ANIMAL BONE REMAINS FROM THE CEMETERY IN EL-ZUMA (2007 SEASON)

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Deposits of animal bones were found in the burial chambers of three of the tumuli from the cemetery in El-Zuma excavated by Mahmoud El-Tayeb during the 2007 season at the site, carried out within the framework of the Early Makuria Research Project. These were tumuli 5 (chambers 2 and 3), 10 (central part of main chamber) and 25 (chambers 2 and 3) [*Table 1*], all three of which were dated by pottery finds to the 5th century AD. Deposits of this kind have been recorded before in tumuli from the Early Makurian period in El-Zuma, Tanqasi (Osypińska 2008) and other cemeteries from the Fourth Cataract region (unpublished report in the PCMA archives).

The archaeozoological analysis encompassed 116 faunal remains from the 2007 season. The bones are in relatively good condition despite having largely lost the

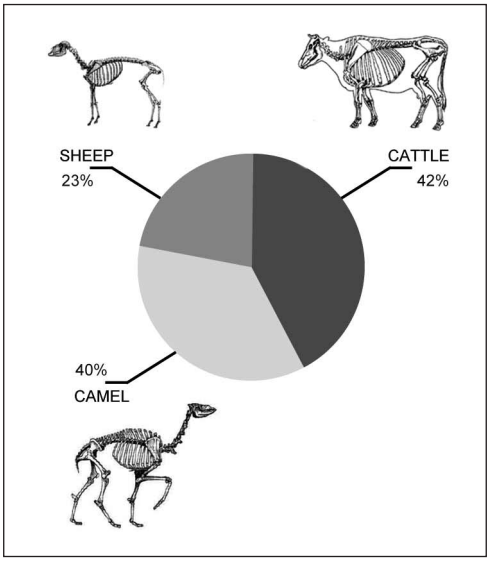

Fig. 1. Species participation from four tumuli in El-Zuma

Table 1. Animal remains by species from tumuli 5, 10 and 25, excavated in the 2007 season

	T.5 Ch.2	T.5 Ch.3	T.10	T.25 Ch.2	T.25 Ch.3
Camel *Camelus dromedarius f. domestica*	21 fr.	26 fr.	—	—	—
Sheep/goat *Ovis orientalis f. domestica / Capra aegagrus f. domestica*	1 fr.	—	—	18 fr.	8 fr.
Cattle *Bos primigenius f. domestica*	—	—	8 fr.	14 fr.	20 fr.

Table 2. Animal remains from tumulus 2 (season 2005) and tumuli 5, 10, 25 (season 2007)

	Tumulus 2	Tumulus 5	Tumulus 10	Tumulus 25
Individual bones	*Camelus dromedarius f. domestica*			
Vertebrae sacrales	1 fr.			
Costae	17 fr.	27 fr.		
Scapula	8 fr.	7 fr.		
Humerus	4 fr.			
Radius	1 fr.			
Ulna	2 fr.			
o. carpi	3 fr.			
Pelvis	6 fr.			
Femur	17 fr.	9 fr.		
Maxilla		1 fr.		
Sternum		2 fr.		
Patella		1 fr.		
		Bos primigenius f. domestica		
Scapula			1 fr.	10 fr.
Humerus			1 fr.	1 fr.
Radius			1 fr.	
Ulna			1 fr.	
Femur				12 fr.
Patella				1 fr.
Tibia			2 fr.	8 fr.
Talus			2 fr.	1 fr.
	Ovis orientalis f. domestica		*Ovis orintalis f. domestica / Capra aegagrus f. doemstica*	
Costae	45 fr.		25 fr.	
Vertebrae	10 fr.		2 fr.	
Scapula	2 fr.			
Humerus	5 fr.	1 fr		
Radius	1 fr.			
Ulna	1 fr.			
Pelvis	2 fr.			
Femur	2 fr.			
Tibia	2 fr.			
Calcaneus	2 fr.			
Talus	1 fr.			
o. tarsale I	1 fr.			

collagen and organic constituents which has resulted in considerable fragility. Species and anatomical identification was successful for all of the osteological fragments. All the bones were aged and sexed, and the morphological type was determined. Butchery traces on the bones were also noted.

The faunal assemblage included mammals (Mammalia) [*Fig. 1*]: cattle (*Bos primigenius* f. *domestica*), camel (*Camelus dromedarius* f *domestica*) and small domestic ruminants (*Ovis orientalia* f. *domestica, Capra aegagrus* f. *domestica*), considered as one group of ovicaprids owing to the low morphological differentiation of the skeletal remains of these species.

TUMULUS 5

Two species were represented in the two burial chambers: 21 and 26 fragments of camel bones in chambers 2 and 3 respectively, and a single bone of goat/sheep in chamber 3 [*Table 1*]. In anatomical terms, the camel bones were identified as coming from the trunk (*costa, sternum*), the proximal limb (*scapula, femur*) and a fragment of the jaw (*maxilla*). The one sheep bone represents a humerus [*Table 2*]. The degree of ontogenetic development indicated in both cases that the animals had been young specimens which had already reached almost adult size.

