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The Early Iron Age Fort at Lizq, Sultanate of Oman

translated and updated by Paul Alan Yule

Keywords: Lizq, Early Iron Age, Oman archaeology

Abstract: Shaikh Hamdan al-Harthy brought Gerd Weisgerber to the Ğabal Radhaniya in 1979 – the largest Early Iron Age fort in south-eastern Arabia. A single season of excavation followed in 1981. Kroll finished an excavation report in 1982 but the publication was postponed. Important at this time is Kroll's comparison of the pottery from Lizq with that of Iran of the late 2nd and 1st millennia B.C.E. The Lizq fort owes its existence to the reliable occurrence of water at a natural causeway at the southern side of the central mountains. The main fort on the western mountain peak is some 175 m wide and had a surface of more than 20000 m². The location of the village associated with the fort remains unknown. Another fort located 4 km north of Bisyah village also dates to the Early Iron Age and shows certain similarities.

حصن لزق من العصر الحديدي المبكر، سلطنة عمان

ستيفان كرول، قام بتحديث المعلومات وتولى ترجمتها باول يول

قام الشيخ حمدان الحارثي بدعوة عالم الاثار الالماني جيرد فايسبرجر سنة 1979 لإجراء تحريات أثرية في جبل الرضانية، أكبر حصن عائد إلى العصر الحديدي المبكر في جنوب شرق الجزيرة العربية. ثم أُجرِيَ موسم واحد للحفريات سنة 1981. وقدّم كرول تقريرا عن الحفريات سنة 1982 ولكن نشر نتائج الحفرية قد تمّ تأجيلها. و المهم في تلك المرحلة هي مقارنة كرول للقى الفخارية في لزق مع تلك التي وُجِدت في إيران في الألفية الأولى و الثانية قبل الميلاد. ويدين تشييد حصن لزق لموقعه الطبيعي المناسب وإلى وفرة المياه وتواصل تواردها عبر الجسر الطبيعي من الجهة الجنوبية للجبال المركزية. و يُقدر عرض الحصن الرئيسي على قمة الجبل الغربي بـ 175م كما تُقدر مساحه مُسطّح الحصن بأكثرمن عشرين ألف متر مربع. لكن موقع القرية التابعة للحصن لايزال مجهولا. و يعود حصن آخر يقع على بعد 4 كيلومترات من قرية بِسْيَه أيضا للعصر الحديدي المبكر كما يُظهر بعض أوجه التشابه مع حصن لزق.

Translator's Foreward

Once the team from Bochum became aware of the Lizq fort in 1979, Gerd Weisgerber (German Mining Museum) and Stephan Kroll (later Munich University) conducted pioneer work on the Early Iron Age of south-eastern Arabia. The Volkswagen Foundation funded surface survey and a single season of excavation and restoration at Lizq. In 1982 Gerd's efforts to secure funds for further excavation at Lizq were unrequited. Recognising the value of Stephan's study, Hermann Müller-Karpe (German Institute of Archaeology in Bonn) offered to publish it in his newly founded series which he entitled (translated) *General and Comparative Archaeology, Materials*. Müller-Karpe wanted to rectify the heterogeneity and aspectiveness of excavation reports and present key sites in a framework with fixed topics so that the sites could be better compared with each other: The different site reports shared the same chapter structure as appears in following text regarding Lizq. This comparability also held for the illustrations which were to be rendered in the same scale as to facilitate comparison. Müller-Karpe's initiative was bold, a noble gesture especially to young contributors aspiring establish themselves in our field. For all its far-sightedness, it is a shame that his series met an untimely end at the hands of his colleagues. Stephan finished his manuscript in 1983 before getting a position in the Istanbul research station of the German Institute of Archaeology. His expertise in Iranian archaeology made him especially attractive to contextualise Early Iron Age Lizq into a larger picture. My editing efforts were financed partly by a grant made to Gerd by the DFG in 1996.

Gerd did not go ahead with the publication of Lizq although the text and plates were all but finished. This book took a back seat to another of his pet Oman projects, the Late Iron Age graves mostly known then at Samad al-Shān and al-Maysar (now al-Moyassar), 12 km north of Lizq, all in Oman's Sharqīyah province (Yule 2001 I: 386). At the same time, I began publication with him on a hoard of c. 500 mostly Early Iron Age metallic artefacts discovered at ʿIbrī/Selme which was finished in 1989 which shows the spectrum of Early Iron Age metal and other vessels (Yule / Weisgerber 2001). These two projects kept Gerd's industrious spirit busy and in a good position, logistically speaking, to research freely in Oman.

In the mid 1990s Stephan patiently updated his manuscript amid other more pressing duties. Just prior to this, Jürgen Heckes, also from the Museum, photogrammetrically mapped the Lizq fort and its area (Fig. 33). Unfortunately, again the publication was postponed indefinitely. The report of the Samad Late Iron Age graves faired better and appeared in 2001. I began cataloguing of other artefacts which Gerd miraculously secured for study and often had restored. This was important for it generated good will in Oman and helped make our project there sustainable. Today, most of the restored metallic artefacts in the Sultanate owe their existence to Gerd's tenacity.

Updating Stephan's text was challenging. Since 1983 and 1996, when he produced and updated it much has changed in the field of Early Iron Age south-eastern Arabian studies (cf. Kroll 1998). I faced the dilemma whether to reproduce the original text as a research relict or transgress an unclear line to update the work beyond the author's desires and intentions. Thus, the term "Lizq" or "Lizq/Rumailah" culture/period have given way to today's politically correct "Early Iron Age". Similarly, the "Omani Peninsula" has become "south-eastern Arabia". The "Samad culture/civilisation" is now and has been for over a decade the "Late Iron Age Samad assemblage". "Steatite" is now "soft stone" – to some mere cosmetic changes. More recently, the published important Early Iron Age settlement sites of Muwaila (U.A.E.) and the Early Iron Age Salūt fort 23 km south-south-west of Baḥlāʾ, with their large-scale architecture, filled in the gap made by the slumbering Lizq and require comment. The same holds for pottery, which is far more complicated than at the inception of this work. In 2012 at Muwaila a new unexpected Early Iron Age pottery was publicly

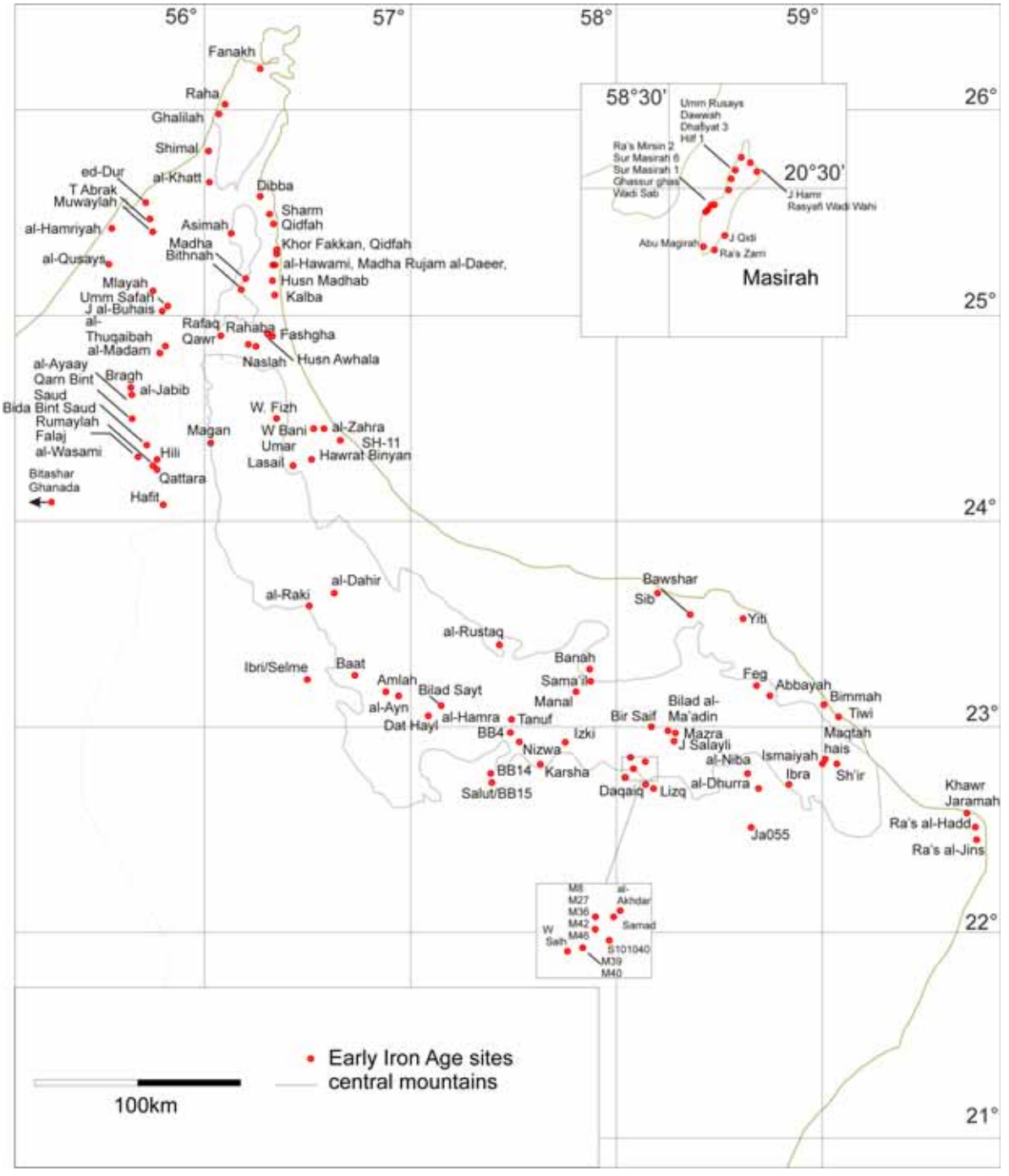


Fig. 1. Early Iron Age sites in south-eastern Arabia are particularly numerous and are of different kinds – mostly settlements. They show an excellent agricultural adaptation by means of irrigation (see list of Early Iron Age sites).

introduced (Magee et al. in press) which shows that pottery development to be far more locally specific than originally believed.

Stephan's interpretation of the chronology differs from that of others in the sources which he emphasises (Magee 1997 emphasises others),

Fig. 2. Aerial image of the Lizq fort L1 on the Ğabal Radhania with palm oasis and acacia forest to the west and north-west.

but even after many years cannot be tampered with. It is important to bear in mind Stephan's goal in 1982–1983 of summarising research instrumental to continue the Lizq project. I have retained his perspective when the work was conceived. At that time, were one contentious, one could even doubt whether Lizq belonged to the then still newly defined Early Iron Age. Thus one reads occasionally in the text, "at the time of writing", to underscore the chronological inception of a given idea. Despite subsequent updating, since he contributed something very original, he remains sole author on the title line, despite his invitation to honour me as co-author. In light of some 30 years of subsequent research, some points in the text required editing.

Unless otherwise stated, Stephan created the images and original drawings. An unknown artist inked the drawings. I contributed Fig. 1, 9, 10, 38 and redrew Fig. 34 which existed in different states of readiness. I thank Valentina Azzara who helped me master the literature for Ra's al-Ḥadd and Ra's al-Jins. Maurizio Tosi launched this project in the Ministry of Heritage and Culture. Naturally, a hearty thanks go to Prof. Dr. Thomas Stöllner (Gerd Weisgerber's successor in the German Mining Museum), who supported this project.

Paul Alan Yule, Heidelberg 29.03.2012

The topography

The Lizq oasis lies in Central Oman in the piedmont zone south of the eastern Ḥajar mountain range. The present-day village of Lizq comprises several hundred inhabitants. The ruins of the mountain fort Lizq L1 (Fig. 2–4) lie 900 m south-east of the southern corner of the oasis[1]. Locally called the Ğabal Radhania (Yule 2001 I: 386), this site rises 520 m above sea level, 65 m above the surrounding plain. It belongs to a range of scattered elongated, steep peaks (Fig. 3–4). These lay in the southern-most of the surface hardly perceptible edge of the ophiolite complex which form Oman's Ḥajar

[1] Preliminary reports regarding Lizq site L1: G. Weisgerber 1980: 100–101; S. Kroll 1981; S. Kroll 1991. Coordinates of its highest peak: 22°41'52.5"N, 58°10'58.75"E; UTM: 40Q 621507.40E, 2510587.72N (Google Earth).

Fig. 3. The Ğabal Radhania to the north.

Fig. 4. The Ğabal Radhania to the south.

Fig. 5. View from the Ğabal Radhania to the north-westerly palm oasis.

chain[2]. Its highest peak reaches 3009 m, lying to the north, some 60–80 km away. To the south nearby geological deposits contain sediments which belong to the Arabian continental plate. The mountain chain to which the Ğabal Radhania belongs, runs west-north-west – east-south-east and forms a natural dam for the wide flow surfaces and plains which incline from the north and north-east. The Lizq oasis owes its existence to this damming effect. In particularly dry years, such as 1981 as at the neighbouring village of al-Moyassar, not even the minimal amount of 150 mm precipitation fell. In such cases ancient and modern wells went dry and the subterranean water channels (*falağ/aflāğ*) nearly ceased to operate, but at the time of writing the water table of the wells in Lizq in the plain north of the fort remained nearly unchanged with a depth of just 2–3 m below surface. Population growth and the popularity of electric pumps led subsequently to a drop in the water table in many parts of the country.

This for Oman unusually high water table also enables the existence in addition to the inhabited oasis also a relatively dense planting of several hundred palms (Fig. 5). Also a cover of umbrella acacias (*Prosopis*) graces the plain just north of the mountain fort (Fig. 6). The mountain of the fort consists in its lower courses of lightly weathered peridotites with occasionally intruded gabbro-like pegmatites and deposited layers of gabbros. On the northern flanks at mid height, layers of dark gabbros cover the peridotite discordantly. These incline steeply to the south – south-south-west and comprise the entire southern part of the mountain. As a result of differential erosional resistance, they form a steep slope with two nearly peaks of nearly the same height to the middle and east as well as a pinnacle in the south-west. The gabbros explain the situation

[2] Throughout for the geological data of the Lizq region I thank A. Hauptmann.

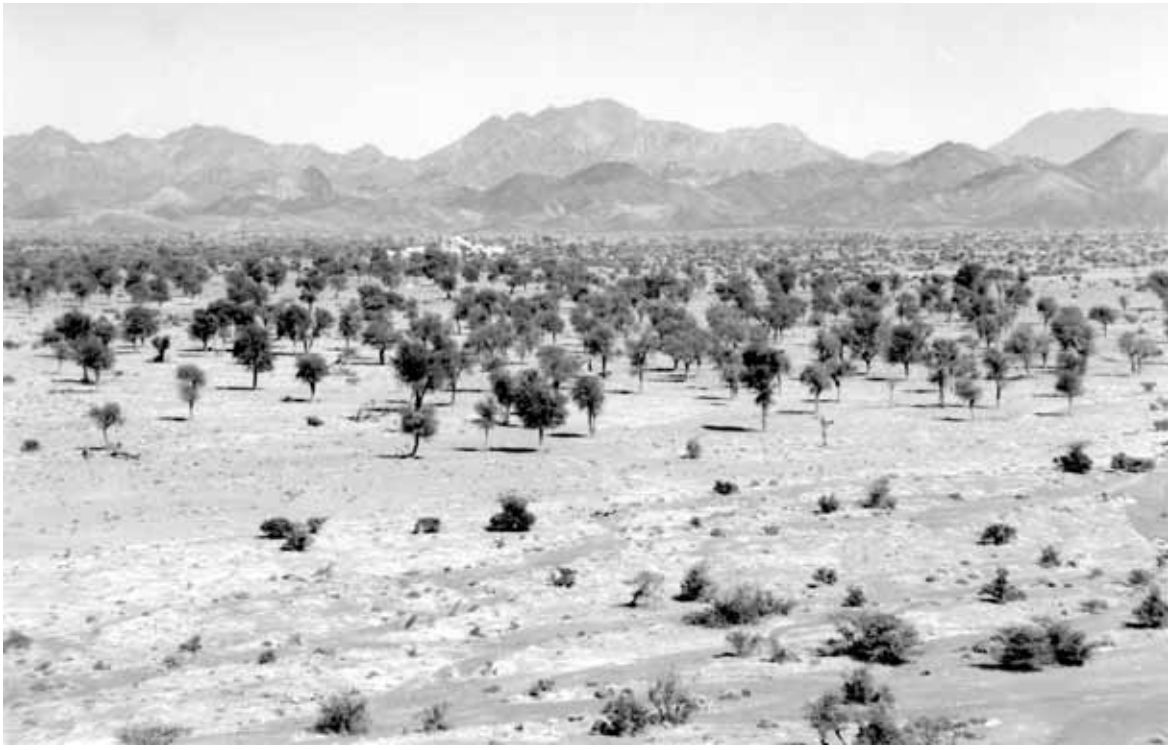


Fig. 6. View from the Ğabal Radhania to the acacia open woods in the northerly zone in front of the fort.

of the entire mountain chain in the middle of the flat flow plains. The interface of both rocks in the mountain fort is easily recognisable by means of the floral cover on the northern slope (Fig. 7). The here additional water runoff resulted in the formation of a clearly recognisable thick row of small bushes. Two kinds of rocks of the mountain fort also are distinguishable as a result of their colour. Above the yellow-brown perodotites which form the lower part of the mountain brown-black gabbros rise. The resistance of the gabbros to erosion probably also occurred to the architects of the mountain fort, who built exclusively in the upper part of the mountain in the gabbro zone so as to attempt longevity for the buildings. The variable vegetation reflects the amount of precipitation and accessibility of ground water (Fig. 8–10).

Aside from the Lizq fort itself, our team repeatedly also examined the area of the oasis. It is unlikely that this fort could exist in isolation without accompanying settlement, cemetery and agricultural or industrial centres. It was thus all the more surprising that so far, similar archaeological contemporary sites have proven rare to prospectors. The research conducted to date supports the assumption that the above-described extremely favourable situation, obviously a haven for centuries, even millennia, was not used continuously throughout the human occupation as a residential, work or burial ground. The dense vegetation in the present-day Lizq oasis, similar to many other oases in Oman does not support statements about the duration of the settlement at this site, to judge from the aerial photo interpretation and surface survey, including strolls through the present-day village of Lizq. As in the case of al-Moyassar *falağ* M46, at Lizq we can exclude lateral settlement shifts, which result from a drop in the water table over time which affects the subterranean *falağ* mechanics (cf. Weisgerber et al. 1981: 246 note 1).

While in the area of Samad and adjacent al-Moyassar aerial photography and surface

Fig. 7. Lizq fort to the south-east with row of bushes at mid altitude which show the position.

Fig. 8. To the south-west, the fort as it appeared prior to excavation.

Fig. 9. View from the fort toward the barren east-north-east area.

Fig. 10. Lizq fort to the south-south-west after the clearing of the Early Iron Age steps.

survey reveal cemeteries, settlements, individual graves, industrial zones and agricultural areas – and thus an irregular continuity use of oases by man since the 4th millennium B.C.E., such contexts for the whole area of the Lizq oasis are extremely rare. Neither could we locate by these same means further traces of settlement, let alone large associated cemeteries, which must have existed, since the oasis was in use for centuries. While on the mountain slopes around Lizq extensive Bronze Age standing tomb ruins (cairns) exist, they contrast numerically with those Iron Age ones in the field of the much smaller al-Moyassar oasis.

A fragment of a vessel made of soft rock picked up on the Lizq fort (Fig. 11, 5) remains from these cairn tombs. Missing are extensive nearby settlements, with a thriving agriculture,

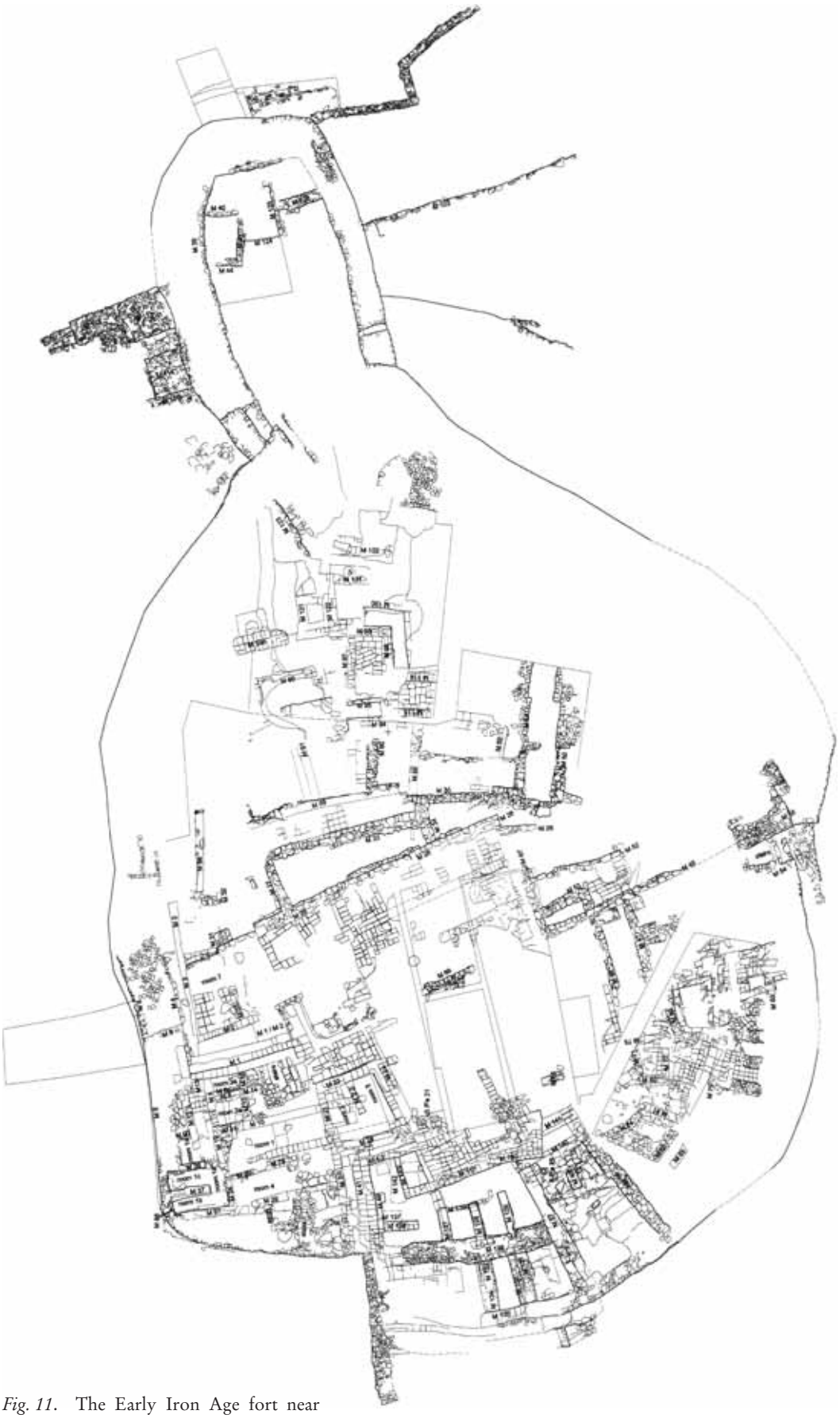


Fig. 11. The Early Iron Age fort near Salūt 4 km north of Bisyah village.

animal husbandry and handicrafts, which are virtually an existential pre-condition, as witnessed in any number of examples in the ancient Near East (Klengel-Brandt 1987: 16–34). Moreover, without nearby settlement the Lizq fort lacks a *raison d'etre* that characterises all prehistoric forts without exception, to serve in times of crisis the surrounding population as a place for protection and refuge. Possibly for the terminal Neolithic, in the area two larger seasonal settlements are known: Lizq L2 (Weisgerber et al. 1981: 252–253, Abb 96), in the plain immediately south of the mountain fort and site L3, 3 km south-west of it.

For this negative archaeological assessment there is an explanation, at least as far as the northern piedmont of the mountain in which the present-day oasis is concerned. The east-west mountain range on which the fort is located, stored subterranean water not only for centuries, but also fostered the deposition of wind and water-bourn sediments. Existing ancient structures were therefore covered by sediment over the centuries and thus escaped surface archaeological survey and traditional aerial photography. Ground Penetrating Radar or infrared aerial images, which are not yet available, could yield in this case possibly different results.

