

## Human remains from Khaveh, Iran, 2019

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Khaveh is a summer village located in a mountain valley ( $34^{\circ}16'22''\text{N}$ ,  $50^{\circ}54'45''\text{E}$ , 2014masl), c. 40km south of the modern city of Qom. The average annual precipitation in this area is only c. 200mm, but the valley is relatively well watered by seasonal streams and wells. In the winter of 2018/2019 construction works at a broad natural sandy-gravel hill named Tepe Yousef Khan (**Figure 1**) revealed some pottery vessels and human remains, and therefore a team from the Iranian Center for Archaeological Research (ICAR) led by Siamak Sarlak conducted rescue archaeological excavations at the site.

After mapping the site (**Figure 2**), five trenches were opened in grid squares I.10, H.12, F.12, G.12 and F.14, from within which a total of six graves have been excavated (**Figure 3** and **4**). All of the graves were simple rectangular pit graves (generally



**Figure 1.** Location of the site in the village of Khaveh. Map data: Google, CNES / Airbus.

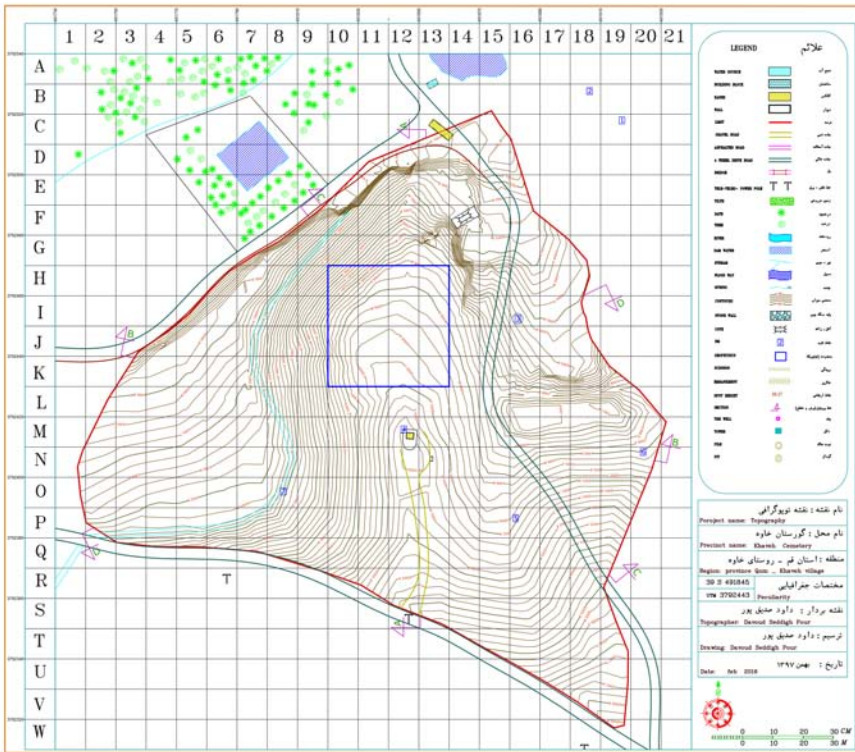


Figure 2. Map of the Yousef Khan cemetery. Drawing by Siamak Sarlak.

160–190cm length and 100–120cm width) that had been covered by big stone slabs without any other architectural features. All graves, save for I.10:101, were single burials. They do not follow any pattern in their direction, with some oriented along a N–S axis (I.10, H.12, and F.12) and others along an E–W axis (G.12 and F.14).

Dating of the graves is difficult due to the fact that after the collapse of late 4<sup>th</sup> millennium BCE large sites in the Iranian Central Plateau, there are no known nearby settlements dated to the 3<sup>rd</sup> millennium. However, by analogy to more distant sites and based on pottery, cylinder seals and metal objects, a preliminary date within the middle 3<sup>rd</sup> millennium BCE has been proposed for the cemetery.

Human remains from Khaveh were studied in May 2019 in the facilities of the Department of Archaeology, University of Kashan, using the standard protocols presented in Buikstra and Ubelaker (1994) with some modifications (see Sołtysiak et al. 2019). In total, the skeletal remains of seven individuals were identified, including six adults and one infant, likely a neonate (Table 1). All retrieved elements were extremely eroded and fragmented, with mostly only pieces of long bone shafts being



Figure 3. Grave I.10:101. Photograph by Siamak Sarlak.



Figure 4. Grave H.12:101. Photograph by Siamak Sarlak.



**Figure 5.** General erosion and insect tunneling on the cranium of individual I.10:101. Scale bar 1cm. Photograph by Arkadiusz Sołtysiak.

identified. Based on general robustness, two individuals were assessed as more likely females than males and one as more likely male than female. Age-at-death assessment was possible only in the case of the best preserved skeleton, G.12:101, having two teeth (RP<sub>1</sub> and LI<sup>1</sup>) exhibiting a moderate-high degree of dental wear, therefore suggesting that it was a mature individual.

Apart from general erosion, two elements were affected by insect tunneling: a cranial fragment of individual I.10:101, with a hole measuring 5.3mm in diameter

**Table 1.** Basic characteristics of human remains from Khaveh.

Trench	Context	Sex	Age-at-death	Caries	Comments
F.12	101	?	adult		
F.12	102	?	adult		small cranial fragments
F.14	101	?	adult		
G.12	101	M**	adult	0/2	
H.12	101	F**	adult		
I.10	101	F**	adult		
I.10	101	–	0–0.5		

(Figure 5), and the humeral head of individual G.12:101, having a hole measuring 5.6mm in diameter. These values are higher than two previously documented ranges at Lama, a site in the Zagros Mountains (Sołtysiak 2013), suggesting that different taxon was responsible for this damage.

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## References

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