2. The 2001 Survey on Tall Zirā'a

by Dieter Vieweger/Frauke Kenkel/Daniel Keller/Stefanie Hoss

2.1. Methodology

by Dieter Vieweger

Before commencing the survey in autumn 2001, the Tall Zirā'a was divided into squares oriented to the Israel or Palestine Grid (see *Chap. 4.1.*; *Figs. 1.33* and *4.2*). The survey area covered the whole tall, its slopes and the close vicinity on all sides. In all, 127 survey squares, 20 m x 20 m in size were covered; a total area of 5.08 ha (*Fig. 4.2*).

To obtain consistent survey results, measures were taken to ensure a uniform standard for the gathering of artefacts: all teams (each comprised of two people) were instructed together, thus provided with the same information, and remained in the same personnel composition for the remainder of the survey campaign. A time standard of one hour per square was fixed, to allow sufficient time for each square; teams were directed neither to fall below nor exceed the standard. The geographical requirements profile (that is, the surveying of squares on slopes, hillsides and plain surfaces) was planned so that the amount of work for each day was consistent. Surveying began each day on the slopes and ended on the flat plain surfaces during the hot hours of the day.

The purpose of these methods was to ensure that the same standard of work was possible from the first to the last day of the survey, and not to create a high error rate by subjective 'views' of the survey work, by haste or by the difficult conditions faced on some days due to the terrain.

2.2. Finds

2.2.1. Pottery from the 2001 Survey

by Frauke Kenkel

Fig. 2.1 Iron Age II pottery from the Survey 2001 (from left to right): above TZ 000018-001 and TZ 000045-001; below TZ 000044-007 and TZ 000044-001 (Source: BAI/GPIA).

Fig. 2.2 Islamic pottery from the Survey 2001 (from left to right): TZ 000043-002, TZ 000043-016, TZ 000040-014, and TZ 000040-012 (Source: BAI/GPIA).

All the pottery described here was collected during the 2001 Survey on Tall Zirā'a. It has been screened, described and entered into the project database. Furthermore, it was reexamined during the 2013 study season, and prepared for the forthcoming publication of the 'Gadara Region Project'. After more than ten years of excavation and survey, it was possible to define and date the survey examples more accurately, and to adjust them to typology systems which had been established over the course of the project, such as that for the Bronze and Iron Age cooking vessels (A. Schwermer; PhD-thesis) and that for the material from the Classical periods (F. Kenkel; PhD-thesis)[1]. No complete vessel was found within the survey material. The study is based purely on typo-

1 Kenkel 2012; Schwermer 2014.

logical criteria, comparison with the excavation material from Tall Zirā'a, and other published material from sites in Jordan and Palestine/Israel.

The pottery presented ranges from the Early Bronze Age to the Islamic periods, including one Ottoman pipe fragment. Altogether 22,383 sherds were collected during the survey on the tall. Around 2,847 were designated as diagnostic, and 2,680 could be assigned definitively to particular vessel types[2]. 199 types were then identified as specific for the period they were dated to; these were drawn and recorded in the catalogue to illustrate the entire ceramic typology found during the survey[3]. The plates are organised chronologically in the first instance, open forms are first, followed by closed forms, and finally, from the smallest to the biggest examples. The catalogue also provides a brief description of each illustration. Each sherd in the catalogue is numbered consecutively within the plates (*Pls. 2.1–2.14*). Designations such as jar/jug are used when it is difficult to positively determine vessel type. Detailed fabric descriptions are included in the project database, and will appear in full when the stratified material is published in the forthcoming volumes.

Two stamped Byzantine period base sherds will be presented in a separate chapter because of their iconography (*Figs. 2.4–2.7*; *Chap. 2.2.1.2.*).

2.2.1.1. Typological Studies of the Pottery

The Bronze Age (Pls. 2.1–2.4)

The material from the Bronze Age represents 11 % of the total survey collection. More than 10 % of the total collection are from the Early Bronze Age, mainly holemouth cooking vessels (*Pl. 2.1, nos. 1–10*). Holemouth vessels are the main cooking pot types throughout the Early Bronze Age[4]. However, straight walled cooking pots with 'rope decoration with irregular imprints' are more common during the Middle Bronze Age (*Pl. 2.2, nos. 4–5*)[5], whilst the cooking pots of the Late Bronze Age are characterised by a new development, an everted triangular rim (*Pl. 2.4, no. 4*).

The Bronze Age material includes almost all vessel types. Jars/jugs, bowls and kraters represent the main body of finds; but also plates, lids, chalices, storage vessels and oil lamps are present. According to R. Amiran[6], the bowl depicted on *Pl. 2.2* (*no. 1*) is the most common form of the Middle Bronze Age II period. The jar/jug form on *Pl. 2.2* (*no. 6*) appears more often during the Early Bronze Age; however, jars such as *Pl. 2.2* (*no. 7*) still continue the style from the Chalcolithic period[7]. The combed decoration on *Pl. 2.1* (*nos. 12–13*) is a typical feature on Bronze Age material.

Survey material dated to the Late Bronze Age included two fragments of imported vessels; a 'Cypriot milk bowl' sherd (*Pl. 2.4, no. 1*) and a painted Mycenaean body sherd (*Pl. 2.4, no. 10*). Even though the material derives only from the surface of the tall, the typical Bronze Age types are present; this is confirmed by the presence of the same types within the excavation material.

The Iron Age (Pls. 2.5–2.7)

A considerable number of bowls appear in the survey material which are determined to be a transitional form between the Late Bronze and the Iron Age period; in fact, more than 80 % of the vessel types are bowls. During the Iron Age itself, the situation changes, and 51 % of the vessels from this period are cooking pots, together with jars/jugs, kraters, storage vessels, bowls and some holemouth vessels. While open bowls with gently rounded sloping sides (*Pl. 2.5, nos. 2–3*) are more dominant in the Late Bronze Age, the example in *Pl. 2.5* (*no. 1*) is more likely to date from the Iron Age. The jar/jug on *Pl. 2.5* (*no. 8*) is one example from the six main northern jug types in the Iron Age I period[8]. Thus, the examples in the catalogue are typical cooking pots of the Iron Age for the northern types[9].

The examples on *Pl. 2.6* (*nos. 1–2*) are designated as northern Iron Age I types, and considered direct descendants of the Canaanite prototypes[10]. These are the most common types found in the excavation seasons; however, although they are present in all Iron Age periods, and have a big variety of rim forms, they are present mainly in Iron Age I strata[11]. The last two figures on *Pl. 2.6* (*nos. 14–15*) are particularly thin walled cooking pots. This type was found at only a few sites; it

2 Vieweger et al. 2003, 200.
3 All drawings in the catalogue were produced by the author.
4 Amiran 1969, 55.
5 Amiran 1969, 102.
6 Amiran 1969, 91.
7 Amiran 1969, 55.
8 Amiran 1969, 251.
9 Amiran 1969, 227.
10 Amiran 1969, 227.
11 Schwermer 2014, 192.

does appear in the Late Bronze Age on Tall Zirā'a, but most examples were found in the Iron Age IIA/B strata[12]. A typical example of an Iron Age IIC cooking pot within the tall's ceramic repertoire is that on *Pl. 2.7* (*no. 1*)[13].

One of the predominant jar types from Iron Age IIA/B are ovoid, with ridged necks, as depicted on *Pl. 2.7* (*no. 4*); they were widely distributed, with many variants[14].

The Classical Periods (Pls. 2.8–2.11)

The Classical periods can be divided into three main phases, the Hellenistic, the Roman and the Byzantine periods; however, it is not always easy to designate the ceramic material as belonging to these periods. In fact, it is likely that the following divisions are more accurate; the transition phase from the Persian to the Hellenistic period, the Hellenistic – Early Roman period, the Roman period, the Late Roman – Early Byzantine period, the Byzantine period and the Early Byzantine – Early Islamic period. Compared to the Bronze and Iron Age periods described above, the variety within vessel types, as well as the quantity of sherds, is notably different in the Classical periods.

While in the early transition phase from the Persian to the Hellenistic period, bowls and amphorae are the main types, Hellenistic – Early Roman period sherds exhibit a broader variety of forms, and represent almost 7 % of the total survey collection. In addition to common forms such as jars/jugs, amphorae, bowls and cooking pots, the survey material also provides examples of plates, kraters, basins, flasks, lids, cups and storage vessels. *Pl. 2.8* (*no. 2*) depicts a bowl with an incurved rim, which is typical throughout the Eastern Mediterranean during the Hellenistic period. The date range for these 'Echinus Bowls' is from the second half of the fourth century BC into the first century BC, although they are most common in the third and second centuries BC[15].

A typical fine ware, which was widely distributed in the Late Hellenistic – Early Roman period, is Eastern

Fig. 2.3 Late Hellenistic – Roman pottery from the Survey 2001: TZ 000045-010 (left), TZ 000048-001 (centre above), TZ 000045-002 (centre below), TZ 000044-010 (right) (Source: BAI/GPIA).

The jug on *Pl. 2.7* (*no. 9*) may be an example from the Persian period. All things considered, the survey material which has been designated as either Iron Age, or from the transition phase between the Late Bronze Age and the Iron Age, provides examples from the whole range of Iron Age pottery that was discovered later during the excavation seasons.

Sigillata A (ESA), represented by four examples on *Pl. 2.8* (*nos. 4–7*). The amphora on *Pl. 2.8* (*no. 8*) is a very common form within the excavation material of Tall Zirā'a; however, only one handle, without any trace of a stamp, of the widely distributed Rhodian amphorae was found in the survey material (*Pl. 2.8, no. 12*). The date range for Rhodian amphorae is from late fourth century BC through to the first and perhaps even into the second century AD[16]. The small cup on *Pl. 2.8* (*no. 13*) may be an imitation of a Nabataean form. The bowls on *Pl. 2.9* (*nos. 1–3*) are not a very common form on the tall, from either the survey or the excavation material. No Hellenistic period cooking pot was found in the survey material, although they are very common within the excavation.

Pl. 2.9 (*nos. 8–9*) are typical 'Galilean Bowls' and, together with the casseroles (*nos. 11–12*) and the cooking pots (*nos. 13–16*) on the same plate, are typical representatives of the Roman period. The Late Roman – Byzantine period is mainly represented by examples of imported wares. Examples from all of the three fine wares traded internationally in the Late Roman – Byzantine period are represented in the survey material. One example of African Red Slip Ware (ARS) (*Pl. 2.10, no. 1*) dated approx. to the second half of the sixth and/or the beginning of the seventh century AD appears in the catalogue. The three examples of Cypriot Red Slip Ware (CRS) (*Pl. 2.10, nos. 2–3*) illustrate the most common forms found within the excavation material on Tall Zirā'a, as do the examples of Late Roman C Ware (LRC) (*Pl. 2.10, nos. 5–9*). The final examples are of the most common fine ware in the Eastern Mediterranean, Hayes Form 3 (*Pl. 2.10, nos. 6–8*) which can be found on almost all sites in northern Jordan[17]. It is also the most common Late Roman – Byzantine period imported pottery within the excavation material. The examples on *Pl. 2.11* are bowls, cooking vessels and jars/jugs, mainly from the Late Roman and Byzantine periods, as well as from the Early Islamic period. The oil lamp fragment (*no. 13*) is comparable to other examples dated to the Late Roman – Byzantine period[18]. Three of the four 'peaks' in quantity of survey material are within the Classical periods. The first, which represents almost 7 % of the total survey

12 Schwermer 2014, 193.
13 Schwermer 2014, 173.
14 Amiran 1969, 201. 238.
15 Johnson 2006, 524.
16 Johnson 2006, 534.
17 Kenkel 2012, 90.
18 Kenkel 2012, Pl. 58 La72.

material (as written above), appears in the Hellenistic – Early Roman period, whilst the other two are in the Late Roman – Byzantine (25 % of the total survey material) and Byzantine – Early Islamic period (43 % of the total survey material) respectively.

