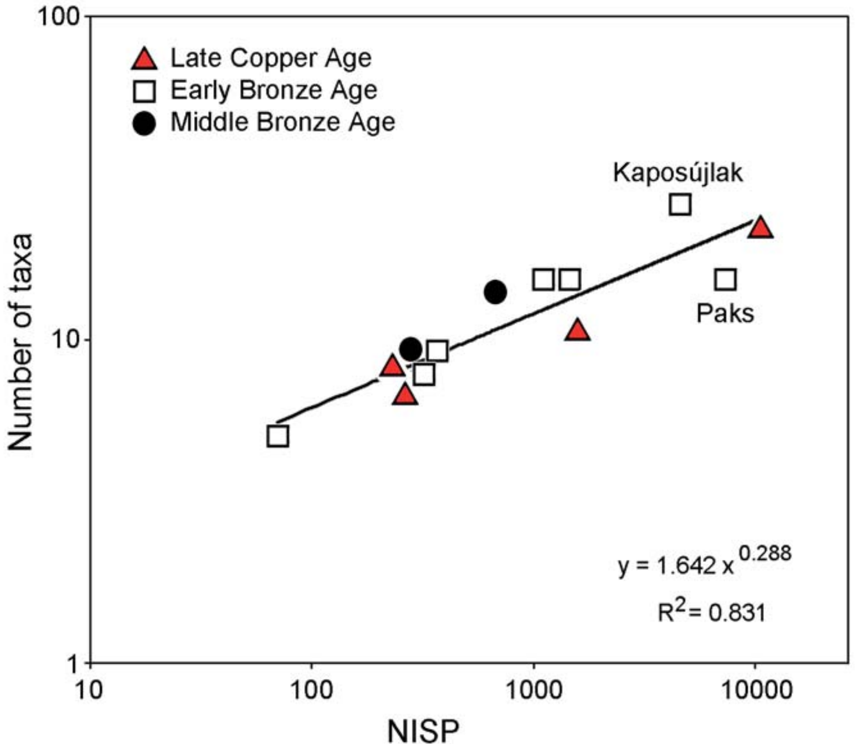

*Fig. 85. The abundance of taxa as a function of sample size. Sites above the trend line calculated for all assemblages are rich relative to their sizes. Those below yielded fewer taxa than expected. *Sporadic fish remains were not included in NISP. Axes are given in decimal logarithms to accommodate widely differing assemblage sizes (drawing by L. Bartosiewicz)*

the two assemblages of representative sizes, Szűr-Cserhát and Kaposújlak-Várdomb, the latter seems to have the greatest diversity of species. This may most probably be attributed to the variegated ecological zones around the settlement, namely the presence of both forests and an aquatic environment.

The connection between taxonomic diversity and sample size is especially clear in the EBA assemblage from Kaposújlak-Várdomb. This site yielded a huge bone material which was the richest in terms of animal taxa. In addition to Kaposújlak-Várdomb, the assemblages from Dombóvár-Tesco and Ordacsehi-Bugaszeg (Kisapostag culture) are also above the trend line in *Fig. 85*, indicating that the number of species represented at the site is larger than expected on the basis of their assemblage sizes. It is notable that all three sites are located in the central and northern part of the studied area, respectively, while Paks-Gyapa – the best represented site in terms of NISP among all the EBA assemblages – is located easternmost, on the border between the submediterranean oak forest zone and the Pannonian forest steppe region (SÜMEGI – BODOR 2000: 93, Fig. 4).

Both MBA assemblages seem to have been relatively rich in taxa. Of the settlements of Ordacsehi-Bugaszeg and Kaposvár-Road 61, Site No. 1, however, only the latter yielded a sample of representative size. This site is located the closest to Kaposújlak-Várdomb (*Fig. 27*).

Summarizing all the above presented details, it may be stated that the variability of animals exploited generally increased during the Bronze Age. This trend is best demonstrated in the micro-region of Kaposvár – Kaposújlak – Dombóvár within the studied area. Aside from the rather consistent contribution of horse to Bronze Age assemblages, the source of increasing taxonomic richness was hunting, more widely practiced than during the Late Copper Age in the region.

One of the key questions of this study was the fluctuation of pig exploitation during the Copper- and Bronze Ages, and whether this was the consequence of climatic or rather cultural impulses. While short-term climatic changes do not seem to have caused changes in animal husbandry (SERLEGI et al. 2012), the micro-environmental conditions may have influenced the shift in preferences for either caprines or pig.

The summary chart of the three main meat-providing species reflects a greater interest in keeping sheep and goat in the earlier phases of the studied archaeological periods (*Fig. 86*). The ratio of caprine remains is at least twofold in comparison with those of pig in all four Boleráz and Baden culture assemblages. Although the importance of caprines during the LCA is well-known, the dominance of sheep and goat is notable at Kaposújlak-Várdomb, where the environmental conditions seem to have been favorable for pig keeping. Concerning the wild animals, both the variety of more typically steppe species (aurochs and hare) and the number of their remains (NISP=1+27) fall behind the frequency of woodland and aquatic species (especially beaver and wild ducks among the latter) at this site. These indicator taxa are represented by 439 remains of 12 species (*Table 4*).

The importance of pig clearly increased by the beginning of EBA not only at Kaposújlak-Várdomb, but at all settlements assigned to the Somogyvár-Vincovci culture except for Ordacsehi-Bugaszeg (which yielded a far less representative, small assemblage). Nevertheless, the more abundant EBA Kisapostag culture assemblage from this latter site also pointed to the greater exploitation of sheep and goat, similarly to coeval Kaposvár-Road 61, Site No. 1.

Swine, as a single-purpose species, most probably represented a substitute for the meat of ruminants during the Bronze Age. The secondary exploitation of cattle and caprines for milk and wool made more sense than their early culling. In addition to the remains of adult and mature sheep, indirect evidence for wool production such as bone needles with eyes, spindle whorls and loom weights are known from the sites of Kaposújlak-Várdomb, Dombóvár-Tesco and Paks-Gyapa.

Finally, the Encrusted Pottery culture assemblages from both Ordacsehi-Bugaszeg and Kaposvár-Road 61, Site No. 1 indicated an increased interest in pig keeping by the MBA. This result, however, is based on two assemblages only, and only one of them may be considered representative. Thus, further

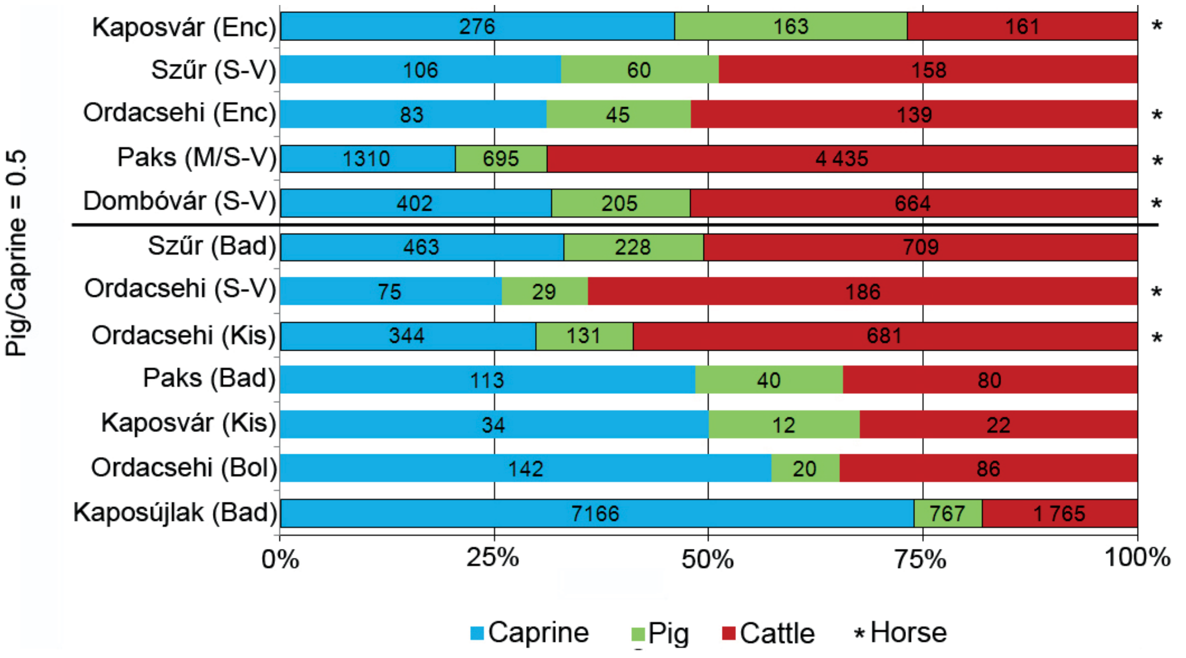

Fig. 86. The comparison of assemblages by the ascending ratio of pig to caprine remains. The trend in animal remains parallels relative chronology based on ceramic styles. Representative assemblages are marked by framing. The presence of horses is indicated by asterisks. Abbreviations: Bad=Baden; Bol=Boleraz; Kis=Kisapostag; M/S-V=Makó/Somogyvár-Vinkovci; S-V=Somogyvár-Vinkovci; Enc=Encrusted Pottery

archaeozoological studies may furnish additional information on the exploitation of caprines and pig by the population associated with this culture.

The surroundings of Ordacsehi-Bugaszeg seem to have been generally ideal for keeping ruminants. In addition to the dominance of caprine remains over those of pig in three of four assemblages from this site, the representation of cattle at this locality also supports this tendency. Although the direct comparison of cattle with caprines and pig in terms of NISP is difficult because of the greater fragmentation of large cattle bones as well as the taphonomic loss of small skeletal parts from small ungulates, the importance of beef consumption is evident in the majority of assemblages from Ordacsehi-Bugaszeg, regardless of the varying ratios between caprine and pig remains.

The significance of beef in the diet is most evident in the EBA assemblage of Paks-Gyapa (*Fig. 86*), thanks to the supporting evidence of bone weights available from this site. As already mentioned, this site is located on the western edge of the Pannonian forest steppe region whose ideal environmental conditions for ruminants are also reflected by the dominance of aurochs among the game animals. Moreover, keeping and consuming cattle is optimal for larger communities, which must have been the case at Paks-Gyapa, suggested by the size of the excavated area and the number of associated features containing animal bones (Váczi 2009; Péró 2016).

The multiple economic roles of cattle, however, are clearly expressed both at the end of the LCA and the beginning of EBA. This is the most frequently found species in graves and structured animal deposits; it provided the largest quantity of meat and milk among the domestic animals; and its manure could be used in agriculture, and possibly even in house construction and heating (Bartosiewicz 2006a: 89; Ortutay 1982). Last but not least, draught cattle represented the main power utilized in transport and tillage before the spread of the horse by the end of the EBA. By this time, wheeled transport had appeared in the area (Velušček 2006), although cattle bones inspected during this study revealed only relatively mild symptoms attributable to draught exploitation. The LCA assemblage from Kaposújlak already contained seven cattle bones showing lesions possibly connected to draught work, including sub-pathological asymmetry in the metacarpus and deformations on two proximal and four medium phalanges. Such lesions become more common after prehistoric times when the intensity of draught work increases (Bartosiewicz 2006b). The phenotypic diversity of cattle in these periods is well-reflected by the variety of horn core types and the wide range of withers heights. This marked variability is present not only in southern Transdanubia, but in the entire area of present-day Hungary.

Contrary to cattle, so far only scarce information could be gained from the sporadic horse remains found in the area under study. Horses were evidently neither hunted nor kept in large numbers in southern Transdanubia. Horse bones brought to light at these sites either belonged to the last wild horses or represented the first individuals of the newly introduced domestic horse (Gál 2015b: 370–374). As shown in *Fig. 86*, the majority of the few horse remains identified during my research belonged to large assemblages of representative sizes. Ongoing molecular genetic analyses shall offer new information on the characteristics of these specimens. Nevertheless, the spread of domestic horse by the turn of EBA to MBA must have influenced the mobility and organization of complex societies, social hierarchy and the increased use and spread of metal implements, weapons and ornaments.

Although the LCA, EBA and MBA were all represented at a number of multi-period sites in the studied region, southern Transdanubia, the transition between these periods could be reliably investigated only at Kaposújlak-Várdomb, as many other assemblages were not of representative sizes at least in one of the periods to be compared. However, both the LCA Baden culture and EBA Somogyvár-Vincovci culture assemblages of this site were well-represented both in terms of NISP and taxonomic richness (*Fig. 85*).

The comparison by the ratio of pig to caprine remains placed the two archaeozoological materials from this site to the extreme top and bottom of *Fig. 86*, indicating the huge distance between them according to this indicator. While the habitat preferences of pigs differ from those of caprines, such a major shift in their roles in meat consumption at the very same site in a relatively short time probably reflects cultural tastes at least as much as possible environmental changes.

The proportion of cattle doubled by the EBA at Kaposújlak-Várdomb, while pig was almost three times better represented than in the LCA assemblage (*Tables 4* and *17*). Mutton was likely replaced by pork in the diet, occasionally complemented by the meat of wild boar and venison from other frequently hunted game such as roe and red deer.

In addition to the increased importance of pig keeping and opportunistic hunting, the fortified hill structure of the EBA settlement at Kaposújlak-Várdomb also points to a sedentary way of life in contrast to the greater mobility observed at this locality during the Baden phase, illustrated by a marked reliance on caprines (mostly sheep) for meat and less elaborate settlement features.

Changes could be detected not only in settlement structure and animal husbandry, but in bone and antler manufacturing as well. Although the majority of artefacts (awls and bevel-ended tools) most probably were multi-purpose implements and their role may have changed during the lifetime of the tool (e.g. as a result of damage or through curation), some of them seem to have been deliberately prepared and/or used for well-defined tasks. For example, the hafted rose and beam heavy-duty antler tools with a beveled active end seem to have been used in wood-working such as splitting or bark-peeling (Sofaer et al. 2013). Their frequency increased from 5 specimens (5.8% of the tool assemblages) in the LCA to 33 specimens (24.1%) in the EBA (*Figs 13* and *36*). Technological development at Kaposújlak-Várdomb is also supported by the presence of a bronze casting mold. Trade in bronze is also possible due to the strategic location of this settlement.

Cattle mandible thong smoothers used for stretching and softening straps as well as fine eyed needles represent new EBA bone tool types in comparison to the bone tool inventory of LCA assemblages. In addition to the finds unearthed at Kaposújlak-Várdomb and Dombóvár-Tesco, parallels are known from coeval sites in present-day Slovenia and the Czech Republic (Sofaer et al. 2013: 483).

Another characteristic of the transition from LCA to EBA seems to have been the changing trend of using cattle and caprine bones for producing tools. While the skeletal parts of these species appear to a similar extent in the Baden phases at Kaposújlak-Várdomb and Szűr-Cserhát (*Figs 12* and *23*), worked remains of caprines clearly dominate over cattle bones in the three EBA tool assemblages found at Kaposújlak-Várdomb, Paks-Gyapa and Dombóvár-Tesco (*Figs 39*, *51* and *59*). Until more extensive microscopic use wear analyses will be available, it remains an open question whether the frequency of small size tools (mostly including points and needles) may be related to the improved textile production, basketry and fine leader working.

Animal remains representing the LCA to EBA transition in southwestern Transdanubia shed light on major changes in numerous aspects of daily life. They show an overwhelming dominance of domesticates in meat consumption with an increasing importance of pork in comparison with mutton. Special belief systems are illustrated by structured deposits containing complete or partial animal skeletons during the LCA, associated with populations that probably relied on a mobile pastoral tradition. By the EBA, a trend of greater sedentism is complemented by the appearance of horses. Marked differences also occur between the animal raw materials and functional types of tool kits in these two main periods. These archaeozoological phenomena further enhance our understanding of regional trends in the relationships between animals and humans in southern Transdanubia within the broader framework of the LCA-EBA transition in the Carpathian Basin.

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Appendix 1. Summary of radiocarbon-dated animal remains

Laboratory no.	Site and Feature/Stratigrafic Unit	Animal remain	BP date (± 1σ)	calBC (± 1σ)
DeA-6586	Szűr-Cserhát 37	Horse phalanx proximalis	4164 ± 29	2880–2680
DeA-5769	Kaposújlak-Várdomb 462	Horse metatarsus	4038 ± 28	2620–2490
DeA-6577	Kaposújlak-Várdomb 258	Horse tooth (LM)	3963 ± 31	2570–2460
DeA-5770	Kaposújlak-Várdomb 1038	Horse tooth (P^4)	3954 ± 29	2560–2410
DeA-6578	Kaposújlak-Várdomb 262	Cattle mandible	3923 ± 27	2480–2340
DeA-6580	Kaposújlak-Várdomb 452	Cattle mandible	3901 ± 28	2470–2340
DeA-6583	Kaposújlak-Várdomb 869	Cattle mandible	3904 ± 27	2470–2340
DeA-6579	Kaposújlak-Várdomb 334	Cattle mandible	3898 ± 28	2460–2340
DeA-6393	Dombóvár-Tesco 169	Cattle mandible	3998 ± 30	2570–2470
DeA-6585	Ordacsehi-Bugaszeg 1470/2118	Horse metatarsus	3595 ± 27	2010–1910
DeA-6584	Kaposvár-Road 61, Site no. 1 283	Horse tooth (UM)	3557 ± 26	1950–1880

Appendix 2. Skull measurements (mm), following the standard of VON DEN DRIESCH *1976*
(Abbreviations: D-T=Dombóvár-Tesco; K-R61=Kaposvár-Road 61, Site No.1; K-V=Kaposújlak-Várdomb; P-Gy=Paks-Gyapa; Sz-Cs=Szűr-Cserhát; EBA=Early Bronze Age; LCA=Late Copper Age)

Size	***Bos taurus*** **Linnaeus, 1758**		***Ovis aries*** **Linnaeus, 1758**						
	K-V 249 (LCA)	**K-V 104 (EBA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 249 (LCA)**
1									
2									
3									
4									
5									
6									
7									
8									
9			50.0	50.0	47.0				
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20	139.0	131.6							
21	88.0	79.3							
22	57.0	53.1							
23									
24									
25									
26	111.0	104.6							
27			45.0	41.0	43.0	43.0	42.0	42.0	39.0
28	35.0	30.9		67.0	63.0				
29	40.0	41.2	22.0	19.0	20.0	19.0	20.0	20.0	19.0
30		158.0	21.0	21.0	19.0	20.0	20.0	19.0	18.0
31	184.0	175.0		47.0	39.0				
32	184.0								
33	222.0			63.0	64.0				
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									

Size	*Bos taurus* Linnaeus, 1758		*Ovis aries* Linnaeus, 1758						
	K-V 249 (LCA)	K-V 104 (EBA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 249 (LCA)
44									
45		68.4							
46	58.0	50.2							

Size	*Ovis aries* Linnaeus, 1758				*Capra hircus* Linnaeus, 1758	*Canis familiaris* Linnaeus, 1758		
	K-V 1365 (LCA)	D-T 210 (EBA)	D-T 210 (EBA)	K-R61 715 (MBA)	K-V 480 (LCA)	K-V 333 (LCA)	K-V 453 (LCA)	Sz-Cs 150 (LCA)
1								
2								
3								
4						43.0		
5						55.0		
6								
7						79.0		
8								
9						89.0		
10								
11								
12								
13						81.0		
14						27.0		
15						59.0		60.5
16						17.0		16.6
17						48.0		46.5
18								16.8/9.6
19								
20								
21		70.8	68.4	61.1				
22		47.4	46.0	41.8		21.0	23.0	
23		25.1	24.7	20.0		59.0	62.0	
24								
25							37.0	
26						47.0	47.0	
27					48.0		20.0	
28						21.0	18.0	
29	19.0				24.0	55.0	57.0	
30	18.0				23.0			
31						39.0		
32								
33						31.0		
34						52.0		
35								
36						34.0		
37						28.0		
38								

Size	*Ovis aries* Linnaeus, 1758				*Capra hircus* Linnaeus, 1758	*Canis familiaris* Linnaeus, 1758		
	K-V 1365 (LCA)	D-T 210 (EBA)	D-T 210 (EBA)	K-R61 715 (MBA)	K-V 480 (LCA)	K-V 333 (LCA)	K-V 453 (LCA)	Sz-Cs 150 (LCA)
39								
40						43.0	46.0	
41								
42								
43								
44								
45								
46								

Size	*Canis familiaris* Linnaeus, 1758					*Sus scrofa* Linnaeus, 1758			*Vulpes vulpes* Linnaeus, 1758
	K-V 1258 (EBA)	K-V 1128 (EBA)	P-Gy 1075 (EBA)	D-T 429 (EBA)	D-T 429 (EBA)	K-V 1005 (EBA)	K-V 1038 (EBA)	K-V 1038 (EBA)	K-V 1005 (EBA)
1	158.7		149.7			411.4			
1a						419.2			
2	148.9		141.2			377.0			
3	141.1		134.3			362.4			
4	37.9		37.5						
5	103.2		95.0						
6						52.8			
7	80.0		71.4						
8	80.8		73.4						
9	87.0		85.6			201.8			
10	60.4		60.3			208.4			
11						150.6			
12						262.1			
13	80.1	97.5							
14	27.5			23.8					
15	53.8	60.7	55.3						
16	18.1		16.0			58.0			18.1
17	39.3	47.4	41.5			258.6			
18	16.8/9.2	18.2/9.0	16.6	17.3	16.5	228.3			17.3
19	9.5		7.8	8.6	9.4	109.8			
20	11.5/12.4		11.0/13.1			164.5			12.0/13.8
21						79.4			6.8/8.5
22	20.2		18.2			26.9			
23	53.0		48.8						
24	54.6		54.0			48.4			
25	33.5		30.9			149.4	142.5		
26	56.6					63.0			
27	17.6					134.0	125.9		
27a						122.7	116.7	114.3	
28	13.2		13.8			80.4	76.0	75.4	
29	51.1		52.8			52.3	49.6		
29a						43.7	40.4	38.6	
30						46.1	39.7	37.2	

Size	*Canis familiaris* Linnaeus, 1758					*Sus scrofa* Linnaeus, 1758			*Vulpes vulpes* Linnaeus, 1758
	K-V 1258 (EBA)	**K-V 1128 (EBA)**	**P-Gy 1075 (EBA)**	**D-T 429 (EBA)**	**D-T 429 (EBA)**	**K-V 1005 (EBA)**	**K-V 1038 (EBA)**	**K-V 1038 (EBA)**	**K-V 1005 (EBA)**
31	29.5		35.8			23.1	22.2	22.2	
32	37.7		42.1			16.8			
33	28.7		30.1			120.1			
34	44.8		53.0			64.8			
35	31.6		30.1			82.5			
36	32.5					25.8			
37	26.4		29.2			27.6			
38	52.2		44.6			69.0			
39	49.7					67.0			
40	40.2		40.4			35.8			
41	30.5					117.2			
42						37.9			
43									
44									
45						125.8			
46									

Appendix 3. Mandible measurements (mm), following the standard given in von den Driesch *1976 (Abbreviations: D-T=Dombóvár-Tesco; K-R61=Kaposvár-Road 61, Site No.1; K-V=Kaposújlak-Várdomb; O-B=Ordacsehi-Bugaszeg; P-Gy=Paks-Gyapa; Sz-Cs=Szűr-Cserhát; EBA=Early Bronze Age; EBA, K=Early Bronze Age, Kisapostag culture; LCA=Late Copper Age; MBA=Middle Bronze Age)*

Size	***Bos taurus* Linnaeus, 1758**								
	K-V 427 (LCA)	**K-V 675 (LCA)**	**K-V 249 (LCA)**	**K-V 408 (LCA)**	**K-V 814 (LCA)**	**P-Gy 857 (EBA)**	**D-T 330 (EBA)**	**D-T 169 (EBA)**	**P-Gy 493 (EBA)**
1									
2									
3	108.0	99.0							
4									
5	261.0		255.0						
6			314.0						
7	146.0	139.0	148.0			142.0	141.1	137.8	132.8
8	91.0	88.0	88.0	92.0	82.0	89.5	91.2	83.2	85.3
9	57.0	52.0	58.0			54.2	50.0	53.1	51.3
10						33.8/12.5			31.3/11.3
11									
12		154.0	150.0						
13									
14			123.0						
15									
15a	66.0	68.0	79.0	73.0	62.0			67.0	
15b	52.0	47.0	59.0	52.0	44.0		46.4		
15c	40.0	33.0	37.0		30.0		36.0	40.7	

Size	***Bos taurus* Linnaeus, 1758**					
	P-Gy 1072 (EBA)	**P-Gy 857 (EBA)**	**K-V 1358 (EBA)**	**O-B 1300 (EBA. K)**	**K-R61 265 (EBA. K)**	**O-B 1140 (EBA. K)**
1						
2						
3						
4				227.0		
5						
6						
7	130.8			130.0	134.0	
8	84.5	90.3	90.0	82.3	88.0	
9	44.3			49.3	48.9	61.3
10	35.9/16.6	35.2/12.5	35/13.7	32.4/11.8		
11				88.7		
12						
13						
14						
15						
15a			71.3	66.2	69.2	
15b			48.2	39.5	46.4	51.7
15c				32.6	35.9	35.5

Size	*Ovis aries* Linnaeus, 1758							
	Sz-Cs 150 (LCA)	Sz-Cs 144 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)
1	157.3	146.7						
2	166.0	156.9						
3	43.0	45.0	53.0	45.0	42.0			
4	116.0	104.4						
5	111.5	106.1						
6	129.2	129.1						
7	71.5	62.3	68.0	68.0	72.0	74.0	72.0	71.0
7a								
8	48.0	42.3	37.0	43.0	48.0	48.0	45.0	49.0
9	22.4	20.3	21.0	22.0	23.0	24.0	25.0	23.0
9a								
10								
11		33.9			33.0		35.0	
12	67.8		63.0	62.0	62.0			
13			63.0	58.0	57.0			
14								
15								
15a	39.4		36.0	32.0	36.0	35.0		36.0
15b	23.2	20.0	22.0	21.0	20.0	20.0	23.0	20.0
15c	17.0	19.3	17.0	16.0	16.0	16.0	15.0	17.0

Size	*Ovis aries* Linnaeus, 1758							
	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	Sz-Cs 168 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)	K-V 1365 (LCA)
1								
2								
3								
4								
5								
6								
7	71.0	71.0	70.0	70.0	69.0	69.0	69.0	69.0
7a								
8	48.0	45.0	46.0	44.0	45.3	45.0	45.0	44.0
9	24.0	24.0	23.0	24.0	23.5	24.0	24.0	22.0
9a								
10								
11						38.0		
12								
13								
14								
15								
15a		34.0			32.8			35.0
15b	19.0	18.0	20.0	20.0	19.2		19.0	21.0
15c	15.0	16.0	15.0	17.0	15.0		16.0	16.0

Size	*Ovis aries* Linnaeus, 1758							
	K-V 1365 (LCA)	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**Sz-Cs 122 (LCA)**	**Sz-Cs 110 (LCA)**
1								
2								
3								
4								
5								
6								
7	68.0	68.0	68.0	68.0	66.0	66.0	65.7	65.5
7a								
8	47.0	45.0	44.0	43.0	44.0	44.0	45.5	45.6
9	20.0	21.0	21.0	23.0	23.0	21.0	20.1	20.3
9a								
10								22.5/8.1
11		38.0					26.9	
12								
13								
14								
15								
15a	34.0	34.0	35.0	30.0	33.0		29.0	
15b	22.0	20.0	18.0	20.0	21.0	20.0		
15c	18.0	17.0	15.0	15.0	16.0	18.0	16.4	

Size	*Ovis aries* Linnaeus, 1758							
	K-V 1365 (LCA)	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**Sz-Cs 190 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**
1								
2								
3								
4								
5								
6								
7	65.0	65.0	65.0	63.7	63.0	63.0	63.0	63.0
7a								
8	44.0	43.0	43.0	42.1	45.0	44.0	44.0	43.0
9	20.0	23.0	23.0	20.4	19.0	24.0	22.0	20.0
9a								
10								
11		36.0			39.0	38.0		
12		63.0				68.0		
13		60.0				62.0		
14								
15								
15a		34.0	34.0		32.0	38.0	33.0	
15b	21.0	21.0	20.0	18.0	19.0	22.0	20.0	19.0
15c	18.0	15.0	16.0	16.1	17.0	17.0	18.0	16.0

Size	*Ovis aries* Linnaeus, 1758							
	Sz-Cs 204 (LCA)	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**Sz-Cs 173 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**
1								
2								
3								
4								
5								
6								
7								
7a								
8	49.3	49.0	48.0	46.0	46.0	45.5	45.0	44.0
9								
9a								
10						19.2/8.5		
11								
12								
13								
14								
15								
15a	34.1		33.0	30.0			33.0	33.0
15b	22.3	23.0	22.0	19.0			20.0	21.0
15c								

Size	*Ovis aries* Linnaeus, 1758							
	K-V 1365 (LCA)	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**	**K-V 1365 (LCA)**
1								
2								
3								
4								
5								
6								
7								
7a								
8								
9	26.0	24.0	23.0	23.0	22.0	21.0	21.0	21.0
9a								
10								
11					40.0	36.0		
12								
13								
14								
15								
15a								
15b	21.0	22.0	21.0	20.0		19.0	19.0	
15c	18.0	18.0	18.0	18.0		18.0	15.0	18.0

Size	*Ovis aries* Linnaeus, 1758							
	K-V 778 (EBA)	**P-Gy 493 (EBA**	**P-Gy 1078 (EBA)**	**P-Gy 871 (EBA)**	**P-Gy 496 (EBA)**	**P-Gy 1078 (EBA)**	**P-Gy 1075 (EBA)**	**P-Gy 851 (EBA)**
1								
2	173.0							
3		49.5						
4	120.0	119.0	125.0					
5		120.4						
6		139.5						
7	73.0	75.7	70.0	78.0	73.5	73.3	73.2	72.5
7a								
8	48.0	53.0	51.0	55.5	53.0	48.0	50.4	50.0
9	23.0	24.5	20.7	22.5	22.3	22.2	23.7	23.2
9a								
10		22.7/9.1	25.2/9.4		21.6/7.8	20.1/7.9	18.0/7.1	20.9/8.1
11	42.0	38.0						
12		70.0						
13		67.0						
14								
15								
15a	38.0	41.5			38.2			39.2
15b	19.0	24.3	23.1	24.1	21.7	20.8		24.0
15c	16.0	20.0	18.8	19.1		16.6		

Size	*Ovis aries* Linnaeus, 1758							
	Sz-Cs 85 (EBA)	**P-Gy 940 (EBA)**	**O-B 1233 (EBA)**	**P-Gy 1104 (EBA)**	**P-Gy 1075 (EBA)**	**Sz-Cs 85 (EBA)**	**P-Gy 851 (EBA)**	**P-Gy 512 (EBA)**
1								
2								
3								
4								
5								
6								
7	72.5	70.5	70.4	70.0	69.7	69.2	68.0	67.0
7a								
8	49.5	48.0	48.3	48.0	45.6	46.8	47.2	45.7
9	22.7	23.5	23.6	23.0	24.3	22.6	20.8	21.3
9a								
10		23/8.8	21.3/7.8		20.4/8.3	22.2/8.8	23.1/9.1	20.6/9.1
11								
12								
13								
14								
15								
15a	33.6	37.0		36.1	35.7			
15b	17.5	22.2	23.2	21.6	21.2	18.8		
15c	14.5	21.0	20.0	17.0	17.5	17.2		

Size	*Ovis aries* Linnaeus, 1758							
	P-Gy 1075 (EBA)	P-Gy 857 (EBA)	O-B 1233 (EBA, K)	O-B 1421 (EBA, K)	O-B 1293 (EBA, K)	O-B 1293 (EBA, K)	O-B 1140 (EBA, K)	O-B 1233 (EBA,K)
1								
2								
3								
4								
5								
6								
7	65.3		81.0	79.0	75.0	74.7	70.1	67.1
7a								
8	44.5	47.1	56.0	54.5	51.0	50.7	48.9	46.7
9	22.4		25.2	24.6	23.5	24.7	20.7	21.4
9a								
10	20.7/8.2	20.8/8.2	23.3/8.4				21.4/8.0	22.1/8.9
11								
12								
13								
14								
15								
15a				30.8		38.9		38.3
15b			25.0	23.1	22.1	22.8	21.4	
15c			20.7	22.2	19.3	20.0	20.7	

Size	*Ovis aries* Linnaeus, 1758			
	O-B 1470 (EBA, K)	K-R61 444 (MBA)	K-R61 518 (MBA)	K-R61 715 (MBA)
1				
2				
3		48.5		
4				
5		114.6		
6		130.3		
7		74.0	69.5	63.5
7a				
8	55.4	46.8	48.0	44.0
9		24.4	22.5	20.5
9a				
10				21.8/8.7
11				
12		68.3	69.4	65.0
13		66.3	65.6	60.2
14				
15				
15a		37.2	36.9	33.7
15b	22.3	21.9	23.3	20.4
15c		15.2	19.1	16.7

Size	*Sus domesticus* Erxleben, 1777							
	P-Gy 497 (EBA)	**P-Gy 1075 (EBA)**	**D-T 410 (EBA)**	**O-B 1140 (EBA, K)**	**P-Gy 497 (EBA)**	**K-R61 565 (MBA)**	**O-B 1509 (EBA, K)**	**O-B 1212 (MBA)**
1								
2								
3								
4	162.0	161.5						
5								
6	133.0		134.0					
7	125.0			123.7	104.2			
7a		95.3	104.6	108.7		106.4		
8	68.0	64.7		72.2	68.7	68.8	70.0	69.0
9	57.4			52.8				
9a	40.7	34.0		36.6	34.0	39.1		
10	31.9/15.6	33.2/15.2				34.6/15	35.7/15.3	33.8/15.1
11	28.0							
12	60.2	64.6						
13								
14								
15								
16								
16a	46.2	44.8	51.5	48.2				
16b	39.8	41.3		43.2				
16c	44.7	44.5	48.5	46.5				
17	42.3							

Size	*Canis familiaris* Linnaeus, 1758								
	K-V 674 (LCA)	**Sz-Cs 45 (LCA)**	**Sz-Cs 209 (LCA)**	**Sz-Cs 185 (LCA)**	**Sz-Cs 190 (LCA)**	**Sz-Cs 144 (LCA)**	**K-V 333 (LCA)**	**Sz-Cs 63 (LCA)**	**Sz-Cs 190 (LCA)**
1	129.0	ap. 123.0	110.1						
2	129.0		108.4						
3	125.0		106.8						
4	112.0		91.8	117.2	100.7	99.1			
5	108.0		88.0	112.2	94.7	92.1			
6	112.0		87.9	117.5	96.9	98.7			
7	72.0	69.7	60.0	74.9	65.3	64.0	71.0		
8	66.0	65.3	57.9	71.6	62.3	59.6	65.0	66.4	
9	61.0	60.3	57.7	65.9	60.5		59.0	62.0	
10	31.0	31.0	32.8	34.4	31.3	27.4	29.0	31.2	33.2
11	36.0	33.1	29.3	37.5	32.8	31.3	36.0	37.1	
12	29.0	29.1	26.0	32.4	29.3		31.0	32.0	
13	19.0	18.6/7.8				16.4	19.0	19.1	21.3
14	18.0		19.6	20.1	21.5		17.0	18.3	21.1
15		8.1/6.1				6.4			
16						3.5			
17		11.8							
18	55.0	49.1		53.5	47.8	45.1			
19	19.0	22.8	19.2	22.7	20.9	19.4	21.0		20.5
20	16.0	17.1	15.9	19.4	14.8	14.1	17.0		14.3
21									

Size	*Canis familiaris* Linnaeus, 1758								
	P-Gy 1075 (EBA)	**P-Gy 1075 (EBA)**	**P-Gy 497 (EBA)**	**K-V 263 (EBA)**	**D-T 247 (EBA)**	**P-Gy 940 (EBA)**	**D-T 280 (EBA)**	**O-B 1233 (EBA, K)**	**O-B 1465 (EBA, K)**
1	119.6	118.3	114.2						
2	117.2	120.1	117.0						
3	114.7	114.5	109.6					128.9	
4	104.6	105.0	102.6						
5	101.0	101.4	100.0					117.7	
6	104.6	107.1	105.3						
7	71.8	71.1	70.0	82.0	77.5	71.7	64.5	78.1	
8	65.9	66.3	66.3	75.0	72.4	66.6	61.1	72.2	
9	61.0	61.4	61.5	69.0	67.0	63.4	56.4	67.4	
10	32.2	32.5	32.0	34.0	34.0	32.4	30.6	31.0	28.8
11	34.3	34.6	34.0		39.6	36.4	30.7	40.2	
12	31.9	31.3	28.3		33.5	26.5	25.5	34.4	
13	20.1	20.0	19/7.4		18.6	19.5	19.6	19.6/7.4	17.1
14	18.2		18.7		20.8	18.9			
15			8.7/6.7					7/5.8	
16	4.7/3.9	4.6/3.8							
17	10.1	10.1			11.0		10.0		
18		48.1	47.5			53.7			
19	20.0	20.6		24.0	20.0	23.5	19.0	22.8	20.4
20	15.4	15.6			17.9	17.5	16.0	18.8	16.0
21				21.0					

Size	*Bos primigenius* Linnaeus, 1758	*Capreolus capreolus* Linnaeus, 1758				*Sus scrofa* Linnaeus, 1758		
	D-T 410 (EBA)	**K-V 50 (LCA)**	**P-Gy 851 (EBA)**	**P-Gy 851 (EBA)**	**K-V 1191 (LCA)**	**K-V 1038 (EBA)**	**K-V 1038 (EBA)**	**K-V 1154 (EBA)**
1		153.7				307.4		
2		159.1						
3		44.6					86.4	
4		111.0				220.6		
5		111.0				216.9		
6		133.5				168.4	162.0	
7		69.0	84.1	74.3	62.0	161.0	157.5	161.0
7a						127.8	128.8	
8	91.1	38.5	52.3		37.0	85.2	86.5	85.2
9		28.8	25.0			76.4	43.0	43.5
9a						43.0	71.0	
10	38.7/16.8		20.3/7.5	24/9.1		42.6/18.3	42.8/19.7	45.7/19.7
11		42.3				65.1		
12		63.0				87.3		
13		57.6						
14								
15								
15a		27.2						
15b		17.9	24.0		18.0			
15c		16.8	17.1					
16								
16a						57.3		
16b						47.3		
16c						47.5		

Size	*Vulpes vulpes* Linnaeus, 1758	*Martes martes* Linnaeus, 1758	*Meles meles* Linnaeus, 1758	*Lepus europaeus* Pallas, 1778
	K-V 1154 (EBA)	**K-V 560 (LCA)**	**K-V 467 (EBA)**	**Sz-Cs 127 (LCA)**
1	120.7	60.8		
2	119.5	58.0		19.7
3	114.7	55.9		43.2
4	109.3	53.0		22.7
5	103.2	48.4		
6	107.7	50.6		
7	71.8	31.1		
7a				
8	67.6	31.1		
9	64.2	29.4		
9a				
10	32.2	13.9		
11	36.4	17.9		
12	32.7	15.3		
13		10.6		
14	18.6			
15				
15a				
15b				
15c				
16				
16a				
16b				
16c				
17				
18		24.8		
19	21.9	10.1	15.0	
20	18.8	8.4	16.0	

Appendix 4. Bone measurements (mm), following the standard given in VON DEN DRIESCH *1976 (Abbreviations: D-T=Dombóvár-Tesco; K-R61=Kaposvár-Road 61, Site No.1; K-V=Kaposújlak-Várdomb; O-B=Ordacsehi-Bugaszeg; P-Gy=Paks-Gyapa; Sz-Cs=Szűr-Cserhát; EBA=Early Bronze Age; EBA, K=Early Bronze Age, Kisapostag culture; LCA=Late Copper Age; MBA=Middle Bronze Age)*

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
processus cornualis	117.3	55.4	41.2					P-Gy	1062	EBA
processus cornualis	150.0	49.3	32.4					K-V	1154	EBA
processus cornualis	194.0	50.5	38.8					P-Gy	1106	EBA
processus cornualis	cca. 200.0	66.3	44.4					O-B	1233	EBA, K
processus cornualis	220.0	60.5	44.6					K-V	1037	EBA
processus cornualis	230.0	59.6	46.1					K-V	1037	EBA
processus cornualis	240.0	53.0	45.0					K-V	188	EBA
processus cornualis	250.2	51.2	37.8					P-Gy	1075	EBA
processus cornualis		41.6	33.8					O-B	1470	EBA
processus cornualis		42.0	34.0					K-V	634	LCA
processus cornualis		46.3	42.6					Sz-Cs	57	LCA
processus cornualis		47.2	37.3					P-Gy	1106	EBA
processus cornualis		49.0	39.0					K-V	635	LCA
processus cornualis		51.4	41.8					Sz-Cs	185	LCA
processus cornualis		52.0	42.0					K-V	701	EBA
processus cornualis		52.9	45.6					P-Gy	855	EBA
processus cornualis		53.0	43.0					K-V	1222	LCA
processus cornualis		54.6	40.0					P-Gy	1075	EBA
processus cornualis		55.8	43.3					D-T	210	EBA
processus cornualis		55.9	40.8					K-V	1318	EBA
processus cornualis		56.0	43.1					P-Gy	888	EBA
processus cornualis		57.0	43.0					K-V	279	LCA
processus cornualis		59.0	47.0					K-V	1217	LCA
processus cornualis		60.5	43.4					Sz-Cs	110	LCA
processus cornualis		63.0	41.5					O-B	1140	EBA, K
processus cornualis		67.0	49.5					Sz-Cs	62	LCA
processus cornualis		67.0	53.0					K-V	1288	LCA
processus cornualis		68.0	63.0					K-V	1314	LCA
processus cornualis		69.0	57.0					K-V	424	LCA
processus cornualis		69.3	48.1					D-T	356	EBA
processus cornualis		69.3	59.4					P-Gy	1114	EBA
processus cornualis		70.0	60.0					K-V	1314	LCA
processus cornualis		72.1	50.3					K-R61	389	MBA
processus cornualis		73.0	54.0					K-V	495	EBA
processus cornualis		73.0	56.0					K-V	64	LCA

1 L in tooth; LCDe in axis; HS in scapula; DLS in phalanx distalis;

2 greatest diameter of the horn core base; GB in atlas, sacrum, patella, calcaneus and centrotarsale; LAPa in axis; B in tooth; GLP in scapula; BPC in ulna; LA in pelvis; GLm in astragalus; LD in phalanx distalis

3 smallest diameter of the horn core base; BFcr in atlas, axis and sacrum; LG in scapula; DPA in ulna; Lfo in pelvis, Dl in astragalus

4 BFcd in atlas and axis; PL in sacrum; BG in scapula; SDO in ulna; SB in pelvis; Dm in astragalus; MBS in phalanx distalis;