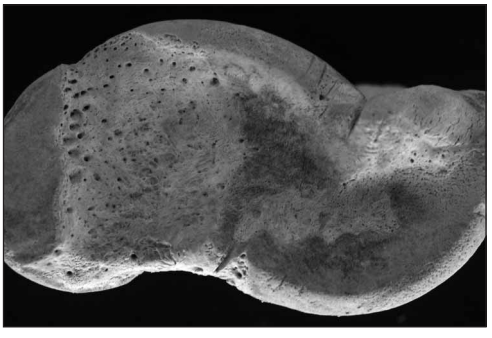

Fig. 3. Cuts observed on a camel bone (Photo M. Osypińska)

The camel bones bore traces of quartering [*Fig. 3*]. The cuts were visible especially on the ribs [*Table 3*]. Interestingly, part of the

Fig. 2. Selection of camel bones from Tumulus 5 (Photo M. Osypińska)

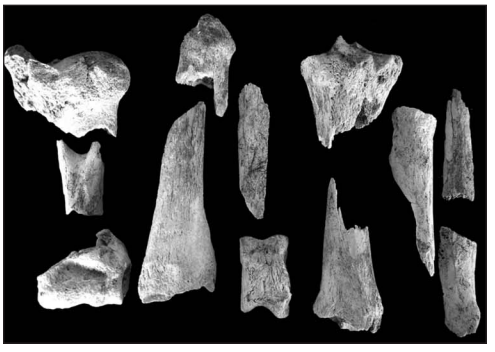

Fig. 4. Selection of cattle bones from Tumulus 10 (Photo M. Osypińska)

Fig. 5. Selection of animal bones from chamber 3 of Tumulus 25 (Photo M. Osypińska)

ribs were divided into sections of similar length, oscillating around 12 cm.

TUMULUS 10

Animal bones in tumulus 10 were found in one chamber only [*Fig. 4*]. They were identified as belonging to cattle [cf. *Table 1*], more specifically, the proximal part of limbs [cf. *Table 2*]. No butchering traces were noted.

TUMULUS 25

The burial contained the most abundant animal bone assemblage [*Fig. 5*], altogether 60 osteological fragments from two chambers [cf. *Table 1*]. The bones represented both cattle and a small ruminant. In anatomical terms, the cattle bones were identified as proximal parts of limbs; those of the small ruminant were limited to the vertebrae and ribs [cf. *Table 2*]. Butchering cuts were noted only on the bones of the small ruminants, testifying to filleting of the meat and chopping ribs into sections an average 6.5 cm long [cf. *Table 3*].

DISCUSSION

Animal remains as part of the burial provisions are a common find on Early Makurian cemeteries (Osypińska 2006). The faunal assemblage from the El-Zuma burial ground corresponds well with the present state of knowledge on the subject in terms of species distribution. Small ruminants predominate, sheep being found frequently in tombs in El-Zuma, Tanqasi and Saffi, and goats in El-Sadda. Remains of large ruminants, like cattle and camel, are not as frequent. Deposits of this kind were more likely to be noted in large tumuli with more elaborate underground parts. Outside of the El-Zuma cemetery, cattle remains were discovered on Tanqasi Island. The cattle remains were identified as the African short-horn variety.

Table 3. Osteometry of the animal remains from tumuli excavated in 2007

Bos primigenius f. domestica			
Radius			
	Bd	60 mm	
Tibia			
	Bp	83 mm	—
	SD	—	37 mm
	Bd	—	58 mm
Talus			
	GLI	62 mm	65 mm
	GLm	58 mm	60 mm
	Bd	36 mm	40mm
Camelus dromedaries f. domestica			
Radius			
	Bp	84 mm	
	SD	46 mm	
	Bd	72 mm	
	GL	32 mm	
Ovis orientalis f. domestica			
Humerus			
	SD	18 mm	
	Bd	34 mm	
	GL	165 mm	
Tibia			
	Bp	44 mm	
	SD	12 mm	
	Bd	27 mm	
	GL	165 mm	
Calcaneus			
	GL	62 mm	
Talus			
	GLI	28 mm	
	GLm	27 mm	
	Bd	17 mm	

The absence of bones facilitating evaluation of animal morphology (skulls, distal parts of limbs) makes it difficult to estimate the actual varieties of animals bred in the region. Moreover, most of the bones came from morphologically immature animals which are not usually measured because they are not suitable for comparison with adult specimens. However, since some of the animals had reached practically full size, their bones were measured [***Table 4***] in order to provide comparative data for studies of osteological remains from other sites or from this site but discovered in the future.

A distinctive characteristic of the El-Zuma finds compared to other sites of the same chronology is the presence of camel bones in the burial deposits. Like all the other animal remains from the burial provisions, they must have had a consumptional character as well. This is indicated by the anatomical distribution, as well as traces of butchering, sometimes even into quite small portions, as if ready for consumption. This is the case of ribs which were chopped into smaller sections of more or less equal size.

The archaeozoological analysis of faunal remains from the El-Zuma cemetery has confirmed the unusual richness of the material from this burial ground in Sudan in terms of the practice of providing the dead with meat, the amounts of the meat and foremost the range of species recorded. An examination of the faunal assemblage from El-Zuma contributes to the study of burial customs of the elites inhabiting the region in the middle of the 1st millennium BC. The good condition of the preserved bones and their number may also facilitate future studies of breeding and consumption patterns, as well as the economic model that was in operation in a still little known period in Nibian history after the fall of the kingdom of Meroe but still before the formation of Makuria.

Table 4. Butchering traces on the bones

Bone	Traces on the bones
Cattle *Bos primigenius f. domestica*	
Tibia	Traces of cutting
Talus	Traces of cutting
Camel *Camelus dromedarius f. domestica*	
Costae	Traces of cutting
Costae	Sectioning: 8 cm; 8.3 cm; 9.1 cm; 10.4 cm; 12.8 cm; 17.5 cm
Sheep/goat *Ovis orintalis f. domestica / Capra aegagrus f. doemstica*	
Costae	Traces of cutting
Costae	Sectioning: 5.5 cm; 5.5 cm; 6 cm; 7 cm; 7 cm; 7 cm; 7 cm; 7 cm

REFERENCES

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