The Islamic Periods (Pls. 2.12–2.14)

The Islamic material represents only approx. 6 % of the total survey material. It consists mainly of jars/jugs and amphorae, together with some bowls and cooking pots, a few kraters, and finally some plates, storage jars and lids. The material from the Mamluk period is comprised almost exclusively of jars/jugs and bowls; ceramic finds dated to this period from the excavations are chiefly from the fifteenth century AD[19], and it is considered that most of the examples from the survey material are probably from the same century. *Pl. 2.12* (*no. 1*) is a typical example of Byzantine – Early Islamic fine ware, with incised wavy decoration. The basin shown in *no. 2* on the same plate is representative of a whole range of similar vessels; a rather greyish Early Islamic fabric. Most of them are decorated with incised wavy lines, which is a very typical decoration pattern for that period. *Pl. 2.12* (*no. 5*) may be an example of a moulded vessel from the Early Islamic period. The vessels with painted reddish-brown, and sometimes black, geometric patterns (*Pl. 2.12, nos. 6–10*), are from the Mamluk period, most probably from the fifteenth century AD; most of the glazed bowls on *Pl. 2.13* are also dated between the thirteenth to the fifteenth century AD. *Pl. 2.13* (*nos. 9–13*) are typical cooking pots from the Islamic period. Unglazed Islamic pottery, such as the examples on *Pl. 2.14*, appear to be localised forms[20]; therefore, a search in the literature for parallel forms is restricted to a limited area. This difficulty is compounded by the fact that there are few specialists for common Islamic pottery.

The pipe bowl fragment (*Pl. 2.14, no. 16*) is considered to be the most modern pottery sherd within the survey material. Smoking pipes have been discovered throughout the Middle East and attributed to the Ottoman period. Tobacco was introduced to the Ottoman Empire at the beginning of the seventeenth century AD but smoking was not popular before the end of the same century; the earliest considered date for this example is the eighteenth century AD[21]. However comparisons with other fragments suggest a more likely date of either the nineteenth or the early twentieth century AD[22].

Conclusion

The pottery from the survey provides us with a detailed overview of the different types of vessels from the different periods of habitation on Tall Zirāʻa. All examples illustrated in the catalogue were attested in the excavation finds.

Concerning the distribution of the pottery, it is significant that finds from the Classical and Islamic periods are considerably more numerous on the plateaus than on the slopes of the tall. The slopes provided much more Bronze and Iron Age material[23]. The reasons will be shown in following volumes. The most prominent periods in terms of number of sherds are the Late Roman – Byzantine period, with 25 % of the total number of sherds, and the Byzantine – Early Islamic period, with 43 %. The Early Bronze Age represents a little more than 10 %, followed by the Hellenistic – Early Roman period, with almost 7 %. All other periods represent less than 5 % of the total number. It is not only percentages which differ significantly for the different periods, but the concentrations of material also. The highest concentration of Late Roman – Byzantine and Byzantine – Islamic material, as well as sherds from the Mamluk period, were collected in Area III. Sherds from the Hellenistic – Early Roman period, or earlier periods, were detected only on the slopes of that area. The excavations in Area III revealed a large building complex dated to the Late Roman – Byzantine period, with a long settlement history of several building phases and reuse within the Mamluk period (fourteenth/fifteenth century AD). A very similar picture emerges for finds from the excavation in Area II. More Bronze and Iron Age material was collected in the survey squares at the edges of the tall's plateau and on the slopes (Squares AY 125, 129 and 133, AU 113, AQ 133) than those on top of the plateau in that area. Far more examples from the Late Roman – Byzantine and Byzantine – Early Islamic periods were found on the plateau, together with Hellenistic – Early Roman pottery.

The excavations in Area II reached the Hellenistic period strata, and revealed another large building complex from the Hellenistic – Early Roman period, which had been destroyed and backfilled. Area II was still covered with building structures in the Late Roman – Byzantine and Byzantine – Early Islamic periods, proving intensive use of that area during that time.

19 Many thanks to Dr Micaela Sinibaldi, who was the first researcher to examine the medieval material from that area.

20 Tonghini 1998, 63.

21 Tonghini 1998, 68.

22 de Vinzenz 2011, Fig. 1, 1–3; Tonghini 1998, Pl. 83–88 Fig. 150 a–f.

23 Vieweger et al. 2003, 200.

Similarly in excavation Area I, the concentration of Pre-Classsical sherds is much higher in the squares along the edge of the plateau and on the slope, (Squares AD 133, AH 113 and 117, AM 113, AQ 117, AU 117). The pottery distribution is very similar to that in Area II, apart from the fact that the concentration of Hellenistic – Early Roman period material is not as high. Again the survey finds reflect the same distribution pattern as the excavations; pottery of intensive habitation remains dated to the Late Roman – Byzantine and Byzantine – Early Islamic periods were collected, together with material from the Bronze and Iron Ages, but none from the Hellenistic – Early Roman period. The relatively small number of Pre-Classical pottery sherds located on top of the tall plateau can be easily explained by the 5–6 m of cultural debris which overlay the habitation strata where they would have been found[24].

A diverse typology of typical pottery forms is represented within the survey material; however, five major categories can be distinguished. Jars/jugs are the major group, and represent more than 30 % of the material. These are followed by the cooking vessels, with more than 25 %, and then the bowls and amphorae (including some large storage vessels) represent around 20 %. All other types represent such smaller quantities that they are considered for the purposes of this study as one category, including lids, a pipe bowl and forms that could not be assigned.

Distinctive variation occurs in the distribution and variety of vessel types within the different time periods. Jars/jugs and cooking vessels constitute the majority of the finds from the Early Bronze Age, together with some bowls, kraters, plates and few storage jars. In the transition phase from Early to Middle Bronze Age, there is not only less material, but also less variety; cooking vessels are the most prominent group in that period, representing 93 % of the finds, accompanied by some jars/jugs. Although a broad variety of different vessel types exists in the Middle Bronze Age finds, the number are few, similar to those found which date to the transition phase.

The Area I excavations revealed that most of the urban structures on the tall which date from the Early Bronze Age disappeared at the end of the third millennium; this same phenomenon occurs in this period at other sites also. However, habitation continued on the tall, although somewhat reduced[25]. By the Middle Bronze Age, c. 2000 BC, the settlement had grown again, and was comprised of houses and workshops[26]; this is reflected in the broader variety of vessel types from that period. The increased variety of types continues until the Late Bronze Age, although there are shifts in type predominance; during the Middle and Late Bronze Age, jars/jugs are the dominant group, whilst cooking vessels clearly dominate in the Late Bronze Age. At the end of the Late Bronze Age, and within the transition period to the Iron Age, the vessel type distribution again changes completely; 80 % of the finds are bowls, with only 10 % comprised of jars/jugs and a few cooking vessels. At the end of the Late Bronze Age, a massive landslide occurred in Area I, most probably around 1500 BC[27]. Following the catastrophe, the area was backfilled and massive architecture, including a temple, was built on top of it; a lot of imports were identified within the excavated ceramic material from this stratum. The material and architecture together suggest the regional importance of this settlement[28]. The Late Bronze Age settlement was destroyed around 1200 BC; nevertheless, the new Iron Age I structures followed the same orientation as those from the previous period[29].

Within the Iron Age survey material, cooking pots are the largest group, representing 51 % of the finds; nonetheless, jars/jugs and bowls represent most of the remaining 50 %. Altogether, the Iron Age material displays a broader variety of types than the transition period from the Late Bronze Age.

During the Iron Age, the settlement again appeared more urban in character; however, during the eighth century BC the Assyrians occupied the region and the settlement on Tall Zirā'a again lost the former urban character[30]. Only a few remains on the tall can be assigned to the Persian occupation, and again the variety within the survey pottery decreased to mainly bowls and amphorae. Only after the conquest of Alexander the Great in 332 BC was a wider variety, in fact an unprecedented variety, detected. Around the end of the third century BC Gadara was founded on the nearby plateau[31]; it appears that around this time, a large building complex was established in Area II on the Tall Zirā'a plateau. This complex was perhaps destroyed by Alexander Jannaios during the conquest of Gadara. During the Roman period itself, cooking vessels represent 88 % of the pottery material; only at the end of that period are a broader variety of types encountered; this is also when one of the two peaks within the repertoire occurs. This fits very well with the excavations on the plateau, thus attesting that the whole plateau was used during the Byzantine period[32].

Bowls, together with cooking vessels, storage jars and oil lamps represent 80 % of the material from the Byzantine period. Conversely, from the end of the Byzantine period into the Early Islamic period, not only does the second peak within the quantity of pottery appear, but also a broader variety in types occurs, al-

24 Vieweger et al. 2003, 200.
25 Vieweger – Häser 2013, 19.
26 Vieweger – Häser 2013, 20.
27 Vieweger – Häser 2013, 20.
28 Vieweger – Häser 2013, 24.
29 Vieweger – Häser 2013, 26.
30 Vieweger – Häser 2013, 32.
31 Historically Gadara is first mentioned within the framework of the conflicts between the Ptolemies and Seleucids. Gadara was captured in 218 BC (Polyb. 5,71,3). Lichtenberger 2003, 83; Weber 2002, 60. 259 (SQ 2).
32 Vieweger – Häser 2013, 37.

though the main vessel types are concentrated within those required for the storage and preparation of food. The Area III excavations demonstrate that another big complex, associated with the Late Roman – Byzantine and Byzantine – Early Islamic periods, was constructed. It would seem that the Arab conquest of the region in 636 AD had no major impact on the tall settlement pattern[33]. There was no evidence of settlement disruption until the earthquake in 749 AD. The Islamic period survey pottery encompasses a variety of jars/jugs, amphorae, cooking vessels and some bowls. The examples from the Mamluk period are mainly bowls and jars/jugs, which have been attributed to the fourteenth/fifteenth century AD, particularly the examples concentrated in Area III, which are mainly from the fifteenth century AD.

Only one object was found in the survey material from the Ottoman period; a pipe bowl fragment; nevertheless, G. Schumacher saw some houses on Tall Zirā'a in 1885[34]. Therefore, we know there must have been some architectural remains present from that time.

It is possible to infer a great deal of information about the site from the distribution of the survey material on the tall plateau, the variety of vessel types, and the fluctuating concentration of types which exists in the different time periods. Aligning the results of the survey with those of the excavations proves that, whenever a peak of material occurred due to a major building complex in the excavation finds, the survey results reflected a similar increased number of the same type for the same period; that is, the relative distribution of ceramic finds from the settlement remains during all phases are also attested within the surface material finds. Additionally, as it can be stated that a drop of either number of finds or variety of vessel types denotes a major event in the history of the settlements, it can also be stated that, due to the alignment of survey finds to excavation finds, one can use survey material not only to define future excavation areas, but also to deduce tentative observations about the size and history of a site.

