Pl. 5b in this article.

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Ẓafār, Capital of Ḥimyar. Sixth Preliminary Report, February – March 2006*

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Abstract/Kurzfassung/الخلاصة

Excavations took place at the south-western foot of the Ḥuṣn Raydān, where preservation seemed favourable. The Stone building may have been built around the time of Christ und was in use over 400 years. Highlights include the discovery of life-size human depictions. Fossil Sabaeo-Ḥimyarite place-names were mapped. The general characterisation that the Ḥimyarite period visual arts as decadent is a vast oversimplification.

Die Grabungen konzentrierten sich am südwestlichen Hangfuß des Ḥuṣn Raydān, wo die Erhaltungsbedingungen günstig zu sein schienen. Das *Stone building* wurde vielleicht erst um die Zeitenwende errichtet und existierte über 400 Jahre. Höhepunkte bilden die Entdeckung lebensgroßer Plastiken. Fossile sabäo-ḥimyarische Ortsnamen wurden kartiert. Die Charakterisierung ḥimyarischer bildenden Künste als dekadent ist eine grobe Vereinfachung.

ركزت التنقيبات على أسفل المنحدر الجنوبي الغربي لحصن ريدان، حيث بدا أن حالة حفظ البقايا هناك مواتية. ولربما كان ‹البناء الحجري› قد شُيّد حوالي بداية التقويم الميلادي وكان قائما لأكثر من أربعمائة سنة. ويشكل العثور على تماثيل بالحجم الطبيعي ذروة المكتشفات. وقد كان من الممكن تحديد أسماء قديمة لأماكن سبئية–حميرية على الخارطة. ويمكن اعتبار وصف الفنون التشكيلية الحميرية بأنها متدهورة تبسيطا فظّا.

Yemen · Himyar · Late Antique · Palaeobotany · Excavation Results · Preliminary Report
Jemen · Himyar · Spätantik · Paläobotanik · Ausgrabungsbefunde · Vorbericht

Introduction

The majority of archaeological and philological research in Old South Arabia (OSA) concerns the kingdoms of the first millennium BCE. Later OSA ones have neither faired well either in terms of preserved remains nor compared with their reception by historians. The 4th to early 7th centuries are for many an age of decline, in part owing to the fact that the Ḥimyar lost their independence to the Axumites, then the Sassanians before finally being absorbed into the new world of Islam – a political factor but not one in the visual arts. Moreover, conservative scholars,[1] steeped in the traditions of Purism, Bauhaus, Cubism and early 20th century aesthetics, describe the visual arts of Ḥimyar to be under par compared with the

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The project enjoyed the close cooperation of the following Yemenite participants: Khalid al-ʿAnsi, GOAM archaeologist for Ibb province, Rafīq Muḥammad al-ʿArāmi and ʿAli ʿAbd al-Karīm al-Ḥakīm, GOAM government inspectors. The team consisted of Julia Glag and Michaela Fritz, now civil engineers, Alexander Darus, Kristina A. Franke, Manfred Rösch, Regina Uhl and Paul Yule, archaeologists, Cornelia Ruppert as Semitist.
At home, the following individuals and institutions supported the project: Werner Arnold (University of Heidelberg, chair, Seminar for the Languages and Cultures of the Near

linear elegant forms characteristic of Sabaʾ, Qatabān and other early OSA kingdoms. A main reason for the negative image attributed to the Ḥimyarite age is the fact that until the past few years at Ẓafār and other sites, few dated images or buildings survived. The re-dating of supposed Sabaean works, such as the preserved substance of the Mārib dam, to the late or post Ḥimyarite period[2] is an example of this new turn of research. The uncovering of the first major architecture at Ẓafār, one of the largest sites in Arabia, represents another major development.

Numerous recently found artefacts, texts and studies of these make a study of the internal chronology of Ḥimyar desirable.[3] One can speak provisionally of the early Ḥimyarite period (110 BCE to 270 CE) – a formative age at which time Ḥimyar was a dependent on Sabaʾ. Strong and influential kings such as Yāsir^{um} Yuhanʿim and Šammar Yuharʿiš realise an empire and all of Arabia comes under Ḥimyar's sway (270–525). With the loss of the Axumite war, the last semblance of sovereignty dissolves with the moving of the capital from Ẓafār to Ṣanʿāʾ between c. 535 and c. 547. The late or post period is followed by one that is ruled first by a renegade Axumite and then Sassanian governors – not native ones. The rhythm of cultural development can be compared to this at best skeletal political one.

This year's campaign continued the investigation begun in 2004 of a Ḥimyarite Stone building situated on the south-western slope of the Ḥuṣn Raydān. By virtue of its high quality stone architecture, it promised to be an important state structure or temple, as numerous finds strewn about the surface suggested, including a long Ḥimyarite building inscription secured around 1968. According to the finder, ʿAbdullāh Ṣaliḥ al-ʿAnnābi, Šuraḥbi(il Ya)fūr's well-known monumental building inscription (*siglum*: zm1) came to light 50 m to the north of the NE end of our main trench, z400. Our second goal this year was to date the finds from the excavation stratigraphically, comparable ones stored in the site museum, as well as to enable a true historical re-evaluation of the Ḥimyarite 'decadent' period. To achieve this, we must first describe development of the city temporally, as our data allow. A third goal was to map a Ḥimyarite dam/field complex and hopefully record fossil field-names that ideally might serve as an instrument for historical research. In light of recent discussion,[4] the persistence of significant post-Ḥimyarite settlement in Ẓafār after the decline of the ancient capital is a pressing, unresolved question: Does the collapse of the Ḥimyar state, for whatever reason, coincide with an abrupt and far-reaching depopulation across the Yemeni highlands? Fossil field-names might well shed light on this issue. If numerous, they could be taken as evidence for continuous settlement. If rare, this might mean that few survived to transmit the ancient place-names to posterity. Time also permitted us to record finds from previous seasons and generally firm up our understanding of the development of the ancient city.

The Trenches z500 and z400

Trench z500

In 2006, we opened trench z500 immediately to the NE and upslope of z400 (Fig. 1 and 2). Excavation was defined by natural stratigraphy defined by deposits of the same consistency, material and colour.[5] The large size and irregular form of the stones in the excavation of the disturbed excavation zone were reasons for our profiles to be statically unstable and liable to collapse. To reduce this danger, we cut a step into the long, E balk. Numerous large boulders were reduced to manageable and removable size by means of fire-setting, a time-consuming, unavoidable procedure.

The 20 x 8 m rectangular trench enabled the investigation of the E extension of the Ḥimyarite Stone building that merged into the E balk of z400.[6] We

East, project patron), Hartmut Müller (University of Applied Sciences in Mainz, director, Institute for Spatial Information and Surveying Technology), Armin Kirfel, (University of Bonn, director, Mineralogical-Petrological Institute), Gunnar Brands (University of Halle-Wittenberg), Claus-Peter Haase (*Preußischer Kulturbesitz*, Museum for Islamic Art) and, Norbert Nebes (University of Jena). We thank the University of Heidelberg for allowing us to use their imprimatur. Christian Robin and Yusuf ʿAbdullāh were a constant source of inspired corrective information.

The first team members arrived 11.02.2006 in Ṣanʿāʾ. After fulfilling formalities, work began on 14.02. The season ended on 29.03.

The reader is referred to the previous preliminary reports for the seasons 1998–2004 in Yule *et al.* 2007. That for 2005 appeared in the re-christened *Beiträge der Kommission zur Archäologie außereuropäischer Kulturen* of the DAI. A general text regarding Ẓafār written from the standpoint of epigraphy is Müller 2001, 379–380.

K. Franke contributed the section on the archaeological features, M. Rösch the archaeobotanical analysis, and C. Ruppert the study of place-names. Unless otherwise specified, P. Yule contributed the illustrations and remaining text.

1 Compare Schmidt 1997, 35–38.

2 Vogt 2004, 101–102

3 Owing to the large number of finds, this year inside the museum compound we built a storage room. It is not possible to cite all of the numerous finds and their find-spots in the present brief report.

4 Barceló – Kirchner – Torró 2000; Lafitte 2003, 79.

5 Yule *et al.* 2007, 530–534.

6 Loci are designated by means of two different systems: one for levels and deposits (e.g. z500~001) and a second for substantial walls and other features (e.g. z400/z412). In 2006

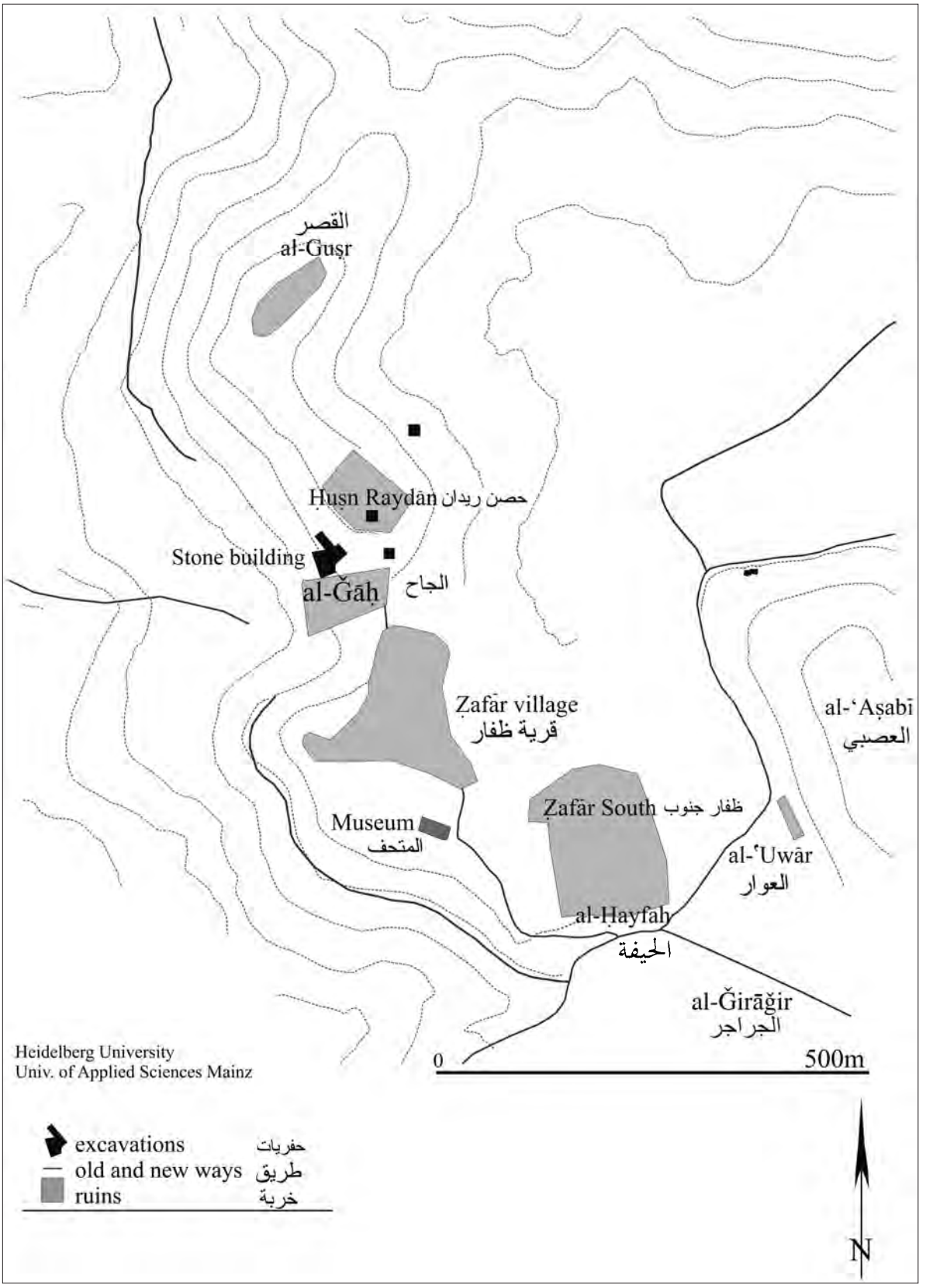


Fig. 1 Plan of Ẓafār.

الشكل ١: مخطط ظفار.

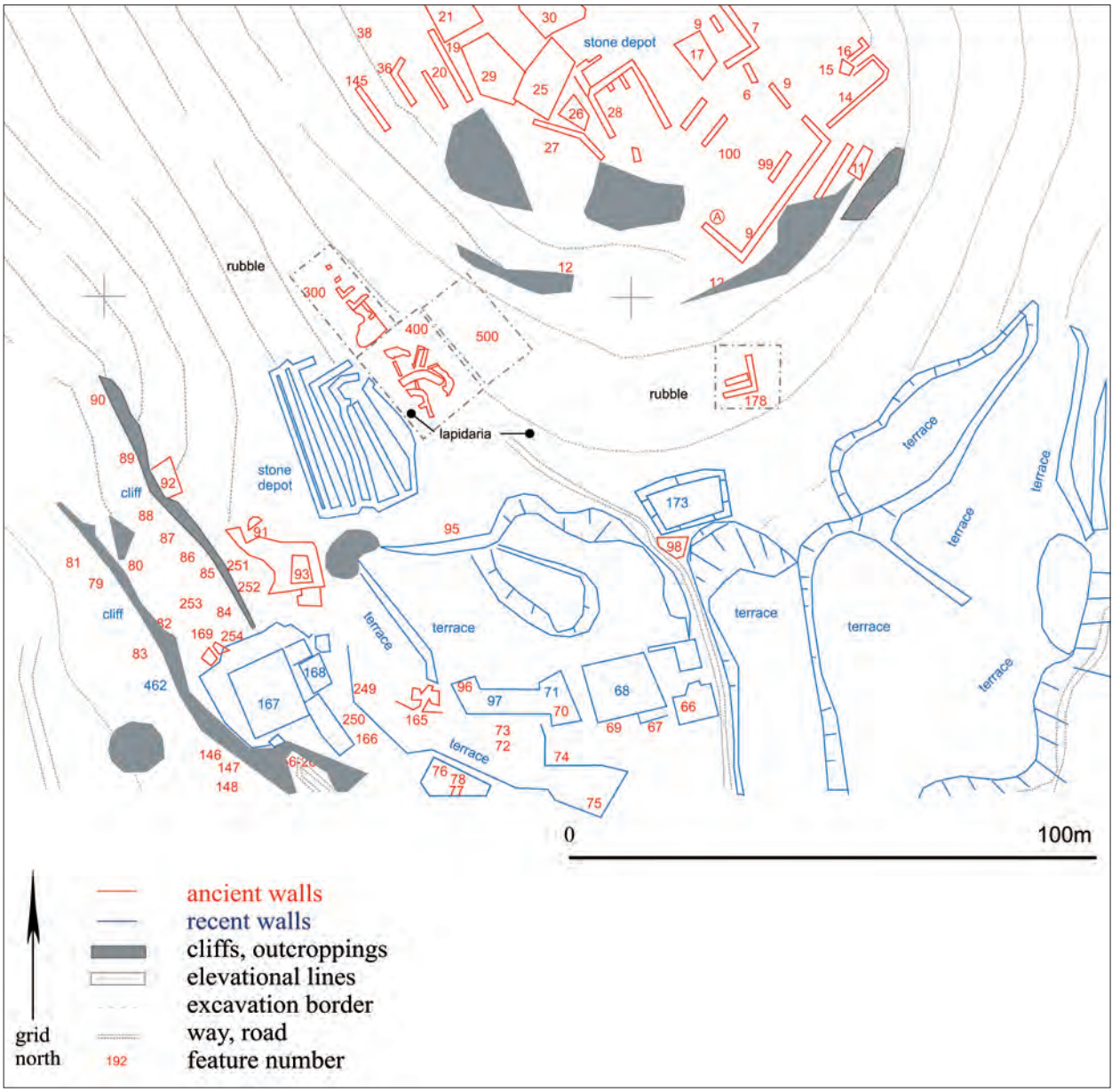


Fig. 2 Ẓafār, main features.

