

## THE ANIMAL BONES FROM A LATE BRONZE AGE FEATURE AT OSTROV

ZVIŘECÍ KOSTI Z POZDNĚ BRONZOVÉHO OBJEKTU V OSTROVĚ

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*In 1999 a Štítary/Silesian Platěnice culture (close of the Bronze Age) feature was discovered at Ostrov (Prague-East district) which contained the rare find of a ritual clay mask.*

*The animal bone assemblage from this feature (532 fragments in all) was subjected to detailed analysis. The assemblage displays many peculiarities and differences from the 'average' prehistoric feature. This led to speculation that the presence of the animal bones (or at least some of them) might be related to the clay mask finds.*

*Among the most important findings were: the presence of burned wolf's paws (at least three paws, perhaps one individual), the presence of contiguous sections of the limbs of a slim or medium build horse 130 cm high at the withers, the marked preponderance of wild species (according to number of fragments, minimum number of individuals, and number of identified species), the high variety of species (some 18-20 species identified, of which 14 wild; a minimum of 35 individuals, of which 27 wild), the high number of beaver bones from at least 4 individuals (with 104 fragments an almost dominant species), the presence of rarely found species (wolf, wild cat, chub, salmon/sea trout) and the presence of a tool (club) made from red deer antler. There is a high percentage of water-bound species including clams and fish of relatively large dimensions (salmon/sea trout - 100 cm; chub - 55 cm; pike - 80-90 cm).*

*The assemblage further shows the typical marks of kitchen and butchery waste (notches and cuts from carving and skinning), also noted among the wild species (wolf, wild cat, beaver). Indications of other taphonomic processes are also present (fragmentation, burning, gnawing).*

*Another feature from the same site and period yielded skeletons of the European pond turtle (*Emys orbicularis*) and the hornless, domestic sheep (*Ovis ammon f. aries*).*

### INTRODUCTION

A large number of late Bronze Age features were discovered in 1999 during archaeological excavations at Ostrov, near Zápý (Prague-East district). Feature 257 (trench H) contained not only ceramics of the Štítary and Silesian Platěnice cultures but also an exceptional archaeological find - a clay mask - that has already been published. For this reason priority was given to the processing of the faunal osteological material from this feature.

The Zápý-Ostrov site lies on flat terrain in the valley of the middle Labe (Elbe), some 1-2 km from the watercourse.

### SPECIES REPRESENTATION AND THE PROPORTION OF GAME SPECIES

The osteological assemblage from feature 257 consisted of 532 bones or fragments thereof. An overview of the identified species and anatomical parts is given in *Tables 1 & 2*. *Table 1* gives not only the numbers of fragments, but also minimum numbers of individuals.

Wild mammals, all of which might have been game, predominate over domestic (by a factor of 3 by number of fragments, by a factor of 2 by minimum number of individuals). They also predominate in terms of the number of identified species (4-6 domestic, 8 wild). Wild faunal species as a whole predominate over domestic by over 4 times by fragment number and 3 times by minimum number of individuals. Mammals are preponderant, but fish and freshwater molluscs are also well represented. Altogether 18-20 faunal species are present in the assemblage, of which 14 are wild. In absolute terms the most abundant species was the European beaver, which accounted for around two-thirds of all the wild mammals, and for which a minimum of four individuals were present. The presence of wolf is rare, its relatively plentiful bones coming from a single individual. The domesticated species were not dominated by cattle as expected, but by medium-sized species - pig and