2.2.1.2. Two Sherds with a Stamp from Tall Zirā'a

A 'Cross Moline'

The base sherd of a vessel (4.1 cm x 2.9 cm) from Survey Square AH 137 has a stamp (*Figs. 2.4* and *2.5*; TZ 000206–001); throwing marks are visible on the base. The sherd belongs to the type known as Late Roman C Ware (LRC)[35]. The clay is of fine and homogenous manufacture, tempered with chalk particles; the breakage is smooth. The colour of the sherd is 10 R 5/8 red, the core 2.5 YR 5/8 red.

The imprinted seal depicts a cross in a circle. Its form corresponds to the usual depictions from the second half of the fifth century AD[36]. The double drawn cross bars are split at their ends, forming a 'Cross Moline'. The anchor is a typical early Christian symbol; it dates to the time before the Constantinian shift, when usage of the cross was still dangerous and could lead to persecution. In Post-Constantinian periods both symbols, the anchor and the cross, merged to form the 'Cross Moline'.

Fig. 2.4 Base sherd, TZ 000206–001 (Source: BAI/GPIA).

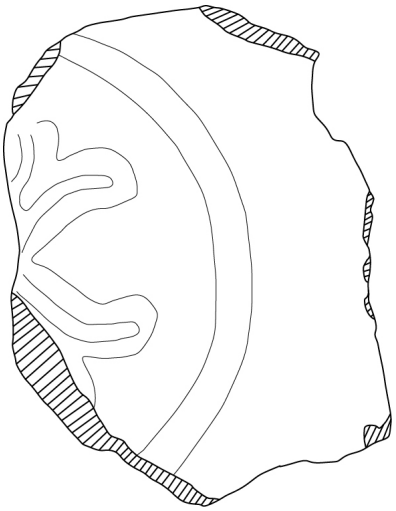


Fig. 2.5 Base sherd, TZ 000206–001 (Source: BAI/GPIA).

33 Vieweger – Häser 2013, 41.

34 Steuernagel 1926, 81.

35 Hayes 1972, 323 f.; Hayes 1980, 525–527; Kerner 1990, 241.

36 Hayes 1972, 364 Fig. j–l.

Another Cross Depiction

Another base sherd from a vessel imprinted with a stamp was found in Square AD 136 (*Figs. 2.6* and *2.7*; TZ 000396–013)[37]. The clay is fine and homogenous, the scarp smooth. This vessel also belongs to Late Roman C Ware (LRC)[38]. The temper consists of very small chalk particles. The unstamped part of the base is slightly rougher. The colour of the sherd is 5 YR 5/6 yellowish red, the core is 5 YR 5/6 yellowish red.

The illustration shows the lower right part of a cross, which is a common symbol from the second half of the fifth century AD[39].

Fig. 2.6 Base sherd, TZ 000396-013 (Source: BAI/GPIA).

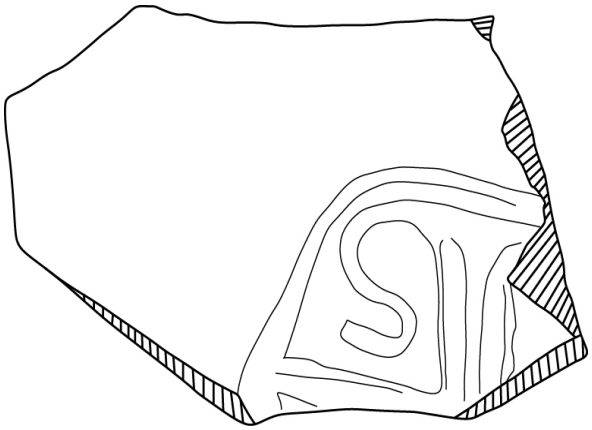


Fig. 2.7 Base sherd, TZ 000396-013 (Source: BAI/GPIA).

2.2.1.3. Early Bronze Age Pottery from Tall Zirā'a (*Pl. 2.1, nos. 1–13*)

Holemouth Cooking Pots

TZ 000369-004
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 1
Est. D. (inside): 12
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14, 15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–32. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1–5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 6, no. 12, KtFB1a.
Note: The cooking pot throughout the Early Bronze Age is mainly a holemouth vessel[40].

TZ 000102-004
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 2
Est. D. (inside): 17
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14, 15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–32. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1–5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 6, no. 10, KtFB1a.
Note: The cooking pot throughout the Early Bronze Age is mainly a holemouth vessel[41].

TZ 000149-002
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 3
Est. D. (inside): 18
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14,

37 The sherd was found according to the Portugali Method. See *Chap. 2.3.*
38 Hayes 1972, 323–325; Hayes 1980, 525–527; Kerner 1990, 241.
39 Hayes 1972, 364 Fig. j–l.
40 Amiran 1969, 55.
41 Amiran 1969, 55.

15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–32. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1–5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 7, no. 8, KtFB1b.
Note: The cooking pot throughout the Early Bronze Age is mainly a holemouth vessel[42].

TZ 000373-004
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 4; Fig. 2.8
Est. D. (inside): 18
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14, 15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–32. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1–5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 6, no. 13, KtFB1b.
Note: The cooking pot throughout the Early Bronze Age is mainly a holemouth vessel[43].

Fig. 2.8 Cooking pot, TZ 000373-004 (Source: BAI/ GPIA).

TZ 000349-001
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 5; Fig. 2.9
Est. D. (inside): 19
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14, 15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–32. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1–5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 7, no. 3, KtFB1b.
Note: The cooking pot throughout the Early Bronze Age is mainly a holemouth vessel[44].

Fig. 2.9 Cooking pot, TZ 000349-001 (Source: BAI/ GPIA).

TZ 000101-001
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 6
Est. D. (inside): 17
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14, 15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–32. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1–5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 9, no. 1, KtFB1c.
Note: The cooking pot throughout the Early Bronze Age is mainly a holemouth vessel[45].

TZ 000452-006
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 7; Fig. 2.10
Est. D. (inside): 18.5
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14, 15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–32. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1–5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 10, no. 1, KtFB1d.
Note: The cooking pot throughout the Early Bronze Age is mainly a holemouth vessel[46].

Fig. 2.10 Cooking pot, TZ 000452-006 (Source: BAI/ GPIA).

42 Amiran 1969, 55.
43 Amiran 1969, 55.
44 Amiran 1969, 55.
45 Amiran 1969, 55.
46 Amiran 1969, 55.

TZ 000125-001
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 8
Est. D. (inside): 14.5
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14, 15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–32. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1– 5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 11, no. 3, KtFB1e.
Note: The cooking pot throughout the Early Bronze Age is mainly a holemouth vessel[47].

TZ 000368-006
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 9
Est. D. (inside): 27
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14, 15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–332. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1–5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 11, no. 2, KtFB1e.
Note: The cooking pot throughout the Early Bronze Age is mainly a holemouth vessel[48].

TZ 000375-002
Type: Cooking pot
Rim Form: Holemouth
Figure References: Pl. 2.1, no. 10; Fig. 2.11
Est. D. (inside): 30
Parallel: **EB**: Amiran 1969, Pl. 14, 6–7. 9–10; Banning et al. 2005, Fig. 13, 7–8; Bourke et al. 1994, Fig. 4, 1. 3. 6; Bourke et al. 1998, Fig. 7, 19. 21; Fischer 1993, Fig. 14, 15–16; Harrison et al. 2000, Fig. 8, 1–10; Kamlah 1993, Fig. 3, 10–11; Nigro – Sala 2010, Fig. 5, KB.09.B.818, 19–20. 22 and Fig. 6, KB.09.B.818, 3. 27. 31–32. 34. 36–37. 39. 42–43; Palumbo et al. 1996, Fig. 34, 1–5; Savage – Rollefson 2001, Fig. 5; Schwermer 2014, app. part I, 11, no. 6, KtFB1e.
Note: The cooking pot throughout the Early Bronze Age is mainly holemouth vessel[49].

Fig. 2.11 Cooking pot, TZ 000375-002 (Source: BAI/GPIA).

Jars/Jugs

TZ 000285-002
Type: Jar/Jug
Form: Ledge handle
Figure References: Pl. 2.1, no. 11; Fig. 2.12; Vieweger et al. 2002, Fig. 15.
Wall thickness: 0.7
Parallel: **EB**: Amiran 1969, Pl. 9, 18; Hendrix et al. 1997, no. 55, 101 and no. 90, 113.
Note: Irregularly painted decoration and three notches on the bottom side of the handle.

Fig. 2.12 Jug, TZ 000285-002 (Source: BAI/GPIA).

TZ 000290-003
Type: Jar/Jug
Form: Decorated body sherd
Figure References: Pl. 2.1, no. 12; Fig. 2.13
Wall thickness: 1
Parallel: **EB**: Amiran 1969, Pl. 17, 15; Banning et al. 2005, Fig. 9, 1; Hendrix et al. 1997, no. 103, 117.
Note: Combed decoration on the outside of the sherd.

Fig. 2.13 Jug, TZ 000290-003 (Source: BAI/GPIA).

47 Amiran 1969, 55.
48 Amiran 1969, 55.
49 Amiran 1969, 55.

TZ 000263-008
Type: Jar/Jug
Form: Decorated body sherd
Figure References: Pl. 2.1, no. 13; Fig. 2.14
Wall thickness: 1
Parallel: **EB**: Amiran 1969, Pl. 17, 15; Banning et al. 2005, Fig. 9, 1; Hendrix et al. 1997, no. 103, 117.
Note: Combed decoration on the outside of the sherd.

Fig. 2.14 Jar/Jug, TZ 000263-008 (Source: BAI/GPIA).

2.2.1.4. Early and Middle Bronze Age Pottery from Tall Zirā'a (*Pl. 2.2, nos. 1–7*)

Bowls

TZ 000375-001
Type: Bowl
Rim Form: Thickened inverted rim, triangular in section
Figure References: Pl. 2.2, no. 1; Fig. 2.15
Est. D. (max.): 28
Parallel: **MB I/MB II**: Amiran 1969, Pl. 26, 3 and Pl. 25, 4; **MB I**: Bourke et al. 1998, Fig. 17, 6; Houston Smith 1973, Pl. 27, 496.
Note: According to Amiran this is the commonest bowl of the MB IIB–C period[50].

Fig. 2.15 Bowl, TZ 000375-001 (Source: BAI/GPIA).

TZ 000102-006
Type: Bowl
Rim Form: Outward sloping thickened and slightly grooved rim
Figure References: Pl. 2.2, no. 2
Est. D. (inside): 33
Parallel: No parallel found.
Note: –

TZ 000333-005
Type: Bowl
Rim Form: Thickened inverted rim, horizontal upper side
Figure References: Pl. 2.2, no. 3; Fig. 2.16
Est. D. (max.): 40
Parallel: **EB I/EB II**: Amiran 1969, Pl. 9, 10 and Pl. 18, 6; **MB I**: Houston Smith 1973, Pl. 27, 926.
Note: Deep hemispherical bowl.