الشكل ٢: ظفار، المعالم الرئيسية.

removed the uppermost recent soil and stone debris (contexts z500~001 & 002), photographed numerous worked, large building stones and recorded their positions in relation to possible deeper lying, more intact structures.[7]

In order to explain in simple fashion the different kinds of debris in z500, this trench can be divided into three zones: the centre, S and N parts. Its **centre** consisted of a thick irregularly formed layer of small broken and some worked stones (z500~004 & 006). 40 cm deeper, a layer of large broken, but also roughly and finely worked stones (z500~003, see below) transected it laterally. Most of the worked stones were truncated-pyramidal in form (i.e. 'pyramidal'), and fashioned from grey basalt or blackish and/or reddish mafic stone from the immediate surrounding area. Few were regularly block-shaped. Other forms also occurred. In upper levels, for example, marginally drafted and pecked masonry came to light. One of the 'pyramidal' stones of grey basalt was cut with a squarish mortise in the pointed end. Another cubic stone was cut into the shape of a gutter. Other worked stones included stone slabs of yellowish-white limestone and a door pivot-stone. In the western part of context z500~006, c. 1 m below the present-day

we changed the designations of the contexts (e.g. z400Y is now designated z400~025), which had become unwieldy.

7 We store such stones in two *lapidaria*, one immediately west of trench z400 the other just south of z500, cf. fig. 3.

Fig. 3 Pier excavated from trench z500 in the 'new lapidarium*'.*

الشكل ٣: دعامة كُشف عنها في السبر z500 في «مجموعة المنحوتات الجديدة».

surface a 2.6 m long stone pier, rectangular in cross-section, occurred (Fig. 3). This suggests the presence of a special representative building. The various different kinds of worked stones, with for example anchoring-holes, step-like or gutter-like shape show a complex architecture.

In an upper level (z500~004) a fragment of a bucranion sculpture came to light as well as numerous fragments of floral and niche reliefs that are common at the site. Deeper (z500~006), these same kinds of reliefs occurred in addition to diverse anthropomorphic depictions. The latter include a hand holding a flower (Pl. 6 a), a garment fold and figures sculpted in the round. A moulding with a ladder-like motif and letters as well as a second inscription fragment occurred in z500~004.

Located in the **S** of trench z500 just below the surface, context z500~003 consisted of large-sized battered stone debris and some intact worked stones. The material c. 0.2 m in depth, extended between the smaller stone deposit just mentioned (z500~004/z500~006) in its southern extension. In the S part of this locus the stones lay as if a wall had collapsed, without one being clearly identifiable. Context z500~003 contained numerous 'pyramidal' stones, a door pivot stone and a cubic stone with a semi-circular gutter and a step-like cut back. Reliefs occurred in z500~003: a flower, a guilloche, a bird of prey, a bucranion and fragmentary letters. Below, the only intact wall came to light, an E–W wall made of rough-hewn stones that measured c. 2.6 x 1.6 x 0.45 m (designated z501). The southern face consisted of stones that lay in a regular fashion; the W end and N face were not preserved. Spolia built into the wall include, for example, a 'pyramidal' and a cubical stone. South of the wall z500~001 three layers were excavated: above, a light brown, fine, loamy earth with stray stone fragments that mixed with large rocks (z500~009). Below this, the debris was (z500~010) similar in its consistency with that of z500~006. Further below in z500~011, the debris consisted of larger stones that contained large number of 'pyramidal' and stone blocks. Numerous small hand-sized relief fragments consist largely of floral motifs. A loom weight and a fragment of a millifiori glass vessel (Pl. 8d) came to light in context z500~010.

In the **N** of trench z500 beneath the uppermost level of humus we distinguish three discontinous layers: The uppermost (z500~005) contained a light brown, fine, partly clayey soil mixed with gravel small broken stone and a few 'pyramidal' stones. To

the W, a small bronze knife blade came to light (Pl. 8 c). Below the NE part of the locus, a thick layer of whitish, loose, slightly sandy soil, containing broken stone constituted z500~007. White accretions on the stones are common to the upper stone layers at Ẓafār. 'Pyramidal' stones occurred. This debris contained a relief fragment of a hairdo and a small ibex head from a frieze. Beneath the SW extension of the locus described above, context z500~008 was defined, consisting of large and small broken stones and a large amount of worked stones. This extended beneath the uppermost layer of the northern area of the debris in the centre of z500 and consisted of small broken stone. 'Pyramidal' and cubic stones showed in some cases circular and rectangular mortises. A large relief fragment derived from here that depicts a draped figure (Pl. 5 a) holding a mirror with the right hand. The fragment of a rectangular bowl came to light in this context. The kind of worked stones in trench z500, compare to those that occurred in z410, z412 or z414 as well on the Ḥuṣn Raydān.

Trench z400

Despite an interval of exposure to the elements since we last worked in 2004, the preservation of the 20 m long vulnerable E profile of z400 and of the trench itself was surprisingly good (Fig. 4–6). Only small parts of the walls z403, z404 and z409 had collapsed. Although covered with a protective layer of sand, daily alternating temperature had damaged the 'entrance,' z415, and part of the pavement, z422.

Our excavation goals included determining whether the 'entrances' z415 and z408 of the Stone building belonged to the same building phase. To investigate this area, we dismantled debris E of the 'bent' foundation wall z401/z409/z421 that cut into the Stone building (Fig. 5). At its western end, the wall, on the level of the pavement z413, is collapsed. A box-like deposit (z400~045) just west of z409 (the southern end of the 'bent wall'?) contained little stone but consisted of a heavy accumulation of charcoal and burnt grain (see below 'Plant Remains'). Another concentration of charred organic material occurred at nearly the same height E of the wall z409 in the E profile. Samples from z409 itself appear to contain this same burnt material. Although the burnt grain and charcoal from the wall are interesting from the standpoint of which plants are represented, they may be a secondary context, to judge from the location of this same material in surrounding contexts.

The dismantling of the 'bent wall,' revealed it not to be built in a sandwich manner, as first suspected, but rather as a heavy (c. 2 m wide) foundation consisting of coarsely worked stones, including 'pyramidal' and cubical stones in secondary usage with a filling of loose earth and small broken stone debris. Therein fragments of marginally pecked and drafted masonry occurred. Relief fragments that also served as building material for this wall included diverse floral, 'niche,' anthropomorphic (Pl. 6 b. 7 b–c) and zoomorphic motifs. A decorative moulding cut from bone with raised edges and perforations occurred that perhaps decorated a small box or piece of furniture. It lay in the debris from which of the wall was built.

Beneath the wall segments z409, z421 and the E side of z401 of the 'bent wall,' a dark brown, middle-fine earth mixed with a small amount of stone occurred. This contained fragments of the whitish slaggy, soft, burnt, limesh material similar to that of z400~025,[8] different kinds of slag as well as large charcoal chunks (z400~051). Within this material, lenses of grey, fine, ashy, lightly sandy material occurred (z400~053).

The western section z401 of the 'bent wall' overlaid the walls z427 and z428 of the Stone building. The two corner walls of z428 are formed by at least two preserved courses of ashlars. The northern and western walls both have an 'entrance' (Fig. 7–10). The ashlar surfaces which face toward the inside of the court are flat and their backsides are bevelled. Some are marginally pecked and drafted. No regularly repeating decorative scheme is recognisable therein. In the N part of wall z428, two stone blocks are horizontally sectioned to a depth of 5 cm. This also holds for the blocks where the centre stone slab of the 'entrance' z415 is inserted. Thus, one might presume that a slab of the same size was inlaid in the northern part of z428. There is no strong evidence for or against the existence of stone blocks/slabs above the extant wall z428, the backside of which (the N face) was perhaps originally covered with flat stones. No traces of cramps or other means to stabilize an upper wall were found. Adjacent to the immediate E, the step-like z427 appears to belong structurally to the 'entrance' z408.

We further investigated the slag-like deposit, z400~025, the north face of which first came to light in 2004. To the extent visible, this feature consists of slag, charcoal, a few burnt organic remains, soft and hard whitish limesh inclusions, broken stones and perhaps vitrified reddish fragments.[9] Its exposed

8 See Yule *et al.* 2007, 531 for this context.
9 Compare Yule *et al.* 2007, pl. 35, 2 with fig. 12 in the present study.

Fig. 4 Plan of the trench z400 on the south-western slope of the Ḥusn Raydān in Ẓafār, 2006.

الشكل ٤: مخطط السبر z400 الذي تم تنقيبه على المنحدر الجنوبي الغربي لحصن ريدان في ظفار، عام ٢٠٠٦.

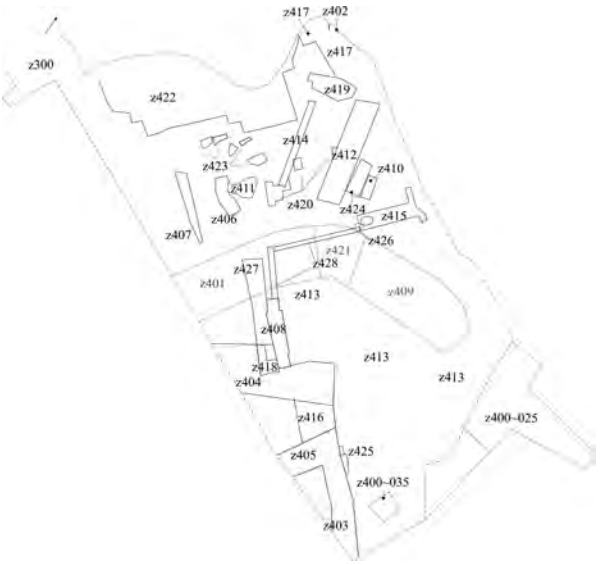


Fig. 5 Contexts in trench z400.

الشكل ٥: السياق الأثري في السبر z400.

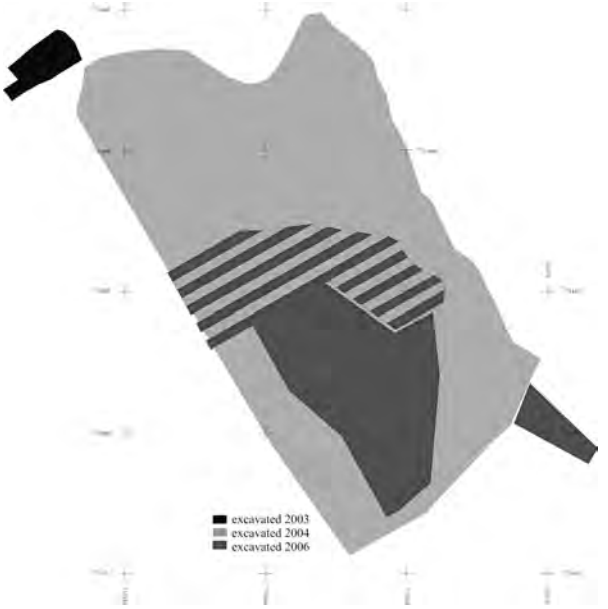


Fig. 6 Activities of 2004 and 2006 in trench z400.

الشكل ٦: أعمال التنقيب عاميْ ٢٠٠٤ و ٢٠٠٦ في السبر z400.

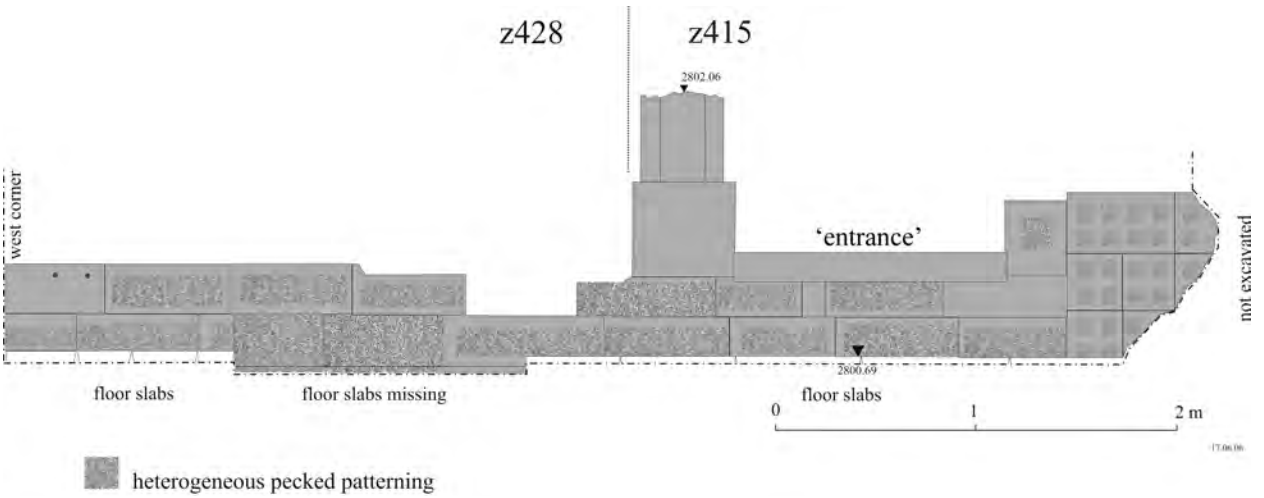


Fig. 7 Ẓafār z428 and z415, interior profile to north.

