A LATE ROMAN TOMB NEAR QAṢR AR-RABBA

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Introduction

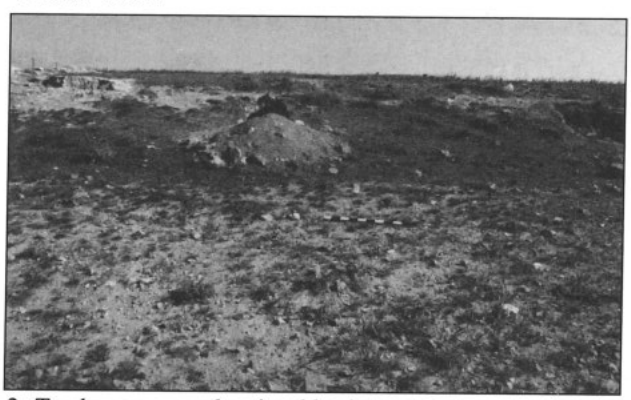
In 1993 and 1996 al-Shiyyab (1996 n.d.) sought to document the Nabataean temple at Qaṣr ar-Rabba, situated 5km north of ar-Rabba and 15km north of Karak in Jordan (Fig. 1). Part of this research involved exploring architectural features of the temple and its occupational history and water management features. In addition, al-Shiyyab wished to locate cemeteries associated with settlement at Qaṣr ar-Rabba. A hinterland survey discovered a previously undisturbed Roman and Byzantine period cut limestone tomb in the Nazzāza region between the vicinities of al-Qaṣr and ar-Rabba. The calcareous rocky region of Nazzāza is located approximately 2.50km to the southeast of the village of al-Qaṣr (**Fig. 1**), thus the individuals interred in the tomb likely resided in this rural locale rather than at the ancient site itself.

It remains unclear whether this tomb was isolated or included within a larger cemetery. The regional survey identified another collective rock-cut tomb destroyed by road construction. Other associated tombs may have been ruined by construction of a new road. Additionally, while the tomb reported here remained intact, construction of the new route destroyed its entrance (**Fig. 2**). The undisturbed disposition of the tomb structure enabled a complete study of the tomb architecture, material objects, and human skeletal remains. The tomb and grave goods are discussed in more detail elsewhere (al-Shiyyab 1996 n.d.), thus this information is presented only briefly here. Following this, the bioanthropological data are reported on and discussed.

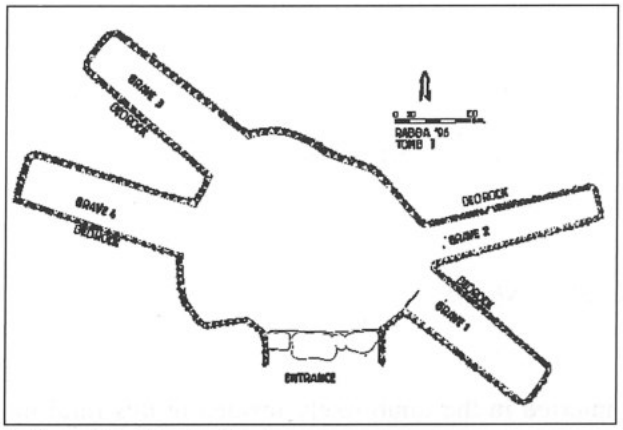
1. Location of the tomb in the Nazzāza region between al-Qaṣr and ar-Rabba.

Tomb Architecture and Material Culture

The rock-cut tomb consists of four sepultures situated around a round central chamber measuring 3.20m E-W x 2.60m N-S and 2.50m in height (**Fig. 3**). The tomb is entered through a 1.30m entrance in the southern side. As noted above, most of the tomb entrance was destroyed by road construction. Two loculi, Graves #1 and #2, are cut from the east wall and another two, Graves #3 and #4, are cut from the west wall of the chamber. Seats or benches encircle the chamber, measuring between 0.40-0.50m wide.



