Title: Archaeological Recording of Heidelberg University in Oman, April & December 2014, May 2015

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29.12.2015

File: 2015 ministry report

Abstract

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The Ministry of Heritage and culture generously allowed me to tender a new archaeological project. They had conducted plan excavation at important sites at Omani Dibba (large Bronze Age corridor tombs) and at al-Saffah (Early Iron Age (EIA) foundry site), the latter some 45 km east of the border to Abu Dhabi emirate in Mintiqah al-Dhahirah. The object of my visit (16.–20.04.2014) was to do first recording of the fascinating finds from al-Saffah. Of the numerous (667 registered) finds mostly in copper alloy from that site, I photographed, drew, and otherwise recorded 143, in order to judge the amount of time needed for the cataloguing. By May 2015, some 220 artefacts had been documented.

Maurizio Tosi (Muscat) and Francesco Genchi (Bari) kindly provided me the site report and a first database of the finds. In 2014 the ministry had one third of the metal finds restored, which now can be drawn, photographed and otherwise studied. The site is of EIA date, to judge from the finds and radiocarbon dates.

I took the opportunity together with ministry inspectors to visit the undocumented Samad Late Iron Age (LIA) settlement sites of al-ʿAtqiyah/J. Ṣunsunah and al-ʿAtqiyah/J. Nejd. Such are quite rare.

A further visit from 03.–13.12.2014 allowed a long-desired opportunity to begin documenting other such sites at Ibrā' I0052; Wadi Maḥram/Qariyat al-Saiḥ; al-Moyassar M34, M4304; Samad al-Shān S01; S07, SX; Ṭīwī/al-Jurayf tw0002. Four selected LIA sites are described.

Negar Abdali (Heidelberg) recorded key al-Saffah artefacts with a 3D scanner curated in the new National Museum in Muscat. This project goes by the name of the Heidelberg University – Ministry of Heritage and Culture Virtual Museum Project. Most interesting is the occurrence of the finds in what appears to be a single-period context. Never before have we had a context like this one. Artefacts of EIA and a few of pre EIA date evidently were taken as a source for metal production. Numerous new artefact classes occurred. Moreover, a large selection of miniature votive weapons occurred.

Keywords: casemate walls Qaryat al-Saih Samad Late Iron Age Sunsunah Umq al-Rabakh Wadi Maḥram/Qariyat al-Saiḥ, Fortified Settlement, UTM 40Q, 0604045 m E, 2545739 m N, 707 m altitude



Fig. 1a Satellite image of Qariyat al-Saiḥ site. Above is north.

Fig. 1b Sketch drawing of the site.

Time allowed in 2015 to sketch (not draw) the Samad LIA fortified settlement in Wadi Maḥram (Fig. 1a and 1b). This settlement was noticed by Gerd Weisgerber (Schreiber 2007: 63 Karte 11, 64, 110, 171, 175, 277) who gave no specifics about it, neither its exact location, size nor its plan. Even the dating could be questioned since no information was put forth. Three antiquities signs stand to the E and NE of the site near the road.

The preservation condition, limited time and simple recording methods condition the appearance of the resulting sketch. The main structure is some 50 x 90 m in surface area. It lies as much as high as 70 m above the surrounding wadi. 100 m to the SW lies a garden. Located deep in the wadi, it probably also existed in antiquity. The site is built adjacent to a low area. The west and south are protected by the wadi and its steep slope. Upslope, the houses have walls up to 80 cm in thickness. At key points there are irregularly shaped towers with a thicker wall diameter. The northern gate construction is not preserved. The lay of the corridors suggest this to be the main entrance. It leads the visitor into the village via corridors. In the SE the irregular wall 2 is preserved up to 1 m in height. Further uphill, the heavier wall 3 encloses the core. In its midst lies a ruined Umm an-Nar tomb of some 7 m diameter.

A large NE–SW wall (no. 1), to the SE, thwarts the site and the wadi. This seems to be of recent date. The blacktop road transects it. *Tsangirs* (stone shooting emplacements) are visible in and around the site, which may go back to the war of 1958. Islamic cemeteries occur to the NE and SE of the site. An Umm an-Nar tomb recently has been divested of its stone to the SE, to judge from the dark patinated and light unpatinated marks on the stones.

