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Short Fieldwork Report: Deir an-Naqlun (Egypt), season 2006

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Deir an-Naqlun (Egypt), season 2006

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This paper discusses the Coptic mummies from cemetery C at Deir an-Naqlun in Egypt (29°11' 35"N 30°52'31"E). The site is also known in the literature as Deir el-Malak Ghubriel (Monastery of Archangel Gabriel). It is situated in the Western Desert, at the foot of a rocky cliff, 16 km south of the city of Fayum and 120 km from Cairo. It is one of the oldest, still existing Coptic monasteries in Egypt, with its origins reaching into the 6th/7th or even 5th century CE (Dobrowolski 1990).

Excavations at the site have been carried out since 1986 by the Institute of Archaeology, University of Warsaw team led by Włodzimierz Godlewski. Cemetery C was identified during the survey in 1987 when one of the disturbed graves was excavated. The number of burials was estimated at more than 180 graves. The regular exploration of the cemetery began in 2004. Since then, 14 rock-hewn graves dating to the 6th/7th c. CE have been excavated (Godlewski 2005). The remains studied by Robert Mahler and the present author represent 8 male individuals. Biological age of the examined individuals was assessed using the methods outlined by Buikstra and Ubelaker (1994), i.e., suture obliteration, the pubic symphysis, auricular surface, and dental wear. The individuals ranged in age from 30 to 45 years. For height reconstructions the formulae for white males were used (Trotter & Gleser 1952).

In five cases partially naturally mummified soft tissue was present on the skeletons and was scored using the protocol proposed by Aufderheide (2004). This method involves determining the presence or absence of individual external characteristics such as hair, beard hair, ears, eyes, nose, penis, nails, internal organs, as well as estimating the degree of preservation of the soft tissue in relation to the preserved bones in each individual.

To assess the state of preservation of both the bone and soft tissue, a six-degree scale was used, where 0 indicates the complete absence of bone / soft tissue and 5 the full preservation of all bones and soft tissue. A total of 5 categories (head, chest, abdomen, both arms, and both legs) with fully preserved bone / tissue material (max. 5 points) amount to 25 points. The main advantage of this method is that the obtained rate can easily be expressed as a percentage by simply multiplying the sum of the results in each category by 4 to get 100 points for B (bone) and S

T (soft tissue) which sets the degree of preservation at 100%. In addition, it is possible to work out STI, the soft tissue index, by calculating the ratio of ST (soft tissue preservation) to B (bone preservation) using the formula: $STI = ST / B$ (Aufderheide et al. 1992; Aufderheide 2004: 335). This also makes it possible to calculate a ratio for incomplete mummies.

Table 1. Human remains from Deir an-Naqlun, cemetery C.

Grave	Body	Mummy	Sex	Age	Height	Skull	Post-cranial	B	ST	STI	Visceral Index
C.T.005	NS.2	M1	M	40-45	-173	+	+	100	27	0.27	9
C.T.007	1	?	M	40-50	-176	no mandible	+				
C.T.007	2	M2	M	30-35	-175	?	+	30	4	0.13	0
C.T.007	3	M3	M	30-35	-166	+	+	98	14	0.14	2
C.T.008	1	M4	M	30-35	-170	+	+	94	57	0.61	20
C.T.009	1	M5	M	35-45	-166	+	+	94	24	0.25	15
C.T.010	1	M6	M	30-40	-176	+	+	96	11	0.12	15
C.T.011	1		M	45-55	?	+	?				
C.T.012		?	?	?	?	?	?				
C.T.013	1										
C.T.013	1										
C.T.014	1	?	M	30-35	-178	?	+				

The data were entered into the mummy autopsy protocol developed by Marvin Allison and used by the University of Minnesota Duluth School of Medicine laboratory, Duluth, Minnesota (Aufderheide 2004:331-334). Such a research scheme will make it possible in the future to compare data between sites.

