

## Human remains from Lahsavareh, Iran, 2020

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The graveyard of Lahsavareh is located near the village of same name in Pataveh district, Dena County, Kohgiluyeh va Boyer-Ahmad province, Iran ( $31^{\circ}4'44.71''N$   $51^{\circ}11'3.23''E$ , 1414 masl). This site was discovered during agricultural activities in May 2020 (Figure 1 and 2). The site is located in the Khersan Dam 3 basin area, which was surveyed in 2008 as part of an archaeological rescue survey project conducted by

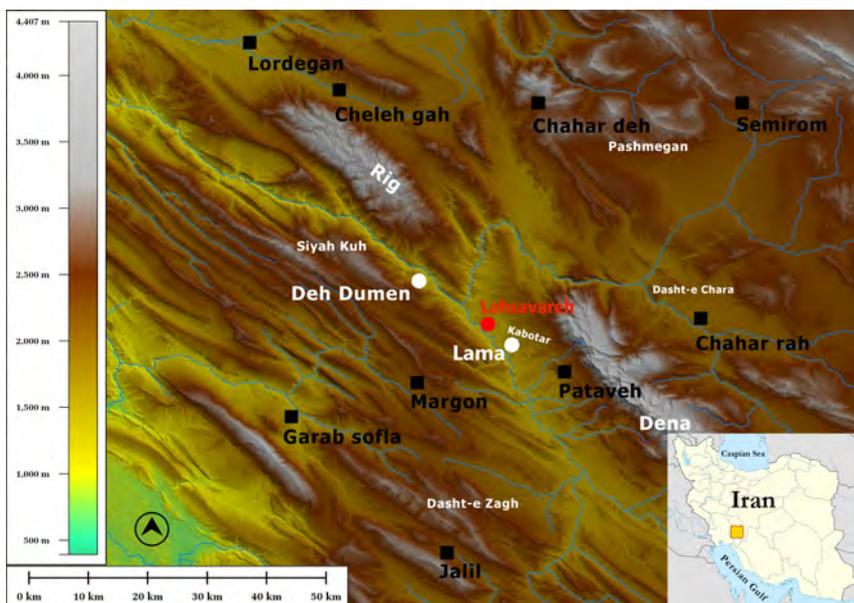


Figure 1. Location of Lahsavareh (drawing by Mohamad Reza Rokni).



Figure 2. Aerial view of the cemetery (photograph by Reza Naseri).

the Iranian Center for Archaeological Research (ICAR) (Ghasemi & Watson 2014). Twenty-nine archaeological sites were discovered during the survey, though the Lahsavareh graveyard was not identified at that time. Several of the identified sites were excavated, including Deh Dumen, which is located 12km north of the Lahsavareh cemetery (Sołtysiak & Naseri 2017), and Lama, 4km to the south (Sołtysiak 2013).

Excavation at Lahsavareh was conducted in July 2020 and in total four 5x5m trenches were opened, revealing 12 graves dated to the early first millennium BCE. There are two different kinds of graves within this cemetery, being similar to those identified at Deh Dumen (Oudbashi et al. 2016; Sołtysiak & Naseri 2017; Sołtysiak et al. 2019; Naseri et al. 2019). Grave 5 is filled with soil, with a tumulus made of pebbles at the top. The second group includes graves 1, 2, 7, 8, and 9, which have arched roofs made of flat stones. In both groups, the grave walls are made of stones, employing a varied number of rows. Many graves were destroyed by agricultural activities, as they were close to the surface. Among them grave 6 was documented, but the human remains were not removed due to time constraints.

There were many kinds of objects found in the graves. Bronze objects include earrings, bracelets, rings, hairpins (?), vessels and arrowheads. Iron daggers, pins (?) and bracelets were also recovered, as were silver bracelets and earrings. Pottery vessels in various shapes, sizes and decorations were also identified, along with many stone

and bronze beads and lithics. The artefacts recovered were overall similar to those recovered from previous excavations in the cemetery of Lama, which was dated to the late second and early first millennium BCE (Rezvani et al. 2007, Sołtysiak et al. 2010, Sołtysiak 2013, Jafari 2013).

Single and multiple burials are present at Lahsavareh. All the graves, except graves 10 and 12, also contained animal remains. In the cases of graves 8 and 9, human remains were also identified inside pottery vessels, as was also the case at Deh Dumen (cf. Sołtysiak & Naseri 2017, Sołtysiak et al. 2019). Both these graves include more individuals than other graves and were reopened several times to put new deceased individuals inside, suggesting that it is possible some of the bones had fallen into the recovered vessels accidentally, as a result of post-depositional taphonomy rather than purposeful interment within the vessels. At Lahsavareh, fetuses were both buried beside adults (grave 5) and in separate graves (grave 7). Except for grave 7, all other identified subadults were buried in collective graves. The minimum number of individuals (MNI) at this cemetery is 34 (Table 1).