		whole bone	whole bone (non complete)	whole without epiphysis	epiphysis (non fused)	more than half (3/4)	half	less than half (1/4)	fragment	small fragment	very small fragment	not identified	TOTAL	MNI
<i>Equus ferus f. caballus</i>	kůň domácí	8				1			4	1			14	1
<i>Bos primigenius f. taurus</i>	skot domácí							2	1				3	2
<i>Sus scrofa f. domestica</i>	prase domácí	3				4	1	1	2	2		1	14	3
cf. <i>Capra aegagrus f. hircus</i>	koza ?											1	1	1
<i>Ovis ammon f. aries</i>	ovce	1											1	1
<i>Ovis/Capra</i>	ovce/koza	4		2		3	1	7	1				18	2
<i>Bos/Cervus</i>	skot/jelen				1			1	1				3	1
<i>Canis lupus f.?</i>	vlk/pes	1					1						2	1
<i>Cervus elaphus</i>	jelen evropský							1				1	2	1
<i>Capreolus capreolus</i>	srnec obecný	1					1						2	1
<i>Sus scrofa</i>	prase divoké						1						1	1
<i>Lepus europaeus</i>	zajíc polní	2	1			1	1	1	2			1	9	3
<i>Canis lupus</i>	vlk	31				1		1	6				39	1
<i>Vulpes vulpes</i>	liška obecná					1							1	1
<i>Felis silvestris</i>	kočka divoká	1											1	1
<i>Castor fiber</i>	bobr evropský	41	1		3	9	12	13	20	2		3	104	4
Small ruminant	malý přežvýkavec						1		1				2	
Large mammal	velký savec							2	7	25		1	35	
Medium mammal	středně velký savec					7	1	5	11	21			45	
Small mammal	malý savec								2	4			6	
Undetermined mammal	neurčený savec					1		2	12	133	27	1	176	
Wild bird	divoký druh ptáka							2					2	1?
Aves	neurčený pták						2						2	
<i>Salmo salar/S. trutta trutta</i>	losos/pstruh mořský							1					1	1
<i>Esox lucius</i>	štika obecná	1				1	1	4	3	1			11	2
<i>Leuciscus cephalus</i>	jelec tloušť	1					1	1					3	2
<i>Osteichthyes</i>	neurčená ryba	1				1	4		7	8		1	22	
<i>Unio crassus</i>	velevrub tupý	3				2			1				6	3
<i>Unionidae</i>	velevrubovití									4			4	
<i>Euomphalia strigella</i>	keřnatka vrásčitá											1	1	1
<i>Gastropoda</i>	neurčený plž								1				1	1
TOTAL		99	2	2	4	32	28	44	82	201	27	11	532	35
TOTAL DOMESTIC MAMMALS													51	8
TOTAL WILD MAMMALS													161	13
TOTAL WILD BIRDS													4	1
TOTAL FISH													37	5
TOTAL MOLLUSCS													12	5

Tab. 1. Ostrov-Zápy (trench H, feature 257): found animal species and the size of fragments — Tab.1: Ostrov-Zápy (sonda H, obj. 257): nalezené zvířecí druhy a velikost fragmentů.

sheep/goat. Cattle are represented only by isolated fragments. The relatively high number of horse bones is caused by the presence of parts of the body of a single individual. Among the wild mammalian species small and large artiodactyls, omnivores, carnivores, rodents and hares are represented.

### SPECIES OVERVIEW

The anatomical finds for particular species are given in *Table 2*, and the minimum numbers of individuals in *Table 1*. Given the good state of preservation of many of the bones (see fragment sizes in *Table 1*) the assemblage was assessed metrically (*Table 3*), the dimensions being obtained according to *Driesch (1976)*.

#### *Domesticated species:*

*Equus* (kůň): while domesticated and wild species are not differentiated, this was probably a domesticated form; the contiguous distal part of the left forelimb is particularly notable. With the aid of the *Kiesewalter (1888)* coefficient, a withers height of 130 cm was estimated. The slenderness index (B/GL x 100/1) of these bones is 14.5, placing this individual in the category of slender to medium build (using the divisions of *Brauner 1916*).

*Bos primigenius* f. *taurus* (domesticated cattle): the heavy tooth abrasion (height of the M2 crown 12 mm) indicates an individual of advanced age, while a juvenile individual (ulnar) was also present.

*Ovis/Capra* (sheep/goat): the majority of sheep and goat bones are not securely classifiable into species; various anatomical parts are present. In all a minimum of two sheep/goats were present; a very juvenile individual and an (older) adult were indicated, a lower jaw with surviving front teeth enabling age to be estimated at between 4 and 6 years (after the method of *Payne 1973*).

*Ovis ammon* f. *aries* (domesticated sheep): the ankle bone found is perhaps female.

cf. *Capra aegagrus* f. *hircus* (domesticated goat): this species was not securely identified, but apparently relates to an undeveloped metacarpal epiphysis (individual younger than 2 years).

*Sus scrofa* f. *domestica* (domesticated pig): at least three individuals, of which one was a neonate (metapodium), one was very juvenile (little worn milk teeth, other undeveloped teeth) and one a sub-adult or adult (permanent dentition). One mandible fragment showed an original absence of P1.

#### *Game species:*

*Cervus elaphus* (red deer): present in the form of an antler tool (see below).

*Capreolus capreolus* (roe deer): only bones from the distal parts of a possibly juvenile individual found.

*Sus scrofa* (wild boar): identified from a single shoulder blade fragment.

*Lepus europaeus* (common hare): juveniles probably also present.