Mummified remains were present in burial numbers C.T.007 (two individuals), C.T.008, C.T.009, and C.T.010. Skeleton NS.2 from grave C.T.005 (excavated in 2004) was also analyzed. This case was the most complete and undisturbed of all the individuals, it was still wrapped in 11 burial shrouds. The remaining individuals were partially damaged because of previous plundering of the graves (e.g., stealing textiles or looking for “mummy medicine”), but it can be assumed that they were originally wrapped in shrouds. Only three individuals remained in anatomical position. Other burials were disturbed which had an affect on the state of soft tissue and bone preservation. Five of the individuals retained skin on the head, four individuals had hair, and three of them had beard hair as well (**Table 1**). In four individuals skin was also found in the chest area and on the upper extremities, in five in the area of the abdomen. In all of the examined subjects, skin was found on the palms and the lower limbs. The skin was especially well-preserved on the feet and on the distal ends of tibiae and fibulae.

The percentage ratio of preservation of dry tissue of various parts of the body such as the head, chest, abdomen, arms and legs in relation to the degree of preservation of bones in each examined specimen is shown in **Figure 1**. For the discussed site, the best preserved areas by the process of natural mummification were the tissues of the lower limbs and the head. The worst preserved areas of the body were the shoulders and chest area. In all of the examined individuals, the abdominal area was commonly preserved. The percentage ratio of tissue and bone preservation is shown in **Figure 2**.

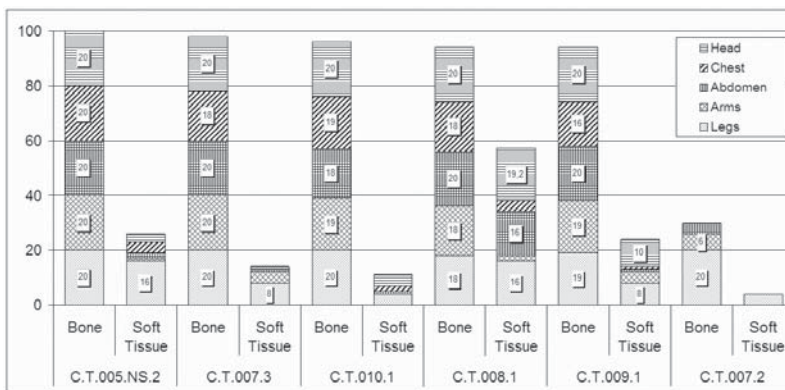


Figure 1. State of preservation of bone and soft tissue in natural mummies from Deir an-Naqlun.

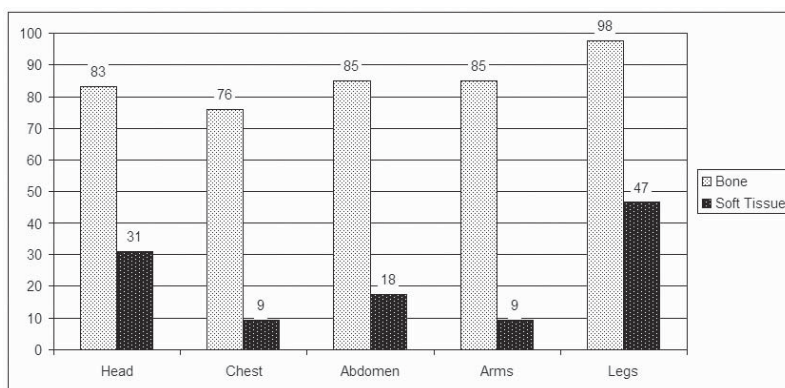


Figure 2. State of preservation of bone and soft tissue in given body areas.

The best preserved soft tissue was found on the skeleton from tomb C.T.008, where 61% (STI = 0.61) skin tissue underwent natural mummification, including the preservation of hair on the head, face, and pubis. The state of skin preservation in other specimens ranged from 12% to 27%. The neurocrania of all the individuals contained remains of the brain. In one case a small fragment of what may have been the heart and some remains of the bladder were identified, in another both kidneys were well-preserved.

