

## Human remains from Qaleh Iraj, Iran, 2016

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Qaleh Iraj is an archaeological site in Iran dated to the Sasanian period. It is located c. 2km northeast of Varamin, near the village of Asgharabad in Pishva County (35°20'28"N, 51°40'51"E, 943 masl). The site covers c. 190ha and is one of the largest Sasanian sites in the Central Plateau of Iran (**Figure 1**). Despite the archaeological importance of Qaleh Iraj, limited studies have been carried out there so far, most of them being limited to surface surveys. As a result, a variety of opinions on the architectural remains have been expressed so far, ranging from their interpretation as a hunting ground (Matheson 2001:25), a city (Eastwick 1864:273-285; Minorsky & Bosworth 1995:471; Etemad al-Saltanah 1932:34; Pirnia 1996:2217; Farzin 2002:1-67; Eskandari 2006:83-90), and a garrison and/or a military fortress (Pézard & Bon-



**Figure 1.** Aerial view of Qaleh Iraj. Photograph by Eberhard Sauer.



Figure 2. Southeastern gate of Qaleh Iraj. Photograph by Eberhard Sauer.

doux 1911:61-63; Kleiss 1987:294; Dieulafoy 1887:142-145; Eskandari 2006:80-81). There is also a controversy related to the chronology of the site. Some authors date it to the Parthian period (Farzin 2002:1-67; Eskandari 2006:83-90; Kleiss 1987:292-307), while others consider it a Sasanian site (Dieulafoy 1887:152; Matheson 2001:25), still in use during the Islamic period (Kleiss 1987:292-307), or even an Islamic site with no prior history (Khalatbari 2001:397-399). So far, only Kleiss (1987) has referred to the existence of limited architectural structures within the defensive wall and attempted to make plans of them.

Systematic archaeological excavations at Qaleh Iraj started in 2008 under the direction of Mohammadreza Nemati. Since that time five excavation seasons have been conducted at the site. In the autumn of 2008, test trenches were explored to assess the area occupied by the site. At the same time, some parts of the southeastern gate were excavated (Nemati 2008); this work continued during the second season in the summer of 2012 (Nemati 2012). Work during the third season, in the fall of 2015, again focused on the defensive wall and the southeastern gate (Nemati 2015). In the summer and fall of 2016, the western corner of the site was prospected using geophysical tools and two stratigraphy trenches were opened in the southeastern gate. At the same time, some other areas near this gate were also excavated (Nemati 2016). During the fifth and final season of excavation, in the fall of 2017, the southern part of the defensive wall was excavated (Nemati 2017). As a result of five excavation seasons,

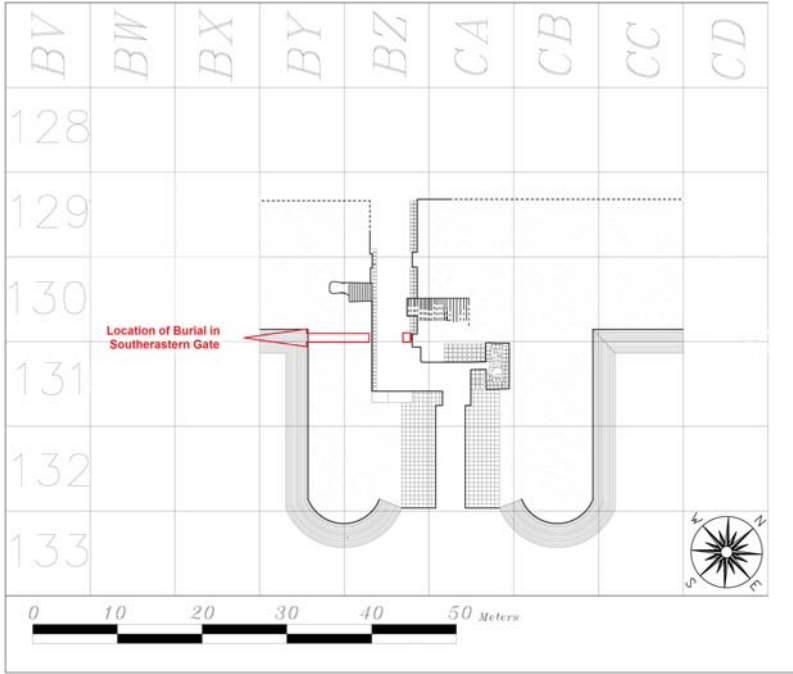


Figure 3. Location of burial in the plan of the southeastern gate.  
Drawing by Mohammadreza Nemati.