Fig. 2.16 Bowl, TZ 000333-005 (Source: BAI/GPIA).

Cooking Pots

TZ 000045-004
Type: Cooking pot
Rim Form: Slightly inverted rim, in the upper part grooved inside
Figure References: Pl. 2.2, no. 4; Vieweger et al. 2002, Fig. 21.
Est. D. (max.): 27
Parallel: **MB**: Amiran 1969, Pl. 30, 3
Note: 'Rope decoration' at the outside of the rim with irregular imprints. The straight-walled cooking pot is one of the most common forms[51]. It appears predominantly in the Middle Bronze Age strata within the Tall Zirā'a excavations (Strata 19–16)[52].

TZ 000307-001
Type: Cooking pot
Form: Decorated body sherd
Figure References: Pl. 2.2, no. 5; Vieweger et al. 2002, Fig. 21.
Wall thickness: 1.2

50 Amiran 1969, 91.
51 Amiran 1969, 102.
52 Schwermer 2014, 115.

Parallel: **MB**: Amiran 1969, Pl. 30, 1; Bourke et al. 1998, Fig. 17, 12; Hendrix et al. 1997, no. 139; Houston Smith 1973, Pl. 34, 717. 730. 1282; Schwermer 2014, app. part I, 18, no. 7, KtMB1b.
Note: 'Rope decoration' at the outside of the rim with irregular imprints.

Jars/Jugs

TZ 000325-003
Type: Jar/Jug
Rim Form: Thickened outward everted rim and almost straight neck
Figure References: Pl. 2.2, no. 6; Vieweger et al. 2002, Fig. 15
Est. D. (max.): 24
Parallel: **EB/MB**: Amiran 1969, Pl. 17, 6; Fischer 1993, Fig. 14, 13; Fischer 1994, Fig. 12; Hendrix et al. 1997, no. 108, 121; Houston Smith 1973, Pl. 27, 919.
Note: This form appears more often during the Early Bronze Age period.

TZ 000367-001
Type: Jar/Jug
Rim Form: Inward bending neck and outward everted rim (rail-rim)
Figure References: Pl. 2.2, no. 7; Fig. 2.17
Est. D. (max.): 27
Parallel: **EB**: Amiran 1969, Pl. 14. 3.
Note: The jars of this kind still continue the tradition of the Chalcolithic period, in form as well as in the decoration[53].

Fig. 2.17 Jar/Jug, TZ 000367-001 (Source: BAI/GPIA).

2.2.1.5. Middle and Late Bronze Age Pottery from Tall Zirā'a (*Pl. 2.3, nos. 1–9*)

Bowls

TZ 000187-004
Type: Bowl
Rim Form: Rounded slightly inturned rim
Figure References: Pl. 2.3, no. 1; Fig. 2.18
Est. D. (inside): 12
Parallel: **MB**: Amiran 1969, Pl. 25, 8; Houston Smith 1973, Pl. 35, 576.
Note: Small hemispherical bowl.

Fig. 2.18 Bowl, TZ 000187-004 (Source: BAI/GPIA).

TZ 000126-002
Type: Bowl
Rim Form: Open bowl with rounded sides and inturned rim
Figure References: Pl. 2.3, no. 2; Fig. 2.19
Est. D. (max.): 24
Parallel: **MB**: Amiran 1969, Pl. 25, 3; Houston Smith 1973, Pl. 35, 770.
Note: —

Fig. 2.19 Bowl, TZ 000126-002 (Source: BAI/GPIA).

TZ 000111-003
Type: Bowl
Rim Form: Wide open bowl with slightly rounded sides and inturned rim
Figure References: Pl. 2.3, no. 3
Est. D. (inside): 30
Parallel: **EB/MB**: Amiran 1969, Pl. 11, 4; Houston Smith 1973, Pl. 35, 770.
Note: The vessel can be also considered a small platter, due to its size.

53 Amiran 1969, 55.

Krater

TZ 000045-003
Type: Krater
Rim Form: Inward bending neck with a flat horizontal rim, rounded at the outside
Figure References: Pl. 2.3, no. 5; Fig. 2.20
Est. D. (max.): 24
Parallel: **MB II**: Yadin et al. 1958, Pl. 112, 12.
Note: —

Fig. 2.20 Krater, TZ 000045-003 (Source: BAI/GPIA).

Cooking Pots

TZ 000229-001
Type: Cooking pot
Rim Form: Inward bending neck and outward flaring rim, pointed at the upper part of the lip
Figure References: Pl. 2.3, no. 7
Est. D. (max.): 28
Parallel: **MB II/LB I**: Hendrix et al. 1997, 139, no. 135; Schwermer 2014, app. part I, 25, no. 4 and 26, no. 12, KtMB/SB1a; Yadin et al. 1958, Pl. 138, 2.
Note: This type appears with more than 500 examples predominantly in the late phase of the Early Bronze Age III and the transitional period between the Early and Middle Bronze Age on Tall Zirā'a (Strata 21 and 20)[54].

TZ 000357-005
Type: Cooking pot
Rim Form: Inward bending neck and outward flaring slightly thickened and rounded rim
Figure References: Pl. 2.3, no. 6; Fig. 2.21
Est. D. (max.): 25
Parallel: **MB II**: Amiran 1969, Pl. 9, 31 and Pl. 28, 2; Schwermer 2014, app. part I, 26, no. 12, KtMB/SB1a; Yadin et al. 1958, Pl. 116, 2.
Note: This type appears with more than 500 examples predominantly in the late phase of the Early Bronze Age III and the transition period between the Early and Middle Bronze Age on Tall Zirā'a (Strata 21 and 20)[55].

Fig. 2.21 Cooking pot, TZ 000357-005 (Source: BAI/GPIA).

Bowls/Kraters

TZ 000403-005
Type: Bowl/Krater
Base Form: Outward flaring rounded base ring
Figure References: Pl. 2.3, no. 8; Fig. 2.22
Est. D. (max.): 8.5
Parallel: **MB**: Hendrix et al. 1997, no. 143, 141; Houston Smith 1973, Pl. 35, 738.
Note: —

Fig. 2.22 Bowl/Krater, TZ 000403-005 (Source: BAI/GPIA).

TZ 000336-005
Type: Bowl/Krater
Base Form: Flat base, rounded at the outside
Figure References: Pl. 2.3, no. 9; Fig. 2.23
Est. D. (max.): 10.8
Parallel: **MB**: Houston Smith 1973, Pl. 38, 831.
Note: —

Fig. 2.23 Bowl/Krater, TZ 000336-005 (Source: BAI/GPIA).

54 Schwermer 2014, 95. 128.

55 Schwermer 2014, 95. 128.

TZ 000403-001
Type: Bowl/Krater
Rim Form: Vertical thickened rim, slightly outward bending, broadened to the upper part of the lip with a groove on the outer upper part
Figure References: Pl. 2.3, no. 4; Fig. 2.24
Est. D. (inside): 20
Parallel: **MB**: Bourke et al. 1998, Fig. 20, 12; Yadin et al. 1958, Pl. 112, 13.
Note: This type is very similar to the examples from the excavation strata 19 to 17 that are mainly from the Early Bronze Age period.

Fig. 2.24 Bowl/Krater, TZ 000403-001 (Source: BAI/GPIA).

2.2.1.6. Late Bronze Age Pottery from Tall Zirā'a (*Pl. 2.4, nos. 1–10*)

Bowls

TZ 000163-008
Type: Milk bowl
Rim Form: Hemispherical bowl with a thinned rounded lip
Figure References: Pl. 2.4, no. 1; Fig. 2.25; Vieweger et al. 2002, Fig. 18
Est. D. (max.): 16
Parallel: **LB I/II**: Amiran 1969, Pl. 53, 2–6. 8; Yadin et al. 1960, Pl. 123, 5–6.
Note: Painted brown decoration on a white to beige slip. Import from Cyprus.

Fig. 2.25 Milk bowl, TZ 000163-008 (Source: BAI/GPIA).

TZ 000111-002
Type: Bowl
Rim Form: Rounded bowl with rounded lip and a carination right under the straight-sided rim
Figure References: Pl. 2.4, no. 2
Est. D. (max.): —
Parallel: **LB IA/II**: Amiran 1969, Pl. 61, 13 and Pl. 62, 6; Mazar 2006, Fig. 12.1.
Note: This type of bowl is more common in the Iron Age period.

TZ 000434-001
Type: Bowl/Krater
Rim Form: Inward bending neck and thickened slightly outward bending flat lip
Figure References: Pl. 2.4, no. 3; Fig. 2.26
Est. D. (max.): 40
Parallel: **LB**: Amiran 1969, Pl. 41, 10.
Note: —

Fig. 2.26 Bowl/Krater, TZ 000434-001 (Source: BAI/GPIA).

Cooking Pots

TZ 000413-002
Type: Cooking pot
Rim Form: Everted triangular rim
Figure References: Pl. 2.4, no. 4
Est. D. (max.): 24
Parallel: **LB**: Amiran 1969, Pl. 42, 8; Bourke et al. 1998, Fig. 11, 2; Herr – Clark 2008, Fig. 18, 8; Schwermer 2014, app. part I, 32, no. 1, KtSB1a.2.
Note: The everted triangular rim is a new development of the Late Bronze Age period and also one of the main features of the examples of that period on Tall Zirā'a (Strata 15 and 14)[56].

56 Amiran 1969, 135; Schwermer 2014, 145.

TZ 000011-003
Type: Cooking pot
Rim Form: Triangular rim
Figure References: Pl. 2.4, no. 5
Est. D. (max.): 29
Parallel: **LB**: Amiran 1969, Pl. 42, 10; Bourke et al. 1994, Fig. 20, 3; Schwermer 2014, app. part I, p. 40, no. 1, KtSB1e; Yadin et al. 1958, Pl. 145, 5.
Note: The everted triangular rim is a new development of the Late Bronze Age and also one of the main features of the examples of that period on Tall Zirā'a (Strata 15 and 14)[57].

TZ 000014-015
Type: Cooking pot
Rim Form: Triangular rim
Figure References: Pl. 2.4, no. 6
Est. D. (max.): 34
Parallel: **LB**: Amiran 1969, Pl. 42, 10; Bourke et al. 1994, Fig. 20, 3; Schwermer 2014, app. part I, 40, no. 1, KtSB1e; Yadin et al. 1958, Pl. 145, 5.
Note: The everted triangular rim is a new development of the Late Bronze Age and also one of the main features of the examples of that period on Tall Zirā'a (Strata 15 and 14[58].

TZ 000114-003
Type: Cooking pot
Rim Form: Like a squat but longer and with a more edged triangle lip
Figure References: Pl. 2.4, no. 7
Est. D. (max.): 34
Parallel: **LB IIB**: Amiran 1969, Pl. 42, 14; Houston Smith 1973, Pl. 48, 698.
Note: According to Amiran this is the most typical shape of the last phase of the Late Bronze Age cooking pots (Strata 15 and 14)[59].

Storage Jars

TZ 000334-002
Type: Storage jar
Rim Form: Slightly outward bending neck with thickened and everted rounded rim
Figure References: Pl. 2.4, no. 8; Fig. 2.27
Est. D. (max.): 22
Parallel: **MB/LB**: Amiran 1969, Pl. 44, 4; Bourke et al. 1998, Fig. 20, 8; Yadin et al. 1958, Pl. 130, 1–2.
Note: Stated as a 'domestic jar'[60].