الشكل ٧: ظفار z428 و z415، مقطع داخلي إلى الشمال.

NW face was truncated vertically, probably a result of ancient stone-robbing or in connection with the considered later 'bent wall.' In the E profile of the trench the NW–SE extension of the slag deposit is visible. The cut NW face of z400~025 and the part in the E profile form an angle of some 120° in plan. In profile it shows the typical conical form of a debris heap, with a NE–SW length of c. 3.2 m on top and c. 4.2 m below. As presently uncovered, the slag deposit measures 4.2 m x 1.4 m x 4 m and seals stratigraphically the main floor z413, by resting on the former mentioned charcoal layer. The slag deposit might as well be from a furnace built after the Stone building had fallen out of use, but the find circumstances might also suggest a fiery destruction of the building. No furnaces were found. This season we extended the trench south that revealed a 4 m width of the slag deposit z400~025. We have not yet reached its SW extension.

The necessity to excavate to 6 m depth in our main trench, z400, is costly, time-consuming and conditions nearly every aspect of the entire project, especially the debris removal. The E profile shows the basic stratigraphic situation (Fig. 11). Visible is a NW–SE oriented wall in the N end of the trench. In the S, visible are churned up layers of debris from quarrying. According to local sources, the present-day population of some 400 grew basically since

Fig. 8 'Entrance' z415 viewed to the north (photo by K. A. Franke).

الشكل ٨: ‹ المدخل› z415، منظر إلى الشمال (تصوير K. A. Franke).

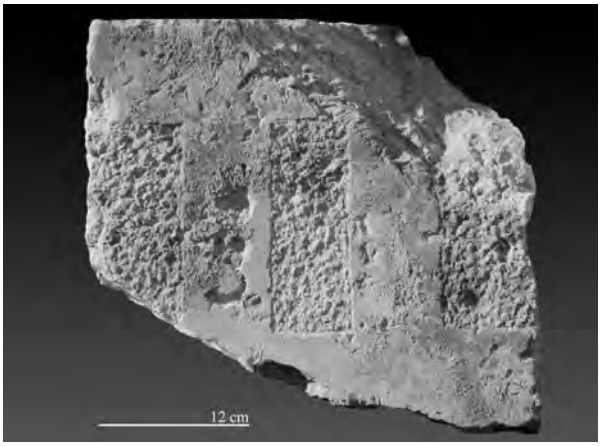


Fig. 9 Marginally drafted pecked stone from trench z400~039.

الشكل ٩: حجر خُطّت حوافه بالنقر، من السبر z400~039.

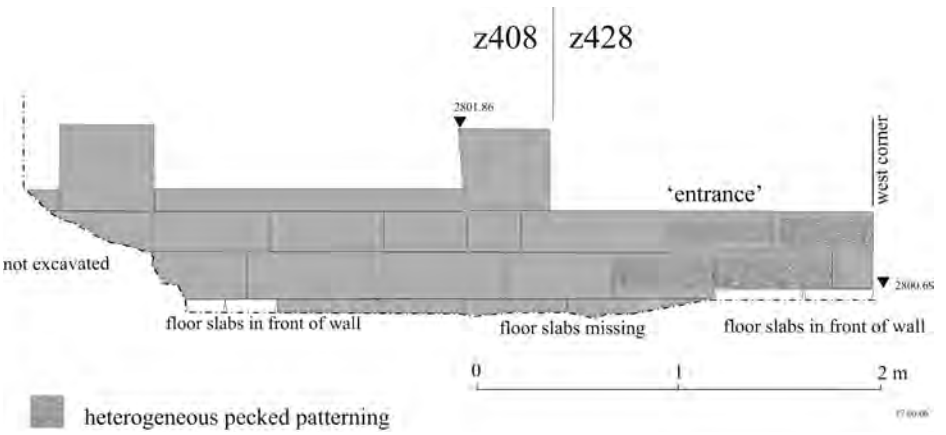


Fig. 10 Ẓafār z408 and z428, interior profile to west.

الشكل ١٠: ظفار z408 و z428، مقطع داخلي إلى الغرب.

Fig. 11 East balk of trench z400, March 2004.

الشكل ١١: الحاجز الشرقي للسبر z400، آذار ٢٠٠٤.

Fig. 12 'Slag deposit' z400~025a viewed to the south-west.
الشكل ١٢: منظر إلى الجنوب الغربي لـ‹حائط الخبث› z400~025a.

about 1940, which also reflects the general population growth of the region. In the mid 20th century probably fragments of the Ḥimyarite city still stood, to judge from the description of the villagers about their activities. In the area of trench z400, as our workmen had predicted from quarrying activities that they and their relatives carried out here in the decades before, the uppermost building remains in fact were badly disturbed. A major walking surface exists in the deepest part of the trench – exactly worked floor slabs, especially pavement z413. Together with the 'entrances' z415 and z408 and the corner wall z428 this gives clear evidence for the shape of the Stone building. A structural/chronological connection between the Stone building and its pavement, z413, with the few pavement stones (z420) to the N is certain. The stone, size and details of workmanship of the two pavements are roughly similar. Moreover, in this respect the pavement stones resemble those immediately N of z415, that are integral to this 'entrance.' Other features, such as z410, z412, z414 postdate the main structure.

The Finds

Pottery

Recently published surface pottery from the highlands gives a first idea of this find category.[10] One site, Ben al-Qaryatain, DS 55E, of the Chicago survey team contains pottery exclusively of early Ḥimyarite age from a pit, on the strength of a carbon dating from 60 BCE – 130 CE at the second standard deviation.[11] Pottery from here is described as red-slipped with polished interiors and exteriors. What has been lacking in the Yemen is the pottery of the late period, aside from what little is known from Qāniʾ.[12] The earliest deposits excavated at Ẓafār lie in the Stone building and appear to date to the empire and late periods. At the time of writing, this pottery can hardly be distinguished from that of the upper levels, that are generally of the same date. The sherds are undecorated with no surface treatment. At the time of writing, few secure contexts and ^{14}C determinations exist for contexts that contain pottery. This pottery has few points of comparison to that which the Chicago team published. From DS 55E comparable with the pottery in Ẓafār are thick jar rims[13] and stand rings.[14] The horizontal, vertically pierced handles[15] and relief decoration find few points of comparison.

The pottery excavated in Ẓafār generally have a mixture of organic and mineral temper, for example fine gravel (Table 1). The temper is not always exactly identifiable and often can only be termed as 'organic' or 'mineral.' Much of the temper is mixed, but in general mineral is preferred.

58% of our preliminary sample of pottery is wheel-turned. The fast wheel is more common than either the slow one or the tournette. Obviously handmade are spouts, grips and handles, that are reflected in the percentages. The wheel is evident in some cases by virtue of the horizontal turning marks, in others by the clear horizontal symmetry of the vessel and typical wheel-turned features recognisable in profile.

organic & mineral	66
organic & gravel	50
organic & sand	17
straw & sand	17
organic & sand/gravel	16
sand	12
gravel	7
organic & mica	4
organic	3
organic & straw	2
organic & white specks	2
straw & mineral	2
straw, sand & gravel	1

Table 1 Temper of a sample of 199 sherds excavated from Ẓafār.
الجدول ١: تكوين عينات اتخذت من ١٩٩ كسرة فخارية نقب عنها في ظفار.

10 Wilkinson – Edens – Gibson 1997.
11 Wilkinson – Edens – Gibson 1997, 103. 129.
12 Sedov 1998.
13 Wilkinson – Edens – Gibson 1997, 128 fig. 19, 8–9.
14 Wilkinson – Edens – Gibson 1997, 128 fig. 19, 15–16.
15 Wilkinson – Edens – Gibson 1997, 128 fig. 19, 11–13.

A variety of bowls and necked storage jars occur in the lower levels (Pl. 1, 1–4), which appear to date in the empire and late periods. Khalid al-ʿAnsi (GOAM) excavated a pitcher (Pl. 1, 5) from nearby al-ʿAsaibia. He dates the context in the 2nd century CE. The vessel form recalls faintly Roman in appearance and surface colour. Its red slip differs from the unfinished pottery excavated from Ẓafār.

Pottery from both the higher and the deeper levels at Ẓafār alike are undecorated (Pl. 2, 1–4) but the former may include earlier wares that were churned up during foraging of the villages. Funerary vessels await study from cemetery zc01. Two interesting examples from Ẓafār/al-Harethi (Pl. 3, 5–6) that were submitted to the site museum during the 1980s, give an idea of what may be expected in the later phases. They have a characteristic fine temper, bringing to mind balsamaria in eastern Arabia.[16] Large amounts of storage vessel sherds occurred in all of the trenches around the Ḥuṣn Raydān.

Plate 4 shows complete storage vessels acquired for the site museum. Plate 4, 3 is unique in terms of its burnished exterior. Thus, it may be relatively early in the sequence and the dating awaits clarification. Ribbed amphora with creamy to pinkish fabric occur occasionally at Ẓafār (Pl. 4, 4–5). T. Wilkinson reports them in the area of Ḏamār. The question arises whether they correspond closely the numerous amphora that A. Sedov[17] uncovered at Qāni' which he identifies as imports. Such are common in southern Jordan and have been excavated in kilns in Aqaba/Aila in Jordan.[18] Although some prefer a dating range for this ware from the turn of the 5th to the 7th centuries,[19] D. Whitcomb has argued that they should date early–mid 7th century in the foundation of early Islamic Aila. Thus they belong to the latest datable finds at Ẓafār. The pottery at Ẓafār bears no resemblance to the red wares known from neighbouring Aksum.

Sculpture[20]

Numerous at Ẓafār are relief fragments fashioned mostly from limestone or marble (Table 2). These are far more common in the areas excavated than are pot sherds, the ratio being 4–5:1, measured by volume. Fist-size fragments that bear floral ornament or decoration litter the surface and occur in quantity in the excavation. Thus far, the heaviest concentration of sculptural fragments at the site occurs in trench z400. Larger, more interesting pieces can be discussed briefly.

The relief of a robed figure came to light in a debris layer, z500~006 (Pl. 5 a). It is depicted aspectively with the head turned right and the torso viewed frontally. The figure holds a mirror in the left hand. The neck is visible, but unfortunately not the face. The long hair and elaborately folded garment suggest the depiction of a female person of high standing. In 2004 in the village Yule recovered a nearly intact relief depicting a female, now the pride of the site museum that shows the same style and workmanship (Pl. 5 b). With this complete head, numerous fragments in the collection of the site museum that had been catalogued as spirals became recognisable in reality as stylised hair. The two figures differ in that one has straight, the other curly hair. Several excavated examples can be attributed to this stylistic-typological group. A further smaller fragment (Pl. 5 c) derives from debris in nearby z500~008. Another (Pl. 5 d) from a wall, z421, depicts a forehead from this same genre, but this time viewed frontally, to judge from the bilateral symmetry of the parted hair. Stylistically characteristic to this group of life-size figures are flat surfaces with relatively little relief. Parallels for this representation exist as small fragments in the collection of the site museum. Above and to the left visible is a leaf-cross motif that is common at the site.

The garments and hairdos recall Sassanian ones, including those transferred by means of Palmyren intermediaries. Older scholars saw Iranian influence in pre-Islamic Yemen as a result of the Sassanian invasion. In terms of the visual arts, this began far earlier. The wall z421 possibly may be of late Ḥimyarite date (c. 6th century?), giving a *terminus post quem* for the relief and its style. One can legitimately raise the question how much time lay between the fashioning of this relief and the building of the wall. Reliefs that served as building material for walls had lost their meaning for the builders. Another relief, akin in its style, occurred in the eastern balk of the trench z400 in debris (Pl. 6 a). Visible on the right is a long plait of hair, in the centre a hand that holds a flower and to the left the relief moulding. To judge from the coiffure, a woman is depicted. Although the flower has been ground off, it is recognisable by means of close comparisons in the collection of the site museum.

A striking relief depiction of a man's face (Pl. 6 b) came to light, that was used impiously as building material for the wall, z401: This image shows that both males and females were depicted life-size and in a recognisable Ḥimyarite style alluded to above.

16 Yule 2001, 62. 66 "Balsamaria G07".
17 Sedov 1998, 278.
18 Malkawi *et al.* 1994.
19 S. Parker personal communication.
20 In advance of the publication of the catalogue of the Ẓafār Museum, no attempt is made in the present study to cite parallels for the sculptures shown here.

Pl.	excav. no.	cm	context	motif
5 a	06~064	35.7 x 36.0 x 12.0	z500~006	draped figure
5 b	zm2563	25.1 x 32.4 x c. 12	"Ẓafār"	face toward left
5 c	06~081	33.8 x 15.3 x 12.0	z500~008	draped figure
5 d	06~082	42.0 x 14.0 x 12.0	z421	forehead
6 a	06~281	30.0 x 31.0 x 12.0	z400 E balk	head & flower
6 b	06~258	19.0 x 14.5 x 10.5	in z401	bearded lower face
6 c	05 tawfik	15.5 x 24.0 x c. 5.0 "Ẓafār"	bearded face	bearded face
6 d	06~257	26.0 x 19.0 x 19.0	z400~051	bucranion plaque
7 a	06~279a	32.0 x 24.0 x 13.0	in wall z418	bucranion plaque
7 b	06~267a	20.0 x 19.0 x 17.0	in z401	small & large figs.

Table 2 Selected sculptures excavated from Ẓafār.

الجدول ٢: منحوتات مختارة نقب عنها في ظفار.

The clear mastery of the dense stone evokes a feeling for naturalistic corporality. Unfortunately, the upper portion of the face is not extant. Luckily, during this year's campaign, one of our workmen, Tawfīq Musʿīd al-ʿAnnābi, donated a second life-size stone face similar in style to that under discussion (Pl. 6 c) to our mission that in turn, we passed on to GOAM and the site museum.

Preserved is the face's left side from chin to eye-height. This visage is said to derive from Ẓafār. One can speculate that it belongs at the end of a long tradition of OSA reserve faces known best from Sabaean grave or tomb structures. The long moustaches of the faces recall similar stylisations in the contemporary art of Iran.

Overtly polytheistic subjects also occurred this season, including bucranion plaques (Pl. 6 d), that came to light on and in the ashy layer z400~051, upon which the 'bent wall' is built. The plaque shown in Pl. 6 d as well as other finds of human representations derive from this layer. Others derive as building material from the 'bent wall' itself. A second such high relief bucranion was used as a stone in wall z418 (Pl. 7 a). This example shows the animal's head fitted with long patterned horns.

