Human remains from Liarsangbon, Iran, 2016-2017

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The cemetery at Liarsangbon is located in the Alborz Mountains, on the slope of Mount Ahinbar-Talleh, c. 2km north to the village Shieh in the Rankuh District of Amlash County, Gilan Province (36°54′04″N 50°01′49″E, 1860masl), Iran. Although annual precipitation is much lower than on the northern slopes of the Alborz, the mountains in the surrounding area are relatively high, up to 2300masl, and there are several areas of well watered land, especially c. 3-4km south of Liarsangbon, that allow limited agriculture. However, the valleys around the site are most suitable for ovicaprid herding. No clear traces of settlement sites have been found in close proximity to the cemetery; at the nearby connection of two streams there is, however, a rock with a window that was shaped by humans and used as a fire place (**Figure 1**). There is no evidence that this feature was directly related to the Liarsangbon cemetery, which was placed in front of it, 300m away on the opposite side of the valley.

The site was identified by Vali Jahani in 2013 and the first season of excavations started in the same year, aiming at identification of the site dimensions through 21 test trenches. During two further seasons of excavations at the cemetery (2016 and 2017) eight wider trenches have been explored (**Figure 2**). The total number of graves identified to date is 26: 25 human and one animal burial. The interred bodies were buried on their left side in small chambers cut into bedrock; the burials contained numerous artifacts, including pottery, weapons and jewellery (**Figure 3**). South of the cemetery, some architectural remains were also found. The cemetery was used during the Parthian period as confirmed by two radiocarbon dates obtained for dentin collagen (skeleton 95502: 38 BCE – 123 CE, skeleton 96303: 45 BCE – 80 CE, 95.4% probabilities), although some artifacts that may be attributed to the Sasanian period were identified as well.

The human remains from Liarsangbon were studied in the osteological laboratory at the University of Guilan, Rasht, in September 2017. Four skeletons were documented in that time and they were studied at the site. All individuals were measured and described using a standard protocol (Buikstra & Ubelaker 1994), with some

Figure 1. A rock in front of the cemetery at Liarsangbon. Photograph by
Arkadiusz Sołtysiak.

modifications (cf. Sołtysiak 2010). Stature was estimated using maximum length of
femur or tibia—if femur was not available—with ordinary least square formulae de-
veloped for contemporary Greek population (Nikita & Chovalopoulou 2017). For
cribra orbitalia, a simplified scale has been adopted (Steckel et al. 2006).

Most graves contained a single skeleton; in four cases two bodies were buried in a
grave (**Table 1**). Most skeletons were fairly complete, but some of them were heavily
affected by extreme weathering and root etching, with tooth enamel being particularly
fragile. In spite of this, it was possible to take many measurements and to assess sex and
age-at-death using complete pelvic bones and skulls. There is a very clear age-at-death
bias with only one subadult individual (12-years old child) in the whole assemblage;
male skeletons are more frequent than female ones (15 versus 9), but it seems that
there were no specific areas at the cemetery dedicated to different sexes.

The people buried at Liarsangbon were relatively short: the average stature for fif-
teen males is 164.7 cm and the average for seven females is 157.1 cm, which is lower
than in roughly contemporary sedentary populations from the middle Euphrates val-
ley where an average of 169.6 cm for males and 159.0 cm for females was docu-
mented (see Tomczyk & Sołtysiak 2007). Cranial vaults were usually too eroded to
score porotic hyperostosis, but in most individuals preservation of orbital roofs en-

Figure 2. General view of the site. Photograph by Arkadiusz Sołtysiak.

Figure 3. Grave 95804 during excavation. Photographs by Vali Jahani.

abled scoring of *cribra orbitalia*. This condition was present only in 2/13 individuals, and only in one was porosity severe.

The most interesting pattern documented has been observed in the prevalence of dental caries, which may be interpreted as a proxy for diet abundant in fermentable sugars (Hillson 2005). Carious lesions were present both in males and in females, but there is a striking difference between trenches. In trench 5 all six individuals had dental caries, and in all other trenches only one per 15 individuals. In spite of small sample size this difference is statistically significant (Fisher's exact test, p=0.00013).

Table 1. General description of skeletons from Liarsangbon. The two first digits of the tag number represent the excavation year (in Persian calendar), the third is the trench number and the last two digits are the grave number.

No.	Tag	Sex	Age-at-death	Stature (cm)	Dental caries	*Cribra orbitalia*
1	94—A	?	adult		3/4	
2	95101	M	adult	164	0/10	
3	95102	F**	adult		0/11	
4	95401		12			
5	95402	M**	adult	158		
6	95402	?	adult		0/5	
7	95404	M	35-40	160	3/9	0
8	95501	M	30-35	174	5/29	0
9	95502	F	40-45	154	7/27	0
10	95502	F	adult	149	1/6	0
11	95503	M*	35-40	161	3/11	0
12	95504	M	25-30	171	13/31	1/2
13	95505	M	30-40	166	3/24	0
14	95701	F**	adult	163	0/4	0
15	95703	M**	adult	159	0/6	0
16	95800	F**	adult	158		
17	95800	?	adult			
18	95802	M	35-40	171	0/28	0
19	95803	M**	adult	163	0/9	
20	95804	M	35-40	158	0/6	
21	95805	F	adult	158	0/2	0
22	95807	F*	40-45		0/2	
23	95807	M	30-35	169	0/30	0/1
24	95808	F	40+	162	0/18	0
25	96301	M	adult	157	0/12	0
26	96303	F	20-25	156	0/32	
27	96316	M	adult	173		
28	NE-05	M	25-30	166	0/6	

This spatial pattern suggests that people buried in a specific spot at the cemetery had diet much more abundant in sugars than other individuals. Further research on stable carbon, nitrogen and strontium isotopes may allow more detailed insight into variability of diet and subsistence in the population buried at Liarsangbon.

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