*Canis lupus* (wolf): a number of fragments from a second location, but all the bones clearly from a single individual, fully adult as evidenced by the developed metapodial epiphyses and developed peripheral cartilage of the pelvis. Bones of the distal parts of the limbs clearly predominate (metapodia and phalanges make up 77 % of all the bones), the whole paws probably being deposited in the feature even though not entirely all of the paw bones survive (bones of both rear and the front left paws securely identified). The left and right pelvic bones were also present along with vertebrae fragments. This species is found only very rarely in archaeological material, and is not known from any other site of the Bronze or Iron Ages in the Czech Republic.

At least one further example of a dog-like carnivore is present (a dog or another wolf), identified primarily on the basis of a fourth tarsal bone (cuboideum).

*Vulpes vulpes* (red fox): only one shinbone fragment found.

*Felis silvestris* (European wildcat): a rarely occurring species, otherwise found (and published) only once for the Bronze and Iron Ages, at Blažim (Louny district) (*Novotný 1973*).

*Castor fiber* (Eurasian beaver): clearly predominates among all the species, with at least four individuals of differing ages (juvenile and adult individuals identified, possibly older individuals also), and all the anatomical parts, including tail vertebrae and phalanges, being present.

*Aves* (birds): at least one wild species of bird was present.

*Esox lucius* (northern pike): numerous fragments of lower jaws indicate at least two individuals, of body lengths 80-90cm and 65-70cm (body lengths after Smith = *longitudo corporis* - see *Baruš - Oliva et al. 1995*).

*Salmo salar/trutta trutta* (Atlantic salmon/brown trout): a single bone is evidence for a salmon-like fish with an estimated body length of 100cm; given the considerable size and morphological indicators this was a salmon or, less likely, a North Sea form of trout (both species migrate between the sea and the upper courses of rivers).

*Leuciscus cephalis* (European chub): at least two individuals of different sizes (50-55 and 30 cm) were present, the first being rather large given that the maximum length attained by this species is 60 cm (*Baruš, Oliva et al. 1995*).

Many species of fish are found only very rarely amongst archaeological finds, and the chub and salmon/trout from Zápý-Ostrov are perhaps the first identified examples from the Bronze and Iron Ages of the Czech Republic.

#### *Molluscs:*

*Unio crassus* (the river mussel): a total of 6 shells (left and right) or their fragments. In one instance the left and right shells of a single individual were recognised, while four further fragments of unidentifiable bivalves were also found; the mussels may have served as food.

*Euomphalia strigella*: a common Central European forest/steppe species of snail, living among shrubs and groves, steppe slopes and rocky steppes (*Pfleger 1988*); secondary introduction from a later layer cannot be ruled out.

### FRAGMENTATION AND TAPHONOMY

The sizes of fragments for individual species are given in *Table 1*. It is clear that the majority are represented by fragments of varying sizes (from whole bones to fine scraps). For horse, wolf and (partly) beaver the bones survived better than is usual, as demonstrated by the high percentages of whole, undamaged bones. The bones of these species were clearly not subjected to taphonomic processes, the wolf paws and part of the equine forelimbs apparently placed in the pit as a compact whole (with soft tissue, even).

Nine fragments were completely burned, among them the lower jaw of a pike and a pig metapodium. Burning of a smaller part of the bone (in a total of 9 fragments) was found in the metapodia and phalanges of the fore and hind wolf limbs, a beaver upper mandible, cattle bones, sheep/goat ribs and others. Two sheep/goat incisors has burnt crowns. The bones of the distal part of the wolf limbs were (?deliberately) burned, apparently while the paws were still whole (burning recorded at several points on at least two paws - front and hind).

Rodent bites were noted only on a hare shoulder blade. The same bone also had a deformation reminiscent of the bite of a small carnivore. It is not impossible that that the scar on the proximal (exposed) end of the horse metacarpal originated in the bite of a carnivore (dog), in which case the aforementioned equine limb was left at the disposal of the dog before being deposited in the pit. An isolated bit mark (perhaps from a dog) was recorded on a further three fragments from large mammals, and perhaps on the pelvis of the wildcat.

