FAUNAL REMAINS FROM THE MONASTERY IN OLD DONGOLA (KOM H) SEASON 2006

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Osteological material collected during the November-December 2006 season of the PCMA expedition digging the site of the monastery in Old Dongola (see above, report by S. Jakobielski and M. Martens-Czarnecka in this volume) was examined in January 2007. The collection for analysis comprised 264 faunal remains from the SW-E area of the excavations carried out on Kom H (units 13, 13A, 14, 16A, and Test pit 1). Contextual dating of the remains placed them in the terminal Christian period, corresponding to the last phase in the functioning of this part of the monastery.

The state of the bones was very good [*Fig. 1*]. Fragmentation was chiefly due to consumption-aimed processing. The only factor increasing bone brittleness was environmental aridity, which leads to collagen loss. Also recorded were well preserved cattle horn sheaths. The high percentage of determined remains (75%) also stood in confirmation of the good condition of the bones.

The archeozoological analysis concentrated on species and anatomical determination of the osteological remains. The data is presented as tables with percentage shares calculated where possible. The bones were examined also with regard to the percentage share of individual carcass parts, animal age and morphology. Moreover, butchery and post-consumptional traces were evaluated.

Osteometric research was based on measurement methods described by von den Driesch (1976) and Lasota-Moskalewska (1997). Age of cattle, sheep and goats was determined based on data presented by Lasota-Moskalewska (1997). For cattle morphology, osteometric data was calculated into points (Lasota-Moskalewska (1997). The osteological material was also compared with analogously dated material from the palace structure in Dongola (Osypińska 2004a) and the church at Banganarti (Osypińska 2004b).

Remains from the monastery comprise bones and horns of mammals (*Mammalia*) to the exclusion of all other kinds. The most numerous are small ruminants, that is, sheep (*Ovis orientalis f. domestica*) and goat (*Capra aegagrus f. domestica*) – a total of 114 bone fragments representing these two species, constituting almost 58% of the determined remains. Precise determination was possible in the case of eight remains from sheep and four from goat. A lesser number of fragments was noted for cattle

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(*Bos primigenius f. domestica*) – 70 fragments, making up 35% of the determined fragments. Bones of pig ranked third in quantity, but the total number was definitely less than the three previously mentioned species – only seven remains, which constitutes 3.5%. Apart from the consumptional species, three fragments of dog bones were recorded (1.5%), two bones of camel (1%) and one of a donkey or horse (0.5%) [*Table 1*].

A comparative analysis of species distribution of faunal remains from the monastery (Kom H) and palace structure (Kom A) in Old Dongola and the Banganarti church gave the following results. In terms of the number of species represented, the assemblage from the monastery is the poorest. In the palace structure at Dongola and at Banganarti, remains of birds, fish and mollusk were also noted, none of which were found at the monastery (Osypińska 2004a; 2004b). In the species percentage share, the material from the monastery could be likened to that from Banganarti: 58% small ruminants in the monastery and 49-59% depending on the assemblage in Banganarti. At the palace in Dongola, these species in an analogous period constituted 37% and 19%. On the other hand, the cattle percentage was much higher in the material from the monastery (35%) compared to that from Banganarti, where it oscillated between 25% and 27%.

Fig. 1. Selection of faunal remains from the SW-E sector of the monastery site in Old Dongola (Kom H) (Photo M. Osypińska)

As for the palace at Dongola, cattle there achieved the highest share – 73% and 51%. The share of pig was comparable in all three assemblages: 3.5% in the monastery, 5.8%, 3.6% and 3% at Banganarti, and 5% in the palace at Dongola [*Fig. 2*].

The distribution by units in the monastery is as follows:

Table 1. Anatomical make-up of faunal remains from the SWE sector of the monastery site in Old Dongola (Kom H)

Species	Fragments	Percentage
Sheep/goat *Ovis orientalis f. domestica / Capra aegagrus f. domestica*	114	57.86
Cattle *Bos primigenius f. domestica*	70	35.53
Pig *Sus scrofa f. domestica*	7	3.55
Dog *Canis lupus f. domestica*	3	1.52
Camel *Camelus dromedarius f. domestica*	2	1.01
Horse/donkey *Equuidae*	1	0.50
TOTAL	197	100