It is thus evident that apart from the fort itself and a few peripheral building fragments at the foot of the mountain, we do not expect to find the relics of the infrastructure. Simple reuse of the building stone, as is the case at ʿIbrī/Selme and other sites explains the lack of the free-standing tombs on the one hand and numerous grave goods on the other (Yule / Weisgerber 2001: 13 Fig. 7, an aerial view of the find area): This ready source of building material was a boon to the building of the nearby *aflāǧ* visible in the immediate area.

Sites comparable to Lizq L1 in south-eastern Arabia

Despite years of archaeological exploration in south-eastern Arabia, Early Iron Age forts such as Lizq are rare (see Table 1). At the time of its flourishing in the first millennium B.C.E. it can hardly have been unique considering the large number of known Early Iron Age sites. At least 149 of these are known in south-east Arabia (see the appendix), notwithstanding different ways of tallying them. Alone in and around old Izkī Jürgen Schreiber tallied in all 1041 sites of which 68 are Early Iron Age and several more less precisely Iron Age (2007: 124, 322–339). It was surely only a point, albeit an important one, in a whole network of settlements, forts, industrial areas, commercial centres and agricultural areas, all of which were related to each other, were interdependent and mutually interacted (Fig. 1). The state of research in south-eastern Arabia itself and in neighbouring Iran allows no detailed statements. It is likely that only after years of intensive research in these areas will we have a clear picture of the Early Iron Age. So with the material presented here, we take only a first step, which must be followed by many more.

At the time of its discovery, in south-eastern Arabia no settlement comparable in size and character, with Lizq had been published. The Early Iron Age fort at Salūt (Fig. 11), first dubbed BB-15, was known by its pottery, not by its architecture (Humphries 1974; Whitcomb 1975: 130 fig. 4, pl. 1b: mentions only Islamic period ceramic). Since 2004 the Salūt fort has been excavated for several seasons and thus is far more easy to characterise than is Lizq. The main building of Lizq L1 is nearly twice as large as the c. 100 m long Salūt fort. The contemporary forts in Zahra (Costa / Wilkinson 1987: 99–102) or Ḥuṣn Madhab (Corboud et al. 1990: fig. 9; Corboud et al. 1994: fig. 3–5) are much smaller. To judge from its 1.5 m thick walls, Hili H14 seems to have been a fort (Benoist 2010: 135). In all of south-eastern Arabia at the most 10 such hardly published are known. These include ʿAyn Humran (Zarins 2001: 118–122), ʿĀṣīmah (Vogt 1994: 139–140), Ḥuṣn Madhub (Schreiber 1998: 98), Ibrāʾ I052 (Schreiber 2007: 65), Ismaʾiyah (Yule / Weisgerber 1998), Nizwa N061 (Schreiber 2010: 86), al-Rafaq (Schreiber 1998: 77), Salūt (Avan-

zini / Phillips 2010), Samad al-Shān S1 and S7 (Yule 2001 I: 400), Ṭiwī (Schreiber 2010: 86) and Yitī (Schreiber 1998: 99). Evidently in the 1st millennium B.C.E. in Oman there was a real need to erect fortifications of this kind.

As a result of archaeological research in the west of south-eastern Arabia, especially in the United Arab Emirates numerous Early Iron Age settlements have come to light including Rumailah (Lombard 1985: 150–156), in Hili H2 (ur-Rahman 1978–79), in Ra's al-Khaimah (de Cardi 1976) and those elsewhere (in detail Schreiber 1998: 67–100). Cemeteries of this cultural level also have come to light in al-ʿAyn at al-Qusays (Department of Tourism and Antiquities 1975: 52-57) and within the large multiperiod cemetery of Samad S10, previously 'Maysar 9' and 'Samad 6' (Vogt 1981; Yule 2001 I: 231–286).

In 1983 the equation of Lizq L1 with the Early Iron Age was likely but still not entirely confirmed and it was expressed carefully as a first step in presenting excavation results (py). Then the distribution of Early Iron Age sites in Central Oman was still thin, only about a dozen sites are known from surface survey. In the following years new sites and their excavations filled out the picture. In the central part of the Sultanate such sites clustered. Aside from those on Maṣīrah island (Shanfari 1987), Lizq counts among the southernmost such sites in Oman. The Iron Age of the Ẓafār Governorate differs entirely from that of Central Oman.

In 1983 related pottery finds were limited to the area of Oman proper (for the various definitions for Oman see e. g. Yule 2001 I: 21), although soft stone bowls with Early Iron Age shapes, motifs and syntax enjoy a far wider distribution in the entire Gulf archaeological zone. But from neighbouring south-eastern Iran such finds have yet to appear. In the section on chronology we will encounter several synchronisms, in particular with the pottery production of Central Iran.

At the time of writing a single radiocarbon dating (HD-8526-8711, ^{14}C 2410 ± 80, re-calibrated to 571 ± 137 B.C.E. at the 68 % level of probability) had come to light in the nearby Late Iron Age grave in Samad, S101128, which contained a typical Late Iron Age bottle and cramps. Of these early excavated graves, S101130 also produced a dating of ^{14}C 2730 ± 50, calibrated 978–804 B.C.E. (Bln 2747). This Samad-type grave contained finger-rings and a hold-over Early Iron Age stone vessel. In the 1990s some 25 radiocarbon determinations also made from bone sampled from the Samad cemeteries proved to be largely contaminated (Yule 2009). The Lizq fort itself yielded a calibrated ^{14}C date made from charcoal of 990 ± 190 B.C.E. at the same probability level calibrates to 2770 ± 160, KN-3499). Further dating comparisons bolstered the chronology from Rumailah with more extensive contexts (summarised: Schreiber 1998: 85; Yule 2001 I: 149, 152). Among the most important for us are a pair of diverging thermoluminescense datings of pottery taken from trench T2 in the fort (Wagner / Yule in press):

Hd TL 12a1 390 ± 198 B.C.E.
Hd TL 12a2 1180 ± 250 B.C.E.

The ^{14}C determination and the two TL determinations correspond to with Early Iron II and III, although this informational basis for a chronology is very thin.

It should be mentioned that newer studies point out that P. Magee's tripartite scheme, Early Iron Age I–III, requires some explanation. Early Iron Age I occurs mostly at coastal sites in the Emirates (Schreiber 2010; Phillips 2010: 71–74). Some of the earliest radiocarbon datings for the Early Iron Age derive from Salūt and derive from the Iron II phase (Phillips 2010: 71–74).

Research regarding Lizq

In 1979, Shaikh Hamdan al-Harthi of Samad, led G. Weisgerber to the Lizq fort. In this and the following year the fort area we made surface collections on several occasions to the extent possible, and the ruins were mapped. Among the different activities of the expedition in 1981, the mapping was concluded. The

most important part of the campaign of 1981 was the excavation of the large trench, T1, on the northern face of the mountain fort, which included the entire staircase. Additionally, within the defences on the south-eastern side of the plateau, we laid a small trench, T2, as a control for the stratigraphy of the larger trench. We consolidated the staircase with the resources available to hinder erosion.

The finds of both excavations and from the surface collecting consisted mostly of pottery shards. In addition, fragments of soft stone vessels and small finds occurred, for example terracottas, shell beads and a copper fragment. The entire body of finds from the excavation and the surface surveys made at first a homogeneous impression. Later different building campaigns, and advances in the study of pottery showed Lizq to date to Early Iron II and possibly III.

The author cleaned, drew and photographed all of the finds which appear below. In the same fashion, by means of aerial photos and terrestrial surveying the non-excavated visible features were mapped. Although all of the finds encountered can be catalogued, in the case of the fortification plans the time by no means allowed the plan mapping of all of the individual architectural features. A thoroughgoing architectural survey of the mountain fort even without the excavation would yield far more contexts.

In the specialist literature regarding the Gulf, the Lizq fort appears on most maps of Iron Age sites, but is rarely discussed (Lombard 1985: 145, fig. 57, 78, 92, 99; Schreiber 1998: 94–6). A sparsely commented, low resolution plan of Lizq appeared in a CD publication (Mouton / al-Tikriti 2001) which belongs to the rare *incunabulae* of our discipline. The documentation for most our Bochum (later Heidelberg) Samad – al-Moyassar expedition still resides with the German Mining Museum and until it is published, we will have to rely on the pottery documentation below at least for the Early Iron Age.

Since more colleagues work in the UAE than in the Sultanate, there is more literature for that region. Frequently, our colleagues apply their results to Oman even at the cost of ignoring the situation on the ground there.

Chronology of the pottery and small finds from Lizq

The pottery and small finds since the discovery of Lizq are presented in Fig. 12 to 29. All of the finds, be they strays or excavated, are reproduced together. As necessary, the find situation is given for the different artefacts.

Soft stone bowls (Fig. 12)

All of the fragments of stone bowls found in Lizq until 1982 appear in Fig. 12. These fragments reveal several different vessel types. Aside from bowls with plain rims there is a small vessel with inset rim and globular vessels. Striking are the two fragments of large flat bowls with nearly vertical rims (Fig. 12, 8–9). Owing to their large size, both depart from the Early Iron Age norm at Lizq. From this same epoch in south-eastern Arabia or in the Gulf region such large soft stone vessels occur seldomly. Only in a grave at al-Qusays is such a vessel known that formally resembles only one of the bowls found here (Lombard 1979: pl. lxvii.35). Although soft stone vessels may have thin walls, the two fragments found at Lizq and the vessel from al-Qusays have walls which are twice as thick as usual. The surface decoration of Early Iron Age vessels is simple and frequently hurried. Parallel or converging lines may be lightly scratched. Some show hatching or scratches in triangles. Beside simple zigzag lines motifs of true zigzags also occur. Aside from the two aforementioned large shards, soft stone bowls with such decoration are not limited to south-eastern Arabia but occur in different parts of the Gulf (Lombard 1979: 80–98).

The decoration of one soft stone vessel deviates from the others – a small nearly spherical bowl with circular drill ornament (Fig. 12, 5). It turned up on the surface of

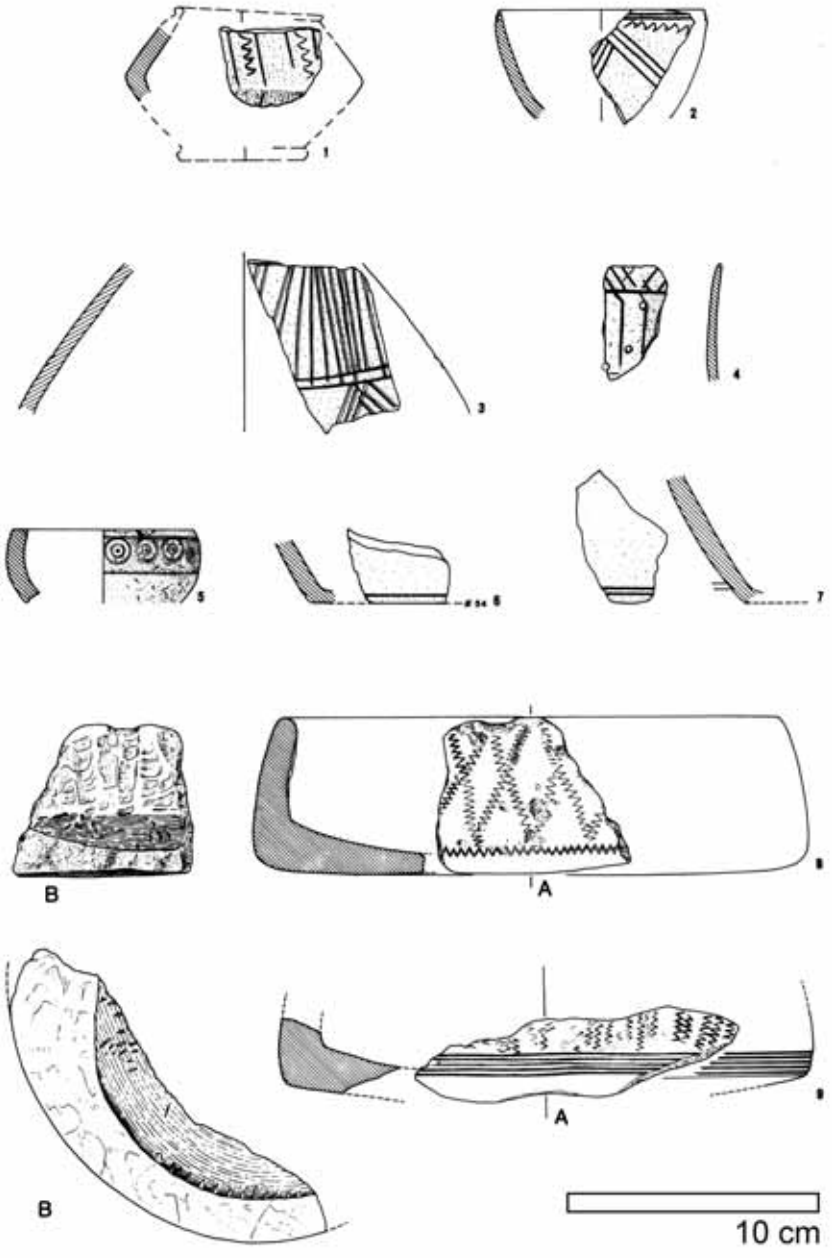


Fig. 12. Fragments of stone bowls from Lizq (1 = DA 5307, 2 = DA 5305, 3 = DA 5303, 4 = DA 5304, 5 = DA 5334, 6 = DA 4295, 7 = DA 5318, 8 = DA 4200, 9 = DA 4201).

the mountain fort and dates, to judge from comparable finds to the 3rd millennium B.C.E. (Weisgerber et al. 1981: 211–217). As at other sites, here one might fantasise that it is all that remains of a 3rd millennium tomb that yielded to the architects of the fort. There is no reason to consider this vessel to date in the 1st millennium B.C.E.

Terracottas (Fig. 13)

At the time of writing three terracotta finds were known, two of which are surface finds. One of them appears to be a bull's head, the other is a small lion. In the excavation trench T1 on step 74, that is just on the step blockage (see below) a camel figurine also came to

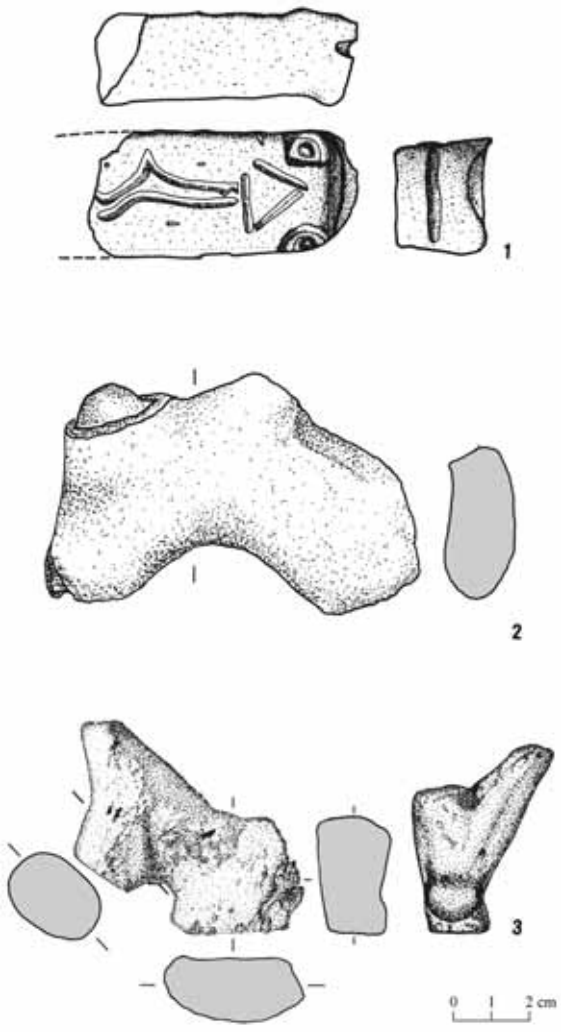


Fig. 13. Fragments of terracottas from Lizq (1 = DA 2122, 2 = DA 5311, 3 = DA 4297).

light. Two further fragments may also be a figure or pottery shards. They may be animal feet (Fig. 25, 14–15).

Jewellery (Fig. 14)

Trench T1 yielded three flat shell beads, which evidently are numerous in the first millennium B.C.E. This is suggested by finds at Tepe Sialk (Ghirshman 1939: pl. XCV.21–23) and Pasargadae in Iran (Stronach 1978: fig. 102.9). In addition a calcite pendant came to light in T1. From the surface of the fort also a smaller calcite pendant occurred. One might take this to represent a ray-shaped ornament or an abstract caprid. The wide stringhole can be understood as use-wear over a long period. The undecorated piece may be half-finished which later was to be decorated.

Metal find (Fig. 14)

A negative surprise is that at Lizq little metal survived. This is surprising given Oman's metal richness. At the time of writing, only a small piece of copper sheet metal is known, perhaps a mutilated arrowhead (Fig. 14, 6).

Stone finds (Fig. 15)

The surface of the Lizq fort yielded numerous pounding stones of diverse kinds of stone. Reproduced here the reader will find stones excavated from T1 from the fill of the blocked step. Several consisted of limestone and gabbro. Two door pivot stones also came to light of limestone. One of these pivot stones appears to be a fragment of a broad rubbing surface; after breaking, it found a second use.

The pottery (Fig. 16–29)

Surface survey and excavation produced c. 2000 pottery shards. C. 400 of these yield significant information. These rim fragments and body shards show either painting, scratched orna-ment or applied decoration. Many of these are simple hori-zontally positioned handles identical in form, but different in size. Not counted, since they are homogeneous, were vessel bases. Our sample included plain, flat bases of varying size of little value for making chronological distinctions. A more exact cataloguing showed that they are more heterogeneous than we thought at first. Pottery category to cate-gory in fact shows considerable differences, for example in the kind of painting and quality of the clay. But the shared characteristics outweigh the differences. Most of the pottery is hand-made or produced by means of a slow-turning wheel. On the strength of our shard sample and with-

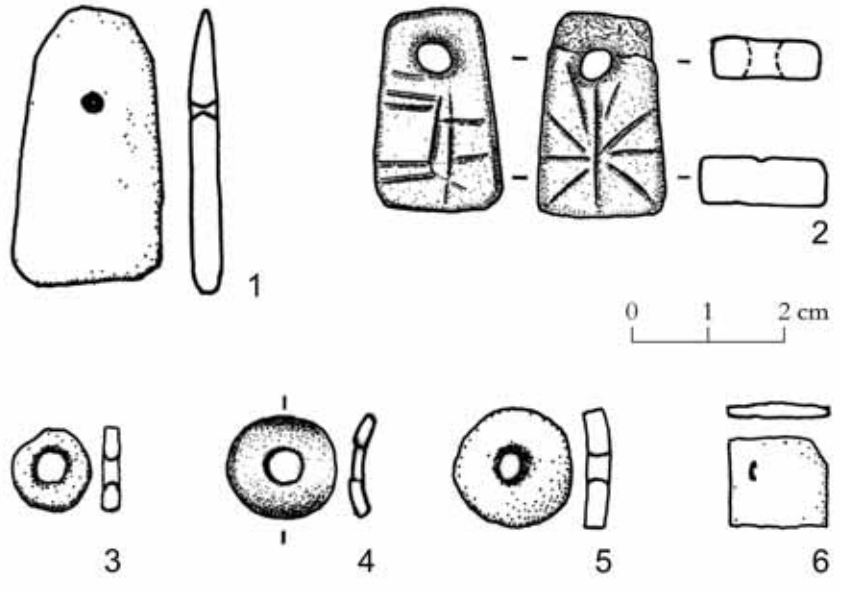


Fig. 14. Jewellery (1–5) and a copper fragment from Lizq (1 = DA 5303, slate; 2 = DA 4096, calcite; 3–5 = DA 5308, DA 5309, DA 4306, shell; 6 = DA 4296, copper).

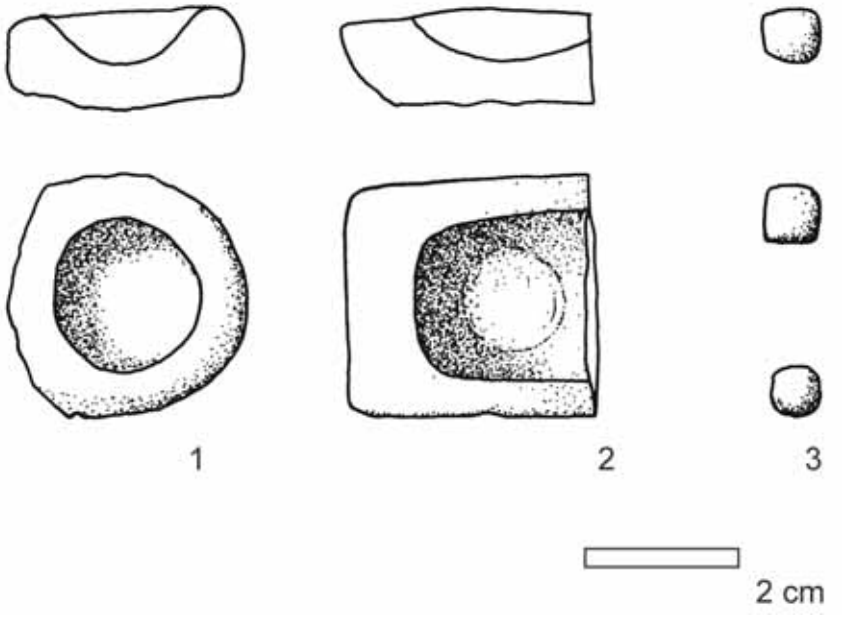


Fig. 15. Stone artefacts from the fill layer of the blocked staircase in Lizq, all of the finds are light-coloured limestone.

out study of a ceramicist, this cannot always be determined with absolute certainty. The pottery is tempered with dark and light sand and tiny stone additives. In general it seems to hold that the size of the vessel correlates with the coarseness of the temper.