	<i>Equus</i>	<i>Bos primigenius f. taurus</i>	<i>Sus scrofa f. domestica</i>	<i>Ovis/Capra</i>	<i>Ovis ammon f. aries</i>	cf. <i>Capra aegagrus f. hircus</i>	<i>Bos/Cervus</i>	<i>Canis lupus f.?</i>	<i>Cervus elaphus</i>	<i>Capreolus capreolus</i>	<i>Sus scrofa</i>	<i>Canis lupus</i>	<i>Vulpes vulpes</i>	<i>Felis sibiricus</i>	<i>Lepus europaeus</i>	<i>Castor fiber</i>	Small ruminant	Large mammal	Medium mammal	Small mammal	Undetermined mammal	Wild bird	Aves	<i>Esor lucius</i>	<i>Leuciscus cephalus</i>	<i>Salmo salar/S. trutta trutta</i>	<i>Osteichthyes</i>	<i>Unio crassus</i>	<i>Unionidae</i>	<i>Euomphalia strigella</i>	<i>Gastropoda</i>	TOTAL
Cranium																2			8					1			5					16
Cranium + dens																1																1
Maxilla + dens																3																3
Praemaxilla				1																				1							2	
Nasale				1												3															4	
Zygomaticum																1															1	
Neurocranium																1		1		2											4	
Frontale																								1							1	
Parietale																1															1	
Occipitale			1													1															2	
Temporale			1													1		1													3	
Basisphenoid																					1										1	
Opercular series																								1							1	
Articulare																								1							1	
Mandibula			1																					6		1					8	
Mandibula + dens	1	1	1													2															5	
Antler									1																						1	
branchiale 5																									1						1	
Hyoideum																	2														2	
Incisivus																1															1	
Caninus							1																								1	
Molar			1																												1	
Incisivus inf.				3																											3	
Incisivus 1 inf.			1																												1	
Canine inf.			1																												1	
Incisivus decid. inf.			1																												1	
Molar 3 inf. decid.			1																												1	
Vertebra																3		1									3				7	
Atlas				2												1															3	
Axis			1			1																									2	
Vertebra cervicalis			1								2							1	1												5	
Vertebra thoracica																5		1	1												8	
Vertebra lumbalis				1							4					4		3	1		1										14	
Sacrum							1				1					1															3	
Vertebra caudalis																6															6	
Costa	4			1											1	36		4	18	2	7		2				5				80	
Costa 1																1															1	
Costa (anterior)																2															2	
Costa (posterior)	1															3															4	
Sternum																							1								1	
Scapula										1					3	5			1		2										12	
Cleitrum																								1							1	
Humerus				1													1				1	1									4	

	<i>Equus</i>	<i>Bos primigenius f. taurus</i>	<i>Sus scrofa f. domestica</i>	<i>Ovis/ Capra</i>	<i>Ovis ammon f. aries</i>	<i>cf. Capra aegagrus f. hircus</i>	<i>Bos/ Cervus</i>	<i>Canis lupus f. ?</i>	<i>Cervus elaphus</i>	<i>Capreolus capreolus</i>	<i>Sus scrofa</i>	<i>Canis lupus</i>	<i>Vulpes vulpes</i>	<i>Felis sibiricus</i>	<i>Lepus europaeus</i>	<i>Castor fiber</i>	Small ruminant	Large mammal	Medium mammal	Small mammal	Undetermined mammal	Wild bird	Aves	<i>Esox lucius</i>	<i>Leuciscus cephalus</i>	<i>Salmo salar/ S. trutta trutta</i>	<i>Osteichthyes</i>	<i>Unio crassus</i>	<i>Unionidae</i>	<i>Euomphalia strigella</i>	<i>Gastropoda</i>	TOTAL
Radius														2	1																	3
Ulna		1																														1
Radius + ulna		1																														1
Carpale	1															1																2
Carpale 4	1																															1
Carpale distale inter.	1																															1
Metacarpus	1			1		1				1																						4
Metacarpus 1												1																				1
Metacarpus 2												1																				1
Metacarpus 4												1																				1
Metacarpus 5												1																				1
Phalanx I ant.												5																				5
Phalanx II ant.												5																				5
Pelvis+acetabulum																1																1
Pelvis												2																				2
Acetabulum														1																		1
Ischium+acetabulum							1																									1
Femur																2																2
Tibia				2									1		1			1														5
Fibula																3																3
Calcaneus																3		1														4
Talus					1											1																2
Tarsale								1								1																2
Metatarsus									1																							1
Metatarsus 2												2			1																	3
Metatarsus 3												1			1	3																5
Metatarsus 4												1																				1
Metatarsus 5												2			1																	3
Phalanx I post.												5				3																8
Phalanx II post.												4																				4
Metapodium	1		2																													3
Phalanx I	1		2						1																							4
Phalanx II	1		1																													2
Phalanx III	1		1	1							1																					4
Sessamoid (PhI)	1																															1
Undetermined																	24	12	4	160				1			9		4			214
Cochlea																														1	1	2
Concha																													6			6
CELKEM	14	3	14	18	1	1	3	2	2	2	1	39	1	1	9	104	2	35	45	6	176	2	2	11	3	1	22	6	4	1	1	532

Tab. 2. Ostrov-Zápy (trench H, feature 257): anatomical parts of individual species — Tab. 2: Ostrov-Zápy (sonda H, obj. 257): přehled anatomických částí u jednotlivých druhů.