5 H in atlas and axis; SLC in scapula; HFcr in sacrum; SH in pelvis;

6 SBV in axis

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
processus cornualis		78.0	55.0					K-V	485	LCA
UM1 tooth	20.0	15.0						K-V	814	LCA
UM1 tooth	20.0	20.0						K-V	401	LCA
UM1 tooth	23.0	21.0						K-V	87	LCA
UM1 tooth	23.0	24.0						K-V	80	LCA
UM1 tooth	23.0	26.0						K-V	407	LCA
UM1 tooth	24.0	20.0						K-V	439	LCA
UM1 tooth	25.0	15.0						K-V	1314	LCA
UM1 tooth	25.0	16.0						K-V	406	LCA
UM1 tooth	25.0	22.0						K-V	408	LCA
UM1 tooth	26.0	14.0						K-V	780	LCA
UM1 tooth	26.0	22.0						K-V	427	LCA
UM1 tooth	27.0	20.0						K-V	629	LCA
UM1 tooth	27.0	21.0						K-V	1314	LCA
UM1 tooth	28.0	21.0						K-V	780	LCA
UM1 tooth	36.0	14.0						K-V	427	LCA
UM2 tooth	22.0	16.0						K-V	814	LCA
UM2 tooth	23.0	21.0						K-V	622	LCA
UM2 tooth	25.0	22.0						K-V	451	LCA
UM2 tooth	26.0	20.0						K-V	453	LCA
UM2 tooth	26.0	22.0						K-V	407	LCA
UM2 tooth	27.0	17.0						K-V	406	LCA
UM2 tooth	28.0	12.0						K-V	406	LCA
UM2 tooth	28.0	15.0						K-V	1314	LCA
UM2 tooth	28.0	22.0						K-V	408	LCA
UM2 tooth	29.0	19.0						K-V	629	LCA
UM2 tooth	29.0	21.0						K-V	1314	LCA
UM2 tooth	29.0	22.0						K-V	1137	LCA
UM2 tooth	29.0	23.0						K-V	427	LCA
UM2 tooth	30.0	15.0						K-V	780	LCA
UM2 tooth	30.0	17.0						K-V	427	LCA
UM2 tooth	32.0	12.0						K-V	406	LCA
UM2 tooth	32.0	12.0						K-V	80	LCA
UM2 tooth	32.0	22.0						K-V	780	LCA
UM3 tooth	25.0	17.0						K-V	427	LCA
UM3 tooth	25.0	19.0						K-V	1314	LCA
UM3 tooth	27.0	16.0						K-V	622	LCA
UM3 tooth	27.0	22.0						K-V	87	LCA
UM3 tooth	28.0	17.0						K-V	1314	LCA
UM3 tooth	28.0	19.0						K-V	453	LCA
UM3 tooth	28.0	22.0						K-V	427	LCA
UM3 tooth	28.0	22.0						K-V	401	LCA
UM3 tooth	29.0	17.0						K-V	470	LCA
UM3 tooth	29.0	18.0						K-V	629	LCA
UM3 tooth	29.0	18.0						K-V	1177	LCA
UM3 tooth	29.0	24.0						K-V	407	LCA
UM3 tooth	30.0	18.0						K-V	780	LCA
UM3 tooth	30.0	22.0						K-V	408	LCA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
UM3 tooth	30.5	20.4						O-B	1233	EBA, K
UM3 tooth	31.0	20.0						K-V	455	LCA
UM3 tooth	32.0	22.0						K-V	439	LCA
UM3 tooth	33.0	15.0						K-V	814	LCA
UM3 tooth	33.0	22.0						K-V	406	LCA
UM3 tooth	35.0	13.0						K-V	780	LCA
UM3 tooth	35.0	14.0						K-V	1314	LCA
UM3 tooth	38.0	14.0						K-V	88	LCA
LM1 tooth	21.0	14.0						K-V	333	LCA
LM1 tooth	22.0	14.0						K-V	279	LCA
LM1 tooth	22.0	16.0						K-V	279	LCA
LM1 tooth	22.0	22.0						K-V	462	EBA
LM1 tooth	23.0	14.0						K-V	87	LCA
LM1 tooth	23.0	14.0						K-V	455	LCA
LM1 tooth	23.0	16.0						K-V	298	EBA
LM1 tooth	23.0	17.0						K-V	407	LCA
LM1 tooth	25.0	14.0						K-V	462	EBA
LM1 tooth	25.0	14.0						K-V	263	EBA
LM1 tooth	25.0	15.0						K-V	408	LCA
LM1 tooth	25.0	16.0						K-V	408	LCA
LM1 tooth	25.0	17.0						K-V	87	LCA
LM1 tooth	25.0	17.0						K-V	279	LCA
LM1 tooth	25.0	17.0						K-V	1246	LCA
LM1 tooth	25.0	24.0						K-V	298	EBA
LM1 tooth	26.0	13.0						K-V	524	LCA
LM1 tooth	26.0	22.0						K-V	408	LCA
LM1 tooth	27.0	13.0						K-V	298	EBA
LM1 tooth	28.0	13.0						K-V	524	LCA
LM1 tooth	28.0	15.0						K-V	1417	LCA
LM2 tooth	23.0	25.0						K-V	462	EBA
LM2 tooth	24.0	17.0						K-V	279	LCA
LM2 tooth	25.0	14.0						K-V	394	LCA
LM2 tooth	25.0	16.0						K-V	279	LCA
LM2 tooth	26.0	14.0						K-V	279	LCA
LM2 tooth	26.0	14.0						K-V	449	EBA
LM2 tooth	26.0	16.0						K-V	170	LCA
LM2 tooth	26.0	17.0						K-V	333	LCA
LM2 tooth	26.0	22.0						K-V	495	EBA
LM2 tooth	26.0	24.0						K-V	298	EBA
LM2 tooth	27.0	13.0						K-V	675	LCA
LM2 tooth	27.0	14.0						K-V	1417	LCA
LM2 tooth	27.0	15.0						K-V	462	EBA
LM2 tooth	27.0	16.0						K-V	467	EBA
LM2 tooth	28.0	13.0						K-V	455	LCA
LM2 tooth	28.0	14.0						K-V	263	EBA
LM2 tooth	28.0	15.0						K-V	407	LCA
LM2 tooth	28.0	15.0						K-V	408	LCA
LM2 tooth	28.0	15.0						K-V	408	LCA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
LM2 tooth	28.0	15.0						K-V	171	EBA
LM2 tooth	28.0	17.0						K-V	823	EBA
LM2 tooth	28.0	18.0						K-V	239	EBA
LM2 tooth	28.0	23.0						K-V	730	EBA
LM2 tooth	29.0	12.0						K-V	524	LCA
LM2 tooth	30.0	11.0						K-V	259	EBA
LM2 tooth	30.0	13.0						K-V	524	LCA
LM2 tooth	30.0	16.0						K-V	1246	LCA
LM2 tooth	30.0	19.0						K-V	431	EBA
LM2 tooth	30.0	23.0						K-V	408	LCA
LM2 tooth	31.0	11.0						K-V	462	EBA
LM2 tooth	32.0	12.0						K-V	462	EBA
LM2 tooth	41.0	17.0						K-V	87	LCA
LM3 tooth	30.0	20.0						K-V	408	LCA
LM3 tooth	31.3	11.3						P-Gy	493	EBA
LM3 tooth	33.0	14.0						K-V	279	LCA
LM3 tooth	33.0	15.0						K-V	279	LCA
LM3 tooth	33.5	16.0						P-Gy	888	EBA
LM3 tooth	33.8	12.5						P-Gy	857	EBA
LM3 tooth	34.0	13.0						K-V	675	LCA
LM3 tooth	34.3	13.8						P-Gy	1066	EBA
LM3 tooth	34.6	13.8						P-Gy	858	EBA
LM3 tooth	34.7	14.5						P-Gy	1054	EBA
LM3 tooth	34.8	14.0						P-Gy	1082	EBA
LM3 tooth	35.0	13.0						K-V	1417	LCA
LM3 tooth	35.0	13.5						P-Gy	1082	EBA
LM3 tooth	35.0	15.0						K-V	263	EBA
LM3 tooth	35.2	12.5						P-Gy	857	EBA
LM3 tooth	35.2	15.2						D-T	280	EBA
LM3 tooth	35.2	15.8						K-R61	352	MBA
LM3 tooth	35.3	15.4						P-Gy	886	EBA
LM3 tooth	35.5	12.8						Sz-Cs	144	LCA
LM3 tooth	35.5	13.4						D-T	429	EBA
LM3 tooth	35.7	12.4						O-B	1233	EBA
LM3 tooth	35.7	13.0						K-R61	565	MBA
LM3 tooth	35.7	14.4						K-V	17	EBA
LM3 tooth	36.0	14.0						K-V	408	LCA
LM3 tooth	36.2	17.9						K-V	1115	EBA
LM3 tooth	36.5	14.0						P-Gy	1061	EBA
LM3 tooth	36.6	12.9						P-Gy	1104	EBA
LM3 tooth	36.6	14.5						O-B	1240	EBA, K
LM3 tooth	36.6	14.7						O-B	1181	EBA, K
LM3 tooth	36.6	15.7						O-B	1140	EBA, K
LM3 tooth	36.6	16.8						Sz-Cs	108	LCA
LM3 tooth	36.7	13.9						K-V	1318	EBA
LM3 tooth	36.8	13.9						O-B	1260	EBA, K
LM3 tooth	37.0	14.0						K-V	462	EBA
LM3 tooth	37.0	15.7						P-Gy	1054	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
LM3 tooth	37.0	17.0						K-V	333	LCA
LM3 tooth	37.1	14.0						P-Gy	1078	EBA
LM3 tooth	37.4	13.6						P-Gy	1075	EBA
LM3 tooth	37.4	14.3						O-B	1108	EBA
LM3 tooth	37.4	16.0						O-B	1233	EBA
LM3 tooth	37.5	15.7						P-Gy	857	EBA
LM3 tooth	37.5	16.6						P-Gy	715	EBA
LM3 tooth	37.9	14.4						P-Gy	1062	EBA
LM3 tooth	37.9	16.3						D-T	247	EBA
LM3 tooth	38.0	14.0						K-V	462	EBA
LM3 tooth	38.0	15.0						K-V	408	LCA
LM3 tooth	38.1	14.4						O-B	1252	EBA
LM3 tooth	38.3	13.4						P-Gy	1075	EBA
LM3 tooth	38.4	13.7						Sz-Cs	57	LCA
LM3 tooth	38.4	13.9						Sz-Cs	45	LCA
LM3 tooth	38.5	13.4						P-Gy	1075	EBA
LM3 tooth	38.5	13.7						O-B	1233	EBA, K
LM3 tooth	38.6	14.2						P-Gy	493	EBA
LM3 tooth	38.7	17.2						P-Gy	1075	EBA
LM3 tooth	38.8	13.6						O-B	1260	EBA, K
LM3 tooth	38.8	14.4						P-Gy	493	EBA
LM3 tooth	39.0	15.0						K-V	407	LCA
LM3 tooth	39.0	15.5						P-Gy	1114	EBA
LM3 tooth	39.0	16.0						K-V	298	EBA
LM3 tooth	39.4	14.4						P-Gy	889	EBA
LM3 tooth	39.5	15.3						P-Gy	1075	EBA
LM3 tooth	39.6	15.0						P-Gy	1075	EBA
LM3 tooth	40.6	14.5						P-Gy	1075	EBA
LM3 tooth	41.0	17.0						K-V	298	EBA
LM3 tooth	42.0	13.0						K-V	239	EBA
LM3 tooth	42.0	16.0						K-V	1246	LCA
atlas	78.0	133.0	99.0	92.0	78.0			K-V	780	LCA
atlas	79.0							K-V	1217	LCA
atlas	79.6							P-Gy	1065	EBA
atlas	80.0	132.0						K-V	634	LCA
atlas	81.0	ca. 130.0						O-B	1486	EBA, K
atlas	81.0		106.3					K-R61	371	MBA
atlas	81.0		109.0	103.0	88.0			K-V	188	EBA
atlas	82.0							K-V	279	LCA
atlas	83.0		109.0	106.0				K-V	279	LCA
atlas	83.0		112.0	98.0	78.0			K-V	94	EBA
atlas	97.0	150.0	123.0	106.0	82.0			K-V	1417	LCA
atlas		136.7						P-Gy	496	EBA
atlas			88.0		62.0			P-Gy	172	LCA
atlas			96.0	83.0	73.0			P-Gy	398	LCA
axis	112.0		95.0			54.0		K-V	1314	LCA
axis	124.7							P-Gy	496	EBA
axis	133.3	102.6						P-Gy	497	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
axis		102.0		59.0				K-V	1417	LCA
axis			81.0	43.0				P-Gy	398	LCA
axis			83.0	47.0				K-V	260	LCA
axis			97.0					K-V	406	LCA
axis			99.0	59.0				K-V	188	EBA
sacrum			68.0		32.0			K-V	188	EBA
scapula		57.0	47.0	36.0				K-V	1177	LCA
scapula		59.0	54.0	46.0	48.0			K-V	333	LCA
scapula		61.3	51.2	41.3	44.1			O-B	1508	EBA, K
scapula		61.7	53.7	44.0	49.5			P-Gy	889	EBA
scapula		62.2	54.6	44.8	52.6			P-Gy	512	EBA
scapula		63.1		45.5				P-Gy	1106	EBA
scapula		64.5	55.3	43.8				O-B	1169	LCA
scapula		64.8	58.6	48.2	51.4			D-T	280	EBA
scapula		65.0	55.0	44.0	48.0			K-V	780	LCA
scapula		65.0	55.0	46.0	48.0			K-V	88	LCA
scapula		65.8	53.5	50.4	53.4			O-B	1233	EBA, K
scapula		65.8	56.0	47.0	52.2			P-Gy	497	EBA
scapula		66.0	58.0	45.0	51.0			K-V	1314	LCA
scapula		66.0	58.0	46.0	48.0			K-V	1246	LCA
scapula		67.0	58.0	48.0	48.0			K-V	454	LCA
scapula		67.4	60.7	52.0				P-Gy	1038	EBA
scapula		67.5	58.7	49.0	57.2			P-Gy	871	EBA
scapula		68.0	53.0		44.0			K-V	1176	LCA
scapula		68.0	57.0	48.0				K-V	222	LCA
scapula		68.0	62.0	52.0				K-V	279	LCA
scapula		68.1	57.4	45.2				P-Gy	699	EBA
scapula		69.6	60.1	50.6	52.3			P-Gy	512	EBA
scapula		70.0	57.0	49.0	55.0			K-V	427	LCA
scapula		70.0	59.0		54.0			K-V	408	LCA
scapula		71.0	59.2	51.0				P-Gy	1062	EBA
scapula		71.0	62.0	45.0	55.0			K-V	451	LCA
scapula		72.0	61.0	53.0	51.0			K-V	1417	LCA
scapula		72.0	63.0	52.0	53.0			K-V	462	EBA
scapula		72.0	64.0	53.0	57.0			K-V	249	LCA
scapula		73.5	63.1	51.3	59.2			D-T	330	EBA
scapula		75.0	62.0	53.0	58.0			K-V	407	LCA
humerus		97.5						Sz-Cs	45	LCA
humerus				32.8		72.6	72.1	O-B	1212	EBA, K
humerus				34.3		68.5		P-Gy	1075	EBA
humerus				34.8		76.3		Sz-Cs	110	LCA
humerus				35.8		76.8	76.5	P-Gy	1061	EBA
humerus				37.0	40.0	79.0	78.0	K-V	1314	LCA
humerus				37.0		79.0	78.2	P-Gy	496	EBA
humerus				39.0	47.0	79.0	84.0	K-V	478	LCA
humerus				39.6		81.0	76.3	P-Gy	497	EBA
humerus				39.7		75.0		P-Gy	1075	EBA
humerus				39.7		81.2	86.4	P-Gy	496	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
humerus						61.8	61.4	P-Gy	851	EBA
humerus						61.9	63.1	Sz-Cs	209	LCA
humerus						65.2	62.7	P-Gy	1049	EBA
humerus						65.7	67.7	P-Gy	851	EBA
humerus						69.0	68.8	P-Gy	889	EBA
humerus						70.0	71.4	P-Gy	520	EBA
humerus						70.0	68.0	K-V	100	LCA
humerus						71.2	68.5	P-Gy	1114	EBA
humerus						71.4	69.4	P-Gy	523	EBA
humerus						71.6		Sz-Cs	55	LCA
humerus						71.7	69.4	P-Gy	1114	EBA
humerus						71.8	69.3	P-Gy	1075	EBA
humerus						72.5	77.5	P-Gy	1106	EBA
humerus						72.8	71.6	P-Gy	496	EBA
humerus						73.0	69.5	P-Gy	1075	EBA
humerus						73.8	70.6	P-Gy	1078	EBA
humerus						74.2	71.4	P-Gy	1061	EBA
humerus						74.6	71.2	P-Gy	1054	EBA
humerus						75.0	72.6	P-Gy	940	EBA
humerus						75.3	69.4	P-Gy	1078	EBA
humerus						75.8	79.4	P-Gy	512	EBA
humerus						76.4	73.5	Sz-Cs	150	LCA
humerus						76.6	73.2	P-Gy	1075	EBA
humerus						76.9	77.0	P-Gy	894	EBA
humerus						77.0	83.0	K-V	333	LCA
humerus						77.5	72.8	P-Gy	1078	EBA
humerus						78.0	74.0	P-Gy	1075	EBA
humerus						80.4	84.7	P-Gy	1072	EBA
humerus						80.7	84.5	D-T	309	EBA
humerus						81.0	84.0	P-Gy	1075	EBA
humerus						81.6	78.2	P-Gy	1075	EBA
humerus						82.1	82.1	P-Gy	1075	EBA
humerus						82.1	76.9	Sz-Cs	38	LCA
humerus						82.4	78.4	P-Gy	1075	EBA
humerus						84.0	82.3	P-Gy	496	EBA
humerus						87.4	78.2	O-B	1140	EBA, K
humerus						87.8	87.0	P-Gy	1075	EBA
humerus						89.5	86.5	O-B	1140	EBA, K
radius	274.9	80.5	40.5	37.2		71.0	38.5	Sz-Cs	45	LCA
radius	276.0	89.0	45.0	45.0	25.0	76.0	38.0	K-V	407	LCA
radius	291.0	86.0	42.0	43.0	26.0	79.0	39.0	K-V	277	LCA
radius		67.0	32.5					K-V	1258	EBA
radius		68.1	34.4					K-V	1141	EBA
radius		71.0						Sz-Cs	107	LCA
radius		73.9	37.1					Sz-Cs	65	LCA
radius		74.5	37.1					D-T	429	EBA
radius		75.4	36.4					O-B	1140	EBA, K
radius		75.9	37.1					Sz-Cs	65	LCA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
radius		76.0	39.0					K-V	279	LCA
radius		76.5	34.5					K-V	252	EBA
radius		76.5	37.5					P-Gy	1075	EBA
radius		76.8	39.4					P-Gy	497	EBA
radius		77.0	42.0					K-V	1429	LCA
radius		77.2	40.8					P-Gy	1062	EBA
radius		78.0	39.0					K-V	1414	LCA
radius		78.0	39.3					P-Gy	1078	EBA
radius		78.1	40.1					P-Gy	1061	EBA
radius		78.2	41.0					P-Gy	1038	EBA
radius		78.3	40.4					K-V	1037	EBA
radius		78.5	39.7					P-Gy	1075	EBA
radius		78.6	39.2					P-Gy	1049	EBA
radius		79.2	36.0					P-Gy	889	EBA
radius		79.4	42.8			69.3	48.0	P-Gy	1114	EBA
radius		79.5	40.1					P-Gy	1104	EBA
radius		79.5	40.3					P-Gy	496	EBA
radius		79.9	39.6					Sz-Cs	185	LCA
radius		80.1	39.0	40.5				P-Gy	512	EBA
radius		80.2	42.3					P-Gy	1075	EBA
radius		80.3	39.7					P-Gy	1075	EBA
radius		80.3	42.0					P-Gy	502	EBA
radius		80.9	41.1					P-Gy	1075	EBA
radius		80.9	41.6	41.6	24.3	72.4		K-V	1283	EBA
radius		81.1	40.1					P-Gy	1075	EBA
radius		81.1	40.7					P-Gy	1075	EBA
radius		81.2	38.3					K-V	1008	EBA
radius		81.4	40.5					P-Gy	1049	EBA
radius		81.7	39.7			74.0	50.7	P-Gy	497	EBA
radius		82.4	42.0					P-Gy	1075	EBA
radius		82.6	42.3					P-Gy	894	EBA
radius		82.6	42.9					P-Gy	1075	EBA
radius		82.7	42.2	38.2				D-T	429	EBA
radius		83.1	42.1					K-V	1115	EBA
radius		83.3	42.0					P-Gy	1075	EBA
radius		83.4	43.9					P-Gy	889	EBA
radius		83.6	41.1					P-Gy	1062	EBA
radius		84.0	43.1					P-Gy	889	EBA
radius		84.0	44.0					P-Gy	986	EBA
radius		84.3	42.7					P-Gy	858	EBA
radius		84.4	42.5					P-Gy	986	EBA
radius		85.0	43.0					P-Gy	1065	EBA
radius		85.5	40.4					Sz-Cs	45	LCA
radius		85.7	43.0					P-Gy	1075	EBA
radius		85.7	43.4					P-Gy	1010	EBA
radius		86.0	45.3					P-Gy	1106	EBA
radius		86.0	47.0					P-Gy	1075	EBA
radius		86.1	44.1					P-Gy	1049	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
radius		86.2	44.1					P-Gy	717	EBA
radius		86.4						Sz-Cs	175	LCA
radius		87.6	43.6					P-Gy	520	EBA
radius		89.2						Sz-Cs	45	LCA
radius		89.6	44.1					D-T	222	EBA
radius		90.0	45.8	41.0				D-T	309	EBA
radius		90.0	47.0					K-V	1414	LCA
radius		90.0	49.0					K-V	211	LCA
radius		90.1	44.5					K-V	1037	EBA
radius		90.1	45.2					O-B	1233	EBA, K
radius		90.9						D-T	213	EBA
radius		91.5	47.5					O-B	1140	EBA, K
radius		94.1	44.1					O-B	1470	EBA, K
radius			37.0					K-V	470	LCA
radius			40.2	65.3				D-T	274	EBA
radius			43.0		20.0			K-V	60	LCA
radius			43.0		24.0			K-V	408	LCA
radius			44.0		22.0			K-V	1246	LCA
radius			78.0	37.0				K-V	431	EBA
radius			80.0	42.0	23.0			K-V	259	EBA
radius				38.0				K-V	298	EBA
radius				39.0	25.0			K-V	462	EBA
radius				40.6		74.4		K-V	1115	EBA
radius				41.5		74.0	49.5	P-Gy	1112	EBA
radius				42.6		71.6	48.3	P-Gy	1106	EBA
radius				68.6				D-T	274	EBA
radius						51.8	40.0	P-Gy	520	EBA
radius						60.7	42.6	Sz-Cs	151	LCA
radius						60.7	42.0	P-Gy	1061	EBA
radius						61.1	42.8	P-Gy	493	EBA
radius						61.5	42.6	P-Gy	1062	EBA
radius						63.7	46.0	P-Gy	493	EBA
radius						66.0	33.0	K-V	401	LCA
radius						66.0	45.7	P-Gy	1075	EBA
radius						66.6	44.0	P-Gy	878	EBA
radius						68.0	38.0	K-V	1217	LCA
radius						68.0	40.2	Sz-Cs	156	LCA
radius						68.5	41.3	P-Gy	894	EBA
radius						69.4	45.1	P-Gy	512	EBA
radius						70.0	42.0	K-V	431	EBA
radius						70.6	47.1	P-Gy	493	EBA
radius						71.3	47.0	P-Gy	1075	EBA
radius						71.8	46.1	P-Gy	1066	EBA
radius						72.0	39.0	K-V	263	EBA
radius						72.0	43.3	P-Gy	894	EBA
radius						72.0	45.2	P-Gy	1106	EBA
radius						72.2	47.2	P-Gy	1010	EBA
radius						72.5	41.8	P-Gy	1075	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
radius						72.6	47.4	Sz-Cs	209	LCA
radius						72.6	49.3	P-Gy	493	EBA
radius						72.7		Sz-Cs	212	LCA
radius						74.0	46.0	P-Gy	851	EBA
radius						74.1	50.3	P-Gy	493	EBA
radius						74.3	52.0	P-Gy	512	EBA
radius						74.4	41.7	P-Gy	1075	EBA
radius						75.4	52.5	P-Gy	1075	EBA
radius						77.0	36.0	K-V	454	LCA
radius						77.0	50.6	P-Gy	1078	EBA
radius						77.0	46.0	P-Gy	497	EBA
radius						77.4	47.6	P-Gy	940	EBA
radius						80.0	44.6	O-B	1486	EBA, K
radius						82.0	39.0	K-V	36	LCA
radius						85.0	53.5	Sz-Cs	55	LCA
radius						86.0	42.0	K-V	652	LCA
ulna		39.0	57.0	45.0				K-V	279	LCA
ulna		42.0	63.0					K-V	431	EBA
ulna		47.0	62.0					K-V	406	LCA
ulna		48.0	68.0	54.0				K-V	401	LCA
ulna		49.0	66.0					K-V	277	LCA
ulna			74.0	58.0				K-V	211	LCA
ulna			74.0	55.0				K-V	1288	LCA
metacarpus	156.0	53.0	30.0	29.0	22.0	54.0	28.0	K-V	279	LCA
metacarpus	168.0	48.0	26.0	20.0	16.0	47.0	27.0	K-V	524	LCA
metacarpus	177.0	56.0	33.0	30.0	20.0	63.0	31.0	K-V	1314	LCA
metacarpus	177.0	56.0	33.0	31.0	19.0		33.0	K-V	1314	LCA
metacarpus	177.0	58.0	36.0	33.0	21.0	59.0	32.0	K-V	713	LCA
metacarpus	183.0	49.8		31.5				Sz-Cs	74	LCA
metacarpus	184.0		36.0	34.0	19.0	62.0	34.0	K-V	408	LCA
metacarpus	186.9	61.0		33.2		61.6		K-R61	357	MBA
metacarpus	187.0	62.0	37.0	33.0	24.0	68.0	34.0	K-V	1417	LCA
metacarpus	188.3	59.2		33.6		61.2		K-R61	357	MBA
metacarpus	189.0	59.0	38.0	33.0	21.0	66.0	35.0	K-V	408	LCA
metacarpus	189.0	71.0	39.0	44.0	27.0	73.0	33.0	K-V	277	LCA
metacarpus	189.1	53.1		31.2		58.5		K-R61	297	MBA
metacarpus	190.9	58.3		32.8		62.6		O-B	1140	EBA, K
metacarpus	191.0	59.0	34.0	32.0	21.0	59.0	32.0	K-V	454	LCA
metacarpus	192.0	60.0	39.0	33.0	23.0	65.0	35.0	K-V	427	LCA
metacarpus	196.0	61.0	39.0	36.0	26.0	67.0	34.0	K-V	406	LCA
metacarpus	196.0	62.0	40.0	34.0	20.0	64.0	35.0	K-V	407	LCA
metacarpus	196.0	66.0	38.0	37.0	24.0	73.0	37.0	K-V	439	LCA
metacarpus	196.4	60.7	38.8	31.8		60.2	33.7	P-Gy	1080	EBA
metacarpus	204.6	61.6		33.4		65.0	33.5	O-B	1140	EBA, K
metacarpus	205.2	61.0	35.0	33.3		61.0	31.9	P-Gy	857	EBA
metacarpus	212.4	55.5	37.1	33.2		60.0	31.7	P-Gy	512	EBA
metacarpus	214.1	63.4		36.4		68.5	34.8	O-B	1140	EBA, K
metacarpus	217.0	63.0	33.0	33.0	23.0	64.0	35.0	K-V	239	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
Bos taurus **Linnaeus, 1758**										
metacarpus	221.6	64.2	39.9	36.1		66.0	35.1	O-B	1303	EBA, K
metacarpus		51.0	29.0					K-V	462	EBA
metacarpus		52.0	33.0					K-V	87	LCA
metacarpus		54.0	32.2					P-Gy	894	EBA
metacarpus		55.0	33.1					K-V	1037	EBA
metacarpus		55.2						P-Gy	523	EBA
metacarpus		55.5						P-Gy	1078	EBA
metacarpus		55.6						P-Gy	889	EBA
metacarpus		56.0	37.7					P-Gy	889	EBA
metacarpus		56.1	31.5					K-V	221	EBA
metacarpus		56.3	34.1					P-Gy	1078	EBA
metacarpus		56.4	35.1					P-Gy	1010	EBA
metacarpus		56.4	36.4					Sz-Cs	110	LCA
metacarpus		56.6	33.0					P-Gy	1065	EBA
metacarpus		56.8	32.5					P-Gy	1061	EBA
metacarpus		57.0	32.7			58.3	30.9	P-Gy	1054	EBA
metacarpus		57.0	33.7					P-Gy	858	EBA
metacarpus		57.3	32.3					Sz-Cs	69	LCA
metacarpus		58.0	34.1					P-Gy	1106	EBA
metacarpus		58.0	34.8					P-Gy	1078	EBA
metacarpus		58.0	35.0	33.0	26.0			K-V	298	EBA
metacarpus		58.0	35.8	28.0				P-Gy	1054	EBA
metacarpus		58.0	40.0	35.0	24.0			K-V	455	LCA
metacarpus		58.4	35.4					K-V	1144	EBA
metacarpus		58.7	36.0					P-Gy	1075	EBA
metacarpus		58.8	34.4	30.6				P-Gy	520	EBA
metacarpus		58.9	35.5					P-Gy	1075	EBA
metacarpus		59.0	35.4					P-Gy	857	EBA
metacarpus		59.0	36.1					P-Gy	1010	EBA
metacarpus		59.3	33.5	33.8				O-B	1140	EBA, K
metacarpus		59.4	35.7					P-Gy	1062	EBA
metacarpus		59.7	36.6					P-Gy	1066	EBA
metacarpus		59.8	36.3					D-T	247	EBA
metacarpus		60.0	33.0					K-V	722	EBA
metacarpus		60.3	34.8					P-Gy	1078	EBA
metacarpus		60.5	34.3	32.3		59.2	31.9	P-Gy	940	EBA
metacarpus		60.5	37.2					P-Gy	1061	EBA
metacarpus		60.6	40.1					P-Gy	1075	EBA
metacarpus		60.7	34.5					P-Gy	858	EBA
metacarpus		60.7	35.6					P-Gy	1075	EBA
metacarpus		60.9	36.4					P-Gy	1061	EBA
metacarpus		61.0	34.7					P-Gy	1103	EBA
metacarpus		61.6	37.8					P-Gy	851	EBA
metacarpus		62.0	38.0	34.0	26.0			K-V	171	EBA
metacarpus		62.0				55.0	30.0	K-V	1259	LCA
metacarpus		62.2	39.4					P-Gy	512	EBA
metacarpus		62.6	37.1					P-Gy	1061	EBA
metacarpus		62.6	37.8					P-Gy	1049	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
metacarpus		62.6	37.9					P-Gy	1054	EBA
metacarpus		62.8	38.7					K-V	1258	EBA
metacarpus		63.0	36.0	26.0				K-V	462	EBA
metacarpus		63.2	37.4					K-V	1258	EBA
metacarpus		64.0	38.6					K-V	371	EBA
metacarpus		64.1	38.5					K-V	1144	EBA
metacarpus		64.9	39.1					O-B	1140	EBA, K
metacarpus		66.0	41.0	39.0	25.0	69.0	38.0	K-V	61	LCA
metacarpus		66.7	40.7					O-B	1237	EBA, K
metacarpus			28.0	32.0	24.0			K-V	334	LCA
metacarpus				28.0	22.0			K-V	259	EBA
metacarpus				31.6		58.2	33.2	P-Gy	1062	EBA
metacarpus				32.0	22.0	57.0	32.0	K-V	462	EBA
metacarpus				33.0	21.0	56.0	29.0	K-V	462	EBA
metacarpus				33	23	64	33	P-Gy	398	LCA
metacarpus				34.0	25.0			K-V	188	EBA
metacarpus				34.0		54.8	31.6	P-Gy	1106	EBA
metacarpus						50.6	27.2	P-Gy	493	EBA
metacarpus						51.4	28.9	P-Gy	1075	EBA
metacarpus						52.2	26.6	Sz-Cs	190	LCA
metacarpus						53.7	28.7	P-Gy	894	EBA
metacarpus						54.1	26.1	Sz-Cs	46	LCA
metacarpus						54.8	30.6	P-Gy	1075	EBA
metacarpus						55.3	30.0	P-Gy	1078	EBA
metacarpus						55.6	30.4	O-B	1169	LCA
metacarpus						55.8	29.4	P-Gy	1062	EBA
metacarpus						56.0	31.0	P-Gy	858	EBA
metacarpus						56.3	27.1	Sz-Cs	101	LCA
metacarpus						56.3	29.7	Sz-Cs	150	LCA
metacarpus						56.8		P-Gy	889	EBA
metacarpus						56.8	30.0	P-Gy	1078	EBA
metacarpus						57.1	31.0	Sz-Cs	156	LCA
metacarpus						57.2	30.8	P-Gy	1075	EBA
metacarpus						57.3	32.6	O-B	1140	EBA, K
metacarpus						57.4	32.0	P-Gy	1078	EBA
metacarpus						57.6	30.9	O-B	1260	EBA, K
metacarpus						57.6	32.3	P-Gy	1010	EBA
metacarpus						57.7	31.6	P-Gy	1080	EBA
metacarpus						57.8	31.4	O-B	1140	EBA, K
metacarpus						58.0	32.2	O-B	1303	EBA, K
metacarpus						58.0	28.1	P-Gy	512	EBA
metacarpus						58.4	32.6	P-Gy	1062	EBA
metacarpus						58.6	31.5	P-Gy	855	EBA
metacarpus						59.0	31.0	K-V	262	EBA
metacarpus						59.4	31.3	P-Gy	496	EBA
metacarpus						59.6	30.1	Sz-Cs	107	LCA
metacarpus						59.6	32.5	P-Gy	1106	EBA
metacarpus						59.9	31.4	O-B	1140	EBA, K

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
metacarpus						60.3	32.8	P-Gy	1075	EBA
metacarpus						60.6	34.0	P-Gy	1078	EBA
metacarpus						61.0	34.4	P-Gy	878	EBA
metacarpus						61.0	33.0	P-Gy	1061	EBA
metacarpus						61.3	33.9	P-Gy	855	EBA
metacarpus						61.5		Sz-Cs	108	LCA
metacarpus						61.5	31.1	P-Gy	889	EBA
metacarpus						61.6	35.8	O-B	1140	EBA, K
metacarpus						61.9	31.4	Sz-Cs	190	LCA
metacarpus						62.0	33.6	P-Gy	1075	EBA
metacarpus						63.1	34.6	D-T	247	EBA
metacarpus						64.0	35.0	K-V	470	LCA
metacarpus						64.0	32.1	Sz-Cs	190	LCA
metacarpus						66.7	35.5	Sz-Cs	45	LCA
metacarpus						66.7	35.8	Sz-Cs	170	LCA
metacarpus						67.0	35.0	K-V	455	LCA
metacarpus						67.0	36.0	K-V	462	EBA
metacarpus						68.0	35.0	K-V	495	EBA
metacarpus						68.5	34.1	Sz-Cs	107	LCA
metacarpus						68.7	35.4	O-B	1260	EBA, K
metacarpus						73.0	37.0	K-V	455	LCA
pelvis		56.0						K-V	634	LCA
pelvis		57.6						K-V	1037	EBA
pelvis		60.0						K-V	1191	LCA
pelvis		61.0						K-V	278	LCA
pelvis		62.0						K-V	279	LCA
pelvis		62.4						O-B	1140	EBA, K
pelvis		62.4						P-Gy	949	EBA
pelvis		63.4						O-B	1206	EBA, K
pelvis		64.0						P-Gy	717	EBA
pelvis		64.1						O-B	1140	EBA, K
pelvis		65.4						K-V	17	EBA
pelvis		66.0						P-Gy	851	EBA
pelvis		66.1						Sz-Cs	65	LCA
pelvis		66.4						P-Gy	894	EBA
pelvis		66.5						O-B	1108	EBA
pelvis		66.6						P-Gy	894	EBA
pelvis		67.2						P-Gy	907	EBA
pelvis		67.2						P-Gy	1075	EBA
pelvis		67.9						Sz-Cs	170	LCA
pelvis		68.0						K-V	656	LCA
pelvis		68.1						Sz-Cs	85	EBA
pelvis		68.8						D-T	429	EBA
pelvis		69.0						P-Gy	496	EBA
pelvis		69.0						P-Gy	1106	EBA
pelvis		69.7						O-B	1252	EBA
pelvis		70.0						K-R61	371	MBA
pelvis		71.0						Sz-Cs	45	LCA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
pelvis		71.0						Sz-Cs	185	LCA
pelvis		71.1						P-Gy	497	EBA
pelvis		71.2						P-Gy	851	EBA
pelvis		72.6						P-Gy	1075	EBA
pelvis		73.4						P-Gy	1075	EBA
pelvis		73.7						K-R61	715	MBA
pelvis		74.0						P-Gy	894	EBA
pelvis		74.0						P-Gy	1075	EBA
pelvis		74.1						P-Gy	497	EBA
pelvis		74.2						P-Gy	497	EBA
pelvis		74.6						O-B	1237	EBA, K
patella	48.8	29.9						K-V	1037	EBA
patella	54.0	44.0						P-Gy	392	LCA
patella	56.1	46.4						Sz-Cs	45	LCA
patella	58.0	48.0						K-V	713	LCA
patella	61.0							P-Gy	1106	EBA
patella	62.0	54.0						K-V	427	LCA
patella	62.0							P-Gy	398	LCA
patella	63.0	49.0						K-V	780	LCA
patella	64.0	52.9						P-Gy	1054	EBA
patella	64.0							P-Gy	1062	EBA
patella	64.1	56.0						P-Gy	497	EBA
patella	65.6	50.2						P-Gy	873	EBA
patella	66.0	57.0						K-V	439	LCA
patella	67.0	56.0						K-V	408	LCA
patella	67.8	63.7						K-V	213	EBA
patella	68.0	53.0						K-V	249	LCA
patella	68.0	53.3						P-Gy	851	EBA
patella	71.0	59.0						K-V	407	LCA
patella	72.0	57.0						K-V	1417	LCA
patella	72.0	59.0						K-V	1417	LCA
femur		101.3	40.3					P-Gy	1082	EBA
femur		115.0	68.0					K-V	431	EBA
femur		121.0	51.5			88.5		P-Gy	497	EBA
femur		131.0	65.0					K-V	262	EBA
femur				34.0	39.0		131.0	K-V	408	LCA
femur				37.0		86.0		P-Gy	1106	EBA
femur				39.0	38.0	102.0	131.0	K-V	1417	LCA
femur				40.6		82.7	107.9	O-B	1508	EBA, K
femur				42.0	41.0	102.0	128.0	K-V	495	EBA
femur						80.6		P-Gy	496	EBA
femur						91.2	128.2	Sz-Cs	79	EBA
femur						180.0	138.0	K-V	218	EBA
femur								K-V	731	EBA
femur								K-V	722	EBA
tibia		74.5	60.8					P-Gy	1077	EBA
tibia		76.5	85.4					P-Gy	1062	EBA
tibia		80.2	74.7					P-Gy	889	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
tibia		83.4						P-Gy	889	EBA
tibia		89.5	72.1					Sz-Cs	108	LCA
tibia		91.0	78.5					P-Gy	512	EBA
tibia		93.0	84.7	38.0				O-B	1465	EBA, K
tibia		94.7						P-Gy	1061	EBA
tibia		95.5	85.5					P-Gy	1075	EBA
tibia		98.5						P-Gy	858	EBA
tibia		103.0	85.0					P-Gy	493	EBA
tibia			36.2	25.0	60.0			K-V	1037	EBA
tibia			42.0	30.0				K-V	462	EBA
tibia				32.0		54.0	39.0	K-V	1137	LCA
tibia				32.8		70.4	53.6	P-Gy	497	EBA
tibia				34.0	25.0	55.0	42.0	K-V	222	LCA
tibia				34.1		51.3	37.2	O-B	1233	EBA
tibia				35.0	24.0	58.0	39.0	K-V	1417	LCA
tibia				35.1		62.5	46.9	P-Gy	889	EBA
tibia				36.2		56.0	41.4	O-B	1233	EBA
tibia				36.7		58.1	39.7	D-T	483	EBA
tibia				36.8		60.6	45.1	Sz-Cs	192	EBA
tibia				37.0	27.0	62.0	47.0	K-V	701	EBA
tibia				37.0	28.0	63.0	47.0	K-V	680	LCA
tibia				37.1		60.0	42.4	P-Gy	1075	EBA
tibia				37.8		56.8	45.0	Sz-Cs	144	LCA
tibia				38.6		62.7	47.1	K-R61	404	MBA
tibia				38.8		63.2	47.6	P-Gy	1075	EBA
tibia				39.5		63.0	44.6	Sz-Cs	53	LCA
tibia				40.0		62.1	48.5	O-B	1303	EBA, K
tibia				42.0	31.0	66.0	47.0	K-V	259	EBA
tibia					25.0		42.0	K-V	279	LCA
tibia					56.3	42.9		P-Gy	1049	EBA
tibia					56.8	42.5		P-Gy	894	EBA
tibia					59.0	40.0		K-V	462	EBA
tibia					59.5	44.0		P-Gy	1049	EBA
tibia					63.0	49.0		K-V	462	EBA
tibia						50.4	40.7	Sz-Cs	69	LCA
tibia						51.5	38.8	P-Gy	496	EBA
tibia						53.1	40.4	Sz-Cs	150	LCA
tibia						53.7	40.6	P-Gy	1065	EBA
tibia						54.1	40.7	O-B	1233	EBA
tibia						54.4	39.4	P-Gy	1082	EBA
tibia						54.8	39.3	P-Gy	1082	EBA
tibia						55.0	43.0	K-V	674	LCA
tibia						55.0	43.0	K-V	239	EBA
tibia						55.0	43.7	P-Gy	878	EBA
tibia						55.2	41.5	P-Gy	1077	EBA
tibia						55.2	41.3	O-B	1140	EBA, K
tibia						55.5	41.2	P-Gy	1019	EBA
tibia						55.6	40.9	D-T	247	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
tibia						56.0		P-Gy	878	EBA
tibia						56.7		Sz-Cs	59	LCA
tibia						56.7	42.0	O-B	1237	EBA, K
tibia						57.0		Sz-Cs	121	LCA
tibia						57.1	44.8	D-T	429	EBA
tibia						57.2	46.2	P-Gy	1061	EBA
tibia						57.2	44.0	P-Gy	1075	EBA
tibia						57.6	45.3	P-Gy	497	EBA
tibia						57.7	44.3	P-Gy	1075	EBA
tibia						58.1	44.4	O-B	1140	EBA, K
tibia						58.2	45.1	P-Gy	1106	EBA
tibia						58.6	43.7	O-B	1240	EBA, K
tibia						58.7	42.1	O-B	1252	EBA
tibia						59.0	46.0	K-V	211	LCA
tibia						59.0	48.0	K-V	806	LCA
tibia						59.0	40.0	K-V	334	LCA
tibia						59.2	45.7	P-Gy	1106	EBA
tibia						59.3	43.7	P-Gy	1075	EBA
tibia						59.4	44.2	P-Gy	1075	EBA
tibia						59.6	44.2	D-T	429	EBA
tibia						59.6	44.0	O-B	1237	EBA, K
tibia						59.8	45.4	O-B	1195	MBA
tibia						60.0	45.0	K-V	652	LCA
tibia						60.0	43.0	K-V	878	EBA
tibia						60.0	43.6	P-Gy	1075	EBA
tibia						60.1	43.8	Sz-Cs	69	LCA
tibia						60.1	44.0	P-Gy	1075	EBA
tibia						60.2	45.9	P-Gy	851	EBA
tibia						60.2	43.7	P-Gy	1054	EBA
tibia						60.5	46.3	P-Gy	1075	EBA
tibia						60.7	43.5	P-Gy	823	EBA
tibia						60.7	42.8	D-T	429	EBA
tibia						60.8	44.2	O-B	1233	EBA, K
tibia						60.9	48.1	D-T	309	EBA
tibia						61.0	39.1	Sz-Cs	123	LCA
tibia						61.0	48.2	P-Gy	940	EBA
tibia						61.0	49.0	P-Gy	1075	EBA
tibia						61.4	47.5	P-Gy	493	EBA
tibia						61.7	46.0	P-Gy	717	EBA
tibia						61.8	44.3	P-Gy	1066	EBA
tibia						61.9	45.3	P-Gy	858	EBA
tibia						62.0	45.0	K-V	823	EBA
tibia						62.1	44.1	P-Gy	1062	EBA
tibia						62.3		K-V	265	LCA
tibia						62.3	45.5	P-Gy	986	EBA
tibia						62.5	47.0	D-T	318	EBA
tibia						62.8	46.8	P-Gy	1010	EBA
tibia						63.0	46.8	O-B	1237	EBA, K