2. Tomb entrance and regional landscape.



3. Plan of the Nazzāza tomb.

Grave #1

Grave #1 is located 0.40m to the NE of the entrance and has a NW-SE orientation (**Figs. 3 and 4**). The rectangular loculus is approximately 0.60m high and 2.00m long, and the width varies from 0.52m at the opening to 0.66m at the inner end. A flagstone ca. 0.60m wide sealed the opening of the grave.

Grave #2

Grave #2 oriented ENE-WSW, lies ca. 0.20m to the north of Grave #1 (**Figs. 3 and 4**). The loculus is 2.30m in length and ranges from 0.38m wide at the entrance to 0.46m wide in the interior. Inside, the height averages 0.75m. Similar to Grave #1, a flagstone sealed the opening of the loculus.

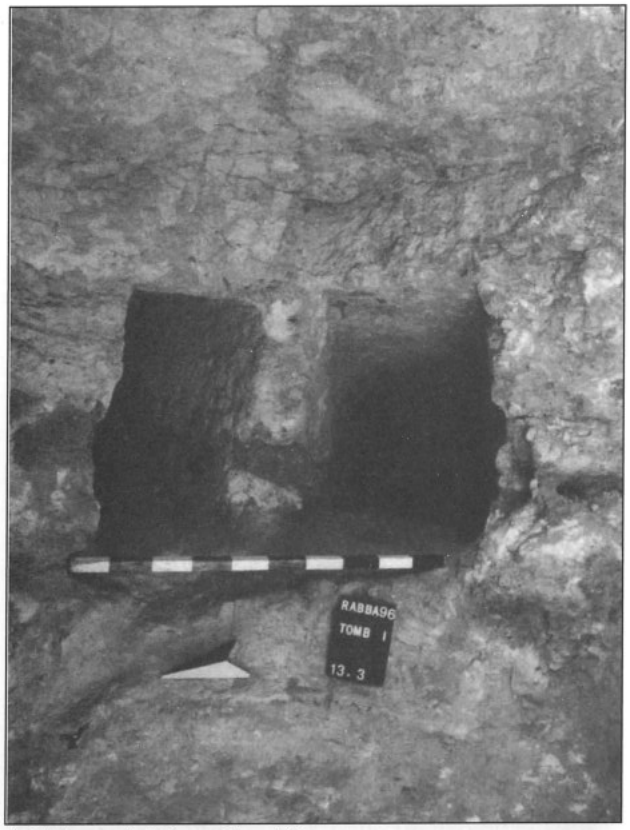
Grave #3

Grave #3 is cut from the western wall of the tomb, ca. 0.40m from Grave #4 and 2.25m from the tomb entrance. The tomb is oriented NW-SE and extends 2.30m in length and is ca. 0.75m high. Width of the loculus ranges from 0.56m wide at the entrance to 0.70m wide at the northwestern end (**Figs. 3 and 5**). The grave opening was sealed with a stone measuring approximately 0.70m in width.

Grave #4

Grave #4 is located 1.60m to the northwest of the entrance and 0.40m from Grave #3 (**Figs. 3 and 5**). The ENE-WSW-oriented loculus measures 2.30m in length and ranges from 0.60m wide at the entrance to 0.66m wide in the interior. The height of the loculus averages around 0.75m and the opening was sealed with a fieldstone similar to Grave #3.

The funerary objects and architectural evidence date tomb use to the Late Roman period (al-Shiyyab 1996). Based on the loculi radiating from a central chamber and the carved benches along the



4. Entrance to Graves 1 and 2.

5. Entrance to Graves 3 and 4.

walls, the tomb layout resembles those included within the Type I style identified at Ḥisbān, attributable to the Late Hellenistic to Late Roman periods (Waterhouse 1998: 10). Lacking any lamp niches or a "rolling stone" entrance, the tomb from Nazzāza parallels the simplest forms of this tomb style. As outlined by Krug (1998), in addition to those found at Ḥisbān, similar tombs have been discovered at Abila (Davis 1983, 1985; Fuller 1987; Smith 1989, 1990, 1992), in ʻAmmān and its vicinity (Dana 1970; Harding 1951; Maʻayeh