Fig. 1b shows a sketch made in the field complemented by means of a low resolution Google Earth image. Amid the rubble, rooms and walls are difficult to reconstruct. Entrances are difficult to recognise. The sketch shows fortification walls maximally 1 m in thickness and corridors inside the fortification. There were many changes during the course of the building visible in the context.

Mainly unmortared stone was the building material. Abundant disintegrated mud brick and perhaps *saruj* lie amid the stones.

This fortified village differs from others of its time partly because of its relatively good preservation, as opposed for example the LIA Tīwī tw0002. Its plan is more easily recognisable than that of Ibrā' I0052. It contrasts with the loose scatter of LIA houses at al-Dar/'Umq al-Rabakh. Different factors condition the settlement plan which include especially the topography and accessibility of the settlement. Flimsy defensive casemate walls in the E and S are in evidence at this site, which distinguish LIA from earlier fortifications. The *qalat*-like appearance of the buildings at the peak probably derives from the latest occupation, to judge from the loose masonry.

Samad LIA pottery sherds and Islamic Period *sgrafiato*, Celadon and Baḥlāʾ sherds occur on the site. The site was re-used and rebuilt. The Islamic Period sherds are more numerous in the outer reaches of the settlement.

South of al-'Āmirat/al-'Atqiyah/J. Şunsunah, Fortified Settlement, UTM 40Q, 655019 m E, 2589393 m N, 180 m altitude

1460 m north of area of al-Nejd also near al-ʿAtqiyah, lies a settlement on an escarpment with a defensive wall (Fig. 2a and 2b). The northernmost part of the site at the base has been bulldozed. The dry-stone defences are maximally 3 m in height and 1.5 m in thickness. This structure is large, measures 154 x 150 m. At the SW corner lies an enclosure separate from the rest of the settlement. In all, the defences are irregular in plan and follow the topography. Upwards of 80 ruined small stone huts are estimated inside the main enclosure. The mountain lies next to the large Wadi Mayḥ, 50 m toward the east of the mountain foot which flows toward the NE.

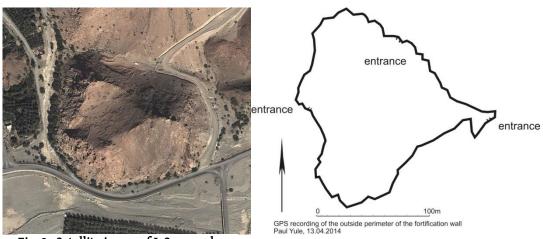


Fig. 2a Satellite image of J. Şunsunah. Above is north.

Fig. 2b Sketch plan of the settlement.

This provides a reliable source of water for local irrigation. The defensive wall follows the crest ridge and is irregular in form which suggests different building phases. The settlement appears to have been inhabitable and has partly preserved stone huts. They measured up to $6 \times 2 \times 1.5$ m (max. preserved) originally.

The defensive wall has three exits: The main one in the north has a stairway and flanking casemate walls which are badly damaged. An exit lies in the west and a nearly destroyed fortified one in the east. All three need not be contemporary with each other, as suggested by differing states of preservation. The obvious subsistence problem is a source of water for the inhabitants. Fireplaces are not obvious. The gardens lay originally outside to the west, to judge from the topography.

Surface pottery clearly of Samad LIA fabric and shape occurred inside the walls.

Tīwī/al-Jurayf, Fortified Settlement, tw0002, UTM 40Q, 731934 m E, 2525459 m N, 72 m altitude

A settlement nearly as large as on the J. Ṣunsunah was intensively studied in 2002 (Korn et al. 2004). Houses were built on the slopes on the north and the south sides of the saddle. The site measures 195 x 220 m. Since 2004 a track bulldozed through the ruins (Fig. 3a and 3b) senselessly destroyed many structures in the northern, most densely built part of the site. A comparison of Google Earth images shows the site destruction between 2003 and 2014 (Fig. 3a). Built on heavy terraces the structures show sandwich wall construction. There is no surface evidence for a garden or water inside the escarpment.