This is obvious in the case of small bowls and large storage vessels. The overall impression at Lizq is a coarse hard-fired ware. The colour of the pottery is mostly a reddish brown with variants including yellow, brick red, dark and middle brown. Several kinds of vessels show

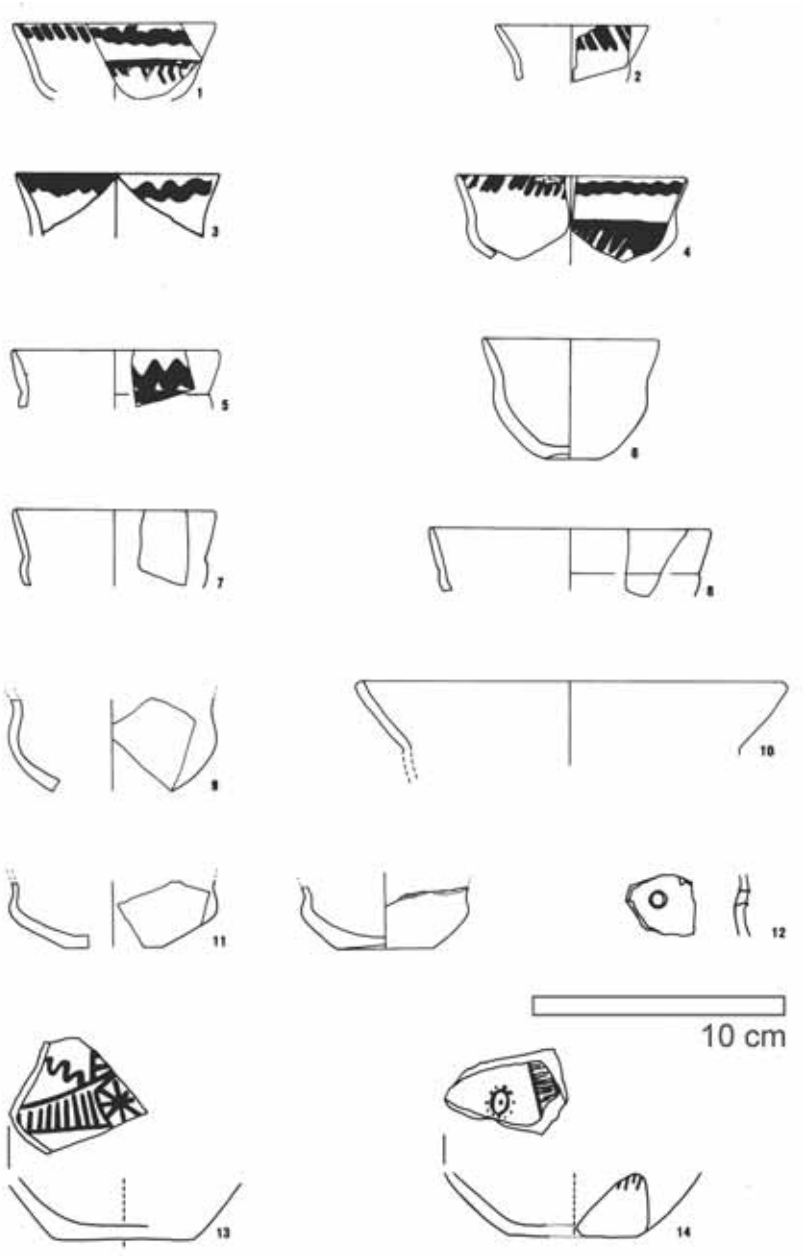


Fig. 16. Pottery from Lizq (wheel-turned are 3, 4, 5, 6, 8, 10, 12; hand-made are 13, 14).

	fineness	**clay colour**	**surface treatment**
1	very fine	reddish brown	red brown paint, wet-smoothed
2	very fine	reddish brown	interior red brown paint, wet-smoothed
3	very fine	orange brown	dark red paint, wet-smoothed
4	very fine	reddish brown	red brown paint, wet-smoothed
5	very fine	reddish brown	red brown paint, wet-smoothed
6	fine	reddish brown	wet-smoothed
7	very fine	light red	wet-smoothed
8	very fine	light red	wet-smoothed
9	fine	reddish brown	wet-smoothed
10	fine	reddish brown	wet-smoothed
11	fine	red brown	wet-smoothed
12	medium fine	light brown	not wet-smoothed
13	fine	reddish brown	interior red brown paint, wet-smoothed
14	fine	orange brown	dark brown paint, wet-smoothed

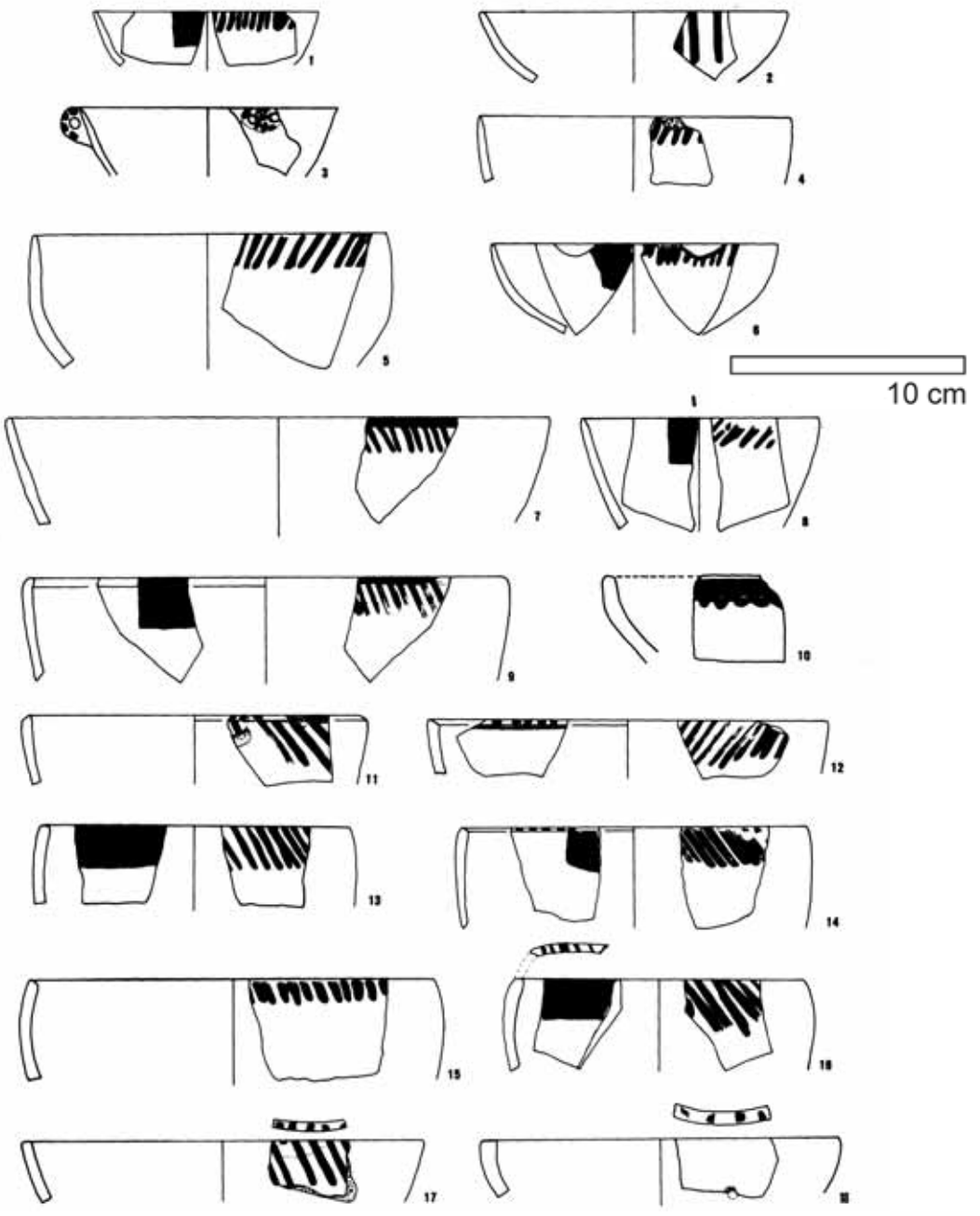


Fig. 17. Pottery from Lizq (wheel-turned are 2, 4, 6, 8, 12, 15, 16, 17).

	fineness	clay colour	surface treatment
1	very fine	reddish brown	reddish brown paint, wet-smoothed
2	fine	reddish brown	reddish brown paint, wet-smoothed
3	fine	reddish brown	reddish brown paint, wet-smoothed
4	fine	brown	reddish brown paint, wet-smoothed
5	medium fine	reddish brown	reddish brown paint, wet-smoothed
6	very fine	reddish brown	reddish brown paint, wet-smoothed
7	medium fine	brown	reddish brown paint, wet-smoothed
8	fine	reddish brown	dark brown paint, hardly wet-smoothed
9	fine	reddish brown	reddish brown paint, wet-smoothed
10	medium fine	orange brown	reddish brown paint, wet-smoothed
11	medium fine	reddish brown	reddish brown paint, wet-smoothed
12	medium fine	reddish brown	reddish brown paint, wet-smoothed
13	fine	reddish brown	reddish brown paint, wet-smoothed
14	fine	reddish brown	reddish brown paint, wet-smoothed
15	fine	reddish brown	reddish brown paint, wet-smoothed
16	fine	reddish brown	reddish brown paint, wet-smoothed
17	fine	reddish brown	reddish brown paint, wet-smoothed
18	medium fine	reddish brown	reddish brown paint, wet-smoothed

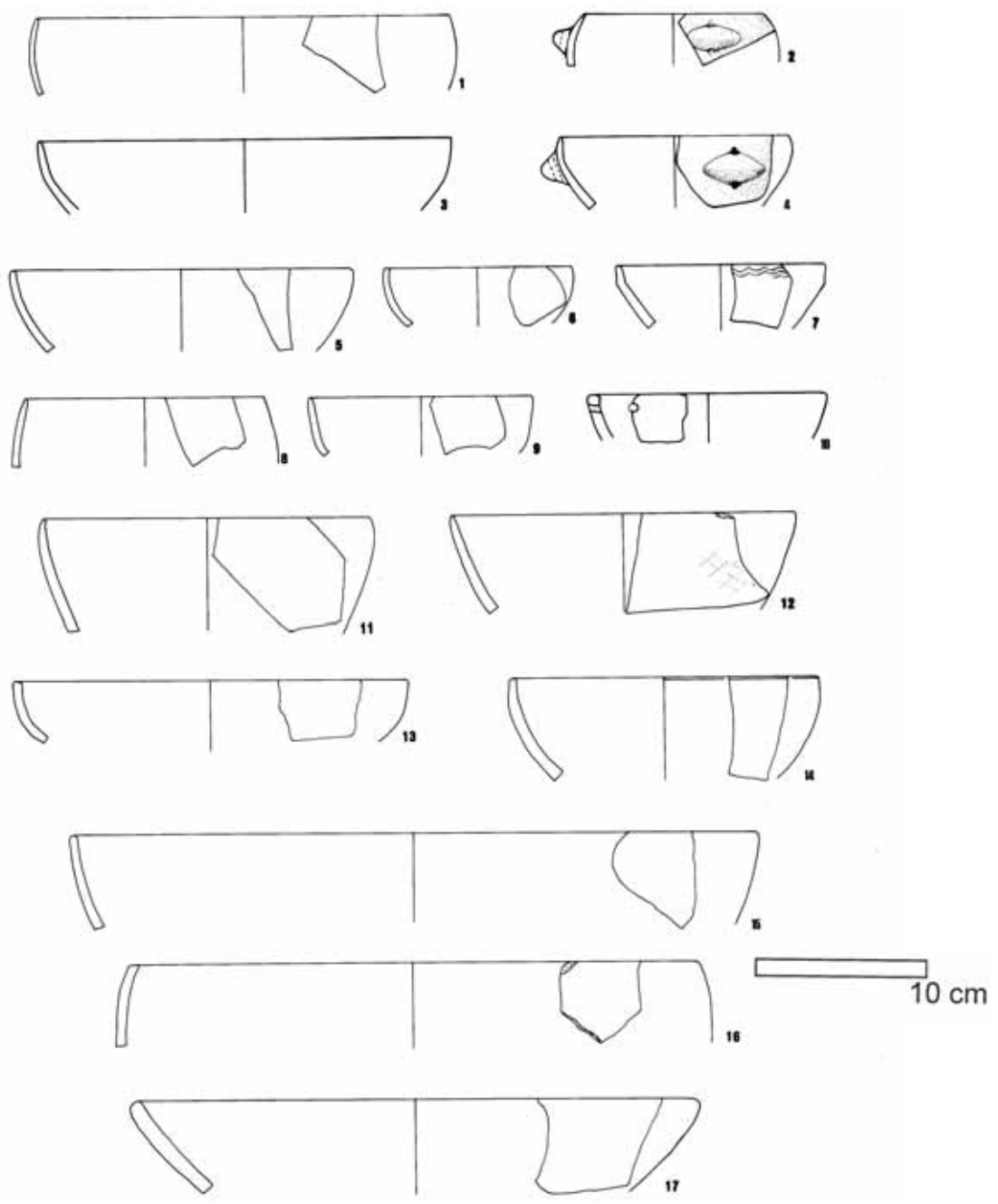


Fig. 18. Pottery from Lizq (wheel-turned are 1, 6, 8, 13, 15).

	fineness	clay colour	surface treatment
1	fine	red brown grey	wet-smoothed
2	fine	red brown	dark grey slip, wet-smoothed
3	medium fine	grey red brown	wet-smoothed
4	fine	red brown	grey black slip, wet-smoothed
5	fine	red brown	dark grey slip, wet-smoothed
6	medium fine	red brown	dark grey slip, wet-smoothed
7	very fine	grey brown	traces dark grey slip inside, scratched decoration
8	medium fine	grey brown	dark grey slip, wet-smoothed
9	fine	reddish brown	dark grey slip, wet-smoothed
10	medium fine	reddish brown	wet-smoothed
11	fine	grey brown red	wet-smoothed
12	fine	reddish brown	dark grey slip, wet-smoothed
13	fine	reddish brown	wet-smoothed
14	medium fine	grey reddish brown	wet-smoothed
15	medium fine	grey red brown	wet-smoothed
16	fine	dark brown	polished
17	medium fine	grey brown	wet-smoothed

untreated or dull painting. This painting ranges from dark red and dark brown to brown-black tones. 15 % of the pottery at Lizq is painted as opposed to 0.8 % at Rumailah during its phase 1 (Kroll 1991: 315). The majority of the pottery was wet-smoothed. A good burnishing, not to mention polishing, is not in evidence. Taking into consideration other find-spots in south-eastern Arabia, the impression arises that the bulk of the pottery was locally produced (G. Weisgerber, oral information). Pottery which Weisgerber recovered at al-Rākī was in form and decoration very similar with that at Lizq, although the fabric is different. He had this same impression regarding pottery from the United Arab Emirates, from Rumailah, Hili H2, Qarn Bint Saʿūd as a result of a study trip which he took in 1983. In the case of some, such as the small funnel-necked bowls, imports may occur. But it remains uncertain from which place such imports might have originated since such investiga-tions are yet to be carried out.

At Lizq the following vessel categories can be distinguished: shallow bowls, bowls, slightly globular bottles, a few globular vessels and large ovoid storage vessels. In addition, there are special forms. The different types and vessel categories which appear in the Fig. 15 to 28 correspond in their number of the relations in the entire body of pottery.

In the case of bowls, few different types can be distinguished. Simple shallow bowls with pulled out rim (Fig. 16, 2. 6) contrast with deeper examples (Fig. 18, 1) and so-called funnel-rim bowls (Fig. 16). Such bowls can be painted inside as well as outside. The painting patterns on shallow bowls and bowls are limited to a few motives. Common are parallel, vertical or slightly slanting stripes outside at the rim. Aside from this there are wavy lines and occasionally painted stripes close to the rim itself. The painting on the bowl interiors is limited to rectangular small surfaces beneath the rim or in one case a radiating motive on the interior of a bowl (Fig. 16, 13). If the bowl rim is somewhat thicker, a dot and dash ornament is possible on the rim (Fig. 17, 18). Untreated and painted bowls rarely may have an eyelet grip (Fig. 17, 3). Similarly, a series of small globular pots are painted which have a slight pouring lip. There are also other variant patterns including cross hatching, variants on the 'running dog' and circles with a centre point (Fig. 21, 8. 10). While in the case of the bowls the painting ranges mostly in the rim zone, one gets the impression that a larger proportion of the vessel bodies are painted. Fig. 21, 2 forms an exception with a scratching pattern outside on the rim in place of paint.

While the untreated and painted small bowls as well as funnel-rim bowls are mostly of a finer or much finer fabric, this does not hold for the majority of larger bowls within the repertory at Lizq. Clearly these bowls (Fig. 20) resemble those just described, but show little painted or other decoration. Characteristically their rims terminate mostly flat. In some cases this flatly trimmed rim is expanded to a slight rim lip (Fig. 20, 3). A further kind of bowl appears as fragments which possess a so-called nail-head rim which splays both in and outwardly horizontally (Fig. 19, 1–3). It is clear that with this type paint occurs both in and outside. As with the small bowls, also here the painted pattern is limited. In addition to parallel stripes wavy lines also occur. Instead of painting, similar examples also bear similar scratched patterns (Fig. 19, 5). Such bowls with rim lips extending inside and out or others with a thickened rim can reach an impressive size, as Fig. 19, 9 testifies to. The bowl in Fig. 19, 11 is unique at Lizq, with its rounded thickened rim. But in large areas of the Middle East it is one of the key types for the first ½ of the 1st millennium B.C.E. (Hausleiter 1996: Taf 95, 100–102; Kroll 1976: 122–127, Typ 30–44).

Vessels with larger capacity are composed almost exclusively of bottles. It is striking that, compared to others regions at approximately the same time in the ancient Near East vessel forms, commonly characterized as pots, are nearly absent (Fig. 24, 17–20; Stronach 1978: fig. 119–120). The lack of this shape could

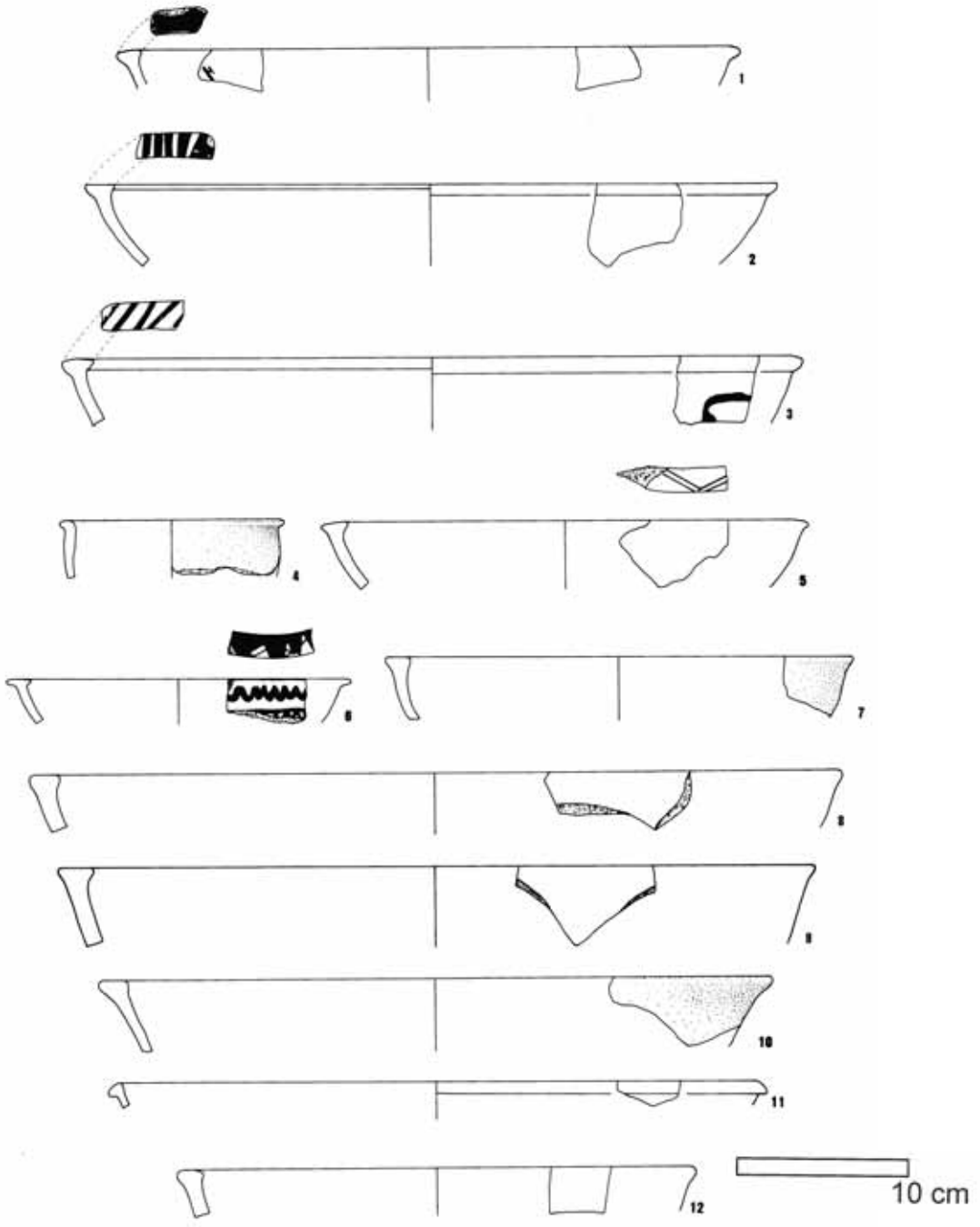


Fig. 19. Pottery from Lizq (wheel-turned are 2, 8, 9, 11).

	fineness	clay colour	surface treatment
1	medium coarse	reddish brown	red brown paint on rim, wet-smoothed
2	medium coarse	reddish brown	red brown paint on rim, wet-smoothed
3	medium fine	reddish brown	red brown paint on rim, wet-smoothed
4	medium coarse	brown	wet-smoothed
5	medium coarse	red dark brown	wet-smoothed, scratched decoration on the rim
6	medium coarse	reddish brown	wet-smoothed, scratched decoration on the rim, interior and on rim red brown
7	medium coarse	brown	wet-smoothed
8	medium coarse	reddish brown	wet-smoothed
9	medium coarse	reddish brown	wet-smoothed
10	medium coarse	orange brown	wet-smoothed
11	medium fine	brown	not wet-smoothed
12	medium fine	reddish brown	wet-smoothed

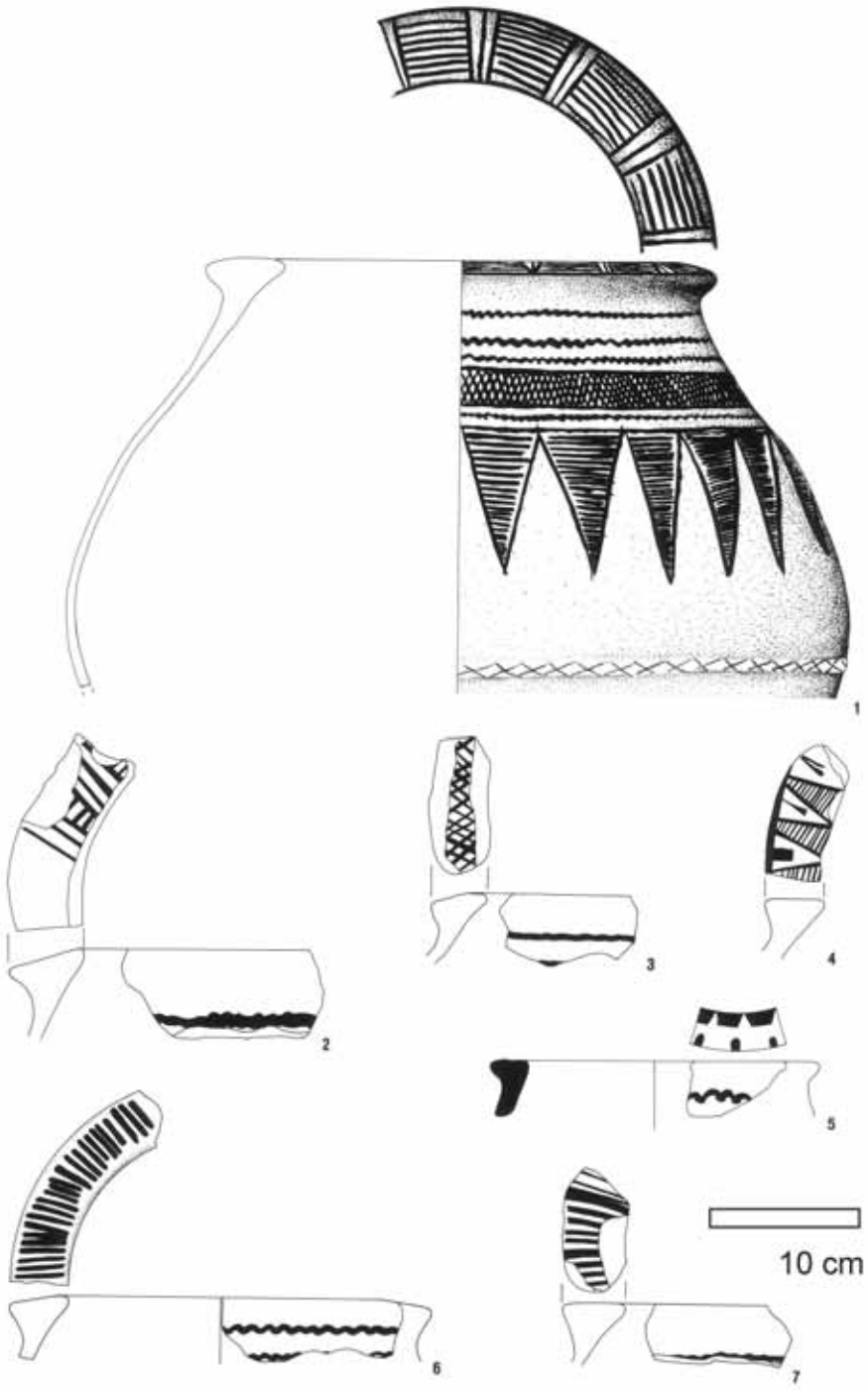


Fig. 20. Pottery from Lizq.

	fineness	clay colour	surface treatment
1	medium coarse red brown, grey brown	reddish brown, dark red irreg. paint	wet-smoothed
2	coarse	brown	wet-smoothed, ext. red brown slip, on rim dark red paint
3	coarse	red brown	wet-smoothed, dark red paint
4	coarse	yellow red brown	wet-smoothed, red brown paint
5	coarse	light red	wet-smoothed, red brown paint
6	coarse	red brown	wet-smoothed, brown black paint
7	coarse	dark brown	wet-smoothed, brown black paint

In the case of 2–4, 6 use-wear is visible.