### BUTCHERY AND PREPARATION MARKS

A total of 34 human interventions were recorded on a total of 23 fragments. The greatest number of these were found on wolf and beaver skeletons. For the wolf these are primarily incisions to the metapodia and phalanges, cuts to the sacra, and strokes to the pelvis, including evidence of the separation of the hind limbs (femurs). The spines too (lumbar regions) were clearly cut up. An incision was found on the tarsal bone of the unidentified dog-like carnivore (wolf/dog). Cuts to the metatarsals and basipodia of the fore and hind limbs of beavers were found, these clearly originating in the removal of the hides. A cut to the atlas is evidence for separation of the head. Further cuts are present on the pelvis of the wildcat and the hoof of a sheep, while the distal part of horse metapodia had been cut laterally. Cut or hack marks were also recorded on other, unidentifiable fragments, e.g. in the lumbar spine of a large mammal (cattle?), in smaller sections.

In summary, the bones or skeletal parts of the wild and domesticated species were not deposited in the pit without prior processing. The use (for food or otherwise) of horse, wolf, wildcat and beaver is likely. The marks on the wolf and beaver bones indicate that they were used for their hides. The presence of food preparation marks or burning do not, of course, rule out the deliberate (ritual) deposition of the bones in the pit.

### PATHOLOGY

No conspicuous pathologies were recorded. A pathology was found on the rib of a medium-sized mammal, perhaps a sheep/goat (possible articulation after breakage). The deformation present in a sheep/goat hoof may also be a pathology. On the first phalanx of the horse a strongly developed tendinous attachment zone for a flexor was evident (which may indicate that the horse was used for work).

### ECOLOGY AND SEASONALITY

Wild species are represented in the form of both forest species (deer, boar, wolf, fox, wildcat) and species living in more or less open environments (hare, *Euomphalia strigella*). There is a high proportion among the wild species of those associated with water - beaver from among the mammals, as well as fish such as salmon/trout, pike and chub and molluscs including the river mussel and other bivalves. The presence of the Labe (Elbe) 1-2 km away clearly played a role in this.

According to the data presented by Frič (*Baruš - Oliva et al. 1995*) salmon runs occurred on this section of the Labe at three times: in February/March, May/June and September/October. It is most likely that the large individual recovered from the feature was hunted in one of these periods. This does not, however, provide a basis for identifying the season in which the feature was closed.

### ARTEFACT

An object (mallet, hammer) made on a red deer antler base, was present in the pit. The antler was worked by whittling, and smoothed: the antler junction was heavily smoothed, the first tine cut, and a transverse helving aperture created in its place.

### PECULIARITIES OF THE FEATURE

Although the situation in other features is not precisely known, it can be stated that the animal bone assemblage from feature 257 contains certain peculiarities setting it apart from the 'average' prehistoric

feature, which may be related to the find of a clay mask and may also be of ritual significance. Among these peculiarities are:

- 1) the high variety of species (various faunal taxa are represented, from mollusca to fish, birds and mammals - 18-20 species in all) and the relatively high number of identified individuals (35)
- 2) the high proportion of wild species
- 3) the clear predominance of beaver (an unusual phenomenon)
- 4) the presence of rarely encountered species (wolf, wildcat, wild bird species, chub, salmon/brown trout)
- 5) the presence of burned wolf paws and contiguous equine limb parts (these bones not being fragmented).
- 6) the high proportion of water-related species, including a larger number of fragments from fish and aquatic bivalves.
- 7) the presence of an antler tool.

Further traits of the assemblage, however, accord with those of assemblages representing cooking wastes. Both food preparation and butchery marks are present (even in the wild species - wolf, wildcat and beaver) as are other indicators of taphonomic processes (fragmentation, bite marks, burning). This indicates that the animals were used either for food or otherwise (e.g. for their skins). Other than those examples given above (for horse and wolf), no contiguous skeletal parts were present.