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
Bos taurus **Linnaeus, 1758**										
tibia						63.4	46.1	P-Gy	1061	EBA
tibia						63.5	48.9	P-Gy	497	EBA
tibia						63.7	46.4	P-Gy	851	EBA
tibia						63.8	48.3	P-Gy	1075	EBA
tibia						64.0	48.0	K-V	298	EBA
tibia						64.2	47.3	P-Gy	1112	EBA
tibia						64.5	47.8	P-Gy	754	EBA
tibia						64.5	48.4	O-B	1293	EBA, K
tibia						65.1	45.8	P-Gy	1106	EBA
tibia						66.0	49.0	P-Gy	1078	EBA
tibia						66.5	47.3	O-B	1233	EBA, K
tibia						66.6	50.4	P-Gy	858	EBA
tibia						66.8	54.4	P-Gy	497	EBA
tibia						66.8	49.0	P-Gy	1078	EBA
tibia						67.0	51.0	K-V	431	EBA
tibia						67.0	49.0	P-Gy	1075	EBA
tibia						67.2		P-Gy	1038	EBA
tibia						67.5	54.5	P-Gy	889	EBA
tibia						68.0	48.0	K-V	263	EBA
tibia						68.1	50.8	P-Gy	851	EBA
tibia						68.3	50.2	Sz-Cs	95	EBA
tibia						68.6	50.3	P-Gy	497	EBA
tibia						68.9	49.4	O-B	1140	EBA, K
tibia						69.2	50.8	P-Gy	1075	EBA
tibia						69.5	51.2	P-Gy	1075	EBA
tibia						70.3	54.5	P-Gy	1075	EBA
tibia						71.2	50.6	P-Gy	858	EBA
astragalus	48.3		32.0	33.7		38.4		P-Gy	494	EBA
astragalus	55.0	51.0	27.0	29.0		34.0		K-V	675	LCA
astragalus	55.0		30.0	32.3		35.9		O-B	1486	EBA, K
astragalus	57.1			34.8		38.4		P-Gy	1082	EBA
astragalus	58.0	51.0	28.0	29.0		37.0		K-V	453	LCA
astragalus	59.0		30.2			38.0		K-V	1037	EBA
astragalus	59.5		32.8	33.2		34.8		D-T	318	EBA
astragalus	59.8		32.2	33.1		38.3		O-B	1233	EBA
astragalus	60.0	57.0	32.0	33.0		39.0		K-V	279	LCA
astragalus	61.0	56.0	31.0	34.0		39.0		K-V	211	LCA
astragalus	61.1		33.6	33.8		37.3		O-B	1260	EBA, K
astragalus	61.9		34.8	35.3		38.7		O-B	1233	EBA, K
astragalus	62.0	56.0	32.0	35.0		40.0		K-V	218	EBA
astragalus	62.4		34.0	35.2		35.5		Sz-Cs	65	LCA
astragalus	62.6		33.7	34.4		41.3		P-Gy	1075	EBA
astragalus	63.0	56.0	32.0	32.0		38.0		K-V	279	LCA
astragalus	63.0	56.0				38.0		K-V	454	LCA
astragalus	63.0	58.0	33.0	34.0		38.0		K-V	737	EBA
astragalus	63.0	59.0	32.0			43.0		K-V	730	EBA
astragalus	63.0		31.1	35.3		38.6		K-V	1037	EBA
astragalus	63.2		35.5	36.0		38.9		P-Gy	889	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
astragalus	63.4		35.0	35.4		38.3		Sz-Cs	57	LCA
astragalus	63.8		34.6	35.4		39.0		O-B	1260	EBA, K
astragalus	64.0	59.0	34.0	36.0		42.0		K-V	713	LCA
astragalus	64.0		35.5	36.5		41.8		P-Gy	754	EBA
astragalus	64.0		34.0					K-V	628	LCA
astragalus	64.1		35.6			41.9		K-V	371	EBA
astragalus	64.3		35.4	35.7		40.1		P-Gy	1062	EBA
astragalus	64.8		34.5			38.1		K-V	1037	EBA
astragalus	64.8		36.3	37.1		41.0		O-B	1303	EBA, K
astragalus	65.0	61.0	33.0	37.0		40.0		K-V	61	LCA
astragalus	65.0		30.1	35.2		40.8		K-V	17	EBA
astragalus	65.0		35.8	36.7		41.2		P-Gy	1075	EBA
astragalus	65.0		34.0			39.0		K-V	470	LCA
astragalus	65.2		31.9	36.4		41.9		K-V	1283	EBA
astragalus	65.2		37.6	38.9		47.3		P-Gy	1062	EBA
astragalus	65.4		34.0	37.7		46.4		K-V	1037	EBA
astragalus	65.5		35.4			40.7		P-Gy	858	EBA
astragalus	65.7		35.7	36.7		41.7		P-Gy	1061	EBA
astragalus	65.8		36.3	37.8		45.3		Sz-Cs	190	LCA
astragalus	65.9		35.2	35.3		43.7		K-V	264	EBA
astragalus	66.0	59.0	34.0	36.0		44.0		K-V	408	LCA
astragalus	66.0	59.0	34.0	37.0		42.0		K-V	408	LCA
astragalus	66.0	62.0	34.0	34.0		40.0		K-V	413	LCA
astragalus	66.0	62.0	33.0	37.0		43.0		K-V	170	LCA
astragalus	66.0		31.6	35.8		38.5		K-V	1037	EBA
astragalus	66.1			37.0				O-B	1140	EBA, K
astragalus	66.2		36.9	37.2		42.2		D-T	429	EBA
astragalus	66.4		39.0	39.2		43.6		P-Gy	1078	EBA
astragalus	66.5		36.9	37.0		42.9		P-Gy	1062	EBA
astragalus	66.6		37.2	37.6		40.4		Sz-Cs	215	LCA
astragalus	66.7		34.8	35.2				D-T	274	EBA
astragalus	66.8		36.1	38.6		42.2		P-Gy	1114	EBA
astragalus	67.0	59.0	33.0	35.0		41.0		K-V	780	LCA
astragalus	67.0	59.0	34.0	38.0		44.0		K-V	407	LCA
astragalus	67.0	60.0	33.0	38.0		43.0		K-V	249	LCA
astragalus	67.0	62.0	35.0	36.0		44.0		K-V	406	LCA
astragalus	67.0		33.0	35.0		44.0		K-V	701	EBA
astragalus	67.0		36.0	35.0		41.6		P-Gy	502	EBA
astragalus	67.0		37.5	37.6		43.1		P-Gy	1066	EBA
astragalus	67.1		36.8	37.8		41.6		Sz-Cs	192	EBA
astragalus	67.1		37.3	38.7		41.9		P-Gy	851	EBA
astragalus	67.1		35.4	37.9		44.1		Sz-Cs	45	LCA
astragalus	67.2		35.8	37.1		42.4		P-Gy	493	EBA
astragalus	67.2		36.6	37.2		43.4		P-Gy	1075	EBA
astragalus	67.3			37.1		42.5		P-Gy	858	EBA
astragalus	67.3		37.3	38.3		41.7		P-Gy	1075	EBA
astragalus	67.4		36.1	37.1		42.2		P-Gy	1075	EBA
astragalus	67.4		38.6	39.1		45.9		Sz-Cs	121	LCA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
astragalus	67.5		36.2	37.0		44.6		P-Gy	886	EBA
astragalus	67.5		37.5	38.0		43.4		P-Gy	1075	EBA
astragalus	67.7		35.0	35.7		42.0		P-Gy	1103	EBA
astragalus	67.7		38.2	39.0		47.6		P-Gy	857	EBA
astragalus	67.7		37.6	39.2		47.2		Sz-Cs	65	LCA
astragalus	67.8		37.7	38.5		45.5		P-Gy	858	EBA
astragalus	67.8		38.3	38.6		42.9		P-Gy	1066	EBA
astragalus	67.8		37.9	39.1		43.4		P-Gy	497	EBA
astragalus	68.0	60.0	34.0	35.0		43.0		K-V	170	LCA
astragalus	68.0	62.0	35.0			46.0		K-V	427	LCA
astragalus	68.0	62.0	36.0			43.0		K-V	428	LCA
astragalus	68.0		37.3	40.0		44.1		P-Gy	1078	EBA
astragalus	68.1		37.6	38.5		42.3		P-Gy	1062	EBA
astragalus	68.2		36.1	38.6		42.7		P-Gy	1075	EBA
astragalus	68.3		37.3	38.2		50.4		P-Gy	493	EBA
astragalus	68.4		38.1	38.6		43.0		P-Gy	1075	EBA
astragalus	68.5		38.0			44.2		P-Gy	490	EBA
astragalus	68.5		38.5	38.9		43.4		P-Gy	1075	EBA
astragalus	68.6		31.7	36.3		40.2		K-V	1141	EBA
astragalus	68.6					43.9		P-Gy	1075	EBA
astragalus	68.7		36.8	37.0		42.6		P-Gy	497	EBA
astragalus	68.7		38.0	39.5		43.0		P-Gy	1075	EBA
astragalus	68.7		38.6	38.6		46.3		P-Gy	1065	EBA
astragalus	68.8		35.7	36.3		42.7		P-Gy	940	EBA
astragalus	68.8		37.4	39.0		44.0		P-Gy	1078	EBA
astragalus	68.8		38.0	38.5		43.9		P-Gy	1014	EBA
astragalus	68.8		39.0	39.0		48.0		P-Gy	1075	EBA
astragalus	68.9		37.6			41.5		Sz-Cs	55	LCA
astragalus	69.0	61.0	35.0	37.0		44.0		K-V	454	LCA
astragalus	69.0	63.0	36.0	42.0		46.0		K-V	1417	LCA
astragalus	69.0	63.0	36.0	42.0		46.0		K-V	1417	LCA
astragalus	69.0	64.0	35.0	38.0		47.0		K-V	428	LCA
astragalus	69.0		36.8	38.0		43.6		P-Gy	1038	EBA
astragalus	69.0		37.8	38.6		42.4		P-Gy	493	EBA
astragalus	69.1		39.8	40.6		43.4		P-Gy	1066	EBA
astragalus	69.2		38.3	39.2		42.6		P-Gy	1075	EBA
astragalus	69.2		37.5	39.1		44.2		Sz-Cs	215	LCA
astragalus	69.4		36.7	37.5		44.3		P-Gy	1078	EBA
astragalus	69.4		40.0	40.0		45.5		P-Gy	871	EBA
astragalus	69.4							P-Gy	1014	EBA
astragalus	69.4							D-T	169	EBA
astragalus	69.8		39.2			42.8		Sz-Cs	68	LCA
astragalus	69.8		39.6	40.0		44.4		O-B	1233	EBA
astragalus	70.0	65.0	38.0	39.0		48.0		K-V	218	EBA
astragalus	70.0		38.8	39.5		42.8		P-Gy	1106	EBA
astragalus	70.0		40.1	41.4		45.5		O-B	1508	EBA, K
astragalus	70.2		37.7	39.0		44.5		D-T	429	EBA
astragalus	70.2		38.3	38.3		44.4		P-Gy	1075	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
astragalus	70.2		38.0	38.4		42.4		P-Gy	1075	EBA
astragalus	70.2			40.4		48.4		O-B	1140	EBA, K
astragalus	70.6		38.6	40.0		45.0		O-B	1293	EBA, K
astragalus	70.9		38.1	39.2		45.6		P-Gy	887	EBA
astragalus	71.1		38.2	38.2		42.5		P-Gy	878	EBA
astragalus	71.4		38.0	38.3		43.7		P-Gy	1075	EBA
astragalus	71.5		40.0	41.0		47.2		O-B	1233	EBA, K
astragalus	72.8		36.0			48.0		K-V	1141	EBA
astragalus	73.0	66.0	37.0	40.0		44.0		K-V	451	LCA
astragalus	73.0	67.0	38.0	41.0		49.0		K-V	249	LCA
astragalus	73.0	68.0	38.0	42.0		47.0		K-V	469	LCA
astragalus	73.1		40.1					D-T	429	EBA
astragalus	73.2		40.9	41.6		47.9		D-T	309	EBA
astragalus	73.3		40.7	41.3		48.2		K-V	264	EBA
astragalus	74.0	67.0	37.0	40.0		47.0		K-V	469	LCA
astragalus	77.1		41.7					Sz-Cs	53	LCA
astragalus		64.0	34.0	38.0		42.0		K-V	629	LCA
astragalus		65.0	36.0	37.0				K-V	842	EBA
calcaneus	120.0							P-Gy	582	LCA
calcaneus	120.0							K-V	279	LCA
calcaneus	122.0	42.0						K-V	1178	LCA
calcaneus	125.3	40.2						P-Gy	717	EBA
calcaneus	125.8							P-Gy	857	EBA
calcaneus	126.0	38.6						K-V	1258	EBA
calcaneus	126.3	44.0						Sz-Cs	212	LCA
calcaneus	126.5	40.8						K-V	1258	EBA
calcaneus	127.2							P-Gy	851	EBA
calcaneus	127.7							P-Gy	1054	EBA
calcaneus	129.3	48.0						P-Gy	1104	EBA
calcaneus	129.4	43.7						P-Gy	1062	EBA
calcaneus	130.0	43.0						K-V	262	EBA
calcaneus	131.0							P-Gy	497	EBA
calcaneus	131.1	39.2						P-Gy	1078	EBA
calcaneus	131.6							P-Gy	1106	EBA
calcaneus	131.7							P-Gy	1075	EBA
calcaneus	132.0	44.1						K-V	1258	EBA
calcaneus	134.3	42.0						P-Gy	497	EBA
calcaneus	135.0	47.0						K-V	454	LCA
calcaneus	136.0	44.0						K-V	449	EBA
calcaneus	136.0	45.0						K-V	408	LCA
calcaneus	136.0	47.0						K-V	408	LCA
calcaneus	136.0							P-Gy	894	EBA
calcaneus	137.0	45.0						K-V	1417	LCA
calcaneus	137.0	45.0						K-V	1417	LCA
calcaneus	140.7							P-Gy	1078	EBA
calcaneus	141.0	48.0						K-V	407	LCA
calcaneus	142.0	49.0						K-V	262	EBA
calcaneus	145.0							D-T	309	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
calcaneus	147.1	49.0						O-B	1293	EBA, K
calcaneus	148.0	48.0						K-V	449	EBA
calcaneus	148.2							O-B	1470	EBA
calcaneus	154.0	51.0						K-V	218	EBA
centrotarsale		44.3						Sz-Cs	65	LCA
centrotarsale		46.0						K-V	100	LCA
centrotarsale		47.0						K-V	279	LCA
centrotarsale		47.3						P-Gy	889	EBA
centrotarsale		48.0						K-V	455	LCA
centrotarsale		48.0						K-V	406	LCA
centrotarsale		48.6						P-Gy	493	EBA
centrotarsale		49.0						K-V	279	LCA
centrotarsale		49.0						K-V	629	LCA
centrotarsale		49.0						K-V	713	LCA
centrotarsale		49.7						P-Gy	1081	EBA
centrotarsale		50.0						K-V	454	LCA
centrotarsale		51.0						K-V	1314	LCA
centrotarsale		51.0						K-V	427	LCA
centrotarsale		52.4						O-B	1233	MBA
centrotarsale		52.9						P-Gy	858	EBA
centrotarsale		53.0						K-V	408	LCA
centrotarsale		53.0						K-V	406	LCA
centrotarsale		53.5						P-Gy	1010	EBA
centrotarsale		53.7						Sz-Cs	192	EBA
centrotarsale		53.8						P-Gy	496	EBA
centrotarsale		54.3						K-V	1141	EBA
centrotarsale		54.3						D-T	222	EBA
centrotarsale		54.7						P-Gy	1061	EBA
centrotarsale		54.8						P-Gy	1065	EBA
centrotarsale		55.0						K-V	407	LCA
centrotarsale		55.1						P-Gy	1075	EBA
centrotarsale		55.2						P-Gy	1075	EBA
centrotarsale		55.4						P-Gy	1075	EBA
centrotarsale		56.3						P-Gy	1075	EBA
centrotarsale		56.8						P-Gy	754	EBA
centrotarsale		57.0						K-V	408	LCA
centrotarsale		57.0						K-V	249	LCA
centrotarsale		57.1						P-Gy	851	EBA
centrotarsale		57.3						K-V	252	EBA
centrotarsale		57.6						O-B	1240	EBA, K
centrotarsale		57.8						P-Gy	1075	EBA
centrotarsale		58.0						K-V	1417	LCA
centrotarsale		58.0						K-V	1417	LCA
centrotarsale		58.0						P-Gy	717	EBA
centrotarsale		58.6						P-Gy	512	EBA
centrotarsale		58.8						K-V	1121	EBA
centrotarsale		58.9						P-Gy	1075	EBA
centrotarsale		59.0						K-V	730	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
centrotarsale		59.0						K-V	1141	EBA
centrotarsale		59.2						P-Gy	1066	EBA
centrotarsale		59.3						K-V	109	EBA
centrotarsale		59.6						P-Gy	486	EBA
centrotarsale		59.6						D-T	309	EBA
centrotarsale		59.8						O-B	1140	EBA, K
centrotarsale		60.0						K-V	1246	LCA
centrotarsale		66.0						K-V	449	EBA
centrotarsale		66.0						K-V	171	EBA
metatarsus	207.0	47.0	45.0	28.0	25.0	55.0	31.0	K-V	713	LCA
metatarsus	208.0	43.0	43.0	26.0	24.0		32.0	K-V	1314	LCA
metatarsus	210.0	48.6		25.6		57.1		K-R61	357	MBA
metatarsus	215.0	48.0	50.0	28.0	25.0	62.0	35.0	K-V	1417	LCA
metatarsus	215.0	48.0	50.0	28.0	25.0	62.0	35.0	K-V	1417	LCA
metatarsus	218.5	47.3	47.0	28.4		59.5	32.4	K-R61	404	MBA
metatarsus	220.0	47.0	48.0	27.0	26.0	56.0	32.0	K-V	454	LCA
metatarsus	220.4	46.3	45.8	26.4		54.4	32.5	Sz-Cs	192	EBA
metatarsus	220.5	47.3	47.1	24.8		53.3	30.1	Sz-Cs	107	LCA
metatarsus	223.0	52.0	48.0	28.0	24.0	60.0	23.0	K-V	407	LCA
metatarsus	224.0	49.0	47.0	27.0	25.0	58.0	34.0	K-V	427	LCA
metatarsus	228.5	47.5	43.2	27.0		54.1	31.6	O-B	1303	EBA, K
metatarsus	229.6	48.4		26.5		55.0	32.0	O-B	1303	EBA, K
metatarsus	230.0	47.5	47.0	26.3	25.3	54.7		K-V	396	EBA
metatarsus	230.5	48.7	43.9	25.8		56.7	31.7	P-Gy	857	EBA
metatarsus	230.8	51.7	52.3	26.4		64.3	34.8	D-T	309	EBA
metatarsus	232.5	48.9	45.8	25.4	25.9	57.2		K-V	1141	EBA
metatarsus	233.5	52.9	47.3	31.3		62.1	32.6	Sz-Cs	122	LCA
metatarsus	241.3	48.0	44.5	25.1		54.1	32.1	O-B	1470	EBA
metatarsus	243.4	50.3	47.1	28.3	26.1	58.3		K-V	1141	EBA
metatarsus		38.7	37.4					P-Gy	1082	EBA
metatarsus		39.0	37.3					K-V	1141	EBA
metatarsus		40.6	38.4					P-Gy	889	EBA
metatarsus		41.0	41.0					P-Gy	1114	EBA
metatarsus		41.1	40.7					K-V	241	EBA
metatarsus		42.1	39.5					P-Gy	493	EBA
metatarsus		43.0	39.0					K-V	408	LCA
metatarsus		43.0	42.0					K-V	1314	LCA
metatarsus		43.0	43.0					K-V	87	LCA
metatarsus		44.0	42.0	28.0				K-V	100	LCA
metatarsus		44.0	44.0					K-V	262	EBA
metatarsus		44.2	41.6					P-Gy	1075	EBA
metatarsus		44.7	42.3					P-Gy	894	EBA
metatarsus		44.8	41.9					P-Gy	851	EBA
metatarsus		44.8	45.5					K-V	1141	EBA
metatarsus		44.9	43.8					P-Gy	1075	EBA
metatarsus		45.0	45.0					K-V	406	LCA
metatarsus		45.0						P-Gy	894	EBA
metatarsus		45.2	43.6					K-V	1037	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
metatarsus		45.2	47.0					P-Gy	1106	EBA
metatarsus		45.7	44.2					P-Gy	1078	EBA
metatarsus		46.0	45.8					K-V	57	LCA
metatarsus		46.1						P-Gy	1014	EBA
metatarsus		47.0	43.0					K-V	879	EBA
metatarsus		47.0	43.0					P-Gy	1065	EBA
metatarsus		47.0	44.2	27.3				P-Gy	1075	EBA
metatarsus		47.0	45.0	28.0				K-V	239	EBA
metatarsus		47.0	47.2					P-Gy	878	EBA
metatarsus		47.1	45.0					P-Gy	1078	EBA
metatarsus		47.2	44.7					D-T	210	EBA
metatarsus		47.2	46.2					P-Gy	520	EBA
metatarsus		47.3	47.2					P-Gy	851	EBA
metatarsus		47.3				57.6	32.2	P-Gy	857	EBA
metatarsus		47.6	42.8					P-Gy	493	EBA
metatarsus		48.0	42.0	25.0	31.0			K-V	1177	LCA
metatarsus		48.0	43.0	27.0	28.0			K-V	634	LCA
metatarsus		48.0	44.0					K-V	170	LCA
metatarsus		48.0	44.8					P-Gy	858	EBA
metatarsus		48.0	45.0					K-V	57	LCA
metatarsus		48.0	47.2					P-Gy	858	EBA
metatarsus		48.0	47.4					P-Gy	851	EBA
metatarsus		48.2	46.4					P-Gy	1075	EBA
metatarsus		48.2	49.1					P-Gy	1062	EBA
metatarsus		48.2	50.0					P-Gy	986	EBA
metatarsus		48.4	48.6					P-Gy	1075	EBA
metatarsus		49.0	49.0	28.0	31.0			K-V	211	LCA
metatarsus		49.2	45.2	28.4				P-Gy	493	EBA
metatarsus		49.4	46.4					Sz-Cs	150	LCA
metatarsus		49.6	47.1					P-Gy	894	EBA
metatarsus		49.7	47.8					K-V	1037	EBA
metatarsus		49.9	47.3					P-Gy	851	EBA
metatarsus		50.0	48.4					K-V	1121	EBA
metatarsus		50.7	45.4					K-V	1141	EBA
metatarsus		50.9	44.3					P-Gy	1066	EBA
metatarsus		51.0	48.0					K-V	408	LCA
metatarsus		51.0	48.0					K-V	701	EBA
metatarsus		51.0	49.0					K-V	60	LCA
metatarsus		51.2	48.7					P-Gy	493	EBA
metatarsus		51.3	46.1					P-Gy	1010	EBA
metatarsus		51.3	48.5	26.9				P-Gy	512	EBA
metatarsus		51.4	46.6	27.0				K-V	332	LCA
metatarsus		51.4	46.7					P-Gy	717	EBA
metatarsus		51.8	50.2					P-Gy	1114	EBA
metatarsus		52.0	45.0	28.0	29.0			K-V	332	LCA
metatarsus		52.1	48.4					P-Gy	851	EBA
metatarsus		52.3	50.8					P-Gy	486	EBA
metatarsus		52.4	48.5					K-V	252	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
metatarsus		52.4	50.1					P-Gy	1066	EBA
metatarsus		52.5	50.6					P-Gy	1075	EBA
metatarsus		53.0	52.1					P-Gy	823	EBA
metatarsus		53.3	50.7					P-Gy	1106	EBA
metatarsus		53.3	52.6					P-Gy	1062	EBA
metatarsus		53.8	29.6					P-Gy	1054	EBA
metatarsus		53.8	49.3					P-Gy	1103	EBA
metatarsus		53.8	50.2					P-Gy	1114	EBA
metatarsus		54.0	51.0	28.0	34.0		34.0	K-V	1343	LCA
metatarsus		54.0	51.0					K-V	728	EBA
metatarsus		56.4	50.4					K-V	109	EBA
metatarsus		60.2	60.1					Sz-Cs	175	LCA
metatarsus			16.0	17.0				K-V	462	EBA
metatarsus			26.0					K-V	462	EBA
metatarsus			32.0	32.0	65.0	34.0		K-V	462	EBA
metatarsus			45.0		23.0			K-V	239	EBA
metatarsus			54.0	34.0	33.0			K-V	454	LCA
metatarsus				23.0	20.0	48.0	27.0	K-V	87	LCA
metatarsus				23.9		51.6	28.7	Sz-Cs	107	LCA
metatarsus				24.0	22.0	49.0	28.0	K-V	279	LCA
metatarsus				24.1		54.9	32.7	P-Gy	1061	EBA
metatarsus				24.7		58.6	29.5	Sz-Cs	190	LCA
metatarsus				25.6		51.7	31.4	Sz-Cs	85	EBA
metatarsus				26.5		55.1	29.7	P-Gy	1061	EBA
metatarsus				26.7		51.2	30.3	O-B	1260	EBA, K
metatarsus				27.2		52.4	30.0	O-B	1233	EBA, K
metatarsus				28.0	22.0	54.0	29.0	K-V	279	LCA
metatarsus				28.0	23.0	51.0	28.0	K-V	88	LCA
metatarsus				28.0	25.0	52.0	28.0	K-V	1288	LCA
metatarsus				30.8		61.4	32.5	D-T	205	EBA
metatarsus				31.0	23.0	59.0	29.0	K-V	969	LCA
metatarsus				31.0	26.0	60.0	32.0	K-V	401	LCA
metatarsus				33.0	28.0	63.0	35.0	K-V	731	EBA
metatarsus					21.0	47.0	27.0	K-V	793	LCA
metatarsus					30.2	59.8	31.5	O-B	1146	LCA
metatarsus					54.0	31.0		K-V	462	EBA
metatarsus					62.0	34.0		K-V	462	EBA
metatarsus						49.4	27.3	Sz-Cs	65	LCA
metatarsus						50.6	29.5	P-Gy	493	EBA
metatarsus						51.0	32.5	P-Gy	1054	EBA
metatarsus						51.3	29.8	Sz-Cs	107	LCA
metatarsus						51.4	30.1	P-Gy	1062	EBA
metatarsus						51.5	29.4	Sz-Cs	192	EBA
metatarsus						52.0	30.2	Sz-Cs	45	LCA
metatarsus						52.0	30.8	P-Gy	858	EBA
metatarsus						52.4	29.4	P-Gy	1075	EBA
metatarsus						52.5	27.5	Sz-Cs	53	LCA
metatarsus						53.0	30.4	P-Gy	1075	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
metatarsus						53.2	29.4	Sz-Cs	55	LCA
metatarsus						53.2	33.1	P-Gy	1062	EBA
metatarsus						53.2	29.3	P-Gy	1062	EBA
metatarsus						53.5	30.6	P-Gy	894	EBA
metatarsus						54.1	29.5	Sz-Cs	46	LCA
metatarsus						54.1	28.8	P-Gy	1078	EBA
metatarsus						54.4	28.8	Sz-Cs	161	LCA
metatarsus						54.5	31.0	P-Gy	512	EBA
metatarsus						54.5	30.0	P-Gy	1072	EBA
metatarsus						54.6	32.2	P-Gy	1049	EBA
metatarsus						54.6	31.9	P-Gy	1078	EBA
metatarsus						54.6	29.7	P-Gy	1114	EBA
metatarsus						54.9		P-Gy	1062	EBA
metatarsus						55.1	30.7	D-T	212	EBA
metatarsus						55.2	31.7	P-Gy	500	EBA
metatarsus						55.2	32.0	P-Gy	1049	EBA
metatarsus						55.3	31.9	P-Gy	497	EBA
metatarsus						55.4	30.0	P-Gy	1075	EBA
metatarsus						55.5	33.1	P-Gy	500	EBA
metatarsus						55.6	30.9	P-Gy	1062	EBA
metatarsus						56.0	29.0	K-V	780	LCA
metatarsus						56.6	32.9	P-Gy	894	EBA
metatarsus						56.6	32.2	P-Gy	1010	EBA
metatarsus						57.0	34.4	Sz-Cs	74	LCA
metatarsus						57.7	32.2	P-Gy	497	EBA
metatarsus						58.7	31.2	O-B	1509	EBA, K
metatarsus						60.2	33.0	P-Gy	1054	EBA
metatarsus						60.7	35.4	P-Gy	851	EBA
metatarsus						60.8	33.0	Sz-Cs	57	LCA
metatarsus						61.0	32.0	K-V	298	EBA
metatarsus						61.0	34.6	P-Gy	986	EBA
metatarsus						61.0	32.5	P-Gy	1075	EBA
metatarsus						61.6	34.5	P-Gy	1114	EBA
metatarsus						61.7	34.6	P-Gy	1114	EBA
metatarsus						62.5	36.1	O-B	1140	EBA, K
metatarsus						62.7	30.4	Sz-Cs	65	LCA
metatarsus						63.0	35.0	K-V	262	EBA
metatarsus						64.0	36.0	K-V	218	EBA
metatarsus						64.2	35.1	Sz-Cs	27	EBA
metatarsus						66.3	34.0	Sz-Cs	57	LCA
metatarsus						71.3	36.0	K-V	99	LCA
phalanx proximalis	42.8	35.2		28.2		30.2		K-V	1283	EBA
phalanx proximalis	52.0	33.0	27.0	19.0	28.0			K-V	462	EBA
phalanx proximalis	52.0		28.0	24.0	18.0	25.0		P-Gy	399	LCA
phalanx proximalis	52.7	28.0		23.0		23.0		Sz-Cs	190	LCA
phalanx proximalis	53.8	28.8	31.6	23.8		26.6		O-B	1233	EBA
phalanx proximalis	54.0	28.0	29.0	25.0	17.0			K-V	449	EBA
phalanx proximalis	54.2							D-T	205	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
phalanx proximalis	54.3	31.1		28.1		29.0		K-R61	357	MBA
phalanx proximalis	54.7	29.2		26.0		28.0		P-Gy	1063	EBA
phalanx proximalis	54.8	28.1		25.0		25.8		P-Gy	1054	EBA
phalanx proximalis	55.0	27.0	28.0	23.0	17.0			K-V	462	EBA
phalanx proximalis	55.1	29.4	32.5	23.3		26.6		O-B	1169	LCA
phalanx proximalis	55.4	28.4		24.4		28.6		P-Gy	1010	EBA
phalanx proximalis	55.6	26.1		22.3		25.5		P-Gy	940	EBA
phalanx proximalis	56.0	29.0	28.0	26.0	18.0	23.0		K-V	462	EBA
phalanx proximalis	56.0	32.1	32.6	26.7		27.4		Sz-Cs	150	LCA
phalanx proximalis	56.4	33.9	35.5	26.0		28.6		Sz-Cs	110	LCA
phalanx proximalis	56.7	29.0	35.2	25.6		29.2		O-B	1233	EBA
phalanx proximalis	56.7	29.4		24.3		27.9		P-Gy	1010	EBA
phalanx proximalis	56.8	29.1		25.8		27.0		K-R61	357	MBA
phalanx proximalis	56.8	29.6	30.6	24.5		26.7		Sz-Cs	45	LCA
phalanx proximalis	57.0	28.0	36.0	25.0	18.0	28.0	20.0	K-V	1314	LCA
phalanx proximalis	57.0	29.0	33.0	25.0	18.0	27.0	19.0	K-V	454	LCA
phalanx proximalis	57.0	30.0	31.0	27.0	18.0	30.0	20.0	K-V	1314	LCA
phalanx proximalis	57.1	30.6		26.0		28.0		P-Gy	486	EBA
phalanx proximalis	57.3	30.3	31.0	26.5		26.7		Sz-Cs	45	LCA
phalanx proximalis	57.6	28.5		23.4		26.4		K-V	1037	EBA
phalanx proximalis	57.9	27.8	30.4	21.0		24.0		Sz-Cs	150	LCA
phalanx proximalis	57.9	31.2		26.5		28.5		P-Gy	1080	EBA
phalanx proximalis	57.9	31.3	34.3			28.2		O-B	1233	EBA
phalanx proximalis	58.0	26.0	28.0	25.0	18.0	25.0	18.0	K-V	211	LCA
phalanx proximalis	58.0	29.0	31.0	25.0	18.0	28.0	19.0	K-V	431	EBA
phalanx proximalis	58.0	29.0	36.0	28.0	18.0	27.0	19.0	K-V	279	LCA
phalanx proximalis	58.0	30.0	29.0	27.0	18.0	28.0	21.0	K-V	292	LCA
phalanx proximalis	58.0	31.0	34.0	26.0	18.0	29.0		K-V	298	EBA
phalanx proximalis	58.0	35.0		30.0		30.0		Sz-Cs	108	LCA
phalanx proximalis	58.2	27.6		23.7		27.0		K-V	1037	EBA
phalanx proximalis	58.2	33.3	34.9	26.2				Sz-Cs	59	LCA
phalanx proximalis	58.7	32.3	35.7	26.0		29.5		Sz-Cs	156	LCA
phalanx proximalis	58.8	27.9	32.2	23.7		26.0		O-B	1470	EBA
phalanx proximalis	58.8	31.2		25.4		28.4		P-Gy	520	EBA
phalanx proximalis	58.9	27.7		24.6		26.8		P-Gy	940	EBA
phalanx proximalis	58.9	28.8	34.1	24.9		26.5	19.7	Sz-Cs	192	EBA
phalanx proximalis	59.0	27.0	32.0	23.0	18.0	26.0	19.0	K-V	1314	LCA
phalanx proximalis	59.0	28.4		22.7		25.6		K-R61	357	MBA
phalanx proximalis	59.0	29.0	29.0	26.0	17.0	27.0	19.0	K-V	431	EBA
phalanx proximalis	59.0	29.0	31.0	26.0	19.0	28.0	22.0	K-V	401	LCA
phalanx proximalis	59.0	31.0	33.0	27.0	19.0	29.0	22.0	K-V	431	EBA
phalanx proximalis	59.0	33.0	33.0	27.0	20.0	29.0	23.0	K-V	652	LCA
phalanx proximalis	59.0	33.0	35.0	28.0	20.0	29.0	22.0	K-V	434	LCA
phalanx proximalis	59.0	33.0		27.0		28.0		K-V	794	EBA
phalanx proximalis	59.1	28.2		24.6		28.0		P-Gy	823	EBA
phalanx proximalis	59.3	28.5		22.9		24.5		P-Gy	1014	EBA
phalanx proximalis	59.4	32.7	33.5	26.0		29.3		Sz-Cs	209	LCA
phalanx proximalis	59.5	32.1	33.3	26.5		27.6	21.1	O-B	1140	EBA, K