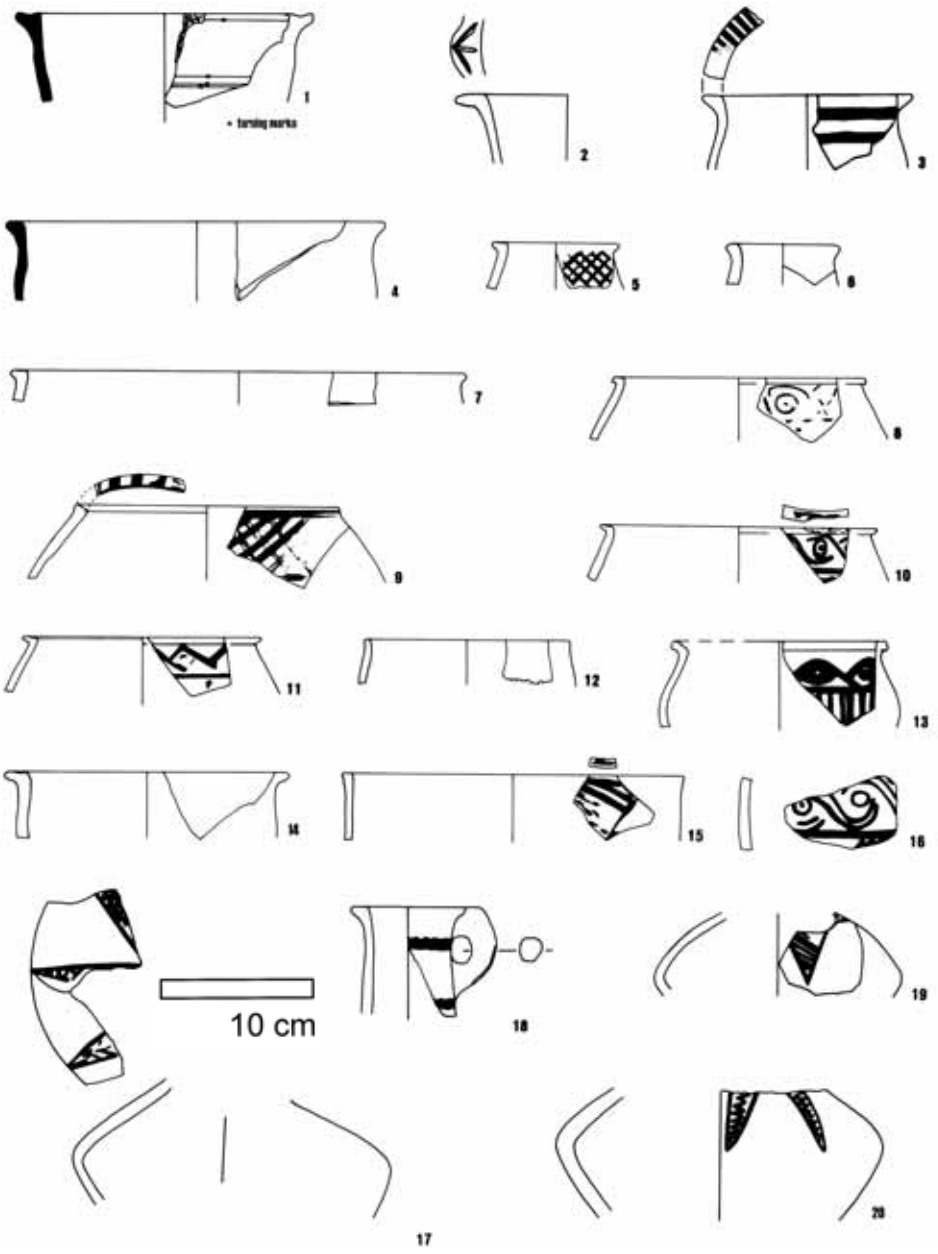


Fig. 21. Pottery from Lizq (wheel-turned are 4, 14).

	fineness	clay colour	surface treatment
1	medium coarse	reddish brown	wet-smoothed
2	medium fine	reddish brown	wet-smoothed, decoration scratched on rim-grip
3	medium fine	light red	wet-smoothed, ext. and on rim dark red paint
4	medium fine	reddish brown	wet-smoothed, turning traces
5	fine	brown	wet-smoothed, red brown paint
6	medium fine	reddish brown	wet-smoothed, dark red slip
7	medium coarse	reddish brown	wet-smoothed
8	fine	reddish brown	wet-smoothed, red brown paint
9	medium fine	reddish brown	wet-smoothed, red brown paint
10	fine	reddish brown	wet-smoothed, red brown paint
11	very fine	reddish brown	wet-smoothed, red brown paint
12	medium fine	reddish brown	untreated, sieve
13	very fine	orange brown	wet-smoothed, dark brown
14	fine	orange grey brown	wet-smoothed
15	fine	reddish brown	wet-smoothed, red brown paint
16	medium fine	ochre brick red	wet-smoothed, red brown paint
17	medium coarse	reddish brown	wet-smoothed, brown black paint
18	medium coarse	ochre reddish	wet-smoothed, red brown paint
19	medium fine	red brown	wet-smoothed, dark brown paint
20	medium coarse	yellow brown orange	dark brown painted

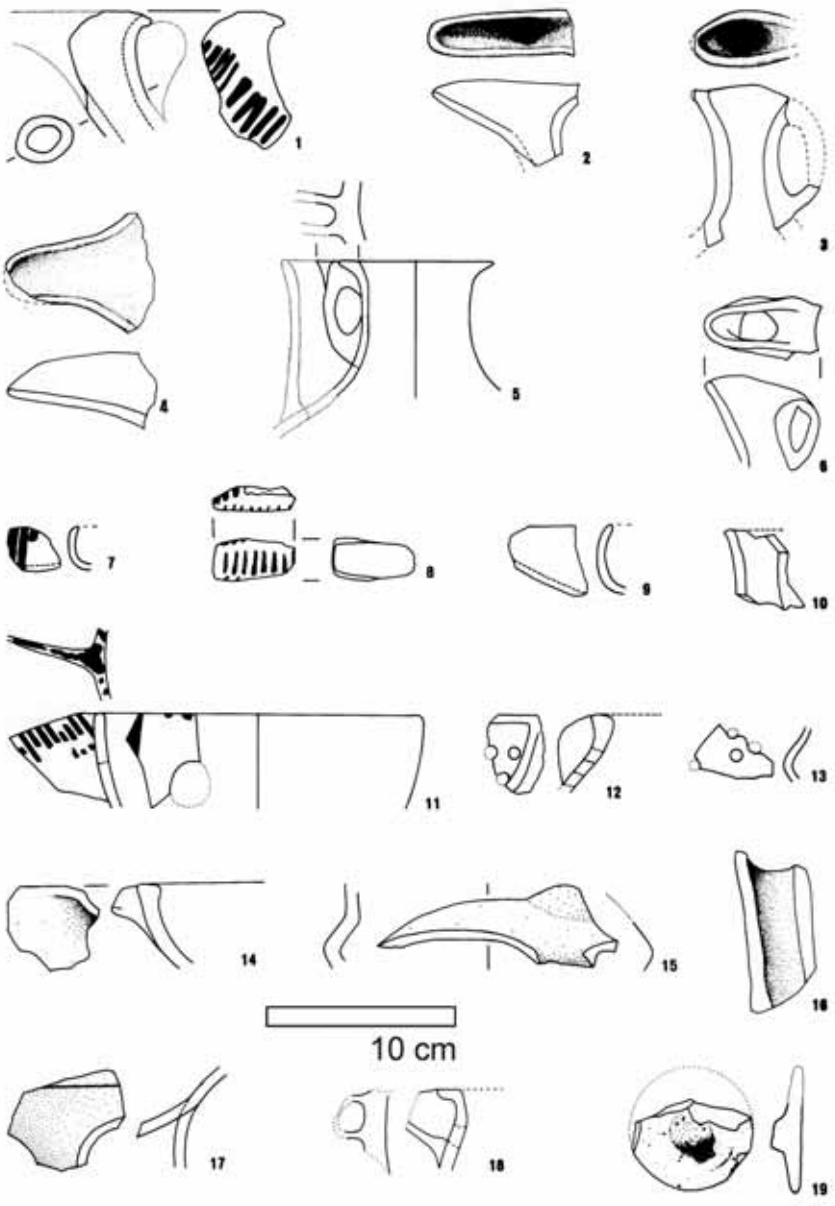


Fig. 22. Pottery from Lizq (wheel-turned is 11).

	fineness	clay colour	surface treatment
1	medium fine	light red brown	wet-smoothed
2	fine	dark grey	slightly wet-smoothed
3	medium fine ext. grey brown	int. reddish brown	wet-smoothed
4	fine	orange red brown	wet-smoothed
5	medium fine	orange brown	wet-smoothed
6	medium fine	light reddish	wet-smoothed
7	fine	orange brown	wet-smoothed, red brown paint
8	fine	orange brown	wet-smoothed, red brown paint
9	medium fine	orange brown	untreated
10	medium fine	red brown	wet-smoothed
11	medium fine	light red brown	wet-smoothed, dark red brown paint
12	fine	orange brown	wet-smoothed
13	fine	orange brown	wet-smoothed
14	medium fine	orange brown	wet-smoothed, int. dark brown slip
15	medium fine	orange brown	wet-smoothed
16	medium fine	orange brown	wet-smoothed, red brown paint
17	medium fine	grey brown	wet-smoothed
18	medium fine	light red brown	wet-smoothed
19	medium coarse	reddish brown	wet-smoothed

well reflect the preference of the date farmers of the 1st millennium in the context bring, as Manfred Kunter proved using skeletal, especially dental remains from al-Moyassar and Samad (1981: 249). We also take the shards of globular vessels to be pots, with thickened inwards turned rims (Fig. 25, 6. 7). In the latter example, once the rim is painted, in the former it is gouged. Especially for these two vessels in Lizq unique, there are parallels in Hili (Schreiber 1995: 18, fig. 4; Lombard 1979: pl. xliii) and Rumailah (Lombard 1979: pl. xlv 161) as in Iran (Edwards 1981: 127 fig. 17, 1–24), but there in older times, in the 2nd millennium. A mere five copies of a vessel type occurred which can be described as a bottle or perhaps a pot with an inset for the lid. With one exception, all of these examples are scratch-decorated or partly, richly painted (Fig. 25, 1–5).

Within the category of bottles (Fig. 23–24) only neck and rim fragments are identifiable. In addition to fragments with a distinct outer rim lip there are bottles with an outwardly flaring rim (Fig. 23). With this vessel shape painting is relatively rare. However, one or more of the painted body shards could well have belonged to such a bottle (possibly Fig. 26, 10). As in the case of a complete example of a bottle in the barricade of the large staircase on the north slope of the Lizq fort, countless handles can be associated with these bottles, which were horizontally mounted respectively on the body and turned upward vertically (Fig. 23, 1). Obviously, bottles of various sizes were fitted with four such vertical handles. Since these handles are barely useful to really lift, and one must simply assume that they served as a support for strings. It can be assumed that this genus on the whole served as water containers, similar to related vessel types such as are still in use in Oman. From the repertoire of the bottles, to judge from their fabric a number of grey to dark grey fragments form a group (Fig. 24). All these vessel fragments possess an upwardly curving long rim and are fired intentionally dark grey or have a grey slip. They differ from the reddish or brownish other bottles that correspond with the general fabric and production details of the ceramic.

Storage vessels found in Lizq belong almost all to the same type. As opposed to rare wide-open/bowl-shaped storage vessels (Fig. 28, 14–17), ovoid storage vessels are the norm. (Fig. 28–29). The rim lips are homogeneous in shape, although no signs of mass production were evident. At many sites the incised or comb-incised pattern are visible just below the rim lip. To these storage vessels we can attribute countless body shards with applied decoration, whether they be raised bands with wavy lines, zig-zag or parallel grid patterns that have been scratched into the wet clay. Alongside incised patterns, these storage vessels also show elaborate painting: On the rim itself or on the upper half of the vessel exterior, as shown in Fig. 27. In contrast to the untreated storage vessels, one can determine clear signs of use-wear inside and outside of the rims of painted storage vessels. As stated above, all storage vessels have been fashioned much coarser in terms of the quality of the clay. Sometimes centimetre-large pebbles occur in the clay.

A number of special forms are in the evidence in Fig. 21, 22 and 25. Unfortunately, the individual vessel shapes remain a matter for speculation. The fragments shown in Fig. 21, 17. 19. 20 could perhaps once have belonged to an *askos*. While for *askoi* in south-east Arabia so far no parallels are known, they do turn in Iran and Anatolia in Iron Age III (Kroll 1976: 143), although they are missing in Babylonia and Assyria (for the negative evidence cf. Hausleiter 1996). Several fragments from small stand-feet, in part painted, indicate the occurrence of goblets (Fig. 25, 14. 15). Body shards with sieve holes suggest complete sieve vessels (Fig. 22, 13). A number of spouts of different shapes indicate both bowls pots with spouts (Fig. 22, 11. 18). In addition to simple spouts there are those with sieves (Fig. 22, 12). Fragments of further beaked spouts further indicate the presence of beaked pitchers in Lizq (Fig. 22, 1–2). In addition, there are vertical spouts in various forms (Fig. 22, 3. 5. 6).

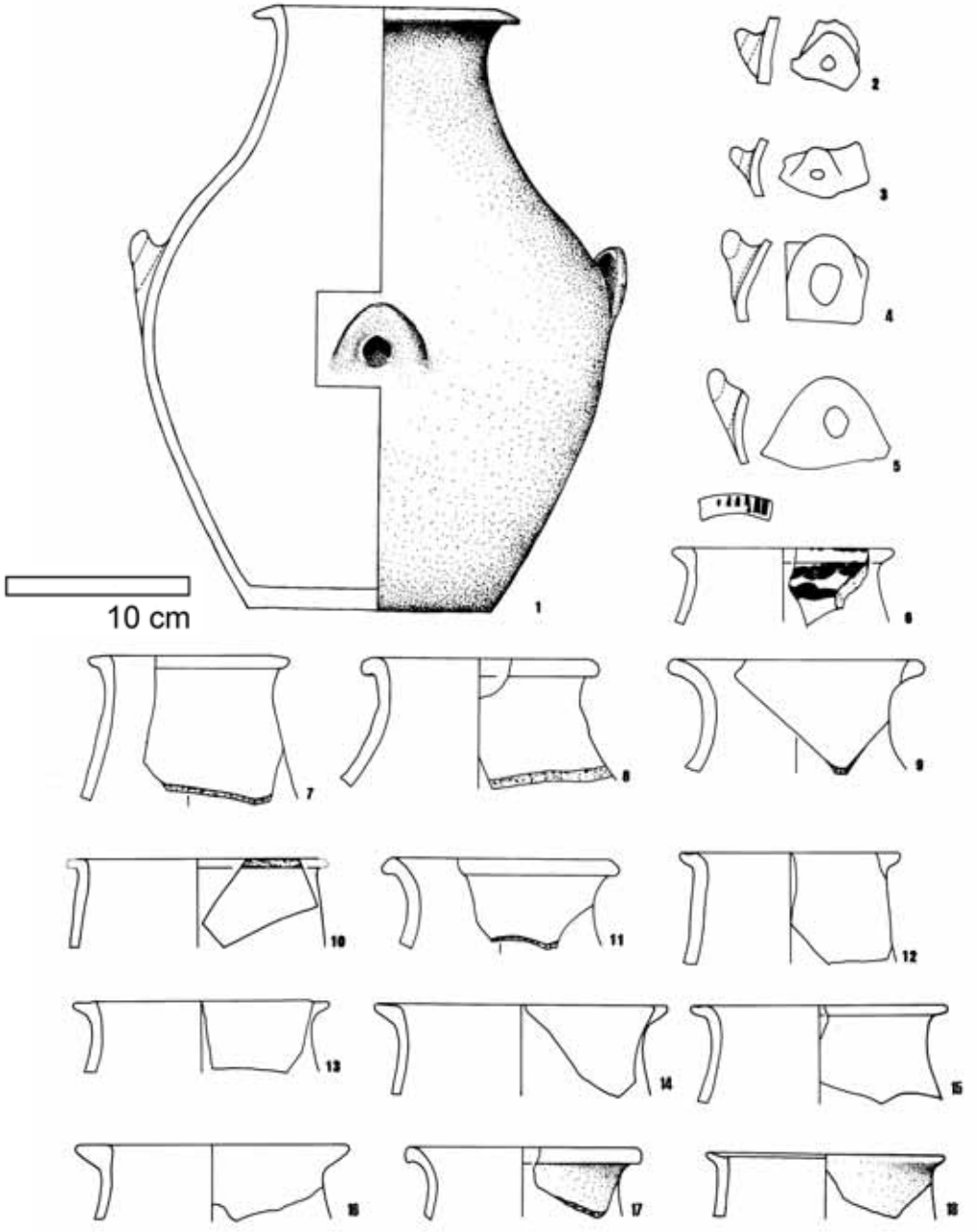


Fig. 23. Pottery from Lizq.

	fineness	clay colour	surface treatment
1	medium coarse white grey brown brick red	reddish brown	wet-smoothed or irreg. hand-burnishing visible
2	medium coarse	orange brown	wet-smoothed
3	medium fine	yellow brown orange	wet-smoothed
4	medium coarse	orange brown	untreated
5	medium coarse	reddish brown	wet-smoothed
6	medium coarse	reddish brown	wet-smoothed, dark red paint
7	medium coarse	reddish brown	wet-smoothed
8	medium coarse	reddish brown	wet-smoothed, traces light brown slip
9	medium coarse	reddish brown	untreated
10	medium coarse	reddish brown	wet-smoothed, grey brown slip
11	medium coarse	reddish brown	wet-smoothed
12	medium coarse	reddish brown	wet-smoothed, grey brown slip
13	medium coarse	reddish brown	wet-smoothed
14	medium coarse	reddish brown	wet-smoothed
15	medium coarse	brown	wet-smoothed
16	medium coarse	brown	wet-smoothed, grey brown slip
17	medium coarse	brown	wet-smoothed
18	medium coarse	brown	wet-smoothed, grey brown slip

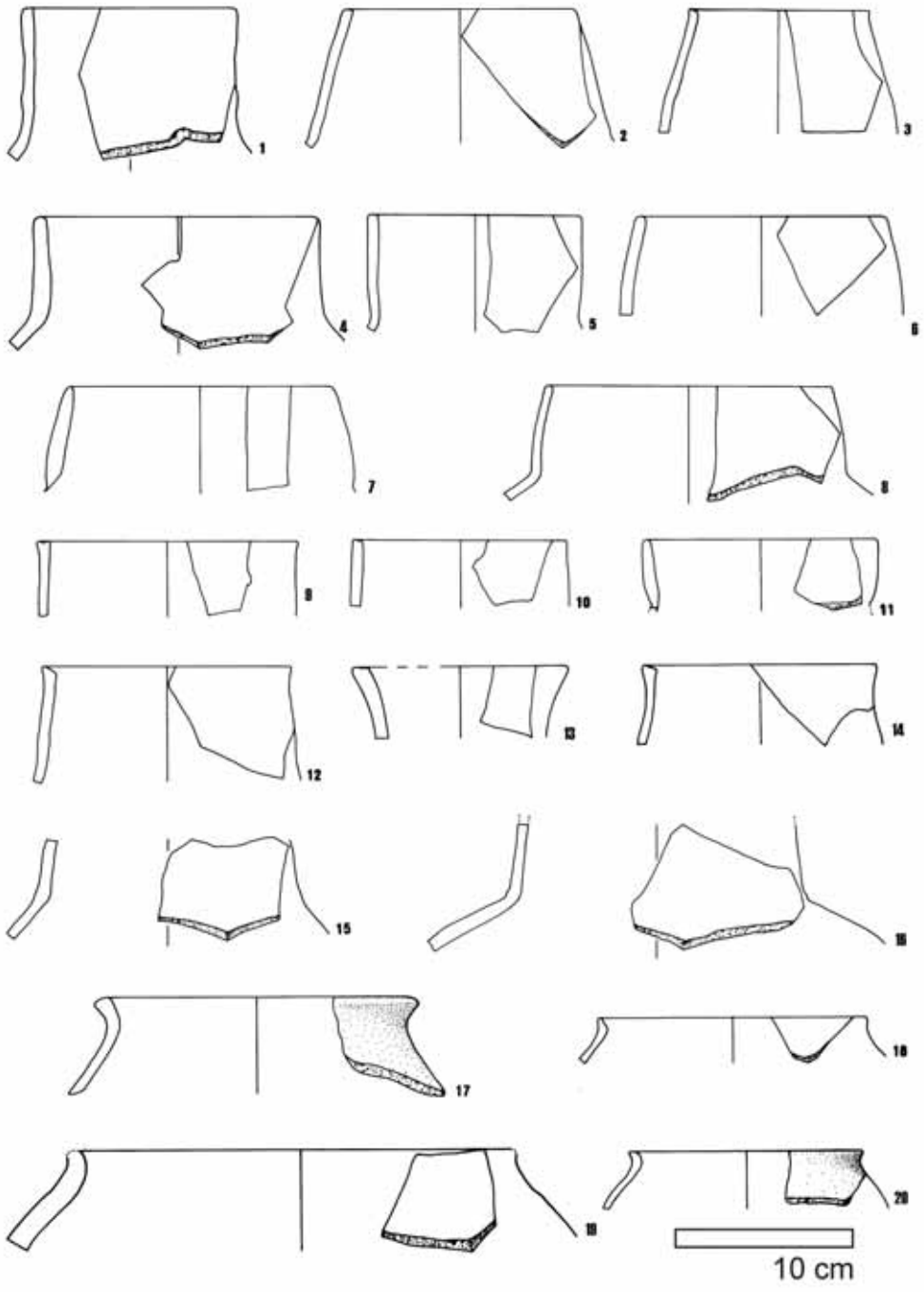


Fig. 24. Pottery from Lizq.

	fineness	clay colour	surface treatment
1	fine	reddish brown	wet-smoothed, grey black slip
2	medium fine	reddish brown	wet-smoothed, grey slip
3	medium fine	reddish brown	wet-smoothed
4	medium coarse	red brown	untreated
5	medium fine	red brown	wet-smoothed
6	medium fine	reddish brown	wet-smoothed
7	medium coarse	grey brown reddish	wet-smoothed
8	medium coarse	dark grey	wet-smoothed
9	medium coarse	dark grey	wet-smoothed
10	medium fine	reddish brown	wet-smoothed, dark grey slip
11	medium fine	reddish brown	wet-smoothed
12	medium coarse	dark grey reddish brown	wet-smoothed
13	medium coarse	orange brown	wet-smoothed
14	medium coarse	dark grey brown	wet-smoothed
15	medium coarse	dark grey	wet-smoothed
16	medium fine	reddish brown	wet-smoothed, grey slip
17	medium coarse	brown	wet-smoothed
18	medium fine	reddish brown	wet-smoothed
19	medium coarse	reddish brown	wet-smoothed, traces grey slip
20	medium fine	brown	wet-smoothed

