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Short fieldwork report

Human remains from Chhîm, Lebanon, 1998–2009

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The ruins of a village at Chhîm, dated to the 1st–7th century AD, are situated approx. 35km south of Beirut in Lebanon and 14km north of Saida, the famous Phoenician metropolis of Sidon (33°38′16″N, 35°28′47″E, **Figure 1**). The village comprised of a sanctuary active between the 1st and the 4th century AD, a Christian church built in 498 AD, houses, and at least five large oileries. The subsistence based at the village was agriculture (especially olive oil production) and animal husbandry (especially sheep and goat). The project at Chhîm was conducted between 1996 and 2016 by a team from the Polish Center of Mediterranean Archaeology at the University of Warsaw (Waliszewski & Wicenciak 2015).

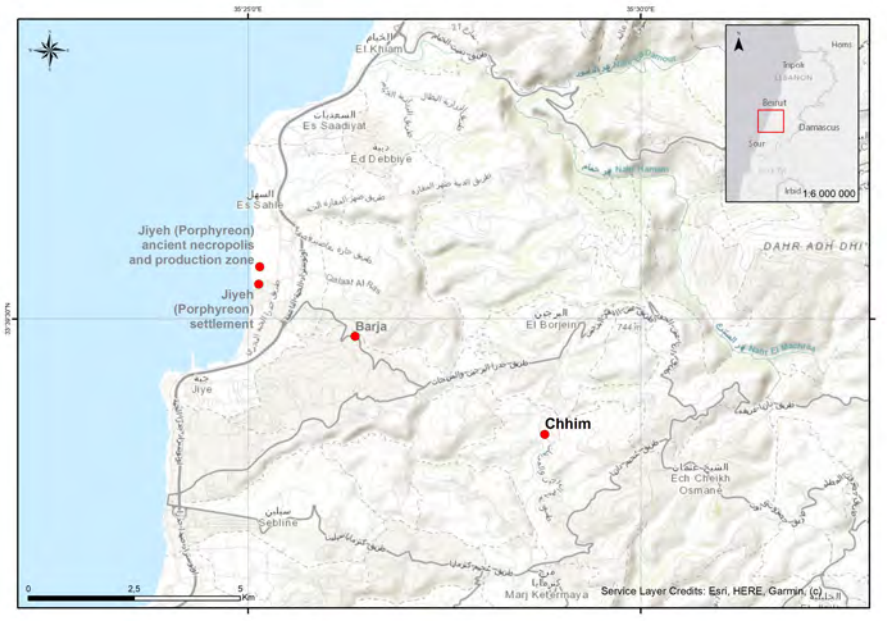

Figure 1. Map showing location of Chhîm. Drawing by J. Chyla.

Although grave A was originally discovered in 1996, during the first season of excavations in the Christian basilica (**Figure 2**), situated in front of the Roman-period temple, it was only explored during the 1998 season. The grave (1.85×0.70m), in form of an elongated pit, was covered with four flat slabs and lined with vertically positioned limestone blocks. A terracotta wheel-made lamp, typical for 9th–11th c. AD contexts, was found near the knee of the deceased.

Grave B (grave B.V.3) was uncovered during the 1998 season in the southern end of the narthex of the basilica, next to the entrance of the southern aisle and the dedicatory Greek inscription from 498 AD. The flat stone slabs closing it were lifted to reveal a rectangular outline (c. 1.85×0.60m at the western end) narrowing to the east (0.42m) and lined with stone slabs set up on the end (depth of the tomb c. 0.58–0.68m). The grave was cut into the well preserved, repeatedly renovated lime mortar floor of the narthex and thus belonged to its late phase (**Figure 3**).