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
phalanx proximalis	59.6	30.8				26.1	30.0	D-T	429	EBA
phalanx proximalis	59.7	31.1	33.6	24.7		29.8		O-B	1427	EBA, K
phalanx proximalis	59.9	34.4	38.6	28.9		30.3		Sz-Cs	170	LCA
phalanx proximalis	60.0	26.3		23.1		26.0		P-Gy	1014	EBA
phalanx proximalis	60.0	28.5	34.1	24.3		25.2	20.1	Sz-Cs	192	EBA
phalanx proximalis	60.4	26.2		21.6		25.3		O-B	1169	LCA
phalanx proximalis	60.5	27.6		24.5		27.2		P-Gy	1114	EBA
phalanx proximalis	60.6	29.1		26.0		27.6		P-Gy	1014	EBA
phalanx proximalis	60.7	28.3		23.8		27.2		P-Gy	940	EBA
phalanx proximalis	61.0	32.0	35.0	29.0	21.0		25.0	K-V	449	EBA
phalanx proximalis	61.0	32.0	36.0	27.0	19.0	29.0	22.0	K-V	630	LCA
phalanx proximalis	61.0	33.0	33.0	28.0	20.0	30.0	24.0	K-V	675	LCA
phalanx proximalis	61.0	33.0	34.0	29.0	21.0	32.0	24.0	K-V	427	LCA
phalanx proximalis	61.1	32.5		28.0		30.2		P-Gy	717	EBA
phalanx proximalis	61.5	33.4	39.2					O-B	1233	EBA
phalanx proximalis	61.8	33.5				28.2	31.4	D-T	309	EBA
phalanx proximalis	61.8	34.4		29.6		33.1		Sz-Cs	150	LCA
phalanx proximalis	62.0	29.0	32.0	27.0	19.0	29.0	21.0	K-V	454	LCA
phalanx proximalis	62.0	31.8		26.5		28.8		P-Gy	823	EBA
phalanx proximalis	62.0	33.0	36.0	29.0	19.0	31.0	24.0	K-V	408	LCA
phalanx proximalis	62.3	31.4		26.8		31.2		Sz-Cs	59	LCA
phalanx proximalis	62.3	33.5	35.2	26.0		28.5		Sz-Cs	144	LCA
phalanx proximalis	62.4	28.0		32.9		21.4		D-T	210	EBA
phalanx proximalis	62.6	31.4		27.8		31.4		K-V	1121	EBA
phalanx proximalis	62.7	28.2		23.6		25.6		P-Gy	1062	EBA
phalanx proximalis	62.7	29.3		23.5		26.0		K-V	1037	EBA
phalanx proximalis	62.7	30.7		25.7		29.7		K-V	1037	EBA
phalanx proximalis	62.7	35.0		30.4		34.0		K-V	1283	EBA
phalanx proximalis	62.8	27.7		22.6		26.8		K-V	1037	EBA
phalanx proximalis	62.8	33.9	35.9	25.3		28.6		Sz-Cs	57	LCA
phalanx proximalis	63.0	28.0	34.0	24.0	18.0	27.0	19.0	K-V	431	EBA
phalanx proximalis	63.0	32.0	35.0	28.0	19.0			K-V	239	EBA
phalanx proximalis	63.0	33.0	32.0	28.0	19.0	30.0	22.0	K-V	495	EBA
phalanx proximalis	63.0	33.0	34.0	28.0	21.0		20.0	K-V	495	EBA
phalanx proximalis	63.0	33.0	36.0	29.0	24.0	33.0	26.0	K-V	1217	LCA
phalanx proximalis	63.1	28.6				24.8	28.4	D-T	429	EBA
phalanx proximalis	63.7	30.7		24.3		28.0		K-V	1141	EBA
phalanx proximalis	63.7	31.0		26.8		29.4		P-Gy	1062	EBA
phalanx proximalis	63.8	27.2	33.8	23.1		25.2		O-B	1303	EBA, K
phalanx proximalis	63.9	34.3				27.3	31.4	D-T	309	EBA
phalanx proximalis	64.0	30.6				25.3	29.7	D-T	309	EBA
phalanx proximalis	64.0	33.0	37.0	28.0	21.0	31.0	24.0	K-V	408	LCA
phalanx proximalis	64.0	33.0	37.0	28.0	21.0	31.0	24.0	K-V	408	LCA
phalanx proximalis	64.0	33.0	37.0	28.0	21.0	31.0	24.0	K-V	408	LCA
phalanx proximalis	64.0	33.0	37.0	28.0	21.0	31.0	24.0	K-V	408	LCA
phalanx proximalis	64.0	36.0	35.0	29.0	19.0	32.0	24.0	K-V	439	LCA
phalanx proximalis	65.0	30.0	35.0	27.0	20.0	30.0	24.0	K-V	470	LCA
phalanx proximalis	65.0	34.5		29.1		33.0		K-V	1283	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
phalanx proximalis	65.1	27.7	32.4	23.4		24.6		O-B	1303	EBA, K
phalanx proximalis	65.1	32.3				28.9	29.6	D-T	309	EBA
phalanx proximalis	65.2	31.3		28.2		30.7		K-V	1258	EBA
phalanx proximalis	65.5	27.8		23.2		25.2		K-V	1141	EBA
phalanx proximalis	65.5	34.0	39.3	26.3		29.9		Sz-Cs	45	LCA
phalanx proximalis	66.0	25.0	31.0	22.0	18.0	24.0	22.0	K-V	462	EBA
phalanx proximalis	66.0	28.0	32.0	24.0	19.0	28.0	20.0	K-V	780	LCA
phalanx proximalis	66.0	29.0	33.0	26.0	19.0	28.0	22.0	K-V	449	EBA
phalanx proximalis	66.0	31.0	33.0	27.0	22.0	29.0	22.0	K-V	262	EBA
phalanx proximalis	66.0	32.0	35.0	28.0	19.0	29.0	22.0	K-V	249	LCA
phalanx proximalis	66.0	32.3		28.3		29.7		P-Gy	858	EBA
phalanx proximalis	66.0	38.0	39.0	30.0	22.0	32.0	26.0	K-V	277	LCA
phalanx proximalis	66.2	32.5		25.4		31.2		K-V	1128	EBA
phalanx proximalis	66.2	35.3		30.1		33.7		P-Gy	855	EBA
phalanx proximalis	66.5	35.2		29.3		32.1		P-Gy	940	EBA
phalanx proximalis	66.6	31.4		24.5		28.9		P-Gy	1077	EBA
phalanx proximalis	66.7	35.1		27.1		31.2		O-B	1252	EBA
phalanx proximalis	67.0	29.0	33.0	25.0	19.0	28.0	22.0	K-V	455	LCA
phalanx proximalis	67.0	29.4		24.8		27.2		P-Gy	523	EBA
phalanx proximalis	67.0	30.1		24.8		30.0		P-Gy	717	EBA
phalanx proximalis	67.0	32.0	35.0	26.0	19.0	29.0	24.0	K-V	1417	LCA
phalanx proximalis	67.0	32.0	35.0	26.0	19.0	29.0	24.0	K-V	1417	LCA
phalanx proximalis	67.0	32.0	35.0	26.0	19.0	29.0	24.0	K-V	1417	LCA
phalanx proximalis	67.0	32.0	35.0	26.0	19.0	29.0	24.0	K-V	1417	LCA
phalanx proximalis	67.0	32.0	35.0	26.0	19.0	29.0	24.0	K-V	1417	LCA
phalanx proximalis	67.0	32.0	35.0	26.0	19.0	29.0	24.0	K-V	1417	LCA
phalanx proximalis	67.0	32.0	35.0	26.0	19.0	29.0	24.0	K-V	1417	LCA
phalanx proximalis	67.0	32.9		36.3		24.9	28.8	D-T	247	EBA
phalanx proximalis	67.0	34.2		29.3				K-V	1038	EBA
phalanx proximalis	67.0	35.0	37.0	30.0	24.0	34.0	26.0	K-V	1246	LCA
phalanx proximalis	67.7	30.9				26.0	30.3	D-T	309	EBA
phalanx proximalis	67.8	29.7		28.7		29.3		K-V	1121	EBA
phalanx proximalis	68.0	29.8		26.4		28.8		K-V	1141	EBA
phalanx proximalis	68.0	33.0	36.0	29.0	23.0	33.0	24.0	K-V	470	LCA
phalanx proximalis	68.0	33.0	37.0	29.0	23.0	32.0	24.0	K-V	449	EBA
phalanx proximalis	68.0	34.0	36.0	32.0	22.0	34.0	24.0	K-V	36	LCA
phalanx proximalis	68.0	35.0	39.0	31.0	22.0	34.0	26.0	K-V	449	EBA
phalanx proximalis	68.4	29.4	34.7	24.1		29.1	23.2	O-B	1140	EBA, K
phalanx proximalis	69.0	32.0	35.0	28.0	21.0	32.0	24.0	K-V	674	LCA
phalanx proximalis	69.0	32.0	36.0	29.0	23.0	32.0	24.0	K-V	249	LCA
phalanx proximalis	69.0	36.0	37.0	31.0	22.0	33.0	25.0	K-V	61	LCA
phalanx proximalis	70.1	29.6		25.6		27.8		K-V	1141	EBA
phalanx proximalis	70.8	33.2		27.9				K-V	1141	EBA
phalanx proximalis	71.0	33.0	39.0	26.0	21.0	30.0	24.0	K-V	449	EBA
phalanx proximalis	71.0	34.0	36.0	29.0	22.0			K-V	778	EBA
phalanx proximalis	72.3	30.6		25.0		29.1		K-V	1258	EBA
phalanx proximalis		28.7		23.3		25.8		K-R61	357	MBA
phalanx proximalis		32.0	36.0	27.0	22.0	30.0	24.0	K-V	462	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
phalanx proximalis		36.4	38.8	30.2		31.8		Sz-Cs	185	LCA
phalanx proximalis		36.6		31.0		33.6		Sz-Cs	185	LCA
phalanx proximalis			33.0			27.0	19.0	K-V	298	EBA
phalanx medialis	33.0	24.0	24.0	18.0	19.0	19.0	23.0	P-Gy	417	LCA
phalanx medialis	35.3	30.0			23.1			Sz-Cs	110	LCA
phalanx medialis	36.4	28.3		24.6		26.1		K-R61	357	MBA
phalanx medialis	36.5	27.9	28.9	21.8		23.4		Sz-Cs	192	EBA
phalanx medialis	36.6	28.9	28.9	23.8		23.5		Sz-Cs	192	EBA
phalanx medialis	36.8	32.2		24.6		25.2		D-T	309	EBA
phalanx medialis	37.1	28.2		23.4		24.6		K-R61	357	MBA
phalanx medialis	37.1	31.5	31.1	23.7		24.9		Sz-Cs	85	EBA
phalanx medialis	37.3	35.9		26.4				O-B	1233	EBA, K
phalanx medialis	37.5	27.5		20.6		22.2		P-Gy	1081	EBA
phalanx medialis	37.6	28.8	28.7		22.6	25.5		Sz-Cs	190	LCA
phalanx medialis	37.6	30.2		23.3		23.6		O-B	1233	EBA, K
phalanx medialis	37.6	34.5	31.8	27.2		29.1		O-B	1140	EBA, K
phalanx medialis	37.7	27.5		24.5		23.5		K-R61	357	MBA
phalanx medialis	37.9	31.4	29.4		25.1	27.0		Sz-Cs	156	LCA
phalanx medialis	38.0	28.0	28.0	22.0	22.0	24.0	26.0	K-V	780	LCA
phalanx medialis	38.0	28.0	30.0	25.0	26.0	25.0	29.0	K-V	713	LCA
phalanx medialis	38.0	29.0	32.0	23.0	23.0	23.0	32.0	K-V	406	LCA
phalanx medialis	38.0	29.0	33.0	26.0	25.0	26.0	31.0	K-V	406	LCA
phalanx medialis	38.0	31.0	30.0	25.0	26.0	26.0	30.0	K-V	1314	LCA
phalanx medialis	38.0							K-V	1314	LCA
phalanx medialis	38.2	28.0	28.9		23.1	25.2		Sz-Cs	45	LCA
phalanx medialis	38.3	27.6		21.9				K-V	1005	EBA
phalanx medialis	38.5	27.7				23.2		P-Gy	857	EBA
phalanx medialis	38.5	35.2	33.6	27.2		28.2		Sz-Cs	95	EBA
phalanx medialis	38.6	28.4		22.8		24.1		K-V	1037	EBA
phalanx medialis	38.6	29.4			24.2	24.4		Sz-Cs	53	LCA
phalanx medialis	38.6	29.9		23.7		24.8		K-R61	378	MBA
phalanx medialis	38.7	29.2		22.3		23.9		P-Gy	1057	EBA
phalanx medialis	39.0	28.0	27.0	23.0	22.0	23.0	28.0	K-V	495	EBA
phalanx medialis	39.0	29.0	30.0	23.0	23.0	23.0	27.0	K-V	170	LCA
phalanx medialis	39.0	31.0	32.0	24.0	24.0	25.0	28.0	K-V	211	LCA
phalanx medialis	39.0		32.0		22.0	24.0	27.0	K-V	36	LCA
phalanx medialis	39.1	28.9	27.8		23.1	26.4		Sz-Cs	45	LCA
phalanx medialis	39.4	30.8		23.7		26.3		P-Gy	1066	EBA
phalanx medialis	39.4	32.1		25.6		28.0		O-B	1233	EBA
phalanx medialis	39.7	34.5	34.7	26.5		28.7		O-B	1486	EBA, K
phalanx medialis	39.7			21.3				K-V	221	EBA
phalanx medialis	39.9	32.1	32.5		23.2	24.6		Sz-Cs	55	LCA
phalanx medialis	40.0	29.0	29.0	25.0	25.0	28.0	29.0	K-V	495	EBA
phalanx medialis	40.2				28.8			Sz-Cs	185	LCA
phalanx medialis	40.3	28.1		22.3		24.6		P-Gy	949	EBA
phalanx medialis	40.3	28.4		28.0		22.6		K-V	1037	EBA
phalanx medialis	40.6	29.4				24.1		O-B	1233	EBA, K
phalanx medialis	40.6	35.5		27.0		28.9		D-T	429	EBA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
phalanx medialis	40.8	31.6				29.3		P-Gy	857	EBA
phalanx medialis	40.8	32.7		25.3		26.9		D-T	309	EBA
phalanx medialis	41.0	27.9		22.7		22.7		P-Gy	502	EBA
phalanx medialis	41.0	28.0	31.0	24.0	24.0	27.0	27.0	K-V	731	EBA
phalanx medialis	41.0	28.0	32.0	22.0	22.0	24.0	29.0	K-V	401	LCA
phalanx medialis	41.1	32.5		26.1		27.8		D-T	309	EBA
phalanx medialis	41.2	29.2		25.3		26.1		K-R61	536	MBA
phalanx medialis	41.2	34.8		19.5		29.3		K-V	1038	EBA
phalanx medialis	41.3	33.4		26.0		29.1		D-T	309	EBA
phalanx medialis	42.0	28.0	30.0	22.0	24.0	25.0	28.0	K-V	88	LCA
phalanx medialis	42.0	29.0	32.0	24.0	25.0	27.0	28.0	K-V	454	LCA
phalanx medialis	42.0	32.2		26.2		24.6		D-T	309	EBA
phalanx medialis	42.0	33.0	36.0	25.0	28.0	26.0	33.0	K-V	277	LCA
phalanx medialis	42.2	24.0		24.6		22.0		K-V	1037	EBA
phalanx medialis	42.8	32.0		25.7		25.9		D-T	309	EBA
phalanx medialis	43.0	27.0	29.0	22.0	22.0	24.0	27.0	K-V	890	EBA
phalanx medialis	43.0	29.0	31.0	22.0	24.0	26.0	31.0	K-V	470	LCA
phalanx medialis	43.0	31.0	34.0	24.0	26.0	26.0	33.0	K-V	258	EBA
phalanx medialis	43.0	32.0	33.0	26.0	32.0		32.0	K-V	427	LCA
phalanx medialis	43.0	33.0	34.0	26.0	26.0	29.0	32.0	K-V	1417	LCA
phalanx medialis	43.0	33.0	34.0	26.0	26.0	29.0	32.0	K-V	1417	LCA
phalanx medialis	43.0	33.0	34.0	26.0	26.0	29.0	32.0	K-V	1417	LCA
phalanx medialis	43.0	33.0	34.0	26.0	26.0	29.0	32.0	K-V	1417	LCA
phalanx medialis	43.0	33.0	34.0	26.0	26.0	29.0	32.0	K-V	1417	LCA
phalanx medialis	43.0	33.0	34.0	26.0	26.0	29.0	32.0	K-V	1417	LCA
phalanx medialis	43.0	33.0	34.0	26.0	26.0	29.0	32.0	K-V	1417	LCA
phalanx medialis	43.0	33.0	34.0	28.0	28.0	28.0	30.0	K-V	455	LCA
phalanx medialis	43.0	34.0	34.0	28.0	26.0	27.0	30.0	K-V	495	EBA
phalanx medialis	43.0	35.0	34.0	28.0	27.0	29.0	32.0	K-V	87	LCA
phalanx medialis	43.1	31.8		23.0		27.0		K-V	1141	EBA
phalanx medialis	43.3	30.1		26.9		24.3		K-V	1037	EBA
phalanx medialis	43.7	33.4		23.4		31.1		K-V	1355	EBA
phalanx medialis	44.0	29.0			25.0	26.0	25.0	K-V	449	EBA
phalanx medialis	44.0	31.0	33.0	24.0	25.0	26.0	30.0	K-V	406	LCA
phalanx medialis	44.0	32.0	34.0	25.0	25.0	28.0	31.0	K-V	408	LCA
phalanx medialis	44.0	32.0	34.0	25.0	25.0	28.0	31.0	K-V	408	LCA
phalanx medialis	44.0	34.0	37.0	28.0	29.0	29.0	33.0	K-V	431	EBA
phalanx medialis	44.0	35.0	38.0	29.0	28.0	32.0	33.0	K-V	463	LCA
phalanx medialis	44.3	33.3	33.3	26.5		27.0		O-B	1233	MBA
phalanx medialis	44.6	28.9		24.2		24.6		K-V	1141	EBA
phalanx medialis	45.0	32.0	37.0	26.0	27.0	26.0	30.0	K-V	439	LCA
phalanx medialis	45.0	33.0	34.0	26.0	26.0	26.0	30.0	K-V	427	LCA
phalanx medialis	45.0	33.0	35.0	27.0	27.0	29.0	35.0	K-V	263	EBA
phalanx medialis	45.0	35.0	35.0	28.0	27.0	32.0	36.0	K-V	407	LCA
phalanx medialis	45.0	36.0	39.0	27.0	29.0	28.0	33.0	K-V	36	LCA
phalanx medialis	45.3	29.2		23.3		25.4		K-V	1141	EBA
phalanx medialis	46.0	32.0	36.0	28.0	26.0	27.0	31.0	K-V	449	EBA
phalanx medialis	46.0	35.0	35.0	29.0	30.0	33.0	36.0	K-V	61	LCA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
phalanx medialis	46.1	31.2		27.0		25.2		K-V	1141	EBA
phalanx medialis	47.0	33.0	34.0	26.0	26.0	27.0	30.0	K-V	249	LCA
phalanx medialis	47.1	40.0		26.2		28.0		K-V	1037	EBA
phalanx medialis	48.0	33.0	36.0	28.0	27.0	28.0	30.0	K-V	1246	LCA
phalanx medialis	48.7	33.5				29.2		K-V	1258	EBA
phalanx medialis	49.0	34.0	39.0	27.0	31.0	31.0	38.0	K-V	495	EBA
phalanx medialis	49.0	36.0	38.0	28.0	29.0	30.0	34.0	K-V	449	EBA
phalanx medialis	54.8	25.8		22.5		24.6		P-Gy	1066	EBA
phalanx medialis		32.0	31.0	26.0	27.0			K-V	495	EBA
phalanx medialis		32.0	34.0	26.0	27.0	28.0	29.0	K-V	462	EBA
phalanx medialis		34.7			28.7			Sz-Cs	185	LCA
phalanx medialis		34.8			28.4			Sz-Cs	185	LCA
phalanx distalis	60.1	49.0		20.6				K-V	1004	EBA
phalanx distalis	63.0	51.0		20.0				K-V	87	LCA
phalanx distalis	63.0	52.0		22.0				K-V	713	LCA
phalanx distalis	63.0	53.0		23.0				K-V	1314	LCA
phalanx distalis	63.8	52.5		23.2				P-Gy	496	EBA
phalanx distalis	64.0	53.0		22.0				K-V	249	LCA
phalanx distalis	64.4	48.6		22.7				P-Gy	1103	EBA
phalanx distalis	64.4			25.9				P-Gy	857	EBA
phalanx distalis	64.6	54.1		23.2				P-Gy	486	EBA
phalanx distalis	64.7	51.1		23.1				P-Gy	855	EBA
phalanx distalis	64.7	51.7		25.2				K-V	1121	EBA
phalanx distalis	65.0	54.0		23.0				K-V	455	LCA
phalanx distalis	65.3	48.4		23.1				P-Gy	1062	EBA
phalanx distalis	65.3			26.3				O-B	1470	EBA
phalanx distalis	65.7			22.9				Sz-Cs	190	LCA
phalanx distalis	66.0	49.0		22.0				K-V	1417	LCA
phalanx distalis	68.0			21.0				K-V	406	LCA
phalanx distalis	68.3	57.4		23.1				Sz-Cs	192	EBA
phalanx distalis	68.4	56.1		24.5				P-Gy	493	EBA
phalanx distalis	68.7	51.3		25.0				K-V	1121	EBA
phalanx distalis	68.9	52.1		23.9				P-Gy	493	EBA
phalanx distalis	69.0	69.0		21.0				K-V	279	LCA
phalanx distalis	69.0			22.2				K-V	1141	EBA
phalanx distalis	69.9	56.7		24.6				K-R61	357	MBA
phalanx distalis	70.0	50.0		26.1				P-Gy	1063	EBA
phalanx distalis	70.5	56.9		24.6				K-R61	357	MBA
phalanx distalis	70.7	57.6		25.7				D-T	309	EBA
phalanx distalis	70.9	56.5		25.5				D-T	309	EBA
phalanx distalis	70.9	57.5		22.8				O-B	1470	EBA
phalanx distalis	71.3	55.6		25.2				K-V	1141	EBA
phalanx distalis	71.3	57.3		26.0				K-V	1141	EBA
phalanx distalis	72.0	59.7		22.0				K-V	1258	EBA
phalanx distalis	72.2	60.4		25.3				P-Gy	871	EBA
phalanx distalis	72.4	53.8		24.4				P-Gy	1065	EBA
phalanx distalis	72.4	59.7		25.8				D-T	309	EBA
phalanx distalis	73.0	57.0						K-V	1314	LCA