#### *FINDS FROM OTHER FEATURES*

While the site has not yet been processed as a whole, nevertheless preliminary observations have been made regarding other features, during which other important finds were identified. From the *milieu* of the Štítary phase of the Knovíz culture came a rare find of a European pond turtle (*Emys orbicularis*), including for example the whole plastron. The same period gave rise to the majority of the surviving skeletons of domestic sheep and domestic fowl (*Gallus gallus f. domestica*). Further details of these finds will be found in *Kyselý (in press)*.

#### *CONCLUSIONS*

The processed assemblage of 532 animal bones and fragments thereof from the Zápy-Ostrov (Štítary and Silesian Platěnice culture) site presented here exhibits many peculiarities and dissimilarities from the 'average' prehistoric feature. This leads to speculation that the presence of (at least some of) the animal bones may be linked to the find of an archaeologically rare item - a ritual mask. Among the most important findings were the presence of burned wolf's paws, the presence of contiguous parts of an equine limb belonging to a horse at least 130 cm high at the withers, a marked preponderance of wild species (by number of fragments, minimum number of individuals and number of identified species), a large number of beaver bones from at least four individuals, the presence of rarely encountered species (wolf, wildcat, chub, salmon/brown trout), the great variety of species and the presence of an antler tool. At the same time the assemblage exhibits typical marks of butchery and food preparation waste (cuts and incisions for portioning up the body and removing the skin).

*English by Alastair Millar*



Anatomic	Side	GL	LI	Lm	Bp	BFp	Dp	B(SD)	D	Bd	BFd	Dd	H	Hf	GB	Di	Ld	MIM3ia	P2P4ia	P2M3ia	HmdbP2	HmdbM1	BT	SLC	Hmin	DI	Dm	
<i>Equus (kůň)</i>																												
Carpale	s															42,2	45,9											
Carpale distale intermed.	s																23,9											
Carpale 4	s															31,1												
Sesamoid (Ph1)	s															47,2												
Metacarpus	s	215	202,2		47	46	32	31,2	19,8	46,4																		
Phalanx I	s	77,4			50,1	46,6	33,6	33,9	18,3	45,4	43,5	23																
Phalanx II	s	43,7			51,4	45,9	29,8	42,6	21,5	47,5		24																
Phalanx III	s	55t				46,2								22,9	71,6		44,5											
<i>Bos primigenius f. taurus (tur domácí)</i>																												
Mandibula + dens	d																78,9											
Radius + ulna	s									70,4																		
<i>Ovis ammon f. aries (ovce domácí)</i>																												
Talus	d		27,3	25,6						18																15,2	16,8	
<i>Ovis/Capra (ovce/koza)</i>																												
Mandibula + dens	d							7,7										24,3	68,8t	16,1t	20				12,2			
Humerus	s																						26,8j					
Metacarpus	d				21,6j		15,9j	14,9j	9,1j																			
Phalanx I	n	24,4			10		10,1	6,8	6																			
Phalanx II	n		22	23,6	11,2			8	7,9	9,3		11,1																
Phalanx III	n	22,7																										
<i>Sus scrofa f. domestica (prase domácí)</i>																												
Phalanx III	n	22,8																										
<i>Cervus elaphus (jelen evropský)</i>																												
Metatarsus	d							24	50		31,2																	
<i>Capreolus capreolus (srnec obecný)</i>																												
Phalanx I	n		37,6	37,1	11,4		15,4	8,3	7,8	10		9,1																
<i>Sus scrofa (prase divoké)</i>																												
Scapula	d							14																27,4				

Tab. 3/1. Ostrov-Zápy (trench H, feature 257): biometry of animal bones — Tab. 3/1. Ostrov-Zápy (sonda H, obj. 257): metrické zhodnocení zvířecích kostí.