Figure 4. Remains of bricks and chalk mortars at the southeastern gate.  
Photograph by Mohammadreza Nemati.



**Figure 5.** Human remains during the excavation. Photograph by Mohammadreza Nemati.



**Figure 6.** Close up picture of the human remains during the excavation. Photograph by Mohammadreza Nemati.

the remains of a gate (Figure 2), two Sasanian-Early Islamic burials, clay seals, ostraca pieces, and many Sasanian potsherds were found (Mousavinia & Nemati 2016).

During the first excavation season at Qaleh Iraj a burial was discovered in the central platform of the southeastern gate. A second skeleton was discovered in 2016 in the southeastern gate (Figure 3), in a small (4×2m) trench (BZ 131), below mudbrick debris (context 401), some bricks and chalk mortars debris (context 403). Some pottery sherds, animal bones and a bobby pin were discovered from the same context (Figure 4). An incomplete human skeleton (context 404) covered with some bricks was found in the center of this area (Figures 5 and 6). Only a few elements from the body were recovered, including the hands, skull, cervical vertebrae, tibia and pelvis. Other parts of the skeleton were missing due to later activity at the site, with some pits disturbing the original context. The stratigraphic position and associated pottery suggest that the burial represented the latest phase of site occupation, i.e. Late Sasanian – Early Islamic period (Nemati 2016).

**Table 1.** Teeth of the individual from Qaleh Iraj. For scoring protocols see Sołtysiak et al. (2019).

Tooth	Right					Left				
	Wear	LEH <sup>1</sup>	Caries	MD <sup>2</sup>	BL <sup>3</sup>	Wear	LEH <sup>1</sup>	Caries	MD <sup>2</sup>	BL <sup>3</sup>
I <sup>2</sup>						4	1	0	5.2	6.0
C*	5/6					X				8.9
P <sup>1</sup>	6/7	0	0	6.9	8.9	6	0	0	6.9	9.2
P <sup>2</sup>	5	0	0	6.4	9.0	5/6	0	0	6.4	9.3
M <sup>1</sup>	4598	1	1	11.2	10.8	5479	1	0	11.3	11.2
M <sup>2</sup>	2332	1	0	11.0	11.1	4444	1	0	10.7	11.3
I <sub>2</sub>	4/5		0	5.5		X				
C <sub>x</sub>	4	1	0	7.1	8.9	4/5	1			8.2
P <sub>1</sub>	4/5	0	0	7.3	8.4	5	0	0	7.9	7.0
P <sub>2</sub>	4/5	0	0	7.3	8.4	5	0	0	6.9	8.4
M <sub>1</sub>	8877	0	0	11.4	10.5	8877	0	0	11.6	10.3
M <sub>2</sub>	5444	0	0	10.4	9.9	4544	0	0	10.3	9.6

<sup>1</sup> linear enamel hypoplasia    <sup>2</sup> mesiodistal diameter    <sup>3</sup> buccolingual diameter

The elements retrieved from context 403 at Qaleh Iraj included a fragmented human skull with some cervical vertebrae (C1, C2 and C7), a hyoid with one greater horn (body breadth 23.9mm) and the distal end of a left tibia. There was no degenerative joint disease in any observed articular facets; a moderate squatting facet (up to 3mm) was noted in a tibia. The skull more likely belonged to a male than female individual (nuchal crest 3, both mastoid processes 5, supraorbital margins 2/3, glabella 3, mental eminence 4/5) and represented a mature individual, as assessed using dental wear (Table 1) and advanced obliteration of both cranial vault and palatal

suturæ. Neither porotic hyperostosis nor *cribra orbitalia* were present and no linear enamel hypoplasia has been observed, although some irregularities were noted on the labial/buccal surfaces of some teeth.

Some interesting features have been observed in the dentition. Not only all third molars, but also the mandibular central incisors were not formed at all (agenesis), which is a quite rare congenital condition (Newman & Newman 1998). The lower first premolars were clearly asymmetrical in size and shape (see **Table 1**) and also the mental foramina were asymmetrical, with double foramen on the left side. Most upper incisors, including both central ones, were lost post-mortem.

The individual suffered from several dental diseases. RM<sup>1</sup> was affected by dental caries at the distal side of the crown above the cemento-enamel junction, and the lesion was still relatively small (1.5×1.5mm). Advanced periodontal disease was indicated by dramatic reduction of the alveolar process, even by c. 9mm in posterior teeth. At the lingual surfaces of the anterior teeth large pieces of dental calculus were present.

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