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Short fieldwork report

Human remains from Musti, Tunisia, 2022–2023

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The city of Musti (today's El Krib, 36°18'00"N, 9°08'00"E, ancient municipium *Iulium Aurelium Mustitanum* (for literature on Musti, see Desanges et al. 2010:182–183; Beschaouch 2014:1585–1595) was located in a highly urbanised region of Roman Africa, in present-day Tunisia, just 12km south of the important urban centre of Thugga and about 120km south-west west of Carthage, the provincial capital at the time (**Figure 1**). The town was located at the intersection of important roads connecting Carthage with Theveste and Sufetula, located inland (Atlas archéologique de la Tunisie, f. 25, Jama, no. 3). The microregion of Musti lies in the fertile alluvial valley of the Oued Khalled, a tributary of the River Bagradas (Majrada/Mejerda)—a vital agricultural area in the Tunisian Tell. The heavy soils of the valley were perfect for growing crops, which were watered by annual rainfall of ca. 500–700mm.

Between 2019 and 2023, the archaeological site was the subject of research by a Tunisian-Polish team of researchers who, on behalf of the Institut National du Patrimoine (Tunis) and the University of Warsaw (Faculty of Archaeology and Polish Centre of Mediterranean Archaeology), conducted the AFRIPAL project – "(Reading) African Palimpsest. The dynamics of urban and rural communities of Numidian and Roman Mustis (AFRIPAL)" (National Science Centre, Poland, project no. 2020/37/B/HS3/00348; implemented in the field in 2021–2023). The project was directed by Jamel Hajji (Institut National du Patrimoine) and Tomasz Waliszewski (University of Warsaw).

The primary scientific goal of the proposed project was the investigation of the dynamics of change of Musti, one of 200 towns known from the province of Africa Proconsularis, in a delicate moment of transition from a Numidian agglomeration to a Roman one, and the development of Musti as an element of the urban system of Africa and the Roman Empire. Emphasis was given to studying the Numidian and Roman populations inhabiting the town from approximately the 3rd century BC to the mid-3rd century AD. The entire history of Musti as a settlement falls within a broader time frame, between approximately the 3rd century BC and the 12th century AD, although its peak development occurred during the Roman and Late Antiquity periods (2nd–6th centuries AD). The local history of the city has been divided into

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eight time horizons (H1–H8), of which horizon H1 covers the Numidian period (from the founding of the city to the end of Masinissa's reign, 202–148 BC), while horizon H6 covers the late antique period from the invasion of the Vandals in the early 5th century AD to the conquest of Carthage by the Muslims in 698 AD.

Archaeological excavations in the city covered its central part located near the main Roman road crossing the city and below the forum from the Roman period.