The above results show that at Deir an-Naqlun, the tissue of the lower limbs and head was well-preserved whereas preservation in the chest area, of the shoulders, forearms, and abdomen was significantly worse. Attention must be drawn however to the issue that may have subsequently affected the present analysis of the degree of preservation of soft tissues at Deir an-Naqlun. Most of the examined individuals were deprived of shrouds at the time of discovery, especially in the area of the abdomen, chest, arms, and head. Some burials were disturbed in such a way that various body parts did not survive at all as in the case of individual C.T.007.2 where only the lower limbs and innominates were preserved. In other cases the skeletons were nearly complete. It cannot be ruled out that the poor state of preservation of soft tissue was the result of the actions of “mummy powder” seekers who plundered tombs in

search of the widely used (in some regions of Egypt even today) panacea made from mummies. The absence of soft tissue could then be explained as a result of removing it from the largest and best accessible parts of the body such as the stomach and chest. Of course it could also be a consequence of natural decomposition processes which highly affect areas having a high water content and enzymes (e.g., the ventral cavity and chest). Unfortunately, at this stage of the research, reasons behind the differential preservation of soft tissues cannot be clearly determined, especially because the only thoroughly examined intact mummy (C.T.005.NS.2) was not very well mummified. However, the ligaments and tendons were extremely well-preserved in this case and both kidneys were still *in situ* despite the absence of even traces of other internal organs. Similar studies carried out on Coptic mummies usually reveal the presence of internal organs as well as the brain (Fischer et al. 1995; Aufderheide 2004:238).

Future fieldwork seasons will focus on creating a local model of the natural tissue preservation process and on correlating the degree of mummification with different types of burials, the amount of remains, the order and depth at which they were deposited, and the individual characteristics of each specimen. These characteristics include the manner of wrapping, number of shrouds, and the presence or absence of the conical structure above the face. Perhaps it will also be possible to compare intact burials with those which have been disturbed; this may help to determine the reason for the destruction.

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As-Sabiyah and Al-Khuwaysat (Kuwait), seasons 2007–2008

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During the last week of November 2008 in the dig house belonging to the Kuwaiti-Polish archaeological mission to As-Sabiyah Mugheira (located in Al-Jahrah), the remains of at least 18 individuals were studied. These skeletons came from six burials excavated by the Kuwaiti-Polish team directed by Piotr Bieliński (The University of Warsaw, Poland) in the As-Sabiyah Mugheira area (29°38'00"N 48°00'40"E), three burials excavated by the Kuwaiti team directed by Sultan al-Duwish (Department of Antiquity & Museums, National Council for Culture, Arts & Letters, Kuwait) in the As-Sabiyah Rukham area (29°39'00"N 47°59'06"E), and two burials excavated by Sultan al-Duwish in Al-Khuwaysat near the town of Al-Jahrah (-29°23'N 47°40'E). All graves were small stone barrows of various shapes scattered in the desert environment.

Preservation of the skeletons was generally poor in all areas; only four burials contained what might be considered as nearly complete skeletons. Although a desert environment, water was the chief factor in post-depositional damage to the burials at the sites. Nearly all of the individuals buried in the As-Sabiyah area were placed directly on bedrock, covered by stones and only a thin layer of sand. Unfortunately for the burials, water frequently flowed over this bedrock, dissolving bone as it went. Moreover, trabecular bone withholds more moisture com-

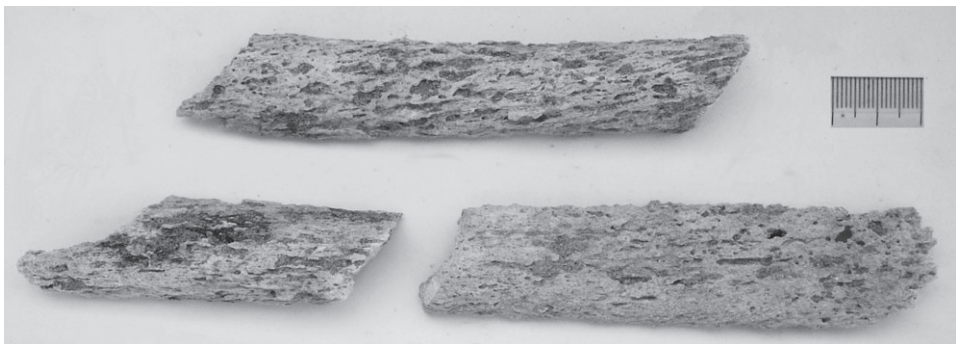


Figure 1. Example of water erosion in bones from As-Sabiyah (SRF).