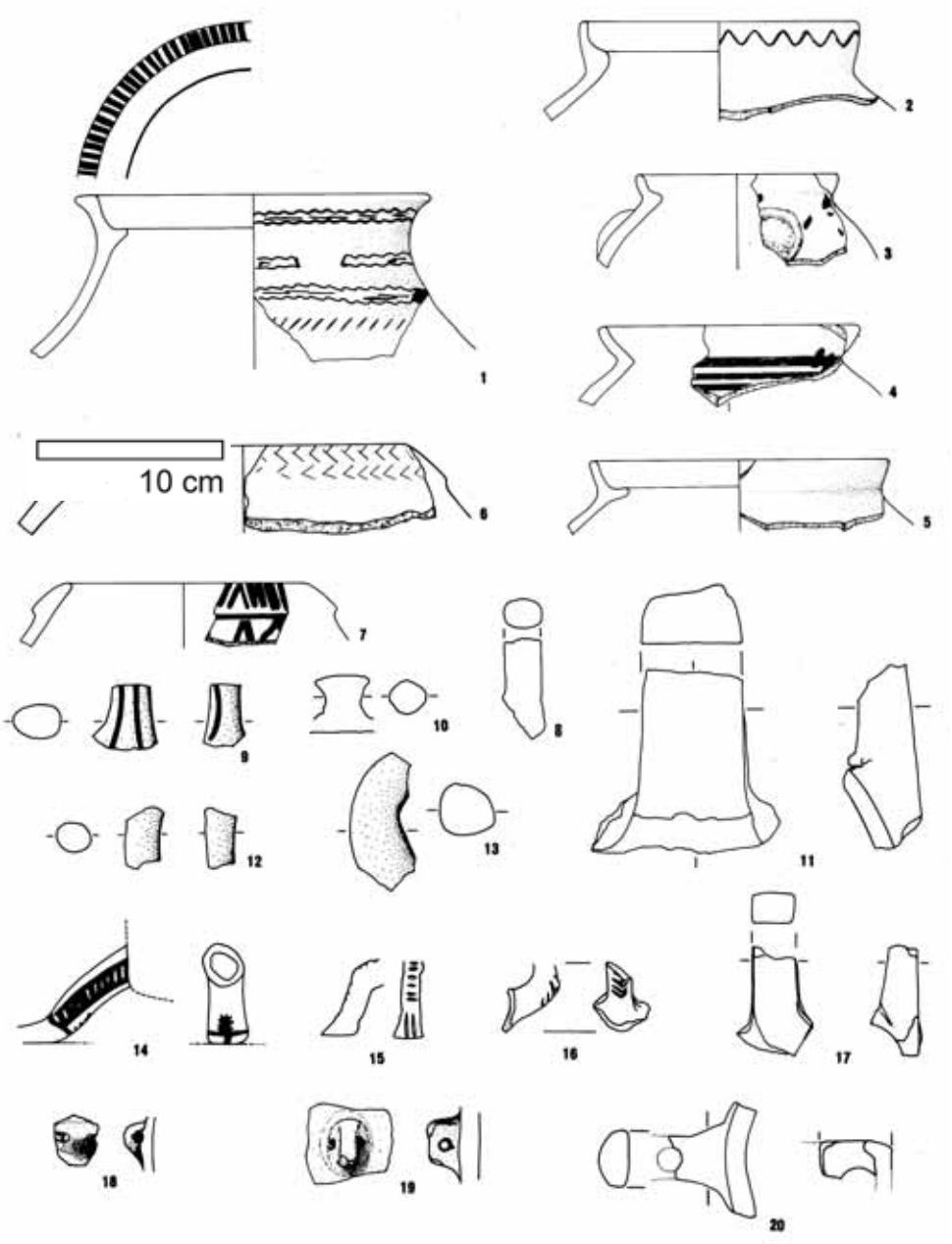


Fig. 25. Pottery from Lizq.

	fineness	clay colour	surface treatment
1	medium coarse	reddish brown	wet-smoothed, int. & ext. , on int. rim, red brown paint
2	medium coarse	reddish brown	wet-smoothed, scratch pattern
3	medium coarse	reddish brown	wet-smoothed, traces red brown paint, handle ?
4	medium coarse	grey brown red	untreated, red brown paint
5	medium coarse	reddish brown	wet-smoothed
6	coarse	reddish brown	untreated, traces red brown slip, scratch pattern
7	medium coarse	reddish brown	wet-smoothed, red brown paint
8	fine	yellow brown	wet-smoothed
9	fine	reddish yellow	red brown paint
10	medium coarse	brown	wet-smoothed
11	coarse	reddish brown	wet-smoothed
12	fine	brown orange	wet-smoothed
13	coarse	grey red brown	untreated
14	fine	brown orange	wet-smoothed, brown black paint
15	fine	brown orange	untreated, scratch decoration
16	medium fine	brown	wet-smoothed, grey black slip, scratch decoration
17	medium coarse	brown red	wet-smoothed
18	medium fine	brown	wet-smoothed
19	medium fine	yellow brown	wet-smoothed
20	medium coarse	yellow brown	wet-smoothed, red brown slip

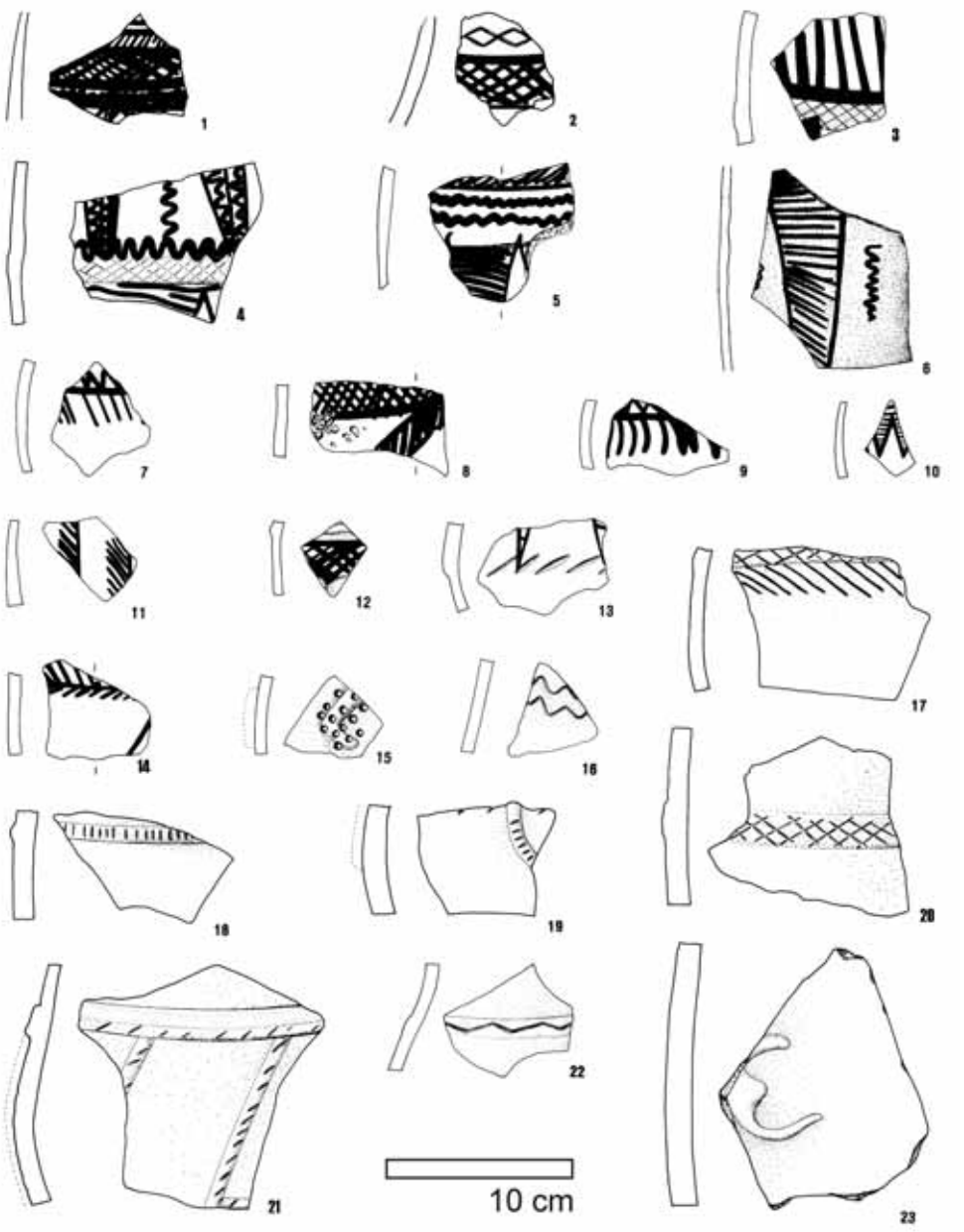


Fig. 26. Pottery from Lizq.

	fineness	clay colour	surface treatment
1	medium coarse	orange brown	wet-smoothed, red brown paint
2	medium coarse	reddish brown	wet-smoothed, scratch pattern, dark red brown paint
3	medium coarse	orange brown	wet-smoothed, scratch pattern, red brown paint
4	medium coarse	reddish brown	wet-smoothed, scratch pattern, red brown paint
5	medium coarse	reddish brown	wet-smoothed, red brown paint
6	medium coarse	reddish brown	wet-smoothed, red brown paint
7	medium fine	orange brown	wet-smoothed, red brown paint
8	medium coarse	reddish brown	wet-smoothed, red brown paint
9	medium coarse	orange brown	wet-smoothed, scratch pattern, red brown paint
10	very fine	orange brown	wet-smoothed, dark brown paint
11	medium fine	orange brown	wet-smoothed, red brown paint
12	fine	orange brown	wet-smoothed, dark brown paint
13	medium coarse	orange brown	wet-smoothed, scratch pattern, dark red brown paint
14	medium coarse	reddish brown	wet-smoothed, red brown paint
15	medium coarse	red brown	wet-smoothed, belly band with circular impressions
16	medium coarse	orange red brown	wet-smoothed, scratched wavy lines
17	medium coarse	red grey brown	wet-smoothed, scratch pattern on band, beneath dark red paint
18	coarse	grey brown	wet-smoothed, decorated band
19	coarse	brown	wet-smoothed, scratch pattern on wall & band, grey brown slip
20	coarse	orange brown	wet-smoothed, scratch pattern band
21	coarse	red brown	wet-smoothed, scratch pattern bands
22	medium coarse	red brown	wet-smoothed, scratch pattern band
23	medium coarse	reddish brown	wet-smoothed, sculpted bull's head ? decoration

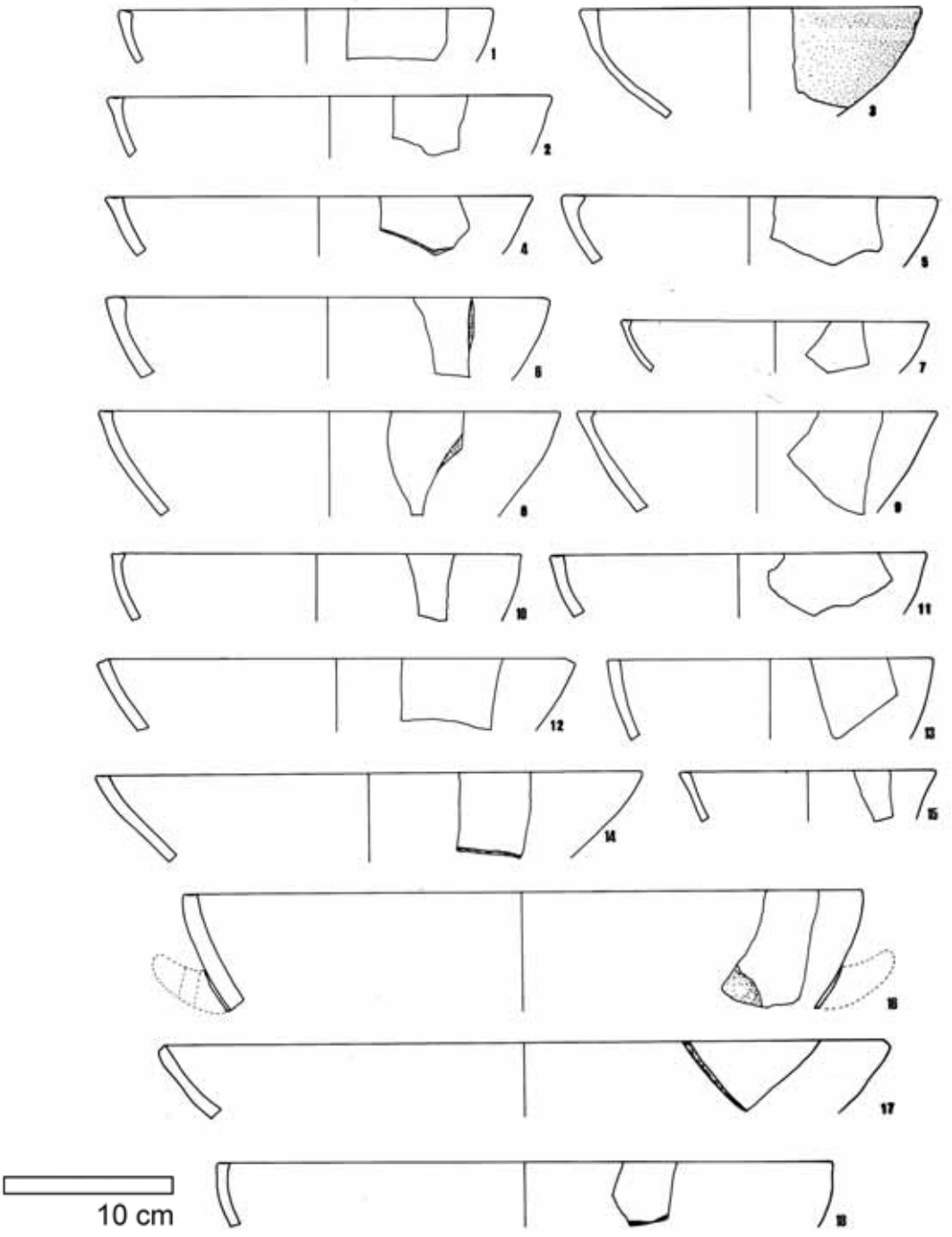


Fig. 27. Pottery from Lizq (wheel-turned are 1–4, 6–8, 11–14, 16–18).

	fineness	clay colour	surface treatment
1	medium fine	reddish brown	wet-smoothed
2	medium coarse	reddish brown	wet-smoothed
3	medium coarse	light brown	untreated
4	medium coarse	reddish brown	wet-smoothed
5	medium coarse	red brown grey	wet-smoothed
6	medium fine	reddish brown	wet-smoothed
7	fine	reddish brown	wet-smoothed
8	medium fine	reddish brown	wet-smoothed
9	medium fine	reddish brown	wet-smoothed
10	medium fine	reddish brown	wet-smoothed
11	medium coarse	reddish brown	wet-smoothed
12	medium coarse	reddish brown	wet-smoothed
13	medium coarse	reddish brown	wet-smoothed
14	medium coarse	dark brown	wet-smoothed
15	fine	reddish brown	wet-smoothed
16	medium coarse	red brown	grey brown slip wet-smoothed, handle frag.
17	medium coarse	reddish brown	ext. remains of a brown slip, wet-smoothed
18	####	#####	##########################

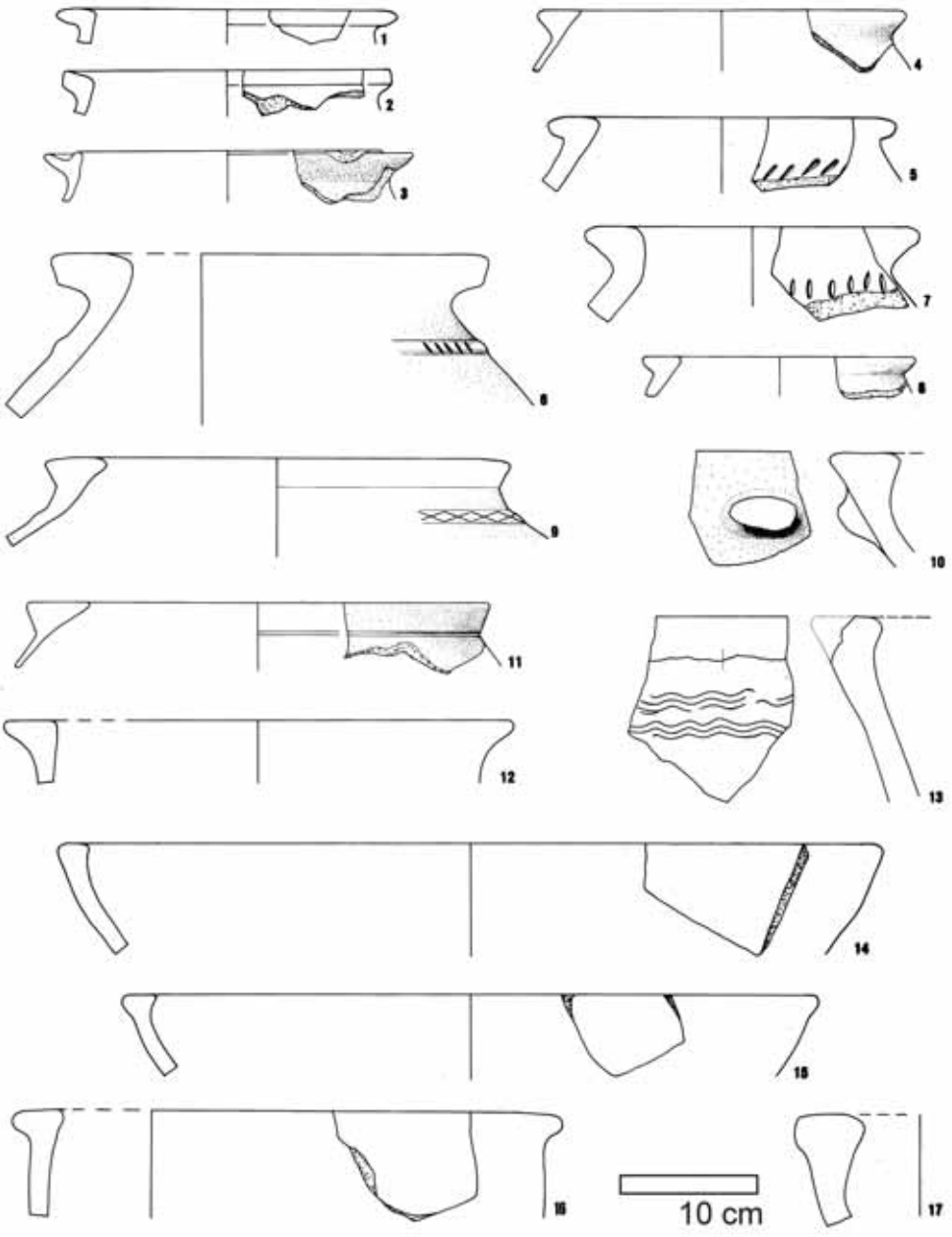


Fig. 28. Pottery from Lizq.

	fineness	clay colour	surface treatment
1	medium coarse	brown brick red	wet-smoothed
2	medium coarse	brown brick red	untreated
3	coarse	brown	wet-smoothed
4	coarse	brown	wet-smoothed
5	medium coarse	red brown	wet-smoothed, scratch pattern
6	very coarse	reddish brown	wet-smoothed, scratch pattern
7	coarse	grey red brown	wet-smoothed, scratch pattern
8	coarse	brown	wet-smoothed, red brown slip
9	medium coarse	red brown	wet-smoothed, scratch pattern
10	very coarse	red brown dark grey	wet-smoothed, handle base?
11	medium coarse	brown orange	wet-smoothed
12	very coarse	reddish brown	wet-smoothed
13	coarse	red brown	wet-smoothed, scratch pattern
14	medium coarse	red brown dark grey	wet-smoothed
15	medium coarse	red brown grey	wet-smoothed
16	coarse	dark brown grey	wet-smoothed
17	medium coarse	light red	wet-smoothed

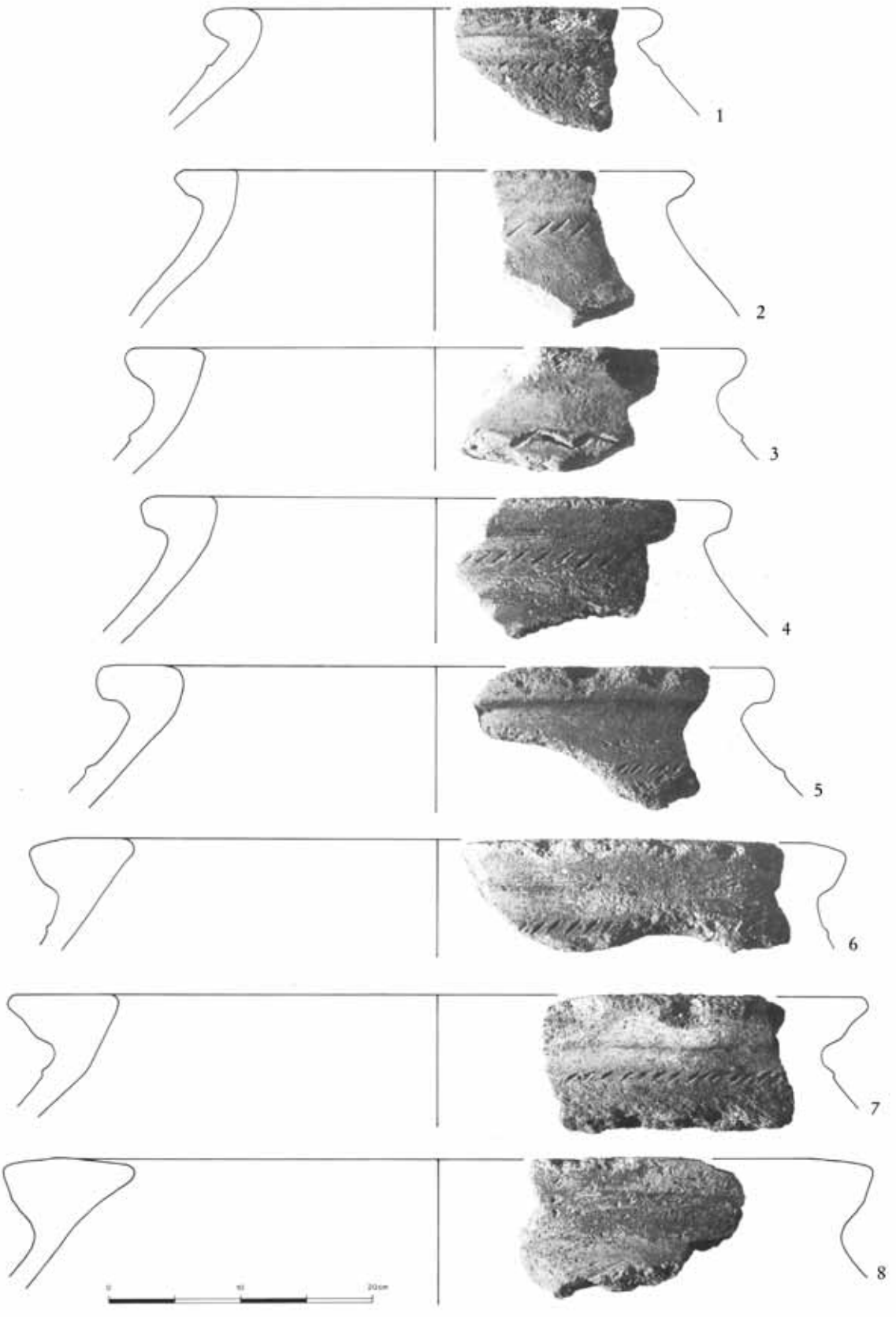


Fig. 29. Pottery from Lizq (storage vessels made of coarse, reddish brown clay).

Almost all of these special forms are in one way or another painted. However, the patterns, as with the bowls, are kept relatively simple. It must be emphasized that most parallels in Iran date to Iron Age I–III. There, however, such vessels usually evidence a far more elaborate painting and often are polished. Especially noteworthy is a fragment of a dark grey spout (Fig. 22, 2) which could be found in exactly the same quality everywhere in the Iron Age I–II in Iran. Finally, as a special form we show a lid fragment with a knob (Fig. 25, 10). This is perhaps a cover, as was intended for the bottles with inner inset for the lid for some of the vessels depicted on Fig. 25.

Dating of pottery from Lizq

At the time of writing, finds from almost all known Iron Age south-east Arabian sites occur in the repertoire of Rumailah and Lizq and, although in no locality comes close to the extensiveness of these two sites. Unfortunately, neither excavated nor surface finds from south-eastern Arabia so far have provided exact absolute dating criteria for the period but closer comparisons with foreign sites firm up the chronology.