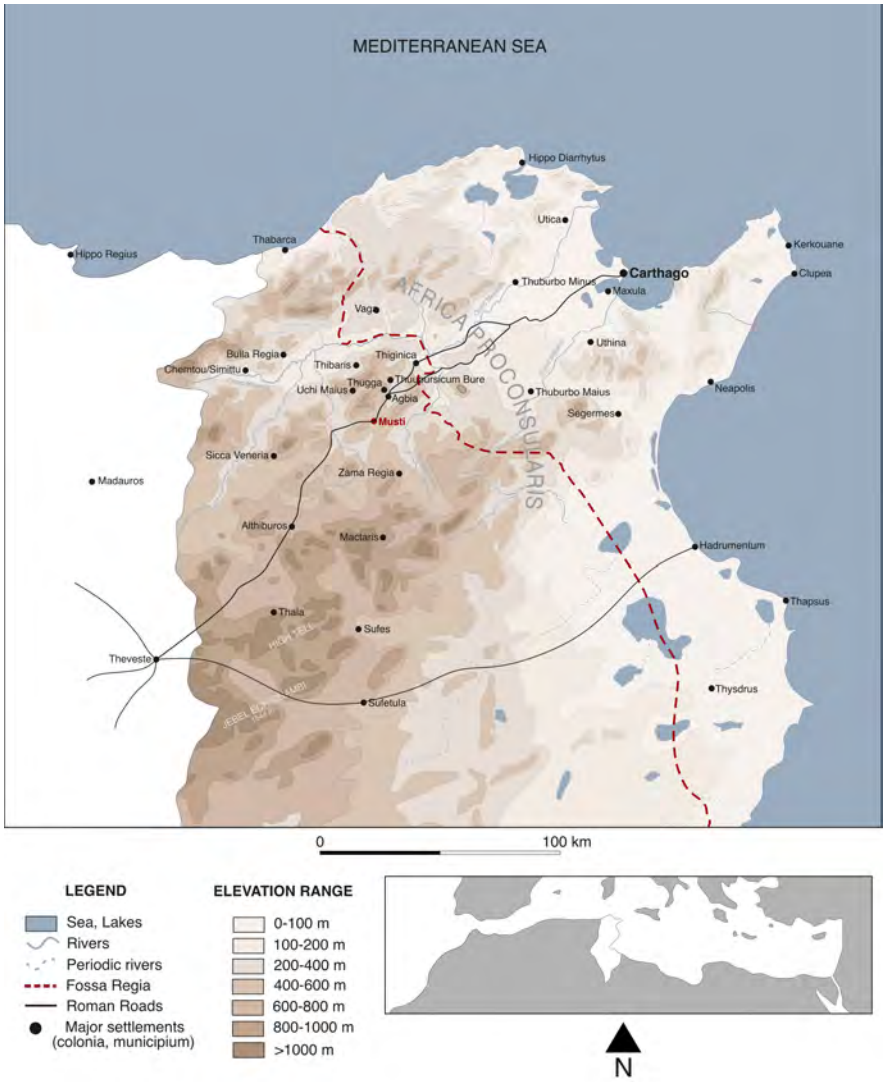

Figure 1. The town of Musti on the map of Roman Africa. Drawing by Magdalena Antos, PCMA UW.

The archaeological trenches from which the human remains discussed in this report originate were located under the remains of two temples that functioned there in the 2nd–3rd centuries AD and were reused until late antiquity (5th–7th centuries AD) (trenches T7 and T11) and the main road (trench T12) (**Figure 2**).

In order to achieve the most reliable dating of individual archaeological contexts, a rigorous stratigraphic method was used, supported by a detailed analysis of movable finds, including primarily ceramics, and supplemented by radiocarbon dating of organic samples.

With regard to the chronology of the samples, only one context (context 1008) falls within the H6 time frame, which corresponds to the Late Antiquity period in Africa. All other contexts (380, 814, 815, 831, 833 and 1021) more or less certainly fall within the H1 time horizon, which corresponds to the oldest phase of the settlement's history, equivalent to the 3rd–2nd century BC.

The recovery of human skeletal remains from a secondary depositional context necessitates an inquiry into their provenance. The primary objective of this analysis was to characterize the assemblage, ascertain whether the deposit represents the disturbance of a primary funerary site, and quantify the extent of such disturbance through an estimation of the Minimum Number of Individuals (MNI).

