

A NOTE ON THE BURIALS FROM AWS-102, AL-AZRAQ

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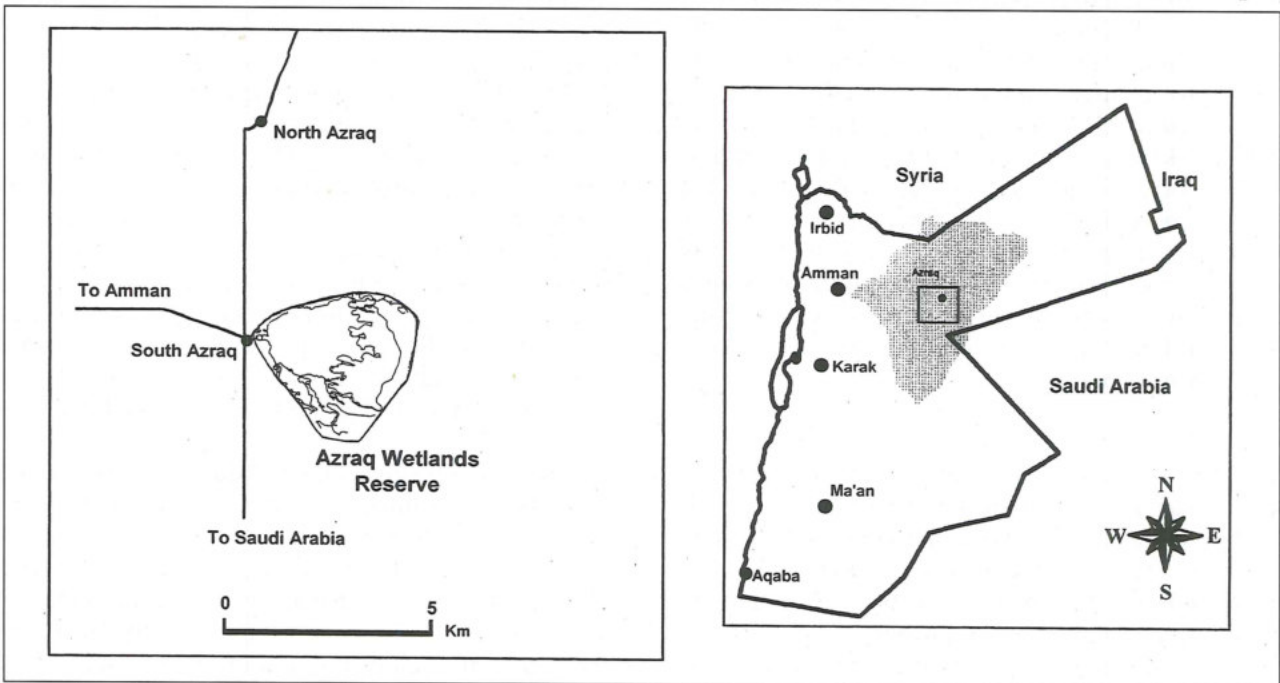
Introduction

In 2000, one of us conducted an archaeological surface survey of the al-Azraq Wetlands east of South al-Azraq (Fig. 1; cf. Rollefson *et al.* 2001). In addition to finding more than 130 sites, the heavy majority of which dated to the prehistoric periods, we also came upon two exposed human skeletons (adult and infant) eroding from the silt dunes adjacent to Site AWS 102 (Fig. 2), whose surface indications pointed to a Late PPNB hunting/pastoral camp similar in all respects except its small size to Bawwāb al-Ghazāl (بواب الغزال), a one-hectare camp that was visited repeatedly in the twelfth – eighth millennia bp (Natufian to Late Neolithic).

The burials were emerging from the deflation dune deposits approximately 20m from the center of AWS 102. There were no firm stratigraphic correlations between the burials and the Neolithic material, but we felt that the association was probable

because there were no artifacts from any period other than the PPNB within approximately a half-kilometer of the burials.

The importance for the recovery of these skeletons is difficult to exaggerate, as the following points indicate. First, except for the two Late Epipaleolithic burials from al-Kharānah IV (Rolston 1982), no prehistoric burials were known from the eastern desert region of Jordan. The relative richness of the mortuary population of Neolithic sites in the settled farming area of western Jordan and Palestine can provide a reliable database for DNA characterizations of the populations in this part of the southern Levant. If they were Neolithic, the two skeletons from AWS 102 would have provided us with the first opportunity of recovering DNA samples from the pastoral regions of eastern Jordan, possibly demonstrating relationships (positive or negative) of the desert populations with the farming settlements to the west. Such evidence is par-



1. Location of the al-Azraq Wetlands Reserve in eastern Jordan (after maps created by the Royal Society for the Conservation of Nature).

ticularly critical for the evaluation of several hypotheses that try to explain the emergence of "paleo-Bedouin" lifestyles, including those of Köhler-Rollefson 1992, Perrot 1993; Byrd 1992; and Martin 1999. Finally, the continued exposure of the skeletons to the ravages of wind erosion and other elements of weathering threatened the existence of these potentially valuable sources of archaeological information.