Skeletal part	GL[1]	BP[2]	DP[3]	SB[4]	SD[5]	BD[6]	DD	Site	Feature	Age
***Bos taurus* Linnaeus, 1758**										
phalanx distalis	73.3			29.2				P-Gy	857	EBA
phalanx distalis	73.8	52.6		29.4				P-Gy	940	EBA
phalanx distalis	74.0	55.0		20.0				K-V	780	LCA
phalanx distalis	74.5	57.2		23.8				Sz-Cs	45	LCA
phalanx distalis	75.4	55.0		23.6				K-V	1037	EBA
phalanx distalis	75.4	56.4		24.8				P-Gy	493	EBA
phalanx distalis	76.0	58.0		24.2				P-Gy	493	EBA
phalanx distalis	76.0	62.0		26.0				K-V	467	EBA
phalanx distalis	76.1	55.6		28.2				D-T	309	EBA
phalanx distalis	77.0	54.0		22.0				K-V	36	LCA
phalanx distalis	77.0	56.0		26.0				K-V	277	LCA
phalanx distalis	77.1	56.2		26.7				K-V	1258	EBA
phalanx distalis	77.1			27.0				P-Gy	857	EBA
phalanx distalis	77.7	59.4		26.8				K-V	1141	EBA
phalanx distalis	77.9	58.1		27.2				K-R61	357	MBA
phalanx distalis	77.9			28.9				P-Gy	857	EBA
phalanx distalis	79.4	60.8		32.8				K-V	1037	EBA
phalanx distalis	81.6	58.5		25.6				K-V	191	EBA
phalanx distalis	83.0	62.0		28.0				K-V	262	EBA
phalanx distalis	85.0	64.0		27.0				K-V	449	EBA
phalanx distalis		56.3		21.8				K-R61	357	MBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
processus cornualis	130.0	56.7	39.5					O-B	1168	LCA
processus cornualis	170.0	60.6	50.3					K-V	1258	EBA
processus cornualis		25.7	15.8					P-Gy	493	EBA
processus cornualis		32.0	18.0					K-V	1365	LCA
processus cornualis		32.0	18.0					K-V	1365	LCA
processus cornualis		32.0	20.0					K-V	1365	LCA
processus cornualis		32.0	22.0					K-V	1365	LCA
processus cornualis		33.0	21.0					K-V	1365	LCA
processus cornualis		34.0	19.0					K-V	1365	LCA
processus cornualis		34.0	19.0					K-V	1365	LCA
processus cornualis		34.0	19.0					K-V	1365	LCA
processus cornualis		34.0	20.0					P-Gy	398	LCA
processus cornualis		34.0	22.0					P-Gy	398	LCA
processus cornualis		35.0	18.0					K-V	1365	LCA
processus cornualis		35.0	21.0					K-V	1365	LCA
processus cornualis		35.0	22.0					K-V	1365	LCA
processus cornualis		36.0	19.0					K-V	1365	LCA
processus cornualis		36.0	19.0					K-V	1365	LCA
processus cornualis		36.0	21.0					K-V	1365	LCA
processus cornualis		36.0	22.0					K-V	1365	LCA
processus cornualis		36.0	25.0					K-V	1365	LCA
processus cornualis		36.0	25.7					D-T	210	EBA
processus cornualis		37.0	20.0					K-V	1365	LCA
processus cornualis		37.0	21.0					K-V	630	LCA
processus cornualis		37.0	22.0					K-V	1365	LCA
processus cornualis		38.0	22.0					K-V	1365	LCA
processus cornualis		38.0	22.0					K-V	1365	LCA
processus cornualis		38.0	22.0					K-V	249	LCA
processus cornualis		38.0	22.0					K-V	1365	LCA
processus cornualis		38.0	24.0					K-V	1365	LCA
processus cornualis		39.0	22.0					K-V	1365	LCA
processus cornualis		39.0	22.0					K-V	1365	LCA
processus cornualis		39.0	23.0					K-V	1365	LCA
processus cornualis		39.0	23.0					K-V	1365	LCA
processus cornualis		39.0	24.0					K-V	1365	LCA
processus cornualis		39.0	31.0					K-V	239	EBA
UP2-M3 teeth	72.1							K-V	1037	EBA
UM1-3 teeth	47.0							K-V	1037	EBA
UM1 tooth	8.0	7.0						K-V	222	LCA
UM1 tooth	9.0	7.0						K-V	277	LCA
UM1 tooth	9.0	10.0						K-V	1365	LCA
UM1 tooth	9.0	10.0						K-V	1365	LCA
UM1 tooth	9.0	10.0						K-V	1365	LCA
UM1 tooth	9.0	10.0						K-V	1365	LCA
UM1 tooth	9.0	10.0						K-V	1365	LCA
UM1 tooth	9.0	10.0						K-V	1365	LCA
UM1 tooth	9.0	11.0						K-V	1365	LCA
UM1 tooth	9.0	11.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
UM1 tooth	9.0	12.0						K-V	1365	LCA
UM1 tooth	9.0	13.0						K-V	1365	LCA
UM1 tooth	10.0	10.0						K-V	1365	LCA
UM1 tooth	10.0	11.0						K-V	1365	LCA
UM1 tooth	10.0	11.0						K-V	1365	LCA
UM1 tooth	10.0	13.0						K-V	1365	LCA
UM1 tooth	11.0	10.0						K-V	1365	LCA
UM1 tooth	11.0	11.0						K-V	1365	LCA
UM1 tooth	11.0	11.0						K-V	1365	LCA
UM1 tooth	11.0	12.0						K-V	1365	LCA
UM1 tooth	11.0	12.0						K-V	1365	LCA
UM1 tooth	12.0	7.0						K-V	36	LCA
UM1 tooth	12.0	7.0						K-V	406	LCA
UM1 tooth	12.0	10.0						K-V	1365	LCA
UM1 tooth	12.0	10.0						K-V	1365	LCA
UM1 tooth	12.0	10.0						K-V	1365	LCA
UM1 tooth	12.0	10.0						K-V	1365	LCA
UM1 tooth	12.0	10.0						K-V	1365	LCA
UM1 tooth	12.0	11.0						K-V	1365	LCA
UM1 tooth	12.0	11.0						K-V	1365	LCA
UM1 tooth	12.0	11.0						K-V	1365	LCA
UM1 tooth	12.0	11.0						K-V	1365	LCA
UM1 tooth	12.0	11.0						K-V	1365	LCA
UM1 tooth	12.0	12.0						K-V	1365	LCA
UM1 tooth	12.0	12.0						K-V	1365	LCA
UM1 tooth	12.0	12.0						K-V	1365	LCA
UM1 tooth	12.0	12.0						K-V	1365	LCA
UM1 tooth	12.0	12.0						K-V	1365	LCA
UM1 tooth	13.0	10.0						K-V	1365	LCA
UM1 tooth	13.0	10.0						K-V	1365	LCA
UM1 tooth	13.0	11.0						K-V	1365	LCA
UM1 tooth	13.0	11.0						K-V	1365	LCA
UM1 tooth	13.0	11.0						K-V	1365	LCA
UM1 tooth	13.0	12.0						K-V	1365	LCA
UM1 tooth	14.0	12.0						K-V	1365	LCA
UM2 tooth	12.0	7.0						K-V	277	LCA
UM2 tooth	12.0	8.0						K-V	222	LCA
UM2 tooth	12.0	10.0						K-V	1365	LCA
UM2 tooth	12.0	11.0						K-V	1365	LCA
UM2 tooth	12.0	11.0						K-V	1365	LCA
UM2 tooth	12.0	11.0						K-V	1365	LCA
UM2 tooth	12.0	11.0						K-V	1365	LCA
UM2 tooth	12.0	11.0						K-V	1365	LCA
UM2 tooth	12.0	12.0						K-V	1365	LCA
UM2 tooth	12.0	12.0						K-V	1365	LCA
UM2 tooth	13.0	8.0						K-V	1365	LCA
UM2 tooth	13.0	11.0						K-V	1365	LCA
UM2 tooth	13.0	11.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
UM2 tooth	13.0	12.0						K-V	1365	LCA
UM2 tooth	14.0	8.0						K-V	1365	LCA
UM2 tooth	14.0	8.0						K-V	1365	LCA
UM2 tooth	14.0	10.0						K-V	1365	LCA
UM2 tooth	14.0	10.0						K-V	1365	LCA
UM2 tooth	14.0	10.0						K-V	1365	LCA
UM2 tooth	14.0	11.0						K-V	1365	LCA
UM2 tooth	14.0	11.0						K-V	1365	LCA
UM2 tooth	14.0	11.0						K-V	1365	LCA
UM2 tooth	14.0	11.0						K-V	1365	LCA
UM2 tooth	14.0	11.0						K-V	1365	LCA
UM2 tooth	14.0	12.0						K-V	1365	LCA
UM2 tooth	14.0	12.0						K-V	1365	LCA
UM2 tooth	14.0	12.0						K-V	1365	LCA
UM2 tooth	14.0	12.0						K-V	1365	LCA
UM2 tooth	14.0	12.0						K-V	1365	LCA
UM2 tooth	14.0	12.0						K-V	1365	LCA
UM2 tooth	14.0	13.0						K-V	1365	LCA
UM2 tooth	14.0	13.0						K-V	1365	LCA
UM2 tooth	15.0	7.0						K-V	1365	LCA
UM2 tooth	15.0	8.0						K-V	406	LCA
UM2 tooth	15.0	8.0						K-V	1365	LCA
UM2 tooth	15.0	9.0						K-V	1365	LCA
UM2 tooth	15.0	9.0						K-V	1365	LCA
UM2 tooth	15.0	10.0						K-V	1365	LCA
UM2 tooth	15.0	11.0						K-V	1365	LCA
UM2 tooth	15.0	11.0						K-V	1365	LCA
UM2 tooth	15.0	11.0						K-V	1365	LCA
UM2 tooth	15.0	11.0						K-V	1365	LCA
UM2 tooth	15.0	11.0						K-V	1365	LCA
UM2 tooth	15.0	11.0						K-V	1365	LCA
UM2 tooth	15.0	11.0						K-V	1365	LCA
UM2 tooth	15.0	11.0						K-V	1365	LCA
UM2 tooth	15.0	12.0						K-V	1365	LCA
UM2 tooth	15.0	13.0						K-V	1365	LCA
UM2 tooth	15.0	13.0						K-V	1365	LCA
UM2 tooth	15.0	13.0						K-V	1365	LCA
UM2 tooth	15.0	13.0						K-V	1365	LCA
UM2 tooth	16.0	9.0						K-V	1365	LCA
UM2 tooth	16.0	9.0						K-V	1365	LCA
UM2 tooth	16.0	9.0						K-V	1365	LCA
UM2 tooth	16.0	9.0						K-V	1365	LCA
UM2 tooth	16.0	11.0						K-V	1365	LCA
UM2 tooth	16.0	11.0						K-V	1365	LCA
UM2 tooth	16.0	11.0						K-V	1365	LCA
UM2 tooth	16.0	11.0						K-V	1365	LCA
UM2 tooth	16.0	12.0						K-V	1365	LCA
UM2 tooth	16.0	12.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
UM2 tooth	16.0	13.0						K-V	1365	LCA
UM2 tooth	16.0	13.0						K-V	1365	LCA
UM2 tooth	17.0	11.0						K-V	1365	LCA
UM2 tooth	17.0	11.0						K-V	1365	LCA
UM2 tooth	17.0	12.0						K-V	1365	LCA
UM2 tooth	17.0	12.0						K-V	1365	LCA
UM2 tooth	18.0	8.0						K-V	1365	LCA
UM2 tooth	18.0	11.0						K-V	1365	LCA
UM2 tooth	19.0	12.0						K-V	1365	LCA
UM3 tooth	13.0	8.0						K-V	1365	LCA
UM3 tooth	13.0	9.0						K-V	1365	LCA
UM3 tooth	13.0	10.0						K-V	1365	LCA
UM3 tooth	14.0	8.0						K-V	1365	LCA
UM3 tooth	14.0	8.0						K-V	1365	LCA
UM3 tooth	14.0	9.0						K-V	1365	LCA
UM3 tooth	14.0	10.0						K-V	1365	LCA
UM3 tooth	14.0	10.0						K-V	1365	LCA
UM3 tooth	14.0	11.0						K-V	1365	LCA
UM3 tooth	15.0	9.0						K-V	1365	LCA
UM3 tooth	15.0	10.0						K-V	1365	LCA
UM3 tooth	15.0	10.0						K-V	1365	LCA
UM3 tooth	15.0	10.0						K-V	1365	LCA
UM3 tooth	15.0	11.0						K-V	1365	LCA
UM3 tooth	15.0	11.0						K-V	1365	LCA
UM3 tooth	15.0	11.0						K-V	1365	LCA
UM3 tooth	15.0	12.0						K-V	1365	LCA
UM3 tooth	15.0	12.0						K-V	1365	LCA
UM3 tooth	15.0	13.0						K-V	1365	LCA
UM3 tooth	15.0	13.0						K-V	1365	LCA
UM3 tooth	16.0	9.0						K-V	1365	LCA
UM3 tooth	16.0	9.0						K-V	1365	LCA
UM3 tooth	16.0	9.0						K-V	1365	LCA
UM3 tooth	16.0	10.0						K-V	1365	LCA
UM3 tooth	16.0	10.0						K-V	1365	LCA
UM3 tooth	16.0	10.0						K-V	1365	LCA
UM3 tooth	16.0	11.0						K-V	1365	LCA
UM3 tooth	16.0	11.0						K-V	1365	LCA
UM3 tooth	16.0	11.0						K-V	1365	LCA
UM3 tooth	16.0	11.0						K-V	1365	LCA
UM3 tooth	16.0	12.0						K-V	1365	LCA
UM3 tooth	17.0	8.0						K-V	1365	LCA
UM3 tooth	17.0	9.0						K-V	1365	LCA
UM3 tooth	17.0	9.0						K-V	1365	LCA
UM3 tooth	17.0	10.0						K-V	1365	LCA
UM3 tooth	17.0	10.0						K-V	1365	LCA
UM3 tooth	17.0	11.0						K-V	1365	LCA
UM3 tooth	17.0	11.0						K-V	1365	LCA
UM3 tooth	17.0	12.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
UM3 tooth	17.0	12.0						K-V	1365	LCA
UM3 tooth	17.0	12.0						K-V	1365	LCA
UM3 tooth	17.0	12.0						K-V	1365	LCA
UM3 tooth	17.0	12.0						K-V	1365	LCA
UM3 tooth	17.0	12.0						K-V	1365	LCA
UM3 tooth	17.0	12.0						K-V	1365	LCA
UM3 tooth	18.0	10.0						K-V	1365	LCA
UM3 tooth	18.0	11.0						K-V	1365	LCA
UM3 tooth	18.0	11.0						K-V	1365	LCA
UM3 tooth	18.0	11.0						K-V	1365	LCA
UM3 tooth	18.0	11.0						K-V	1365	LCA
UM3 tooth	18.0	11.0						K-V	1365	LCA
UM3 tooth	18.0	11.0						K-V	1365	LCA
UM3 tooth	18.0	11.0						K-V	1365	LCA
UM3 tooth	18.0	12.0						K-V	1365	LCA
UM3 tooth	18.0	12.0						K-V	1365	LCA
UM3 tooth	18.0	12.0						K-V	1365	LCA
UM3 tooth	18.0	13.0						K-V	1365	LCA
UM3 tooth	18.0	13.0						K-V	1365	LCA
UM3 tooth	18.0	13.0						K-V	1365	LCA
UM3 tooth	19.0	8.0						K-V	277	LCA
UM3 tooth	19.0	8.0						K-V	36	LCA
UM3 tooth	19.0	12.0						K-V	1365	LCA
UM3 tooth	19.0	12.0						K-V	1365	LCA
UM3 tooth	19.0	13.0						K-V	1365	LCA
UM3 tooth	19.0	13.0						K-V	1365	LCA
UM3 tooth	19.0	13.0						K-V	1365	LCA
UM3 tooth	19.0	13.0						K-V	1365	LCA
UM3 tooth	21.0	8.0						K-V	222	LCA
UM3 tooth	22.0	9.0						K-V	1365	LCA
UM3 tooth	24.0	9.0						K-V	279	LCA
LP2-M3	66.5							K-V	1037	EBA
LP2-M3	67.5							K-V	1037	EBA
LP2-M3	73.6							K-V	1037	EBA
LM1-3	44.9							K-V	1037	EBA
LM1-3	46.5							K-V	1037	EBA
LM1-3	46.5							K-V	383	EBA
LM1-3	48.3							K-V	1037	EBA
LM1-3	48.4							P-Gy	989	EBA
LM1-3	48.4							P-Gy	1078	EBA
LM1-3	48.9							K-V	1121	EBA
LM1-3	52.3							P-Gy	986	EBA
LM1 tooth	8.0	7.0						K-V	1365	LCA
LM1 tooth	8.0	7.0						K-V	1365	LCA
LM1 tooth	9.0	6.0						K-V	1365	LCA
LM1 tooth	9.0	7.0						K-V	1365	LCA
LM1 tooth	9.0	7.0						K-V	1365	LCA
LM1 tooth	9.0	7.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
LM1 tooth	9.0	7.0						K-V	1365	LCA
LM1 tooth	9.0	7.0						K-V	1365	LCA
LM1 tooth	9.0	7.0						K-V	1365	LCA
LM1 tooth	9.0	8.0						K-V	1365	LCA
LM1 tooth	9.0	8.0						K-V	1365	LCA
LM1 tooth	9.0	8.0						K-V	1365	LCA
LM1 tooth	9.0	8.0						K-V	1365	LCA
LM1 tooth	9.0	8.0						K-V	1365	LCA
LM1 tooth	9.0	8.0						K-V	1365	LCA
LM1 tooth	9.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	7.0						K-V	1365	LCA
LM1 tooth	10.0	7.0						K-V	1365	LCA
LM1 tooth	10.0	7.0						K-V	1365	LCA
LM1 tooth	10.0	7.0						K-V	1365	LCA
LM1 tooth	10.0	8.0						K-V	701	EBA
LM1 tooth	10.0	8.0						K-V	737	EBA
LM1 tooth	10.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	8.0						K-V	1365	LCA
LM1 tooth	10.0	9.0						K-V	1365	LCA
LM1 tooth	11.0	7.0						K-V	1365	LCA
LM1 tooth	11.0	7.0						K-V	1365	LCA
LM1 tooth	11.0	7.0						K-V	1365	LCA
LM1 tooth	11.0	8.0						K-V	1365	LCA
LM1 tooth	11.0	8.0						K-V	1365	LCA
LM1 tooth	11.0	8.0						K-V	1365	LCA
LM1 tooth	11.0	8.0						K-V	1365	LCA
LM1 tooth	11.0	8.0						K-V	1365	LCA
LM1 tooth	12.0	7.0						K-V	1365	LCA
LM1 tooth	12.0	7.0						K-V	1365	LCA
LM1 tooth	12.0	7.0						K-V	1365	LCA
LM1 tooth	12.0	7.0						K-V	1365	LCA
LM1 tooth	12.0	8.0						K-V	1365	LCA
LM1 tooth	12.0	8.0						K-V	1365	LCA
LM1 tooth	12.0	9.0						K-V	1365	LCA
LM1 tooth	12.0	9.0						K-V	1365	LCA
LM1 tooth	13.0	7.0						K-V	778	EBA
LM1 tooth	13.0	8.0						K-V	1365	LCA
LM1 tooth	13.0	8.0						K-V	1365	LCA
LM1 tooth	13.0	8.0						K-V	1365	LCA
LM1 tooth	14.0	7.0						K-V	1365	LCA
LM1 tooth	15.0	9.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
LM1 tooth	16.0	8.0						K-V	1365	LCA
LM2 tooth	10.0	7.0						K-V	1365	LCA
LM2 tooth	11.0	8.0						K-V	1365	LCA
LM2 tooth	11.0	8.0						K-V	1365	LCA
LM2 tooth	11.0	8.0						K-V	1365	LCA
LM2 tooth	12.0	8.0						K-V	1365	LCA
LM2 tooth	12.0	8.0						K-V	1365	LCA
LM2 tooth	12.0	9.0						K-V	1365	LCA
LM2 tooth	12.0	9.0						K-V	1365	LCA
LM2 tooth	12.0	9.0						K-V	1365	LCA
LM2 tooth	13.0	8.0						K-V	1365	LCA
LM2 tooth	13.0	8.0						K-V	1365	LCA
LM2 tooth	13.0	8.0						K-V	1365	LCA
LM2 tooth	13.0	8.0						K-V	1365	LCA
LM2 tooth	13.0	8.0						K-V	1365	LCA
LM2 tooth	13.0	8.0						K-V	1365	LCA
LM2 tooth	13.0	8.0						K-V	1365	LCA
LM2 tooth	13.0	9.0						K-V	279	LCA
LM2 tooth	13.0	9.0						K-V	1365	LCA
LM2 tooth	13.0	9.0						K-V	1365	LCA
LM2 tooth	13.0	9.0						K-V	1365	LCA
LM2 tooth	13.0	9.0						K-V	1365	LCA
LM2 tooth	13.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	7.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	701	EBA
LM2 tooth	14.0	8.0						K-V	737	EBA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	8.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	14.0	9.0						K-V	1365	LCA
LM2 tooth	15.0	7.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
LM2 tooth	15.0	8.0						K-V	1365	LCA
LM2 tooth	15.0	8.0						K-V	1365	LCA
LM2 tooth	15.0	8.0						K-V	1365	LCA
LM2 tooth	15.0	9.0						K-V	1365	LCA
LM2 tooth	15.0	9.0						K-V	1365	LCA
LM2 tooth	15.0	9.0						K-V	1365	LCA
LM2 tooth	15.0	9.0						K-V	1365	LCA
LM2 tooth	15.0	9.0						K-V	1365	LCA
LM2 tooth	15.0	9.0						K-V	1365	LCA
LM2 tooth	16.0	7.0						K-V	778	EBA
LM2 tooth	16.0	8.0						K-V	1365	LCA
LM2 tooth	16.0	9.0						K-V	1365	LCA
LM2 tooth	18.0	8.0						K-V	1365	LCA
LM2 tooth	18.0	8.0						K-V	1365	LCA
LM2 tooth	18.0	8.0						K-V	1365	LCA
LM3 tooth	17.0	8.0						K-V	778	EBA
LM3 tooth	18.0	8.0						K-V	1365	LCA
LM3 tooth	18.0	8.0						K-V	1365	LCA
LM3 tooth	18.0	8.0						K-V	1365	LCA
LM3 tooth	18.1	6.8						P-Gy	1075	EBA
LM3 tooth	19.0	7.0						K-V	1365	LCA
LM3 tooth	19.0	8.0						K-V	1365	LCA
LM3 tooth	19.0	8.0						K-V	1365	LCA
LM3 tooth	19.0	8.0						K-V	854	LCA
LM3 tooth	19.0	8.0						K-V	1365	LCA
LM3 tooth	19.0	8.0						K-V	1365	LCA
LM3 tooth	19.0	8.0						K-V	1365	LCA
LM3 tooth	19.0	8.0						K-V	1365	LCA
LM3 tooth	19.0	8.0						K-V	1365	LCA
LM3 tooth	19.0	9.0						K-V	1365	LCA
LM3 tooth	20.0	7.4						P-Gy	1075	EBA
LM3 tooth	20.0	7.9						P-Gy	989	EBA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	8.0						K-V	1365	LCA
LM3 tooth	20.0	9.0						K-V	1365	LCA
LM3 tooth	20.0	9.0						K-V	1365	LCA
LM3 tooth	20.0	9.0						K-V	1365	LCA
LM3 tooth	20.0							K-V	1365	LCA
LM3 tooth	20.6	7.6						P-Gy	940	EBA
LM3 tooth	20.8	8.5						P-Gy	1075	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
LM3 tooth	20.8	8.9						P-Gy	851	EBA
LM3 tooth	21.0	7.7						P-Gy	1075	EBA
LM3 tooth	21.0	8.0						K-V	1365	LCA
LM3 tooth	21.0	8.0						K-V	1365	LCA
LM3 tooth	21.0	8.0						K-V	1365	LCA
LM3 tooth	21.0	8.0						K-V	1365	LCA
LM3 tooth	21.0	8.6						K-V	1037	EBA
LM3 tooth	21.0	9.0						K-V	1365	LCA
LM3 tooth	21.0	9.0						K-V	1365	LCA
LM3 tooth	21.0	9.0						K-V	1365	LCA
LM3 tooth	21.1	8.0						K-V	1128	EBA
LM3 tooth	21.1	8.0						P-Gy	1077	EBA
LM3 tooth	21.4	8.7						K-V	1037	EBA
LM3 tooth	21.5	8.3						K-V	1121	EBA
LM3 tooth	21.5	8.6						K-V	1037	EBA
LM3 tooth	21.8	8.6						P-Gy	717	EBA
LM3 tooth	21.9	8.6						P-Gy	1062	EBA
LM3 tooth	22.0	8.0						K-V	1365	LCA
LM3 tooth	22.0	8.0						K-V	1365	LCA
LM3 tooth	22.0	8.0						K-V	1365	LCA
LM3 tooth	22.0	8.0						K-V	780	LCA
LM3 tooth	22.0	8.0						K-V	1365	LCA
LM3 tooth	22.0	8.0						K-V	1365	LCA
LM3 tooth	22.0	8.0						K-V	1365	LCA
LM3 tooth	22.0	8.4						K-V	371	EBA
LM3 tooth	22.0	8.9						P-Gy	1066	EBA
LM3 tooth	22.0	9.0						K-V	701	EBA
LM3 tooth	22.0	9.0						K-V	1365	LCA
LM3 tooth	22.0	9.0						K-V	1365	LCA
LM3 tooth	22.0	9.0						K-V	1365	LCA
LM3 tooth	22.0	9.0						K-V	1365	LCA
LM3 tooth	22.0	9.0						K-V	1365	LCA
LM3 tooth	22.0	9.1						P-Gy	1106	EBA
LM3 tooth	22.1	8.6						P-Gy	1075	EBA
LM3 tooth	22.2	8.4						P-Gy	1078	EBA
LM3 tooth	22.2	8.8						P-Gy	1054	EBA
LM3 tooth	22.2	9.0						P-Gy	1075	EBA
LM3 tooth	22.3	8.7						P-Gy	1078	EBA
LM3 tooth	22.4	8.2						O-B	1508	EBA
LM3 tooth	22.5	8.4						P-Gy	894	EBA
LM3 tooth	22.7	8.1						K-V	383	EBA
LM3 tooth	22.7	8.3						P-Gy	1075	EBA
LM3 tooth	22.8	8.3						P-Gy	1062	EBA
LM3 tooth	23.0	8.6						P-Gy	1054	EBA
LM3 tooth	23.0	9.0						K-V	737	EBA
LM3 tooth	23.0	9.0						K-V	1365	LCA
LM3 tooth	23.0	9.0						K-V	1365	LCA
LM3 tooth	23.0	9.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
LM3 tooth	23.0	9.0						K-V	1365	LCA
LM3 tooth	23.0	9.0						P-Gy	851	EBA
LM3 tooth	23.0	10.0						K-V	1365	LCA
LM3 tooth	23.2	8.5						P-Gy	1062	EBA
LM3 tooth	23.3	8.6						P-Gy	754	EBA
LM3 tooth	23.4	8.7						P-Gy	1114	EBA
LM3 tooth	23.4	8.9						P-Gy	986	EBA
LM3 tooth	23.6	8.6						P-Gy	851	EBA
LM3 tooth	23.7	9.3						P-Gy	851	EBA
LM3 tooth	24.0	8.7						P-Gy	1038	EBA
LM3 tooth	24.0	9.0						K-V	1365	LCA
LM3 tooth	24.0	9.0						K-V	1365	LCA
LM3 tooth	24.4	9.2						P-Gy	949	EBA
LM3 tooth	25.1	9.6						P-Gy	512	EBA
atlas	43.0	52.0	46.0	38.0	32.0			K-V	1365	LCA
atlas	43.0	56.0	43.0	42.0	33.0			K-V	1365	LCA
atlas	45.0	58.0	44.0	44.0	32.0			K-V	1365	LCA
atlas		42.0	43.0	40.0	32.0			K-V	1365	LCA
atlas		42.0		39.0	32.0			K-V	1365	LCA
atlas		42.0		40.0	33.0			K-V	1365	LCA
atlas		43.0	46.0	42.0	33.0			K-V	1365	LCA
atlas		43.0						K-V	1365	LCA
atlas		44.0	43.0	41.0	34.0			K-V	1365	LCA
atlas		44.0		40.0	34.0			K-V	1365	LCA
atlas		45.0	43.0	40.0	33.0			K-V	1365	LCA
atlas		46.0	43.0	42.0				K-V	1365	LCA
atlas		46.0	45.0	45.0	35.0			K-V	1365	LCA
atlas		47.0	45.0	39.0	33.0			K-V	1365	LCA
atlas		47.0						K-V	1365	LCA
atlas		48.0		40.0	34.0			K-V	1365	LCA
atlas		48.0						K-V	1365	LCA
atlas		49.0	43.0	40.0	33.0			K-V	1365	LCA
atlas		50.0	46.0	41.0	35.0			K-V	1365	LCA
atlas			41.0		34.0			K-V	1365	LCA
atlas			43.0	39.0	34.0			K-V	1365	LCA
atlas			47.0	43.0				K-V	1365	LCA
axis			37.0			22.0		K-V	249	LCA
axis	53.0	42.0	38.0	21.0		22.0		K-V	1365	LCA
axis	53.0	44.0	40.0	21.0		23.0		K-V	1365	LCA
axis	53.0	46.0	39.0	21.0		22.0		K-V	1365	LCA
axis	54.0	46.0	41.0	23.0		24.0		K-V	1365	LCA
axis	54.0	47.0	39.0	22.0		22.0		K-V	1365	LCA
axis	55.0	43.0	41.0			22.0		K-V	1365	LCA
axis	55.0	44.0	41.0			23.0		K-V	1365	LCA
axis	55.0	46.0	39.0	20.0		23.0		K-V	1365	LCA
axis	55.0	47.0	39.0	20.0		24.0		K-V	1365	LCA
axis	55.0	47.0	41.0	22.0		23.0		K-V	1365	LCA
axis	55.0			23.0		25.0		K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
Ovis aries Linnaeus, 1758										
axis	56.0	46.0	42.0	23.0		25.0		K-V	1365	LCA
axis	56.0	47.0	38.0	21.0		21.0		K-V	1365	LCA
axis	61.7							K-V	1258	EBA
axis	62.2	57.7	40.1					P-Gy	1062	EBA
sacrum	68.0	71.0	28.0	62.0	13.0			K-V	1365	LCA
sacrum	77.0		24.0	68.0	10.0			K-V	1365	LCA
sacrum	77.0				12.0			K-V	1365	LCA
sacrum			23.0		10.0			K-V	1365	LCA
sacrum			25.0		14.0			K-V	1365	LCA
sacrum			26.0		10.0			K-V	1365	LCA
sacrum			28.0		12.0			K-V	1365	LCA
sacrum			28.0		13.0			K-V	1365	LCA
scapula		22.0	18.0		18.0			K-V	1365	LCA
scapula		26.4	22.3	15.8				Sz-Cs	144	LCA
scapula		28.0	22.0	15.0	18.0			K-V	1365	LCA
scapula		28.8		17.2	16.1			Sz-Cs	85	EBA
scapula		29.0	22.0	16.0	17.0			K-V	1365	LCA
scapula		29.0	23.0	16.0	16.0			K-V	1365	LCA
scapula		29.0	23.0	18.0	19.0			K-V	1365	LCA
scapula		29.0	23.0	18.0	19.0			K-V	1365	LCA
scapula		29.0	23.0					K-V	1365	LCA
scapula		29.0	24.0	15.0				K-V	1365	LCA
scapula		29.0	24.0	17.0				K-V	1365	LCA
scapula		29.0	24.0	18.0	19.0			K-V	1365	LCA
scapula		29.0	24.0	20.0	17.0			K-V	1365	LCA
scapula		29.0	24.0		17.0			K-V	1365	LCA
scapula		29.0			18.0			K-V	1365	LCA
scapula		29.0			18.0			K-V	1365	LCA
scapula		29.7		18.6				P-Gy	940	EBA
scapula		30.0	22.0	17.0	18.0			K-V	1365	LCA
scapula		30.0	23.0	17.0	16.0			K-V	1365	LCA
scapula		30.0	23.0	18.0				K-V	1365	LCA
scapula		30.0	23.0	19.0	18.0			K-V	1365	LCA
scapula		30.0	23.0	19.0	19.0			K-V	1365	LCA
scapula		30.0	23.0	19.0	19.0			K-V	1365	LCA
scapula		30.0	23.0		16.0			K-V	1365	LCA
scapula		30.0	24.0	18.0	20.0			K-V	1365	LCA
scapula		30.0	24.0	18.0	20.0			K-V	1365	LCA
scapula		30.0	24.0	19.0	18.0			K-V	1365	LCA
scapula		30.0	24.0	19.0	19.0			K-V	1365	LCA
scapula		30.0	24.0	19.0	20.0			K-V	1365	LCA
scapula		30.0	25.0	18.0	18.0			K-V	1365	LCA
scapula		30.8	25.2	20.9	18.9			K-R61	357	MBA
scapula		31.0	23.0	18.0	18.0			K-V	1365	LCA
scapula		31.0	23.0	19.0	19.0			K-V	1365	LCA
scapula		31.0	23.0	20.0	18.0			K-V	1365	LCA
scapula		31.0	24.0	18.0	18.0			K-V	1365	LCA
scapula		31.0	24.0	19.0	20.0			K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
scapula		31.0	24.0	20.0	20.0			K-V	1365	LCA
scapula		31.0	24.0	20.0	22.0			K-V	1365	LCA
scapula		31.0	24.0		20.0			K-V	1365	LCA
scapula		31.0	25.0	21.0	20.0			K-V	1365	LCA
scapula		31.0	25.0	21.0	22.0			K-V	1365	LCA
scapula		31.0		17.2				K-V	383	EBA
scapula		31.1		16.9				K-V	383	EBA
scapula		31.8		20.0				Sz-Cs	150	LCA
scapula		32.0	24.0	19.0	20.0			K-V	1365	LCA
scapula		32.0	24.0	19.0	20.0			K-V	1365	LCA
scapula		32.0	25.0	19.0	21.0			K-V	1365	LCA
scapula		32.0	25.0	19.0	21.0			K-V	1365	LCA
scapula		32.0	25.0	19.0	22.0			K-V	1365	LCA
scapula		32.0	25.0	20.0	21.0			K-V	1365	LCA
scapula		32.0	25.0	20.0	22.0			K-V	1365	LCA
scapula		32.0	26.0	20.0	22.0			K-V	1365	LCA
scapula		32.0	27.0	19.0	20.0			K-V	1365	LCA
scapula		32.0						K-V	1365	LCA
scapula		32.6	26.7	19.5	18.9			K-R61	715	MBA
scapula		33.0	25.0	19.0				K-V	1365	LCA
scapula		33.4		19.7	20.0			K-V	1128	EBA
scapula		34.2		21.8				K-V	383	EBA
scapula		35.0	30.0	20.0	21.3			P-Gy	1061	EBA
scapula		35.0		22.7				P-Gy	1075	EBA
scapula		35.2	28.6	22.0	22.7			P-Gy	496	EBA
scapula		35.6		21.9	22.1			D-T	356	EBA
scapula		35.8		21.0				K-V	371	EBA
scapula		36.3		22.0				P-Gy	497	EBA
scapula			21.0	19.0				K-V	1365	LCA
scapula			24.0	19.0	21.0			K-V	1365	LCA
scapula				16.0	16.0			K-V	1365	LCA
scapula				17.0	17.0			K-V	1365	LCA
scapula				19.0	19.0			K-V	1365	LCA
scapula				19.0	20.0			K-V	1365	LCA
humerus	124.0	37.0	42.0	15.0	13.0	28.0	22.0	K-V	1365	LCA
humerus	126.0	36.0	40.0	14.0	13.0	27.0	23.0	K-V	1365	LCA
humerus	127.0	35.0	39.0	13.0	14.0	27.0	23.0	K-V	1365	LCA
humerus	127.0	36.0	42.0	14.0	13.0	27.0	23.0	K-V	1365	LCA
humerus	127.0			14.0	15.0	28.0		K-V	1365	LCA
humerus	128.0	37.0	43.0	15.0	16.0	28.0	26.0	K-V	1365	LCA
humerus	130.0		40.0	14.0	14.0	26.0	22.0	K-V	1365	LCA
humerus	131.0	36.0	41.0	15.0	14.0	26.0	23.0	K-V	1365	LCA
humerus	131.0	37.0	42.0	16.0	14.0	28.0	25.0	K-V	1365	LCA
humerus	131.0	38.0	43.0	14.0	15.0	28.0	25.0	K-V	1365	LCA
humerus	132.0		42.0	16.0	14.0	29.0	24.0	K-V	1365	LCA
humerus	134.0	38.0	45.0	15.0	16.0	27.0	25.0	K-V	1365	LCA
humerus	135.0	38.0	43.0	14.0	15.0	29.0	26.0	K-V	1365	LCA
humerus	135.0	38.0	43.0	14.0	16.0	30.0	25.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
humerus	135.0	39.0	44.0	16.0	15.0	27.0	24.0	K-V	1365	LCA
humerus	136.0	39.0	43.0	16.0	17.0	28.0	25.0	K-V	1365	LCA
humerus	137.0	39.0	42.0	17.0	15.0	29.0	25.0	K-V	1365	LCA
humerus	137.0	40.0	43.0	17.0	15.0	30.0	24.0	K-V	1365	LCA
humerus		35.0	41.0					K-V	1365	LCA
humerus		35.0		16.0	15.0	27.0	22.0	K-V	1365	LCA
humerus		36.0	42.0					K-V	1365	LCA
humerus		36.0	43.0					K-V	1365	LCA
humerus		36.0		14.0	15.0	29.0	25.0	K-V	1365	LCA
humerus		37.0	42.0	16.0				K-V	1365	LCA
humerus		38.0	42.0	14.0	14.0			K-V	1365	LCA
humerus				13.6		28.4		K-V	383	EBA
humerus				15.0	16.0	30.0	26.0	K-V	462	EBA
humerus				16.1		28.6		K-V	1128	EBA
humerus				17.0	16.0	28.0	27.0	K-V	462	EBA
humerus			46.0	15.0	16.0	28.0	24.0	K-V	1365	LCA
humerus				12.0	12.0	25.0		K-V	1365	LCA
humerus				12.0	13.0	25.0	24.0	K-V	1365	LCA
humerus				12.0	14.0	25.0	23.0	K-V	1365	LCA
humerus				12.5		25.8	23.1	Sz-Cs	85	EBA
humerus				13.0	13.0	24.0	22.0	K-V	1365	LCA
humerus				13.0	13.0	25.0	22.0	K-V	1365	LCA
humerus				13.0	14.0	25.0	24.0	K-V	1365	LCA
humerus				13.0	15.0	24.0	23.0	K-V	1365	LCA
humerus				13.0	15.0	26.0	24.0	K-V	1365	LCA
humerus				13.0	14.0	27.0	23.0	P-Gy	406	LCA
humerus				14.0	7.0	27.0	23.0	K-V	249	LCA
humerus				14.0	14.0	25.0	22.0	K-V	1365	LCA
humerus				14.0	14.0	25.0	23.0	K-V	1365	LCA
humerus				14.0	14.0	26.0	23.0	K-V	1365	LCA
humerus				14.0	14.0	26.0	24.0	K-V	1365	LCA
humerus				14.0	14.0	26.0		K-V	1365	LCA
humerus				14.0	14.0	27.0	22.0	K-V	1365	LCA
humerus				14.0	14.0	27.0	25.0	K-V	1365	LCA
humerus				14.0	14.0	28.0	25.0	K-V	1365	LCA
humerus				14.0	14.0	28.0		K-V	1365	LCA
humerus				14.0	14.0	29.0	25.0	K-V	1365	LCA
humerus				14.0	14.0	29.0	25.0	K-V	1365	LCA
humerus				14.0	14.0	29.0	24.0	K-V	1365	LCA
humerus				14.0	15.0	26.0	23.0	K-V	1365	LCA
humerus				14.0	15.0	26.0	23.0	K-V	1365	LCA
humerus				14.0	15.0	27.0	25.0	K-V	1365	LCA
humerus				14.0	16.0	26.0		K-V	1365	LCA
humerus				14.0	17.0	26.0	23.0	K-V	1365	LCA
humerus				15.0	13.0	26.0		K-V	1365	LCA
humerus				15.0	15.0	27.0	23.0	K-V	1365	LCA
humerus				15.0	15.0	28.0	25.0	K-V	1365	LCA
humerus				15.0	15.0			K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
humerus				15.0	16.0	27.0		K-V	1365	LCA
humerus				15.0	17.0	28.0	26.0	K-V	1365	LCA
humerus				15.0	17.0	30.0	25.0	K-V	539	LCA
humerus				15.0	15.0	29.0	26.0	P-Gy	398	LCA
humerus				15.1		29.6		O-B	1253	EBA, K
humerus				15.7		29.2	24.5	P-Gy	1075	EBA
humerus				16.0	14.0	27.0		K-V	1365	LCA
humerus				16.0	14.0	28.0	25.0	K-V	1365	LCA
humerus				16.0	15.0	28.0	25.0	K-V	1365	LCA
humerus				16.0	16.0	27.0		K-V	1365	LCA
humerus				16.0	18.0	27.0	24.0	K-V	334	LCA
humerus				16.3		31.0	25.9	O-B	1169	LCA
humerus				16.4		31.4	29.2	P-Gy	858	EBA
humerus				16.5		31.5	28.4	P-Gy	890	EBA
humerus				17.3		29.7	26.4	O-B	1293	EBA, K
humerus				18.8		34.0	29.6	P-Gy	1106	EBA
humerus				19.1		34.6	31.0	P-Gy	1112	EBA
humerus						23.0	22.0	K-V	1365	LCA
humerus						24.0	22.0	K-V	1365	LCA
humerus						25.0	22.0	K-V	1365	LCA
humerus						25.0	24.0	K-V	1365	LCA
humerus						25.0		K-V	1365	LCA
humerus						25.0		K-V	1365	LCA
humerus						26.0	22.0	K-V	1365	LCA
humerus						26.0	23.0	K-V	1365	LCA
humerus						26.0	23.0	K-V	1365	LCA
humerus						26.0	25.0	K-V	1365	LCA
humerus						26.0		K-V	1365	LCA
humerus						26.4	21.5	O-B	1205	EBA, K
humerus						27.0	24.0	K-V	1365	LCA
humerus						27.0	24.0	K-V	1365	LCA
humerus						27.0	24.0	K-V	1365	LCA
humerus						27.0	25.0	K-V	1365	LCA
humerus						27.0	25.0	K-V	1365	LCA
humerus						27.0	25.0	K-V	1365	LCA
humerus						28.0	24.0	K-V	462	EBA
humerus						28.0	26.0	K-V	1365	LCA
humerus						28.0		P-Gy	1078	EBA
humerus						28.4	25.3	P-Gy	871	EBA
humerus						28.5		P-Gy	1075	EBA
humerus						28.7	25.2	P-Gy	1078	EBA
humerus						28.7	26.7	O-B	1169	LCA
humerus						28.9	26.3	P-Gy	1062	EBA
humerus						29.0	26.7	P-Gy	1062	EBA
humerus						29.0	29.0	K-V	967	LCA
humerus						29.5	26.3	P-Gy	1106	EBA
humerus						29.6	27.5	P-Gy	857	EBA
humerus						30.0	27.7	P-Gy	493	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
					Ovis aries Linnaeus, 1758					
humerus						30.4	27.0	O-B	1169	LCA
humerus						30.6	27.2	P-Gy	986	EBA
humerus						31.5	27.0	P-Gy	851	EBA
humerus						31.7	25.3	P-Gy	496	EBA
humerus						32.3	27.7	P-Gy	1061	EBA
humerus						32.3	28.4	P-Gy	1078	EBA
humerus						32.3		P-Gy	1054	EBA
humerus						32.7	28.6	O-B	1419	LCA
humerus						32.8		P-Gy	1075	EBA
humerus						33.0	29.3	O-B	1486	EBA, K
humerus						33.3		P-Gy	1075	EBA
humerus						33.4	30.0	P-Gy	889	EBA
humerus						33.6	27.6	P-Gy	1080	EBA
humerus						34.2	29.5	P-Gy	1106	EBA
radius	133.0	27.0	14.0	15.0	8.0	26.0	17.0	K-V	1365	LCA
radius	133.0	28.0	14.0	14.0	8.0	25.0	15.0	K-V	1365	LCA
radius	134.0	28.0	14.0	14.0	7.0	26.0	16.0	K-V	1365	LCA
radius	135.0	27.0	15.0	15.0	8.0	24.0	15.0	K-V	1365	LCA
radius	137.0	29.0	14.0	16.0	9.0	28.0	15.0	K-V	1365	LCA
radius	137.0	29.0	15.0	17.0	9.0	27.0	17.0	K-V	1365	LCA
radius	138.0	28.0	14.0	15.0	8.0	26.0	16.0	K-V	1365	LCA
radius	138.0	31.0	15.0	16.0	9.0	27.0	16.0	K-V	1365	LCA
radius	139.0	28.0	15.0	15.0	8.0	26.0	15.0	K-V	1365	LCA
radius	141.0	29.0	15.0	15.0	9.0	28.0	19.0	K-V	1365	LCA
radius	141.0	29.0	16.0	15.0	9.0	26.0	18.0	P-Gy	398	LCA
radius	141.0	31.0	15.0	15.0	8.0	23.0	17.0	K-V	1365	LCA
radius	143.0	28.0	13.0	16.0	8.0	27.0	17.0	K-V	249	LCA
radius	143.0	28.0	15.0	16.0	9.0	27.0	17.0	K-V	1365	LCA
radius	143.0	29.0	14.0	16.0	9.0	27.0	17.0	K-V	249	LCA
radius	143.0	30.0	16.0	16.0	11.0	27.0	18.0	K-V	1365	LCA
radius	144.0	29.0	14.0	14.0	9.0	27.0	16.0	K-V	1365	LCA
radius	144.0	29.0	15.0	16.0	8.0	28.0	15.0	K-V	1365	LCA
radius	144.0	30.0	15.0	16.0	8.0	27.0	16.0	K-V	1365	LCA
radius	145.0	29.0	14.0	17.0	8.0	25.0	17.0	K-V	1365	LCA
radius	145.0	31.0	16.0	18.0	8.0	27.0	17.0	K-V	1365	LCA
radius	148.0	31.0	15.0	17.0	10.0	29.0	17.0	K-V	1365	LCA
radius	148.0	31.0	16.0	17.0	9.0	28.0	16.0	K-V	1365	LCA
radius	149.0	29.0	16.0	17.0	9.0	28.0	16.0	K-V	1365	LCA
radius	150.0	30.2		15.0		28.3		D-T	318	EBA
radius	150.0	31.0	16.0	17.0	10.0	26.0	17.0	K-V	1365	LCA
radius	151.0	30.0	15.0	17.0	9.0	29.0	18.0	K-V	1365	LCA
radius	164.2	33.4	16.9	18.4	8.4	29.9		K-V	1037	EBA
radius	184.1	37.4	20.0	21.0		35.5		K-V	1358	EBA
radius		24.0	14.0	14.0	7.0			K-V	1365	LCA
radius		25.0	14.0	14.0	8.0			K-V	1365	LCA
radius		25.0	14.0	14.0	8.0			K-V	1365	LCA
radius		25.0	14.0	14.0	8.0			K-V	1365	LCA
radius		25.0	14.0					K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
radius		26.0	13.0					K-V	1365	LCA
radius		26.0	14.0	15.0	8.0			K-V	1365	LCA
radius		26.0	14.0	15.0	8.0			K-V	1365	LCA
radius		26.0	14.0	15.0	8.0			K-V	1365	LCA
radius		27.0	13.0					K-V	1365	LCA
radius		27.0	14.0	14.0	7.0			K-V	1365	LCA
radius		27.0	14.0	15.0	7.0			K-V	731	EBA
radius		27.0	14.0	15.0	8.0			K-V	1365	LCA
radius		27.0	14.0	15.0	8.0			K-V	1365	LCA
radius		27.0	15.0	16.0	8.0			K-V	1365	LCA
radius		27.0	15.0	17.0	9.0			K-V	1365	LCA
radius		27.0	15.0					K-V	674	LCA
radius		27.0	15.0					K-V	1365	LCA
radius		27.0	16.0	15.0	8.0			K-V	1365	LCA
radius		28.0	14.0					K-V	1365	LCA
radius		28.0	14.0					K-V	1365	LCA
radius		28.0	15.0	15.0	8.0			K-V	1365	LCA
radius		28.0	15.0	16.0	8.0			K-V	1365	LCA
radius		28.0	15.0	17.0	8.0			K-V	1365	LCA
radius		28.8	16.4					K-V	383	EBA
radius		29.0	14.0	16.0	8.0			K-V	1365	LCA
radius		29.0	14.0	16.0	9.0			K-V	1365	LCA
radius		29.0	15.0	14.0	8.0			K-V	1365	LCA
radius		29.0	15.0	16.0	8.0			K-V	1365	LCA
radius		29.0	15.0	16.0	8.0			K-V	1365	LCA
radius		29.0	15.0	16.0	9.0			K-V	462	EBA
radius		29.0	15.0	17.0	9.0			K-V	1365	LCA
radius		29.0	15.0	17.0	9.0			K-V	1365	LCA
radius		29.0	15.0	17.0	9.0			K-V	1365	LCA
radius		29.0	16.0	17.0	9.0			K-V	1365	LCA
radius		29.0	16.0	19.0	10.0			K-V	680	LCA
radius		29.0	17.0	17.0	9.0			K-V	1365	LCA
radius		29.1	16.0					K-V	383	EBA
radius		29.3	15.2					P-Gy	1062	EBA
radius		30.0	15.0	17.0	9.0			K-V	1365	LCA
radius		30.0	15.0	18.0	9.0			K-V	1365	LCA
radius		30.0	16.0	17.0	9.0			K-V	1365	LCA
radius		30.0	16.0	17.0	9.0			K-V	1365	LCA
radius		30.0	16.2					P-Gy	1075	EBA
radius		30.5	16.0					P-Gy	512	EBA
radius		30.5	16.4					P-Gy	1075	EBA
radius		30.7	16.8					P-Gy	496	EBA
radius		31.0	15.0	15.0	8.0			K-V	1365	LCA
radius		31.0	15.0	15.0	9.0			K-V	76	LCA
radius		31.2	16.6					P-Gy	851	EBA
radius		31.4	16.7					P-Gy	851	EBA
radius		31.8	16.4					P-Gy	1106	EBA
radius		32.0	16.0	17.0	9.0			K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
radius		32.0	16.0	17.0	9.0			K-V	1365	LCA
radius		32.2	17.2	15.9				O-B	1253	EBA, K
radius		32.5	17.5	18.1				P-Gy	497	EBA
radius		32.6	17.0					P-Gy	512	EBA
radius		33.0	18.0		9.0			K-V	239	EBA
radius		34.7	17.5	15.9				O-B	1253	EBA, K
radius		34.8	17.4					P-Gy	851	EBA
radius		35.8	18.8					P-Gy	986	EBA
radius				15.0	9.0	27.0	17.0	K-V	1365	LCA
radius				15.0	9.0	28.0	16.0	K-V	1365	LCA
radius				15.5		25.7	17.5	Sz-Cs	85	EBA
radius				15.9		26.7	18.3	Sz-Cs	144	LCA
radius				16.0	8.0	26.0	16.0	K-V	1365	LCA
radius				16.0	9.0	26.0	17.0	K-V	1365	LCA
radius				16.0	9.0	27.0	18.0	K-V	1365	LCA
radius				16.0	9.0	28.0	16.0	K-V	1365	LCA
radius				16.0	9.0	28.0	18.0	K-V	1365	LCA
radius				16.0	9.0	28.0	18.0	K-V	1365	LCA
radius				16.0	9.0	27.0	17.0	K-V	1365	LCA
radius				16.1		26.7	18.0	Sz-Cs	144	LCA
radius						25.0	17.0	K-V	1365	LCA
radius						26.0	17.0	K-V	1365	LCA
radius						27.0	17.0	K-V	1365	LCA
radius						27.6	18.3	P-Gy	1078	EBA
radius						28.0	17.0	K-V	1365	LCA
radius						28.0	18.0	K-V	1365	LCA
radius						30.0	20.7	P-Gy	1049	EBA
ulna		14.0	22.0	18.0				K-V	1365	LCA
ulna		14.0	23.0	19.0				K-V	1365	LCA
ulna		14.0	24.0	21.0				P-Gy	398	LCA
ulna		15.0	22.0	20.0				K-V	1365	LCA
ulna		15.0	23.0	19.0				K-V	1365	LCA
ulna		15.0	24.0					K-V	1365	LCA
ulna		15.0	24.0	20.0				K-V	1365	LCA
ulna		15.0	25.0	19.0				K-V	1365	LCA
ulna		16.0	22.0	18.0				K-V	1365	LCA
ulna		16.0	23.0	19.0				K-V	1365	LCA
ulna		16.0	23.0	20.0				K-V	1365	LCA
ulna		16.0	24.0					K-V	1365	LCA
ulna		16.0	24.0	20.0				K-V	1365	LCA
ulna		16.0	24.0	20.0				K-V	1365	LCA
ulna		16.0	24.0	21.0				K-V	1365	LCA
ulna		16.0	25.0	20.0				K-V	1365	LCA
ulna		16.0	25.0	20.0				K-V	1365	LCA
ulna		17.0	23.0	20.0				K-V	1365	LCA
ulna		17.0	24.0	19.0				K-V	1365	LCA
ulna		17.0	24.0	19.0				K-V	1365	LCA
ulna		17.0	24.0	22.0				K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
ulna		17.0	24.0	19.0				K-V	1365	LCA
ulna		17.0	24.0	19.0				K-V	1365	LCA
ulna		17.0	24.0	20.0				K-V	1365	LCA
ulna		17.0	25.0	20.0				K-V	1365	LCA
ulna		17.0	25.0	20.0				K-V	1365	LCA
ulna		17.0	25.0	21.0				K-V	1365	LCA
ulna		17.0	25.0	22.0				K-V	1365	LCA
ulna		17.0	26.0					K-V	1365	LCA
ulna		17.0	27.0	21.0				K-V	1365	LCA
ulna		17.0		21.0				K-V	249	LCA
ulna		18.0	25.0	21.0				K-V	1365	LCA
ulna		18.0	25.0	22.0				K-V	1365	LCA
ulna		18.0	25.0	22.0				K-V	1365	LCA
ulna		18.0	25.0	20.0				K-V	1365	LCA
ulna		18.0	26.0	22.0				K-V	1365	LCA
ulna		18.0	27.0	23.0				K-V	462	EBA
ulna		19.0	25.0	20.0				K-V	1365	LCA
ulna		20.0	25.0	21.0				K-V	1365	LCA
ulna		22.0	27.0	23.0				K-V	239	EBA
ulna			24.0	20.0				K-V	1365	LCA
ulna			24.0	20.0				K-V	1365	LCA
metacarpus	103.0	20.0	15.0	13.0	8.0	23.0	15.0	K-V	1365	LCA
metacarpus	106.0	21.0	15.0	13.0	9.0	24.0	15.0	K-V	1365	LCA
metacarpus	108.0	20.0	14.0	12.0	8.0	23.0	14.0	K-V	1365	LCA
metacarpus	108.0	21.0	14.0	13.0	9.0	23.0	15.0	K-V	1365	LCA
metacarpus	111.0	19.0	14.0	13.0	8.0	23.0	14.0	K-V	1365	LCA
metacarpus	112.0	21.0	14.0	14.0	8.0	23.0		K-V	1365	LCA
metacarpus	113.0	22.0	16.0	13.0	9.0	24.0	15.0	K-V	1365	LCA
metacarpus	114.0	19.0	15.0	13.0	9.0	23.0	14.0	K-V	1365	LCA
metacarpus	114.0	21.0	15.0	13.0	9.0	23.0	14.0	K-V	1365	LCA
metacarpus	114.0	21.0	15.0	13.0	9.0	23.0	14.0	K-V	1365	LCA
metacarpus	114.0	21.0	16.0	13.0	8.0	24.0	15.0	K-V	1365	LCA
metacarpus	114.0	23.0	17.0	14.0	9.0	23.0	15.0	K-V	1365	LCA
metacarpus	114.0		15.0	13.0	9.0	23.0	16.0	K-V	1365	LCA
metacarpus	115.0	20.0	14.0	13.0	9.0	22.0	15.0	K-V	249	LCA
metacarpus	115.0	20.0	15.0	14.0	8.0	23.0	15.0	K-V	1365	LCA
metacarpus	115.0	20.0	15.0	14.0	9.0	23.0	15.0	K-V	249	LCA
metacarpus	115.0	22.0	15.0	13.0	9.0	24.0	16.0	K-V	1365	LCA
metacarpus	115.0	22.0	16.0	14.0	9.0	23.0	15.0	K-V	1365	LCA
metacarpus	115.0	23.0	17.0	13.0	9.0	23.0	15.0	K-V	1365	LCA
metacarpus	116.0	22.0	16.0	11.0	9.0		14.0	K-V	1365	LCA
metacarpus	116.7	20.8	14.7	13.7		22.6	14.9	Sz-Cs	173	LCA
metacarpus	117.0	22.0	16.0	13.0	9.0	23.0	15.0	K-V	1365	LCA
metacarpus	118.0	21.0	15.0	12.0	9.0	24.0	16.0	K-V	1365	LCA
metacarpus	118.0	22.0	15.0	12.0	10.0	24.0	16.0	K-V	1365	LCA
metacarpus	118.0	22.0	15.0	13.0	9.0	24.0	15.0	K-V	1365	LCA
metacarpus	120.0	22.0	16.0	13.0	9.0	24.0	16.0	K-V	1365	LCA
metacarpus	120.0	22.0	17.0	13.0	8.0	24.0	15.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
metacarpus	122.0	22.0	15.0	14.0	9.0	24.0	15.0	K-V	1365	LCA
metacarpus	122.0	24.0	16.0	14.0	10.0	25.0	15.0	K-V	823	EBA
metacarpus	123.0	22.0	16.0	12.0	8.0	23.0	15.0	K-V	1365	LCA
metacarpus	123.0	23.0	16.0	14.0	9.0	24.0	16.0	K-V	1365	LCA
metacarpus	124.0	22.0	15.0	14.0	9.0	25.0	16.0	K-V	1365	LCA
metacarpus	124.0			13.0	9.0	24.0	15.0	K-V	1365	LCA
metacarpus	125.0	22.0	16.0	13.0	9.0	25.0	15.0	K-V	1365	LCA
metacarpus	125.0	22.0	16.0	14.0	9.0		15.0	K-V	1365	LCA
metacarpus	125.0	23.0	15.0	13.0	11.0	25.0	15.0	K-V	1365	LCA
metacarpus	129.3	23.8	17.5	14.0		25.0	16.3	O-B	1508	EBA, K
metacarpus		19.0	13.0	12.0	8.0			P-Gy	406	LCA
metacarpus		19.0	14.0	11.0	9.0			K-V	1365	LCA
metacarpus		19.0	14.0	12.0	11.0			K-V	1365	LCA
metacarpus		19.0	15.0	12.0	9.0			K-V	1365	LCA
metacarpus		20.0	14.0	12.0	10.0			K-V	1365	LCA
metacarpus		20.0	14.0	13.0	9.0			K-V	1365	LCA
metacarpus		20.0	14.0	13.0	9.0			K-V	1365	LCA
metacarpus		20.0	15.0	13.0	9.0			K-V	1365	LCA
metacarpus		20.0	15.0	13.0	10.0			K-V	1365	LCA
metacarpus		20.0	16.0	13.0	8.0			K-V	1365	LCA
metacarpus		21.0	14.0	12.0	8.0			K-V	1117	LCA
metacarpus		21.0	14.0	12.0	9.0			K-V	1139	LCA
metacarpus		21.0	14.0	13.0	10.0			P-Gy	398	LCA
metacarpus		21.0	15.0	13.0	9.0			K-V	1365	LCA
metacarpus		21.0	15.0	13.0	9.0			K-V	1365	LCA
metacarpus		21.0	15.0					K-V	1365	LCA
metacarpus		21.0	15.0					K-V	1365	LCA
metacarpus		21.0	16.0	13.0	10.0			K-V	1176	LCA
metacarpus		21.0	16.0	14.0	10.0			K-V	1365	LCA
metacarpus		21.0	16.0					K-V	1365	LCA
metacarpus		21.0	18.0	12.0	10.0			K-V	1365	LCA
metacarpus		22.0	14.0	12.0	9.0			K-V	1389	LCA
metacarpus		22.0	15.0	11.0	9.0			P-Gy	392	LCA
metacarpus		22.0	15.0	13.0	9.0			K-V	1365	LCA
metacarpus		22.0	15.0					K-V	1365	LCA
metacarpus		22.0	16.0	13.0	11.0			K-V	1365	LCA
metacarpus		22.0	16.0	13.0	9.0			K-V	462	EBA
metacarpus		22.0	16.0					K-V	1365	LCA
metacarpus		22.0	16.0					K-V	1365	LCA
metacarpus		22.0	17.0	12.0	9.0			K-V	1365	LCA
metacarpus		22.0	17.0	13.0	11.0			K-V	1365	LCA
metacarpus		22.0	17.0	14.0	9.0			K-V	1365	LCA
metacarpus		23.0	15.0	13.0	9.0			K-V	1365	LCA
metacarpus		23.0	16.0	12.0	9.0			K-V	462	EBA
metacarpus		23.0	16.0	14.0	10.0			K-V	470	LCA
metacarpus		23.0	16.0					K-V	1365	LCA
metacarpus		23.5	17.4					P-Gy	1075	EBA
metacarpus		23.6	16.7					K-V	383	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
metacarpus		23.6	17.0					K-V	383	EBA
metacarpus		23.6	17.1					P-Gy	512	EBA
metacarpus		24.0	16.5	13.7				P-Gy	1075	EBA
metacarpus		24.0	17.0					K-V	462	EBA
metacarpus		24.7	17.3	14.0				P-Gy	855	EBA
metacarpus		25.2	17.6					P-Gy	1078	EBA
metacarpus		25.7	18.5					P-Gy	1062	EBA
metacarpus		23.0	16.0	16.0	11.0			K-V	621	EBA
metacarpus		24.0	17.0	15.0	12.0			K-V	732	EBA
metacarpus				11.6		22.5	15.1	Sz-Cs	69	LCA
metacarpus				12.0	9.0	22.0		K-V	454	LCA
metacarpus				12.0	9.0			K-V	401	LCA
metacarpus				12.0	10.0	23.0	15.0	K-V	1365	LCA
metacarpus				12.3		24.4		K-V	1128	EBA
metacarpus				13.0	8.0	23.0	14.0	K-V	1365	LCA
metacarpus				13.0	9.0	22.0	15.0	K-V	1365	LCA
metacarpus				13.0	9.0	23.0	16.0	K-V	1365	LCA
metacarpus				13.0	9.0	23.0	15.0	K-V	1365	LCA
metacarpus				13.0	9.0	24.0	17.0	K-V	1365	LCA
metacarpus				13.0	9.0	24.0	16.0	K-V	1365	LCA
metacarpus				13.0	9.0			K-V	1365	LCA
metacarpus				13.0	9.0			K-V	1365	LCA
metacarpus				13.2	11.4	27.5	16.7	P-Gy	851	EBA
metacarpus				14.0	9.0	23.0	15.0	K-V	1365	LCA
metacarpus				14.0	9.0	24.0	16.0	K-V	1365	LCA
metacarpus				14.0	9.0	24.0	15.0	K-V	1365	LCA
metacarpus				14.0	11.0	24.0	16.0	K-V	1365	LCA
metacarpus						22.0	16.0	K-V	1365	LCA
metacarpus						23.0	15.0	K-V	1365	LCA
metacarpus						23.0	16.0	K-V	1365	LCA
metacarpus						24.0	15.0	K-V	1365	LCA
metacarpus						24.0	15.0	K-V	1365	LCA
metacarpus						24.0	15.0	K-V	1365	LCA
metacarpus						24.0	16.0	K-V	1365	LCA
metacarpus						24.0	17.0	K-V	1365	LCA
metacarpus						24.3	16.2	P-Gy	1062	EBA
metacarpus						25.1	15.7	P-Gy	496	EBA
metacarpus						25.5	17.0	P-Gy	493	EBA
metacarpus						25.7	16.1	P-Gy	512	EBA
metacarpus						25.8	16.1	P-Gy	894	EBA
metacarpus						27.1	18.1	P-Gy	851	EBA
pelvis	177.0	26.0	35.0	11.0	14.0			K-V	1365	LCA
pelvis		24.0		8.0	13.0			K-V	1365	LCA
pelvis		24.0		11.0	17.0			K-V	1365	LCA
pelvis		24.0		11.0	18.0			K-V	1365	LCA
pelvis		24.0						K-V	1365	LCA
pelvis		25.0	27.0					K-V	1365	LCA
pelvis		25.0		9.0	14.0			K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
pelvis		26.0		12.0	15.0			K-V	249	LCA
pelvis		26.0		9.0	15.0			K-V	1365	LCA
pelvis		26.0		9.0	17.0			K-V	1365	LCA
pelvis		26.0						K-V	1365	LCA
pelvis		26.0						K-V	1365	LCA
pelvis		27.0		9.0	15.0			K-V	1365	LCA
pelvis		27.0		12.0	16.0			K-V	1365	LCA
pelvis		27.0		10.0	16.0			K-V	1365	LCA
pelvis		27.0		9.0	16.0			K-V	1365	LCA
pelvis		27.0						K-V	1365	LCA
pelvis		27.0		11.0				K-V	1365	LCA
pelvis		28.0		12.0	15.0			K-V	1365	LCA
pelvis		28.0		11.0	16.0			K-V	1365	LCA
pelvis		28.0		11.0	16.0			K-V	1365	LCA
pelvis		28.0		9.0	16.0			K-V	1365	LCA
pelvis		28.0						K-V	1365	LCA
pelvis		28.0						K-V	1365	LCA
pelvis		29.0		12.0	16.0			K-V	1365	LCA
pelvis		29.0						K-V	1365	LCA
pelvis		30.0						P-Gy	512	EBA
pelvis		30.0						P-Gy	1075	EBA
pelvis		30.4						P-Gy	1062	EBA
pelvis		31.2						P-Gy	512	EBA
pelvis		31.8						P-Gy	1078	EBA
pelvis		32.3						K-R61	283	EBA
pelvis		33.0						K-V	1037	EBA
femur	155.0	38.0	20.0	13.0	15.0	34.0	41.0	K-V	1365	LCA
femur	157.0	43.0	21.0	16.0	17.0	34.0	44.0	K-V	1365	LCA
femur	160.0	41.0	22.0	16.0	16.0			K-V	1365	LCA
femur	162.0	44.0	22.0	15.0	17.0	35.0	43.0	K-V	1365	LCA
femur	163.0	42.0	19.0	17.0	16.0	35.0	44.0	K-V	1365	LCA
femur	163.0	42.0	22.0	16.0	17.0	34.0	43.0	K-V	1365	LCA
femur	163.0	43.0	22.0	15.0	15.0	33.0	43.0	K-V	1365	LCA
femur	163.0	45.0	21.0	17.0	17.0	37.0	45.0	K-V	1365	LCA
femur	164.0	44.0	20.0	15.0	17.0	35.0	44.0	K-V	1365	LCA
femur	164.0	44.0	21.0	16.0	18.0		45.0	K-V	1365	LCA
femur	164.0	44.0	23.0	16.0	17.0	34.0	44.0	K-V	1365	LCA
femur	167.0	45.0	22.0	16.0	17.0		39.0	K-V	1365	LCA
femur	167.0	47.0	21.0	16.0	17.0	37.0	48.0	K-V	1365	LCA
femur	168.0	46.0	22.0	15.0	18.0	37.0	45.0	K-V	1365	LCA
femur		38.0	20.0					K-V	1365	LCA
femur		39.0	20.0					K-V	1365	LCA
femur		39.0						K-V	1365	LCA
femur		41.0	19.0					K-V	1365	LCA
femur		42.0	20.0					K-V	1365	LCA
femur		42.0	20.0					K-V	1365	LCA
femur				14.0	17.0			K-V	1365	LCA
femur				15.0	12.0			K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
femur				15.0	15.0	34.0	45.0	K-V	1365	LCA
femur				15.0	15.0	36.0	43.0	K-V	1365	LCA
femur				15.0	17.0	33.0	44.0	K-V	1365	LCA
femur				15.0	17.0	34.0	42.0	K-V	1365	LCA
femur				15.0	17.0			K-V	1365	LCA
femur				16.0	7.0	34.0	41.0	K-V	249	LCA
femur				16.0	17.0	33.0	42.0	K-V	1365	LCA
femur				16.0	17.0	34.0	44.0	K-V	1365	LCA
femur				16.0	17.0	37.0	46.0	K-V	1365	LCA
femur				16.0	17.0			K-V	1365	LCA
femur				16.0	18.0	38.0	46.0	K-V	1365	LCA
femur				16.0	18.0			K-V	1365	LCA
femur				16.0	18.0			K-V	1365	LCA
femur				16.0	18.0			K-V	1365	LCA
femur				17.0	17.0			K-V	1365	LCA
femur				17.0	18.0	37.0	44.0	K-V	1365	LCA
femur				18.0	17.0	36.0		K-V	1365	LCA
femur						31.0		K-V	1365	LCA
femur						32.0	43.0	K-V	1365	LCA
femur						33.0	43.0	K-V	1365	LCA
femur						34.0	45.0	K-V	1365	LCA
femur						35.0		K-V	1365	LCA
femur						35.0		K-V	1365	LCA
femur						38.0	46.0	K-V	1365	LCA
femur						38.0	46.0	K-V	1365	LCA
patella	21.0	15.0						K-V	1365	LCA
patella	21.0	17.0						K-V	1365	LCA
patella	22.0	16.0						K-V	1365	LCA
patella	22.0	17.0						K-V	1365	LCA
patella	22.0	17.0						K-V	1365	LCA
patella	22.0	17.0						K-V	1365	LCA
patella	22.7	14.6						P-Gy	871	EBA
patella	23.0	15.0						K-V	1365	LCA
patella	23.0	17.0						K-V	1365	LCA
patella	24.0	16.0						K-V	1365	LCA
patella	24.0	17.0						K-V	1365	LCA
patella	24.0	18.0						K-V	1365	LCA
patella	24.0	19.0						K-V	1365	LCA
patella	24.0	20.0						K-V	1365	LCA
patella	25.0	17.0						K-V	1365	LCA
patella	25.0	18.0						K-V	1365	LCA
patella	25.0	19.0						K-V	1365	LCA
patella	25.0	19.0						K-V	1365	LCA
patella	25.0	20.0						K-V	1365	LCA
patella	26.0	16.0						K-V	1365	LCA
patella	26.0	19.0						K-V	1365	LCA
patella	26.0	19.0						K-V	1365	LCA
patella	26.0	20.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
patella	26.0	20.0						K-V	1365	LCA
patella	27.0	18.0						K-V	1365	LCA
patella	27.0	19.0						K-V	1365	LCA
patella	27.0	19.0						K-V	1365	LCA
patella	27.0	20.0						K-V	1365	LCA
patella	27.0	20.0						K-V	1365	LCA
patella	27.0	20.0						K-V	1365	LCA
patella	28.0	20.0						K-V	1365	LCA
patella	28.0	20.0						K-V	1365	LCA
patella	28.0	21.0						K-V	1365	LCA
patella	29.0	19.0						K-V	1365	LCA
patella	29.0	21.0						K-V	1365	LCA
patella	30.0	19.0						K-V	1365	LCA
tibia	185.0	36.0	38.0	13.0	10.0	24.0	18.0	K-V	1365	LCA
tibia	189.0	38.0	41.0	13.0	11.0	24.0	19.0	K-V	1365	LCA
tibia	189.0	39.0	40.0	13.0	11.0	24.0	19.0	K-V	1365	LCA
tibia	190.0	40.0	42.0	13.0	11.0	26.0	19.0	K-V	1365	LCA
tibia	190.0	40.0	43.0	14.0	12.0	26.0	20.0	K-V	1365	LCA
tibia	192.0		38.0	13.0	10.0	24.0	19.0	K-V	1365	LCA
tibia	193.0	38.0	37.0	12.0	10.0	25.0	18.0	K-V	1365	LCA
tibia	195.0	39.0	40.0	14.0	11.0	26.0	20.0	K-V	1365	LCA
tibia	198.0	40.0	39.0	14.0	12.0	27.0	19.0	K-V	1365	LCA
tibia	198.0	42.0	42.0	14.0	11.0	28.0	19.0	K-V	1365	LCA
tibia	199.0	39.0	43.0	13.0	11.0	26.0	21.0	K-V	1365	LCA
tibia	201.0	38.0	39.0	15.0	11.0	24.0	19.0	K-V	1365	LCA
tibia	203.0			16.0	13.0	28.0	22.0	K-V	1365	LCA
tibia		27.1	27.0					P-Gy	855	EBA
tibia		36.0	39.0					K-V	1365	LCA
tibia		36.0		13.0	10.0			K-V	1365	LCA
tibia		38.0	40.0	14.0	12.0			K-V	1365	LCA
tibia		39.0	43.0	16.0				K-V	1365	LCA
tibia		41.0	42.0	14.0	12.0			K-V	1365	LCA
tibia		41.0	51.0	14.0	13.0			K-V	1365	LCA
tibia				12.8		22.4	18.0	Sz-Cs	59	LCA
tibia				13.0	11.0	26.0	18.0	K-V	1365	LCA
tibia				13.0	11.0	24.0	18.0	K-V	1365	LCA
tibia				13.0	10.0	23.0	18.0	K-V	1365	LCA
tibia				13.0	10.0	24.0	18.0	K-V	1365	LCA
tibia				13.0	10.0	23.0	18.0	K-V	1365	LCA
tibia				13.0	10.0	23.0	18.0	K-V	1365	LCA
tibia				13.0	11.0	24.0	19.0	K-V	1365	LCA
tibia				13.8		27.3	21.1	P-Gy	1075	EBA
tibia				14.0	11.0	25.0	19.0	K-V	1365	LCA
tibia				14.0	13.0	26.0	20.0	K-V	1365	LCA
tibia				14.0	11.0	23.0	19.0	K-V	1365	LCA
tibia				14.0	11.0	24.0	19.0	K-V	1365	LCA
tibia				14.0	12.0	24.0	18.0	K-V	1365	LCA
tibia				14.0	10.0		19.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
tibia				14.0	12.0	26.0	20.0	K-V	1365	LCA
tibia				14.0	12.0	26.0	19.0	K-V	1365	LCA
tibia				14.0	12.0		18.0	K-V	1365	LCA
tibia				14.0	11.0	26.0	19.0	K-V	1365	LCA
tibia				14.0	12.0	25.0	19.0	K-V	1365	LCA
tibia				14.0	12.0	25.0		K-V	1365	LCA
tibia				14.0	11.0	26.0	19.0	K-V	1365	LCA
tibia				14.0	12.0	27.0	19.0	K-V	1365	LCA
tibia				14.0	11.0	28.0	19.0	K-V	1365	LCA
tibia				14.0	11.0	24.0	19.0	K-V	1365	LCA
tibia				14.0	10.0	23.0	18.0	K-V	1365	LCA
tibia				14.0	11.0	27.0	18.0	K-V	1365	LCA
tibia				14.0	11.0	25.0	19.0	K-V	1365	LCA
tibia				14.0	12.0	24.0	19.0	K-V	1365	LCA
tibia				14.0	12.0	26.0	19.0	K-V	1365	LCA
tibia				14.0		26.7	20.3	P-Gy	493	EBA
tibia				14.1		27.2	22.1	P-Gy	512	EBA
tibia				14.2		24.4	19.6	D-T	237	EBA
tibia				14.3		25.7	20.8	P-Gy	1075	EBA
tibia				14.5		27.0	20.0	D-T	222	EBA
tibia				14.9		23.6	17.7	Sz-Cs	111	LCA
tibia				15.0	11.0	26.0	19.0	K-V	1365	LCA
tibia				15.0	13.0	26.0	19.0	K-V	1365	LCA
tibia				15.0	12.0	24.0	20.0	K-V	1365	LCA
tibia				15.0	12.0	25.0	19.0	K-V	1365	LCA
tibia				15.0	12.0	25.0	18.0	K-V	1365	LCA
tibia				15.0	13.0	28.0	22.0	K-V	334	LCA
tibia				15.0		25.5	18.9	Sz-Cs	85	EBA
tibia				15.4		28.2	20.4	P-Gy	1075	EBA
tibia				15.8		29.2	22.0	P-Gy	497	EBA
tibia				16.0	13.0	26.0	19.0	K-V	1365	LCA
tibia				16.1		27.7	22.1	P-Gy	1075	EBA
tibia				16.1		30.7	22.7	P-Gy	493	EBA
tibia						29.3	21.6	P-Gy	1049	EBA
tibia						21.7	17.8	Sz-Cs	85	EBA
tibia						23.0	18.0	K-V	1365	LCA
tibia						24.9	20.5	Sz-Cs	150	LCA
tibia						25.6	20.3	P-Gy	1077	EBA
tibia						25.8	19.3	P-Gy	851	EBA
tibia						26.0	19.5	P-Gy	1106	EBA
tibia						26.4	22.2	P-Gy	1078	EBA
tibia						26.6	20.4	P-Gy	1075	EBA
tibia						26.7	21.0	P-Gy	1075	EBA
tibia						26.7	21.6	P-Gy	1062	EBA
tibia						27.2	21.6	P-Gy	1075	EBA
tibia						27.3	20.5	P-Gy	1075	EBA
tibia						27.4	20.4	P-Gy	1075	EBA
tibia						27.7	18.7	P-Gy	1075	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
tibia						27.7	19.1	P-Gy	493	EBA
tibia						27.7	21.0	O-B	1233	EBA
tibia						27.7	21.3	P-Gy	1075	EBA
tibia						27.8	20.6	P-Gy	890	EBA
tibia						27.8	23.4	P-Gy	1075	EBA
tibia						27.9	21.4	P-Gy	1075	EBA
tibia						28.0	20.4	P-Gy	1062	EBA
tibia						28.0	21.3	P-Gy	1062	EBA
tibia						28.0	21.4	P-Gy	871	EBA
tibia						28.0	21.8	P-Gy	1075	EBA
tibia						28.2	23.0	P-Gy	1062	EBA
tibia						28.3	21.0	P-Gy	1075	EBA
tibia						28.3	21.3	P-Gy	512	EBA
tibia						28.4		P-Gy	1075	EBA
tibia						28.5	21.7	P-Gy	1078	EBA
tibia						28.5	21.8	P-Gy	1062	EBA
tibia						28.5	23.0	P-Gy	1075	EBA
tibia						28.5	23.5	P-Gy	1075	EBA
tibia						28.6	22.0	P-Gy	1075	EBA
tibia						28.7	21.2	P-Gy	1075	EBA
tibia						28.7	21.8	P-Gy	1075	EBA
tibia						28.8	21.2	P-Gy	1075	EBA
tibia						29.0	22.1	P-Gy	1062	EBA
tibia						29.0	23.1	P-Gy	1075	EBA
tibia						29.1	22.4	P-Gy	1075	EBA
tibia						29.2	22.0	P-Gy	1077	EBA
tibia						29.2	23.3	P-Gy	1062	EBA
tibia						29.8	21.3	P-Gy	1075	EBA
tibia						30.0	23.7	P-Gy	851	EBA
tibia						30.1	22.3	P-Gy	497	EBA
tibia						30.1	23.0	P-Gy	851	EBA
tibia						30.3	20.6	P-Gy	1014	EBA
tibia						30.3	22.7	P-Gy	1075	EBA
tibia						30.7	21.9	P-Gy	1106	EBA
tibia						31.1	22.1	P-Gy	1062	EBA
tibia						31.6	23.7	P-Gy	1075	EBA
tibia						32.5	23.1	P-Gy	1075	EBA
astragalus	23.0	22.0	13.0	14.0		15.0		K-V	1365	LCA
astragalus	24.0	23.0	13.0	13.0		15.0		K-V	1365	LCA
astragalus	24.0	23.0	13.0	14.0		17.0		K-V	1365	LCA
astragalus	24.0	23.0	13.0	14.0		17.0		K-V	1365	LCA
astragalus	24.0	23.0	13.0	15.0		15.0		K-V	1365	LCA
astragalus	24.0	23.0	14.0	14.0		15.0		K-V	1365	LCA
astragalus	24.0	23.0	14.0	14.0		15.0		K-V	1365	LCA
astragalus	24.0	24.0	13.0	14.0		16.0		K-V	1365	LCA
astragalus	24.0	24.0	13.0	14.0		16.0		K-V	1365	LCA
astragalus	24.0	24.0		14.0				K-V	1365	LCA
astragalus	24.0	25.0	13.0	14.0		15.0		K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
astragalus	24.0	25.0	15.0	14.0		15.0		K-V	1365	LCA
astragalus	25.0	23.0	13.0	15.0		16.0		K-V	1365	LCA
astragalus	25.0	23.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	25.0	23.0	14.0	16.0		17.0		K-V	1365	LCA
astragalus	25.0	23.0		13.0		16.0		K-V	1365	LCA
astragalus	25.0	23.0		15.0		16.0		K-V	1365	LCA
astragalus	25.0	24.0	14.0	14.0		16.0		K-V	1365	LCA
astragalus	25.0	24.0	14.0	15.0		16.0		K-V	1365	LCA
astragalus	25.0	24.0	15.0	14.0		16.0		K-V	1365	LCA
astragalus	25.0	24.0		17.0		17.0		K-V	1365	LCA
astragalus	25.0	25.0	13.0	16.0		13.0		K-V	1365	LCA
astragalus	25.0	25.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	26.0	23.0	13.0	14.0		16.0		K-V	1365	LCA
astragalus	26.0	24.0	13.0	15.0		17.0		K-V	249	LCA
astragalus	26.0	24.0	14.0	14.0		16.0		K-V	1365	LCA
astragalus	26.0	24.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	26.0	24.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	26.0	24.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	26.0	24.0	14.0	15.0		18.0		K-V	1365	LCA
astragalus	26.0	24.0	15.0	14.0		17.0		K-V	1365	LCA
astragalus	26.0	24.0	15.0	15.0		16.0		K-V	1365	LCA
astragalus	26.0	24.0	15.0	15.0		17.0		K-V	1365	LCA
astragalus	26.0	25.0	13.0	14.0		17.0		K-V	1365	LCA
astragalus	26.0	25.0	13.0	15.0		18.0		K-V	1365	LCA
astragalus	26.0	25.0	13.0	16.0		18.0		K-V	1365	LCA
astragalus	26.0	25.0	14.0	13.0		17.0		K-V	1365	LCA
astragalus	26.0	25.0	14.0	14.0		16.0		K-V	1365	LCA
astragalus	26.0	25.0	14.0	15.0		16.0		K-V	1365	LCA
astragalus	26.0	25.0	14.0	15.0		16.0		K-V	1365	LCA
astragalus	26.0	25.0	14.0	15.0		16.0		K-V	1365	LCA
astragalus	26.0	25.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	26.0	25.0	15.0	15.0		18.0		K-V	1365	LCA
astragalus	26.0	25.0		16.0		17.0		K-V	1365	LCA
astragalus	26.0	26.0	14.0	14.0		17.0		K-V	1365	LCA
astragalus	26.0	26.0	15.0	16.0		17.0		K-V	1365	LCA
astragalus	26.3		15.6	14.3		17.3		P-Gy	851	EBA
astragalus	27.0	24.0	13.0	14.0		18.0		K-V	1365	LCA
astragalus	27.0	25.0	13.0	16.0		17.0		K-V	1365	LCA
astragalus	27.0	25.0	14.0	15.0		16.0		K-V	1365	LCA
astragalus	27.0	25.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	27.0	25.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	27.0	25.0	14.0	16.0		17.0		K-V	1365	LCA
astragalus	27.0	25.0	14.0	16.0		17.0		K-V	1365	LCA
astragalus	27.0	25.0	14.0	16.0		18.0		K-V	1365	LCA
astragalus	27.0	25.0	15.0	15.0		17.0		K-V	1365	LCA
astragalus	27.0	25.0	15.0	16.0		17.0		K-V	1365	LCA
astragalus	27.0	25.0	15.0	16.0		17.0		K-V	1365	LCA
astragalus	27.0	26.0	13.0	12.0		16.0		K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
astragalus	27.0	26.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	27.0	26.0	15.0	16.0		17.0		K-V	1365	LCA
astragalus	27.0	26.0	15.0	16.0		17.0		K-V	1365	LCA
astragalus	27.0	26.0	15.0	16.0		17.0		K-V	1365	LCA
astragalus	27.0	26.0	15.0	17.0		17.0		K-V	1365	LCA
astragalus	27.0	27.0	15.0	16.0		17.0		K-V	1365	LCA
astragalus	27.0	29.0	15.0	16.0		18.0		K-V	407	LCA
astragalus	27.9		16.0	15.7		17.4		P-Gy	871	EBA
astragalus	27.9		17.0	15.4		18.5		P-Gy	1061	EBA
astragalus	28.0	26.0	15.0	16.0		18.0		K-V	1365	LCA
astragalus	28.0	26.0	15.0	16.0		18.0		K-V	1365	LCA
astragalus	28.0	27.0	15.0	16.0		18.0		K-V	1365	LCA
astragalus	28.0	28.0	14.0	15.0		18.0		K-V	1365	LCA
astragalus	28.1		16.2	15.5		18.0		P-Gy	889	EBA
astragalus	28.3		16.4	16.0		18.7		P-Gy	1062	EBA
astragalus	29.0	26.0	14.0	15.0		17.0		K-V	1365	LCA
astragalus	29.0	27.0	13.0	16.0		18.0		K-V	1365	LCA
astragalus	29.0	27.0	14.0	16.0		18.0		K-V	1365	LCA
astragalus	29.0	27.0	15.0	14.0		19.0		K-V	1365	LCA
astragalus	29.0	27.0	15.0	17.0		19.0		K-V	1365	LCA
astragalus	29.0	27.0		17.0		17.0		K-V	1365	LCA
astragalus	29.0	28.0	16.0	18.0		20.0		K-V	621	EBA
astragalus	29.0	29.0	16.0	18.0		19.0		K-V	222	LCA
astragalus	29.3		17.1	16.8		18.8		P-Gy	1062	EBA
astragalus	29.3		18.8	16.7		19.0		P-Gy	1075	EBA
astragalus	29.6		17.7	15.8		20.5		P-Gy	1062	EBA
astragalus	29.9		17.6	16.9		19.2		O-B	1140	EBA (K)
astragalus	30.0		18.5	16.4		19.6		P-Gy	1075	EBA
astragalus	30.0			18.0		20.4		P-Gy	851	EBA
astragalus	30.1		17.7	17.2		18.8		P-Gy	1077	EBA
astragalus	30.3		17.3	16.9		19.2		P-Gy	836	EBA
astragalus	30.3		17.8	16.5		19.1		P-Gy	858	EBA
astragalus	30.3		18.3	17.2		20.0		P-Gy	512	EBA
astragalus	30.5		18.7	16.6		19.3		P-Gy	493	EBA
astragalus	30.6		17.7	16.9		20.7		P-Gy	1075	EBA
astragalus	30.6			15.8				P-Gy	493	EBA
astragalus	30.8		18.5	17.4		20.6		P-Gy	1066	EBA
astragalus	30.9		17.6	16.9		20.2		P-Gy	1075	EBA
astragalus	31.0	29.0	15.0	19.0		20.0		K-V	188	EBA
astragalus	31.0	29.0	16.0	17.0		22.0		K-V	467	EBA
astragalus	31.0		18.1	17.2		19.3		P-Gy	1075	EBA
astragalus	31.3			17.3				P-Gy	1075	EBA
astragalus	31.4		18.9	16.7		20.5		P-Gy	493	EBA
astragalus	31.4		19.1	17.3		21.1		P-Gy	871	EBA
astragalus	31.5		18.9	18.4		21.2		P-Gy	1014	EBA
astragalus	31.5		19.2	17.7		21.1		P-Gy	1075	EBA
astragalus	31.8			17.5		20.5		P-Gy	1078	EBA
astragalus	32.0	30.0	17.0	18.0		20.0		K-V	258	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
astragalus	32.0		18.2	18.2		21.5		P-Gy	1078	EBA
astragalus	32.1		18.4	17.4		21.4		P-Gy	1075	EBA
astragalus	32.2		18.8	18.0		21.3		P-Gy	493	EBA
astragalus	32.5		18.5	17.8		20.6		P-Gy	1061	EBA
astragalus	32.6		20.1	18.8				P-Gy	493	EBA
astragalus	34.0	32.0	17.0	19.0		22.0		K-V	431	EBA
astragalus		24.0	14.0	16.0		17.0		K-V	1365	LCA
astragalus		24.0		15.0				K-V	1365	LCA
astragalus		25.0	14.0					K-V	1365	LCA
astragalus		27.0	14.0	14.0		17.0		K-V	1365	LCA
calcaneus	48.0	19.0						K-V	1365	LCA
calcaneus	48.0							K-V	1365	LCA
calcaneus	49.0	18.0						K-V	1365	LCA
calcaneus	49.0	18.0						K-V	1365	LCA
calcaneus	49.0	19.0						K-V	1365	LCA
calcaneus	49.7	17.3						K-V	106	EBA
calcaneus	50.0	17.0						K-V	1365	LCA
calcaneus	50.0	18.0						K-V	1365	LCA
calcaneus	51.0	18.0						K-V	249	LCA
calcaneus	51.0	18.0						K-V	1365	LCA
calcaneus	51.0	18.0						K-V	1365	LCA
calcaneus	51.0	18.0						K-V	1365	LCA
calcaneus	51.0	18.0						K-V	1365	LCA
calcaneus	51.0	19.0						K-V	1365	LCA
calcaneus	51.0	19.0						K-V	1365	LCA
calcaneus	52.0	16.0						K-V	1365	LCA
calcaneus	52.0	17.0						K-V	1365	LCA
calcaneus	52.0	17.0						K-V	1365	LCA
calcaneus	52.0	18.0						K-V	1365	LCA
calcaneus	52.0	18.0						K-V	1365	LCA
calcaneus	52.0	18.0						K-V	1365	LCA
calcaneus	52.0	18.0						K-V	1365	LCA
calcaneus	52.0	18.0						K-V	1365	LCA
calcaneus	52.0	18.0						K-V	1365	LCA
calcaneus	52.0	18.0						K-V	1365	LCA
calcaneus	52.0	18.0						K-V	1365	LCA
calcaneus	52.0	18.0						K-V	1365	LCA
calcaneus	52.0	19.0						K-V	1365	LCA
calcaneus	52.0	22.0						K-V	1365	LCA
calcaneus	53.0	17.0						K-V	1365	LCA
calcaneus	53.0	19.0						K-V	1365	LCA
calcaneus	53.0	19.0						K-V	1365	LCA
calcaneus	53.0	19.0						K-V	1365	LCA
calcaneus	53.0	19.0						K-V	1365	LCA
calcaneus	53.0	19.0						K-V	1365	LCA
calcaneus	53.0	19.0						K-V	1365	LCA
calcaneus	54.0	18.0						K-V	1365	LCA
calcaneus	54.0	18.0						K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
calcaneus	54.8	14.9						P-Gy	1106	EBA
calcaneus	55.0	18.0						K-V	1365	LCA
calcaneus	56.3	17.6						P-Gy	1075	EBA
calcaneus	56.8							D-T	212	EBA
calcaneus	58.7	21.0						P-Gy	496	EBA
calcaneus	63.0	23.0						K-V	61	LCA
calcaneus	63.0	21.2						Sz-Cs	121	LCA
centrotarsale	18.0							K-V	1365	LCA
centrotarsale	18.0							K-V	249	LCA
centrotarsale	18.0							K-V	1365	LCA
centrotarsale	18.0							K-V	1365	LCA
centrotarsale	18.0							K-V	1365	LCA
centrotarsale	19.0							K-V	1365	LCA
centrotarsale	19.0							K-V	1365	LCA
centrotarsale	19.0							K-V	1365	LCA
centrotarsale	19.0							K-V	1365	LCA
centrotarsale	20.0							K-V	1365	LCA
centrotarsale	20.0							K-V	1365	LCA
centrotarsale	20.0							K-V	1365	LCA
centrotarsale	20.0							K-V	1365	LCA
centrotarsale	20.0							K-V	1365	LCA
centrotarsale	20.0							K-V	1365	LCA
centrotarsale	20.0							K-V	1365	LCA
centrotarsale	20.0							K-V	1365	LCA
centrotarsale	20.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	21.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	22.0							K-V	1365	LCA
centrotarsale	23.0							K-V	1365	LCA
centrotarsale	23.0							K-V	1365	LCA
centrotarsale	24.0							K-V	1365	LCA
centrotarsale	24.0							K-V	383	EBA
metatarsus	115.0	18.0	18.0	11.0	9.0		14.0	K-V	1365	LCA
metatarsus	117.0	19.0	18.0	10.0	9.0	22.0	15.0	K-V	1365	LCA
metatarsus	121.0	18.0	19.0	11.0	8.0	21.0	15.0	K-V	1365	LCA
metatarsus	122.0	17.0	18.0	11.0	9.0	23.0	15.0	K-V	1365	LCA
metatarsus	122.0	18.0	18.0	11.0	9.0	23.0	14.0	K-V	1365	LCA
metatarsus	122.0	19.0	18.0	12.0	9.0	23.0	15.0	K-V	1365	LCA
metatarsus	123.0	18.0	18.0	12.0	9.0	22.0	14.0	K-V	1365	LCA
metatarsus	123.0	19.0	18.0	11.0	9.0	22.0	14.0	K-V	1365	LCA
metatarsus	125.0	18.0	19.0	12.0	9.0	22.0	15.0	K-V	1365	LCA
metatarsus	126.0	18.0	18.0	11.0	9.0	23.0	15.0	K-V	1365	LCA
metatarsus	126.0	18.0	19.0	11.0	10.0	22.0	14.0	K-V	249	LCA
metatarsus	126.0	19.0	19.0	11.0	9.0	23.0	15.0	K-V	1365	LCA
metatarsus	126.0	21.0	18.0	12.0	11.0	23.0	15.0	K-V	1365	LCA
metatarsus	127.0	18.0	17.0	10.0	9.0	22.0	15.0	P-Gy	563	LCA
metatarsus	127.0	18.0	19.0	12.0	10.0	23.0	15.0	K-V	1365	LCA
metatarsus	128.0	19.0	19.0	11.0	10.0	23.0	15.0	K-V	1365	LCA
metatarsus	128.0	19.0	19.0	11.0	8.0	23.0	16.0	K-V	1365	LCA
metatarsus	128.0	19.0	19.0	11.0	9.0	23.0	16.0	K-V	1365	LCA
metatarsus	129.0	18.0	18.0	12.0	9.0		14.0	K-V	1365	LCA
metatarsus	129.0	19.0	19.0	11.0	9.0	23.0	15.0	K-V	1365	LCA
metatarsus	129.0	19.0	20.0	12.0	9.0	23.0	15.0	K-V	1365	LCA
metatarsus	131.0	18.0	19.0	12.0	9.0	22.0	14.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
metatarsus	133.0	19.0	19.0	13.0	11.0	23.0	16.0	K-V	1365	LCA
metatarsus	133.0	19.0	20.0	12.0	9.0		15.0	K-V	1365	LCA
metatarsus	133.0	21.0	19.0	13.0	12.0	24.0	16.0	K-V	1365	LCA
metatarsus	135.0	19.0	19.0	11.0	10.0	23.0	16.0	K-V	1365	LCA
metatarsus	137.0	20.0	19.0	12.0	10.0	23.0	16.0	K-V	1365	LCA
metatarsus	138.0	19.0	19.0	11.0	10.0	24.0	15.0	K-V	1365	LCA
metatarsus	142.3	21.5	21.2	12.3		25.0	17.8	P-Gy	493	EBA
metatarsus		16.0	18.0	9.0	9.0			K-V	1365	LCA
metatarsus		17.0	18.0	11.0	11.0			K-V	1365	LCA
metatarsus		17.6	18.0					Sz-Cs	108	LCA
metatarsus		18.0	18.0	10.0	10.0			K-V	1217	LCA
metatarsus		18.0	18.0	10.0	12.0			K-V	1365	LCA
metatarsus		18.0	18.0	10.0	10.0			K-V	1365	LCA
metatarsus		18.0	18.0	11.0	10.0			K-V	1365	LCA
metatarsus		18.0	18.0	11.0	10.0			K-V	1365	LCA
metatarsus		18.0	18.0	12.0	9.0			K-V	1365	LCA
metatarsus		18.0	18.0	12.0	10.0			K-V	1365	LCA
metatarsus		18.0	18.0	12.0	9.0			K-V	1365	LCA
metatarsus		18.0	18.0	12.0				K-V	1365	LCA
metatarsus		18.0	18.0					K-V	1365	LCA
metatarsus		18.0	18.0					K-V	1365	LCA
metatarsus		18.0	19.0	11.0	10.0			K-V	1365	LCA
metatarsus		18.0	19.0	11.0	9.0			K-V	1365	LCA
metatarsus		18.0	19.0					K-V	1365	LCA
metatarsus		18.0	20.0	11.0	9.0			K-V	1365	LCA
metatarsus		19.0	18.0	11.0	11.0			K-V	1365	LCA
metatarsus		19.0	18.0	12.0	12.0			K-V	1365	LCA
metatarsus		19.0	19.0	10.0	9.0			P-Gy	40	LCA
metatarsus		19.0	19.0	11.0	13.0			K-V	1365	LCA
metatarsus		19.0	19.0	11.0	9.0			K-V	1365	LCA
metatarsus		19.0	19.0	11.0				K-V	1365	LCA
metatarsus		19.0	19.0	11.0	10.0			K-V	1365	LCA
metatarsus		19.0	19.0	11.0	13.0			K-V	1365	LCA
metatarsus		19.0	19.0	11.0	9.0			K-V	1365	LCA
metatarsus		19.0	19.0	12.0				K-V	1365	LCA
metatarsus		19.0	20.0	11.0	8.0			K-V	1365	LCA
metatarsus		19.0	20.0	13.0	10.0			K-V	1365	LCA
metatarsus		19.0	20.0					K-V	1365	LCA
metatarsus		19.0	21.0	12.0	9.0			K-V	1365	LCA
metatarsus		20.0	19.0	12.0	12.0			K-V	1365	LCA
metatarsus		20.0	19.0	12.0	9.0			K-V	1365	LCA
metatarsus		20.0	21.0	12.0	10.0			K-V	1365	LCA
metatarsus		20.0	21.0	12.0	12.0			K-V	1365	LCA
metatarsus		20.3	21.5					P-Gy	1114	EBA
metatarsus		21.1	20.6					P-Gy	512	EBA
metatarsus		21.5						P-Gy	493	EBA
metatarsus		21.9	21.1					P-Gy	1062	EBA
metatarsus		22.8	22.5					P-Gy	496	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
metatarsus		22.8	23.7					P-Gy	1010	EBA
metatarsus				10.0	9.0	22.0	14.0	K-V	1365	LCA
metatarsus				10.0	9.0	21.0	14.0	K-V	1365	LCA
metatarsus				10.3		22.2	15.2	Sz-Cs	69	LCA
metatarsus				11.0	9.0	23.0	17.0	K-V	626	LCA
metatarsus				11.0	9.0			K-V	1365	LCA
metatarsus				11.0	11.0	23.0	15.0	K-V	1365	LCA
metatarsus				11.0	9.0	23.0	16.0	K-V	1365	LCA
metatarsus				11.0	10.0			K-V	1365	LCA
metatarsus				11.0	10.0	24.0	16.0	K-V	1365	LCA
metatarsus				11.0	9.0	22.0	15.0	K-V	1365	LCA
metatarsus				11.0	9.0	22.0	15.0	K-V	1365	LCA
metatarsus				12.0	9.0	23.0	15.0	K-V	1365	LCA
metatarsus				12.0	10.0	22.0	15.0	K-V	1365	LCA
metatarsus				12.0	9.0		14.0	K-V	1365	LCA
metatarsus				12.0	9.0	22.0	14.0	K-V	1365	LCA
metatarsus				12.0	11.0	23.0	16.0	K-V	1365	LCA
metatarsus				12.6		27.6	17.4	P-Gy	851	EBA
metatarsus				13.0	11.0	23.0		K-V	76	LCA
metatarsus				13.0	9.0			K-V	1365	LCA
metatarsus				13.0		24.4	17.4	P-Gy	724	EBA
metatarsus				14.2		26.7	17.8	P-Gy	1114	EBA
metatarsus				19.0	19.0	12.0	10.0	K-V	239	EBA
metatarsus				21.0	22.0	13.0	11.0	K-V	449	EBA
metatarsus						22.0	15.0	K-V	1365	LCA
metatarsus						22.0	15.0	K-V	1365	LCA
metatarsus						23.0	15.0	K-V	1365	LCA
metatarsus						23.0	15.0	K-V	1365	LCA
metatarsus						23.0	16.0	K-V	1365	LCA
metatarsus						26.7	17.5	O-B	1233	EBA, K
metatarsus						28.0	19.4	P-Gy	851	EBA
metatarsus						28.1	19.1	P-Gy	851	EBA
phalanx proximalis	31.0	11.0	13.0	9.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx proximalis	31.0	12.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	31.0	12.0	13.0	11.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	31.0			11.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	32.0	10.0	12.0	9.0	9.0			K-V	1365	LCA
phalanx proximalis	32.0	10.0	13.0	8.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	32.0	10.0	14.0	9.0	7.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	32.0	10.0	14.0	9.0	7.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	32.0	11.0	13.0	9.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx proximalis	32.0	11.0	13.0	8.0	7.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	32.0	11.0	13.0	8.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	32.0	11.0	13.0	8.0	7.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	32.0	11.0	13.0	9.0	8.0	10.0	8.0	K-V	1365	LCA
phalanx proximalis	32.0	11.0	13.0	9.0	7.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	32.0	11.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	32.0	11.0	14.0	9.0	8.0	10.0	8.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx proximalis	32.0	12.0	13.0	10.0	8.0	10.0	11.0	K-V	1365	LCA
phalanx proximalis	32.0	12.0	13.0	11.0	9.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	32.0	12.0	13.0	9.0	8.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	32.0	12.0	13.0	11.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	32.0	12.0	14.0	8.0	7.0	10.0	7.0	K-V	1365	LCA
phalanx proximalis	32.0	13.0	13.0	10.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	33.0	9.0	13.0	9.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	10.0	12.0	9.0	7.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	10.0	12.0	10.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	10.0	12.0	8.0	7.0	10.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	10.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	12.0	8.0	7.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	12.0	8.0	8.0	10.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	8.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	11.0	9.0	10.0	10.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	8.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	7.0	10.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	7.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	10.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	10.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	13.0	9.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	14.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	11.0	14.0	9.0	9.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	12.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	12.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	9.0	8.0	10.0	10.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	9.0	10.0	10.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	8.0	7.0	10.0	8.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	9.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	10.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	9.0	8.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	10.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	13.0	9.0	8.0		9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	14.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	14.0	9.0	8.0	11.0	11.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx proximalis	33.0	12.0	14.0	9.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	14.0	11.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	14.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	33.0	12.0	14.0	11.0	8.0			K-V	1365	LCA
phalanx proximalis	33.0	13.0	14.0	9.0	9.0	13.0	10.0	K-V	1365	LCA
phalanx proximalis	33.0		13.0	10.0	9.0	10.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	10.0	13.0	9.0	7.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	7.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	8.0	7.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	9.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	7.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	13.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	14.0	9.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	14.0	8.0	7.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	14.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	11.0	14.0	10.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	12.0	8.0	9.0	9.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	12.0	10.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	12.0	10.0	9.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	9.0	8.0	10.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	9.0	8.0	11.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	10.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	10.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	10.0	9.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	13.0	9.0	8.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	9.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	10.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	10.0	8.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	8.0	10.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	9.0	10.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	8.0	7.0	10.0	9.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx proximalis	34.0	12.0	14.0	10.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	11.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	11.0	10.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	9.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	11.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	11.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	9.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	8.0	9.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	11.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	11.0	8.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	9.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	11.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0	10.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	14.0		9.0		9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	15.0	10.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	15.0	12.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	12.0	15.0	9.0	7.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	13.0	11.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	14.0	10.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	14.0	9.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	14.0	11.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	14.0	11.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	14.0	10.0	8.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	14.0	10.0	10.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0	15.0	9.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0	13.0		10.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	34.0			8.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	11.0	13.0	8.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	11.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	11.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	11.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	11.0	14.0	9.0	7.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	13.0	9.0	9.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	13.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	13.0	9.0	8.0	11.0	8.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	13.0	9.0	8.0	11.0		K-V	1365	LCA
phalanx proximalis	35.0	12.0	13.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	13.0	10.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	13.0	10.0	8.0	12.0	11.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx proximalis	35.0	12.0	13.0	10.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	10.0	9.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	10.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	10.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	10.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	10.0	9.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	11.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	10.0	8.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	11.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	10.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	10.0	8.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	14.0	9.0	8.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	15.0	10.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	35.0	12.0	15.0	9.0	9.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	35.0	13.0	13.0	10.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	35.0	13.0	13.0	10.0	8.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	13.0	13.0	10.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	35.0	13.0	13.0	10.0	9.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	13.0	14.0	12.0	9.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	35.0	13.0	14.0	10.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	35.0	13.0	14.0	11.0	11.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	35.0	13.0	14.0	10.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	35.0	13.0	15.0	11.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	12.0	9.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	13.0	10.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	13.0	11.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	13.0	12.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	13.0	10.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	14.0	9.0	7.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	14.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	14.0	10.0	9.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	14.0	10.0	9.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	14.0	11.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	14.0	9.0	8.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	36.0	12.0	15.0	10.0	9.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	36.0	13.0	13.0	11.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	36.0	13.0	14.0	11.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	36.0	13.0	14.0	11.0	9.0	11.0	11.0	K-V	1365	LCA
phalanx proximalis	36.0	13.0	14.0	9.0	8.0	11.0	9.0	K-V	1365	LCA
phalanx proximalis	36.0	13.0	14.0	13.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	36.0	13.0	14.0	11.0	9.0	12.0		K-V	1365	LCA
phalanx proximalis	36.0	13.0	14.0	12.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	36.0	13.0	15.0	11.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	36.0	14.0	14.0	11.0	9.0	12.0	9.0	K-V	1365	LCA
phalanx proximalis	36.5	13.4		10.9		12.3		P-Gy	1075	EBA
phalanx proximalis	36.5	13.9		11.2		12.1		P-Gy	496	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx proximalis	37.0	12.0	14.0	10.0	9.0	12.0	10.0	K-V	1365	LCA
phalanx proximalis	37.0	12.0	14.0	11.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	37.0	13.0	14.0	12.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	37.0	13.0	14.0	10.0	9.0	12.0	11.0	K-V	1365	LCA
phalanx proximalis	38.0	11.0	15.0	9.0	8.0	10.0	9.0	K-V	1365	LCA
phalanx proximalis	38.0	12.0	14.0	11.0	9.0	13.0	12.0	K-V	1365	LCA
phalanx proximalis	39.0	12.0	14.0	11.0	9.0	13.0	11.0	K-V	1365	LCA
phalanx proximalis	39.0	12.0	14.0	12.0	9.0	13.0	12.0	K-V	1365	LCA
phalanx proximalis	39.2	16.1		12.2		14.1		P-Gy	1038	EBA
phalanx proximalis	39.5	14.5		11.6		13.2		P-Gy	1062	EBA
phalanx proximalis	40.0	11.0	13.0	9.0	8.0	11.0	10.0	K-V	1365	LCA
phalanx proximalis	41.8	13.0		10.8		12.0		P-Gy	512	EBA
phalanx proximalis		11.0	13.0	10.0		10.0		K-V	1365	LCA
phalanx proximalis		11.0	14.0	9.0	8.0			K-V	1365	LCA
phalanx proximalis		12.0	13.0					K-V	1365	LCA
phalanx proximalis		12.0	13.0	10.0	9.0			K-V	1365	LCA
phalanx proximalis		12.0	14.0	10.0				K-V	1365	LCA
phalanx proximalis		12.0	14.0	9.0	7.0			K-V	1365	LCA
phalanx proximalis		12.0		11.0	9.0	12.0	12.0	K-V	1365	LCA
phalanx proximalis		13.0	14.0					K-V	1365	LCA
phalanx proximalis		13.0	14.0	11.0	9.0			K-V	1365	LCA
phalanx medialis	18.0	9.0	10.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	18.0	9.0	9.0	7.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	18.0	10.0	11.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	18.0	10.0	11.0	8.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	18.0	10.0	12.0	9.0	9.0	8.0	11.0	K-V	1365	LCA
phalanx medialis	18.0	11.0	10.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	18.0	11.0	11.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	18.0	11.0	12.0	9.0	9.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	18.0	12.0	12.0	9.0	8.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	9.0	9.0	7.0	8.0	8.0	8.0	K-V	1365	LCA
phalanx medialis	19.0	9.0	10.0	7.0	7.0	7.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	9.0	10.0	7.0	7.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	9.0	10.0	7.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	9.0	10.0	7.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	9.0	11.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	9.0	11.0	7.0	9.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	10.0	8.0	7.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	10.0	8.0	7.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	10.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	10.0	7.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	11.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	11.0	7.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	11.0	7.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	11.0	7.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	11.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	11.0	8.0	9.0	8.0	11.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	11.0	8.0	8.0	8.0	9.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx medialis	19.0	10.0	11.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	11.0	8.0	9.0	9.0	12.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	11.0	8.0	8.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	12.0	8.0	7.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	12.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	12.0	8.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	10.0	12.0	9.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	10.0	9.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	10.0	9.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	10.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	10.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	11.0	8.0	9.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	11.0	9.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	11.0	8.0	9.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	11.0	8.0	9.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	11.0	8.0	8.0		10.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	12.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	12.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	12.0	8.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	12.0	8.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	12.0	8.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	12.0	8.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	12.0	9.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	11.0	12.0	9.0	9.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	12.0	10.0	7.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	19.0	12.0	11.0	8.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	12.0	11.0	8.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	12.0	12.0	9.0	9.0	8.0	11.0	K-V	1365	LCA
phalanx medialis	19.0	12.0	12.0	8.0	9.0	8.0	11.0	K-V	1365	LCA
phalanx medialis	19.0	12.0	12.0	9.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	19.0	12.0	12.0	9.0	8.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	19.0	12.0	13.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	19.0	13.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	19.0		12.0	8.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	9.0	9.0	7.0	7.0	8.0	8.0	K-V	1365	LCA
phalanx medialis	20.0	9.0	10.0	7.0	8.0	7.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	10.0	9.0	7.0	7.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	10.0	10.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	10.0	10.0	8.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	10.0	11.0	8.0	9.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	10.0	11.0	8.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	20.0	10.0	12.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	10.0	12.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	9.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	11.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	11.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	11.0	8.0	9.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	11.0	8.0	7.0	8.0	9.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx medialis	20.0	11.0	11.0	8.0	9.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	11.0	8.0	9.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	11.0	8.0	10.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	11.0	8.0	10.0	9.0	12.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	11.0	8.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	12.0	9.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	12.0	9.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	12.0	9.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	20.0	11.0	12.0	8.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	12.0	11.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	20.0	12.0	12.0	9.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	12.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	20.0	12.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	20.0	12.0	13.0	9.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	20.0	12.0	13.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	9.0	10.0	8.0	8.0	8.0	8.0	K-V	1365	LCA
phalanx medialis	21.0	10.0	10.0	8.0	8.0	7.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	10.0	10.0	8.0	7.0	7.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	10.0	11.0	8.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	10.0	11.0	8.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	10.0	11.0	9.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	10.0	11.0	8.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	10.0	12.0	8.0	7.0	7.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	11.0	8.0	9.0	8.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	11.0	8.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	11.0	8.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	11.0	8.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	12.0	9.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	12.0	8.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	12.0	8.0	9.0	8.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	12.0	8.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	12.0	8.0	8.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	11.0	12.0	8.0	8.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	10.0	9.0	8.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	11.0	8.0	9.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	11.0	8.0	9.0	8.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	11.0	9.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	11.0	9.0	10.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	9.0	9.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	8.0	9.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	10.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	9.0	10.0	9.0	12.0	K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx medialis	21.0	12.0	12.0	9.0	10.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	9.0	9.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	12.0	10.0	9.0	9.0	12.0	K-V	1365	LCA
phalanx medialis	21.0	12.0	13.0	9.0	10.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	13.0	12.0	8.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	13.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	13.0	13.0	9.0	10.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	21.0	13.0	13.0	8.0	10.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	22.0	10.0	10.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	22.0	10.0	10.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	22.0	10.0	11.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	22.0	10.0	12.0	8.0	8.0	8.0	8.0	K-V	1365	LCA
phalanx medialis	22.0	11.0	11.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	22.0	11.0	11.0	8.0	8.0	9.0	9.0	K-V	1365	LCA
phalanx medialis	22.0	11.0	12.0	9.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	22.0	11.0	12.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	22.0	11.0	12.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	22.0	11.0	12.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	22.0	11.0	12.0	8.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	22.0	11.0	13.0	9.0	10.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	22.0	11.0		9.0	10.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	22.0	12.0	11.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	22.0	12.0	12.0	9.0	9.0	9.0	12.0	K-V	1365	LCA
phalanx medialis	22.0	12.0	13.0	8.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	22.0	12.0	13.0	8.0	8.0	9.0	10.0	K-V	1365	LCA
phalanx medialis	22.0	12.0	13.0	10.0	9.0	10.0	11.0	K-V	1365	LCA
phalanx medialis	22.0	13.0	12.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	22.0	13.0	13.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	23.0	9.0	11.0	8.0	8.0	8.0	10.0	K-V	1365	LCA
phalanx medialis	23.0	11.0	12.0	8.0	8.0	8.0	9.0	K-V	1365	LCA
phalanx medialis	23.0	12.0	13.0	9.0	9.0	9.0	11.0	K-V	1365	LCA
phalanx medialis	23.0	12.0	13.0	9.0	10.0	11.0	11.0	K-V	1365	LCA
phalanx medialis	24.0	12.0	13.0	9.0	10.0	10.0	12.0	K-V	1365	LCA
phalanx medialis	25.0	12.0	12.0	10.0	10.0	10.0	13.0	K-V	1365	LCA
phalanx medialis	25.0	13.0	11.0	9.0	11.0	10.0	12.0	K-V	1365	LCA
phalanx medialis	27.0	12.0	12.0	10.0	10.0	10.0	12.0	K-V	1365	LCA
phalanx medialis		11.0	11.0	9.0	9.0			K-V	1365	LCA
phalanx medialis		12.0	10.0					K-V	1365	LCA
phalanx distalis	22.0	15.0		7.0				K-V	1365	LCA
phalanx distalis	22.0	17.0		7.0				K-V	1365	LCA
phalanx distalis	23.0	17.0		7.0				K-V	1365	LCA
phalanx distalis	23.0	18.0						K-V	1365	LCA
phalanx distalis	23.0	19.0		7.0				K-V	1365	LCA
phalanx distalis	24.0	15.0		7.0				K-V	1365	LCA
phalanx distalis	24.0	15.0		8.0				K-V	1365	LCA
phalanx distalis	24.0	16.0		8.0				K-V	1365	LCA
phalanx distalis	24.0	17.0		7.0				K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx distalis	24.0	17.0		8.0				K-V	1365	LCA
phalanx distalis	24.0	19.0		8.0				K-V	1365	LCA
phalanx distalis	25.0	16.0		8.0				K-V	1365	LCA
phalanx distalis	25.0	17.0		8.0				K-V	1365	LCA
phalanx distalis	25.0	17.0		8.0				K-V	1365	LCA
phalanx distalis	25.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	25.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	25.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	25.0	20.0		7.0				K-V	1365	LCA
phalanx distalis	25.0	20.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	17.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	18.0		7.0				K-V	1365	LCA
phalanx distalis	26.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	18.0		9.0				K-V	1365	LCA
phalanx distalis	26.0	19.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	19.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	19.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	19.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	19.0		8.0				K-V	1365	LCA
phalanx distalis	26.0	21.0		7.0				K-V	1365	LCA
phalanx distalis	26.0	22.0		8.0				K-V	1365	LCA
phalanx distalis	26.0			8.0				K-V	1365	LCA
phalanx distalis	27.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	27.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	27.0	18.0		9.0				K-V	1365	LCA
phalanx distalis	27.0	19.0		8.0				K-V	1365	LCA
phalanx distalis	27.0	20.0		8.0				K-V	1365	LCA
phalanx distalis	28.0	17.0		8.0				K-V	1365	LCA
phalanx distalis	28.0	17.0		9.0				K-V	1365	LCA
phalanx distalis	28.0	18.0		8.0				K-V	1365	LCA
phalanx distalis	28.0	18.0		9.0				K-V	1365	LCA
phalanx distalis	28.0	19.0		8.0				K-V	1365	LCA
phalanx distalis	28.0	19.0		9.0				K-V	1365	LCA
phalanx distalis	28.0	19.0		9.0				K-V	1365	LCA
phalanx distalis	28.0	20.0		8.0				K-V	1365	LCA
phalanx distalis	28.0	20.0		8.0				K-V	1365	LCA
phalanx distalis	28.0	20.0		8.0				K-V	1365	LCA
phalanx distalis	28.0	20.0		9.0				K-V	1365	LCA
phalanx distalis	28.0	21.0		8.0				K-V	1365	LCA
phalanx distalis	28.0	21.0		8.0				K-V	1365	LCA
phalanx distalis	29.0	17.0		8.0				K-V	1365	LCA
phalanx distalis	29.0	18.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	18.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	19.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	19.0		9.0				K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Ovis aries* Linnaeus, 1758**										
phalanx distalis	29.0	19.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	19.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	20.0		8.0				K-V	1365	LCA
phalanx distalis	29.0	20.0		8.0				K-V	1365	LCA
phalanx distalis	29.0	20.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	20.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	21.0		8.0				K-V	1365	LCA
phalanx distalis	29.0	21.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	21.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	21.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	22.0		8.0				K-V	1365	LCA
phalanx distalis	29.0	22.0		8.0				K-V	1365	LCA
phalanx distalis	29.0	22.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	22.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	22.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	22.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	22.0		9.0				K-V	1365	LCA
phalanx distalis	29.0	23.0		8.0				K-V	1365	LCA
phalanx distalis	29.0	23.0		9.0				K-V	1365	LCA
phalanx distalis	29.0			9.0				K-V	1365	LCA
phalanx distalis	30.0	20.0		8.0				K-V	1365	LCA
phalanx distalis	30.0	20.0		9.0				K-V	1365	LCA
phalanx distalis	30.0	21.0		8.0				K-V	1365	LCA
phalanx distalis	30.0	22.0		9.0				K-V	1365	LCA
phalanx distalis	30.0	23.0		8.0				K-V	1365	LCA
phalanx distalis	30.7	28.3		12.7				P-Gy	1066	EBA
phalanx distalis	31.0	19.0						K-V	1365	LCA
phalanx distalis	31.0	22.0		9.0				K-V	1365	LCA
phalanx distalis	32.0	22.0		9.0				K-V	1365	LCA
phalanx distalis	32.0	23.0		9.0				K-V	1365	LCA
phalanx distalis		17.0		9.0				K-V	1365	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Capra hircus* Linnaeus, 1758**										
processus cornualis	95.0	30.5						O-B	1140	EBA, K
processus cornualis	90.0							O-B	1140	EBA, K
processus cornualis		31.9	19.5					O-B	1140	EBA, K
UM1 tooth	13.0	8.0						K-V	239	EBA
UM2 tooth	17.0	8.0						K-V	239	EBA
UM2 tooth	17.0	8.0						K-V	239	EBA
UM3 tooth	22.0	8.0						K-V	239	EBA
LM1 tooth	17.0	8.0						K-V	449	EBA
LM1 tooth	17.0	9.0						K-V	730	EBA
LM2 tooth	12.0	7.0						K-V	453	LCA
atlas		65.3		42.2				K-R61	715	MBA
axis	55.5	48.1						K-R61	715	MBA
humerus			27.4			29.0		D-T	237	EBA
humerus				16.0	16.0	29.0	26.0	K-V	462	EBA
humerus				19.0	15.0	32.0	26.0	K-V	262	EBA
humerus						30.0	26.0	K-V	629	LCA
humerus						31.0		Sz-Cs	27	EBA
radius		29.5	16.3	17.7				Sz-Cs	161	LCA
metacarpus		24.0	18.0	14.0	12.0			K-V	258	EBA
metacarpus					11.4	22.7	15.6	Sz-Cs	173	LCA
metacarpus					12.9	25.5		O-B	1140	EBA, K
metacarpus						27.8	17.1	P-Gy	1062	EBA
tibia					16.2	28.7	21.4	O-B	1293	EBA, K
tibia						27.3	20.3	K-R61	715	MBA
astragalus	28.4		16.0	16.3		18.4		D-T	237	EBA
astragalus	28.8		14.8	15.2		18.0		O-B	1233	MBA
metatarsus		21.0	22.0	12.0	11.0			K-V	462	EBA
metatarsus				10.5		21.4	15.0	Sz-Cs	85	EBA
metatarsus				13.0	8.0	23.0	15.0	P-Gy	398	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus domesticus* Erxleben, 1777**										
UM1-3 teeth	64.5							P-Gy	851	EBA
UM1-3 teeth	64.6							P-Gy	1062	EBA
UM1-3 teeth	68.0							P-Gy	1010	EBA
UM1-3 teeth	68.1							P-Gy	754	EBA
UM1-3 teeth	72.7							P-Gy	1062	EBA
UM1 tooth	14.0	12.0						K-V	701	EBA
UM1 tooth	15.0	12.0						K-V	451	LCA
UM1 tooth	15.0	13.0						K-V	1217	LCA
UM1 tooth	15.0	15.0						K-V	701	EBA
UM1 tooth	16.0	12.0						K-V	170	LCA
UM1 tooth	16.0	14.0						K-V	454	LCA
UM1 tooth	16.0	15.0						K-V	701	EBA
UM1 tooth	17.0	11.0						K-V	334	LCA
UM1 tooth	17.0	13.0						K-V	732	EBA
UM1 tooth	18.0	13.0						K-V	462	EBA
UM1 tooth	19.0	12.0						K-V	462	EBA
UM1 tooth	22.0	13.0						K-V	110	EBA
UM2 tooth	17.0	14.0						K-V	701	EBA
UM2 tooth	19.0	15.0						K-V	721	LCA
UM2 tooth	20.0	15.0						K-V	451	LCA
UM2 tooth	20.0	17.0						K-V	454	LCA
UM2 tooth	21.0	17.0						K-V	449	EBA
UM2 tooth	22.0	14.0						K-V	451	LCA
UM2 tooth	22.0	14.0						K-V	334	LCA
UM2 tooth	22.0	15.0						K-V	453	LCA
UM2 tooth	22.0	16.0						K-V	170	LCA
UM2 tooth	22.0	17.0						K-V	778	EBA
UM2 tooth	22.0	17.0						K-V	732	EBA
UM2 tooth	22.0	18.0						K-V	701	EBA
UM2 tooth	22.0	18.0						K-V	701	EBA
UM2 tooth	22.0	18.0						K-V	406	LCA
UM2 tooth	22.0	18.0						K-V	1217	LCA
UM3 tooth	24.5	14.4						P-Gy	1062	EBA
UM3 tooth	28.5	17.7						P-Gy	1062	EBA
UM3 tooth	28.5	19.1						P-Gy	986	EBA
UM3 tooth	29.0	18.0						K-V	454	LCA
UM3 tooth	29.3	20.4						K-V	1258	EBA
UM3 tooth	29.4	19.2						P-Gy	1075	EBA
UM3 tooth	29.5	18.9						P-Gy	1062	EBA
UM3 tooth	30.7	12.5						P-Gy	1075	EBA
UM3 tooth	31.0	19.0						K-V	701	EBA
UM3 tooth	31.2	18.3						P-Gy	851	EBA
UM3 tooth	32.0	17.0						K-V	279	LCA
UM3 tooth	32.0	18.4						P-Gy	1010	EBA
UM3 tooth	32.1	19.0						Sz-Cs	190	LCA
UM3 tooth	32.5	20.0						K-V	1141	EBA
UM3 tooth	32.7	17.8						P-Gy	1075	EBA
UM3 tooth	32.8	15.2						P-Gy	1078	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus domesticus* Erxleben, 1777**										
UM3 tooth	32.8	18.0						P-Gy	1075	EBA
UM3 tooth	33.0	17.0						K-V	453	LCA
UM3 tooth	33.0	17.0						K-V	451	LCA
UM3 tooth	33.0	18.8						P-Gy	754	EBA
UM3 tooth	33.0	19.4						P-Gy	1075	EBA
UM3 tooth	33.0	21.0						K-V	1217	LCA
UM3 tooth	33.3	19.9						P-Gy	1062	EBA
UM3 tooth	33.4	19.9						P-Gy	1075	EBA
UM3 tooth	33.7	18.2						P-Gy	1075	EBA
UM3 tooth	34.0	14.6						D-T	429	EBA
UM3 tooth	34.6	19.9						O-B	1212	EBA. K
UM3 tooth	37.0	18.0						K-V	462	EBA
UM3 tooth	37.0	21.0						K-V	701	EBA
UM3 tooth	37.1	16.0						P-Gy	1062	EBA
LP1-M3 teeth	70.6							P-Gy	851	EBA
LP1-M3 teeth	72.2							P-Gy	851	EBA
LP1-M3 teeth	75.0							P-Gy	493	EBA
LM1 tooth	14.0	13.0						K-V	462	EBA
LM1 tooth	16.0	11.0						K-V	276	LCA
LM1 tooth	16.0	12.0						K-V	279	LCA
LM1 tooth	17.0	14.0						K-V	462	EBA
LM2 tooth	20.0	13.0						K-V	462	EBA
LM2 tooth	20.0	17.0						K-V	462	EBA
LM2 tooth	21.0	14.0						K-V	462	EBA
LM2 tooth	22.0	13.0						K-V	276	LCA
LM2 tooth	22.0	16.0						K-V	279	LCA
LM2 tooth	23.0	14.0						K-V	462	EBA
LM3 tooth	28.6	15.4						P-Gy	1075	EBA
LM3 tooth	29.7	14.6						K-V	252	EBA
LM3 tooth	30.1	18.7						P-Gy	1078	EBA
LM3 tooth	30.4	15.3						O-B	1465	EBA. K
LM3 tooth	30.9	14.6						P-Gy	1062	EBA
LM3 tooth	31.2	15.1						P-Gy	1075	EBA
LM3 tooth	31.4	14.9						P-Gy	1062	EBA
LM3 tooth	31.4	15.0						Sz-Cs	121	LCA
LM3 tooth	31.6	15.1						Sz-Cs	45	LCA
LM3 tooth	31.7	13.5						P-Gy	500	EBA
LM3 tooth	31.7	14.1						P-Gy	1075	EBA
LM3 tooth	32.0	16.0						K-V	462	EBA
LM3 tooth	32.5	14.4						P-Gy	1075	EBA
LM3 tooth	32.8	15.4						P-Gy	894	EBA
LM3 tooth	33.0	15.2						K-V	1141	EBA
LM3 tooth	33.0	19.0						K-V	462	EBA
LM3 tooth	33.1	17.6						K-V	355	EBA
LM3 tooth	33.2	15.3						P-Gy	1072	EBA
LM3 tooth	33.2	15.5						O-B	1140	EBA. K
LM3 tooth	33.3	15.3						P-Gy	1062	EBA
LM3 tooth	33.4	16.3						K-V	1258	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus domesticus* Erxleben, 1777**										
LM3 tooth	33.5	14.8						O-B	1233	EBA. K
LM3 tooth	33.6	16.1						D-T	429	EBA
LM3 tooth	34.0	15.2						P-Gy	493	EBA
LM3 tooth	34.0	17.0						K-V	258	EBA
LM3 tooth	34.1	16.5						P-Gy	1075	EBA
LM3 tooth	34.7	15.0						P-Gy	858	EBA
LM3 tooth	34.8	15.1						O-B	1233	EBA. K
LM3 tooth	35.0	14.4						D-T	205	EBA
LM3 tooth	35.0	15.0						K-V	276	LCA
LM3 tooth	35.3	16.5						O-B	1293	EBA. K
LM3 tooth	35.5	15.4						P-Gy	493	EBA
LM3 tooth	35.7	16.1						P-Gy	1049	EBA
LM3 tooth	35.7	18.0						O-B	1233	EBA. K
LM3 tooth	36.0	14.3						P-Gy	851	EBA
LM3 tooth	36.0	17.0						K-V	279	LCA
LM3 tooth	36.3	16.1						K-V	1005	EBA
LM3 tooth	36.3	21.7						O-B	1448	EBA. K
LM3 tooth	37.0	16.0						K-V	258	EBA
LM3 tooth	37.0	16.0						K-V	462	EBA
LM3 tooth	37.2	13.2						P-Gy	851	EBA
LM3 tooth	38.0	17.0						K-V	1217	LCA
atlas	42.7	72.0						P-Gy	717	EBA
atlas	43.0							K-V	462	EBA
atlas	45.3	77.0						P-Gy	825	EBA
axis		55.5						K-V	1154	EBA
scapula	159.3	33.1		22.1				K-V	1355	EBA
scapula	160.8	35.6		22.2				K-V	1355	EBA
scapula		30.0		22.6	19.8			D-T	483	EBA
scapula		34.1			21.6			O-B	1280	EBA. K
scapula		34.3		21.7				P-Gy	493	EBA
scapula		34.4		23.1	23.6			P-Gy	1075	EBA
scapula		34.4		23.6	21.7			P-Gy	1075	EBA
scapula		35.0	29.0	24.0	22.0			K-V	737	EBA
scapula		36.0	29.0	23.0	20.0			P-Gy	399	LCA
scapula		36.0		25.1	25.3			O-B	1260	EBA. K
scapula		36.2		25.3	23.4			K-R61	518	MBA
scapula		36.3		24.9	23.4			Sz-Cs	27	EBA
scapula		36.6		27.3				D-T	429	EBA
scapula		37.8		25.6				K-V	353	EBA
scapula		38.0		27.0	26.1			O-B	1465	EBA. K
scapula		38.6		27.2	26.4			O-B	1233	EBA. K
scapula		40.0	35.0	27.0	24.0			K-V	462	EBA
humerus	196.0	48.0	61.0	16.0	24.0	35.0	35.0	P-Gy	399	LCA
humerus		41.0	60.0	15.0	24.0			P-Gy	399	LCA
humerus				15.3		37.8	38.1	P-Gy	857	EBA
humerus				15.6		36.4	36.1	P-Gy	1062	EBA
humerus				15.8		37.1	37.9	P-Gy	1075	EBA
humerus				15.8		40.5	40.0	P-Gy	949	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus domesticus* Erxleben, 1777**										
humerus				17.0		40.0		K-V	401	LCA
humerus				17.1		41.8		P-Gy	497	EBA
humerus				17.7		33.8		K-V	1258	EBA
humerus				17.8		41.8	42.0	K-R61	351	MBA
humerus				18.0	27.0	43.0		K-V	262	EBA
humerus				18.0	28.0	42.0	41.0	K-V	451	LCA
humerus				18.0		39.0	43.0	K-V	110	EBA
humerus				19.0		43.0	42.1	P-Gy	1075	EBA
humerus				20.0		43.0	45.0	K-V	462	EBA
humerus				20.6		45.6		O-B	1140	EBA. K
humerus						41.1	40.7	K-R61	273	MBA
humerus						43.7	46.4	D-T	356	EBA
humerus						39.4	39.5	D-T	429	EBA
humerus						33.0	38.2	K-V	336	LCA
humerus						30.5	35.7	K-V	608	LCA
humerus						38.9	39.0	Sz-Cs	45	LCA
humerus						42.0	41.2	Sz-Cs	190	LCA
humerus						40.0	39.4	O-B	1140	EBA. K
humerus						36.5	41.9	P-Gy	1077	EBA
humerus						38.0	38.5	P-Gy	851	EBA
humerus						38.4	37.0	P-Gy	1075	EBA
humerus						39.2	36.5	P-Gy	894	EBA
humerus						39.5	39.0	P-Gy	1114	EBA
humerus						40.0	40.0	P-Gy	1106	EBA
humerus						40.3	39.4	P-Gy	1062	EBA
humerus						40.8	39.8	P-Gy	851	EBA
humerus						40.9	43.3	P-Gy	857	EBA
humerus						41.5	42.2	P-Gy	1075	EBA
humerus						41.7	39.5	P-Gy	1075	EBA
humerus						42.7	43.2	P-Gy	1062	EBA
humerus						42.7	43.2	P-Gy	1075	EBA
humerus						42.9	42.5	P-Gy	1075	EBA
humerus						43.2	43.2	P-Gy	512	EBA
humerus						44.3	42.5	P-Gy	1075	EBA
humerus						47.1	39.4	P-Gy	1114	EBA
radius	290.0		18.0	19.0	13.0			P-Gy	399	LCA
radius		26.0	18.4					P-Gy	493	EBA
radius		27.0	19.4					P-Gy	1075	EBA
radius		27.7	19.0					P-Gy	1075	EBA
radius		27.8	19.0					P-Gy	1078	EBA
radius		27.8	19.4					P-Gy	851	EBA
radius		28.0	17.9					Sz-Cs	27	EBA
radius		28.0	18.0	17.0	10.0			P-Gy	399	LCA
radius		28.3	18.4					O-B	1195	MBA
radius		28.8	20.5					P-Gy	1075	EBA
radius		29.1	19.3					P-Gy	1075	EBA
radius		29.1	19.8					D-T	212	EBA
radius		29.3	20.8					P-Gy	1062	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus domesticus* Erxleben, 1777**										
radius		29.4	21.5					K-V	1037	EBA
radius		29.5	21.4			29.6	26.2	P-Gy	851	EBA
radius		29.8	20.0					P-Gy	1075	EBA
radius		29.8	21.6	19.1				O-B	1169	LCA
radius		30.0	19.0	19.0	11.0			K-V	188	EBA
radius		30.3	20.7					D-T	212	EBA
radius		30.6	21.6					K-V	1141	EBA
radius		31.0	21.0					K-V	259	EBA
radius		31.0	21.7					P-Gy	1075	EBA
radius		31.1	21.8					P-Gy	497	EBA
radius		31.2	21.3					O-B	1233	EBA. K
radius		31.3	23.9					Sz-Cs	156	LCA
radius		31.5	20.9	19.9				D-T	274	EBA
radius		31.5	22.1					P-Gy	1038	EBA
radius		31.5	25.7					P-Gy	1075	EBA
radius		32.0	21.0	20.0	13.0			K-V	701	EBA
radius		32.0	21.0	20.0	14.0			K-V	449	EBA
radius		33.0	22.0	20.0	13.0			K-V	462	EBA
radius		33.0	22.3					P-Gy	1062	EBA
radius		33.8	17.5					P-Gy	1075	EBA
radius		34.0	23.0	21.0	13.0	30.0	22.0	K-V	462	EBA
radius		36.2	25.6					K-V	1037	EBA
radius				20.0	13.0	31.0	17.0	P-Gy	399	LCA
radius						29.7	26.0	O-B	1233	MBA
radius						31.2	27.4	P-Gy	1075	EBA
radius						36.2	27.5	P-Gy	493	EBA
ulna		17.0	35.0	28.0				K-V	401	LCA
ulna		17.0						K-V	279	LCA
ulna		19.0	27.0					K-V	334	LCA
ulna		19.0	36.0	28.0				K-V	780	LCA
ulna		19.0						K-V	453	LCA
ulna		19.0						K-V	278	LCA
ulna		19.0						K-V	401	LCA
ulna		20.0	32.0					K-V	701	EBA
ulna		20.0	34.0	29.0				K-V	462	EBA
ulna		20.0	37.0	27.0				P-Gy	399	LCA
ulna		21.0	35.0					K-V	401	LCA
ulna		22.0	36.0	30.0				K-V	449	EBA
ulna		22.0	38.0					K-V	462	EBA
ulna		22.0	39.0	30.0				K-V	249	LCA
ulna		23.0	37.0	28.0				K-V	428	LCA
ulna		24.0	38.0					K-V	262	EBA
ulna			24.0	21.0				K-V	652	LCA
metacarpus II	56.6							D-T	429	EBA
metacarpus II	74.7							D-T	429	EBA
metacarpus III	73.0	20.0	16.0	14.0	10.0	15.0	14.0	K-V	963	LCA
metacarpus III	74.8							D-T	429	EBA
metacarpus III	78.5	15.8		13.9	16.8			D-T	280	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus domesticus* Erxleben, 1777**										
metacarpus III	83.7	14.2	12.0	15.6	16.8			D-T	309	EBA
metacarpus IV	73.0	16.0	15.0	13.0	13.0	15.0	16.0	K-V	279	LCA
metacarpus IV	74.0	13.0	14.0	11.0	10.0	14.0	15.0	P-Gy	399	LCA
metacarpus IV	76.0							D-T	429	EBA
metacarpus IV	79.1	16.7		11.6	15.8			D-T	280	EBA
metacarpus IV		16.0	17.0					K-V	110	EBA
metacarpus V	56.1			5.9				K-R61	565	MBA
metacarpus V	79.1				16.6			D-T	318	EBA
pelvis		26.5						K-V	126	EBA
pelvis		29.0		15.0	23.0			P-Gy	399	LCA
pelvis		31.0						K-V	159	EBA
pelvis		31.0						K-V	60	LCA
pelvis		31.6						P-Gy	1062	EBA
pelvis		31.7						P-Gy	1078	EBA
pelvis		32.5						P-Gy	851	EBA
pelvis		32.8						P-Gy	1104	EBA
pelvis		33.0		12.0	22.0			K-V	188	EBA
pelvis		33.4						Sz-Cs	173	LCA
pelvis		34.0		11.0	21.0			K-V	188	EBA
pelvis		34.0						K-V	1318	EBA
pelvis		34.8						K-V	1258	EBA
pelvis		34.8						P-Gy	1061	EBA
pelvis		35.0						P-Gy	497	EBA
pelvis		35.5						P-Gy	1054	EBA
pelvis		35.6						P-Gy	851	EBA
pelvis		35.6						P-Gy	1078	EBA
pelvis		35.8						K-V	608	LCA
pelvis		36.0		14.0	27.0			K-V	110	EBA
pelvis		36.2						O-B	1260	EBA. K
pelvis		36.2						P-Gy	1061	EBA
pelvis		36.5						K-V	115	EBA
pelvis		36.6						P-Gy	497	EBA
pelvis		36.6						P-Gy	1075	EBA
pelvis		36.9						Sz-Cs	55	LCA
pelvis		37.0		14.0	24.0			K-V	278	LCA
pelvis		37.2						P-Gy	1075	EBA
pelvis		38.0		14.0	27.0			K-V	1177	LCA
pelvis		38.0						P-Gy	1075	EBA
pelvis		38.0						P-Gy	1075	EBA
pelvis		38.7						P-Gy	858	EBA
pelvis		38.7						P-Gy	894	EBA
pelvis		39.4						K-V	1128	EBA
pelvis		42.3						K-V	1037	EBA
pelvis		43.0						K-V	1217	LCA
pelvis		52.0		21.0	34.0			K-V	1217	LCA
pelvis				11.0	19.0			P-Gy	398	LCA
pelvis				13.0	18.0			K-V	431	EBA
pelvis				13.0	23.0			K-V	218	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus domesticus* Erxleben, 1777**										
pelvis				16.0	29.0			K-V	701	EBA
pelvis				16.0	36.0			K-V	1217	LCA
femur		57.2	27.0					P-Gy	493	EBA
femur		64.3						P-Gy	754	EBA
patella	22.9	16.5						P-Gy	871	EBA
patella	23.1	15.5						Sz-Cs	41	LCA
patella	24.5	18.1						P-Gy	940	EBA
patella	26.0							K-V	427	LCA
patella	31.0	19.0						K-V	680	LCA
tibia		44.0	51.0	18.4				P-Gy	493	EBA
tibia		49.1	46.3					K-V	106	EBA
tibia				17.5		30.6	25.4	P-Gy	1057	EBA
tibia				18.2		30.2	26.2	Sz-Cs	70	LCA
tibia				18.6		29.6	25.2	P-Gy	889	EBA
tibia				18.6		30.5	27.0	P-Gy	1112	EBA
tibia				20.0	14.0	31.0	29.0	K-V	701	EBA
tibia				20.0	15.0	31.0	27.0	K-V	1246	LCA
tibia				20.6		31.3	26.0	Sz-Cs	80	EBA
tibia				21.0	16.0	31.0	27.0	K-V	462	EBA
tibia				21.9		33.6	29.6	P-Gy	1080	EBA
tibia				23.6		32.8	28.4	O-B	1140	EBA. K
tibia						28.5	23.6	P-Gy	1062	EBA
tibia						29.0	25.0	K-V	449	EBA
tibia						30.0	27.0	K-V	467	EBA
tibia						30.8	26.2	D-T	483	e
tibia						31.2	26.4	P-Gy	1065	EBA
tibia						31.4	27.8	P-Gy	1075	EBA
tibia						32.7	25.0	O-B	1233	EBA
tibia						33.1	27.1	P-Gy	1062	EBA
calcaneus	77.9	24.9						Sz-Cs	51	LCA
calcaneus	81.0	21.0						P-Gy	1075	EBA
calcaneus	83.0	22.0						K-V	701	EBA
calcaneus	87.0	24.1						P-Gy	1106	EBA
astragalus	39.3		21.4	24.7		23.4		P-Gy	1075	EBA
astragalus	40.0	37.0		22.0				K-V	259	EBA
astragalus	40.6		22.1	24.1		27.2		Sz-Cs	95	EBA
astragalus	40.9		22.1	24.4		26.4		Sz-Cs	95	EBA
astragalus	41.0	38.0	18.0	25.0		25.0		K-V	449	EBA
astragalus	41.0		20.8	23.3		24.5		K-V	1355	EBA
astragalus	41.1		20.8	24.4		23.9		Sz-Cs	80	EBA
astragalus	41.2		21.6	23.8		24.1		P-Gy	889	EBA
astragalus	41.3		21.2	23.6		24.2		K-V	15	EBA
astragalus	41.4		20.9	24.5		24.3		D-T	309	EBA
astragalus	41.5		21.7	24.4				Sz-Cs	51	LCA
astragalus	41.5		22.3	22.5		26.0		P-Gy	1078	EBA
astragalus	41.7		21.6	23.0				P-Gy	1075	EBA
astragalus	41.8		20.8	23.3		25.6		P-Gy	1075	EBA
astragalus	41.9		22.0	25.6		25.0		P-Gy	1075	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus domesticus* Erxleben, 1777**										
astragalus	42.0	38.0	18.0	24.0		24.0		K-V	239	EBA
astragalus	42.0		21.8	24.5		24.3		K-V	1355	EBA
astragalus	42.0							P-Gy	857	EBA
astragalus	42.4							P-Gy	1014	EBA
astragalus	43.0	39.0	17.0	25.0		27.0		K-V	449	EBA
astragalus	43.0		20.0	25.0		26.0		K-V	780	LCA
astragalus	43.0		22.5	25.2		24.9		P-Gy	493	EBA
astragalus	43.4		21.8			24.2		K-V	1008	EBA
astragalus	43.8		22.6	25.6		27.2		Sz-Cs	95	EBA
astragalus	43.8		23.5	25.9		25.6		P-Gy	493	EBA
astragalus	44.0	40.0	19.0	26.0		28.0		K-V	449	EBA
astragalus	44.8		23.2	25.3		25.2	18.6	P-Gy	871	EBA
metatarsus III	80.0	16.0	21.0	11.0	8.0	14.0	15.0	K-V	1139	LCA
metatarsus III		17.0	23.0					K-V	731	EBA
metatarsus III		18.0	25.0					K-V	491	LCA
metatarsus IV				16.0		11.0	9.0	K-V	462	EBA
phalanx proximalis	32.5	17.3		13.8		14.9		Sz-Cs	36	LCA
phalanx proximalis	34.5	16.8		13.1		15.3		D-T	429	EBA
phalanx proximalis	36.0	14.0		13.0		14.0	12.0	K-V	301	EBA
phalanx proximalis	36.0	16.0	14.0	13.0	9.0	14.0	11.0	K-V	262	EBA
phalanx proximalis	36.5	17.8	17.9	13.9		15.5		D-T	483	EBA
phalanx proximalis	36.8	16.9		12.6		14.9		P-Gy	1062	EBA
phalanx proximalis	37.0	18.0	18.0	14.0	10.0	16.0	11.0	K-V	239	EBA
phalanx proximalis	37.8	17.2		14.1		17.1		D-T	429	EBA
phalanx proximalis	38.3	18.6		15.0		16.7		K-R61	518	MBA
phalanx proximalis	40.0	17.0	17.0	14.0	11.0	15.0	9.0	P-Gy	417	LCA
phalanx proximalis	40.0	20.9	24.7	15.5		17.3		Sz-Cs	65	LCA
phalanx proximalis	41.0	17.6		13.5		16.2		K-R61	251	LCA
phalanx proximalis	45.9	22.7	17.9			20.0		K-V	1258	EBA
phalanx proximalis	46.4	21.1	20.6	15.9		19.1		D-T	280	EBA
phalanx proximalis	47.0	22.0	18.0	16.0	13.0	19.0	13.0	K-V	401	LCA
phalanx medialis	19.1	15.8	14.7	12.7				Sz-Cs	144	LCA
phalanx medialis	21.4	14.0	13.7	11.9				D-T	318	EBA
phalanx medialis	21.6	15.8		12.8		14.6		Sz-Cs	57	LCA
phalanx medialis	23.0	16.1		12.9		14.0		P-Gy	493	EBA
phalanx medialis	23.0			11.0				K-V	462	EBA
phalanx medialis	26.3	14.5		10.5				P-Gy	1062	EBA
phalanx distalis	30.4	28.5		12.2				Sz-Cs	190	LCA
phalanx distalis	32.0	30.0		14.0				K-V	188	EBA
phalanx distalis	36.3	33.6		15.6				O-B	1140	EBA. K
phalanx distalis	39.6	38.0		15.5				K-V	1128	EBA
phalanx distalis	41.8	40.8		19.3				Sz-Cs	85	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Equus caballus* Linnaeus, 1758**										
LM3 tooth	34.9	16.1						K-R61	359	MBA
scapula		84.8		53.6				K-R61	426	MBA
radius		78.9	47.1					D-T	210	EBA
radius		86.1		39.5				K-R61	565	MBA
metacarpus		48.0	31.0	33.0	25.0			K-V	188	EBA
metacarpus						48.1	33.0	O-B	1212	EBA, K
pelvis		59.4						D-T	309	EBA
pelvis		70.0						P-Gy	1075	EBA
femur		113.3	51.0					P-Gy	744	EBA
femur		118.5	55.1					P-Gy	744	EBA
patella	64.4	62.0						P-Gy	744	EBA
patella	66.2	67.4						P-Gy	1062	EBA
tibia						68.8	42.8	O-B	1233	EBA, K
tibia						71.8	45.1	P-Gy	1062	EBA
tibia						74.1	46.4	P-Gy	1075	EBA
calcaneus	98.2	42.6						P-Gy	744	EBA
astragalus	53.1	51.8	50.5			43.0		P-Gy	744	EBA
centrotarsale	48.0	40.0						K-V	431	EBA
centrotarsale	51.0	41.0						K-V	431	EBA
metatarsus	253.0	53.0	39.0	33.0	27.0	52.0	39.0	K-V	462	EBA
metatarsus		50.0	41.3					P-Gy	1075	EBA
metatarsus		53.3	44.0					P-Gy	1049	EBA
metatarsus				37.0	26.0	49.0	36.0	K-V	319	EBA
phalanx proximalis	75.7	55.6	36.2	33.3		45.3		K-V	1154	EBA
phalanx proximalis	87.1	57.4	41.2	36.5		49.0		O-B	1233	EBA, K
phalanx proximalis	94.6	55.7	39.1	35.7		49.0		O-B	1124	EBA, K