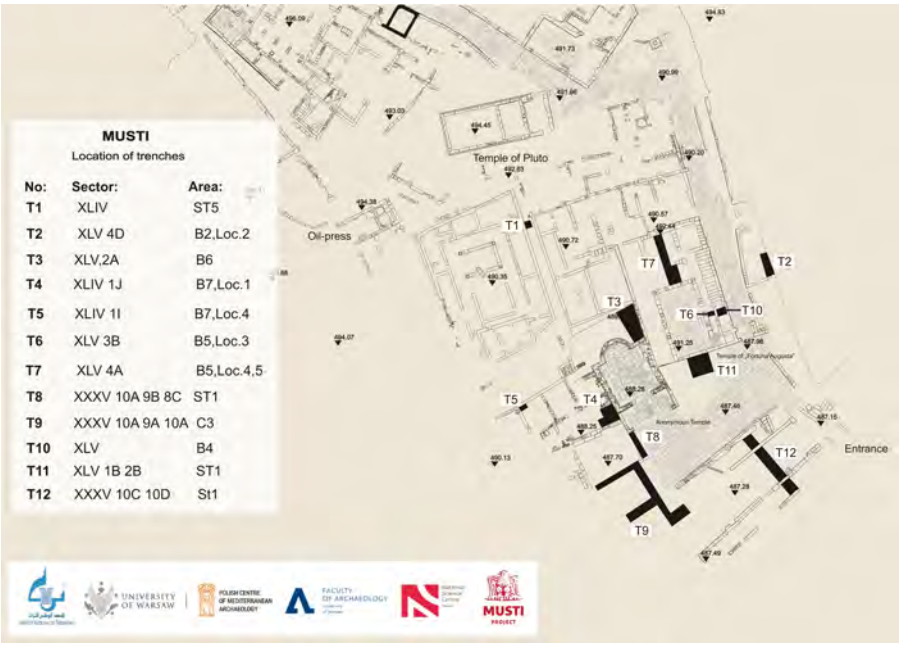

Figure 2. Location of archaeological trenches within the centre of Roman-period Musti. Drawing by Magdalena Antos, PCMA UW.

Osteological analysis was conducted in accordance with the standards outlined by Brickley and McKinley (2004). The protocol involved a detailed inventory of skeletal elements, assessment of preservation status, and evaluation of bone maturity. Where element preservation permitted, osteometric data were collected to facilitate sex estimation. Additionally, macroscopic observations were recorded regarding sexual dimorphism and pathological lesions.

The assemblage comprises disarticulated and commingled remains representing both adult and non-adult cohorts. The most substantial concentration of material was recovered from Context 833, which yielded elements from both adults and subadults. Adult remains in this context included a proximal phalanx of the hallux exhibiting articular surfaces without observable pathological changes, and a first, lower molar. The molar displayed an attrition score of 4 according to Smith (1972), most common among young adults (cf. Lovejoy 1985); no carious lesions or enamel hypoplasia were observed on the crown. The subadult component of Context 833 included fragments of the calotte and sphenoid, two fragments of ribs, three fragments of long bone diaphyses, and a fragment of left scapula morphologically consistent with an older infant.

Diagnostic material recovered from associated contexts provided further biological data. Context 380 yielded a proximal femur (head and neck); the maximum vertical diameter of the femoral head (46mm) falls within the range typically associated with male individuals (Šlaus et al. 2003). Conversely, Context 1021 contained a frontal bone fragment preserving the glabella region; the morphology was scored as grade 1 (gracile), highly indicative of a female individual (Walker 2008). This context also produced a femoral neck fragment with an indeterminate vertical diameter (31mm; Luna 2025). Further evidence of multiple individuals was identified in Context 831, which contained an adult mandibular second molar with attrition stage 4 according to Smith (1972), most common among young adults (cf. Lovejoy 1985), commingled with subadult remains. Subadult elements included a left scapula consistent with an infant in the first year of life, and a first cervical vertebra (atlas) exhibiting a developmental stage consistent with the older infant identified in Context 833.

Minor fragments were recovered from Context 815 (an adult cervical vertebra without any pathological changes), Context 814 (cranial vault fragments), and Context 1008 (long bone diaphyses), contributing to the overall volume of the assemblage, but offering limited diagnostic possibilities.

The calculation of MNI, based initially on the duplication of specific skeletal elements and developmental age, confirms the presence of at least three discrete individuals: a subadult (less than 1 year), another subadult (older infant), and an adult, represented by dental and skeletal elements. The morphometric data from the femoral head in Context 380 (male) contrasts with the morphological traits of the frontal bone

in Context 1021 (female). While there is no direct duplication of adult skeletal elements, the presence of distinct male and female biological indicators strongly implies the presence of at least two adult individuals.

The assemblage represents the taphonomic disturbance of at least four discrete burials (or a collective interment) comprising two adults, one male and one female, and two non-adult individuals of different ages. The fact that human bones were found beneath the remains of two temples supports a specific interpretation. The deposits most likely resulted from the disturbance of burials during the construction of the temples. These construction activities ultimately sealed the remains. At the same time, the deposits may constitute evidence for an even earlier phase of use of this area.

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