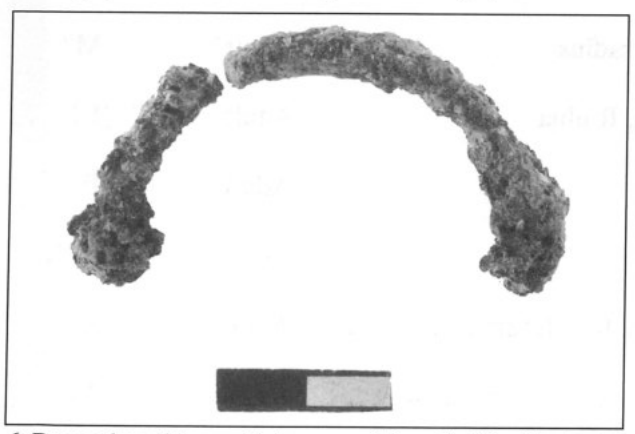
1960; Rashdan 1984; Suleiman 1987), Bayt Zar'a (Khadija 1974), Aydūn (Suleiman 1987), Gadara (Umm Qays) (Weber 1988), Gerasa (Jarash) (Fisher 1938; Ma'ayeh 1960), Ḥayy ad-Duraybāt (Suleiman 1987), Pella (Smith 1973; McNicoll et al. 1982, 1984, 1986, 1992; Potts *et al.* 1988), Petra (Browning 1973; Zayadine 1979, 1982), Rājib (Bisheh 1973), Umm al-Walīd (Zayadine 1981), Wādī al-Bādhān (Dajani 1953), and Yājūz (Thompson 1972).

Personal items from the tomb include a bronze bezel ring and a bronze anklet or bracelet typical for the Late Roman period (Ibrahim and Gordon 1987, Plates XIV and XV) (**Figs. 6 and 7**). Additionally, a large quantity of ceramics was recovered from the graves (see al-Shiyyab 1996). No contextual data for these artifacts exist, however. Compared to many contemporary tombs, the Nazzāza tomb contained little funerary material culture or personal items.

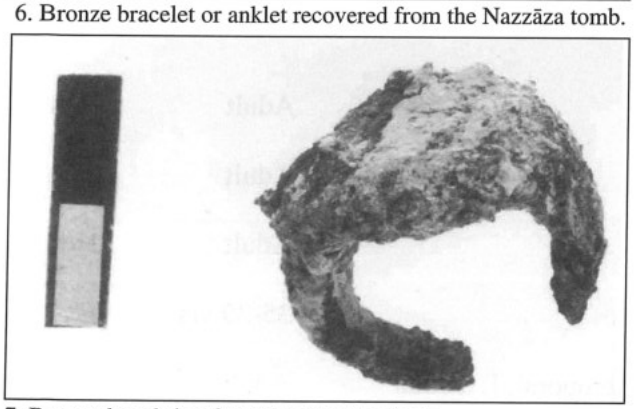
The Human Skeletal Remains

Methods

After recovery of the skeletal remains, excavators placed the elements into a large cardboard box and separated them by grave with layers of newspaper. Unfortunately, the newspaper did not prevent confusion of bones from different graves. Thus, the box had to be carefully "excavated" by newspaper layer, which meant that only some skeletal elements could be definitively associated with a grave. As described below, observations of morphology, size, color, and if possible, sex and age served to link elements with known context with unassociated elements and fragments. As a result, many of the grave designations in this report are hypothetical, and many skeletal elements could not be associated with a grave at all.



6. Bronze bracelet or anklet recovered from the Nazzāza tomb.



7. Bronze bezel ring from the Nazzāza tomb.

After the skeletal remains were carefully taken from the box layer by layer and cleaned, an inventory of skeletal elements in the entire tomb provided the "Minimum Number of Individuals", or "MNI", of the entire sample. The MNI reflects the smallest number of individuals that must be present to account for duplication of the elements in the sample, taking into consideration obvious age and sex differences.