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Canis familiaris* Linnaeus, 1758**										
UP4 tooth	14.0	7.0						K-V	462	EBA
UP4 tooth	15.0	9.0						K-V	277	LCA
UP4 tooth	16.0	8.0						K-V	333	LCA
UP4 tooth	16.0	9.0						K-V	262	EBA
UP4 tooth	16.1	8.8						Sz-Cs	204	LCA
UP4 tooth	16.7	9.5						D-T	429	EBA
UP4 tooth	16.9	8.5						Sz-Cs	150	LCA
UP4 tooth	17.0	9.0						K-V	674	LCA
UP4 tooth	17.6	7.6						P-Gy	497	EBA
UP4 tooth	18.0	10.0						K-V	431	EBA
UP4 tooth	19.0	8.0						K-V	674	LCA
UP4 tooth	19.5							P-Gy	497	EBA
UM1 tooth	13.6	12.4						O-B	1162	EBA, K
UM1 tooth	14.0	11.0						K-V	674	LCA
UM1 tooth	15.0	12.0						K-V	333	LCA
LM1 tooth	18.0	5.0						K-V	431	EBA
LM1 tooth	18.0	7.0						K-V	310	LCA
LM1 tooth	18.0	7.0						K-V	401	LCA
LM1 tooth	18.0	8.0						K-V	88	LCA
LM1 tooth	18.5	7.1						P-Gy	851	EBA
LM1 tooth	19.0	7.0						K-V	333	LCA
LM1 tooth	19.0	7.0						K-V	408	LCA
LM1 tooth	19.0	7.0						K-V	397	LCA
LM1 tooth	19.0	7.0						K-V	1389	LCA
LM1 tooth	19.0	8.0						K-V	50	LCA
LM1 tooth	19.9	8.0						Sz-Cs	57	LCA
LM1 tooth	20.0	6.0						K-V	462	EBA
LM1 tooth	20.0	8.0						K-V	462	EBA
LM1 tooth	20.0	8.0						K-V	262	EBA
LM1 tooth	20.2	7.3						P-Gy	851	EBA
LM1 tooth	20.5	8.3						K-V	113	EBA
LM1 tooth	21.0	8.0						K-V	778	EBA
LM1 tooth	21.0	9.0						K-V	263	EBA
LM1 tooth	22.0	9.0						K-V	462	EBA
LM2 tooth	7.0	5.0						K-V	333	LCA
LM2 tooth	7.0	6.0						K-V	462	EBA
LM2 tooth	8.0	6.0						K-V	406	LCA
LM2 tooth	8.0	6.0						K-V	438	LCA
LM2 tooth	8.0	7.0						K-V	262	EBA
LM2 tooth	8.0	7.0						K-V	462	EBA
LM2 tooth	8.0	7.0						K-V	491	LCA
LM2 tooth	8.0	7.0						K-V	50	LCA
LM2 tooth	8.0	7.0						K-V	88	LCA
LM2 tooth	8.0	7.0						K-V	310	LCA
LM2 tooth	9.0	5.0						K-V	333	LCA
LM2 tooth	9.0	6.0						K-V	674	LCA
LM2 tooth	9.0	7.0						K-V	263	EBA
LM2 tooth	9.0	7.0						K-V	1389	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
Canis familiaris **Linnaeus, 1758**										
LM2 tooth	10.0	6.0						K-V	408	LCA
LM3 tooth	4.0	4.0						K-V	333	LCA
LM3 tooth	4.0	4.0						K-V	88	LCA
atlas		56.0	33.6		24.6			P-Gy	1075	EBA
atlas		63.2	30.7					K-V	1258	EBA
atlas			34.0					K-V	427	LCA
axis	36.5	39.7			31.7			K-V	1258	EBA
axis		44.0		24.0				K-V	449	EBA
sacrum		37.8	21.0		9.4			K-V	1258	EBA
scapula	106.3			19.8	24.7			K-V	1258	EBA
scapula	108.0			19.8	24.6			K-V	1258	EBA
scapula		30.2		18.6	23.7			K-R61	715	MBA
scapula		31.0	24.0	19.0	24.0			K-V	674	LCA
humerus	120.2	25.5	16.4	7.7		19.2	15.0	P-Gy	497	EBA
humerus	134.2	24.2	33.3	11.2	11.5	27.1		K-V	1258	EBA
humerus	134.8	23.2	33.7	11.4	11.5	27.2		K-V	1258	EBA
humerus				13.5		30.7	24.4	O-B	1169	LCA
humerus						24.9		P-Gy	1062	EBA
humerus						24.9	19.4	P-Gy	1106	EBA
humerus						30.1	22.1	P-Gy	1075	EBA
humerus						31.4	23.1	D-T	356	EBA
humerus						32.2	24.4	D-T	309	EBA
radius	127.0	11.3	7.4	9.0		15.1		O-B	1465	EBA, K
radius	134.0	15.2	10.2	10.6	6.0	20.6		K-V	1258	EBA
radius	134.3	15.3	10.0	10.9	7.0	20.4		K-V	1258	EBA
radius		15.0	10.0	11.0	8.0			K-V	1176	LCA
radius		15.8	9.8	10.9		20.3	11.2	P-Gy	512	EBA
radius				11.0	7.0	17.5	11.0	K-V	279	LCA
radius				11.3		20.2		K-V	268	EBA
radius		15.0	10.0	11.0	8.0			K-V	58	LCA
radius				9.1		15.2		O-B	1465	EBA, K
radius						19.9	11.2	P-Gy	1080	EBA
ulna	155.8	21.5		18.2				K-V	1258	EBA
ulna	156.8	22.1		18.2				K-V	1258	EBA
ulna		20.0		18.0				K-V	279	LCA
ulna		22.4		18.6				K-V	1355	EBA
metacarpus I	57.0					8.4		D-T	318	EBA
metacarpus II	51.0	6.0	9.0	6.0	5.0	8.0	7.0	P-Gy	413	LCA
metacarpus II	66.7					7.9		D-T	318	EBA
metacarpus III	65.9					8.7		D-T	318	EBA
metacarpus IV	55.7					9.1		D-T	318	EBA
metacarpus IV		7.0	11.0	7.0	6.0	8.0	9.0	K-V	462	EBA
metacarpus V	41.0	9.0	8.0	6.0	4.0	7.0	8.0	K-V	262	EBA
pelvis	117.7		22.2		14.7			K-V	1258	EBA
pelvis	118.9		22.7		15.0			K-V	1258	EBA
pelvis			23.0		10.0			K-V	674	LCA
femur	143.0	30.1	15.3	12.2	11.3	26.4		K-V	1258	EBA
femur	143.1	30.0	15.6	12.0	12.0	26.3		K-V	1258	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Canis familiaris* Linnaeus, 1758**										
femur		34.1	16.5	11.4				Sz-Cs	45	LCA
femur				13.1		34.4		D-T	318	EBA
femur						29.0	31.0	K-V	453	LCA
femur						34.0	40.7	P-Gy	1019	EBA
tibia	147.5	28.9	28.2	11.7	9.2	19.6		K-V	1258	EBA
tibia	148.5	28.5	27.7	11.3	9.9	19.2		K-V	1258	EBA
tibia	167.0	33.0	32.0	13.0	12.0	22.0	14.0	K-V	495	EBA
tibia		28.4	24.1					Sz-Cs	52	LCA
tibia				9.1		14.8	11.5	O-B	1465	EBA, K
tibia				10.0		19.0	14.0	K-V	332	LCA
tibia				10.4		18.4	13.1	Sz-Cs	185	LCA
tibia				11.1		21.4	15.0	Sz-Cs	79	EBA
tibia				12.0	11.0	22.0	15.0	K-V	453	LCA
tibia				12.0	12.0	21.0	14.0	K-V	278	LCA
fibula	135.5							K-V	1258	EBA
astragalus	22.4							K-V	1258	EBA
astragalus	26.6							D-T	318	EBA
calcaneus	39.8	14.3						P-Gy	858	EBA
metatarsus II	49.3			5.3				K-R61	565	MBA
metatarsus III	53.2			3.6				Sz-Cs	79	LCA
metatarsus III	55.3			6.5				K-R61	565	MBA
metatarsus III	58.0	9.6		4.1		6.3		Sz-Cs	190	LCA
metatarsus IV	56.6			5.7				K-R61	565	MBA
metatarsus IV	57.0	8.0	9.0	5.0	5.0	7.0	8.0	K-V	634	LCA
metatarsus IV	64.0	8.0	12.0	6.0	5.0	7.0	8.0	K-V	1176	LCA
metatarsus IV	66.0	9.0	12.0	7.0	6.0	8.0	9.0	K-V	539	LCA
metatarsus IV	69.0	8.0	13.0	7.0	6.0	8.0	9.0	K-V	674	LCA
metatarsus V	50.6			4.8				K-R61	565	MBA
metatarsus V		9.0	11.0	6.0	5.0	7.0	8.0	K-V	462	EBA
phalanx proximalis	23.8	11.4	11.9	7.9		9.0		Sz-Cs	144	LCA
phalanx proximalis	24.0	8.0	8.0	6.0	5.0	8.0	6.0	K-V	674	LCA
phalanx proximalis	24.0	8.0	8.0	6.0	5.0	8.0	6.0	K-V	674	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Bos primigenius* Linnaeus, 1758**										
processus cornualis	360.0		59.0					P-Gy	1075	EBA
processus cornualis	370.5							P-Gy	1075	EBA
processus cornualis		62.1						K-V	252	EBA
processus cornualis		63.5	63.0					P-Gy	1080	EBA
processus cornualis		66.8	50.7					K-V	1318	EBA
processus cornualis		67.1						P-Gy	871	EBA
processus cornualis		81.5	62.0					Sz-Cs	150	LCA
scapula		68.1	59.2	51.8				P-Gy	1075	EBA
scapula		69.4	57.2	45.8	55.0			P-Gy	1075	EBA
scapula		74.8	62.3	49.3				P-Gy	754	EBA
scapula		75.0	63.3	53.6	60.0			P-Gy	497	EBA
scapula		76.0	61.0	49.8				P-Gy	1075	EBA
scapula		76.5	67.4	56.2	66.2			P-Gy	496	EBA
scapula		78.1	68.4	56.7	57.2			P-Gy	497	EBA
scapula		78.2	66.7	53.0	55.4			P-Gy	1106	EBA
scapula		78.5	69.2	57.7				P-Gy	1075	EBA
scapula		79.4	68.0	57.5				P-Gy	1075	EBA
scapula		79.7	67.0	55.3				P-Gy	878	EBA
scapula		80.2	65.1	61.2				P-Gy	1075	EBA
scapula		82.6	68.7	57.4				P-Gy	938	EBA
scapula		91.0	73.0	65.2				P-Gy	1063	EBA
humerus						84.4		P-Gy	1075	EBA
humerus						84.6	80.9	P-Gy	894	EBA
humerus						85.0	74.0	P-Gy	858	EBA
humerus						86.1	87.6	P-Gy	894	EBA
humerus						86.5	83.0	P-Gy	894	EBA
humerus						86.7		P-Gy	523	EBA
humerus						87.0		P-Gy	1075	EBA
humerus						87.3		P-Gy	986	EBA
humerus						89.0		P-Gy	878	EBA
humerus						90.3	88.0	P-Gy	940	EBA
humerus						95.5	89.6	P-Gy	1075	EBA
radius		88.2	43.5					P-Gy	1075	EBA
radius		88.4	46.6					P-Gy	1061	EBA
radius		88.6	46.8					P-Gy	1061	EBA
radius		89.0	49.0			78.2	49.3	P-Gy	497	EBA
radius		89.2	47.5					P-Gy	1078	EBA
radius		89.5	44.2					P-Gy	1075	EBA
radius		90.6	46.2					P-Gy	1075	EBA
radius		91.4	41.7					P-Gy	1075	EBA
radius		93.0	45.2					P-Gy	1075	EBA
radius		93.1	48.7					P-Gy	940	EBA
radius		93.6	50.0					P-Gy	1061	EBA
radius		95.0	47.4					P-Gy	851	EBA
radius		95.7	49.6					P-Gy	512	EBA
radius		96.3	52.2					P-Gy	717	EBA
radius		99.7	48.5					P-Gy	823	EBA
radius						77.4	47.3	P-Gy	1075	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Bos primigenius* Linnaeus, 1758**										
radius						77.7	48.3	P-Gy	1078	EBA
radius						80.5	54.0	P-Gy	1077	EBA
radius						80.7	51.4	P-Gy	1075	EBA
radius						80.8	52.2	P-Gy	1066	EBA
radius						84.5	55.8	P-Gy	1114	EBA
radius						84.6	51.4	P-Gy	1081	EBA
radius						85.3	51.5	P-Gy	1075	EBA
radius						91.7	61.5	P-Gy	1061	EBA
radius								P-Gy	493	EBA
radius								P-Gy	1054	EBA
metacarpus		65.1	39.2			72.5	37.9	P-Gy	717	EBA
metacarpus		65.3						P-Gy	1014	EBA
metacarpus		65.7	40.7					P-Gy	1075	EBA
metacarpus		65.8	38.6					P-Gy	1054	EBA
metacarpus		67.1	42.2					P-Gy	717	EBA
metacarpus		68.0	39.8			60.0	30.5	P-Gy	497	EBA
metacarpus		69.3	43.4					P-Gy	889	EBA
metacarpus						64.4	33.5	P-Gy	1075	EBA
metacarpus						65.0	35.6	P-Gy	858	EBA
metacarpus						65.4	33.6	P-Gy	1075	EBA
metacarpus						65.5	35.6	P-Gy	1075	EBA
metacarpus						66.6	31.8	P-Gy	894	EBA
metacarpus						68.6	36.0	P-Gy	1062	EBA
metacarpus						68.7	36.3	P-Gy	497	EBA
metacarpus						69.7	34.9	P-Gy	1062	EBA
metacarpus						70.7	37.9	P-Gy	1078	EBA
metacarpus						71.4	37.4	P-Gy	1114	EBA
metacarpus						71.5	35.5	P-Gy	878	EBA
metacarpus						72.1	37.5	P-Gy	894	EBA
pelvis		72.2						P-Gy	878	EBA
pelvis		73.3						P-Gy	1062	EBA
pelvis		75.0						P-Gy	717	EBA
pelvis		76.2						P-Gy	1075	EBA
pelvis		78.6						P-Gy	1075	EBA
pelvis		86.5						P-Gy	858	EBA
pelvis		90.0						P-Gy	717	EBA
femur		130.3						K-V	1141	EBA
femur						101.3	117.6	P-Gy	1114	EBA
femur						107.5		P-Gy	1075	EBA
patella	70.5	64.1						P-Gy	1082	EBA
tibia				54.4		75.0	59.7	P-Gy	1075	EBA
tibia						68.4	50.0	P-Gy	878	EBA
tibia						70.3	54.0	P-Gy	889	EBA
tibia						72.0	56.0	P-Gy	823	EBA
astragalus	70.0		39.6	40.0		46.8		P-Gy	1075	EBA
astragalus	70.7		38.8			46.7		P-Gy	1078	EBA
astragalus	70.9		34.7	39.5		46.5		P-Gy	817	EBA
astragalus	71.0		41.0	41.4		46.4		P-Gy	1066	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Bos primigenius* Linnaeus, 1758**										
astragalus	71.4		40.7			46.6		P-Gy	1075	EBA
astragalus	72.0		40.9	41.4		48.6		P-Gy	851	EBA
astragalus	72.1		38.8	39.2		45.6		P-Gy	1075	EBA
astragalus	72.1		40.0	40.7		49.7		P-Gy	1075	EBA
astragalus	72.4		40.2			46.0		P-Gy	1082	EBA
astragalus	72.6		40.0	40.0		48.7		P-Gy	1106	EBA
astragalus	73.4		41.0	41.2		47.1		P-Gy	1075	EBA
astragalus	73.6		39.8	42.2		48.7		P-Gy	1075	EBA
astragalus	73.6		40.6	40.8		47.5		P-Gy	940	EBA
astragalus	73.6		40.6	41.9		48.0		P-Gy	851	EBA
astragalus	73.7		41.2	41.3		52.0		P-Gy	889	EBA
astragalus	74.3		41.2	44.0		49.4		P-Gy	871	EBA
astragalus	74.3		41.4			47.8		P-Gy	851	EBA
astragalus	74.4		42.4			49.2		P-Gy	857	EBA
astragalus	74.8		42.0	43.6		47.4		P-Gy	1075	EBA
astragalus	75.8		39.1			45.4		P-Gy	857	EBA
astragalus	76.5		41.5	42.4		51.3		P-Gy	894	EBA
astragalus	77.0		42.0	43.0		49.4		P-Gy	986	EBA
astragalus	79.7		39.7	42.6		53.2		K-V	1141	EBA
calcaneus	134.8							P-Gy	1075	EBA
calcaneus	134.8							P-Gy	1062	EBA
calcaneus	134.9	46.0						K-V	1141	EBA
calcaneus	135.2							P-Gy	1075	EBA
calcaneus	136.0	41.0						P-Gy	1112	EBA
calcaneus	138.0							P-Gy	1075	EBA
calcaneus	138.5							P-Gy	1106	EBA
calcaneus	138.8	45.5						P-Gy	858	EBA
calcaneus	140.8							P-Gy	1075	EBA
calcaneus	142.8							P-Gy	512	EBA
calcaneus	143.7							P-Gy	1075	EBA
calcaneus	148.4	44.6						P-Gy	1106	EBA
calcaneus	148.8							P-Gy	1078	EBA
calcaneus	153.4	48.6						P-Gy	1065	EBA
calcaneus	153.5	47.7						P-Gy	1010	EBA
calcaneus	165.0	56.0						P-Gy	878	EBA
centrotarsale		60.0						P-Gy	1103	EBA
centrotarsale		60.4						P-Gy	493	EBA
centrotarsale		60.7						P-Gy	1112	EBA
centrotarsale		60.9						P-Gy	823	EBA
centrotarsale		61.8						P-Gy	894	EBA
centrotarsale		62.0						P-Gy	497	EBA
centrotarsale		62.7						P-Gy	1075	EBA
centrotarsale		62.7						P-Gy	1075	EBA
centrotarsale		63.2						P-Gy	717	EBA
centrotarsale		63.7						P-Gy	851	EBA
centrotarsale		64.0						P-Gy	1014	EBA
centrotarsale		64.0						P-Gy	1077	EBA
metatarsus	244.9					66.3	34.9	P-Gy	717	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Bos primigenius* Linnaeus, 1758**										
metatarsus	262.7	54.0	55.3	32.5		66.0	35.5	P-Gy	1077	EBA
metatarsus		55.5	48.9					P-Gy	1062	EBA
metatarsus		55.7	54.7					P-Gy	851	EBA
metatarsus		55.8	53.4					P-Gy	1082	EBA
metatarsus		56.7						P-Gy	858	EBA
metatarsus		57.6	54.9					P-Gy	1078	EBA
metatarsus		58.0						P-Gy	1075	EBA
metatarsus						63.4	36.8	P-Gy	1075	EBA
metatarsus						63.7		P-Gy	1038	EBA
metatarsus						66.3	34.6	P-Gy	1075	EBA
metatarsus						67.9	35.9	P-Gy	1078	EBA
phalanx proximalis	68.0	34.7		30.7		34.3		P-Gy	523	EBA
phalanx proximalis	68.5	33.5		26.2		31.3		P-Gy	855	EBA
phalanx proximalis	68.7	31.8		26.5		28.7		P-Gy	940	EBA
phalanx proximalis	69.0	36.0	38.0	34.0	24.0	35.0	25.0	K-V	495	EBA
phalanx proximalis	69.1	31.6		28.0		32.2		P-Gy	940	EBA
phalanx proximalis	69.1	36.1		29.4		34.1		P-Gy	717	EBA
phalanx proximalis	69.5	30.4		26.1		32.2		P-Gy	1066	EBA
phalanx proximalis	70.0	36.6		30.1		33.5		P-Gy	1066	EBA
phalanx proximalis	70.1	37.2		31.5		32.3		P-Gy	889	EBA
phalanx proximalis	70.3	31.7		28.7		31.6		P-Gy	1066	EBA
phalanx proximalis	70.9	35.3		28.2		30.7		P-Gy	855	EBA
phalanx proximalis	73.7	37.0		32.4		33.8		P-Gy	857	EBA
phalanx proximalis	74.1	33.3		26.2		28.4		P-Gy	851	EBA
phalanx proximalis	75.7	34.4		28.8		30.0		P-Gy	1062	EBA
phalanx medialis	43.0			29.5		25.3		P-Gy	871	EBA
phalanx medialis	43.2			30.2		25.8		P-Gy	871	EBA
phalanx medialis	44.4	35.8		27.0		29.1		P-Gy	1066	EBA
phalanx medialis	44.6	33.8		25.5		27.5		P-Gy	1066	EBA
phalanx medialis	44.8	33.4		27.7		28.5		P-Gy	717	EBA
phalanx medialis	45.8	34.2		28.3		28.9		P-Gy	1010	EBA
phalanx medialis	47.4	35.4		28.5		32.6		P-Gy	754	EBA
phalanx medialis	49.7	34.3				27.2		P-Gy	1066	EBA
phalanx medialis	49.8	35.5		27.0		28.5		P-Gy	1114	EBA
phalanx distalis	75.8	57.8		29.2				P-Gy	1054	EBA
phalanx distalis	76.0	57.0		28.0				P-Gy	1066	EBA
phalanx distalis	81.1	58.5		28.6				P-Gy	857	EBA
phalanx distalis	83.6	65.4		30.8				P-Gy	496	EBA
phalanx distalis	90.0	69.0		37.5				P-Gy	512	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Cervus elaphus* Linnaeus, 1758**										
processus cornualis		45.2	43.7					K-V	252	EBA
processus cornualis		47.5	41.4					D-T	280	EBA
processus cornualis		51.1	43.9					K-V	252	EBA
processus cornualis		51.7	47.0					K-V	1144	EBA
processus cornualis		53.1	48.4					K-V	1009	EBA
processus cornualis		57.7	55.3					K-V	1358	EBA
processus cornualis		58.0	55.0					O-B	1168	LCA
processus cornualis		58.2	50.7					K-V	252	EBA
processus cornualis		61.0	41.0					K-V	61	LCA
processus cornualis		61.0	32.0					K-V	1141	EBA
processus cornualis		69.5	61.8					K-V	373	EBA
processus cornualis		73.0	68.6					K-V	389	EBA
processus cornualis		78.4						P-Gy	1103	EBA
processus cornualis		81.6						P-Gy	855	EBA
processus cornualis		83.0						K-V	1191	LCA
processus cornualis		83.5	78.4					K-V	1121	EBA
processus cornualis		85.0						K-V	634	LCA
processus cornualis		86.3						O-B	1252	EBA
UM1 tooth	22.0	20.0						K-V	675	LCA
UM1 tooth	23.0	21.0						K-V	431	EBA
UM2 tooth	24.0	19.0						K-V	675	LCA
UM3 tooth	25.0	20.0						K-V	675	LCA
LM1 tooth	19.0	13.0						K-V	737	EBA
LM2 tooth	24.0	15.0						K-V	737	EBA
scapula		60.1	46.4	41.0	38.8			P-Gy	1075	EBA
scapula		64.7	50.6	46.2	42.4			P-Gy	1106	EBA
humerus				34.0	39.0	64.0	63.0	K-V	730	EBA
humerus						53.2	55.0	Sz-Cs	173	LCA
humerus						56.2	56.7	P-Gy	858	EBA
humerus						70.0	66.2	P-Gy	1106	EBA
radius	282.0	59.0	32.0	33.0	18.0		32.0	K-V	462	EBA
radius		55.5	29.1					P-Gy	1075	EBA
radius		56.3	31.0					P-Gy	1010	EBA
radius		58.5	31.4					K-V	1258	EBA
radius		60.9	31.3					P-Gy	1061	EBA
radius		61.3	32.7					K-V	17	EBA
radius		63.4	33.7					Sz-Cs	36	LCA
radius		67.4	34.7					P-Gy	1075	EBA
radius		67.7	33.4					P-Gy	1075	EBA
radius						49.1	34.9	P-Gy	1075	EBA
radius						50.0	36.1	Sz-Cs	57	LCA
radius						52.1	31.3	P-Gy	851	EBA
radius						52.3	36.7	Sz-Cs	57	LCA
radius						59.5	37.6	P-Gy	1075	EBA
radius						61.1	42.7	P-Gy	512	EBA
metacarpus	275.0	44.5	31.0	23.7		43.7	30.0	D-T	247	EBA
metacarpus		43.1	30.2					Sz-Cs	108	LCA
metacarpus		46.2	34.7					P-Gy	1106	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Cervus elaphus* Linnaeus, 1758**										
metacarpus		48.6	34.7					P-Gy	500	EBA
metacarpus						40.9		Sz-Cs	108	LCA
metacarpus						43.7	28.3	D-T	247	EBA
metacarpus						49.6	32.5	P-Gy	1062	EBA
pelvis		54.0						P-Gy	502	EBA
pelvis		57.8						P-Gy	1075	EBA
pelvis		61.6						P-Gy	851	EBA
pelvis		62.0						K-V	1318	EBA
femur			29.0	35.0				K-V	462	EBA
femur						66.8	89.2	P-Gy	1061	EBA
femur						73.0	95.7	P-Gy	1075	EBA
tibia		62.0	60.2					K-V	1115	EBA
tibia		62.5						O_B	1233	EBA, K
tibia				29.2		51.3	37.3	P-Gy	878	EBA
tibia				31.0	26.0	49.0	39.0	K-V	462	EBA
tibia						49.0	38.3	P-Gy	1061	EBA
tibia						50.6	39.0	P-Gy	496	EBA
tibia						51.0	40.8	P-Gy	717	EBA
tibia						52.0	39.0	P-Gy	417	LCA
tibia						53.0	44.4	P-Gy	1075	EBA
calcaneus	81.0	21.8						P-Gy	493	EBA
astragalus	54.0	28.0	29.0			34.0		K-V	462	EBA
astragalus	56.3	28.6	31.5			32.2		Sz-Cs	170	LCA
astragalus	56.8	29.6	30.1			35.1		P-Gy	1010	EBA
astragalus	57.0	30.5	32.0			34.5		P-Gy	496	EBA
astragalus	58.8	31.8	33.2			36.8		P-Gy	851	EBA
centrotarsale		40.8						P-Gy	500	EBA
centrotarsale		41.1						P-Gy	987	EBA
centrotarsale		42.0						P-Gy	851	EBA
centrotarsale		44.1						Sz-Cs	108	LCA
centrotarsale		46.8						Sz-Cs	108	LCA
metatarsus		33.6	37.7					P-Gy	989	EBA
metatarsus		37.1	41.1					K-V	368	EBA
metatarsus		38.6	43.8					P-Gy	1075	EBA
metatarsus		41.0	44.4					D-T	186	EBA
metatarsus		42.9	46.9					P-Gy	851	EBA
metatarsus				26.0		47.4		K-V	1318	EBA
metatarsus						43.0	28.6	P-Gy	889	EBA
metatarsus						43.5	29.8	P-Gy	858	EBA
metatarsus						46.5	30.2	P-Gy	1075	EBA
metatarsus						48.4	32.5	P-Gy	851	EBA
metatarsus						49.2		P-Gy	512	EBA
phalanx proximalis	55.5	22.0		18.2		21.0		D-T	309	EBA
phalanx proximalis	56.0	23.0		17.6		21.9		K-V	1128	EBA
phalanx proximalis	56.1	21.8		16.5		20.1		P-Gy	717	EBA
phalanx proximalis	57.2	21.6		17.2		21.1		P-Gy	512	EBA
phalanx proximalis	58.6	22.7		16.8		21.2		K-V	1037	EBA
phalanx proximalis	59.6	24.4		20.5		23.5		P-Gy	858	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Cervus elaphus* Linnaeus, 1758**										
phalanx proximalis	60.1	23.3	29.1	18.0		23.0		D-T	280	EBA
phalanx proximalis	60.1	24.3		19.6		23.3		K-V	1128	EBA
phalanx proximalis	60.7	25.2		18.0		22.5		K-V	1128	EBA
phalanx proximalis	61.0	22.0	28.0	19.0	17.0	22.0	17.0	K-V	731	EBA
phalanx proximalis	62.1	23.8	29.7	17.9		22.9		D-T	247	EBA
phalanx proximalis	63.7	25.3		18.9		22.8		K-V	1128	EBA
phalanx proximalis	64.4	25.9		19.8		23.6		K-V	1128	EBA
phalanx proximalis	65.0	25.0	29.0	21.0	18.0	25.0	20.0	K-V	495	EBA
phalanx proximalis	66.0	24.0	29.0	19.0	16.0	23.0	18.0	K-V	462	EBA
phalanx medialis	44.7	22.7		15.4		19.3		K-V	1128	EBA
phalanx medialis	45.8	22.2		16.0		19.3		K-V	1128	EBA
phalanx medialis	46.4	24.3		17.7		20.5		K-V	1128	EBA
phalanx medialis	49.0	23.0	28.0	18.0	20.0	19.0	25.0	K-V	239	EBA
phalanx distalis	51.0	49.0		16.0				P-Gy	417	LCA
phalanx distalis	56.8	46.7		18.4				K-V	1005	EBA
phalanx distalis	60.8	49.6		22.2				K-V	1128	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Capreolus capreolus* Linnaeus, 1758**										
processus cornualis		29.4	27.4					K-V	213	EBA
processus cornualis		29.4	28.0					Sz-Cs	27	EBA
processus cornualis		30.0	37.0					K-V	262	EBA
processus cornualis		30.2	28.6					O-B	1233	EBA, K
processus cornualis		31.0						K-V	967	LCA
processus cornualis		32.0						K-V	222	LCA
processus cornualis		32.0						K-V	262	EBA
processus cornualis		32.8	32.6					Sz-Cs	147	EBA
processus cornualis		33.0						K-V	449	EBA
processus cornualis		33.9	30.4					K-V	1005	EBA
processus cornualis		34.0						K-V	211	LCA
processus cornualis		37.0						K-V	1139	LCA
processus cornualis		40.0						K-V	1176	LCA
processus cornualis		41.0	36.0					K-V	1314	LCA
processus cornualis		42.0						K-V	100	LCA
processus cornualis		42.2	35.1					K-V	1258	EBA
processus cornualis		43.9	37.2					K-V	1318	EBA
processus cornualis		45.0	42.0					K-V	518	LCA
UM2 tooth	11.0	10.0						K-V	1320	LCA
LM1 tooth	9.0	8.0						K-V	495	EBA
LM1 tooth	10.0	8.0						K-V	188	EBA
LM1 tooth	10.0	9.0						K-V	171	EBA
LM1 tooth	11.0	8.0						K-V	50	LCA
LM1 tooth	11.0	9.0						K-V	334	LCA
LM1 tooth	12.0	8.0						K-V	100	LCA
LM1 tooth	12.0	8.0						K-V	279	LCA
LM2 tooth	10.0	8.0						K-V	188	EBA
LM2 tooth	11.0	9.0						K-V	171	EBA
LM2 tooth	12.0	8.0						K-V	100	LCA
LM2 tooth	12.0	8.0						K-V	495	EBA
LM2 tooth	12.0	9.0						K-V	50	LCA
LM2 tooth	12.0	9.0						K-V	279	LCA
LM2 tooth	12.0	9.0						K-V	279	LCA
LM2 tooth	13.0	9.0						K-V	334	LCA
LM2 tooth	14.0	8.0						K-V	462	EBA
LM3 tooth	14.0	7.0						K-V	188	EBA
LM3 tooth	14.0	8.0						K-V	100	LCA
LM3 tooth	15.0	8.0						K-V	279	LCA
LM3 tooth	16.0	8.0						K-V	334	LCA
LM3 tooth	16.0	8.0						K-V	462	EBA
LM3 tooth	16.0	8.0						K-V	171	EBA
atlas	61.0	68.0						K-V	365	EBA
axis	59.0	43.5		23.0				K-V	365	EBA
scapula		28.0	23.0	19.0	17.0			K-V	188	EBA
scapula		28.0	23.0	20.0	18.0			K-V	319	EBA
scapula		28.0	23.0	21.0	18.0			K-V	722	EBA
scapula		28.8	21.7		18.1			Sz-Cs	114	LCA
scapula		29.0	22.0	22.0	18.0			K-V	239	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
Capreolus capreolus **Linnaeus, 1758**										
scapula		30.1	21.8					K-V	50	LCA
scapula			20.7	21.8				K-V	365	EBA
scapula				28.9	18.4			K-V	1037	EBA
humerus		47.7	34.3			33.1		K-V	144	EBA
humerus				14.3		30.1		K-V	365	EBA
radius		23.0	14.0	14.0	9.0			K-V	495	EBA
radius		25.0	15.0	16.0	9.6			K-V	298	EBA
radius		26.5	16.3	16.2				O-B	1233	EBA
radius		26.9	14.3	14.2				Sz-Cs	55	LCA
radius		27.9	16.1					Sz-Cs	110	LCA
radius		28.5	16.0			31.8		K-V	365	EBA
radius		34.5	17.9					P-Gy	851	EBA
radius		38.2	17.9					K-V	371	EBA
radius				14.0	14.0	26.0	16.0	K-V	239	EBA
radius				14.0	11.0	25.0	18.0	K-V	449	EBA
radius				15.0	9.0	26.0	17.0	K-V	188	EBA
ulna		16.0	24.0	22.0				K-V	453	LCA
ulna		23.4	43.6	25.6				K-V	365	EBA
ulna		23.5	38.8	27.3				K-V	1154	EBA
metacarpus	176.8	23.9	17.9	12.8		23.5	15.4	Sz-Cs	125	LCA
metacarpus	179.0	23.0	17.0	13.0	11.0	23.0	16.0	K-V	279	LCA
metacarpus		25.9	18.2					K-V	252	EBA
metacarpus				14.0	11.0	23.0	16.0	K-V	50	LCA
metacarpus				14.0	11.0	23.0	15.0	K-V	652	LCA
metacarpus						22.4	15.0	K-V	50	LCA
pelvis		29.0		9.0	18.0			K-V	279	LCA
patella	42.7	23.7						K-V	365	EBA
tibia				13.0	10.0	23.0	19.0	P-Gy	417	LCA
tibia				13.0	11.0	23.0	18.0	P-Gy	417	LCA
tibia				13.3		25.6	19.3	P-Gy	1075	EBA
tibia						26.0	22.0	K-V	188	EBA
tibia						26.9	20.9	P-Gy	851	EBA
tibia						27.2	20.7	P-Gy	1075	EBA
tibia						28.8	22.9	P-Gy	512	EBA
tibia						30.5	23.2	P-Gy	1061	EBA
calcaneus	61.8	19.5						K-V	144	EBA
calcaneus	64.0	19.0						K-V	878	EBA
metatarsus	203.0	19.0	20.0	12.0	11.0	24.0	16.0	K-V	1139	LCA
metatarsus		19.5	22.5	13.0	13.0			K-V	279	LCA
metatarsus		20.0	21.0	12.0				K-V	796	EBA
metatarsus		20.0		13.0				K-V	731	EBA
metatarsus		21.0	15.0	13.0	11.0			K-V	310	LCA
metatarsus		21.0	22.0	13.0				K-V	334	LCA
metatarsus		21.0	23.0					K-V	878	EBA
metatarsus		21.3	22.4	13.3	13.0			K-V	144	EBA
metatarsus		21.4	21.8	12.2				K-V	252	EBA
metatarsus			19.0		13.0			K-V	298	EBA
metatarsus				13.0	12.0	24.0	17.0	K-V	1177	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
Capreolus capreolus **Linnaeus, 1758**										
metatarsus				14.0	13.0	27.0	18.0	K-V	401	LCA
phalanx proximalis	29.0	12.0	14.0	8.0	10.0	14.0	8.0	K-V	279	LCA
phalanx proximalis	40.0	13.0	16.0	9.0	8.0	11.0	9.0	K-V	278	LCA
phalanx proximalis	43.0	12.0	16.0	9.0	8.0	11.0	9.0	K-V	279	LCA
phalanx proximalis	43.8	13.0		8.5		11.4		K-V	1128	EBA
phalanx proximalis	44.0	13.0	17.0	9.0	8.0	12.0	10.0	K-V	634	LCA
phalanx proximalis	44.2							K-V	1128	EBA
phalanx proximalis	45.0	14.0	16.0	9.0	10.0	13.0	12.0	K-V	60	LCA
phalanx proximalis		12.0	15.0	9.0	10.0			K-V	60	LCA
phalanx medialis	33.0	12.0	16.0	8.0	12.0	9.0	15.0	K-V	60	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus scrofa* Linnaeus, 1758**										
UP1-4 teeth	64.0							K-V	1141	EBA
UP1-4 teeth	65.2							K-V	1038	EBA
UP2-4 teeth	55.5							K-V	1038	EBA
UM3	38.0	23.0						K-V	1318	EBA
UM3	42.2	22.0						K-V	1038	EBA
UM3	42.5	22.0						K-V	1038	EBA
UM3	44.7	22.8						K-V	1038	EBA
UM3	48.9	20.7						K-V	229	EBA
UM3	51.8	21.5						K-V	115	EBA
LM1 tooth	17.0	12.0						K-V	1126	LCA
LM2 tooth	24.0	17.0						K-V	1126	LCA
LM3 tooth	41.1	17.3						K-V	176	EBA
LM3 tooth	46.0	22.0						K-V	1126	LCA
scapula		41.5			25.8			K-V	1037	EBA
scapula		46.0	37.0	30.0	30.0			K-V	333	LCA
scapula		48.0	37.0	32.0	33.0			K-V	1333	LCA
scapula		48.0	41.0	34.0	29.0			K-V	222	LCA
scapula		48.0			36.0			K-V	680	LCA
scapula		53.0		34.0				K-V	1258	EBA
scapula		54.2	37.8	36.9				Sz-Cs	144	LCA
humerus		62.0	80.0					K-V	431	EBA
humerus				20.2		49.2		K-V	1115	EBA
humerus				21.0	34.0	52.0		K-V	1057	LCA
humerus				22.0	30.0	49.0	51.0	K-V	823	EBA
humerus				24.0	35.0	55.0	54.0	K-V	333	LCA
humerus				24.0	37.0	48.0	58.0	K-V	278	LCA
humerus				24.0	37.0			K-V	332	LCA
humerus				26.0	36.0	59.0	59.0	K-V	1428	LCA
humerus					57.5	53.5		K-V	515	LCA
humerus						44.6	41.1	P-Gy	1103	EBA
humerus						45.8		K-V	1258	EBA
humerus						46.2		K-V	1037	EBA
humerus						47.4		K-V	1318	EBA
humerus						54.0	55.0	K-V	1176	LCA
humerus						55.0	54.0	K-V	1176	LCA
humerus						58.0	59.0	K-V	823	EBA
humerus						58.0		K-V	438	LCA
humerus						60.2		Sz-Cs	68	LCA
humerus						60.6	59.1	Sz-Cs	62	LCA
humerus						62.0		K-V	712	LCA
humerus						65.2		Sz-Cs	61	LCA
radius		37.0		25.0	18.0			K-V	292	LCA
radius		38.0	26.0	24.0	17.0			K-V	652	LCA
radius		38.0	26.0	25.0	18.0			K-V	1178	LCA
radius		38.0	27.0	26.0	21.0			K-V	427	LCA
radius		39.0		26.0				K-V	431	EBA
radius		40.6	29.4					K-V	264	EBA
radius		41.0	29.0	25.0	18.0			K-V	334	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus scrofa* Linnaeus, 1758**										
radius		41.0	29.0					K-V	629	LCA
radius		42.7	27.5					K-V	324	LCA
radius		43.0	28.0					K-V	324	LCA
radius		43.0	29.0	27.0	19.0			K-V	239	EBA
radius		44.0	31.0	29.0	19.0			K-V	780	LCA
radius				33.0		46.0	25.0	K-V	334	LCA
ulna		24.0						K-V	652	LCA
ulna		28.0						K-V	674	LCA
ulna		32.0	57.0					K-V	680	LCA
ulna		33.0	53.0					K-V	680	LCA
ulna			57.0					K-V	211	LCA
metacarpus III	78.0		22.0	18.0	15.0	11.0	27.0	K-V	188	EBA
metacarpus III	80.2	18.0	18.0	14.8		17.2		O-B	1233	MBA
metacarpus III	94.0	28.0	23.0	20.0	14.0	22.0	22.0	K-V	1314	LCA
metacarpus III	101.8	25.0		22.0				Sz-Cs	59	LCA
metacarpus III		27.7	26.9					Sz-Cs	65	LCA
metacarpus III		29.0	24.0					K-V	334	LCA
metacarpus III			25.0	25.0	19.0	15.0		K-V	259	EBA
metacarpus III			29.0	23.0	19.0	15.0		K-V	239	EBA
metacarpus IV	94.0	20.0	20.0	16.0	16.0	23.0		K-V	211	LCA
metacarpus IV	99.5	22.3	22.3	15.4	20.4	21.1		Sz-Cs	190	LCA
metacarpus V	80.0					16.9		K-R61	251	EBA
metacarpus V	82.0	10.0	16.0	8.0	12.0	16.0	19.0	K-V	61	LCA
pelvis		39.5						K-V	1318	EBA
pelvis		46.0						K-V	746	EBA
pelvis		49.0						K-V	462	EBA
femur				28.0	29.0	57.0	72.0	K-V	276	LCA
tibia		63.0						K-V	333	LCA
tibia				10.0	5.0	18.0	8.0	K-V	701	EBA
tibia				27.0	21.0	42.0	36.0	K-V	730	EBA
tibia				28.0	21.0	42.0	37.0	K-V	1176	LCA
tibia				30.0	21.0	42.0	35.0	K-V	1176	LCA
tibia				40.0	35.0			K-V	61	LCA
tibia						36.0	32.0	K-V	628	LCA
tibia						37.0	32.0	K-V	401	LCA
tibia						38.0	33.0	K-V	333	LCA
astragalus	46.0	50.0	21.0	28.0		30.0		K-V	333	LCA
astragalus	46.0	52.0	23.0	31.0		32.0		K-V	334	LCA
astragalus	47.0	50.0	22.0	29.0		29.0		K-V	278	LCA
astragalus	47.0	51.0	22.0	30.0		31.0		K-V	634	LCA
astragalus	47.0	51.0	22.0	31.0		32.0		K-V	333	LCA
astragalus	48.0	53.0	26.0	30.0		32.0		K-V	427	LCA
astragalus	48.0	54.0	24.0			32.0		K-V	635	LCA
astragalus	49.0		26.0	34.0		32.0		K-V	427	LCA
astragalus	52.5	26.7	31.8			28.4		K-V	1038	EBA
astragalus	55.4	29.8				36.0		K-V	11	EBA
astragalus	55.9			29.2				Sz-Cs	55	LCA
calcaneus	98.0	30.0						K-V	333	LCA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Sus scrofa* Linnaeus, 1758**										
calcaneus	102.0	32.0						K-V	333	LCA
calcaneus		33.0						K-V	495	EBA
calcaneus		34.0						K-V	262	EBA
metatarsus II			6.0	11.0	11.0	18.0		K-V	462	EBA
metatarsus III	102.0			15.8		17.7		O-B	1233	EBA, K
metatarsus III		21.0	26.0	17.0	14.0			K-V	647	LCA
phalanx proximalis	43.0	19.0	20.0	17.0	15.0	18.0	13.0	K-V	1428	LCA
phalanx proximalis	46.3	23.0		17.4		20.3		K-V	1128	EBA
phalanx proximalis	47.0	20.0	20.0	16.0	12.0	18.0	13.0	K-V	259	EBA
phalanx proximalis	48.0	24.0	21.0	17.0	13.0			K-V	462	EBA
phalanx proximalis	48.9	20.4		15.5		18.8		K-V	1128	EBA
phalanx proximalis	50.1	20.5		16.9		18.7		K-V	1128	EBA
phalanx proximalis	50.1	20.8		15.5		18.5		K-V	1037	EBA
phalanx proximalis	51.0	23.0	21.0	18.0	13.0	20.0	13.0	K-V	462	EBA
phalanx proximalis	51.6	21.8		17.8		19.5		K-V	1037	EBA
phalanx proximalis	54.0			17.0	15.0	20.0	15.0	K-V	61	LCA
phalanx medialis	32.0	22.0	23.0	18.0	14.0	22.0	21.0	K-V	462	EBA
phalanx medialis	34.0	22.0	22.0	18.0	15.0	18.0	18.0	K-V	188	EBA
phalanx medialis	34.0	22.0	22.0	18.0	17.0	19.0	18.0	K-V	1316	LCA
phalanx medialis	34.0	23.0	22.0	18.0	16.0	22.0	21.0	K-V	431	EBA
phalanx medialis		20.0	21.0	17.0	16.0	17.0	16.0	K-V	462	EBA
phalanx distalis	43.0	39.0		21.0				K-V	1316	LCA
phalanx distalis	65.3	52.1		21.0				K-V	1037	EBA