The human remains from Lahsavareh were studied in the Institute of Archaeology, University of Tehran using standard protocols (Buikstra & Ubelaker 1994). The human remains of this cemetery are not preserved very well; in most cases the epiphyses of the long bones are missing, and all of the skulls are broken. Postmortem changes include green staining due to contact with bronze objects and red-brown

**Table 1.** The catalogue of human remains from Lahsavareh cemetery.

Grave	MNI <sup>1</sup>	MNI based on	Adults <sup>2</sup>	Subadults
G1	1		?	
G2	2	humerus	M*	adolescent
G3	3	cranium	M**, F**	
G4	2	mastoid process	F*	adolescent?
G5	5	cranium	M**, ?, F*	fetus, 5-6 yrs
G7	1			fetus
G8	8	cranium/adults; teeth/subadults	F**, M*, M**, ?, F*, ?	fetus, 7-8 yrs
G9	8	cranium/adults; teeth/subadults	F, ?, M*, F**	fetus, 6-5 yrs, 7-8 yrs, adolescent
G10	1		M*	
G11	2	tibia	M**	adolescent
G12	1		M*	
Total	34		22	12

<sup>1</sup> Minimum number of individuals

<sup>2</sup> M – male, M\* – likely male, M\*\* – more likely male than female, F – female, F\* – likely female, F\*\* – more likely female than male.



**Figure 3.** Fungal spots and soil staining on mandible, skeleton 1 in grave 5 (photograph by Mahsa Najafi).



**Figure 4.** Femur with major plant roots in the medullary cavity, grave 11 (photograph by Mahsa Najafi).

staining resulting from contact with iron objects. Red-brown staining was observed in the first rib of skeleton number 3 in grave 5. Green staining was noted in bones like the mandible, mastoid process, radius, ulna and phalanges in skeletons from graves 1, 3, 5 and 8. Other taphonomic agents identified were fungal spots and soil staining, documented on the mandible of skeleton 1 in grave 5 (**Figure 3**). Another common taphonomical agent documented was bone breakage, especially in the long bones due to plant roots that went through the bones and broke them (**Figure 4**). Evidence of



Figure 5. Insect tunneling on skull bone fragment, grave 1 (photograph by Mahsa Najafi).



Figure 6. Clavicle with postmortem damage, grave 10 (photograph by Mahsa Najafi).



**Figure 7.** Right ulna with postmortem damage, grave 9 (photograph by Mahsa Najafi).



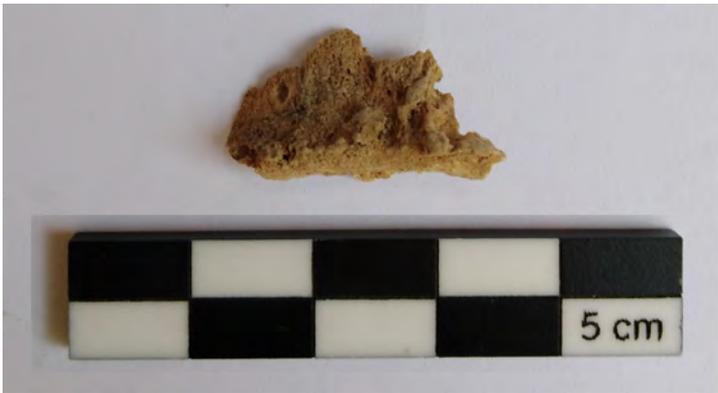
**Figure 8.** Schmorl's nodes in skeleton 1, grave 5 (photograph by Mahsa Najafi).

insect tunneling was noted in a skull fragment in grave 1 (**Figure 5**). Postmortem damage was especially clear in graves 9 and 10 (**Figures 6 and 7**).

Linear enamel hypoplasia was observed in two sets of dentition from grave 8, while caries were noted in 14 of 372 teeth (3.8%). Schmorl's nodes were observed in skeleton 1 from grave 5 (**Figure 8**). The ulna of skeleton 1 in grave 5 had a spongy and extended radial notch with mild degenerative joint disease (**Figure 9**). Osteophytes were noted in a tiny part of a vertebral body from grave 9 (**Figure 10**).



**Figure 9.** Left and right ulna of skeleton 1, grave 5, with spongy and extended radial notch and degenerative joint disease on the right side (photograph by Mahsa Najafi).



**Figure 10.** Osteophytes on the body of a vertebra from grave 9 (photograph by Mahsa Najafi).

Lahsavareh graveyard is located between the cemeteries of Deh Dumen and Lama. All three cemeteries are located on the banks of the Kershan river bank and they include graves dated to the early first millennium BCE. These cemeteries are similar in various aspects, including grave structures, burial objects and funeral rites.

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