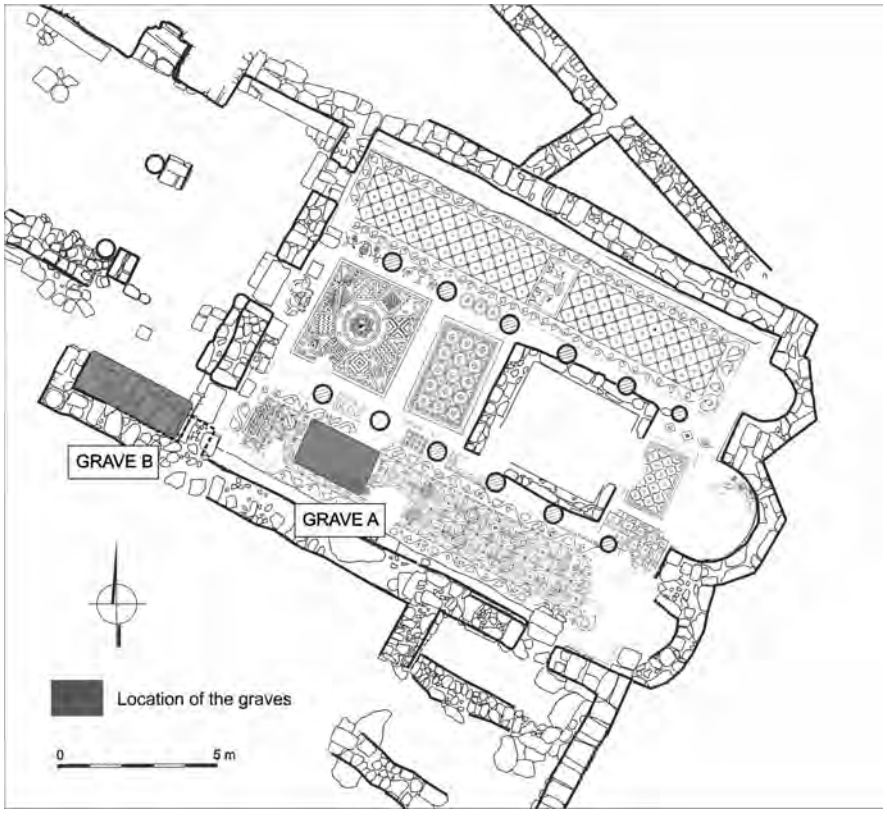

Figure 2. Basilica in Chhîm with indicated position of the graves.
Drawing by M. Puszkarski.

Inside, there were several human skulls, painstakingly arranged along the west side, and the other elements also arranged according to their anatomical type. On the very bottom there was a rather more complete skeleton, perhaps laid to rest at an earlier date. The modest furnishings included a few rings, pendants, an earring, and two gold coins of emperor Phocas (gold *semissis* minted at Constantinople, dated to AD 607–610), both found on the floor of the grave near the pelvis.

Human remains from Chhîm were recorded during the 2013 fieldwork season using standard guidelines (Buikstra & Ubelaker 1994) with some modifications (Sołtysiak et al. 2019). There was only one articulated skeleton in grave A, and elements from the multiple burial (grave B) were sorted based on their region and side. As very few original tags were retrieved, every element was identified by a bag number and unique consecutive number. Most elements were incomplete, and therefore only

Figure 3. Grave B, Christian basilica in Chhîm. Photograph by T. Waliszewski.

Table 1. Comparison of left femoral head diameters between Chhîm and North Mesopotamian males and females (comparative sample after Sołtysiak 2010, Table 23).

Sample	N	mean	s.d.	t	p
Chhîm	12	46.41	2.40		
males	26	46.89	2.44	0.57	>0.5
females	45	41.37	1.92	7.66	<0.0001

minimum number of individuals (MNI) was calculated, with no attempt to estimate the most likely number of individuals (MLNI) (Nikita & Lahr 2011), even if it was possible to pair some elements. Apart from the burial contexts, only one human element was found in an assemblage of animal remains. It was a damaged gracile axis found in 2009, in the context E I 2.

Female skeleton from grave A was fairly complete, although the skull was missing. In general the bones were well preserved, although slightly affected by some taphonomic agents, mostly root etching. Female sex was assessed based on pelvic morphology (left ischiopubic ramus ridge and both greater sciatic notches) and confirmed by bone measurements (e.g., left femoral head 42.2mm, bicondylar breadth 73.3mm, midshaft circumference 77mm, right humeral head 42.5mm). The individual was mature (auricular surface grade 6), with initial degenerative joint disease in some articular surfaces, especially in the right patella. Stature could be estimated using maximum lengths of best preserved long bones (left femur, 410mm; left tibia, 356mm; left ulna, 232mm, right radius, 207mm), with formulas developed by Ruff et al. (2012) with a resulting range of 149.3cm (radius) to 155.1cm (femur), so the individual was rather short.