Results

An arbitrary 5 x 5m grid oriented on major cardinal directions was established as soon as we arrived, after which surface human bone was collected. As we began to excavate near the southern edge of Square C-3, it became immediately clear that one person we had identified during the survey (an infant skull, ribs and other postcranial elements) was, in fact, more than one individual.

Individuals 1, 2 and 3

The exposed skull belonged to a child (Individual 1) lying on its right side, head to the west, and the body flexed. As excavation progressed, a second child was found (Individual 2) in the same orientation immediately to the north of Individual 1 in such close proximity it appeared as if they were buried in "spoon fashion" (Fig. 3). Much of the postcranial skeleton (pelves, ribs, vertebrae) of both children was missing, as were parts of the faces. One tibia and one fibula of Individual 1 appeared to have been gnawed on, and with the missing skeletal elements, this all suggests that the original interments were very shallow and that no stones were placed on top as a protective cairn.

Individual 3 consisted of the surface concentration of skeletal elements, including an identifiable tibia, fibula, femur, and a cranial fragment. The age of the child could be either neonate or even pre-natal, given its close proximity to the adult skeleton (see below). The small degree of skeletal completeness and its purely surface position suggest the body had been dragged from its original shallow interment.

Individuals 4 and 5

The adult skeleton lay almost entirely exposed on the surface, and evidence of a skull was visible a short distance (117cm) to the west of the adult's skeleton. This arrangement suggested some form of dislodging that might have been analogous to skull separation during the Pre-Pottery Neolithic B period in the permanent farming settlements in the Jordanian highlands to the west. Between the skeleton and the barely visible skull were two

large slabs of calcrete, a stony material common as "bedrock" in this former lake environment.

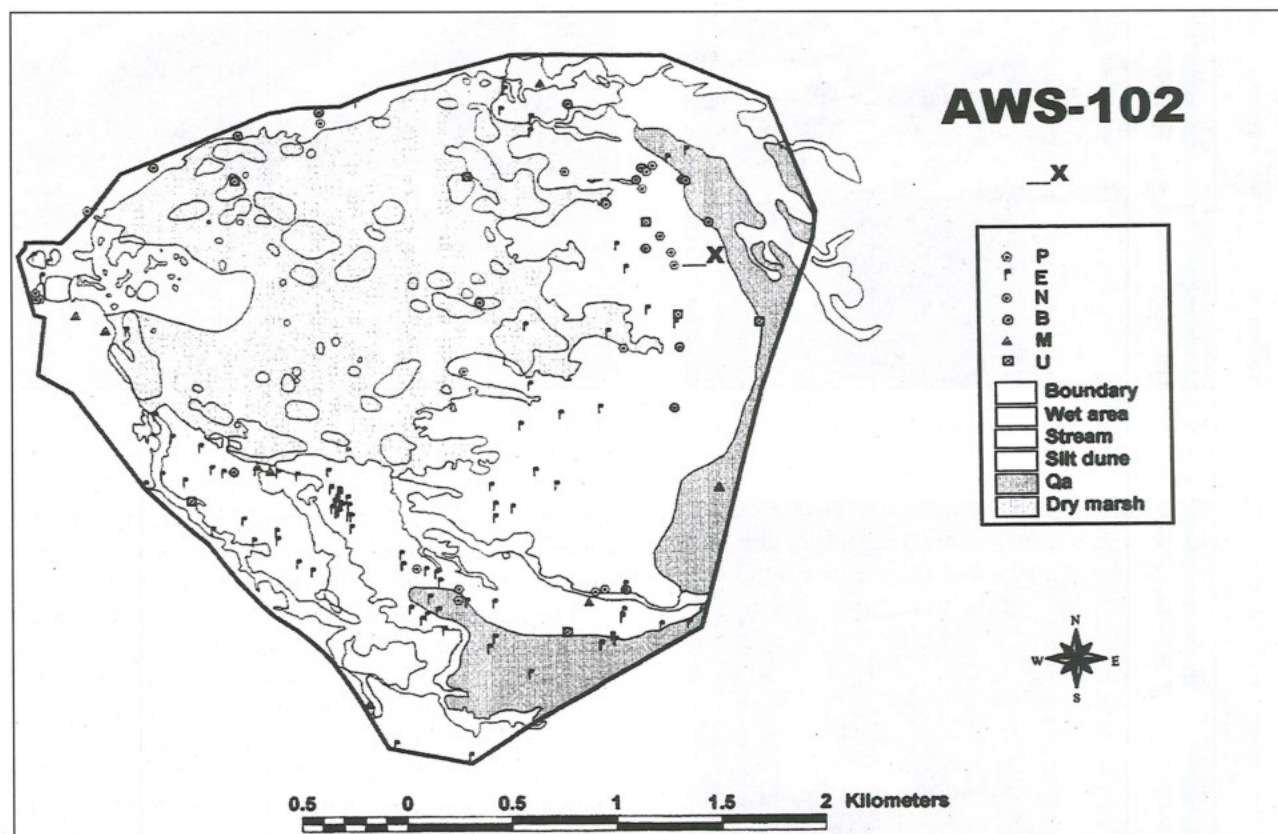
But excavation of the skull indicated that it belonged to yet another child (Individual 4; Fig. 4), not the adult. Like Individuals 1 and 2, this child was also oriented with the head to the west, lying on its right side and facing the south. While the skeleton was more complete than those of the other children, significant numbers of bones were absent, again suggesting post-depositional disturbance by scavengers into a shallow burial.