Very different in style is a stone block that shows relief depictions on two of its adjacent sides. One side of the damaged relief block (Pl. 7 b) shows a large figure followed by a smaller one to the right. Below both a pair of goat horns appear. The other face of the same block (Pl. 7 c) shows an arm or leg facing right. A high-stepping forehand of a quadruped faces left. Striking is the depiction of socially important individuals as larger than lesser ones.

Beside the large-scale animal sculptures uncovered in 2004,[21] large anthropomorphic sculptures show common elements of style and form a clearly definable group of their own. Both may centre chronologically in the empire period, to judge from their context. Moreover, at present, we can do little more than speculate about the length of their manufacture. A few other sculptures show still later Ḥimyarite relief-groups with a style of their own.[22]

Selected Small Finds

Several years ago a pair of finely chased hollow silver bangles, said to have come to light in a grave in al-ʿArāfah (Pl. 8 a–b), were acquired for the site museum.[23] Despite the problem of the finders' provenances *per se*, nothing speaks against al-ʿArāfah – a hotbed of antiquities robbing. Finds of the Ḥimyarite age are common there. Both bangles bear a raised guilloche pattern on both sides, one strand of which is plain, the other is hatched. The terminals show a complicated pattern of hatched lines and dots.

In the debris of context z500~005 a small bronze knife came to light (Pl. 8 c), that finds a comparison from distant late pre-Islamic Oman.[24]

Numerous glass fragments have come to light in Ẓafār, comparable with Roman glass. To the most interesting belong a fragment of imported opaque green and translucent millifiori glass (Pl. 8 e), that occurred in the debris of locus z500~010. This is one of the most attractive glass fragments yet to appear in Ẓafār, most being monochrome white or blue.

21 Yule *et al*. 2007.
22 Yule in press.
23 Compare Daum 1987, 97 above left: "*spätsabäisch*."
24 Yule 2001, 84 artefact class M07 for the parallels.

A single *terra sigillata* plate sherd (Pl. 8 d) came to light on the surface of the field qism ṭawīl located on Ẓafār's eastern flank. Typical are the stand ring as well as colour of the *glanzton* surface (red 10R 5/8) and fabric (light red 10R 6/8). The ware appears to be Eastern Sigillata A. The shape compares roughly with a plate from Petra/al-Zantur.[25]

Lamps, vessels (Pl. 9, 1–3) and a lid of stone came to light during the excavation and during the inventorying of the site museum. They may have a hole for the wick (Pl. 9, 5), or have none (Pl. 9, 3). A reclining leonine figure forms the grip of the zoomorphic lid[26] (Pl. 9, 6). Such lids are known in the pre-Islamic world, as at al-Fuwāyda/ʿAmlah in the Sultanate of Oman.[27]

Charred Plant Remains

Introduction

Whereas in most parts of Europe investigations of palaeobotany normally concentrate on environmental and agricultural history as a regular part of archaeological excavations, this is less so the case in the Near East. Such studies are rarer, and concentrate on the archaeological well-investigated regions at Euphrates, Tigris, and neighboured regions. Moreover, archaeological research in the Yemen started much later, the number of investigated places is small, and archaeobotanical studies are totally lacking, with one exception.[28] The investigation of plant remains began in winter/spring 2006 at Ẓafār. The main aims were to collect charcoal for radiocarbon dating and for wood species determination and to isolate and identify fruits and seeds for a reconstruction of agriculture and plant nutrition.

Material and Methods

As a result of preservation conditions, only charred material survived. Excavation yielded about 50 soil samples for botanical excavations. We sampled all features with loose soil and more or less clearly visible charcoal content that awakened hope to contain fruits and seeds. The normal sample size was seven litres (one not too full bucket). Sampled was not only the actual trench, but also the still open trenches of the campaigns 2003 and 2004. Where profiles were open we sampled them, taking samples of 20 cm thickness.

The material was soaked with water and stirred up. Buoyant charred remains were decanted using a sieve of 0.5 mm mesh width to remove the fine material. For sufficient cleaning, this flotation process was repeated. The mainly charred botanical remains were dried in cloth in the open air, were sorted using a binocular microscope and tweezers and were sorted in polystyrene boxes. Charcoal fragments larger than 3 mm were acquired.

First results

In fact, charcoal was not studied for the first time in the Yemen. However, first views without an incident-light microscope indicate that one wood type is most common, absolutely dominating, and its picture without and with weak magnification shows good accordance with acacia. Acacia was also the building material at Shabwa.[29]

The results of the fruit and seed analysis are presented in Table 3 (see supplement), summarised by feature. Totally, 4939 fruits and seeds are isolated from 317 litres of soil samples, what means average concentration of 59.5 items per litre. They represent at least 16 species of cultivated plants and several weeds. Roughly the features can be grouped in three clusters:

1. cultural layer as post-function filling of houses in trench z300,
2. charred grain concentrations in and around the so-called bent wall (late pre-Islamic [?] wall) in trench z400,
3. other features, most of them with low concentration of charred fruits and seeds.

The cultural layer, mainly post-function fillings of the buildings z374 and z382 in trench z300 (column no. 1–3 in Table 3), has low to medium concentration and high diversity (the last two lines in Table 3). Cereals, other useful plants and weeds are present. Among the cereals *Hordeum* (mostly hulled barley, Pl. 11 h) and *Triticum* (a glume wheat) are most common. Also more or less common are *Avena* (oats, Pl. 11 a) and *Triticum aestivum/durum* (naked wheat, Pl. 11 n). A rachis fragment proves the presence of tetraploid naked wheat (*Triticum durum*). Chaff as well as grains of *Triticum monococcum* (Einkorn, Pl. 11 o) are rather rare. Only traces occur of *Secale cereal* (rye). Oil- and fibre plants occurred including Camelina (gold of pleasure), *Linum usitatissimum* (flax, Pl. 11 j), *Sesamum indicum* (sesame, Pl. 11 m) and *Brassica nigra* (black mustard, perhaps also used as a spice) and the pulses *Lens culinaris* (lentil) and

25 Schneider 1996, 145 Abb. 561 for the shape.
26 Costa 1973, 197 no. 76 pl. 19, 3.
27 Yule 1999, fig. 32 grave FU07.04.
28 Soderstrom 1969.
29 J.-F. Breton, personal communication.

Pisum sativum (pea). The assortment of useful plants is completed by *Vitis vinifera* (common grape vine, Pl. 11 p), *Phoenix dactylifera* (date, Pl. 11 l), and *Prunus dulcis* (almond Pl. 11 k). This material can be seen as 'settlement noise' – mixed litter of the daily life from which only the charred organic material survived, that gives a good picture of the daily food.

Inside and around the 'bent wall' a high concentration not only of charcoal occurred, but also large quantities of charred grain in z400~409, z421 (columns no. 4 and 5 in Table 3). The concentration of grain is medium to high, the species diversity only medium. The main components are *Hordeum* (hulled barley), with presence of *Avena* (oats), as well as *Triticum aestivum/durum* (naked wheat), and traces of glume wheats (*Triticum monococcum* and, more common a second type of glume wheat). Pulses and common grape vine (*Vitis vinifera*) occur in traces, as do weeds, for example *Coronilla* (Pl. 11 c). We can interpret this material as – more or less diluted and dispersed remains of a rather pure cereal stock – that was ready for consumption. Asymmetric *Hordeum* grains give a hint of four-row barley (*Hordeum vulgare*). So we have a stock of hulled four-row barley in conjunction with oats and traces of other cereals. The relative purity of the kinds of grain and the size of the barley grains indicate a highly sophisticated agriculture. Whether barley and oats were grown and stored separately and mixed after the burning event or grown or at least stored together, must remain unanswered. Growing a mixture of barley and oats would minimise the risk of crop failure, because barley would have a high yield under dry, and so oats under wet conditions. The samples discussed here show great similarity and represent therefore perhaps one event. However, the archaeological context is here not yet clear, and it cannot be excluded that the material contains more than one event. That would mean that at different times and perhaps also in different places cereal stocks of identical composition were burnt and charred. But if we assume one single stock, the dimensions of its wide scattered remains suggest a rather large stock of perhaps some hundred kilograms or more of grain.

Among the different building features the plant remains of one deserves special comment. It is a thin earth layer between z412, a stone row (part of step-like installation), constructed of huge stone cuboids, and z420, the flooring (column no. 11 in Table 3). Amongst other *Hordeum* and *Avena* remains, germ buds of cereals dominate. Taphonomy, function, and significance are unclear.

We also may mention here feature z400~025 (column no. 6 in Table 3), despite its very low content of plant remains of 0.2 items per litre. This feature consists mainly of slag and ash with a high charcoal content. The rareness of charred remains of edible plants hints at a formation by unknown technical processes using industrial rather than by accidental fire.

After barley and oats, a glume wheat (*Triticum*) is the next most common cereal at ancient Ẓafār, represented by grains as well as by chaff (Pl. 11 e–g). The identification presents a slight difficulty: It is similar to *Triticum dicoccon* (emmer), especially the grains, but the spikelets are not typical for emmer. The material has also similarity to the new spelt wheat type described by Jones *et al.* and Kohler-Schneider.[30] Alas, it is different from the so-determined material from South-eastern Europe, that we have observed.[31] *Triticum spelta* (spelt wheat) can be ruled out. A secure identification on species level requires the observation and broad study of more material.

The composition of the useful plants found differs distinctly from the present situation in Yemen agriculture, where millet (*Sorghum bicolor*, *Pennisetum typhoides* and *Panicum miliaceum*), wheat and barley are the prevailing cereals.[32] We also observed the cultivation of two-rowed barley as a common crop. Other cereals were absent, but oats, and two types of naked wheat (*Triticum aestivum* and *durum*, as we suppose), are familiar to the present-day rural population.

There are surprising similarities to the Migration Period situation in Central Europe:[33] Prevailing of hulled barley and the presence of many other species as oats, at least two glume wheat species, naked wheat, and rye.

Millet (*Sorghum* as well as *Panicum milaceum*) are totally lacking in the archaeological material from Ẓafār but are grown nowadays. The presence of oats and rye is surprising, because these species prefer relatively cold and wet climate and soil. The only millet we found was *Echinochloa crus-galli* (barnyard grass, Pl. 11 d) as a weed. With the exception of *Sesamum indicum*, also the oil- and fibre plants as well as the pulses are the same as in Central Europe. More varied are the fruit/nut spectra, because the here observed *Vitis vinifera*, *Phoenix dactylifera*, and *Prunus dulcis* are rare or lacking at the same period in the temperate zone of Europe. Mainly climatic reasons seem responsible. The cultivation of dates, common grapes and almonds is difficult in temperate

30 Jones – Valamoti – Charles 2000, 133–146; Kohler-Schneider 2001.
31 Fischer – Rösch 2004.
32 Kopp 1981, 97–98.
33 Rösch 1997, 323–330.

climates, as in Europe. In the tropical alpine climate of the Yemenite Highlands this is easier where they are more readily cultivable but with the exception of date. Bearing in mind that this group of useful plants is badly represented in charred material, we can suppose a much higher number of fruit species and an important role for them in the human diet, as well as for vegetables and spices.

Conclusions

First investigations of charred plant remains from the Ḥimyarite capital Ẓafār resulted in a list of at least 16 cultivated plants in late antique Yemen, of which *Hordeum vulgare*, *Avena*, *Triticum* (an unknown glume wheat) and *Triticum* cf. *durum* were certainly grown, as well as the oil and fibre plants, pulses and fruits/nuts. Whether *Triticum monococcum* and *Secale cereale* were also grown or only occurred as contamination, and whether *Panicum/Sorghum/Pennisetum/Setaria* were really not cultivated, requires further investigation. The similarity with contemporaneous assemblages of cultivated plants in Europe can be a case of convergence, or hint at cultural connections over large distances. To answer this question, again more work is necessary. First results, however, suggest that South Arabian agriculture of the late antique period attests a rather high standard. This observation fits quite well with the archaeological observations concerning terracing and irrigating of fields some of which are undoubtedly of Ḥimyarite origin. The impact of a dense human population and a highly sophisticated and wide-spread agriculture on the vegetation and landscape, especially on the forest, should be studied using off-site data, especially by pollen analysis.

Relative Chronology

The Stone building is the main excavated substantive building in the vicinity. As already mentioned, as opposed to disturbed upper layers in the trenches which offer little coherent stratigraphy, the deeper ones and the overlying slag deposit provide substantial anchor points. The Stone building and its floor predate the debris that fills them. A wall made of coarse stones which in plan is bent transects the Stone building and postdates it. This wall contains exclusively pre-Islamic finds/debris. Other features in z400 can be associated stratigraphically with these main constructions. The so-called steps z412 and z414 (including also z410 and z424), overlie the Stone building and its pavement stones and are later. The 'bent wall' and 'steps' are candidates for a late/post Ḥimyarite phase of building. Thus, in the relative sequence of the Stone building, the wall and floor are followed by the 'steps' and subsequently the 'bent wall.' Find contexts that stratigraphically overlie the Stone building postdate it. The occurrence of bucranion plaques of the polytheistic age in the upper levels of the trenches may be taken as evidence of heirlooms and chronologically mixed strata.

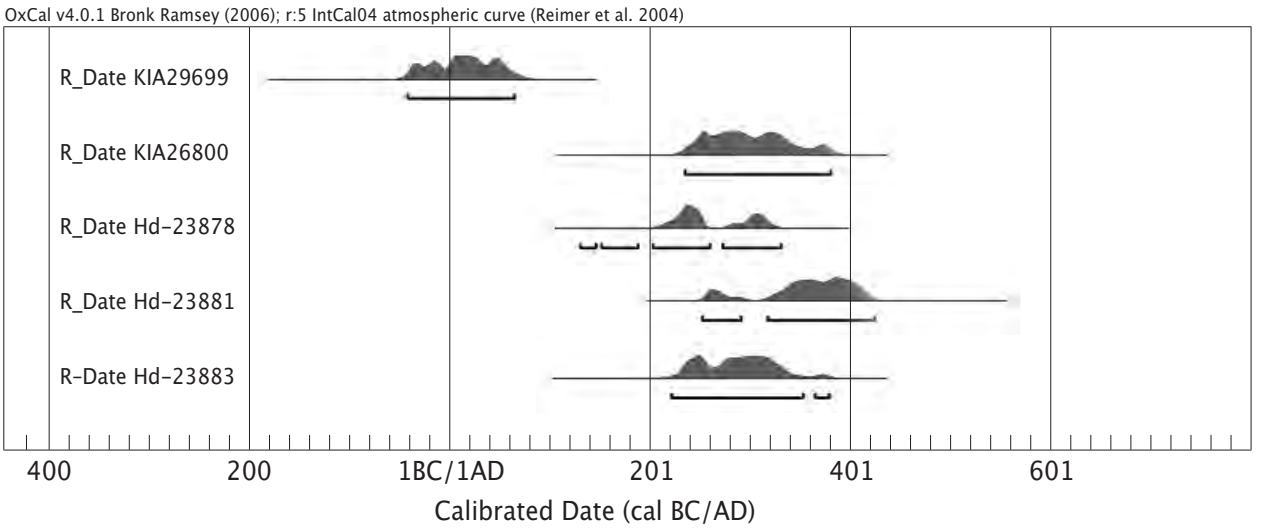
Absolute Chronology

The re-building inscription, zm1,[34] of Šuraḥbiʾil Yaᶜfūr (month of ḏ-ʾln 572 Ḥim/September 457 CE) first awakened suspicions that the Stone building was in fact the ancient Hargab palace.[35] But it has neither characteristics that clearly identify it as a palace, nor is the spatial association with zm1 compelling for an identification.

