

Joe W. Walser III

Report on human remains from Munkaþverá

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Report on human remains

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Bag 1 Inventory: left scapula and left humerus

Minimum number of individuals (MNI): 1 individual

The MNI only presents the identification of the minimum number of individuals based on the elements present together and does not guarantee that these two bones are from the same person. The left scapula and left humerus articulate. Although it cannot be certain, they are likely from the same individual and are thereby presented here together.

Sex Estimation: Male

The remains are morphologically robust. The metrical sex identification, based on the size of the proximal humerus appears male, although it is broken post-mortem and cannot be measured with any accuracy. The glenoid fossa, the joint surface of the scapula where the humerus articulates, measures 32mm in width (male range is >28.6mm). (Buikstra and Ubelaker 1994). The morphological traits of the humerus epicondyle (trochlear extension, angle of medial epicondyle, and shape of olecranon fossa) also indicate that the individual is male (Vance et al 2011).

Age Estimation: Adult

Based on the fusion of the epiphyses of the scapula (glenoid, acromion, lateral border, corocoid) and the humerus (humerus head, epicondyle), the individual is over the age of 18. The fusion lines are no longer present on any epiphyses, indicating that the fusing process has been complete for a number of years (Scheur and Black 2000). Enteseal changes are present on the shaft of the humerus (deltoid, middle of anterior shaft, distal-medial border proximal to medial supracondylar crest). These changes tend to develop due to increasing age, trauma or systemic disease (Vilotte and Knüsel 2013).

Stature: 173.63 cm \pm 4.05

Formula for adult white male: $3.08 \times \text{Hum} + 70.45 \pm 4.05$

Stature estimation of individual: $3.08 \times 33.5 + 70.45 = 173.63 \text{ cm} \pm 4.05$

The stature estimation is derived from the length of the humerus (Trotter 1970).

Pathologies: No observable pathologies. No evidence of joint disease on humerus epicondyle, humerus head or scapula glenoid.

Bag 2 Inventory: 1 non-adult left femur (proximal end and ½ of diaphysis)

Minimum number of individuals: 1 non-adult individual

Age estimation: Non-adult (young child age <6)

The left non-adult femur is broken post-mortem and age estimation based on long bone length cannot be derived from the remains due to this preservation factor. The proximal epiphysis and epiphysis of the greater trochanter were not fully formed nor fused at the time of death. Based on the fragment length (54mm) and the appearance of the epiphyses, the individual was a young child.

Bag 2 Inventory: left metacarpal 4 (MC4) and left metacarpal 5 (MC5)

Preservation: Both metacarpals are in good preservation (poor, medium, good) with some post-mortem damage (5%) to distal shafts, however the epiphyses are intact. The metacarpals are complete and could be measured in length.

Minimum number of individuals (MNI) 1 individual:

The left MC4 and MC5 articulate and very similar in morphological appearance, preservation and size. Although it is uncertain, they appear to be from the same individual and are thereby presented here together.

Sex Estimation: Male?

Based on robustness and metacarpal length (MC4, 62mm and MC5, 58mm), they are likely from an adult male. These are not accurate criteria for estimating sex, but their descriptions can be used in corroboration with standard methods when the appropriate skeletal elements are present.

Age Estimation: Adult

The epiphyses of the metacarpals are completely fused (around 16.5 in males) and the lines of fusion are no longer visible, which indicates that they have been fused for a long period of time. MC5 is generally the last hand bone to completely fuse, also indicating that the individual was no less than a young adult at the time of death ((Scheuer and Black 2000). The proximal aspects of the metacarpal shafts also exhibit enthesal changes (as described in Bag 1 Inventory above).

Stature Estimation: 171.69 cm \pm 5.33 cm

Formula for MC4: $1.375(\text{MC4}) + 86.44 - 81.07 \pm 5.33 \text{ cm}$

Stature estimation: $1.375(62) + 86.44 - 81.07 \pm 5.33 \text{ cm} = 171.69 \text{ cm} \pm 5.33 \text{ cm}$

The formula above is the only available stature estimation method based on the 4th Metacarpal and was developed in a forensics study based on female skeletal remains (Meadows and Jantz 1992). However, there are limitations in using anthropological estimation methods based on modern populations on archaeological assemblages due to factors including sexual dimorphism, age, status, diet and health differences across time periods.

Bag 4 Inventory: right patella, left patella, and joint surface fragment

Preservation: The remains are all very fragmentary and poorly preserved. The joint surfaces of the patellae were lost post-mortem. Only a small amount of poorly preserved trabecular bone clings to the joint surface fragment, which is incomplete and fragmented at the margins.

Summary Description: The patellae are similar in size and morphology and appear to correspond, however it is not possibly to determined if they belong to the same person or to any of the aforementioned individuals. The unidentified joint fragment exhibits a concave surface, very similar in morphology (size, depth and shape) to the left scapula glenoid noted in Bag 1 contents. Other possible joint surfaces include the distal radius, calcaneus, or tibia, for example. It is not possible to say it is connected to any of the aforementioned individuals.

Conclusion: The total minimum number of individuals is 2 (1 non-adult and 1 adult male), although any of the non-adult remains could be from additional adult individuals. The skeletal elements were commingled and the preservation is variable.

References:

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