Fig. 2.27 Storage jar, TZ 000334-002 (Source: BAI/GPIA).

Pithoi

TZ 000127-003
Type: Pithos
Rim Form: Slightly inturned thickened overhanging and rounded rim
Figure References: Pl. 2.4, no. 9; Fig. 2.28
Est. D. (max.): 20
Parallel: **LB**: Amiran 1969, Pl. 44, 1–6; Papadopoulos – Kontorli-Papadopoulos 2010, Fig. 10c, 126.
Note: —

Fig. 2.28 Pithos, TZ 000127-003 (Source: BAI/GPIA).

Jugs

TZ 000014-008
Type: Jug
Form: Decorated body sherd
Figure References: Pl. 2.4, no. 10; Fig. 2.29
Wall thickness: 0.74
Parallel: **LB**: Amiran 1969, 179–181, Pl. 57.
Note: Mycenaean import.

Fig. 2.29 Jug, TZ 000014-008 (Source: BAI/GPIA).

57 Amiran 1969, 135; Schwermer 2014, 145.
58 Amiran 1969, 135; Schwermer 2014, 145.
59 Amiran 1969, 140.
60 Amiran 1969, 142.

2.2.1.7. Late Bronze/Iron Age and Iron Age Pottery from Tall Zirā'a (*Pl. 2.5, nos. 1–9*)

Bowls

TZ 000397-002
Type: Bowl
Rim Form: Bowl with a vestigial carination and flat horizontal rim
Figure References: Pl. 2.5, no. 1; Fig. 2.30
Est. D. (max.): 20
Parallel: **IA**: Yadin et al. 1958, Pl. 45, 15.
Note: This bowl is more likely an Iron Age example, since there has been no parallel found within the Bronze Age material so far.

Fig. 2.30 Bowl, TZ 000397-002 (Source: BAI/GPIA).

TZ 000021-028
Type: Bowl
Rim Form: Rounded bowl with rounded rim, pointed at the inside
Figure References: Pl. 2.5, no. 2
Est. D. (max.): 30
Parallel: **LB**: Amiran 1969, Pl. 38, 22; Houston Smith 1973, Pl. 48, 39.
Note: The open bowls with gently rounded sloping sides are dominant in the Late Bronze Age[62].

Bowls/Kraters

TZ 000340-001
Type: Bowl/Krater
Rim Form: Inverted with round thickening exterior rim
Figure References: Pl. 2.5, no. 5; Fig. 2.32
Est. D. (max.): 21.6
Parallel: **LB/IA**: Amiran 1969, Pl. 41, 1. 10, Pl. 69, 2, Pl. 74, 1; Fischer 1997, Fig. 7, 3; Fischer – Feldbacher 2011, Fig. 8, 2; Houston Smith 1973, Pl. 48, 548; Sauer – Herr 2012, Fig. 2.7.4 and 2.14.1.
Note: This type of kraters shows mainly two types of handles: perpendicular loop-handles or horizontal loop-handles. However, this example does not provide us with such information.

TZ 000337-001
Type: Bowl
Rim Form: Almost straight sloping sides, rounded rim, pointed at the inside
Figure References: Pl. 2.5, no. 3
Est. D. (max.): 31
Parallel: **LB**: Amiran 1969, Pl. 38, 14; Fischer 1997, Fig. 5, 1; Houston Smith 1973, Pl. 41, 898 and Pl. 47, 44.
Note: The open bowls with gently rounded sloping sides are dominant in the Late Bronze Age[61].

TZ 000268-001
Type: Bowl
Rim Form: Rounded rim, interior thickened
Figure References: Pl. 2.5, no. 4; Fig. 2.31
Est. D. (max.): 32
Parallel: **IA**: Amiran 1969, Pl. 60, 10; Hendrix et al. 1997, no. 225, 177; Sauer – Herr 2012, Fig. 2.8, 11.
Note: —

Fig. 2.31 Bowl, TZ 000268-001 (Source: BAI/GPIA).

Fig. 2.32 Bowl/Krater, TZ 000340-001 (Source: BAI/GPIA).

61 Amiran 1969, 124.

62 Amiran 1969, 124.

Jars/Jugs

TZ 000333-001
Type: Jar/Jug
Rim Form: Outward flaring thickened rim, slightly triangular in section
Figure References: Pl. 2.5, no. 6; Fig. 2.33
Est. D. (max.): 11
Parallel: **LB/IA**: Amiran 1969, Pl. 43, 8, 10, Pl. 44, 1, 5; Fischer – Walmsley 1995, Fig. 10, 9; Hendrix et al. 1997, no. 210, 169.
Note: According to Amiran this vessel is more likely one of the 'domestic jars'[63].

Fig. 2.33 Jar/Jug, TZ 000333-001 (Source: BAI/GPIA).

TZ 000330-004
Type: Jar/Jug
Rim Form: Thickened collar like rim, slightly grooved on the outside
Figure References: Pl. 2.5, no. 7; Fig. 2.34
Est. D. (max.): 12
Parallel: **LB/IA**: Herr – Clark 2008, Fig. 16, 11; Sauer – Herr 2012, Fig. 2.3.1; Yadin et al. 1958, Pl. 141, 8.
Note: —

Fig. 2.34 Jar/Jug, TZ 000330-004 (Source: BAI/GPIA).

Jars/Jugs

TZ 000340-002
Type: Jar/Jug
Rim Form: High cylindrical neck, thickened rim and rounded lip
Figure References: Pl. 2.5, no. 8; Fig. 2.35
Est. D. (max.): 11
Parallel: **IA**: Amiran 1969, Pl. 84, 3; Yadin et al. 1960, Pl. 58, 17–18.
Note: Example of one of the six main northern types of jugs in the Iron Age I period[64].

Fig. 2.35 Jar/Jug, TZ 000340-002 (Source: BAI/GPIA).

Jugs/Kraters

TZ 000471-008
Type: Jug/Krater
Rim Form: One-ridged neck, bulbous body
Figure References: Pl. 2.5, no. 9; Fig. 2.36
Est. D. (max.): 26
Parallel: **IA**: Amiran 1969, Pl. 71, 9; Fischer – Feldbacher 2011, Fig. 8, 4; Mazar 2006, Fig. 12.2, KR51–52; Sauer – Herr 2012, Fig. 2.28. 3. 5–6.
Note: This type of krater is often standing on three loop-handles[65].

Fig. 2.36 Jug/Krater, TZ 000471-008 (Source: BAI/GPIA).

63 Amiran 1969, 142.
64 Amiran 1969, 251.
65 Amiran 1969, 217.

2.2.1.8. Iron Age Cooking Pots from Tall Zirā'a (*Pl. 2.6, nos. 1–15*)

Cooking Pots

TZ 000397-003
Type: Cooking pot
Rim Form: Elongated rim, triangular in section
Figure References: Pl. 2.6, no. 1; Fig. 2.37
Est. D. (max.): 27
Parallel: **IA I**: Amiran 1969, Pl. 75, 3; Dijkstra et al. 2009, Fig. 4.7. 4–5; Fischer – Feldbacher 2011, Fig. 2, 5–6; Mazar 2006, Fig. 12.3; Schwermer 2014, app. part I, 52, no. 1, KtEZ2a.2.
Note: Considered to be an example of the Iron Age I period in the north and a direct descendent from its Canaanite prototypes[66]. Within the excavations of Tall Zirā'a this type is the dominating type throughout the Iron Age period, but can be found mainly in Iron Age I stratum (Stratum 13). It has the most variations of rim types[67].

Fig. 2.37 Cooking pot, TZ 000397-003 (Source: BAI/GPIA).

TZ 000054-022
Type: Cooking pot
Rim Form: Elongated rim, triangular in section
Figure References: Pl. 2.6, no. 2
Est. D. (max.): 33
Parallel: **IA I**: Amiran 1969, Pl. 75, 11; Schwermer 2014, app. part I, 52, no. 1, KtEZ2a.2; Yadin et al. 1958, Pl. 48,1.
Note: Considered to be an example of the Iron Age I period in the north and as a direct descendent from its Canaanite prototypes[68]. Within the excavations of Tall Zirā'a this type is the dominating type throughout the Iron Age period, but can be found mainly in Iron Age I Stratum 13. It has the most variations of rim types[69].

TZ 000020-004
Type: Cooking pot
Rim Form: Elongated thickened inward bending rim, slightly concave, rounded lip and pronounced ridge at the outside
Figure References: Pl. 2.6, no. 3; Fig. 2.38
Est. D. (inside): 25
Parallel: **IA II**: Amiran 1969, Pl. 75, 11; Daviau 1994, Fig. 20, 5; Mazar 2006, Fig. 12.3 CP54; Schwermer 2014, app. part I, 54, no. 2, KtEZ2b.1.
Note: —

Fig. 2.38 Cooking pot, TZ 000020-004 (Source: BAI/GPIA).

TZ 000081-002
Type: Cooking pot
Rim Form: Elongated rim, slightly concave, rounded lip and pronounced ridge at the outside
Figure References: Pl. 2.6, no. 4
Est. D. (max.): 30
Parallel: **IA II**: Schwermer 2014, app. part I, 54, no. 2, KtEZ2b.1.
Note: —

TZ 000190-001
Type: Cooking pot
Rim Form: Slightly inturned thickened rim, rounded lip with a small ridge at the outside
Figure References: Pl. 2.6, no. 5
Est. D. (max.): 30
Parallel: **IA**: Amiran 1969, Pl. 75, 14; Schwermer 2014, app. part I, 57, no. 8, KtEZ2b.2.
Note: Example from the northern types of cooking pots[70].

TZ 000048-002
Type: Cooking pot
Rim Form: Elongated rim, triangular in section.
Figure References: Pl. 2.6, no. 6
Est. D. (max.): 30
Parallel: **IA**: Amiran 1969, Pl. 75, 10; Schwermer 2014, app. part I, 56, no. 3, KtEZ2b.2.
Note: Example from the northern types of cooking pots[71].

66 Amiran 1969, 227.
67 Schwermer 2014, 192.
68 Amiran 1969, 227.
69 Schwermer 2014, 192.
70 Amiran 1969, 227.
71 Amiran 1969, 227.

TZ 000476-007
Type: Cooking pot
Rim Form: Ridged concave neck, thickened and rounded lip
Figure Reference: Pl. 2.6, no. 7; Fig. 2.39
Est. D. (max.): 26
Parallel: **IA II**: Mazar 2006, Pl. 18.1 BL54; Palumbo et al. 1996, Fig. 36, 8; Sauer – Herr 2012, Fig. 2.24, 10; Schwermer 2014; app. part I, 59. No. 3, KtEZ2b.4.
Note: —

Fig. 2.39 Cooking pot, TZ 000476-007 (Source: BAI/GPIA).