Surface stray finds picked up from al-Rākī and Bilād al-Maʾīdin have identical shapes as well as painted decoration. At the time of writing, the situation was similar with the excavated and surface finds from the United Arab Emirates. Nearly all the finds from the Early Iron Age at Hili (ur-Rahman 1978–79) and in Raʾs al-Khaymah (de Cardi 1976) ceramics appear in the repertoire of Lizq. But the pottery from Rumailah (Lombard 1985: 150–156) and other Emirates sites differ from it in various ways.

J. Schreiber dates the pottery from Lizq to Early Iron Age II (2007: 52 map 8), but most is indistinguishable from that of M42 and M4302 which date to the following phase and which lie a scant 12 km to the north-west (see below, Yule / Weisgerber 1999: 105). At M42 a lesser percentage is painted and a higher percentage is coarse storage vessels. At Lizq several vessels are turned on a slow wheel, which is not in evidence at the neighbouring Early Iron III sites of M42 and M4302. But shared traits outweigh differences. Shared are different hand-made, hard-fired, wet-smoothed shapes. The Lizq fort appears to predate M42, which partially explains the differences. The honeycomb cemetery in Bawshar dates partly to the Early Iron Age II and III phases, the latter to judge from wheel-turned funnel-rim bowls (Yule 1999a: 54, Fig. 8, 4, 5) but most clearly the sketchy decoration style of the stone bowls (Yule 1999a: 64–68, Fig. 18–22). The graves of the honeycomb cemetery are small which may effect the selection of pottery placed in them; this hinders somewhat a comparison with the pottery from the Lizq fort.

Far more 1st millennium B.C.E. stratified material is available for south-western Iran than for south-eastern Arabia. In particular this concerns the excavations at Tepe Yahya, for which some of the Iron Age period II to III recently has been published, which indicates a relationship with artefacts from Oman (Lombard 1979: 57 summarised; cf. Lamberg-Karlovsky 1970: 22–33; Magee 1997: 99–100). Also, finds from Elam and other regions help little so far, in part simply because the digs themselves in their context, are not sufficiently datable. Important dating indications, however, derive from sites including Tepe Sialk in Kashan, Baba Jan in Luristan and Hasanlu in Azarbaidjan. In this region lies the centre of the Early Iron Age so-called grey ware with its specific vessel forms, e. g. the above-mentioned spouted pitchers. In addition to the fragment of a bridge-spouted beaked jug in dark grey clay (Young 1965: 63, fig. 6, 8.), from Lizq many others exist. Such beaked pitchers appear around the 11th century B.C.E. in Iran. Their temporal centre lies in Sialk VI and Hasanlu IV. While for Hasanlu IV a destruction horizon around 800 B.C.E. is generally accepted (Dyson 1975: 183; Dyson / Muscarella 1989), the grave inventories in Sialk VI lies in the second ½ of the 8th century (Boehmer 1965). As in Hasanlu, also in Sialk so-called bridged spouts occur. However,

in Lizq it is not certain whether all the fragments of beaked jugs belong to that type, or perhaps even may be attributed to the older type of so-called unbridged spouts (Ghirshman 1939: pl. iii). The necropolis of Tepe Sialk A, however, yields not only spouted pitchers of this type, although there they are polished and more elaborately painted, and the spout is much longer (Ghirshman 1939: pl. ix–xii). In addition, at Tepe Sialk vertical spouts occur that above are up slightly compressed ovoid, like those found in Lizq. A variety of vessels in the necropolis of B Tepe Sialk bear painted hanging triangles (Ghirshman 1939: pl. lxxxix), which are common on the Early Iron Age storage vessels at Lizq, but also smaller vessels such as the *askos* and on some bottles. Besides tripod vessels in Tepe Sialk (Ghirshman 1939: pl. lxiv, lxxviii) also sieve vessels (Ghirshman 1939: pl. lii) as well as vessels with simple spouts (Ghirshman 1939: pl. xvii) occurred. These also have parallels in Lizq.

Nearly as many parallels with the finds from Lizq offers the excavation Baba Jan in Luristan. Like Lizq or Sialk this site is generally regarded to belong to a painted pottery complex. Countless vessels have decoration of hanging triangles in the upper part of the vessel (Goff 1970: 153, fig. 7, 10–11; Goff 1978: 43–44, fig. 1–2). In some cases there are even hanging triangles with overlying simple wavy bands (Goff 1978: fig. 1, 2), exactly as they were found in Lizq (Fig. 27, 1). Furthermore, there are small hemispherical bowls and small bowls with red or reddish brown paint on the outside and on the rim (Goff 1978: fig. 2). Similar to Lizq is the simple painting scheme. A favourite painted motif at Baba Jan is circles with dots (Goff 1978: fig. 2) which also appears on a shell fragment in Lizq. At both sites bottle or pot rims can be decorated with broad brush strokes (Fig. 22, 6; Goff 1978: fig. 8, 17; 9, 18). The large storage vessels in Baba Jan bear very similar decorated belly bands, as were noted in the storage vessels in Lizq (Fig. 25–28; Goff 1978: pl. iic). Just as at Lizq also in Baba Jan painted and unpainted spouts with bowls or globular occur (Goff 1978: fig. 4, 31; 8, 4). Also vertical spouts and jugs with so-called bridged-spouts are evidenced in Baba Jan (Goff 1978: fig. 5, 2; 8, 24; 9, 22).

In many ways the ceramic repertoire of Baba Jan and Sialk also contrasts with that of Lizq. However, that comparable ceramic repertories occur in Iran and Oman exist, is most clear in the cases of the cemetery in Sialk VI[3] or in Hasanlu V (Young 1965: 63, fig. 6, 8) in Azarbaijan. For none of these ceramic complexes in Lizq can really close comparisons be found. Also at Baba Jan III (Goff 1978: note 32, fig. 5–8), the parallels are not as close as for example as with II and later I (Goff 1970: 152; Goff 1978: fig. 9–10).

These limitations mean that we can date the earliest finds from south-east Arabia in the 10th to 9th century B.C.E. The bulk of the finds may lie in the 8th–6th century B.C.E. For the end of the Early Iron Age there are only a few sites in Iran which serve as possible orientation dating points, for example, Baba Jan I and Pasargadae. In Pasargadae in Achaemenid, late Achaemenid – Seleucid and context are a number of findings, as they have been found in a similar manner to the Oman peninsula. This is especially true for a pitcher with a vertical spout from Lizq (Fig. 22, 5). A very similar piece was removed, however, already found in the necropolis of the Sialk B Tepe. Similarities point to the large number of simple small round shells and small funnel-rimmed bowls from Pasargadae with the findings from Lizq. Thus for example the painted shells with a wide margin of Lizq (Fig. 19, 1–3) parallels both in Pasargadae in Pish-i Kuh (Goff 1968: 123, fig. 11, 11. 12. 24) as Azarbaidjan (Haerinck 1978: fig. 2, 3). While the bowls with wide painted rims are common in Achaemenid and late Achaemenid times, the funnel-rim bowls, in terms of painting these range from the Achaemenid to the Parthian era.

These comparisons with dated sites in Iran serve only as a first incipient anchoring point

[3] Ghirshmann 1939: pl. xxxvii–xlvii. Also regarding the necropolis Sialk B1 (Boehmer 1965: 814) pottery comparisons are absent; these occur in Boehmer's B2 necropolis.

Fig. 30. Labourers building a house. The stones are packed individually in clay before the next layer is laid (stone-in-clay building method).

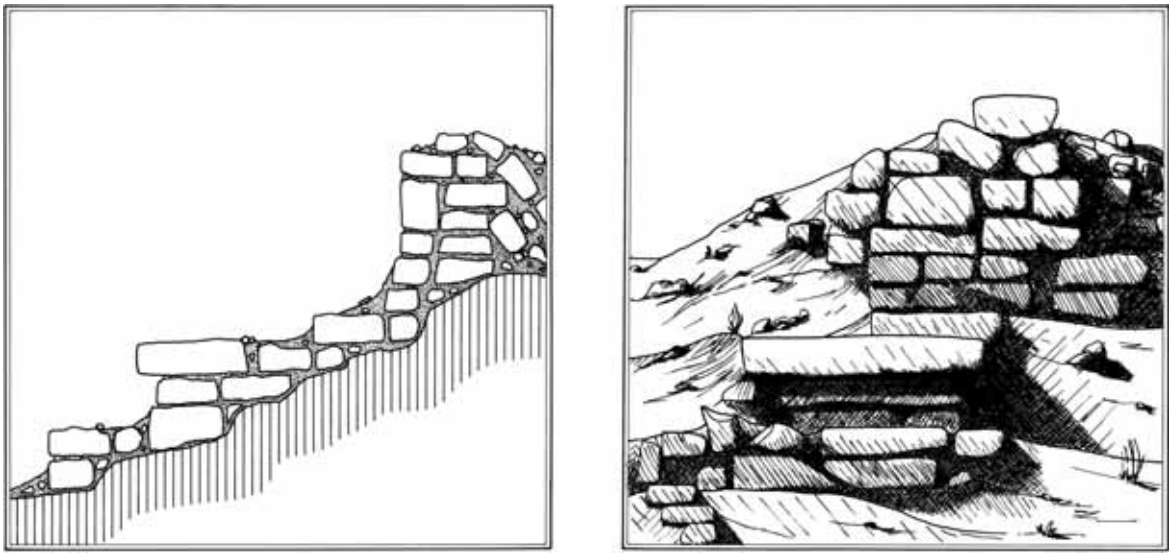
for the chronology of the pottery in Oman. At the time of writing one assumed a beginning in Oman for this period in the 10th century B.C.E. A later alternative might be the 8th century – the blossoming for Sialk necropolis B, for which numerous parallels exist.

As terminus for the demise of the Early Iron Age or transition to the Late Iron Age Samad assemblage one generally turns to the Achaemenid epoch. Since for that period stratified contexts and diagnostic finds are few in south-east Arabia, premature statements on this point can readily awaken a sense security which is unfounded. But one of the two thermoluminescense datings in fact does lower the dating. A terminus for the Early Iron Age around 400 or 350 B.C.E. seems at the time of writing a fair compromise dating, if not in the 5th century. In fact there is little firm evidence between the two periods (Yule 1999b: 133).

The defences at Lizq

An understanding and description of the investigated and non-investigated fortifications in Lizq presupposes a reconstruction of the building method which lies behind today's ruins. Although limited excavation was possible, in addition intensive surface survey in the area of the fortifications showed the same building methods throughout. As noted above, the ancient architects used only the gabbro upper part of the mountain as a building site. As opposed to the softer peridotites of the lower zone of the mountain, the gabbro mantle was less vulnerable to erosion. It proved possible to use the gabbros as building material for the defences.

Since earliest times in the Near East, those fortifications built in stony areas were solidly masoned. Mud mortar served in prehistoric fortifications only as filling. Experience must have dictated that clay mortar had a short life expectancy for mortaring stone. The builders built the entire complex in the fateful technique of stone-in-clay mortar. The stone blocks were laid on and in the mortar, were covered again with clay mortar before the next course of stone was laid and mortared. This simple method of building still is used today in the Near East, even if it is not widely spread. Fig. 30 shows masons who lay the first stone and mortar course of this kind of wall. One can hardly determine what kind of stones was used for the lower courses, to judge from the extant upper ones. Fateful errors could occur, as is shown in Fig. 31a, b: On the natural unprepared rocky surface a layer of small stones serves as a foundation for the fortification walls. Large stones weighing many tons were laid first in the 4th and 5th course. When the clay mortar fell into disrepair, the larger blocks in the upper courses pressed the weaker ones below



a b

Fig. 31. Idealised section through the wall (left); *en face* sketch of the context with visible stone in clay building method (right).

apart. Even if such errors could be avoided, premature decay and collapse of the buildings as a result of insufficient foundation solidity and the excessive use of clay mortar were inevitable. As soon as the maintenance ceased, water and wind attacked the clay mortar. Of the once compact wall, only an instable stone skeleton remained. Building stones are not imbricate laid, but rather lay one atop the other. Under more favourable conditions the wall remained standing but sagged and bulged, for example the bastion in Fig. 32 at the northern foot of the Lizq mountain. Under unfavourable conditions, and this is unfortunately the norm, the walls collapsed and rolled down the slope. Without the information yielded by an excavation, a reconstruction of the defensive lines is impossible. Surface survey is helpless in the face of an amorphous pile of stones in which structural members are indistinguishable from debris. But aerial photos revealed partly the line of the fortifications. Excavated defensive contexts on the north side of the mountain confirm these general observations. Here broad slabs which were eroded gave rise to the assumption that a staircase must have ascended the mountain. For this reason, we

Fig. 32. Unstable stone frame of the bastion after erosion of the clay mortar.

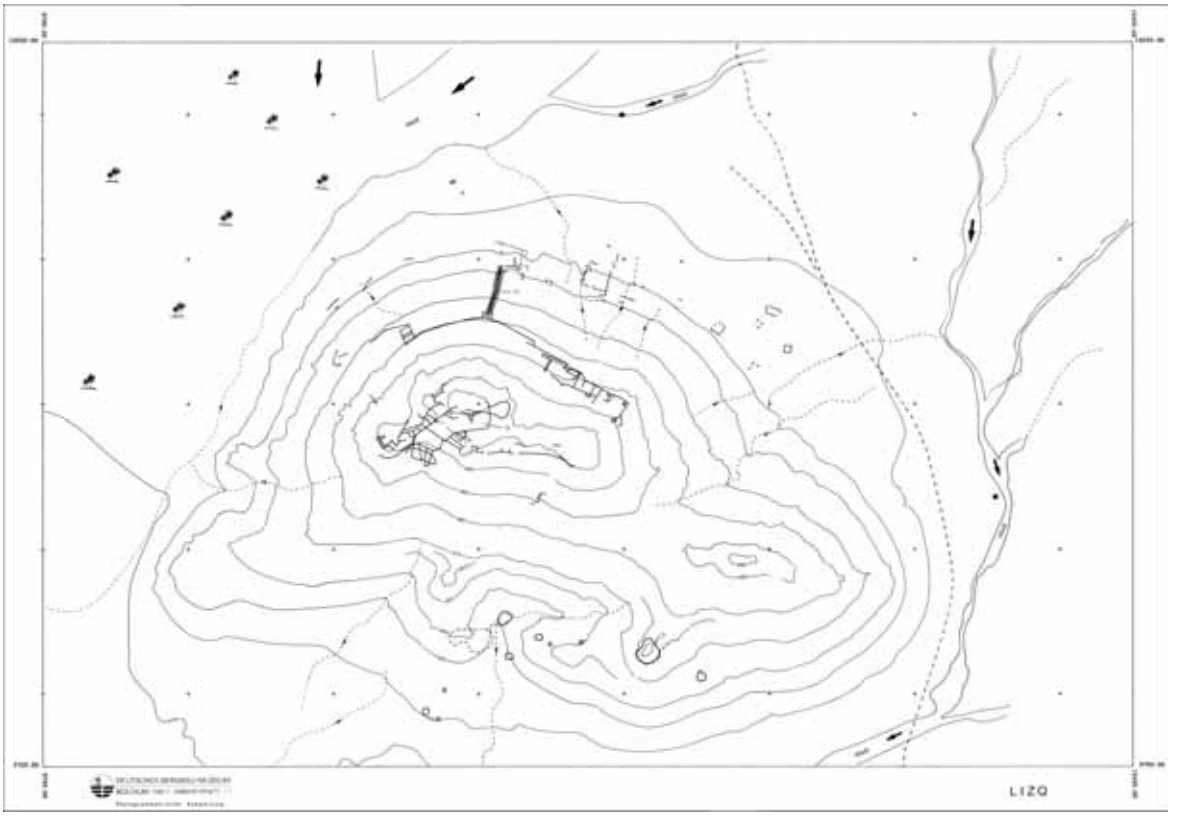


Fig. 33. Plan of the Lizq L1 fort complex based on aerial photogrammetric evaluation and terrestrial survey. The main fort is about 175 m long and 100 m wide making it Oman's largest Early Iron Age fort.

took up excavation at this spot. This assumption was confirmed. It was surprising that in addition to the stairs partly heavy flanking walls came to light which were not noticed during the surface reconnaissance. First with the excavation itself, two to four courses of extant masonry lay just below the surface. Erosion transported debris which covered the once man-high walls, preserving them.

Different observations, not only from the fortifications, but rather from the terrace walls of interior building, suggest that the stone-in-mortar walls served exclusively as foundations. It can be assumed that all additions over the foundation walls, be they the walls of interior buildings or the fortifications themselves were built of the common mud brick technique. But preserved remains have not come to light in Lizq. Unlike in intact contexts of the Salūt fort (Fig. 11), only in the collapse beneath the fortifications on the north face did remains of such mud bricks come to light.

Position of the fortifications

By virtue of surface reconnaissance and aerial image evaluation, the circumference of the fortification was determined relatively exactly. The fortification wall itself is preserved exclusively on the long sides, more on the north than on the south. As cautioned above, probably this is valid only for the foundations of the former fortifications – not the entire wall. These foundations are also, especially on the north side, multiply terraced (cf. sketch in Fig. 31). The thickness of the fortification wall can not be clearly determined. In the south in the south-east corner the wall measured 1.2 m in thickness (cf. Fig. 33). A little further on

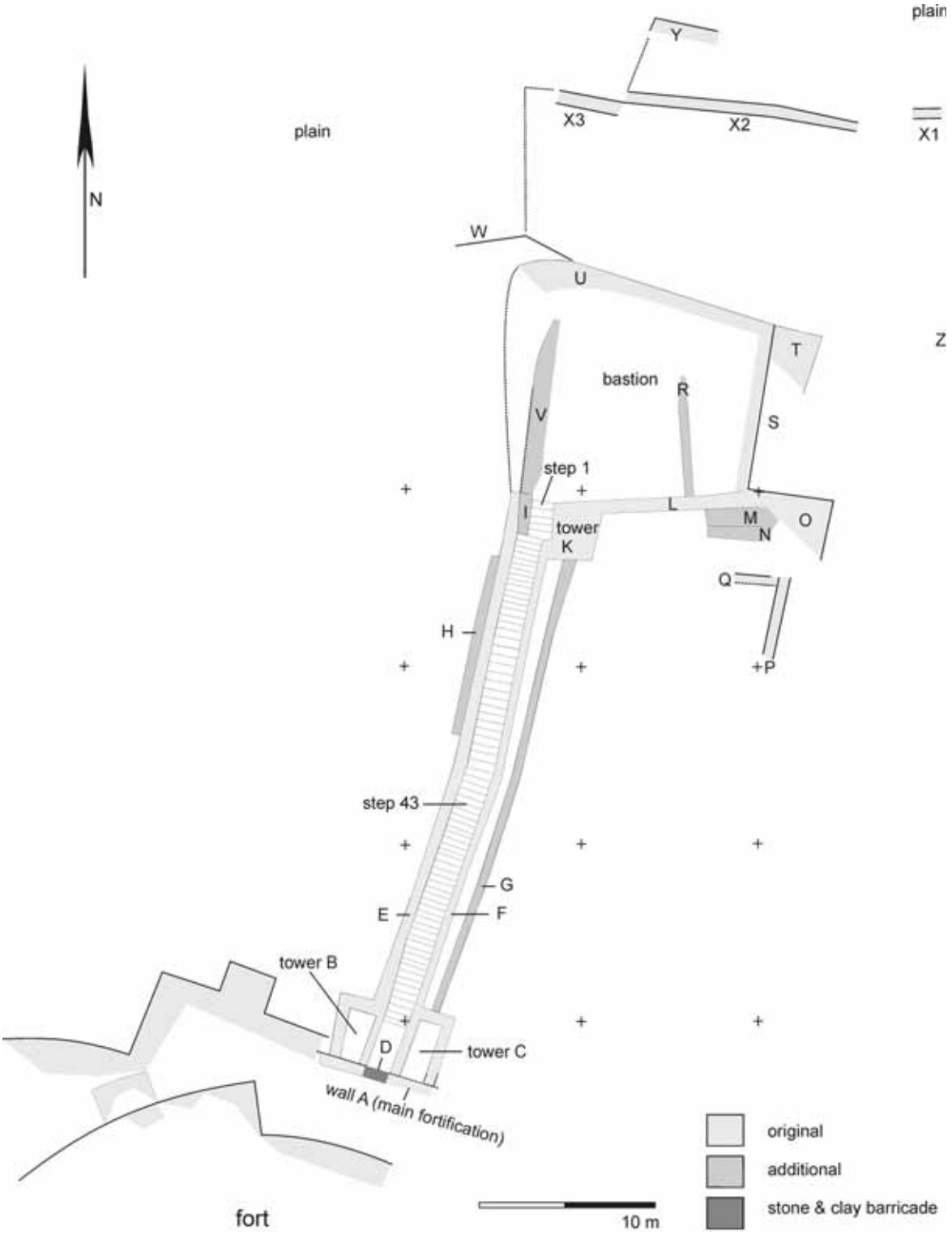


Fig. 34. Plan of the step connection between the bastion and fortification wall on the north side of the fortified mountain, Lizq L1.

the eastern corner it measures at least 2 m in thickness. Evidently erosion destroyed the wall section between the south-east and east corner. On the entire north slope the collapsed structure of the fortification walls and the interior building do not allow the determination of the wall thickness. Just like the interior building, the erection of the fortification wall adapts to the topography. Towers are not identifiable. Only some of the advancing and receding parts of the wall determined on the north side lie in the line of the wall. Further excavations, however, could clarify the situation. The main defences on the western peak measure some 175 × 100 m, the southern side is fragmentary.

Excavation between the bastion and the fortification wall on the north slope (Trench T1)

An excavation in this area made sense since it seemed that the large bastion lying in the plane, which was built of heavy erosion blocks, must have been connected with the fortification itself. At mid-height between the bastion and the fortification wall several large stone slabs were visible which seemed to belong to a stair which linked the two (Fig. 34). Beginning there we staked out a north – south trench of 4 m width and 10 m length. Already on the first day of the excavation we uncovered a c. 1.4 m wide stone jetty-like staircase which was dug into the clay and set off by long flanking walls. In order to determine whether it perhaps connected the bastion and the fortification, trench T1 was expanded to the north and to the south. The excavation confirmed that stone staircase with over 80 steps served this function. During the excavation of the stairs we cleaned the bastion as a first step to determine its shape and dimensions.

The architecture

The several metre long fortification wall A collapsed in the place where the step begins near the top of the mountain. This fortification appeared to have been partially terraced. Excavation in the area of the fortification wall itself was not possible since enormous stone boulders as long as 2 m could not be moved without the use of machines. Here the fortification wall A consisted mostly of broken stone blocks which measured between 80–120 cm in length, mostly lengthwise rough and rectangularly hewn. Smaller blocks from 30–70 cms also were set. Nowhere are the stones bonded with each other but rather are only layered over each other (cf. Fig. 31). Fortification wall A abutted the staircase with over 80 steps and protected on the flanks by the towers B and C. The excavation showed that the towers B and C with their two walls, joined wall A. This means that the former wall already must have existed at the time that towers B and C and the entire staircase were built. These two towers are, on the other hand, clearly bonded with the flanking walls of the staircase, E and F are an exception to the no bonding rule at Lizq.

As mentioned above, all of the walls are built with the stone in clay technique, i.e. nowhere is a true stone-bonding in evidence. While the northern wall of towers B and C rest on foundations sunk into the mountain, B's western wall and the C's eastern wall are jerry-built. The eastern wall of tower B (the western side wall of the staircase) and its opposite wall also have excavated foundations. The same holds for the flanking walls E and F all the way down slope to the mouth of the bastion. From tower B at the most five stone courses were extant; von its opposite town, C, it was five to six courses. In B we could not identify a floor, and it must have been higher and now is eroded away. Six stone slabs remained in tower C (Fig. 35) which probably remains of the floor. Over these stone slabs, the profile shows a water or wind-bourn clay debris visibly with mud brick fragments. The walls of towers B and C as well as the staircase walls E and F are sandwich-built (Arab. *ḥablain*). While for the exterior larger stones found use, small ones and clay serve as fill. Wall G, which runs parallel to F, is built partly in the same method especially in the lower zone from large

Fig. 35. Interior of tower C with traces of stone slab level, to the right is the staircase wall F.

broken stones, where it joins tower K. Wall G visibly built in a latter phase was built to join C. Dissimilar to the walls E and F, tower C is jerry-built. Evidently in order to reinforce the side wall E down slope a further wall H was built. Looking more closely to the walls E and H reveals peculiar patterns in the size of the stones: As a result of these similarities, one thus can understand wall H to have been erected shortly after E was built on to it, or that by the time of the building of E that the planning of H was already finished. Wall E consists of 20–50 cm large broken stones which rarely are larger than this.