Individual 5, the adult, differed considerably in terms of its orientation. It lay on an E-W axis with the head towards the west, but it was in an extended supine position, not flexed on its right side; the left arm lay across the lower chest area (Fig. 5). Cranial fragments were present, but most of the skull (including teeth) was missing. Much of the skeleton was preserved in good condition, the principal exception being the missing right pelvis and lower vertebral column. (Notably, this is the area closest to the neonate or pre-natal skeleton to the south). Although pieces of one pelvis were present (including symphyseal face of the ischio-pubic ramus, cf. Ubelaker 1978: 42-43), they were in a poorly preserved condition, making sex identification impossible.

Individuals 6 and 7

During the surface collection in the first few days, scattered and fragmented teeth were found about 2 meters to the northwest of the adult skeleton, as well as a small piece of twisted copper wire, a worked cowrie shell (similar to those decorating Bedouin halters, bags, etc.) and a large marine shell ornament. This was the first material culture indication that the burials may not have been Neolithic, but that instead they (or at least some of them) dated to relatively modern times. It was also at this time that someone's shoe dislodged some sediment (not more than a centimeter or two) above what at first appeared to be a fractured ostrich eggshell. As the dirt was brushed away, on the other hand, cranial sutures appeared on the "egg", and it was certain that another human lay beneath the surface.

Individual 6 was another child who mirrored the same burial treatment as the other children to the south. Although buried on its right side, the right upper and lower arm bones were missing, although almost all of the right hand was present (Fig. 6). The vertebral column was also mostly gone, as were the ribs, clavicles, scapulae, and mandible. The cranium was filled with roots and insect pupae shells. Just to the north and behind the skull a ro-



2. The location of AWS-102 is marked with an "X" in the upper right portion of the map of sites discovered during the WAS 2000 survey (cf. Rollefson et al. 2001).



3. Two children buried in close proximity to each other. The incompleteness of the skeletons is probably due to scavenger activity. The trowel points north (All photos by G. Rollefson).

bust copper hook-shaped pendant element was found, and beneath the face there was an oval 1.5cm piece of probably brass coated with a silvery metallic material, but the surface was smooth and undecorated. The lower part of the left tibia was deeply stained with iron, and adjacent to it the lower right tibia still bore an anklet of (an) iron bauble(s), possibly once thinly surfaced with white and yellow enamel and possibly thin glass (Fig. 7).

Although much of Individual 6's skeleton was

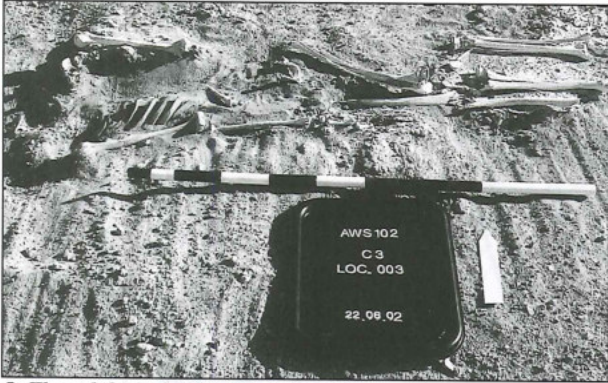


4. Individual 4, a child buried to the west of the adult. The absence of some of the bones is probably due to scavenger activity.

in place, a considerable proportion appears to have been torn away by scavengers. As the leg bones were excavated, a third tibia appeared, indicating that yet another child was once present in this burial area. However, Individual 7 was represented only by this leg bone in the immediate burial area. More of Individual 7's skeletal remains might exist somewhere in the nearby area, but we did not have to time to search for the original inhumation.