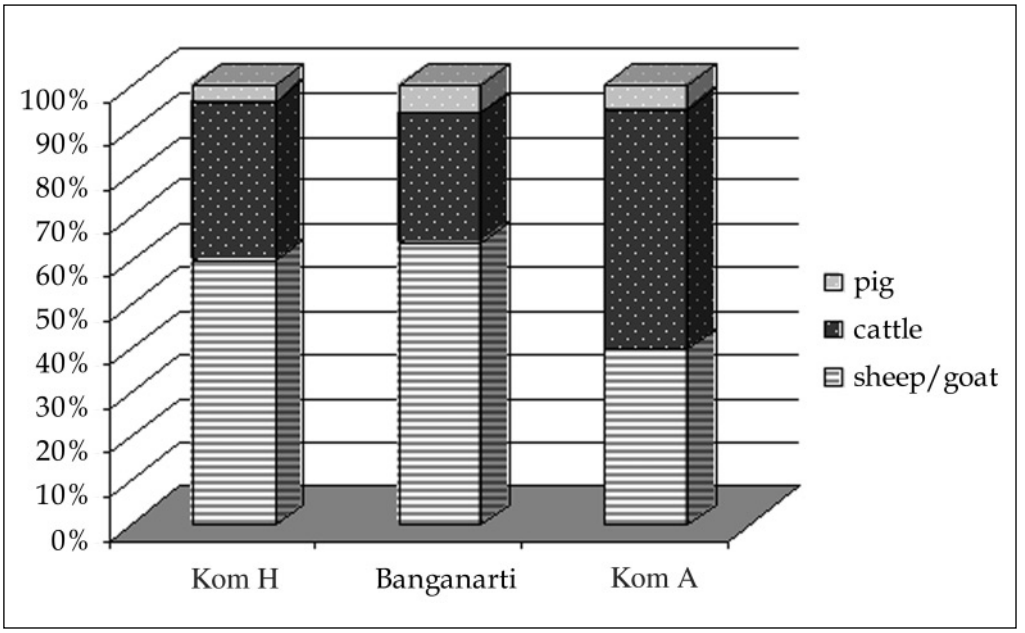

Fig. 2. Percentage share of sheep/goat, cattle and pig in the faunal material from the Old Dongola monastery site (Kom H), the palace site on the Old Dongola citadel (Kom A), and the Banganarti church

Room 13 – 42 fragments, including the largest number of cattle remains (22), also sheep/goat (9), pig (3) and camel (1);

Room 13A – 41 fragments, also the largest number of cattle remains (21), insignificant number of sheep/goat (6) including a fragment of a goat skeleton, and one fragmentary camel bone;

Yard 14 – cattle remains;

Room 16A – the most numerous assemblage counting 166 osteological fragments; mostly small ruminants (97), including six of sheep and three of goat; much less cattle (20); also pig (4), dog (3) and equid (1).

None of the species were represented in the material by a full skeleton. The most extensive remains were those of the small ruminants, in which case only the carpal (*Ossa carpi*), tarsal (*Ossa tarsi*) and metatarsal (*Os metatarsale*) bones were not recorded. Being the smallest bones of the skeleton, they could have been lost at the carcass-processing stage or were insufficiently well excavated.

In the case of cattle, the radius bone was not noted, nor were the carpal (*Ossa carpi*), metatarsal (*Os metatarsale*), and first and second digit bones (*Phalanx media*, *Phalanx distalis*). The pig skeleton was represented by just a few bones: vertebrae, humerus, metatarsal bone (*Os metatarsi*), pelvis fragment (*Pelis*) and three metatarsal and metacarpal fragments (*Os metatarsi*, *Os metacarpi*). The *Atlas*, *Axis* and cervical vertebrae were identified for the dog. As for the camel, the bones were identified as the second digit bone (*Phalanx media*), and in the case of the equid, it was a maxilla fragment.

An analysis of body parts was carried out for the three most numerously represented species. The material was divided by consumptional attractiveness: corpus and proximal parts of limbs, vs. the least attractive parts from this point of view, i.e., cranium, distal parts of limbs and digit members. Percentage shares were calculated for the remains of small ruminants; for the cattle, however, owing to an insufficient number of the remains, only a numerical tally has been given.

In the small ruminants group, the biggest percentage was constituted by the corpus (41%), proximal back limb (19%) and proximal front limb (18%). Of the consumptionally non-attractive parts, the highest percentage represented crania (13%). A much lower percentage was noted for digit members (4%) and distal parts of limbs (1.7% each) [*Table 2*, *Fig. 3*].

In the cattle group, the biggest percentage concerned remains of crania (29 fragments). Next in quantity were remains of the proximal back limb (14), followed by the corpus (10). Other body parts were seldom represented: distal back limb (6), proximal front limb (5) and distal front limb and digit members (3 each).