Radiocarbon determinations from trench z400 shed light on the dating of the associated stone architecture and several key associated sculpture fragments. Carbon samples derive from the following contexts:
Assay (1) KIA29699 can be taken as an index for the origin of the building and the laying of z413. One may surmise that the last four suggest that the charcoal layer and slag deposit are either nominally contemporary or lie a few decades apart. To judge from these four determinations, the extant Stone building itself predates the empire period. Assay (2) KIA26800 from the slag deposit postdates the building, i.e. 243–382.

Partial confirmation of the dating the Stone building comes in the form of marginally drafted pecked masonry used in the N interior court wall of G. Van Beek's type 6:[36] Smooth face; on each panel, blocks and courses simulated by incised lines defining borders and pecked areas; pecking sparse and oblique in direction. Van Beek wrote that these were known from a period between the first century CE and the 'last Pre-Islamic period.' For this age there are few comparisons, dated or not. Parallels for this kind of stone working occur at the Bar'ān temple in Mārib that date to the centuries at the turn to the common era. But similarly decorated masonry has occurred 1999–2000 in the Italian excavations at Tamnaʾ in contexts that date from about the 3rd century BCE

34 Sima in press.
35 An inscription (in: Robin 2006, 1.A.b. 1=Gorge du Haut-Buraᶜ 2, in the Tihāma) mentions the extraction of "marble" for the Hargab palace in the year 355 + 11 CE.
36 Van Beek 1958, 287–295, esp. 291b and 295b.



no.	lab. no.	find no.	Ẓafār	^{14}C age BP	cal age p=68.3% cal age p=95.4%, years CE	
1	kia29699	06~088	5 mm beneath pavement z413	1988±23	-36–52	-42–62
2	kia26800	05 none	in slag deposit z400~025, 9 cm above pavement z413	1736±23	255–337	243–382
3	hd-23878	04~217	z400, on top of ‚window' z415	1780±18	225–320	140–332
4	hd-23881	04~232	z400, between stone groupings z406 and z407	1680±28	339–409	259–423
5	hd-23883	04~243	z400, beneath wall z403, above pavement z413	1752±24	245–327	230–380

Table 4 AMS and ^{14}C determinations calibrated by OxCal version 4.

الجدول ٤: حسابات الكربون المشع[١٤] وعمره بطريقة منهج العجلة وقد تمت معايرتها بالنسخة الرابعة من OxCal.

to the mid 1st century CE.[37] Further examples came to light at Barāqish that date from the 4th to the 1st century BCE. Several other such decorated stones exist from Ḥuqqa, al-Sawdāʾ and al-Baydāʾ, not all of which are published or readily datable.[38]

Ribbed amphora (Pl. 4, 4–5) from debris layers are the latest identifiable finds at the site and perhaps lower the demise of the buildings to the early–mid 7th century.[39]

Wādī al-Ḥāf Catchment Basin Project

Al-Šuqāq (dialect: al-Šugāg, feature z326 in our inventory of sites at Ẓafār) is the medieval[40] and present-day designation for a 35 m wide, 5 m high, water and silt-retention 'dam' that lies 1000 m west of the centre of Ẓafār. It has been known to us since 2000 (Fig. 13–14). Heavy, regularly square and patinated building stones, suggest a Ḥimyarite origin. Its deep topographical location guarantees water here year round, and it is one of the two sources for the present-day village. To illuminate the function and antiquity of the ancient *sadd* requires the mapping of the associated drainage area. Our strategy was simple: we first documented the masonry, mapped the fields of the Wādī al-Ḥāf catchment basin that feeds the *sadd* and recorded the names of the constituent fields and dams, most for the first time. The place-names would hopefully shed some light on the local history, language and their tradition (Fig. 15). Ideally, they might contain recognisable historic names. It was important to determine which *ʾasdād* were obviously ancient and which post-dated them. Other researchers point out that little is known about the Ḥimyarite field pattern.[41] Existing fields appear to be old, but are undated. While our work builds on the local research contributed by M. Barceló and his team, we

37 Personal communication A. de Maigret and S. Antonini 19.05.06.
38 Rathjens – v. Wissmann 1932, 49 fig. 15–16, cf. also Radt 1973, Taf. 11, 34a: "wohl Mārib."
39 Malkawi *et al.* 1994, 463–464.
40 al-Akwaʿ 1986.
41 Wilkinson – Edens – Gibson 1997, 104.

Fig. 13 Sadd al-Šuqāq (feature z326) viewed to the west.

الشكل ١٣: منظر إلى الغرب لسد الشقاق (البنية z326).

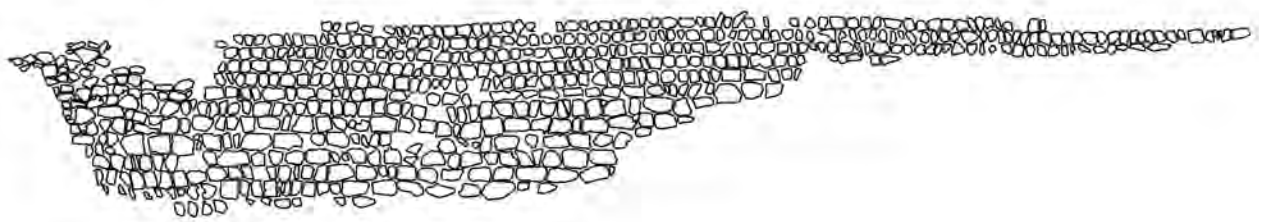


Fig. 14 Scanner documentation of sadd al-Šuqāq z326 viewed to the west (mapping by M. Fritz, J. Glag).

الشكل ١٤: توثيق بجهاز السكنّر لسد الشقاق z326، منظر إلى الغرب (تنفيذ M. Fritz و J. Glag).

attacked the problem of the persistence of characteristically Ḥimyarite building and settlement in the post Ḥimyarite age, settlement and language from a different angle, more intensively than he. We recorded all of the field names in the basin not as Arabic roots, but rather as they are spoken today which confirms the well-known archaic nature of the local language.[42]

Formed of large, hewn, black-patinated stones, this *sadd* deserved documentation as a threatened monument. The mapping reveals a massive structure of large, well masoned regular stones. Where damage occurred, the stones used for the repair are irregular in shape and size. At the southern end of the *sadd,* a rock-cut channel (*mafǧar*) allows the regulation of the flow of water to the fields below. At its northern end a well is cut into the bedrock to tap the water. Above, heavy masoned stones enclose the well area. This fashioning of heavy rocks also is typical of the Ḥimyarite period. The masonry inside the well is also possibly of this same date.

This year it was possible to record *sadd* z326 in light of the threat that it might collapse with more intensive use of the land or excavations in search of gold behind its patinated large building stones. Signs of this vandalism including the removal of stone from the *sadd* and the blasting in the immediate vicinity to obtain building stone are readily visible. It differs from most such *ʾasdād* in the area in that it has sluices and a well. Owing to their deep level, in terms of the original topography the different parts

42 Behnstedt 2002.

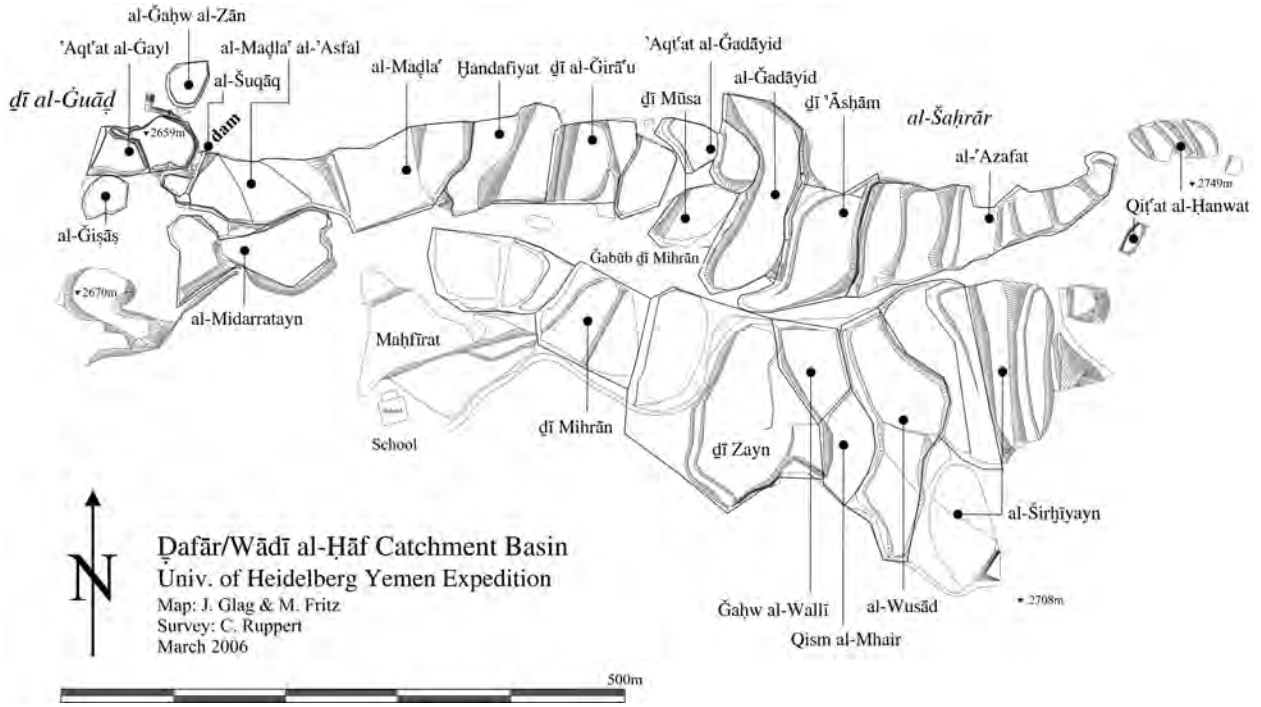


Fig. 15 Plan of the Wādī al-Ḥāf catchment basin.

الشكل ١٥: مخطط مستجمع المياه في وادي الحاف.

of the complex are difficult to explain. Such ʾ*asdād* retain the torrential summer monsoon rains allowing them to sicker into the ground in order to foster agriculture, but are not dams in the usual modern sense. They also prevent the erosion of valuable topsoil. In recent years they have come to light in some numbers and in a variety of forms in Arabia.[43] Among the most interesting questions to pose are whether the *sadd* belongs to the rise of the Ḥimyarite state and its associated buildings in the 2nd century CE,[44] or might it belong to a possible post-Ḥimyarite phase of building, a possibility that for the moment cannot be ruled out completely.

In the 10th century CE, the famous Yemenite scholar, al-Hamdānī, held the ʾ*asdād* near Ẓafār to be certainly pre-Islamic. Even if the Ẓafār and king that al-Hamdānī described longer existed at his time, the ʾ*asdād* nonetheless still did. Barceló and Torró (2003) and al-Akwaʿ have located numerous ʾ*asdād* mentioned by al-Hamdānī. Those published appear to be of Ḥimyarite origin, dated allegedly by virtue of the surface pottery, in the vicinity of Ẓafār and its satellite towns (Barceló personal communication). Our studies suggest, however, that only in al-ʿUwār (in Ẓafār South), is there evidence for water-regulating features that directly postdate the Ḥimyarite period proper.[45] Whether in post-Ḥimyarite times centres such as the Ḥuṣn Raydān were still inhabited or the dwellers lived in the settlement south of the southern city defences remain open to question. Future work shall attempt to more clearly date the settlement and its irrigation systems.

M. Barceló and his team have investigated the ʾ*asdād* extensively and explain the different related *termini technici* of traditional terrace irrigation as well as how water was retained and directed to further use.[46]

Our historic reconstruction of al-Šuqāq proposes an origin in the empire period, followed by neglect in medieval times, and then recent renovation. Barceló refers to certain texts found in Ẓafār/al-ʿUwār for his chronology of the building activity that, however, give little purchase.[47] The question remains open for the time being, if major building projects such as the construction of dams took place after the capital was moved from Ẓafār to Ṣanʿāʾ.

Stone Cubicals z449

We became aware of an extensive archaeological ruin that includes a stretch of barren rock and rock-cut

43 Bienert – Häser 2004; Weisgerber – Yule 2003.
44 Barceló et al. 2003, 140.
45 Yule 2007, 111 fig. 18.
46 Barceló *et al.* 2003.
47 Barceló *et al.* 2003, 141: The "epigraphic tablet" found near the *sadd* al-ʿUwār some years ago in fact are three stones (zm2262, 2263, 2264) which do not date to the "fourth century AD," but more precisely after 347 Ḥimyar/232 CE but before 400 CE (Sima 2002). These record the rebuilding of the city defences.

cubicles during the mapping of 2005 in Ẓafār/Danān Ḍarrāb (Pl. 10 a–c). This extensive complex appears to be an E–W oriented way, graves, stone quarries and other features located at mid-latitude on the western side of the Ẓafār area, some 500 m from the western edge of the core area. The 2–3 m wide way is recognisable for over 200 m as a bare strip of rock. We sketched a small, typical burial area at the western side (UTM 38p $e^{4}35169$, $n^{15}71149$). Eight chambers, mostly visible on the surface, were cut out of the dark granite. We removed the earth and pottery, large vessel fragments, from them. No skeletal remain were extant. Most of the chambers are too short to accommodate stretched burials. Given the large number of pre-Islamic graves, this was certainly an important burial area for Ẓafār. The graves differ from others on site which is the reason that we sampled here. To judge from their small size, they belonged to poorer inhabitants. The pottery, that is under study, appears to be Ḥimyarite.