Skeletal part	GL	BP	DP	SB	SD	BD	DD	Site	Feature	Age
***Vulpes vulpes* Linnaeus, 1758**										
LM1	13.0	6.0						K-V	334	LCA
LM2	8.0	7.0						K-V	334	LCA
radius		15.0	10.0	11.2				K-V	58	LCA
ulna		10.0	15.0					K-V	279	LCA
metacarpus II	44.0	4.0	7.0	5.0	4.0	7.0	6.0	K-V	1237	LCA
metacarpus III	46.0	7.0	9.0	6.0	5.0	8.0	7.0	K-V	87	LCA
metacarpus III	51.0	5.0	7.0	4.0	3.0	5.0	6.0	K-V	1237	LCA
metacarpus IV	49.0	5.0	6.0	4.0	3.0	5.0	6.0	K-V	1237	LCA
femur		33.0	15.0					K-V	1177	LCA
tibia						18.0	13.0	K-V	408	LCA
***Meles meles* Linnaeus, 1758**										
LM1 tooth	16.5	7.9						D-T	429	EBA
scapula	81.0	19.2		17.8				K-V	213	EBA
humerus				7.9		28.3		K-V	213	EBA
ulna		13.5	11.8					K-V	126	EBA
ulna		16.1	12.7					K-V	213	EBA
ulna		18.1						K-V	252	EBA
pelvis		17.7						K-V	213	EBA
femur						22.8		K-V	213	EBA
***Ursus arctos* Linnaeus, 1758**										
calcaneus		58.0						K-V	1177	LCA
***Felis silvestris* Schreber, 1775**										
radius		9.1	6.5					K-V	252	EBA
ulna		12.0	10.7					K-V	252	EBA
ulna		14.0		8.4				K-V	336	LCA
calcaneus	37.0	14.0						P-Gy	500	EBA
tibia		27.4	28.7					K-V	252	EBA
***Castor fiber* Linnaeus, 1758**										
radius		14.0	9.0	7.0	5.0			K-V	279	LCA
tibia				12.0	10.0	19.0	17.0	K-V	428	LCA
***Lepus europaeus* Pallas, 1778**										
scapula		13.7		7.9				Sz-Cs	38	LCA
humerus				7.0	7.0	12.0	10.0	P-Gy	417	LCA
humerus				8.0	7.0	14.0	11.0	K-V	222	LCA
pelvis		13.0		6.0	11.0			P-Gy	417	LCA
pelvis		14.0		9.0	13.0			K-V	334	LCA
femur		25.8	10.7					D-T	309	EBA
femur		25.9	11.9	9.7				P-Gy	493	EBA
femur				11.0	8.0	19.0	19.0	P-Gy	417	LCA
femur				11.0	9.0	20.0		K-V	88	LCA
femur						21.4	17.6	Sz-Cs	127	LCA
tibia	148.6	25.2	26.1	10.0		13.0		Sz-Cs	110	LCA
tibia		20.5	22.8					K-V	340	LCA
tibia		22.0	25.0					K-V	491	LCA
tibia				8.0		12.1	10.2	Sz-Cs	121	LCA
tibia				9.0	7.0	16.0	11.0	K-V	334	LCA
tibia						14.7	10.1	K-R61	518	MBA
tibia						16.1	11.1	P-Gy	493	EBA