Anatomie	Strana	GL	Bp	BFP	Dp	B (SD)	D	Bd	Brd	Dd	Dip	H	GB	GD	LA	P4M3a	P4M3sa	L-diast.	L-symfysa	Id-Goc	Gov-Cond(H)	Gov-Cr	Id-Cond(L)	Lfo	SLC	GLP	LG	BG	HS	BFCr	BRCD	Hfo																				
<i>Lepus europeus</i> (zajíc polní)																																																				
Scapula	d																									14,7	13,3	12,9																								
Scapula	s				4,2																					8,5	14,4	12,6	12,9																							
Scapula	d				4,4n																					8,6n																										
Radius	s							11,2																																												
Radius	s		10,5		6,9	5,7	4,4																																													
Metatarsus 2	d	57,3						6,9		9,1																																										
Metatarsus 3	d	59,2						6,6		9,7																																										
Metatarsus 5	d	57,8				3,9		6,2		9,1																																										
<i>Castor fiber</i> (bobr evropský)																																																				
Maxilla + dens	sd																30,6																																			
Cranium + dens	sd																	48,6																																		
Mandibula + dens	s																35,2		25,5	46	109,2	41,7	58,5m	98																												
Mandibula + dens	d																41,1																																			
Atlas	n																																																			
Scapula	d																																																			
Scapula	d																																																			
Scapula	d																																																			
Scapula	d																																																			
Pelvis + acetabulum	s	190m																																																		
Femur	d																																																			
Femur	s																																																			
Tibia	d	152,3	36,8		32,6	12,6		31,9n	18,9	19,4																																										
Talus	s	25,4		20																																																
Calcaneus	d	54				11,2	18																																													
Calcaneus	d	54				11,8	20,5																																													
Calcaneus	s	54,5				9,7	17,2																																													
Metatarsus 3	d	51,6				7,8		12,7																																												
Phalanx I post.	n	24,9	9,7			8		6,9																																												
Phalanx I post.	n	28,7	12,7	11,2		8,8		9,2																																												
Phalanx I post.	n	28,9	12,7	11,3		8,8		9,3																																												

Tab. 3/2 - (continuation): Ostrov-Zápy (trench H, feature 257): biometry of animal bones — Tab. 3/2. (pokračování): Ostrov-Zápy (sonda H, obj. 257): metrické zhodnocení zvířecích kostí.

Anatomic	Side	GL	Bp	B (SD)	Bd	BFd	Dip	GB	LA	Lfo	H	SH
<i>Canis lupus</i> (vlk)												
Pelvis	d			11,8					29,8	39,2		
Pelvis	s	189,8		11,5					30,2	38,3		25,9
Metacarpus 1	s	29,3										
Metacarpus 2	s	82,9		9,1	12,8	12,5	16					
Metacarpus 4	s	90,9		8,9	11,8	11,8	17,7					
Metacarpus 5	s	78			12,6		18					
Metatarsus 2	d	90,8		8,2	12,3		17,8					
Metatarsus 2	s	90,5		7,5	11,5	11,3	17,8					
Metatarsus 3	d	99,5		9,7	12,7	11,6	19,4					
Metatarsus 5	d	91,8		6,6	10,7		16,2					
Metatarsus 5	s	92,4		6,6	10,6		16,1					
Metatarsus 4	d	101,6		7,6	11,6	11	19,2					
Phalanx I ant.	n	32	11,7	6,9	9,5							
Phalanx I ant.	n	31,3	12,6	7,7	10,4							
Phalanx I ant.	n	30,7	11,1	6,2	9,1							
Phalanx I ant.	n	31,3	12,2	7,8	9,9							
Phalanx I ant.	n	31,3	12,3	7,8	10,1							
Phalanx II ant.	n	31,7	11,6	6,8	9,5							
Phalanx II ant.	n	18,4	10,8	8,2	10,6							
Phalanx II ant.	n	14,9	8,3	6,2	7,3							
Phalanx II ant.	n	18,5	9,6	6,9	9,3							
Phalanx II ant.	n	18,5	10,1	7,4	9,7							
Phalanx I post.	n	37,5	12,3	7,5	10,1							
Phalanx I post.	n	36,1	12,7	7,6	10,2							
Phalanx I post.	n	37,3	12,1	7,5	9,9							
Phalanx I post.	n	36,4	12,1	7,7	10,4							
Phalanx I post.	n	37,3	11,9	7,1	9,7							
Phalanx II post.	n	26	10,5	6,6	10,3							
Phalanx II post.	n	25,6	10,4	6,6	10							
Phalanx II post.	n	24,5	10,9	7,3	10,7							
Phalanx II post.	n	26,1	10,7	6,8	10,6							
Phalanx III	n	21,7m						10,2				
<i>Pisces</i> (ryba)												
Vertebra	n							19,5				
<i>Unio crassus</i> (velevrub tupý)												
Concha	s										29,6	
Concha	d	32,6									18,4	
Concha	s	49,4									26,5	
Concha	d	50,3									27,4	
Concha	s										20	

Tab. 3B. (continuation): Ostrov-Zápy (trench H, feature 257): biometry of animal bones — Tab. 3B. (pokračování): Ostrov-Zápy (sonda H, obj. 257): metrické zhodnocení zvířecích kostí.

Abbreviations for Tab. 3 — Použité zkratky pro Tab. 3.