Conclusions

The Ẓafār project concentrated efforts on the Stone building, the initial conception of which seems to have been a temple and not a palace, to judge from the numerous bucrania sculptures that it contained. The slag deposit may represent the remains of furnace debris during the empire period, that can be taken to indicate the decline of the cult as a result of the main wave of Christian influence that culminated in 390 CE in the Roman world. Excavation yielded a stately number of finds nominally attributable to the Ḥimyarite age, particularly to its later phases. The most notable category is large-scale anthropomorphic and zoomorphic sculpture. Few of the sculptures are exactly datable. Nonetheless, some can be assigned a provisional date from 400–600 CE. This fills a historical gap in the art history of the Highlands and a broader international region. In addition, a further ^{14}C determination from the foundation of the monumental casemates in Ẓafār South (context z189) is of interest for the general development of the city[48] (cal. sigma 1: CE 422–533, sigma 2: CE 392–550), for the fortifications appear to be still under development in the empire period, as one would expect probably prior to the Axumite war. At the beginning of the project in 1998 very little was known about the cultural history of this part of the Highlands. Archaeological investigation is creating a framework with which to date the contexts and finds. The new finds from Ẓafār resulted in diverse invitations to present the results. Numerous finds of a high artistic quality show that the later Ḥimyarite ‘cultural vacuum’ in fact was an important and creative phase of Arabian history.

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48 Charcoal, Hd-25322, conventional 14C age: 1596+37 BP, cal. sigma 1: CE 422–533, sigma 2: CE 392–550.

Abbreviations

ADAJ Annual of the Department of Antiquities Jordan

AAE Arabian Archaeology and Epigraphy

ABADY Archäologische Berichte aus dem Yemen

BAH Bibliothèque archéologique et historique

EI Encyclopaedia of Islam

PSAS Proceedings of the Seminar for Arabian Studies

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Annotations for the Plates 1–4 and 9

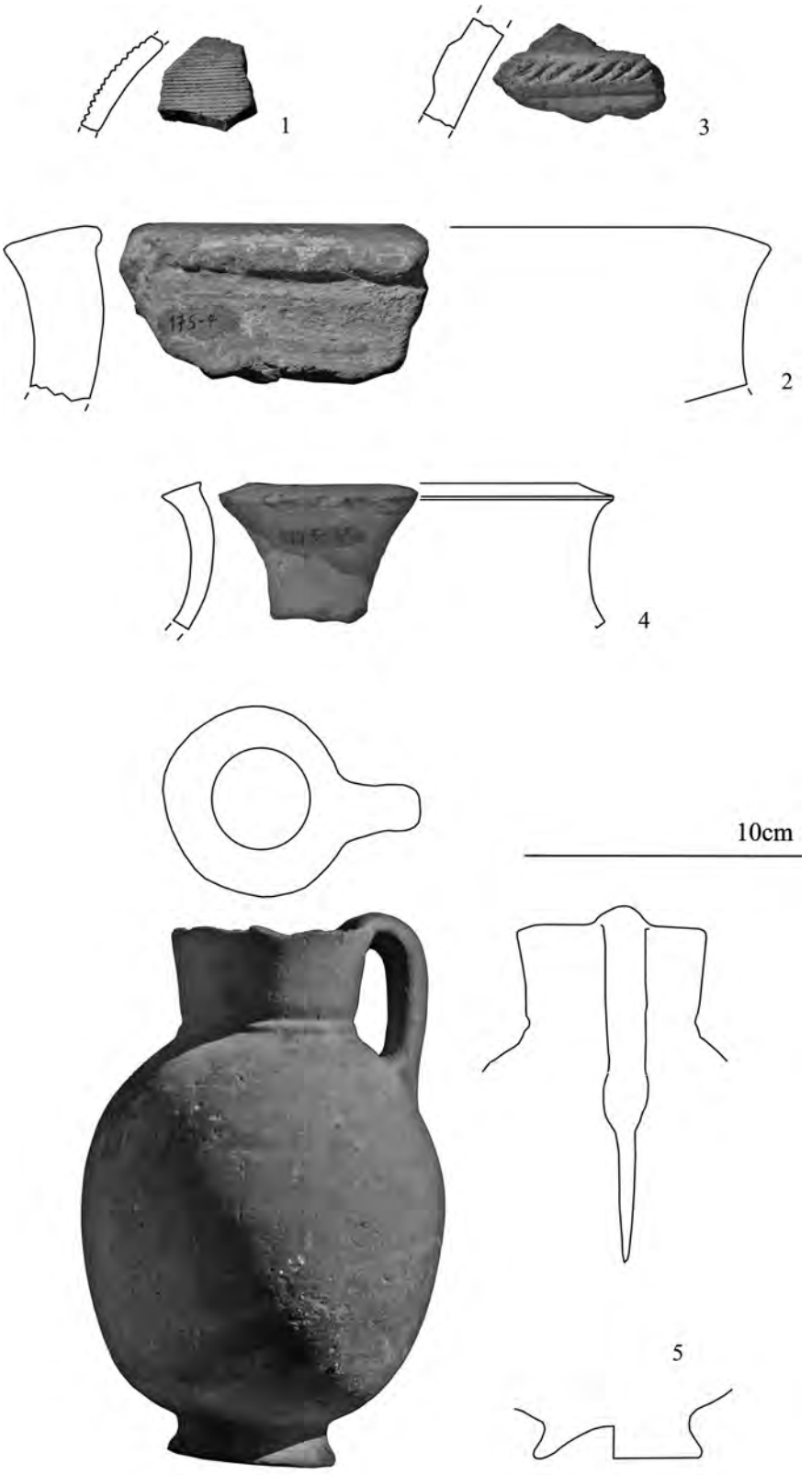
Pl.1 Pottery mostly from Ẓafār, lower levels.				
no.	seq. no.	locus	temper, fabric colour	surface colour, treatment
1	04~123.20	z400~010	sand, 5YR 7/8 reddish yellow	5YR 7/6 reddish yellow
2	04~175.04	z400~002	straw & gravel, 2.5YR 5/1 grey	2.5YR 5/6 red
3	04~175.11	z400~002	organic & gravel, 5YR 5/1 grey	5YR 6/6 reddish yellow, hatching
4	04~175.17	z400~002	organic & mineral, 5YR 5/1 grey	7.5YR 6/4 light brown
5	Asaibia A13	"01"	organic & gravel	2.5YR 6/8 light red 10R 6/8 light red

Pl. 2 Ẓafār pottery 'upper' levels.				
No.	seq. no.	locus	temper, fabric colour	surface colour, treatment
1	03~066.07	z382	straw & sand, 5YR 7/8 reddish yellow	5YR 6/6 reddish yellow, burnished
2	03~114.07	z382	organic & mineral, 5YR 6/2 pinkish grey	5YR 6/6 reddish brown
3	03~125.20	z374	organic & mineral, 5YR 5/1 grey	5YR 6/4 reddish brown
4	03~125.32	z374	straw & sand 7.5YR 6/2 pinkish grey	7.5YR 6/4 light brown
5	03~125.33	z374	straw & sand 5YR 3/2 reddish grey	5YR 5/4 reddish brown

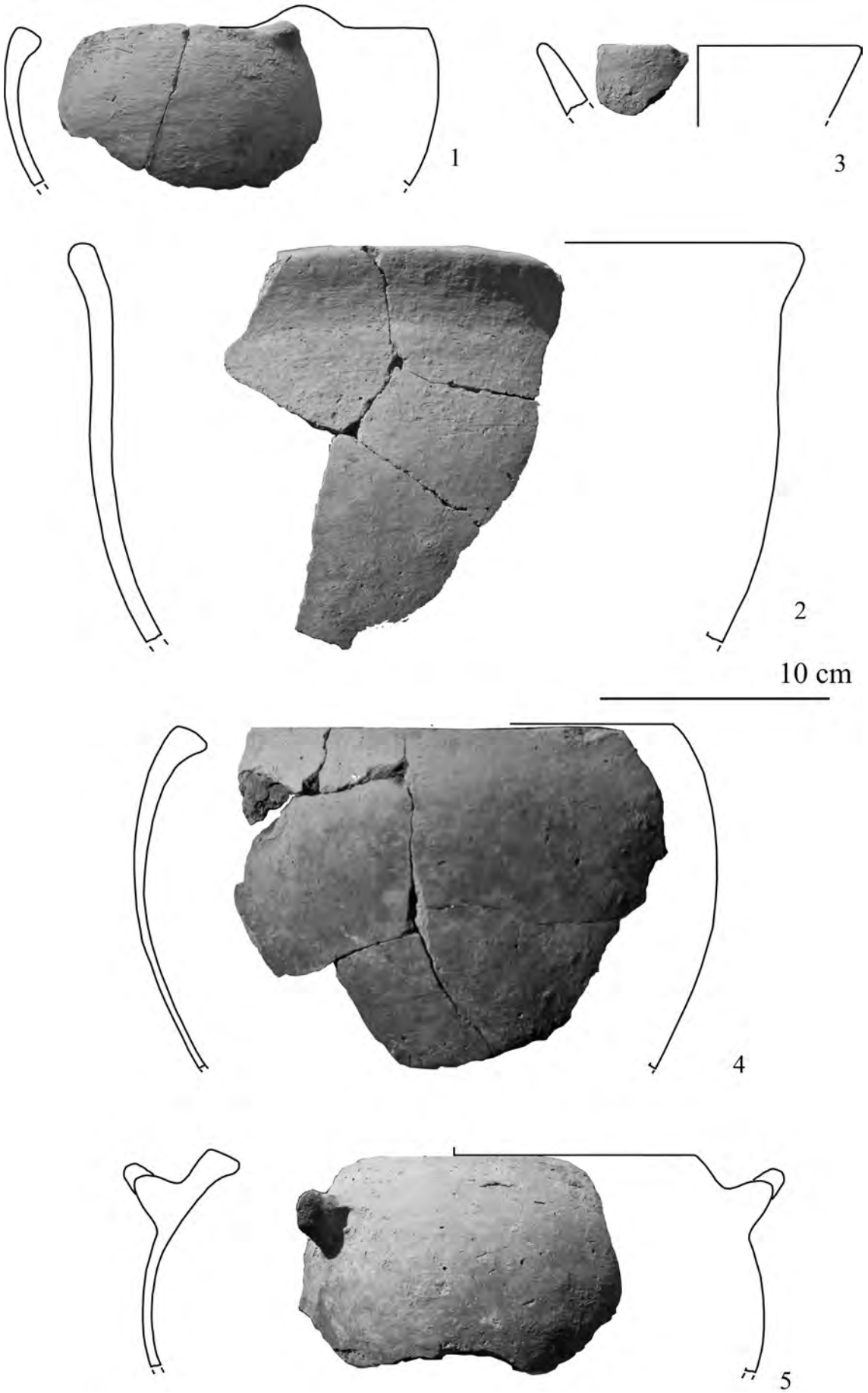
Pl. 3 Ẓafār pottery 'upper' levels.				
No.	seq. no.	locus	temper, fabric colour	surface colour, treatment
1	03~039.01	z300 surf III	straw & sand, 2.5YR 3/1 dk reddish grey	2.5YR 4/6 red
2	03~066.02	z382	straw & sand, 5YR 7/8 reddish yellow	5YR 6/6 reddish yellow
3	04~127.16	z400~012	organic & sand, 5YR 6/6 reddish yellow	5YR 6/6 reddish yellow
4	04~189	on z412	straw & sand, 5YR 5/3 reddish brown	2.5YR 7/3 pale yellow, letters
5	zm2226	al-Harethi	sand, 5YR 5/4 reddish brown	5YR 5/2 reddish grey, incised hatching
6	zm2225	al-Harethi	sand, 5YR 7/2 pinkish grey	2.5YR N3/v dark grey, incised hatching

Pl. 4 Storage vessels				
No.	seq. no.	Locus	temper, fabric colour	surface colour, treatment
1	zm0678	al-Hawaqirat	straw & mineral, 2.5YR 5/4 reddish brown	2.5YR 5/4 reddish brown
2	zm0919	al-Gusr	organic & gravel	5YR 6/4 light reddish brown, slipped, burnished
3	zm0674	al-Ǧaḥ	sand, 5YR 5/4 reddish brown	2.5YR 5/4 reddish brown, slipped, burnished, inscribed letter
4	zm0920	al-Harethi	organic & mineral, 5Y 7/6 yellow	7.5YR 8/3 pink, ribbed ware
5	zm0997	al-Gusr	sand, mica, 10YR 6/6 brownish yellow	2.5YR 8/4 pale yellow, ribbed ware, accretions

Pl. 9 Ẓafār stone vessels and lamps.			
No.	seq. no.	locus	stone
1	03~130	z389	grey soapstone
2	zm0907	unknown	white limestone
3	04~180	04~180	light limestone
4	06~120	06~120	dark grey basalt
5	zm2267	unknown	grey marble
6	zm2268	„probably Ḥuṣn hill"	grey marble



Pottery mostly from Ẓafār, lower levels. | فخار أغلبه من ظفار، المستويات السفلية.



Ẓafār pottery 'upper' levels.