Only nine remains came from morphologically immature animals. They constituted 4.5% of the determined remains. Five came from small ruminants and of these four were from Room 16A and one from Test pit 1. All represented animals slaughtered before the third year of life as indicated by epiphysial fusion with the diaphysis of long bones. These were not very young animals, but rather specimens which had reached the size of adult individuals. Remains of young cattle were noted mainly in Rooms 13 and 13A. In two cases, age of death was estimated on the grounds of bone fusion at less than 3.5-4 years, in one case less than 2-2.5 years, and in one case before the 20-24 month of life. Again, in similarity to the small ruminants, these were juvenile individuals.

Sex could be established for only two fragments of bones, in both cases horns. One was of the twisted variety noted

exclusively in male representatives of the goat species, the other of a kind featured in rams.

Both species of small ruminants belonged to the horned variety, as evinced by the presence of these two pieces of skull bone. The twisted type, which is turned around its axis, occurs in the Sudanese-Nubian goat (Epstein 1971). The skull bone from the monastery belonged to males of the species. The sheep skull bone was helix-shaped, a regressive trait in modern sheep populations of the Sudan Desert variety, which used to be very popular in Upper Egypt. Sheep of this variety are now kept mostly in northern

Table 2. Parts of the sheep/goat skeleton

Body part	Fragments	Percentage
Cranium (H)	15	13.15%
Corpus (T)	47	41.22%
Proximal front limb (PPF)	21	18.42%
Distal front limb (DPF)	2	1.75%
Proximal back limb (PPBL)	22	19.29%
Distal back limb (DPBL)	2	1.75%
Phalanxes (P)	5	4.38%

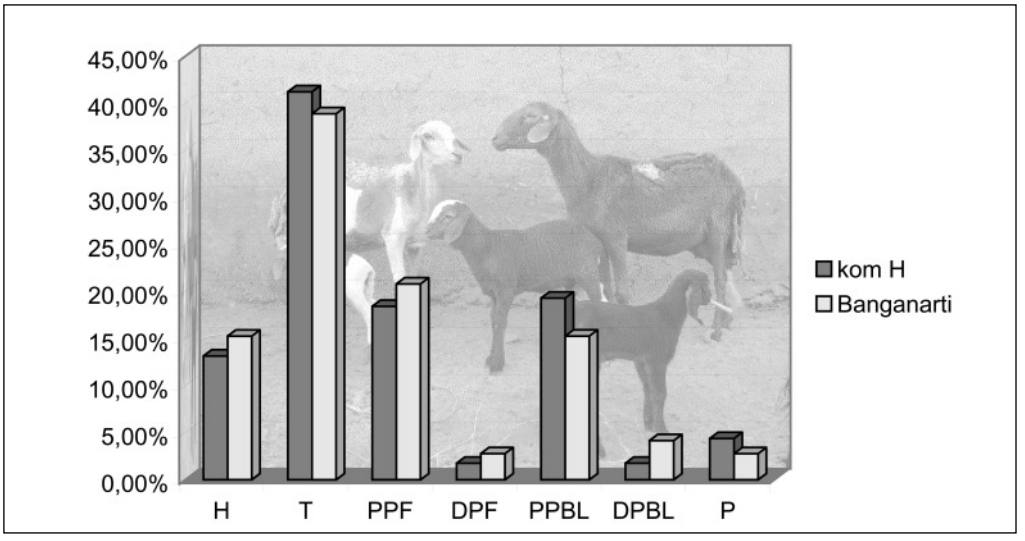

Fig. 3. Percentage share of body parts of sheep/goat from the Old Dongola monastery site (Kom H) and from Banganarti

Table 3. Osteometrical results for cattle from the monastery site in Old Dongola (according to the von den Driesch (1976) system of measurement)

Species	Context	Bone	Osteometry
Goat	SW-E Room16A	Scapula	SLC-17, GLP-27
Sheep	SW-E Room16A	Matacarpals	Bd-27
Sheep/goat	SW-E Room16A	Middle phalanx	Bp-12, SD-9, Bd-10, GL-21
Sheep/goat	SW-E Room 13	Proximal phalanx	Bp-12, SD-9, Bd-12, GL-38
Cattle	SW-E Room 13A	Femur	Bd-78
Cattle	SW-E Room 13A	Talus	GLI-61, Bd-35, GLm-56
Cattle	SW-E Trial pit 1	Humerus	Bd-71
Cattle	SW-E Room 16A	Metacarpals	Bd-51
Cattle	SW-E Room 16A	Calcaneus	GL-91
Cattle	SW-E Room 16A	Proximal phalanx	Bp-27
Cattle	SW-E Room 13	Calcaneus	GL-132
Cattle	SW-E Room 13	Tibia	Bd-60
Cattle	SW-E Room 13	Femur	Bd-80
Pig	SW-E Room 13	Humerus	Bd-25, SD-10