But there is one exception. Down-slope, steps 1 and 2 consist of 50–70 cm large stones. Striking is the observation that above the south end of wall H suddenly the construction of E proceeded with much larger stones 40–70 cm in size. The masonry of the walls E and F are homogeneous. In their entire length they use stones 20–50 cm in size. But stones from 15–25 cm are also common. Both walls E and F are sunk c. 40 cm into the ground. In the same way, the staircase, for which 79 steps are extant (counting from below to above), cuts into the mountain. The steps are usually built of coarsely hewn slabs 70–100 cm long. A few of the steps are built of smaller slabs, which are embedded in mortar. The steps were coated with a layer of mortar to 5 cm in thickness. Thus, none of the stone steps show any use-wear. Each lower step supports that above providing a firm bonding (Fig. 36–38).

Less certain than the staircase is our knowledge of the down-slope architecture in the area of the bastion. The reason is that north of tower K the staircase, wall L, and a floor near the bastion were destroyed long ago by erosion. One is struck by the lowest five steps (Fig. 38) which abruptly shift 50 cm to the east. In addition, in this part of the staircase a new sidewall "I" was built to the west. Architecturally it is clear that wall F and tower K are bonded to wall L. The question must be resolved whether tower K is similar in appearance or structurally related to the two towers B and C in the fortification wall, or whether we should understand it as compact mass? It was not possible to excavate tower K covered by massive boulders (Fig. 39). Thus, hypothetically wall E extends and with W on the north-western corner of the bastion. Also unclear is the continuation of wall I, which could connect with V. Although there is no clear evidence the irregular axis of the staircase with its bastion at the foot of the mountain suggests that the bastion perhaps already ex-

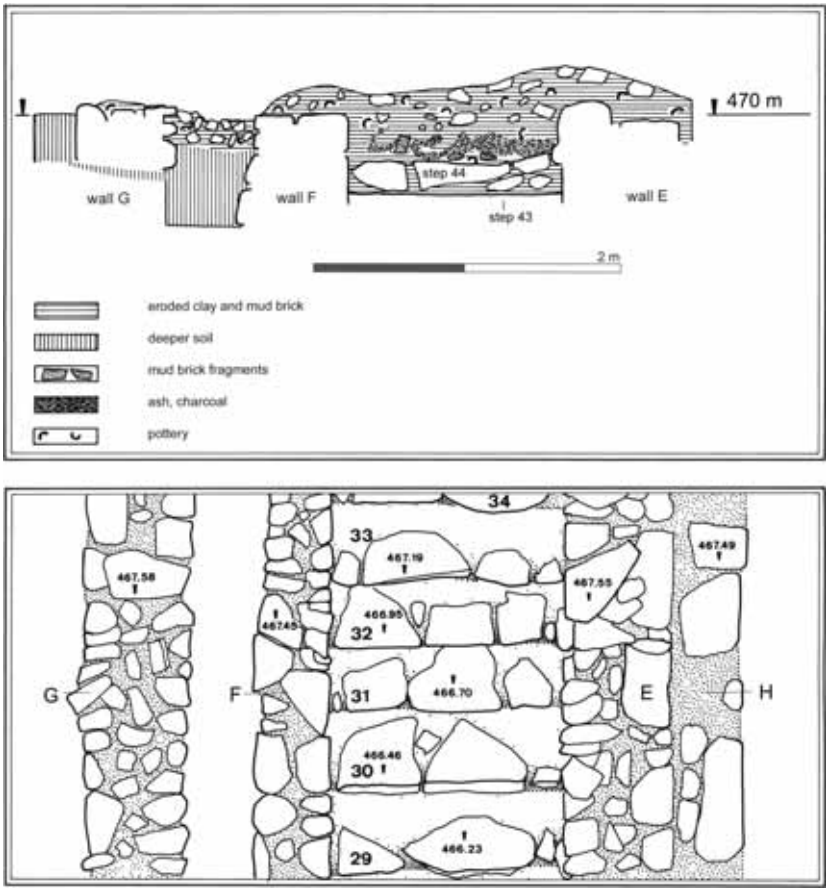


Fig. 36. Profile section through the steps at step 44 (above) and stone plan at steps 29–33 (below).

Fig. 37. Steps which overlap above in order to strengthen the underlying ones.

Fig. 38. View to the south, lowermost step of the context.

isted before the staircase was connected with the upper fortifications. The heterogeneous building method of the bastion suggests that it was not built as a single event, but successively over time, with additions. In the west wall V defines the bastion itself; to the north by means of walls U and W; to the east by wall S; standing somewhat before it toward the east is foundation T. To the south the bastion is defined by means of tower K, wall L, and to the south-east related wall fragments M, N and O. The curved wall fragment V today

Fig. 39. View to the south, the bonding of wall L with tower K.

stands up to six courses high, but disturbed and consists of broken stones from 50–80 cm in size. Wall V is at least 1 m in width, if not more. Excavation would be difficult here for the same reasons as for walls U and W. These broken stones are 40–80 cm in size. Stone blocks more than 1 m in size stacked five courses high form the north-eastern corner of the bastion where wall S connects with U (Fig. 32). Wall T is probably a stone foundation of large blocks which are preserved in a single course above the ground. To the south it remains unclear how wall L relates to wall S. Since here tons of collapse hinder exact observation, it must remain open whether or not L and S belong to a single building phase. More likely, the original bastion, to which belonged also S, was built over in a later phase of wall L and the related walls and tower remains M, N and O. Only the upper surfaces of the walls N and O are only visible. It remains open whether they were built in a single conception with multiple walls adjacent to wall L or were added subsequently. The weight of the construction in this place together with the wall collapse of M suggest that perhaps here we can assume a tower at the southern face of the bastion, for which hardly any clear traces exist. It remains to be determined whether the wall fragments P and Q belong to context just mentioned as also to wall G and tower K in the west. Wall P is composed of 20–50 cm large roughly-hewn stone, was built in sandwich fashion. But only one or two courses survived and at a much higher level than of nearby walls, such as M, O or N. Its face to the south as well to the north is disturbed. Due to the large level differences it can be assumed that they cannot be brought into connection with the heavy wall fragments M, N and O. It could be this is a later addition. Wall P joins Q without being bonded to it. It consists of large rough blocks that are 40 to 60 cm in height. Also, it is usually only preserved in two courses at a much higher level. While it connects in the east with P, its further course westward is unclear. Neither in the case of tower K nor wall G is there is indication that wall Q originally continued that far.

Other wall fragments are located north of the bastion in the plain (Fig. 41). The walls X1–X3 and the wall or tower fragment, Y. X1 has received only a single layer and consists of a series of 40–70 cm large quarry stone. X1 is preserved in a single course and consists of 40–70 cm high hewn stones. Preserved of wall X2 are two unequal wall shells. While one side is built from 20–50 cm large quarried

Fig. 40. View to the west, the remains of the bastion.

Fig. 41. View to the north, to the bastion, the walls X and Y.

stone, the other consists of small fitted blocks. This wall fragment and X3 are preserved in a single course. Also this wall is sandwich-built of blocks 20–40 cm high. The wall fragment Y consists of blocks 40–60 cm in size of which only on the north side one course is extant. These last wall fragments, as opposed to the heavy bastion, only can be a fence and lack fortification character. Wall Z probably belongs to the bastion, which runs obliquely to the slope in the north-west – south-east direction (Fig. 42). In case the interpretation of wall Z as a path-wall is correct, one must accept that beside the staircase another path led from the area of the bastion uphill into the fort.

From the midst of the bastion no walls have survived except for the remains, R. The reason is, on the one hand, that in the area of the bastion we undertook only cleaning, not excavation. On the other the missing level beneath step 1 (cf. Fig. 38) suggests that the previous surface inside the bastion was

Fig. 42. View to the south, the "path wall Z" (black arrow).

Fig. 43. View to the south, the barricading of the staircase construction.

destroyed by erosion. Wall R gives evidence that this running surface was relatively high. It was preserved in only two courses and was built of small stones to c. 30 cm in size.

The building in the area of the bastion and staircase indicate that we can count on several different building phases. But it is neither possible structurally nor by means of the finds to distinguish the different building phases.

The barricading of the stairs between the bastion and fortress

At an unknown point in time during the use phase of the Lizq fort it was obviously neither no longer necessary nor desirable to have a stair connection between the fortress and downhill the protruding bastion. The stone staircase above step 79 was demolished and in place of steps 75–79 a coarse wall was erected (Fig. 43). Above this wall the entrance through

Fig. 44. View to the south toward wall D which blocks the way through fortification A. Right and left of the staircase are the walls E and F.

the fortification wall was blocked by means of 1 m thick stone and clay wall, wall D (Fig. 44). Wall D is built the same way as other walls in Lizq. It consists of 40–50 cm large rough-hewn stones, built with the heavy stones outside in clay mortar and covered with a thick layer of clay. Their upper surfaces lie 40–50 cm above the presumed level of the steps. The lower edge of the wall is sunk nearly 50 cm deep into the surface of the slope. The gap between wall D and the stone slabs stacked on steps 75–79 was filled with earth, clay, broken mud bricks, stones and apparently unusable stone implements. Worthy of mention are a door pivot stone and a second one fashioned from a quern (Fig. 15, 1–2). It seems likely that these pivot stones once either belonged to the entrance of the fort or for the two towers, B and C. In addition, several pounding stones and pottery shards occurred in the fill debris.

The pottery finds in this locus, although not different from other parts of the fort, are noteworthy in that they are the only ones found in a datable and stratigraphic definable use phase of the fort. Other finds derive from the erosion debris of the slope surface. The pottery of this fill deposit at the upper end of the staircase consists of shards of a large painted storage vessel (Fig. 27, 1), as well as from a vessel with four vertical handles (Fig. 28, 1). While the storage vessel already was deposited in the fill, for the bottle with the four handles in an intact condition, apparently no further use (Fig. 45).

No doubt, the inhabitants of the Lizq fort blocked the staircase for defensive reasons in addition to sealing this vulnerable attack entrance with a 5 m thick barricade. Since this wall from wall D to step 75 corresponds approximately to the south-north dimensions of the towers B and C, it would be possible that towers B and C and the stairs joined to form a compact tower. As a result of the gully erosion clear evidence cannot be found.

The demise of the defences

With the exception of the finds just described from the fill deposit at the upper end of the staircase, all of the excavated finds derive from the north face from an erosion layer which formed after the barricading of the staircase. As well as the numerous pottery finds from this trench, this includes small finds such as soft stone vessels.

Nowhere were zoological, anthropological or botanical finds made, aside from the charcoal and ash remains in the area of steps 43 and 44. These remains are distributed in such a

Fig. 45. To the north, the blockage of the steps with a handled vessel in the fill.

way that one cannot consider them to reflect a burnt layer. The essential intactness of the excavated ruins suggests that the Lizq fort was suddenly abandoned, at a time not easily determinable. Whether the abandonment results from a struggle or had other reasons remains uncertain. Evidence from excavation suggests more clearly that it was not abandoned as a result of a fire. Whether and in which way the barricading of the staircase explains this is not clear, archaeologically speaking. For this reason we cannot determine whether the finds from trench T1 derived from the erosion layer above the staircase or during the existence of the fort got there, or if this happened after the demise of the fort. A comparison with the surface finds made prior to and during 1981 shows no distinctions determinable in the ceramic inventory. We can only assume that the finds from the use-period of the fort are representative. A further classification whether these Lizq finds as early or late is hardly possible.

Ways and roads

A fortification of such dimensions as at Lizq without roads inside the fort or outside is hardly plausible (cf. the Salūt fort, Fig. 11). Thus it is all the more surprising that in light of the archaeological contexts that neither clearly identifiable streets nor ways are identifiable. As previously mentioned, a staircase with 80 steps led from the bastion on the northern face up the mountain to the main fortification wall. Different indications speak for the interpretation that this was not the main entrance to the fort. The fortification wall built in the south and the east considerably higher than in the north. Thus it is improbable there to expect streets and ways. Moreover, the steep slope – which is similar on all four faces – does not speak for roads. Since the fortification wall in the north and west reach far deeper toward the plain, it is more likely to assume there the entrance for the fort. In addition, on the flanks of the fort and the oasis wells exist which today still work while in the south of the fort the semi-arid desert begins. Owing to the shallow water table the Lizq fort did not need a *falağ*. One of these possible entrances could have lain in the north-west of the fort where buildings exist in connection with the main defences down to an altitude of 470 m. Another possible entrance lies in the north-east of the fort joining to the east on the large staircase between bastion and fortification wall. Here at the foot of the mountain the remains of walls exist which once rose diagonally up

Fig. 46. Steps, probably part of a connecting path on the southern side of the fortification.

the slope (Fig. 42). With the reconstruction of a possible entrance and fortification gate, we must consider the specific situation in Oman which existed over the centuries. Uncertain is the question whether a road or trail to the Lizq fort existed. Even today in Oman donkeys and camels serve as beasts of burden, but wagons drawn by draft animals also in the past rarely if ever were used. For a fort like Lizq (or Salūt) a simple path would suffice to bring people and draft animals into the fort. Therewith it is understandable that despite intensive search on all four sides for an entrance into the fort, below the fortification wall no such way was found.

The notion that the main entrance to the fort was a simple path or trampled trail is supported by means of two contexts. On the south side of the centre knoll and on its south-western side fragments of an antique connecting way are determinable. Both connecting paths share one characteristic also prominent in Lizq's architecture: They adapt to the topography of the mountain. The path on the south side of the central escarptment is a rocky way combined with steps where necessary (Fig. 46). It could be followed for only a few metres since eroded stone covered it and an excavation was not possible. The other way in the fort area was readily recognisable and led from the south-west peak up to the central one (Fig. 47). Although erosion destroyed this way surface observation reveals that a well-built stair is manifest. This follows the topography and two important parts of the fort are joined – the exposed south-east peak and the main peak to the east of the mountain. These relicts suggest that inside the fort we should not expect wide paved streets or roads. Without the still existing steps the surface investigation we would never have noticed the connecting ways. If the Lizq fort would have had such an entrance from the plain, then it would have required only a small gate. On the strength of the excavation, it seems doubtful that a path led into the fort.

Form and building technique of the houses

In Lizq two groups of houses can be distinguished. In the fort itself house foundations exist and others in the plain just north of the bastion. Especially to the north-east of the mountain in the plain a group of wall fragments appear to be the remains of a settlement. These, however, cannot be positively identified as house foundations or similar structures. Extant are a single course of stones which simply were placed on the ground seldom greater than 50 cm in width.

Fig. 47. Steps connection from the south-western point of the central sinking, manipulated in an S-form.

They also may be the remains of gardens or fences. Given their broad dimensions, they could not support a roof. It is possible that the wall fragments might be only the traces of an extended settlement which as a result of erosion and alluviation north of the mountain is no longer recognisable.

The plan (Fig. 33) reflects the architectural adaptation to the topography. The mountain which they chose contained beside steeply slanting rock faces three excellent hilltop surfaces which partly rest on their plateau, partly on the slope. Building remains on the high plateau are no longer preserved. Its levelling suggests that it probably was once enclosed in the building. At a somewhat lower altitude, the south-eastern corner of the hill evinces several house foundations. The third group in the south-western corner lies 10 m lower at c. 500 m. This was densely built to the extent that an investigation of the different building parts without excavation is hardly possible owing to the collapsed walls.

All three building groups slope toward the north steeply to the extent that building directly on their apron was impossible. First in the apron further north, especially before the

Fig. 48. View to the west, remains of room foundations on the eastern mountain hill.

Fig. 49. View to the south, the remains of terrace walls north of the central sinking.

centre and east peaks building was possible, especially directly next to the fortification wall. Just opposite, building activity is dense south of the centre peak toward the south-western peak and along the southern fortification wall toward the peak in the south-east. We observe here a series of different buildings and spaces on the surface. To the extent that the geographical exigencies allow, one can attempt to build rectilinearly, for example as visible in Fig. 49 for the eastern part of the fort. On the other hand, the buildings in the south-western part of the mountain, show often open and acute wall angles and are conditioned by the available the topographic situation on the ledges and small spaces. The wall width of the interior buildings in the fort measure rarely more than 40–80 cm. The walls themselves were built in stone-in-mortar technique, similarly to the fortifications. Door openings were rarely observed, although often entire house foundations were measurable. This cannot be taken that the extant walls are actually foundations upon which mud brick formed the actual structure of the dwellings. Although the majority of the buildings inside the fort are jerry-built, the area north-east of the central peak shows a different building technique. Here one first reinforced the steep slope by means of parallel terrace walls before erecting different buildings (Fig. 49) probably with mud bricks. Inside the fort we could not impose horizontal trenches.

We sunk a small control trench (T2) in a shallow visible room on the south-eastern side of the foundation wall (Fig. 50). In this 4 × 5 m room we trenched directly in the south-western corner, 1 × 1 m. The room was selected since it lay relatively horizontal on the mountain crest. The level of the room itself corresponded to the remains of still visible room walls. The room debris raised hopes here to find an intact floor. This walking surface, even if hardly

Fig. 50. View to the west, the excavation in the eastern part of the fortification (T2), remains of rooms.

visible, lay a mere 10 cm below the surface. This 10 cm thick layer appears to be eroded. It consisted of light brown clay mixed with pot shards. Probably it owes its existence to water-bourn mud brick walling which washed into the stone foundations of the room. Also below the original floor level the same yellow-brown clay came to light, but from a harder consistency and without pot shards. With a depth of 60 cm beneath the surface we reached bed rock and also the lower edge of the room walls. As noted above, the walls were jerry-built. The dense clay layer below the original floor level is not an erosion deposit, but rather an intentional *pisé* layer which formed the floor of the room. Strikingly, no obvious use-wear traces came to light in the area of the floor level, aside from a few pot shards.

The subjective impression from our trench is that the room seems to have had a single use-phase. As in the excavation from the north slope of the mountain, here we retrieved no evidence for a destruction, for example, a fire catastrophe.

The pottery from this trench corresponds with those from other parts of the site. Beside large scratch-decorated storage vessel shards, we recovered a painted leg of a tripod vessels (Fig. 25, 14), several painted body shards probably also of storage vessels (Fig. 26, 10. 12. 13), a handle of a water vessel (cf. Fig. 23, 1), and a small painted rim lip (Fig. 21, 13). Given the limited size of our excavation in the fort, several questions remain open. We cannot know whether we are dealing with roofed buildings or whether they are individual courtyard structures. Nor can we say much about the function of the different building elements. It seems that in the western part of the fort the fortifications are stouter, while in the centre and eastern parts of the fort more house foundation walls occur.

Fig. 51. Well shaft with adjacent animal troughs east of the Lizq L1.

Economic situation

Corresponding to the range of our research method in Lizq, here considerations become more speculative. But presumptions based on today's situation, may easily have remained constant over centuries. Regarding the nutrition of the ancient population, we may cast a glance at the present-day oasis population. The present-day village in the midst of the Lizq oasis lies c. 1.5 km south-east of the mountain fort. It houses 400–450 inhabitants. A main occupation is date cultivation. Less important are the gardening of grain and vegetables. A production surplus of dates is not noticeable which might reach markets, be sold locally or traded. It remains to be seen to what extent the results of the slow bleeding out of oasis workers will have here and in most of Oman's oases. The recent decline of the oasis as a result of an erosion of the working force could be reversed with its increase. The siphoning of well paid jobs, especially in the United Arab Emirates, makes itself noticeable in Lizq, and seems the reason for the demise of nearly all of the oases. In light of this, it is impossible with constant ecological conditions to draw retrogressive conclusions regarding the ancient economic situation, aside from the often cited inception of a main wave of *falağ* (*qanat*) irrigation in the Early Iron Age. An increase on population owing to invasion is not plausible (Magee 2010: 46). Nowadays the keeping of large livestock is rare. In modest numbers sheep and goats occur in the Lizq village.

Wells and a *falaf*, which imports water from the north-west, supply the present-day village. In the village area this water source flows on the surface and enables the holding of a couple dozen geese and ducks. Chicken

farming is rare. In the village itself there are several wells. Others, partly filled in and fitted with livestock troughs are located at the foot of the ancient fort (Fig. 51). In the area of the fort itself there was no sign of a well. Nor were there remains of cisterns.

By virtue of Manfred Kunter's anthropological research in the pre-Islamic cemeteries around the Samad oasis, the nutritional basis in the Early Iron Age Lizq oasis remained till today essentially unchanged (1981: 249). Although grain production dominated the 3rd millennium, in the 1st millennium B.C.E. date farming took the lead. The drastic increase of caries of the investigated skeletons gives ample evidence. In times of peace the Lizq oasis offered adequate food for the adjacent fort. It can be assumed that a part of the produce was stored in the fort, to judge from the numerous finds of storage vessels. Today's wells at the foot of the north slope supplied the ancient populace. Storage vessels are porous and must be continually recharged – a never-ending occupation. As a solution for the water supply during attacks, a walled staircase between the bastion and fortification walls on the north face was necessary.

It is conceivable that in Lizq, as for example in Palestine (e. g. Tell es-Saʿidiyeh / Jordan, cf. Pritchard 1964: 5), numerous sites in Anatolia such as Toprakkale near Van, Izoli or Harput near Elaziğ or the Iron Age Phrygian steps to a well at Boğazköy (Kleiss / Hauptmann 1976: 36), Iran (Tepe Nush-i Jan / Iran, Stronach / Roaf 1978: 5, Abb 3), that on the north side of the fort the bastion concealed a stair which communicated with a well. Assuming the connection between the staircase and the bastion, this would mean that from the plain, there would be no sign of a well. The only entrance would be from the side of the fort above. Only excavation will prove the existence of a well here. In view of the analogies with Palestine and Iran, this theory is highly probable.

At this time a new peak in the exploitation of copper is manifest. By means of survey a series of industrial areas came to light as in al-Rākī or Bilād al-Maʾdīn which yield the same artefacts as those in the settlements of the metal producers. And these are identical with those of Lizq.

The function of the Lizq fort

Considering globally the role of the Lizq fort, *a priori* we cannot assume that it was built on an famous prehistoric site. For this there is no evidence. Today Lizq is one of many oasis villages in south-east Arabia which does not appear even on good maps. 3000 years ago what was the geopolitical situation that one considered it important to build a fort here with a total surface of 20000 m²? The strategic position itself in relation to the oasis can hardly have given the impetus to fortify the Ğ. Radhania.

One possible solution to explain the origin of the fort shows modern road building. Today the Lizq oasis lies in view of the road from Mudhaybi in the south to Samad and other places further north-west. During recent times a road arose outside from the oasis, while earlier the wells in Lizq were a natural base for the mainly local traffic mainly consisting of camels. A series of wells, partly in disrepair, partly in use and fitted with livestock troughs lie at the foot of the mountain. They were perhaps used only by rare perhaps transient nomads. But it seems that the Lizq oasis lay on one of the most important north–south tracks in central Oman. This seems all the more likely if we consider that this axis secondly also connects Bidbid – ʿIbrī – Ṣūr, which without considering natural tracks could have been built, now has been built by the Omani authorities. Given that the majority of the known Early Iron Age forts lie further north in the mountains, one can assume that this Lizq fort was built to serve as a kind of advanced defence on one of the most important routes for the settlements and industry centres in the north against intruders from the arid areas of southern Oman. The last high range of the Omani mountains in connection with the oasis situation could have

been the reason for the ancient architects to build here in Lizq a large fort.