TZ 000120-005
Type: Cooking pot
Rim Form: Elongated thickened rim, slightly concave, rounded lip and pronounced ridge at the outside
Figure Reference: Pl. 2.6, no. 8
Est. D. (max.): 30
Parallel: **IA II**: Schwermer 2014, app. part I, 61, no. 1, KtEZ2b.5.
Note: —

TZ 000238-007
Type: Cooking pot
Rim Form: Elongated thickened rim, slightly concave, rounded lip and pronounced ridge at the outside
Figure Reference: Pl. 2.6, no. 9; Fig. 2.40
Est. D. (inside): 23
Parallel: **IA II**: Lamprichs – al-Sa'ad 2003, Fig. 25, 3; Schwermer 2014, app. part I, 63, no. 1, KtEZ2b.6.
Note: —

Fig. 2.40 Cooking pot, TZ 000238-007 (Source: BAI/GPIA).

TZ 000044-001
Type: Cooking pot
Rim Form: Elongated thickened rim, slightly concave, rounded lip and pronounced ridge at the outside
Figure Reference: Pl. 2.6, no. 10
Est. D. (max.): 30
Parallel: **IA II**: Schwermer 2014, app. part I, 63, no. 1, KtEZ2b.6.
Note: —

TZ 000248-002
Type: Cooking pot
Rim Form: Elongated thickened rim, rounded lip and sharp ridge at the outside
Figure References: Pl. 2.6, no. 11; Vieweger et al. 2002, Fig. 16
Est. D. (max.): 30
Parallel: **IA**: Amiran 1969, Pl. 75, 12; Schwermer 2014, app. part I, 65, no. 3, KtEZ2c.1.
Note: Example from the northern types of cooking pots. Handles appear to be more frequent than in the period before[72].

TZ 000018-002
Type: Cooking pot
Rim Form: Elongated rim, triangular in section
Figure References: Pl. 2.6, no. 12; Fig. 2.41; Vieweger et al. 2002, Fig. 16.
Est. D. (max.): 33
Parallel: **IA**: Amiran 1969, Pl. 75, 1; Hendrix et al. 1997, no. 196, 163; Schwermer 2014, app. part I, 67, no. 3, KtEZ2d.1.
Note: Example from the northern types of cooking pots[73].

Fig. 2.41 Cooking pot, TZ 000018-002 (Source: BAI/GPIA).

TZ 000126-004
Type: Cooking pot
Rim Form: Elongated inward bending rim, slightly concave, rounded lip and pronounced ridge at the outside
Figure References: Pl. 2.6, no. 13
Est. D. (inside): 31
Parallel: **IA II**: Schwermer 2014, app. part I, 68, no. 11, KtEZ2d.1.
Note: —

72 Amiran 1969, 227.

73 Amiran 1969, 227.

TZ 000044-009
Type: Cooking pot
Rim Form: Elongated inward bending rim, slightly concave, rounded lip and pronounced ridge at the outside
Figure References: Pl. 2.6, no. 14
Est. D. (max.): 30
Parallel: **IA II**: Fischer – Walmsley 1995, Fig. 7, 1; Schwermer 2014, app. part I, 75, no. 5, KtEZ3b.
Note: This type has a specific thin body wall and can be found only on few sites so far. On Tall Zirā'a it appears in the Late Bronze Age but has its main focus in the Iron Age IIA/B strata (Strata 15, 14, 12 and 11)[74].

TZ 000298-012
Type: Cooking pot
Rim Form: Elongated inward bending rim, slightly concave, rounded lip and pronounced ridge at the outside
Figure References: Pl. 2.6, no. 15; Fig. 2.42
Est. D. (max.): 37
Parallel: **IA II**: Schwermer 2014, app. part I, 75, no. 9, KtEZ3b.
Note: This type has a specific thin body wall and can be found only on few sites so far. On Tall Zirā'a it appears in the Late Bronze Age but has its main focus in the Iron Age IIA/B strata (Strata 15, 14, 12 and 11)[75].

Fig. 2.42 Cooking pot, TZ 000298-012 (Source: BAI/GPIA).

2.2.1.9. Iron Age IIA/B and Iron Age IIC Pottery from Tall Zirā'a (*Pl. 2.7, nos. 1–11*)

Cooking Pots and Jars

TZ 000044-008
Type: Cooking pot
Rim Form: Short thickened rim
Figure References: Pl. 2.7, no. 1
Est. D. (max.): 14
Parallel: **IA II**: Schwermer 2014, app. part I, 80, no. 1, KtEZ4b.
Note: Within the excavations of Tall Zirā'a this type appears predominantly in Iron Age IIC stratum (Stratum 10) but it is rather scarce[76].

TZ 000075-006
Type: Cooking Jar
Rim Form: Relatively short neck, thickened outward bending rim, rounded lip with a deep groove at the outside
Figure References: Pl. 2.7, no. 2; Fig. 2.43; Vieweger et al. 2002, Fig. 16
Est. D. (max.): 20
Parallel: **IA II**: similar to Lamprichs – al-Sa'ad 2003, Fig. 26.3.
Note: It seems that this type is rather late.

Fig. 2.43 Cooking jar, TZ 000075-006 (Source: BAI/GPIA).

Holemouth

TZ 000391-001
Type: Holemouth
Rim Form: Holemouth jar with an elongated inturned rim
Figure References: Pl. 2.7, no. 3; Fig. 2.44
Est. D. (inside): 20
Parallel: **IA II**: Amiran 1969, Pl. 69, 6; Mazar 2006, Fig. 12.4 SJ59 or Pl. 30, KR55.
Note: —

Fig. 2.44 Holemouth jar, TZ 000391-001 (Source: BAI/GPIA).

74 Schwermer 2014, 193.
75 Schwermer 2014, 193.
76 Schwermer 2014, 173. 194.

Storage Jars

TZ 000045-001
Type: Storage Jar
Rim Form: Thickened ridged neck, lip triangular in section
Figure References: Pl. 2.7, no. 4
Est. D. (max.): 30
Parallel: **IA II**: Amiran 1969, Pl.79, 1; Hendrix et al. 1997, no. 261, 191; Lamprichs – al-Saʿad 2003, Fig. 21,2; Mazar 2006, Fig. 12.4. SJ52b; Palumbo et al. 1996, Fig. 36, 10.
Note: The ovoid jars with ridged necks become one of the predominant types during the Iron Age IIA/B period. The main innovation of this type of vessel is the pronounced shoulder, which is lost in the shown example[77].

Pithoi

TZ 000242-003
Type: Pithos
Rim Form: Straight thickened rim, rounded lip, and shallow groove at the outside
Figure References: Pl. 2.7, no. 5; Vieweger et al. 2002, Fig. 21
Est. D. (max.): 24
Parallel: **IA II**: Palumbo et al. 1996, Fig. 36, 16; Sauer – Herr 2012, Fig. 2.26, 1. 6.
Note: —

Jars/Jugs

TZ 000387-005
Type: Jar/Jug
Rim Form: Slightly concave neck, outward everted rim
Figure References: Pl. 2.7, no. 6
Est. D. (max.): 14
Parallel: **IA II**: Amiran 1969, Pl. 83, 17.
Note: Since this example is lacking the handles and any decoration, it can be assigned only with the rim fragment to Amiran's parallel. Whether it should be considered as 'Ammonite pottery' has to remain unclear.

TZ 000356-004
Type: Jar/Jug
Rim Form: Ridged thickened neck, lip triangular in section
Figure References: Pl. 2.7, no. 7; Fig. 2.45
Est. D. (max.): 10
Parallel: **IA II**: Amiran 1969, Pl. 81,1; Lamprichs – al-Saʿad 2003, Fig. 26,1; Mazar 2006, Fig. 12.4. SJ52b; Yadin et al. 1960, Pl. 60, 8.
Note: According to Amiran, this group of ovoid jars with ridged necks has a widespread distribution and appears in many variants[78].

Fig. 2.45 Jar/Jug, TZ 000356-004 (Source: BAI/GPIA).

TZ 000248-003
Type: Jar/Jug
Rim Form: Ridged neck, overhanging lip
Figure References: Pl. 2.7, no. 8
Est. D. (max.): 9
Parallel: **IA II**: Yadin et al. 1958, Pl. 48, 12 and Pl. 57, 3.
Note: —

Jugs

TZ 000388-004
Type: Jug
Rim Form: Thickened concave rim and flat lip with grooves at the outside
Figure References: Pl. 2.7, no. 9; Fig. 2.46
Est. D. (max.): 27
Parallel: **IA II (Persian?)**: Kamlah 1993, Fig. 5, 1; Mazar 2006, Fig. 12, 6 AM52.
Note: Possibly Persian period.

Fig. 2.46 Jug, TZ 000388-004 (Source: BAI/GPIA).

77 Amiran 1969, 238.

78 Amiran 1969, 241.

Bowls

TZ 000392-022
Type: Bowl
Base Form: Thickened outer base ring and a second smaller inside one
Figure References: Pl. 2.7, no. 10
Est. D. (max.): 7
Parallel: **IA IIC**: Amiran 1969, 201, photo 217.
Note: Could be the base of a 'bar-handled' bowl[79].

TZ 000356-002
Type: Bowl
Rim Form: Slightly inturned rim with rounded lip and horizontal 'bar-handle' right at the outside of the lip
Figure References: Pl. 2.7, no. 11; Fig. 2.47
Est. D. (max.): 32
Parallel: **IA IIC**: Amiran 1969, Pl. 63, 8–10, Pl. 64, 28; Hendrix et al. 1997, no. 192, 161; Mazar 2006, Fig. 12.1 BL53.
Note: Usually two such handles are attached.

Fig. 2.47 Bowl, TZ 000356-002 (Source: BAI/GPIA).

2.2.1.10. Hellenistic and Early Roman Pottery from Tall Zirā'a (*Pl. 2.8, nos. 1–13*)

Plates/Bowls

TZ 000045-007
Type: Bowl
Rim Form: Everted slightly bellied wall with horizontally everted and rounded rim
Figure References: Pl. 2.8, no. 1, Fig. 2.48; Vieweger et al. 2002, Fig. 18
Est. D. (max.): 15
Parallel: **3rd–1st century BC**: Kenkel 2012, Pl. 15, Form Sa4.1.
Note: –

Fig. 2.48 Bowl, TZ 000045-007 (Source: BAI/GPIA).

TZ 000196-001
Type: Bowl ('Echinus-bowl')
Rim Form: Rather short and only slightly inverted rim with rounded lip
Figure References: Pl. 2.8, no. 2; Fig. 2.49
Est. D. (inside): 17
Parallel: **1st century BC**: Sauer – Herr 2012, Fig. 3.8, 12; Kenkel 2012, Pl. 14, Form Sa1.16.
Note: This type of bowl is characteristic throughout the entire Hellenistic period.

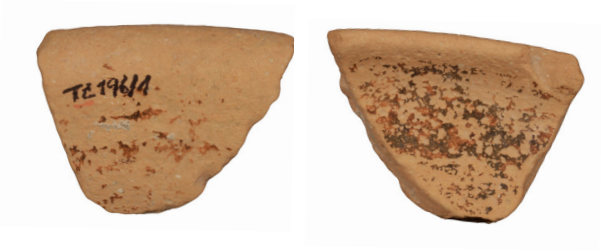


Fig. 2.49 Bowl, TZ 000196-001 (Source: BAI/GPIA).