In addition, considering the proper grave context for as many elements as possible established a MNI estimate for each grave and thus a more accurate MNI for the tomb. Despite post-excavation commingling of some skeletal elements, most still could be associated with their appropriate grave. The remaining elements without context were then linked with those of known origin. In order to accomplish this, skeletal elements were grouped together according to similarities in morphology, size, color, tomb location, age, and/or sex. Afterwards, these groups were combined into possible individuals based on these same criteria.

Collection of demographic and other bioanthropological variables followed protocol outlined in *Standards for Data Collection from Human Skeletal Remains* (Buikstra and Ubelaker 1994). Only auricular surface of the pelvis provided age estimation of the adult individuals (Lovejoy *et al.* 1985; Meindl and Lovejoy 1989), as no pubic symphyses were recovered. Adult sex estimates were provided through subjective observation of cranial and/or pelvic remains (Buikstra and Mielke 1985; Buikstra and Ubelaker 1994; Phenice 1969) and long bone measurements (Buikstra and Ubelaker 1994). Subadult age estimation also followed the Standards protocol, utilizing either dental eruption sequence (Ubelaker 1989) or a combination of long bone dimensions (Fazekas and Kósa 1978; Ubelaker 1989) and epiphyseal union (Buikstra and Ubelaker 1994). Additionally, bone size and shape abnormalities, reactions to disease processes, trauma, and congenital conditions were recorded following Standards (Buikstra and Ubelaker 1994). Furthermore, metric and non-metric

data were collected, but these are not reported here.

Results

The overall MNI for the tomb from Nazzāza is 11 individuals — two subadults and nine adults. An attempt to establish the context of skeletal elements mixed between graves with individuals of known grave identification provided a more detailed estimate of the MNI. Based on observations of possible tomb designation, age, sex, and skeletal morphology, size, and color, skeletal elements were combined into 16 "groups" indicating they likely belonged to the same individual (**Table 1**). Then, these 16 groups were combined into possible individuals based on morphology, size, color, age, sex, and hypothetical tomb designation (**Table 2**). Finally, in order to determine the MNI for each tomb, both the mixed unassociated remains and the remains of hypothetical individuals were combined by grave (**Table 3**). Some elements/individuals could not be definitively assigned to only one grave, thus some groups of elements have more than one grave identification. Furthermore, a 6 year-old (± 24 months) child could have been assigned to either Tomb #1 or Tomb #2, but was ul-

Table 1: Skeletal Element "Groups".

Group	Grave	Elements Present	Age	Sex
a	1	Femur, humerus, temporal, mandible	6 +/-24 mos	N/A
b	3?	Cranium, femur, tibia, fibula, humerii	NB – 0.5 yrs	N/A
A	4?	MT III, IV, and V	Adult	N/A
B	4?	L & R os coxae	30-34 yrs	M
C	4?	L os coxa	30-34 yrs	F
D	4	L humerus, L & R ulnae, L radius	Adult	M?
E	3 or 4	L & R humerii, L & R radii, R ulna	Adult	F?
F	3 or 4	L & R humerii, R ulna	Adult	F
G	1, 2, or 4	R humerus and R ulna	Adult	N/A
H	1	R humerus, R & L os coxae, R & L femora, R tibia	Adult	F
I	1	R & L humerii, R & L radii, R & L femora, R & L fibulae	Adult	M
J	1, 2, or 4	R & L ulnae, L humerus	Adult	N/A
K	4?	R & L tibiae	Adult	N/A
L	4?	R & L tibiae	Adult	N/A
M	3 or 4	R & L femur, R & L os coxae	35-39 yrs	F
N	1 or 2	Occipital, R & L parietal, L temporal, L frontal	Adult	M

Table 2: "Groups" Combined into Possible Individuals By Grave.