Discussion

The presence of copper, iron, and enamel or



5. The adult, Individual 5, lying supine with the upper part of the body towards the west. Many of the skeletal elements, including the skull, are missing, probably due to scavenging animals.



6. Individual 6, around six years old at death. Three pieces of metal jewelry were found on and near the skeleton (e.g., at the end of the tibia, upper right).

glass ornaments eliminates a Neolithic age for these burials. All of the burials were oriented such that the heads were to the west, and with the exception of the adult, the faces were pointing south. All of the burials were also evidently very shallow. These features are consistent with the burial treatments of Bedouins in general and with the Ruwalla Bedouin of the northern Levantine deserts in particular (Musil 1928: 670-671).

But copper, iron, glass, and enamel have been available for the inhabitants of the al-Azraq region for centuries, if not millennia. Perhaps a more in-depth examination of the iron, the enamel and glass, and the brass might make it possible to narrow the scope considerably. For the moment, we think it is plausible to suggest that the burials are probably between 50 and 100 years old.

Six of the burials were children. Based on dental evidence, Individual 1 was probably three to four years old when it died. Individual 2 was somewhere between 18 months to three years, and Individual 4 was probably somewhat younger. Individual 3, as noted earlier, appears to be neonate



7. Close-up showing the rusted metal ornament adhering to the bottom of the right tibia of Individual 6; notice that the left tibia is also stained.

or pre-natal in age. Individual 6 was the oldest, perhaps 6 years old when it died. Individual 7 could not be aged, but the tibia was not very different in length or robusticity from that of Individual 6.

The adult was likely around 40 or older at death based on humerus head polish and joint porosity, although some of the porosity might be associated with osteoarthritis. Sexing the children is improbable, although the jewelry associated with Individual 6 might indicate girl's ornaments. Although the skeletal indicators for gender of the adult skeleton are absent, we would suggest that it is a woman¹, possibly one who died shortly before or after giving birth.

Based on field examination, the general state of health appears to have been normal. What few teeth were present do not show major dental disease. Individual 4 may have suffered anemia to some degree based on orbit porosity, but this should be examined closer with documented cases. There is a general impression that Individual 6 had abnormal body proportions: the pelvis seemed very small in comparison to the femurs and skull, but once again this is a situation that demands more careful scrutiny.

What, then, accounts for this collection of burials? It is certainly a "cemetery", but not on the scale described for the Bedouin of Kuwait (Dickson 1949: 208). Instead, it seems to be a family "plot", an area selected for the interment of members of the same kinship unit, whether of the same nuclear family or more extended association. If the adult is in reality female, it is tempting to reconstruct this unit as a nuclear unit consisting of the mother and five (if not six) of her children who all died at about the same time. All of the children would fit within an acceptable sequence of childbirth (neonate through six years old).

1. But Musil noted that among the Ruwalla, "For a man two stones ... are raised above the grave, one for a woman"

(1928: 670), which would contradict our interpretation.

It is unlikely that the scene at AWS-102 represents a patterned return to the same place for burials over a number of years, supported by the paucity of historical artifacts in the immediate vicinity of the burials (also see Musil 1928: 418). Instead, it is likely that the cemetery reflects a family tragedy that happened relatively precipitously. A likely explanation for this sudden widespread death is contagious disease, although specifically what kind remains speculative. Dickson noted that whooping cough, smallpox, measles, and chickenpox were common childhood diseases, but he added that these did not seem to be terribly deadly (Dickson 1949: 506-507); Musil reported that smallpox and measles were both "winter diseases" (Musil 1928: 666-667). Another possibility is exposure to influenza, a disease that had widespread fatal effects throughout the world in the late 19th and early 20th centuries.

This tragic human drama has added another dimension to our assessment of the occupation of the al-Azraq Wetlands Preserve. The oasis at al-Azraq has been a draw for human visitation for hundreds of thousands of years, but while the water and consequent vegetation and animal resources have provided a boon for human groups, there are also the unsuspected (if rare) dangers that can suddenly erupt and change the oasis into a final resting place.

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