L. Korn pointed out that the settlement is located on a promontory directly next to the Wadi Ṭīwī – today hardly visible from the wadi, or from the shore. Since 2004 the ruins have been seriously damaged by road building and mast erection in the site itself. The site lies on both flanks of a saddle, which is favourable for rain catchment. A rare photo published in 2004 (Korn et al. 2004, 71 pl. 11) shows the site toward the NE – the oldest and most densely built part of this permanent settlement, its northern half. There is much reuse

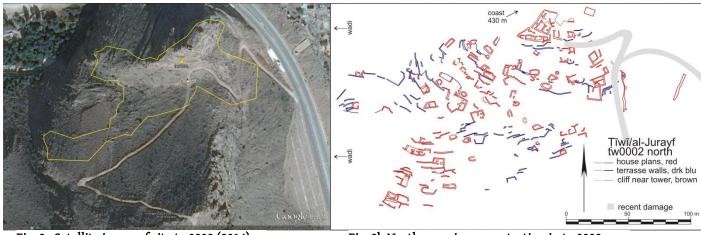


Fig. 3a Satellite image of site tw0002 (2014), ruins concentrated inside yellow line. Above is north.

Fig. 3b Northern ruin concentration in tw0002.

of the LIA building material for subsequent settlement. The Fig. 3b plan has been corrected with the help of J. Häser and shows house and terrace structures. Islamic Period masonry uses smaller stones more regular in size and heavily mud-mortared. Fig. 3b is already historic as a result of extensive and unnecessary road building vandalism especially in the northernmost part of the site - the highest part of the site. It does not interpret, but just documents. Fig. 3a shows the damage on both LIA and 9th-16th century remains (dating: Schreiber-Häser 2004: 326). The sketch plan shows only the main northern part of the ruins, which extend further to the south and east. An Islamic Period stone enclosure to the very north has been renewed which further damaged the site. The concentric wall structure pivots on the highest point of the site. Not visible in the centre of the sketch drawing are the concentric defensive walls facing south and east. The strongest wall girths are at mid slope height. The context and sketch terminate to the north-west with the cliff edge. Numerous terraces are what remain of houses. Better preserved ones measure up to 8 m in length. Years after intensive survey, the site contains little pottery but many mollusc fragments. Stones circular in section and concave on both sides suggest pounding or net stones in the settlement. Perhaps the LIA fishermen brought their nets daily back up to the settlement. The site shows many hand-size grinding stones but no saddle querns which one might expect, although few have yet come to light in Samad LIA contexts. This suggests utter poverty that these were removed after the site was abandoned.

The pottery sherds and architecture confirm a Samad LIA dating for tw0002 and a later re-occupation. The pottery is identical to that from Samad al-Shān in its fabric, handmade technique, shapes and general appearance. Some of the wall masonry reminds one of that of Samad LIA tombs. The previous team documented possibly 14^{th} – 16^{th} century structures, which re-use often LIA building stone.

The loosely scattered cemetery contained an estimated 950 Samad LIA graves located on the natural terrace north of the mouth of the Wadi Ṭīwī beneath and around the motorway from the south-west to east of tw0002 across the wadi (Korn et al. 2004: 70). They contained diagnostic finds. The topography conditions largely the orientation of the long axes. These sites are actively being bulldozed at present. 50%–90% of the pre-Islamic graves were destroyed mostly by the building of the coastal road.

Archaeological contexts at 'Umq al-Rabakh, UTM 40Q, 713802 m E, 2533416 m N, 699 m altitude





Fig. 4a Satellite image of the site. Red dots show defence remains. Above is north.

Fig. 4b View of the Samad LIA settlement site at the gate toward the south-west.

On 13.04.2015 Khalifa Khamis al-Rassibi and the undersigned visited the small village of 'Umq al-Rabakh, tucked away in the Ḥajjar mountains, 12 air km inland from coastal Bimmah. There, Shaikh Khamis showed us three sites (1–3): two cemeteries and a settlement.

Site 1. UTM 40Q, 714060 m E, 2533396 m N, altitude 533 m, waypoints 1-43. The largest and most interesting site is the settlement called al-Dar which lies on a steep slope. The site is extremely isolated from the sea and neighbouring villages. No evidence of stone robbing ("white spaces") between dark patinated stones, not expected here anyway.

The site consists of a distribution of scattered house ruins, is simple. Downhill to the north-west there is a loose row of mostly natural defences, not continuous building. In one spot houses exist despite the lack of a town wall. Structures, probably dishevelled dwelling ruins, are most dense in the centre of the site. To the south, the cliff above is over 100 m high. The NNE – SSW flank had to be protected. The main fortification lies at the NE end. One building sighted with niche to the SW side is not a mosque (WP10). On the W side the fortifications are natural cliffs. Between them a few wall fragments remain. A fragmentary gate is visible 20 m SE of the south-easternmost of the stones. At the NE of the wall, there was an entrance. Beside it an antiquities sign.