Abbreviations of measurements (measured by Driesch 1976) — zkratky rozměrů (měřeno podle Drieschové 1976):

GL greatest length

HmdbP2

height of mandible (in front of P2)

Ll lateral length

HmdbM1

height of mandible (in front of M1)

Lm	medial length	L-diast.	length of diastema (alveolar)
Bp	max. proximal breadth	L-symfysa	length of symphysis (alveolar)
BFp	proximal breadth (facies articularis)	Id-Goc	Infradentale-Gonion caudale
Dp	max. proximal depth	Gov-Cond(H)	Gonion ventrale-highest condyl point (height of ramus)
DFd	proximal depth (facies articularis)	Gov-Cr	Gonion ventrale-Coronion
B (SD)	min. breadth (of diaphysis)	Id-Cond(L)	Infradentale-highest condyl point (length)
D	min. depth (of diaphysis)	Di	max. diagonal
Bd	max. distal breadth	Ld	length of dorsal surface
BFd	distal breadth (facies articularis)	BT	breadth of trochlea
Dd	max. distal depth	Lfo	length of foramen obturatum
Dip	distal depth (facies articularis)	Hfo	height of foramen obturatum
H	height	SLC	min. length of collum
Hf	height (facies articularis)	GLP	max. length of pr. articularis
GB	greatest breadth	LG	length of glenoid
GD	greatest depth	BG	breadth of glenoid
LA	length of acetabulum	HS	height (length) of scapula
M1M3ia	length of lower molar row (alveolar)	Hmin	min. height
P2P4ia	length of lower praemolar row (alveolar)	BFCr	cranial breadth of facies articularis
P2M3ia	length of lower facial row (alveolar)	BFCd	caudal breadth of facies articularis
P4M3ia	length of lower facial row (alveolar)	DI	lateral depth
P4M3sa	length of upper facial row (alveolar)	Dm	medial depth

Basic abbreviations of measurements — základní zkratky rozměrů:

L = length, B = breadth, D = depth, H = height, p = proximal, d = distal, G = greatest, F = facies articularis, P = praemolar, M = molar

Abbreviations — zkratky za hodnotami:

j = juvenil, subadult — ne zcela dospělý jedinec, n = maybe subadult — možná nedospělý, t = maybe small error in measurement — možnost drobné chyby v měření, m = minimal value — minimální hodnota

side — strana:

s = sinistra, d = dextra, sd = both sides — obě strany, n = not identified — strana neurčena

#### SOUHRN

Roku 1999 byl v Ostrově-Zápech (okr. Praha-východ) odhalen objekt štitarské-slezkoplatěnické kultury (sklonek doby bronzové), který obsahoval vzácný nález rituální hliněné masky.

Soubor zvířecích kostí z tohoto objektu (celkem 532 fragmentů) byl podroben detailní analýze. Soubor vykazuje mnohé zvláštnosti a odlišnosti od průměrného pravěkého objektu. To svádí k domněnce, že přítomnost zvířecích kostí (alespoň některých) může souviset s nálezem hliněné masky.

Mezi nejdůležitější zjištění patří: přítomnost opálených vlčích tlap (minimálně tři tlapy asi jednoho jedince), přítomnost souvislé části končetiny štíhlého až pološtíhlého koně o kohoutkové výšce 130 cm, značná převaha divokých druhů (dle počtu fragmentů, minimálního počtu jedinců i počtu doložených druhů), vysoká druhová pestrost (doloženo je celkem 18 až 20 druhů - z toho 14 divokých; celkem minimálně 35 jedinců - z toho 27 divokých), velký počet kostí bobra minimálně čtyř jedinců (s celkem 104 fragmenty je zde naprosto dominujícím druhem), přítomnost vzácně nalézáných druhů (vlk, kočka divoká, jelec tloušť, losos/pstruh mořský) a přítomnost nástroje (palice) z parohu jelena. Vysoké je procento na vodu vázaných druhů včetně velevrubovitých mlžů a ryb relativně velkých rozměrů (losos/pstruh mořský - 100 cm, jelec tloušť - 55 cm, štika - 80-90 cm).

Vedle toho soubor vykazuje typické znaky kuchyňských a řeznických odpadků (záseky a zářezy po porcování těl a stahování kůže), kterými jsou poznamenány i divoké druhy (vlk, kočka divoká, bobr). Přítomny jsou i další znaky tafonomických procesů (fragmentárnost, opálení, okus).

Z jiného objektu téže lokality a téhož období pochází kostra želvy bahenní (*Emys orbicularis*) a bezrohé ovce (*Ovis ammon* f. *aries*).

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