metatarsus II	51.7			4.4				O-B	1167	LCA
metatarsus II	61.0	6.0	9.0	4.0	5.0	7.0	6.0	K-V	622	LCA
metatarsus II		6.0	9.0	5.0	5.0			K-V	334	LCA
metatarsus IV	59.0	7.0	8.0	4.0	4.0	6.0	6.0	K-V	279	LCA
metatarsus IV		6.0	8.0	4.0	4.0			K-V	634	LCA
***Anas platyrhynchos* Linnaeus, 1758**										
humerus				8,0		16,0		K-V	1259	LCA
Falco* cf. *subbuteo										
ulna		7.6	8.5	3.6				O-B	1233	EBA, K
Corvus frugilegus*/*C. corone										
ulna	79.6	10.6	11.5	4.6		9.6		P-Gy	1075	EBA
ulna				4.9		9.5		D-T	429	EBA
carpometacarpus	49.0	11.0				8.0		K-V	730	EBA
femur	61.0	12.0	7.0	5.0		11.0	9.0	K-V	682	LCA

This work presents the results of research conducted on four Late Copper Age, seven Early Bronze Age, and two Middle Bronze Age animal bone assemblages, located in the southern part of Transdanubia in southwestern Hungary. Until now, the available archaeozoological information from this area has been rather limited. The discussion of the archaeozoological material includes the find contexts within the settlement, the identified species, bone and antler artefacts, as well as taphonomic observations and pathological phenomena. At the end of each chapter, the results are discussed in a comparative way both in the local and regional context of the given archaeological period. The final summary is followed by appendices including data on radiocarbon-dated specimens and the measurements of bones as supplements to the volume.

Animal remains representing the LCA to EBA transition in southwestern Transdanubia shed light on major changes in numerous aspects of daily life. They show the overwhelming dominance of domesticates in meat consumption with an increasing importance of pork in comparison with mutton. Special belief systems are illustrated by structured deposits containing complete or partial animal skeletons during the LCA, associated with populations that probably relied on a mobile pastoral tradition. By the EBA, a trend of greater sedentism is complemented by the appearance of horses. Marked differences also occur between the animal raw materials and functional types of tool kits in these two main periods. These archaeozoological phenomena further enhance our understanding of regional trends in the relationships between animals and humans in southern Transdanubia within the broader framework of the LCA-EBA transition in the Carpathian Basin.

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