Grave B in the nartex contained the remains of at least 31 individuals (MNI based on femora), including 15 adults. At least 8 individuals were males (sex assessment based on the morphology of available *os coxae* and long bone measurements), and no individual was identified as female. Diameters of left femoral heads (N=12) from Chhîm were compared to the reference values from northern Mesopotamian skeletons (**Table 1**) and both mean value and standard deviation are very similar to these of the reference dataset males, significantly differing from the reference dataset females (differences between samples were tested with a Student's t-test). Stature could be assessed using three complete femora and nine complete radii from at least six individuals. The average stature is 165cm with a range of 157.6–171.4 (N=6), a value expected for males in the region (cf. Rosenstock et al. 2019).

Subadult individuals were of variable age-at-death, and likely there were no neonates, but at least five juveniles under the age of five years were recovered including three infants that were 9, 12, and 18 months old (age-at-death based on dental development stage; AlQahtani et al. 2010). Age-at-death of adult individuals was variable

as well, as suggested by the broad range of dental wear stages, the scores of the auricular surface, the scores of the pubic symphysis, and some instances of degenerative joint disease.

Most elements were relatively well preserved, and some variability in bone colour and degree of erosion was noted, suggesting that the skeletons were originally buried in different places. This lack of homogeneity is further corroborated by the series of calibrated radiocarbon dates suggesting that the assemblage from grave B included the bodies of individuals who died between 434–565 CE and 709–880 CE (95.4% probability), therefore covering the last centuries of the Eastern Roman Empire and early centuries of Umayyad / Early Abbasid Caliphate. The latter date may suggest that the skeletons were moved to the church roughly around the time that the village of Chhîm was abandoned or even after its abandonment. This transportation was

Figure 4. Example of insect tunneling, humerus 22.4. Scale bar 1cm. Photograph by A. Sołtysiak.

Figure 5. Rodent gnawing on the distal end of ulna 71.47. Scale bar 1cm. Photograph by A. Sołtysiak.

very careful, as the assemblage is abundant in elements that are typically lacking in secondary burials e.g. carpals, phalanges, or sesamoids.

Some taphonomic agents affected the human remains from Chhîm, with several cases of insect tunneling (**Figure 4**) that may be attributed to at least three taxa (size range between 2–2.5mm, most common range between 4–6mm, some holes with a diameter of 10–11mm and larger). Also rodent tooth marks were present on at least three elements, and in at least two cases they were not affected during the post-excavation storage, as some soil still covered the traces when observed (**Figure 5**).

Apart from several cases of degenerative joint disease (including severe ones), the number of observed pathological conditions was rather low. Four ribs were fractured with initial or more advanced healing and inflammatory response, perhaps coming from the same individual. Healed fractures were noted also at the lateral process of one thoracic vertebra and on one talus. At least three phalanges of the first toe were deformed, likely a consequence of wearing shoes. A 22mm long lesion was noted on the acromial process of the scapula (**Figure 6**), perhaps of post-traumatic origin. However, the general low number of trauma and other conditions suggests a rather high quality of life.

The assemblage of human remains from Chhîm is untypical for many reasons. First, it seems that both burials in the church (A and B) were deposited at a time when the village was abandoned (or in the course of its abandonment). Second, the secondary burial in grave B was carefully arranged and the elements were retrieved from the primary burial places with great care, rarely seen in other secondary burials where usually mainly skulls, long bones, and *ossa coxae* are present, with much lower fre-

Figure 6. Lesion on the scapula 10.5. Scale bar 1cm. Photograph by A. Sołtysiak.

quencies of smaller skeletal elements. Here many smaller elements were moved to the new place, including such tiny bones as unfused epiphyses from juvenile metatarsals and metacarpals. Also uncommon is that the assemblage includes only the skeletons of males and children. Normally when the burial places of both sexes are separated, subadults (and especially infants) are buried together with females, not with males.

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