In a more limited sense, at Lizq clearly a large fort was necessary only in the 1st millennium B.C.E. Our investigations show that the fort had no predecessor, for example in the 3rd or 2nd millennia. The pottery finds on the mountain fort all indicate that the fort was never again used. Our latest dating evidence of thermoluminescense and possible Late Iron Age III pottery (to judge from foreign parallels) provide at least some evidence for the theory that the earliest wave of Late Iron Age invaders may have caused the demise of the Lizq fort. Much later in date, from the upper middle ages, only two green glazed shards of sgraffito ware came to light. These result from a temporary pause in the ruins and certainly not a settlement. Lizq could have had the function as an important station on one of the most important north–south routes, long after the demise of the fort, perhaps in peaceful times, as the wells at the foot of the mountain fort testify to.

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List of Early Iron Age sites in South-eastern Arabia.

Where the coordinate pairs show seconds, they have been verified by means of Google Earth.

SITE NAME	EI I-II*	EI III*	FEAT CODE	N	E	PROVINCE	PUBLICATION 1	PUBLICATION 2
Abayah 3	x		tomb	23°09‘	58°46‘	Sharqiyah	Doe 1977 site 03. 40	de Cardi 1977 60 fig. 1
Abraq, T.	x	x	set	25°28‘	55°33‘	Umm al-Qaiwain	Salman 1974 m	Potts 1989 20–42
Akhdar, al-	x		cem	22°50‘30“	58°10‘33“	Sharqiyah	Doe 1976 site 15. 156	Oman 20.07.1974
Amlah 15	x		tomb	23°10‘	56°53‘	Dhahirah	Doe 1976 site 41.15. 167	–
Andam, W.	?		set cem	?	?	Dakhiliyah	Schreiber 2010 86	–
Andam, W. Bir Saif	x		wa	22°59‘	58°07‘	Dakhiliyah	Doe 1977 site 25a. 46	Hastings site 11?
Asimah	x		tomb	25°19‘	56°08‘	RAK	Vogt 1994 5 139–140	Vogt 1993 67
Asimah As47	x		tomb	25°19‘40.75“	56°08‘32.06“	RAK	de Cardi 1985 site 47. 186	Schreiber 1998 20–21
Asimah As97	x	x	fort	25°19‘	56°08‘	RAK	Vogt 1994 139	–
Ayaay, al-	x		fal	24°29‘18“	55°40‘15“	Abu Dhabi	Schreiber 2007 karte 09	Tikriti 2010 20–21
Ayn, al-	?		set	23°14‘51“	56°55‘09“	Dhahirah	Schreiber 2010 85–6	–
Baat	x		set	23°17‘	56°43“	Dhahirah	Frifelt 1985 99	Schreiber 1998 90
Bahla BB-04	x		set sha	22°58‘	57°18‘	Dakhiliyah	Humphries 1974 52 fig. 6–7	Lombsrd 1985 141 fiche 47
Bahla BB-06=al-Ghubra	x		set cai	22°59‘	57°18‘	Dakhiliyah	Hastings et al 1975 11 28–30	Doe 1976 162 site 33
Bahla BB-14	x		sha	22°45‘	57°34‘	Dakhiliyah	Humphries 1974 59 fig. 2	–
Bahla BB-15=Salut	x		set cai tomb	22°45‘36.64“	57°14‘34.41“	Dakhiliyah	Humphries 1974 59 fig. 2	Avanzini-Phillips 2010
Bahla BB-16	x		waa	22°45‘	57°14‘	Dakhiliyah	Humphries 1974 50	Hastings et al 1975 11 no02
Banah, al-, W. al-Hijr	x		waa	23°17‘	56°52‘	Dakhiliyah	Does 1976 site 51. 170	de Cardi et al 1976 145
Bani Kharus, W.	?		set	?	?	Dakhiliyah	Schreiber 2010 86	–
Bani Umar	x		me_wo slag	24°27‘	56°32‘	Dakhiliyah	Goettler et al 76 site 061	Weisgerber 1978 17
Bawshar Area 3 honeycomb	x	x	cem	23°32‘34.83“	58°23‘55.39“	Muscat	Lombard 1985 149 fiche 67	Costa 1989 site 36. 115
Bawshar, Jal, Sur 3	x		tomb	23°32‘	58°24‘	Muscat	Costa 1985 127	–
Bida Bint Saud	x		fal set	24°23‘03.71“	55°42‘29.34“	Abu Dhabi	Schreiber 2007 57 karte 09	Tikriti 2011 93 fig. 66
Bida Bint Saud falaj 2	x		fal	24°22‘51.59“	55°43‘11.21“	Abu Dhabi	Schreiber 2007 57 karte 09	Tikriti 2011 88 fig. 61
Bilad al-Maadin=W. Musfa	x		me_wo slag	22°57‘29.24“	58°17‘27.18“	Sharqiyah	Goettler et al 76 site 045	Weisgerber et al 1980a 66–
Bilad Sait	x		fort sha	23°04‘	57°16‘	Dakhiliyah	Schreiber 2007 63, 110, 277	Häser 2003 25

SITE NAME	EI I-II*	EI III*	FEAT CODE	N	E	PROVINCE	PUBLICATION 1	PUBLICATION 2
Bimmah	?		set cem	22°08‘03“	59°08‘03“	Sharqiyah	Schreiber 2010 85–6	–
Bint Saud NW	x		set	24°23‘14“	55°43‘17“	Abu Dhabi	Lombard 1979 28	Tikriti 2011 88 fig. 61
Bitashar	x		tomb sf	24°04‘	52°27‘	Abu Dhabi	Vogt et al 1989 site 05. 53 pl. 4	–
Bithnah, al- e site 24	x		fort	25°10‘51.27“	56°14‘02.22“	Fujairah	Corboud et al 1988 site 24. 26–	
Bithnah, al- e site 44	x		hous	25°10‘51.27“	56°14‘02.22“	Fujairah	Benoist et al 2011 215 fig. 2	–
Bithnah, al- f site 48	x		set tomb	25°13‘	56°12‘	Fujairah	Corboud et al 1990 site 48. 26–	
Bithnah, al- h site 50	x		set tomb	25°10‘51.31“	56°14‘01.34“	Fujairah	Corboud et al 1990 site 50. 26–	
Bithnah, al- n site 59	x		sha hous_c	25°11‘	56°13‘	Fujairah	Corboud et al 1990 site 59. 28–	
Bithnah, al- site 14	x	x	cem	25°11‘19.72“	56°14‘19.72“	Fujairah	Corboud et al 1990 site 14 fig. 3	–
Bragh	x		fal	24°43‘	55°39‘	Abu Dhabi	Schreiber 2007 57 karte 09	–
Dahir, al-	x		set fie	23°39‘	56°38‘	Dhahirah	Weisgerber unpub	Schreiber 1998 89
Daqaiq, W.	x		pt set	22°59‘	58°11‘	Sharqiyah	Yule dybook 15.02.98	–
Dat Hail	x		set	23°02‘54“	57°02‘54“	Dakhiliyah	Häser 2003 27	–
Dhurra, al-, W. Aghda	x		set tomb	22°42‘24.39“	58°47‘03.02“	Sharqiyah	Doe 1977 site 46. 48 fig. 11 pl. 15	de Cardi 1977 64–5 fig. 3
Dibba=Giyan	x		gr	25°35‘	56°16‘	Sharjah	Doe 1971 site 32. 257	Schreiber 1998 97
Dibba=Giyan	x		tren	25°35‘	56°16‘	Sharjah	Bibby 1965 151–2	Frifelt 1970 377–8
Dur, ed-		x	sha cem temp	25°31‘37.34“	55°31‘31.86“	Umm al-Qaiwain	Boucharlat et al 1988	Haerinck 2001
Falaj al-Wasami	x		unk	24°18‘	55°45‘	Abu Dhabi	Lombard 1985 136 fiche 38	–
Fanakh e	x		pt mid	26°12‘	56°16‘	Musandam	Salm-Jensen 1991 40 site 15	–
Feg, Siya, W. Sarin	x		set gr	23°12‘	58°41‘	Sharqiyah	Doe 1976 site 03. 152	–
Fizh, W site 1	x		set	24°30‘	56°21‘	Batinah	Costa-Wilkinson 1987 105–7	Schreiber 1995 108
Fizh, W site 2	x		fort	24°30‘22“	56°26‘00“	Batinah	Costa-Wilkinson 1987 105–7	Schreiber 1995 108
Fizh, W site 4	x		terraces	24°30‘24.60“	56°23‘46.67“	Batinah	Costa-Wilkinson 1987 105–7	fig. 38
Ghail Shabul (SH11)	x		set	24°19‘39.68“	56°45‘58.95“	Batinah	Humphries 1974 52 74-7 fig. 11	Kervran 1984 285–6
Ghalilah	x	x	set tomb	26°00‘06.64“	56°05‘19.23“	RAK	Doe 1971 site 04. 242	Ash 1978 7–10
Ghalilah east	x		sha stons	25°58‘59.55“	56°05‘12.14“	RAK	Doe 1971 site 04. 242–3 fig. 5	de Cardi 1976 217–9
Ghanada	x		sha	24°42‘	53°39‘	Abu Dhabi	Tikriti 1985 11–6	Tikriti 1989 89–
graves	gr							
Hafit Ha20 Ha22	x		tomb	24°05‘	55°48‘	Abu Dhabi	Bibby 1964 109	Frifelt 1970 374
Hamra, al-	?		set gr	23°06‘49“	57°17‘05“	Dakhiliyah	Schreiber 2010 85–6	–

SITE NAME	EI I-II*	EI III*	FEAT CODE	N	E	PROVINCE	PUBLICATION 1	PUBLICATION 2
Hamriyah, al- harbour	x harb		fort	25°28‘	55°29‘	Sharjah	Boucharlat 1984 5–8	Jasim 1996 1–12
Hawrat Binyan	x		stons fa	24°18‘	56°31‘	Batinah	Yule daybook 04.11.91	Costa-Wilkinson 1987 211–3
Hili H02	x		set	24°17‘28.12“	55°46‘46.81“	Abu Dhabi	Tikriti 19.07.96	Lombard 1985 134 fig. 61
Hili H05–6	x		set	c24°17‘49.01“	c 55°47‘08.39“	Abu Dhabi	Cleuziou et al 1978 10	Lombard 1985 134 fiche 34
Hili H14	x		fort	24°17‘46.03“	55°47‘33.95“	Abu Dhabi	Boucharlat-Lombard 1983 7	Boucharlat 1984 192
Hili H15	x		fal	24°17‘49.26“	55°47‘34.55“	Abu Dhabi	Tikriti lecture 19.07.96	Benoist-Magee-Tikriti 1998
Hili H17	x		stons	24°17‘47.33“	55°47‘12.00“	Abu Dhabi	Tikriti 2011 68	–
Husn Awhala	x		fort	24°54‘28.24“	56°18‘13.73“	Fujairah	Potts et al 1996 214–237	Petrie 1998 246–260
Husn Madhab – a site 60	x	x	fort	25°08‘37.72“	56°19‘36.45“	Fujairah	de Cardi-Doe 1971 255 site 24	Corboud et al 1990 29 site 60
Husn Madhab – b site 61	x		me_wo	25°09‘	56°20‘	Fujairah	Corboud et al 1988 22 site 6	–
Ibra I0002	?		set tomb	22°37‘03“	58°48‘13“	Sharqiyah	Schreiber 2010 85–6	–
Ibri-Selme	x		ho	23°15‘31.98“	56°31‘12.95“	Dhahirah	Weisgerber et al 1981 232–3	Yule-Weisgerber 2001
Ismaiyah	x		fort	23°05‘	58°50	Sharqiyah	Yule Weisgerber 1998 208 Fig32	–
Izki al-Yemen	x		sha	22°55‘42.14“	57°45‘53.63“	Dakhiliyah	Yule 2011	–
Izki Iz0203	x		cem	22°55‘	57°45	Dakhiliyah	Schreiber 2007 326	–
Izki Iz0215	?		cem	22°55‘	57°45	Dakhiliyah	Schreiber 2007 327	–
Izki Iz0217	?		cem	22°55‘	57°45	Dakhiliyah	Schreiber 2007 327	–
Izki Iz0219	?		cem	22°55‘	57°45	Dakhiliyah	Schreiber 2007 327	–
J Akhdar JA055	x		stons	22°41‘	58°29‘	Sharqiyah	Schreiber 2007 370	Schreiber 2010 85–6
J al-Buhais	x		cem	25°00‘27.73“	55°47‘51.12“	Sharjah	Uerpmann et al 2006	–
J Salayli	x		cem	22°55‘46.47“	58°17‘10.89“	Sharqiyah	Weisgerber 1980a 101–2 fig. 71–2	Yule 2001
Jabib, al-	x		fal	24°34‘	55°39‘	Dubai	al-Tikriti 2002 129 131	al-Tikriti 2010 237
Jaylah, Shi‘r	x		sha	22°49‘00“	59°04‘10“	Sharqiyah	Costa lecture 1990	Yule 1992 274–9
Karsha	x		cem	22°49‘10“	57°32‘34“	Sharqiyah	Schreiber 2010 85–6	–
Khatt, al- Kh97	x		tell	25°37‘20.23“	56°37‘20.23“	RAK	de Cardi et al 1994 37 fig. 2	–
Khatt, al, Nud Ziba	x	x	tell	25°37‘12.82“	55°59‘45.99“	RAK	de Cardi-Doe 1971 site 16b. 252	de Cardi 1998

SITE NAME	EI I-II*	EI III*	FEAT CODE	N	E	PROVINCE	PUBLICATION 1	PUBLICATION 2
Khatt, al-A129, Husn Barri	x		set	25°36‘58.30“	56°00‘55.93“	RAK	Doe 1971 site 16c. 252– 240	de Cardi 1971 135–45
Khor Fakkan	x		harb	25°20‘	56°21‘	Fujairah	Doe 1971 site 29. 256–	de Cardi 1971 233 fig. 25
Khor Jaramah 099	?		set	22°48‘	59°21‘	Sharqiyah	Cleuziou et al 1990 28site KJ99	–
Lasail	x		me_wo mine	24°16‘	56°26‘	Batinah	Goettler et al 76 site 002. - 65	Weisgerber et al 1980a
Lizq L1	x	x	fort	22°41‘52.5“	58°10‘58.75“	Sharqiyah	Weisgerber 1980a 100–1	Kroll 1981 226–31
Loch Bab	?		mine	23°40‘	56°34‘	Dhahirah	Schreiber 2010 85	Weisgerber 2006 197
Madam, al-	x		set fa	24°58‘45.13“	55°46‘51.02“	Sharjah	Lombard 1985 132 fiche 28	Boucharlat et al 1988 30–7
Madam, al-, w	x		cem	24°58‘	55°46‘	Sharjah	Lombard 1985 132 fiche 29	Tikriti unpubl.
Madha al-Hawami	x		set	25°16‘	56°19‘	Musandam	Yule daybook 13.02.2012	–
Madha Rujam al-Daeer	x		cem	25°16‘	56°20‘	Musandam	Yule daybook 13.02.2012	–
Madha Waab al-Fahal	x		set	25°16‘	56°19‘	Musandam	Yule daybook 13.02.2012	–
Magan	x		cem	24°23‘	56°02‘	Batinah	Frifelt 1975a 373	Yule 2000 386
Manal	x		set	23°11‘06“	57°50‘24“	Dakhiliyah	ElMahi-Ibrahim 1976	Schreiber 2010 85–6
Maqtah hais	x		gr	22°49‘	59°00‘	Sharqiyah	Yule-Weisgerber 1998 210	–
Masirah Abu Magirah	x		tomb	20°11‘	58°37‘	Sharqiyah	Shanfari 1987 site 28. 68	–
Masirah Dhafiyat 2	x		hous	20°36‘	58°51‘	Sharqiyah	Shanfari 1987 site 68. 81	–
Masirah Dhafiyat 3	x		mid	20°34‘	58°49‘	Sharqiyah	Shanfari 1987 site 69. 81	–
Masirah Ghassur ghas	x		cai	20°25‘	58°43‘	Sharqiyah	Shanfari 1987 site 22. 66–7	–
Masirah Hilf 1	x		mid	20°39‘	58°51‘	Sharqiyah	Shanfari 1987 site 43. 72	–
Masirah J Hamr	x		mid	20°34‘	58°56‘	Sharqiyah	Shanfari 1987 site 08. 59–60	–
Masirah J Qidi	x		wa	20°16‘	58°46‘	Sharqiyah	Shanfari 1987 site 23. 67	–
Masirah Ras Dawwah	x		sha	20°33‘	58°49‘	Sharqiyah	Shanfari 1987 site 61. 79	–
Masirah Ras Mirsin 2	x		mid flin	20°25‘	58°45‘	Sharqiyah	Shanfari 1987 site 42. 72	–
Masirah Ras Zarri	x		gr	20°13‘	58°43‘	Sharqiyah	Shanfari 1987 site 32=66. 70	–
Masirah Sur Masirah 1	x		mid slag sha	20°25‘	58°45‘	Sharqiyah	Shanfari 1987 site 18. 64–5	–
Masirah Sur Masirah 1*	x		tomb	20°24‘	58°44‘	Sharqiyah	Shanfari 1987 site 25.1. 67–	–
Masirah Sur Masirah 6	x		mid	20°24‘	58°44‘	Sharqiyah	Shanfari 1987 site 73. 82	–
Mazra	x		me_wo	22°56‘	58°17‘	Sharqiyah	Weisgerber 1980a 101	–
Mlaiha, al- area B	x	x	well	25°06’36.18”	55°52’34.71”	Sharjah	Boucharlat 1991 294–300	–

SITE NAME	EI I-II*	EI III*	FEAT CODE	N	E	PROVINCE	PUBLICATION 1	PUBLICATION 2
Moyassar, al- M08	x		gr	22°48‘24.43“	58°07‘32.66“	Sharqiyah	Yule 2001 224–228	–
Moyassar, al- M27	?	x	cem	22°48‘14.23“	58°07‘13.17“	Sharqiyah	Tillmann-Kroll 1981 225	Yule 2001 228–31
Moyassar, al- M30=S101040	x		tomb	22°47‘23.42“	58°08‘23.13“	Sharqiyah	Yule 2001 272	–
Moyassar, al- M36	x		cem	22°49‘40“	58°07‘10“	Sharqiyah	Tillmann-Kroll 1981 224–5	Lombard 1985 143 fiche 53
Moyassar, al- M42		x	set	22°48‘35.57“	58°07‘34.58“	Sharqiyah	Tillmann-Kroll 1981 223	Yule-Weisgerber 1999 105–6
Moyassar, al- M4302		x	hous	22°48‘30.54“	58°07‘41.47“	Sharqiyah	Yule-Weisgerber 1999 100–5	–
Moyassar, al- M46		x	fal	22°48‘55.38“	58°07‘45.73“	Sharqiyah	Weisgerber et al 1981 245–7	Yule-Weisgerber 1999 101
Muwailah	x		set	25°17‘51.71“	55°29‘48.85“	Sharjah	Magee 1998	Schreiber 1998 74–5
Nizwa N261	x		set	22° 56‘	57° 32‘	Dakhiliyah	Schreiber 2010 85–6	–
Qarn Bint Saud	x	x	cem	24°23‘05.71“	55°43‘07.18“	Abu Dhabi	Frifelt 1970 377–8	al-Athar 1975 45–51
Qattara	x		tomb	24°15‘	55°46‘	Abu Dhabi	Cleuziou et al 1978 10–1	Cleuziou 1980a
Qawr, W al-, Naslah 3	x		tomb	24°51‘	56°15‘	RAK	Doe-de Cardi 1983 31	de Cardi 1984 204
Qawr, W al-, Rafaq 2	x		fort	24°52‘05.16“	56°15‘30.95“	RAK	de Cardi 1983 32	Potts 1992 I 364
Qawr, W al-, Raha	x		set	24°46‘	56°18‘	RAK	Doe-de Cardi 1983 31	Lombard 1985 148
Qawr, W al-, Rahaba	x		cai	26°02‘	56°06‘	RAK	de Cardi 1985 site 38. 173	–
Qawr, W. al-, Fashgha	x		tomb	24°46‘	56°18‘	RAK	Doe-de Cardi 1983 31	Phillips 1987 1–32
Qidfah	x		set cai tomb	25°18‘	56°21‘	Fujairah	Doe 1971 site 28. 256	de Cardi 1984 206 241
Qusais, al-	x		cem	25°16‘09	55°25‘16.25	Dubai	Salman 1974 a-p	al-Athar 1975 52–7
Raki, al-	x		me_wo slag	23°39‘12“	56°34‘55“	Dhahirah	Yule-Weisgerber 1996 135–55	Yule-Weisgerber 1999 108–
Ras al-Hadd HD09	x		cem	22°30‘33.45“	59°47‘33.11“	Sharqiyah	Reade letter 17.09.98	Benoist-Reade 1998 fig. 1–4
Ras al-Hadd HD21	x	x	set	22°30‘16.70“	59°46‘55.14“	Sharqiyah	Reade letter 17.09.98	Benoist-Reade 1998 fig. 5–6
Ras al-Hadd HD60	x		sha	22°29‘49.11“	59°48‘09.80“	Sharqiyah	Cleuziou-Tosi 2007 295	–
Ras al-Jins RJ02b	x		hous	22°25‘14.26“	59°49‘59.02“	Sharqiyah	Cleuziou-Tosi 2000 40	–
Ras al-Jins RJ12	x		cai	22°25‘	59°50‘	Sharqiyah	Cleuziou-Tosi 1985 6–7	–
Ras al-Jins RJ33	x		tren	22°26‘	59°48‘	Sharqiyah	Cleuziou-Tosi 2000 41	–
Rumailah	x		set	24°16‘37“	55°45‘33“	Abu Dhabi	Bibby 1966 94	Frifelt 1968 170–2
Rustaq, al-	?		set	23°23‘	57°26‘	Batinah	Schreiber 2010 86	–
Safah, al-	x		other	23°19‘06.01“	55°50‘43.09“	Dhahirah	Giorgetti 2012 internal report	Tosi internal rep. 2012

SITE NAME	EI I-II*	EI III*	FEAT CODE	N	E	PROVINCE	PUBLICATION 1	PUBLICATION 2
Salh, W	x		tomb	22°48‘	58°04‘	Sharqiyah	Weisgerber 1980a 96 fig. 61	Hauptmann 1985 117
Samad S10	x		cem	22°48‘	58°09‘	Sharqiyah	Vogt 1981 239–43	Yule 2001 236 etc
Samad S21	x		cem	22°48‘	58°09‘	Sharqiyah	Weisgerber 1981 178	Yule 2001 291–336
Samad S22	x		cem	22°48‘	58°09‘	Sharqiyah	Weisgerber 1981 178	Yule 2001 336–8
Samail, al-Ayn	x		cai	23°08‘46“	57°50‘30“	Dakhiliyah	Yule daybook 03.03.99	Yule 2000 144
Shanna	?		set	?	?	?	Schreiber 2010 86	–
Shimal, central	x		set tomb	25°49‘20.75“	56°02‘33.01“	RAK	de Cardi 1976 216–7	de Cardi 1984 202
Sib	x		tel set	23°39‘32“	58°12‘39“	Batinah	Humphries 1974 49	Frifelt 1975 389–90
Tanuf	x		set	23°02‘	57°28‘	Dakhiliyah	Schreiber 2010 85–6	–
Thuqaibah, al-	x		fal	25°57‘19.45“	55°47‘08.88“	Sharjah	Salles 1980 80	Boucharlat et al 1988 30
Tiwi TW0002 etc.	x		set cem	23°02‘	57°28‘	Sharqiyah	Schreiber 2010 85–6	Korn 2004 70 fig. 4
Umm Safah	x		set fal	25°01‘	55°49‘	Sharjah	Schreiber 1998 78–9	–
Yiti	x		fort	23°31‘	58°39‘	Sharqiyah	Schreiber 2010 85–6	–
Zahra, al-	x		fort me_wo	24°22‘24.39“	56°25‘51.81“	Batinah	Costa-Wilkinson 1987 93–104	Schreiber 1998 112

* Given the lack of Early Iron Age I sites outside the northern coastal areas (see above), the dating appears in two categories: *Early Iron Age I–II* and *III*.

Abbreviations

cai	cairn	set	settlement
cem	cemetery	sf	small find
fal	falaj	sha	shards
fie	field	slag	slag
fort	fort	stonS	stone structure
gr	grave	tell	tell
hilf	hillfort	tomb	tomb
hous	house	tren	trench
me_wo	metal working	unk	unknown
mid	midden	waA	walled enclosure type A
mine	mine		