TZ 000111-004
Type: Bowl
Rim Form: Triangular and inverted rim, almost in a right angle
Figure References: Pl. 2.8, no. 3; Fig. 2.50; Vieweger et al. 2002, Fig. 20
Est. D. (max.): 40
Parallel: **IA II/Persian?**: Sauer – Herr 2012, Fig. 2.35, 16.
Note: The fabric of this bowl is more likely a Hellenistic one, but the shape has closer parallels to the earlier periods.

Fig. 2.50 Bowl, TZ 000111-004 (Source: BAI/GPIA).

79 Amiran 1969, 201.

Bases

TZ 000119-009
Type: Bowl
Base Form: Moderately high, splaying ring base with small ring just inside the ring
Figure References: Pl. 2.8, no. 4; Fig. 2.51
Est. D. (max.): 6
Parallel: **1st century AD**: Sauer – Herr 2012, Fig. 3.12, 17 (Hayes Form 39).
Note: —

Fig. 2.51 Base, TZ 000119-009 (Source: BAI/GPIA).

TZ 000075-011
Type: Bowl
Base Form: Thick ring foot
Figure References: Pl. 2.8, no. 5; Fig. 2.52
Est. D. (max.): 10
Parallel: **Late 1st century AD**: Hayes 2008, Fig. 6, 141 (P32033).
Note: This kind of ring foot probably belongs to a plate and can also be found in the Çandarli Ware of the late first century AD[80].

Fig. 2.52 Bowl, TZ 000075-011 (Source: BAI/GPIA).

TZ 000168-007
Type: Bowl
Base Form: Rather flat and broad ring base
Figure References: Pl. 2.8, no. 6; Fig. 2.53
Est. D. (max.): 14
Parallel: **1st century AD**: Kenkel 2012, Pl. 10, Form ETS.8.6; Sauer – Herr 2012, Fig. 3.12, 13 (Hayes Form 28).
Note: —

Fig. 2.53 Bowl, TZ 000168-007 (Source: BAI/GPIA).

TZ 000021-026
Type: Bowl/Plate
Base Form: Flat ring base with a small ring just inside the ring
Figure References: Pl. 2.8, no. 7; Fig. 2.54
Est. D. (max.): 11
Parallel: **30 BC–20/25 AD**: Sauer – Herr 2012, Fig. 3.12, 14 (Hayes Form 29).
Note: —

Fig. 2.54 Bowl/Plate, TZ 000021-026 (Source: BAI/GPIA).

Amphorae

TZ 000219-015
Type: Amphora
Rim Form: Thickened, on the outside concave rim, round out-flaring lip
Figure References: Pl. 2.8, no. 8 Vieweger et al. 2002, Fig. 17
Est. D. (max.): 11
Parallel: **Hellenistic – Early Roman**: Kenkel 2012, Pl. 37, Form Am3.2.
Note: Very common form within the excavation material of Tall Zirā'a from this period (Strata 9–6).

80 Hayes 2008, Fig. 24. Nr. 788 (P9868).

TZ 000348-004
Type: Amphora
Rim Form: Thickened, everted convex rim, marked with an edge at the transition to the body, rounded lip
Figure References: Pl. 2.8, no. 9; Fig. 2.55
Est. D. (max.): 11
Parallel: **Hellenistic – Early Roman**: close to Kenkel 2012, Pl. 37, Form Am4.8.
Note: —

Fig. 2.55 Amphora, TZ 000348-004 (Source: BAI/GPIA).

Fig. 2.56 Amphora, TZ 000003-003 (Source: BAI/GPIA).

TZ 000003-003
Type: Amphora
Rim Form: Short, slightly everted, thickened rim with round lip
Figure References: Pl. 2.8, no. 10; Fig. 2.56
Est. D. (max.): 11
Parallel: **Early Roman**: Kenkel 2012, Pl. 37, Form Am6.4f; Sauer – Herr 2012, Fig. 3.20, 1.
Note: This form is also a very common type in the Late Hellenistic – Early Roman period of Tall Zirā'a (Strata 8–6) .

TZ 000281-002
Type: Amphora
Rim Form: Vertical, convex neck with thickened rim and triangular lip
Figure References: Pl. 2.8, no. 11; Fig. 2.57; Vieweger et al. 2002, Fig. 17.
Est. D. (max.): 10
Parallel: **Early Roman**: close to Kenkel 2012, Pl. 42, Form Am23.4b; Sauer – Herr 2012, Fig. 3.20, 6. 10.
Note: —

Fig. 2.57 Amphora, TZ 000281-002 (Source: BAI/GPIA).

TZ 000110-014
Type: Amphora (Rhodian)
Form: Handle
Figure References: Pl. 2.8, no. 12
Est. D. (handle): 3
Parallel: **Hellenistic**.
Note: Since there were no traces of a stamp on that handle fragment and also the part where the handle is bending over is missing it is not possible to date this fragment any closer.

Cups

TZ 000011-005
Type: Cup
Rim Form: Thickened everted, slightly triangular rim
Figure References: Pl. 2.8, no. 13; Fig. 2.58; Vieweger et al. 2002, Fig. 19
Est. D. (max.): 7
Parallel: **Early Roman**: Kenkel 2012, Pl. 18, Form Tg2.
Note: It might be an imitation of a Nabataean form.

Fig. 2.58 Cup, TZ 000011-005 (Source: BAI/GPIA).

2.2.1.11. Hellenistic – Roman and Roman Pottery from Tall Zirā'a (*Pl. 2.9, nos. 1–16*)

Bowls

TZ 000204-002
Type: Bowl
Rim Form: Almost vertical, irregular thickened everted rim and flat lip on the top. The rim has a clear slightly overhanging edge at the transition to the body
Figure References: Pl. 2.9, no. 1; Fig. 2.59; Vieweger et al. 2002, Fig. 19.
Est. D. (max.): 24

Parallel: **Late Hellenistic – Early Roman**: Kenkel 2012, Pl. 30, Form Sü12.2.
Note: Only 29 examples of this bowl type could be excavated so far. With the three samples of the survey they are altogether 32 rims. It cannot be stated that this is a very common form on the tall.

Fig. 2.59 Bowl, TZ 000204-002 (Source: BAI/GPIA).

TZ 000370-002
Type: Bowl
Rim Form: Almost vertical, irregular thickened everted rim and flat lip. The rim has a clear slightly overhanging edge at the transition to the body
Figure References: Pl. 2.9, no. 2; Fig. 2.60; Vieweger et al. 2002, Fig. 19
Est. D. (max.): 38
Parallel: **Late Hellenistic – Early Roman**: Kenkel 2012, Pl. 30, Form Sü12.2.
Note: Only 29 examples of this bowl type could be excavated so far. With the three samples of the survey they are altogether 32 rims. It cannot be stated that this is a very common form on the tall.

Fig. 2.60 Bowl, TZ 000370-002 (Source: BAI/GPIA).

TZ 000202-001
Type: Bowl
Rim Form: Similar to bowls 1 and 2 but the rim is slightly inturned
Figure References: Pl. 2.9, no. 3; Vieweger et al. 2002, Fig. 20
Est. D. (max.): 40
Parallel: **Late Hellenistic – Early Roman**: Kenkel 2012, Pl. 30, Form Sü12.2..
Note: Only 29 examples of this bowl type have been excavated so far. With the three samples of the survey they are altogether 32 rims. It cannot be stated that this is a very common form on the tall.

Amphorae

TZ 000153-003
Type: Amphora
Rim Form: Vertical slightly everted neck with outward-slanting rim and flat lip
Figure References: Pl. 2.9, no. 4
Est. D. (max.): 11
Parallel: **Early Roman**: Kenkel 2012, Pl. 42, Form Am23.3g; Sauer – Herr 2012, Fig. 3.21, 4–5.
Note: —

TZ 000333-002
Type: Amphora
Rim Form: Rather thick vertical slightly everted neck and a flat out-slanting lip. Small groove at the transition from neck to body
Figure References: Pl. 2.9, no. 5; Fig. 2.61; Vieweger et al. 2002, Fig. 20
Est. D. (max.): 11
Parallel: **Late Hellenistic – Early Roman**: Kenkel 2012, Pl. 41, Form Am23.1b.
Note: —

Fig. 2.61 Amphora, TZ 000333-002 (Source: BAI/GPIA).

Jars/Jugs

TZ 000034-001
Type: Jar/Jug
Rim Form: Slightly out-curved neck with almost horizontally everted, thickened rim and a flat lip, forming an angular rim
Figure References: Pl. 2.9, no. 6
Est. D. (max.): 13.5
Parallel: **Late Hellenistic – Early Roman**: Kenkel 2012, Pl. 33, Form Kru10.2.
Note: —

TZ 000348-005
Type: Jar/Jug
Rim Form: Outcurved rim with rounded lip
Figure References: Pl. 2.9, no. 7
Est. D. (max.): 13
Parallel: **Late Hellenistic**: Sauer – Herr 2012, Fig. 3.1, 10.
Note: —

Cooking Bowls

TZ 000004-001
Type: Cooking bowl
Rim Form: Slightly outflaring body wall with grooved rim
Figure References: Pl. 2.9, no. 8
Est. D. (max.): 20
Parallel: **1st–3rd century AD**: Kenkel 2012, Pl. 23, Form Gb2.
Note: This form can have two small handles on either side. They are called 'Galilean bowls' because the production centre of Kafr 'Inān (Kafar Hănanyà) was the main supplier of kitchenware during the Roman and Early Byzantine period. Whether the examples of Tall Zirā'a are products of Kafr 'Inān (Kafar Hănanyà) or not still needs to be answered.

TZ 000394-001
Type: Cooking bowl
Rim Form: Slightly outflaring body wall with thickened and grooved rim
Figure References: Pl. 2.9, no. 9
Est. D. (max.): 27
Parallel: **Last quarter of the 1st–second half of the 3rd century AD**: Kenkel 2012, Pl. 23, Form Gb1.2; Dijkstra et al. 2009, Fig. 4.1.12.
Note: This form can have two small handles on either side. They are called 'Galilean bowls' because the production centre of Kafr 'Inān (Kafar Hănanyà) was the main supplier of kitchenware during the Roman and Early Byzantine period. Whether the examples of Tall Zirā'a are products of Kafr 'Inān (Kafar Hănanyà) or not still needs to be answered.

TZ 000267-004
Type: Cooking bowl
Rim Form: Slightly outflaring body wall with thickened and grooved rim, which has a clear edge on the inside at the transition to the body wall
Figure References: Pl. 2.9, no. 10; Vieweger et al. 2002, Fig. 17
Est. D. (max.): 28
Parallel: **2nd–4th century AD**: Kenkel 2012, Pl. 23, Form Gb3.1.
Note: This form can have two small handles on either side. They are called 'Galilean bowls' because the production centre of Kafr 'Inān (Kafar Hănanyà) was the main supplier of kitchenware during the Roman and Early Byzantine period. Whether the examples of Tall Zirā'a are products of Kafr 'Inān (Kafar Hănanyà) or not still needs to be answered.

Casseroles

TZ 000481-001
Type: Casserole
Rim Form: Carinated body with a slightly incurved neck and a flat horizontal lip
Figure References: Pl. 2.9, no. 11; Vieweger et al. 2002, Fig. 17
Est. D. (max.): 20
Parallel: **1st–4th century AD**: Kenkel 2012, Pl. 21, Form Kas4; Dijkstra et al. 2009, Fig. 4.1.12.
Note: This form can have two small handles on either side.