Individual	Grave	Groups	Age	Sex
1	1	N & I	Adult	M
2	1	H	Adult	F
3	1	a	6 yrs	N/A
4	3	b	NB – 0.5 yrs	N/A
5	4	C & F	30-34 yrs	F
6	3 or 4	M & E	35-59 yrs	F
7	4	B & D	30-34 yrs	M
8	1, 2, or 4	J	Adult	N/A
9	1, 2, or 4	G	Adult	N/A

* (Groups A, K, and L from Grave #4 listed in Table #1 can belong with individuals 5, 6, 7, 8, or 9)

Table 3: Final Tally of Individuals by Grave.

Grave	Burials
Grave #1	1 adult male
	1 adult female
	1 6 year-old (+/-24 months) child
Grave #1 or #2	2 adults (sex indeterminate)
Grave #3	1 birth – 0.5 year-old infant
	2 adults (sex indeterminate)
Grave #3 or #4	1 35-39 year-old female
	1 adult (sex indeterminate)
Grave #4	1 30-34 year-old male
	1 30-34 year-old female
	3 adults (sex indeterminate)
Grave #1, #2, or #4	2 adults (sex indeterminate)

timately assigned to Tomb #1 because the field notes noted the presence of a subadult in that tomb (al-Shiyyab n.d.). By combing these individuals with unassociated elements of known grave context, the total MNI of the sample increases from 11 to 15.

In general, the sample from al-Qaṣr displayed few paleopathologies beyond normal degeneration due to age or related to minor skeletal trauma. One adult from Grave #1 or #2 and one adult from Grave #3 displayed periosteal reactions on the lateral aspects of their right distal fibulae, which were active at the time of death. The localized nature of this condition suggests it stemmed from trauma rather than a systemic infection. An adult individual from Grave #1 or #2 had a previous fracture of one left rib (Rib III-X), which had almost completely healed at the time of death. The inferior surface of this rib displays a resorptive area with circumferential lipping just medial to the fracture, probably due to contact with the lower rib as a result of this trauma. One adult from Grave #3 had a resorbed and flattened distal articular surface of the right first metacarpal, possibly due to arthritis or a pathological condition of the articulating proximal phalanx (which was not recovered). The lumbar vertebra of an adult individual from Grave #4 displays three resorptive foci (Schmorl's nodes) on the anterior aspect of the superior surface of the vertebral body with resulting osteophytes on both the superior and inferior aspects of the body. General degenerative arthritis was noted on adult individuals from Graves #1 or #2 and Grave #4 on two proximal humerii from one individual, and on a number of unassociated ribs. Traumatic arthritis was noted on three metatarsals (3, 4, and 5) of one individual (Group A) in Grave #4 probably connected with what seems to be a complete fracture of the styloid process of MT5, which became healed on the dorsal surface of the metatarsal with resulting ossification of the surrounding soft tissue.

Compared with contemporary regional populations, individuals from the Nazzāza tomb display little evidence of infections or poor nutrition (see Alcorn and Goodman 1989; Bikai and Perry 2001; Grauer and Armelagos 1998; Nabulsi 1998; Perry 2002). Only localized rather than systemic infections were observed, implying they resulted from trauma rather than disease. These individuals suffered from a similar level of osteoarthritis and skeletal trauma as other communities, however (see Bikai and Perry 2001; Browne 1992; Grauer and Armelagos 1998; Nabulsi 1998; Perry 2002). The majority of osteoarthritis cases observed stemmed from trauma, and thus does not reflect prevalent age-related degeneration.

Summary and Conclusions

The tomb from the Nazzāza region near al-Qaṣr resembles similar Late Roman tombs from the region. Artifacts found within the graves also support its Late Roman date. The tomb contained a minimum of 15 individuals, computed after the skeletal elements were grouped together by grave context and combined into possible individuals. Com-

mingling of many elements between excavation and analysis made grave assignation of these individuals difficult. Thus, the MNI of 15 individuals may not be correct since it is based on conjectural evidence of skeletal element grave designation. The skeletal remains displayed no evidence of systemic infectious disease or lack of nutritive resources. Instead, trauma likely caused the localized infections observed. These individuals had an expected prevalence of osteoarthritis and trauma based on studies of other regional skeletal samples.

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