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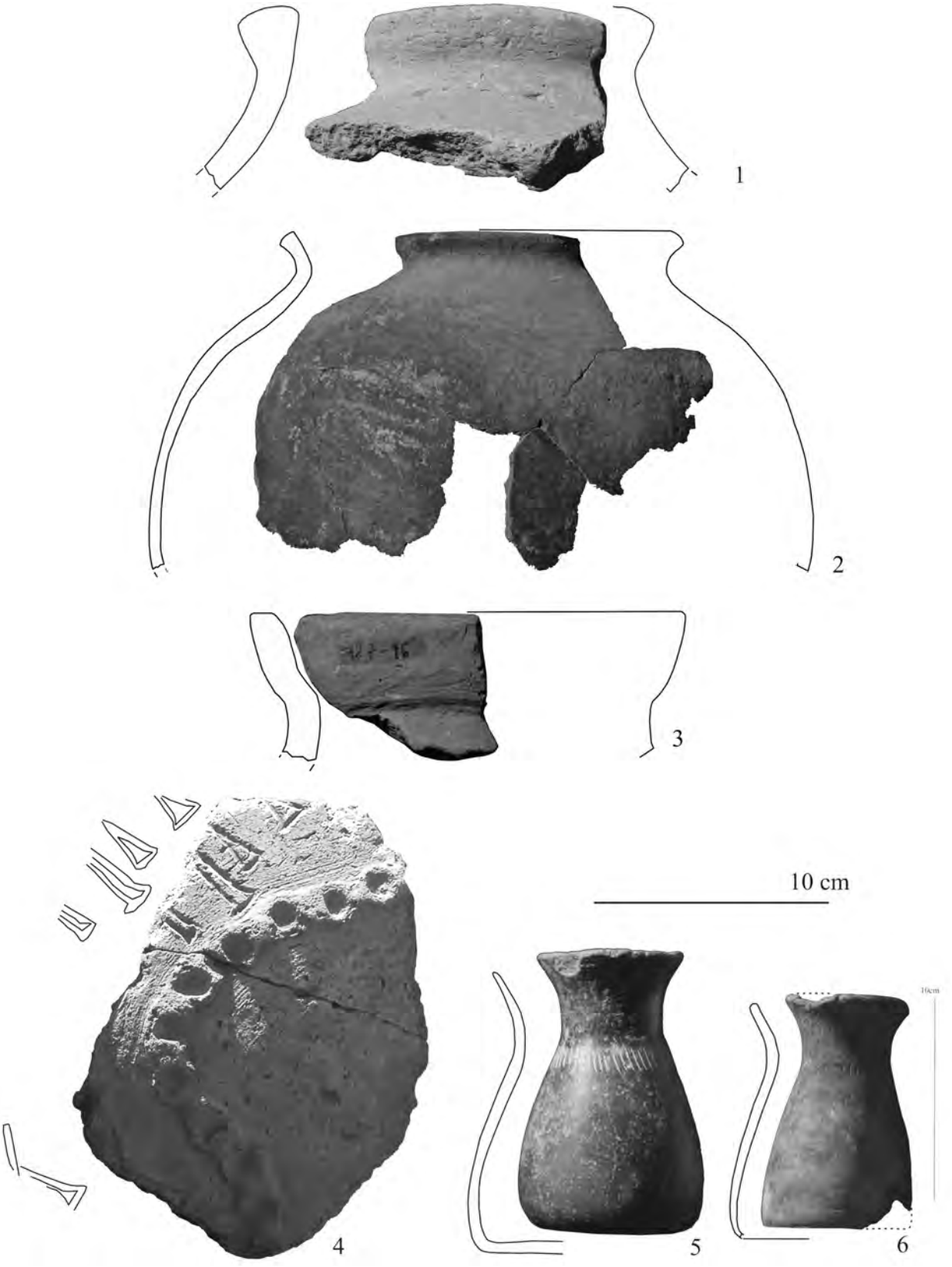

Ẓafār pottery ‘upper’ levels.

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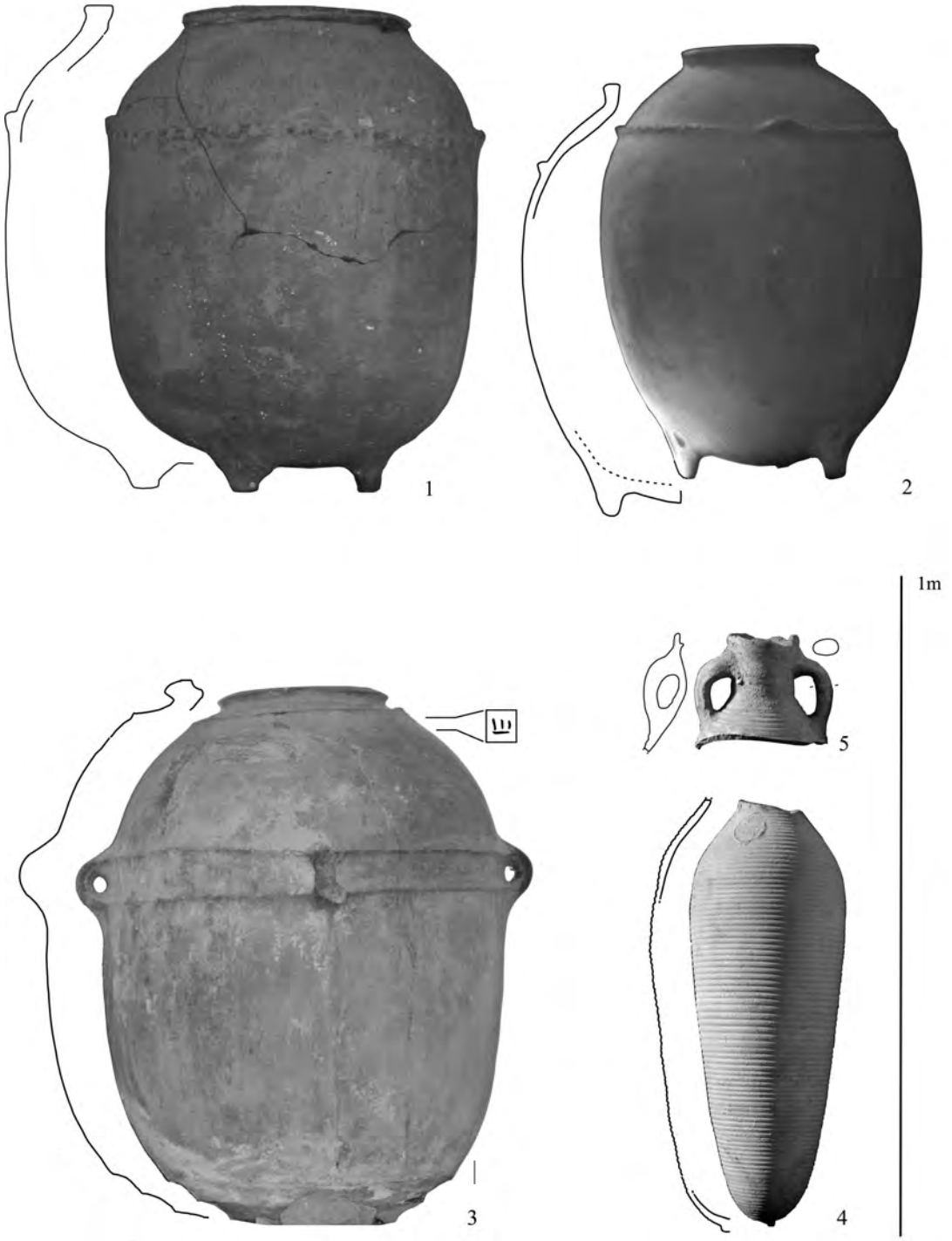


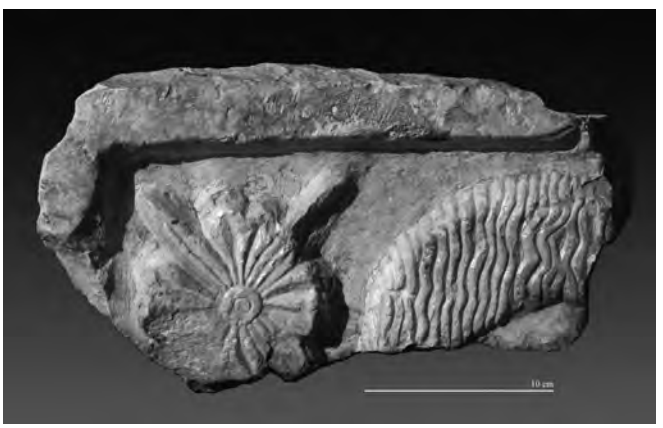
Storage vessels.

آنية لتخزين المؤن.

a

b

c

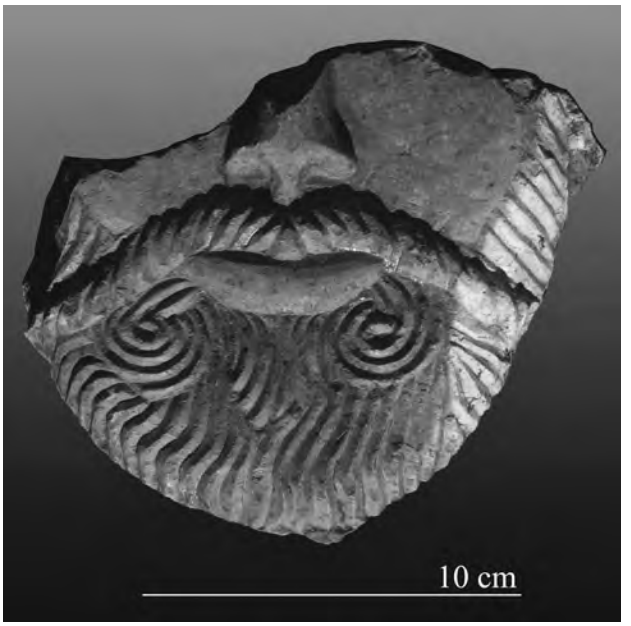


d

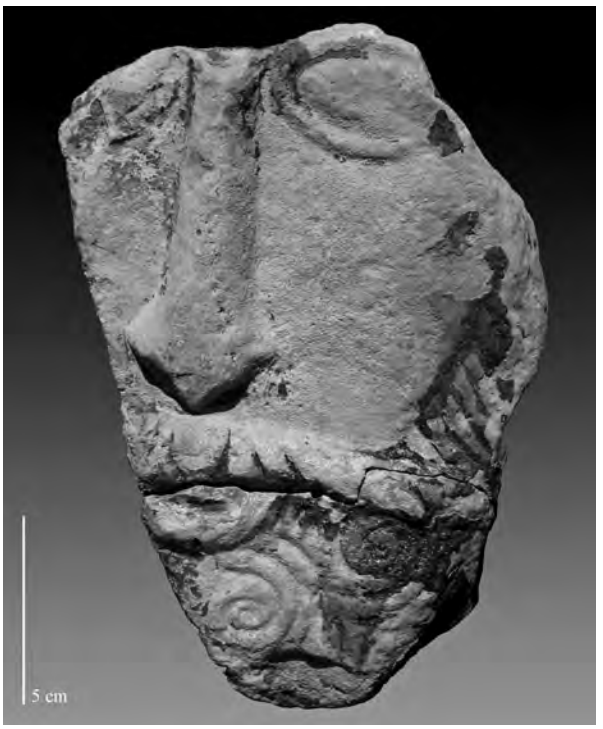
a. Draped female figure holding a mirror, from context z500~006.
b. Female face poised to the right, on exhibit in the site museum, from "Ẓafār".
c. Draped figure holding a mirror, from context z500~008.
d. Frontal forehead and leaf-cross, from the wall z421.

a. إمرأة ترتدي ثوبا له ثنيات وتمسك بمرآة، من السياق الأثري z500~006.
b. وجه أنثوي ملتفت إلى اليمين، وهو معروض في متحف البلدة.من «ظفار».
c. شخص يرتدي ثوبا له ثنيات ويمسك بمرآة، من السياق الأثري z500~008.
d. تمثيل جبهي لجبين رأس وتقاطع أوراق، من الجدار z421.

a



b



c

d

a. Locks of a figure holding a flower, from the eastern balk of z400.
b. Bearded lower half of a face, from the wall z401.
c. Bearded face said to derive from Ẓafār, on exhibit in the site museum.
d. Bucranion plaque, from context z400~051.

a. جعدات إنسان يحمل زهرة، من الحاجز الشرقي لـــ z400.
b. القسم السفلي لوجه ملتح، من الجدار z401.
c. وجه ملتح يقال أن مصدره ظفار وهو معروض في متحف البلدة.
d. لوح نُقش عليه دربان، من السياق الأثري z400~051.

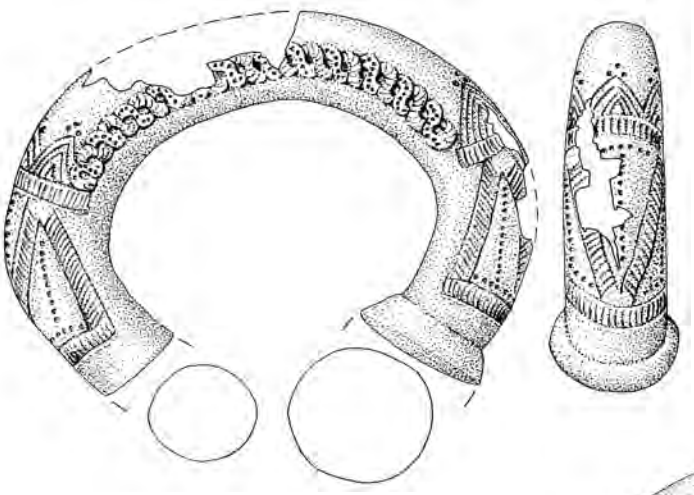
a

b

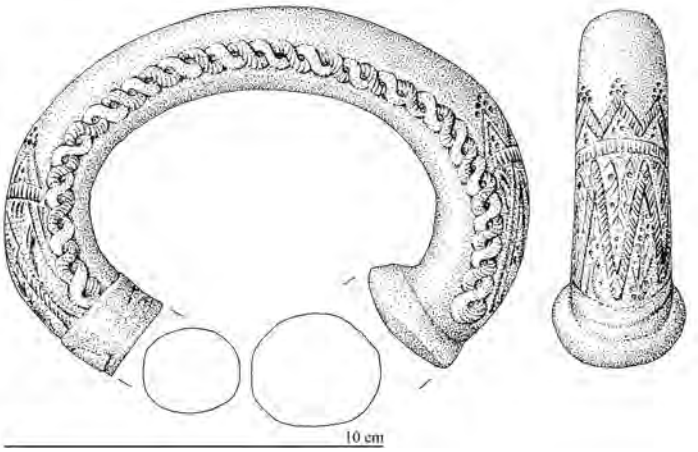
c

a. Bucranion plaque, from the wall z418.
b. Relief showing large and small figures in a landscape, from the wall z401.
c. Relief showing large and small figures in a landscape, from the wall z401.

a. لوح نُقش عليه دربانِ، من الجدار z418.
b. نقش بارز يظهر أشكالا إنسانية كبيرة وصغيرة في الطبيعة، من الجدار z401.
c. نقش بارز يظهر أشكالا إنسانية كبيرة وصغيرة في الطبيعة، من الجدار z401.