Fig. 4. Examples of short- and long-horned cattle horns from the Old Dongola monastery site (Photo M. Osypińska)

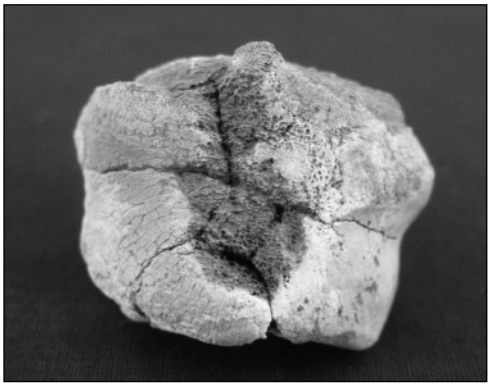

Fig. 5. Cuts visible on the diaphysis of a cattle long bone (Photo M. Osypińska)

Sudan and they are usually hornless, but rams will have the Ammon- or helix-shaped horns of various size, often exceeding 50 cm in length. Different shades of brown constitute the typical coat color of these sheep (Epstein 1971).

The cattle remains from the monastery represent two different varieties, both horned. The bigger part of the remains belonged to primigenic cattle as indicated by osteometric measurement results and their point values oscillating around 40 [*Table 3*]. The basal circumference of the horns was considerable, approaching values noted for aurochs on scales for European and Near Eastern cattle. Nonetheless, large massive horns are a characteristic trait of African cattle (Lasota-Moskalewska 2005). Consequently, it may be concluded that most of the cattle remains presently recorded at the monastery belonged to the African long-horned species. A few of the remains, however, were characterized by osteometric results not exceeding 10-15 points. The material also included a short horn with small basal circumference [*Fig. 4*]. This corresponds to African short-horned cattle (perhaps zebu). Today it has all but pushed out the long-horned variety from northern Sudan.

No pathological changes were noted on the examined remains from the monastery. Instead, bone damage resulting from pre-cooking treatment has been registered. This included the burning of the epiphysis of a cattle lower proximal limb, and traces of cuts on the diaphysis of long bones resulting from portioning of the carcass [*Fig. 5*].

CONCLUSIONS

The faunal remains from the SW-E area of excavations of the monastery in Old Dongola are comparable in terms of anatomical distribution with osteological material recorded in the church at Banganarti. In both assemblages the preponderance of small ruminants is unquestionable (similar percentage share), unlike the Dongola citadel structure where cattle predominated. At the monastery, as well as at Banganarti, cattle was the second noted species, although in the monastery it had a bigger share in the material. A distinctive observation concerning the monastery is the absence of any bird, fish or mollusk remains. In all three post-Christian groups of faunal remains, pig held a similar share, oscillating around 5% of the material. Moreover, all three of these late assemblages yielded evidence for the presence of camel and a horse or donkey.

The anatomical distribution of remains from the monastery indicated a post-consumptional character of the sample, even if coming from different stages of carcass processing. In Room 16A, where the remains of sheep and goat predominated, the bones represented a stage immediately preceding preparation of the meat for consumption purposes. The remains from units 13A, 13, 14 and the test pit appear to be waste from the first stage, that is, skinning and portioning. Interestingly, the latter groups comprised mainly cattle. It can be assumed therefore that the faunal remains from Room 16A represent post-consumptional waste from the SW-E part of the monastery, while those from 13 and 13A represent cattle slaughtered and portioned here for consumption elsewhere in the monastery (for example, by the monk hierarchy in the main monastery building).

This leads us to think that mutton and goat meat were intended more for the lower classes, including both monks and

pilgrims, while beef as the more expensive meat was consumed rather by the higher echelons of society.

Pork in this late period was consumed sporadically by all classes. The camel bones constitute an interesting case, considering that we do not know whether the presence of these remains – most often digit members – is the result of accidental carrion finding its way into the archaeological record or the effect of consumptional habits. A case of camel remains deposited in one of the tumuli in el-Zuma permits the assumption that camel continued to be considered as a potential source of meat also in later times (Osypińska, forthcoming).