During our brief visit we saw some 10 Samad LIA sherds, one or two more of possible EIA date, but also Muslim period glazed sgrafiato sherds. A few years ago one of the villagers, Khamis Salim al-Rubkhi, submitted a whole Samad LIA vessel from the site to the ministry. Today, six sherds are lodged in the ministry store, mostly Samad LIA (no DA).

The organisation of the houses and the fortifications differ from the big walls at J. Sunsunah, Ibrā' 10052 (Yule in press) or Tīwī tw0002.

Site 2. A cemetery in the village itself consists of c. 90 graves. Perhaps as many as 10 date to the Samad LIA. Most show the *qibla* orientation, none the typical SE–NW Samad LIA orientation.

Site 3. UTM 40Q, 713775 m E, 2533493 m N, altitude 530 m, waypoint 44, is called Beda'ya. A further cemetery consisted of many Islamic period graves. It was difficult to determine any earlier in date (Fig. 4). One which is 6 m wide and circular can only be pre-Islamic. C. 150 Islamic graves with *šawaḥīd* stones.

The Heidelberg University - Ministry of Heritage and Culture Virtual Museum Project

In May 2015, the Heidelberg Interdisciplinary Center for Scientific Computing took the opportunity to cooperate in order to valorise the archaeology and ancient culture of Oman. By means of new technology, in Oman one can scan not only artefacts 3D, but even entire sites. New methods produce high resolution images which in different ways can help us to understand better the artefacts and their makers. By means of intensive study and publication with a superior and attractive documentation, one can enhance the value of Oman's history and origins. We understand the task as a kind of outreach, that is a process of education to raise awareness of the remote past. 3D scanning has the advantage of being non-destructive and is an excellent way to expose students to practical work in Oman.

We turned our first efforts to finds recovered during the ministry excavation at al-Saffah. Clear Iranian imports are among the most interesting finds from the EIA foundry site. A masked axe (Fig. 4a) was in an excellent state of preservation. It shares a woven pattern just as a dagger grip (Fig. 4c), another import. Most of the arrowheads from al-Saffah are identifiable as EIA classes (Fig. 4b, Yule 2015, 28 Fig. 3). Al-Saffah has become the most important site for EIA metal finds, alongside of Ibrī/Selme and al-Buhais in Sharjah Emirate.



Fig. 4a Iranian imported axe excavated from EIA al-Saffah, DA 32063.



Fig. 4b, 4c Arrowhead (class P6.1) and imported dagger grip excavated from EIA al-Saffah, DA 27348 and DA 30032.

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Photos of the pottery and of the sites themselves are available in: http://heidicon.ub.uni-heidelberg.de/pool/oman keywords: Mahram , Sunsunah , Nejd , Umq al-Rabakh , pottery

image credits:

1a National Survey Authority; 1b Yule/Abdali; 2a, 3a, 4a Google Earth; 2b, 4b, 4c, 4d Yule; 3b redrawn after Korn et al. 2004, 70 fig. 4; 4a Abdali. Fig. 4a, 4b & 4c are curated in the National Museum, Muscat.

Maurizio Tosi, advisor to the Ministry of Heritage and Culture, was instrumental in realising my work and in getting it approved. I thank the ministry for the cooperation and support to research in April of 2014. Most welcome was a vehicle and a room in the ministry flat. Negar Abdali and I also were permitted to stay in the ministry flat in May of 2015. In the framework of our Visual Museum Project, the Interdisciplinary Center for Scientific Computing of Heidelberg University covered the costs of training N. Abdali in Oman and organised the use of the 3D scanner. J. Häser advised me on the re-drawing of Fig. 3b.

Arabic place-names: al-ʿĀmirat al-ʿAtqiyah al-Dhahirah al-Jurayf al-Moyassar al-Saffah

<mark>Beda'ya</mark> Bimmah <mark>Dibba</mark>

Ḥajjar Ibrāʾ

<mark>J. Ne</mark>jd

<mark>J. Ṣunsunah</mark>

Qariyat al-Saiḥ

Samad al-Shān

Ţīwī

ʻ ʻUmq al-Rabakh

Wadi Maḥram

Wadi Mayḥ