a



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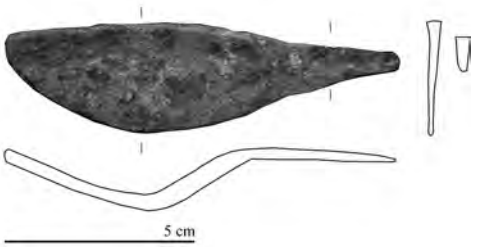
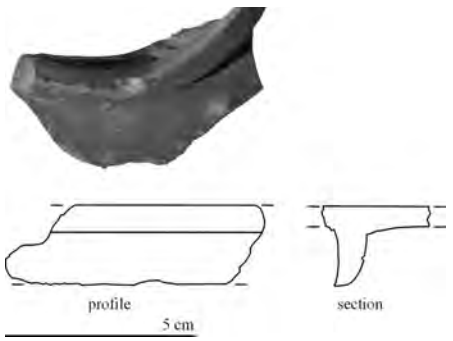
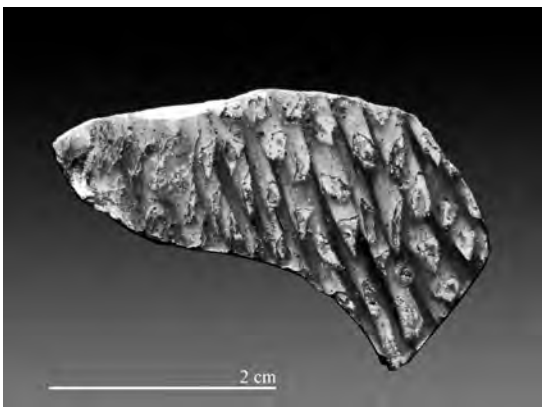


c



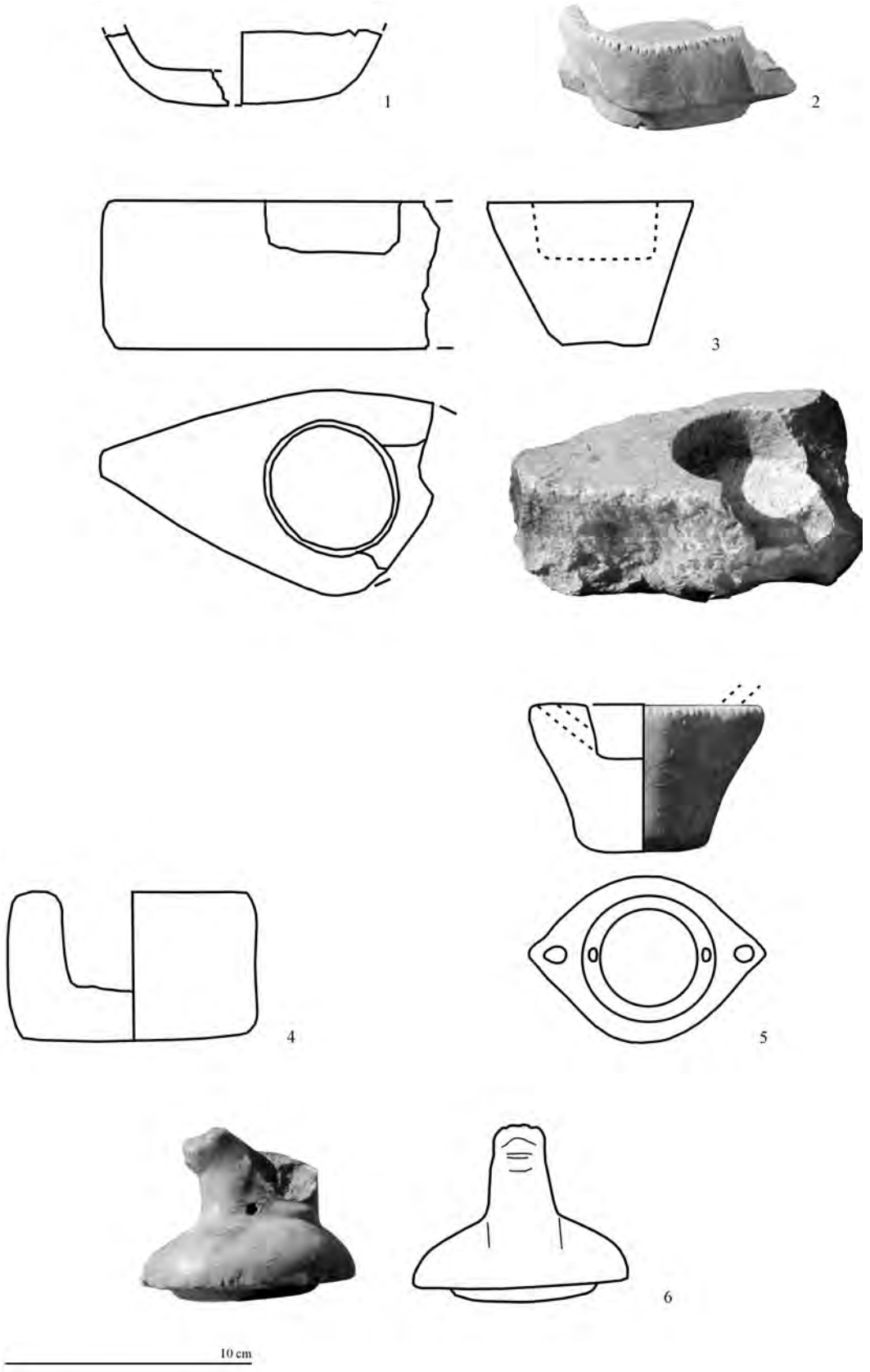
d



e

a–b Silver bangles, from a grave in al-ʿArāfah, zm2567 and zm2568 (drawing by I. Steuer-Siegmund).
c. Bronze knife, from context z500~005.
d. Terra sigillata sherd, surface find from the field *qism ṭawīl*.
e. Millifiori glass, from context z500~010.

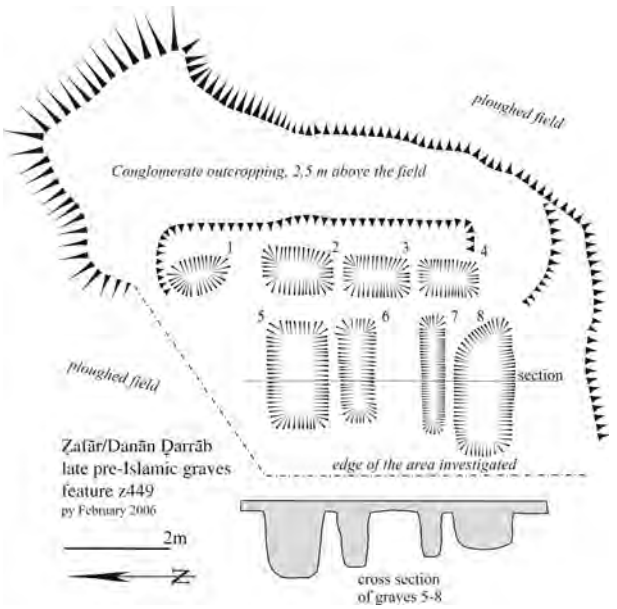
b-a أساور فضية وُجدت في قبر في العرافة، zm2567 و zm2568 (رسم I. Steuer-Siegmund).
c. سكين برونزية من السياق الأثري z500~005.
d. كسرة فخارية من نمط ترّاسغيلاتا (التراب المختوم)، لقى سطحية من حقل قسم طويل.
e. زجاج ميلليفيوري من السياق الأثري z500~010.



Ẓafār, stone vessels and lamps.

ظفار، آنية حجرية ومصابيح.

a



b

c

a. Access and grave complex (area z449), west of Ẓafār viewed toward the west.
b. Plan of a burial complex in area z449.
c. Burial complex in area z449 viewed to the south.

a. مدخل ومجموعة قبور (المنطقة z449)، غربي ظفار، منظر باتجاه الغرب.
b. مخطط لمجموعة مدافن في المنطقة z449.
c. مجموعة المدافن في المنطقة z449، منظر إلى الجنوب.

a. Avena (oats), grain.

b. Camelina sativa (gold of pleasure), seed.

c. Coronilla (scorpion vetch), seed.

d. Echinochloa crus-galli (cockspur), grain.

e. Triticum (glume wheat), grain.

f. Triticum (glume wheat), spikelet.

g. Triticum (glume wheat), spikelet, different state of preservation than 6.

h. Hordeum vulgare (hulled more-rowed barley) grain, dorsal and ventral side.

i. Lens culinaris (lentil), seed, two views.

j. Linum usitatissimum (flax), seed.

k. Prunus dulcis (almond), fruit stone fragment.

l. Phoenix dactylifera (date), seed fragment.

m. Sesamum indicum (sesame), seed.

n. Triticum aestivum/durum (naked wheat), grain, ventral, from the side and dorsal.

o. Triticum monococcum (einkorn), spikelet.

p. Vitis vinifera (common grape vine), pip.

a–p Botanical finds; the bar in each photo corresponds to 1 mm (photos by E. Fischer).

p-a بقايا نباتية؛ ويساوي الخط في كل صورة ١ مم (تصوير E. Fischer).

number		1	2	3	4	5	6
feature		z374	z382	z300	z400/409	z421	z400~025a
profile		NE	NE	SE		EW	
lower border		2800,10	2800,10	2800,40	2802,12	2801,87	2800,71
upper border		2801,90	2801,90	2801,70	2799,94	2800,19	2801,71
X		435547,88	435545,09	435551,22	435566	435562	435568,17
Y		1571501,65	1571503,74	1571496,93	1571486	157148	1571483,12
volume (l)		77	35	35	52	35	35
flotation residue (g)		529	223,5	137,5	1739	804	661
sortet (g)		78	46	16	383	269	126,5
taxon	**organ**						
cereals							
Hordeum Hulled Barley	fruit/seed	20	7	2	2167	1099	.
Hordeum	fruit/seed	22	25	7	107	.	.
Hordeum Naked Barley	fruit/seed	8	2	4	.	.	3
Hordeum	rachis fragment	.	1	.	.	.	.
Avena	fruit/seed	12	3	.	386	198	.
Triticum aestivum/durum	fruit/seed	2	1	1	87	27	.
Triticum aestivum/durum	rachis fragment	.	1	.	.	.	.
Triticum durum	rachis fragment	.	2	.	.	.	.
Triticum Hulled Wheat	fruit/seed	24	5	1	30	8	2
Triticum Hulled Wheat	glume base	50	66	15	.	5	.
Triticum monococcum	fruit/seed	2	1	1		.	.
Triticum monococcum	glume base	2		3	.	.	.
Secale cereale	fruit/seed	.	1	.	.	.	.
Secale cereale	rachis fragment	1	.	.	.	.	.
Cerealia indet	fruit/seed	26	10	7	85	65	2
Cerealia indet	germ bud	12	4	2	20	6	.
oil- and fibre plants							
Camelina	fruit/seed	6	2	1	.	1	1
Linum usitatissimum	fruit/seed	12	6	.	.	.	.
Sesamum indicum	fruit/seed	9	.	.	.	.	.
Brassica nigra	fruit/seed	.	.	1	.	.	.
pulses							
Fabaceae cultivated	fragments	14	1	.	3	2	.
Lens culinaris	fruit/seed	6	8	1	.	1	.
Pisum sativum	fruit/seed	2	1	.	.	.	.

Table 3 Occurrence of excavated charred plant remains from Ẓafār.

7	8	9	10	11	12			
z400~035	below z422	z400	z380/plate	below z412	z400~054	abundance	constancy	
		W			S	sum	samples	%
2799,43	2800,45	2800,98	2800,05	2801,42	2800,30	items		
2800,13	2800,24	2800,78	2799,85	2801,5	2800,10			
435568,17	435558,42	435555,89	---	435562,37				
1571483,12	1571491,44	1571486,22	---	1571489,650				
10	7	7	7	3	14	83		
203	37,5	28,5	18	49	64			
1	2	1	1	1	8			
1	.	.	10	2	1	3309	9	75,0
.	2	.	.	6	4	173	7	58,3
.	.	.	.	.	.	17	4	33,3
.	.	.	.	.	.	1	1	8,3
.	.	1	.	4	1	605	7	58,3
.	.	.	.	.	.	118	5	41,7
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	2	1	8,3
.	.	.	.	.	.	70	6	50,0
.	.	.	.	.	6	142	5	41,7
.	.	.	.	.	.	4	3	25,0
.	.	.	.	.		5	2	16,7
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	1	1	8,3
.	1	2	1	1	2	202	11	91,7
.	1	.	1	59	.	105	8	66,7
.	.	.	.	.	.	11	5	41,7
.	.	.	.	.	.	18	2	16,7
.	.	.	.	.	.	9	1	8,3
.	.	.	.	.	.	1	1	8,3
.	1	1	.	.	.	22	6	50,0
.	.	.	.	.	.	16	4	33,3
.	.	.	.	.	.	3	2	16,7

الجدول ٣: ورود البقايا النباتية المتفحمة المنقب عنها في ظفار.

number		1	2	3	4	5	6
fruits/nuts, others							
Vitis vinifera	seed fragment	12	3	1	2	1	.
Phoenix dactylifera	fruit/seed	3	.	.	.	.	.
Prunus dulcis	fruit/seed	.	1	.	.	.	.
weeds							
Agrostemma githago	fruit/seed	1	1	.	.	.	.
Alisma	fruit/seed	.	.	1	.	.	.
Centaurea cyanus	fruit/seed	1	.	.	.	.	.
Chenopodium	fruit/seed	4	3	2	2	.	.
Convolvulus	fruit/seed	.	.	.	1	.	.
Coronilla	fruit/seed	1	.	.	.	.	.
Echinochloa crus-galli	fruit/seed	1	1	1	1	.	.
Galium	fruit/seed	.	.	.	1	.	.
Lolium temulentum	fruit/seed	1	.	.	.	.	.
Malva neclecta	fruit/seed	.	.	.	1	.	.
Medicago lupulina	fruit/seed	1	.	.	1	.	.
Melilotus	fruit/seed	.	1	.	2	1	.
Plantago lanceolata	fruit/seed	.	.	.	1	.	.
Poaceae indet.	fruit/seed	4	2	1	.	.	.
Solanum nigrum	fruit/seed	1	1	.	2	.	.
Solanum	fruit/seed	1	.	.	.	.	.
Thalictrum	fruit/seed	.	1	.	.	.	.
Thlaspi arvense	fruit/seed	1	.	.	.	.	.
Trifoliae	fruit/seed	3	2	1	.	.	.
Varia	fruit/seed	18	10	.	.	.	.
sum		283	173	53	2899	1414	8
concentration (items/l)		3,7	4,9	1,5	55,8	40,4	0,2
number of taxa		33	30	19	18	12	4

Table 3 Occurrence of excavated charred plant remains from Ẓafār.

7	8	9	10	11	12			
.	.	.	.	.	.	19	5	41,7
.	.	.	.	.	.	3	1	8,3
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	2	2	16,7
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	11	4	33,3
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	4	4	33,3
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	2	2	16,7
.	.	.	.	.	.	4	3	25,0
.	.	.	.	.	.	1	1	8,3
.	.	1	.	.	.	8	4	33,3
.	.	.	.	.	.	4	3	25,0
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	1	1	8,3
.	.	.	.	.	.	6	3	25,0
.	.	.	.	.	.	28	2	16,7
1	5	5	12	72	14	4939	7	
0,1	0,7	0,7	1,7	24,0	1,0	59,5	7,0	
1	4	4	3	5	5	46		

الجدول ٣: ورود البقايا النباتية المتفحمة المنقب عنها في ظفار.