The material from the monastery was also the most abundant with regard to immature animals and in this respect it is comparable only to the Banganarti assemblage. In the palace at Dongola, morphologically immature individuals constituted a minimal part of the animal remains from the late phase in its functioning.

Animal varieties in the three assemblages did not demonstrate any differences: Sudanese Nubian variety of goat, thin-tailed Sudan Desert variety of sheep, and long-horned African cattle with a smattering of the still rare short-horned variety. The small ruminant varieties are the same as modern ones, but distinctive as regards horns, hornlessness being increasingly common today for male as well as female individuals. A major difference is noted, however, with respect to cattle varieties. Cattle from the Christian faunal assemblages are characte-

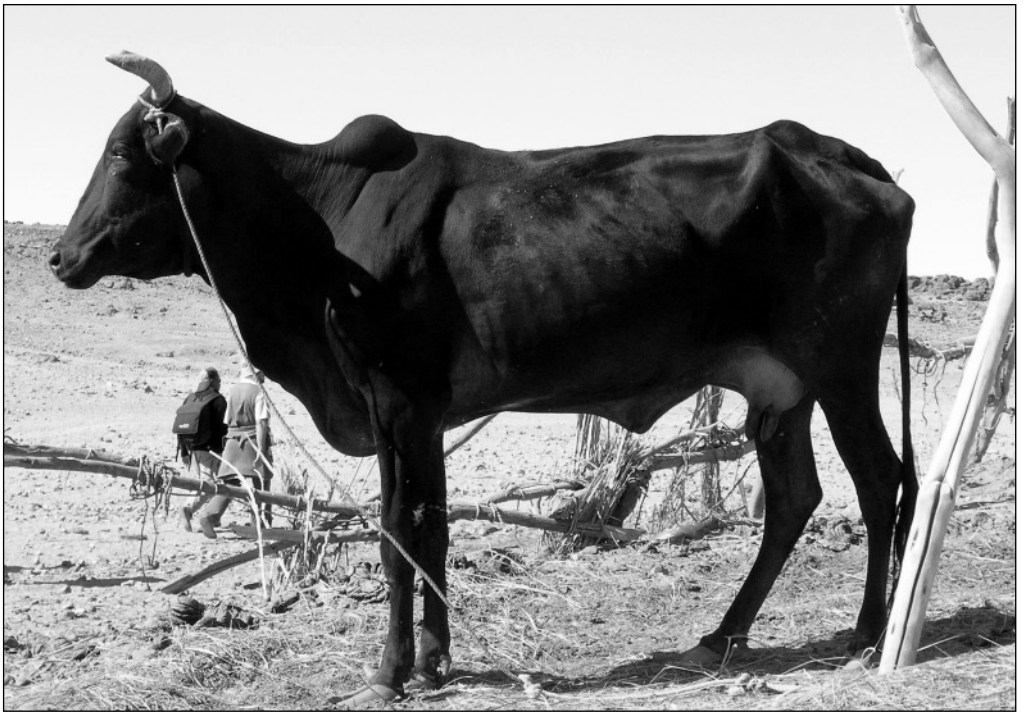

Fig. 6. Modern short-horned variety of cattle (zebu) bred in northern Sudan (Photo M. Osypińska)

rized by rather massive horns and relatively big body size. On the other hand, modern breeding in northern Sudan features mostly a short-horned variety mixed with zebu, which is characterized by either short horns or the absence of horns altogether [*Fig. 6*].

REFERENCES

Driesch, A. von den

1976 *A Guide to the Measurement of Animal Bones from Archaeological Sites* [=*Peabody Museum Bulletins*, 1], Peabody Museum Press, Harvard University

Epstein, H.

1971 *The Origin of the Domestic Animals of Africa*, Africana Publishing Corp., New York, Edition Leipzig, Leipzig

Lasota-Moskalewska, A.

1997 *Podstawy Archeozoologii. Szczątki ssaków*, Warszawa

2005 *Zwierzęta udomowione w dziejach ludzkości*, Warszawa

Osypińska, M.

2004a Animal bone remains from Old Dongola. Osteological material from Building B.I on Kom A, *PAM* XV [=*Reports 2003*], 224-230

2004b Faunal remains from the Banganarti Church, *PAM* XV [=*Reports 2003*], 261-267

Forthcoming Animal remains from the post-Meroitic cemeteries in Northern Sudan, *GAMAR*, in press.