TZ 000014-001
Type: Casserole
Rim Form: Carinated body with a slightly incurved neck and a flat horizontal lip.
Figure References: Pl. 2.9, no. 12; Fig. 2.62
Est. D. (max.): 20
Parallel: **1st–4th century AD**: Kenkel 2012, Pl. 21, Form Kas4.
Note: This form can have two small handles on either side.

Fig. 2.62 Casserole, TZ 000014-001 (Source: BAI/GPIA).

Cooking Pots

TZ 000212-001
Type: Cooking pot
Rim Form: Upright or slightly everted neck with a horizontal and grooved rim
Figure References: Pl. 2.9, no. 13; Vieweger et al. 2002, Fig. 17
Est. D. (max.): 16
Parallel: **1st–4th century AD**: Kenkel 2012, Pl. 25, Form Kt18.5.
Note: Two handles on each side of the vessel can be expected.

TZ 000255-007
Type: Cooking pot
Rim Form: Upright or slightly everted neck with a horizontal rim
Figure References: Pl. 2.9, no. 14; Fig. 2.63
Est. D. (max.): 10
Parallel: **Early Roman**: Kenkel 2012, Pl. 25, Form Kt18.1.
Note: Two handles on each side of the vessel can be expected.

Fig. 2.63 Cooking pot, TZ 000255-007 (Source: BAI/GPIA).

TZ 000334-001
Type: Cooking pot
Rim Form: Upright or slightly concave neck with a thinned everted rim
Figure References: Pl. 2.9, no. 15; Vieweger et al. 2002, Fig. 17.
Est. D. (max.): 11
Parallel: **Roman**: Kenkel 2012, Pl. 17, Form Kt16.5.
Note: Two handles on each side of the vessel can be expected.

TZ 000291-008
Type: Cooking pot
Rim Form: Short out-curved neck with thickened almost square rim, grooved on top
Figure References: Pl. 2.9, no. 16
Est. D. (max.): 12 (inside)
Parallel: **Late Roman**: Kenkel 2012, Pl. 26, Form Kt30.2.
Note: Two handles on each side of the vessel can be expected.

2.2.1.12. Late Roman and Byzantine Pottery Imports from Tall Zirāʿa (*Pl. 2.10, nos. 1–9*)

Plates/Bowls

TZ 000135-003
Type: Bowl
Rim Form: Shallow bowl with rounded knobbed rim and grooves on inside below rim; the body recurves slightly below the rim
Figure References: Pl. 2.10, no. 1
Est. D. (max.): 33
Parallel: **550–625 AD**: Hayes 1972, 162, Fig. 30:23 (ARS Hayes Form 104 C).
Note: –

TZ 000061-002
Type: Bowl
Rim Form: Bowl with a flaring wall and a ungrooved thickened vertical rim, convex on outer face
Figure References: Pl. 2.10, no. 2; Fig. 2.64
Est. D. (max.): 22
Parallel: **580/600–end of 7th century AD**: Hayes 1972, 380, Fig. 82:12 (CRS, Hayes Form 9 B).
Note: —

Fig. 2.64 Bowl, TZ 000061-002 (Source: BAI/GPIA).

TZ 000049-001
Type: Bowl
Rim Form: Bowl with a rather steep wall, bearing rouletting and a knobbed rim with two grooves
Figure References: Pl. 2.10, no. 3; Fig. 2.65; Vieweger et al. 2002, Fig. 18
Est. D. (max.): 25
Parallel: **c. 460–475 AD**: Hayes 1972, 374, Fig. 80:2 (CRS, Hayes Form 2).
Note: This type has sometimes stamped decoration on the bottom, surrounded by grooves. Maybe this is a transition form from Hayes Form 2 to Hayes Form 9.

Fig. 2.65 Bowl, TZ 000049-001 (Source: BAI/GPIA).

TZ 000043-003
Type: Bowl
Rim Form: Shallow bowl with knobbed rim and two grooves
Figure References: Pl. 2.10, no. 4
Est. D. (max.): 36
Parallel: **around 450 AD**: Hayes 1972, 374, Fig. 80:1 (CRS, Hayes Form 2).
Note: Common form and clearly a copy of African Red Slip Ware Hayes Form 84 (ARS) with its rouletting; often stamped decoration on the bottom. This example is rather large and shallower than the average.

TZ 000091-002
Type: Bowl
Rim Form: Bowl with sloping wall, slightly curved and heavy rim of squarish profile, rounded on the outside and slightly concave underneath with a small offset at junction with the wall

Figure References: Pl. 2.10, no. 5; Vieweger et al. 2002, Fig. 18
Est. D. (max.): 24
Parallel: **Late 6th–early 7th century AD**: Hayes 1972, 344, Fig. 71:2 (LRC, Hayes Form 10 A).
Note: —

TZ 000269-001
Type: Bowl
Rim Form: Bowl with a vertical rim incorporating a flange and flaring curved wall. The rim is vertical thickened, generally concave on outer face with a less pronounced overhang at the bottom; three lines of rouletting on outer face
Figure References: Pl. 2.10, no. 6; Fig. 2.66; Vieweger et al. 2002, Fig. 18
Est. D. (max.): 28
Parallel: **6th century AD**: Hayes 1972, 332, Fig. 68:16 (LRC, Hayes Form 3 E).
Note: Typical for this form is the frequently discoloured (black, brown) rim as a result of firing conditions. Also very often stamped decoration appears on the bottom, combined with grooves and rouletting.

Fig. 2.66 Bowl, TZ 000269-001 (Source: BAI/GPIA).

Bases

TZ 000262-005
Type: Bowl
Base Form: Shallow ring base
Figure References: Pl. 2.10, no. 9; Fig. 2.67
Est. D. (max.): 11
Parallel: **Late 5th–6th century AD**: This form is comparable to bowl bases as published in Hayes 1972, 332, Fig. 68 and 334, Fig. 69 (LRC Form 3).
Note: —

TZ 000267-006
Type: Bowl
Rim Form: Bowl with a vertical rim incorporating a flange and flaring curved wall. The rim is vertical, generally concave on outer face with a less pronounced overhang at the bottom and a slight offset at junction with the wall; two lines of rouletting on outer face
Figure References: Pl. 2.10, no. 7; Vieweger et al. 2002, Fig. 18
Est. D. (max.): 29
Parallel: **6th century AD**: Hayes 1972, 332, Fig. 68:16 (LRC, Hayes Form 3 E).
Note: Typical for this form is the frequently discoloured (black, brown) rim as a result of firing conditions. Also very often stamped decoration appears on the bottom, combined with grooves and rouletting.

TZ 000395-003
Type: Bowl
Rim Form: Bowl with a vertical rim incorporating a flange and flaring curved wall. The rim is vertical, generally concave on the outer face with a less pronounced overhang at the bottom and a slight offset at junction with the wall; three lines of rouletting on outer face
Figure References: Pl. 2.10, no. 8; Vieweger et al. 2002, Fig. 18
Est. D. (max.): 35
Parallel: **6th century AD**: Hayes 1972, 332, Fig. 68:16 (LRC, Hayes Form 3 E).
Note: Typical for this form is the frequently discoloured (black, brown) rim as a result of firing conditions. Also very often stamped decoration appears on the bottom, combined with grooves and rouletting.

Fig. 2.67 Bowl, TZ 000262-005 (Source: BAI/GPIA).

2.2.1.13. Roman – Byzantine, Byzantine and Byzantine – Early Islamic Pottery from Tall Zirā'a (*Pl. 2.11, nos. 1–13*)

Mortaria

TZ 000420-001
Type: Mortarium
Rim Form: Flaring body wall with everted thickened horizontal rim, flat at the surface; rounded slightly overhanging rounded lip
Figure References: Pl. 2.11, no. 1
Est. D. (max.): 32
Parallel: **2nd–4th century AD**: Kenkel 2012, Pl. 31, Form Mo4.3.
Note: More than 80 examples of this vessel type have

been found during the excavations on Tall Zirā'a. The fabric is similar to mortaria from the north-eastern coast of the Mediterranean.

TZ 000280-005
Type: Mortarium
Rim Form: Flaring body wall with everted thickened folded rim creating a hole in the section; rounded triangular lip
Figure References: Pl. 2.11, no. 2; Fig. 2.68; Vieweger et al. 2002, Fig. 20.
Est. D. (max.): 40
Parallel: **2nd–4th century AD**: Kenkel 2012, Pl. 31, Form Mo4.4.
Note: See Pl. 2.11, no. 1.

Fig. 2.68 Mortarium, TZ 000280-005 (Source: BAI/GPIA).

Cooking bowls

TZ 000146-002
Type: Cooking bowl
Rim Form: Out-flaring body wall with very short, more or less upright rim and thinned lip; the rim has two grooves on the exterior; ribbed body wall
Figure References: Pl. 2.11, no. 4; Vieweger et al. 2002, Fig. 17.
Est. D. (max.): 26
Parallel: **5th–7th century AD**: Kenkel 2012, Pl. 22, Form Kas11.1.
Note: This type of cooking bowl can be found within the excavated ceramic material of Tall Zirā'a with 103 examples. Close parallels are coming from Umm Qēs (Gadara) and Ṭabaqāt Faḥl (Pella) (Houston Smith 1989, Pl. 28, 1208; Kerner 1990, Fig. 37, 115; Kerner 1997, Fig. 14,5; McNicoll et al. 1992; Pl. 109, 10; Nielsen et al. 1993, Pl. 29, 171–174).

TZ 000013-011
Type: Cooking bowl
Rim Form: Out-flaring body wall with very short, more or less upright rim and thinned lip; the rim has two irregular grooves on the exterior
Figure References: Pl. 2.11, no. 3; Fig. 2.69
Est. D. (max.): 30
Parallel: **5th–7th century AD**: Kenkel 2012, Pl. 22, Form Kas11.3.
Note: This type of cooking bowl can be found within the excavated ceramic material of Tall Zirā'a with 103 examples. Close parallels are coming from Umm Qēs (Gadara) and Ṭabaqāt Faḥl (Pella) (Houston Smith 1989, Pl. 28, 1208; Kerner 1990, Fig. 37, 115; Kerner 1997, Fig. 14, 5; McNicoll et al. 1992; Pl. 109, 10; Nielsen et al. 1993, Pl. 29, 171–174).

Fig. 2.69 Cooking bowl, TZ 000013-011 (Source: BAI/GPIA).

Casseroles

TZ 000153-004
Type: Casserole
Rim Form: Convex wall with short, everted rim, internal groove on squarish lip; small ledge at the lower end of the rim's interior
Figure References: Pl. 2.11, no. 5; Fig. 2.70; Vieweger et al. 2002, Fig. 17.
Est. D. (max.): 27
Parallel: **2nd–4th century AD**: Dijkstra et al. 2009, Fig. 4.2.2; Kenkel 2012, Pl. 21, Form Kas3.
Note: Might be a product of the Galilee.

Fig. 2.70 Casserole, TZ 000153-004 (Source: BAI/GPIA).

Cooking Pots

TZ 000345-001
Type: Cooking pot
Rim Form: Convex neck with outward-slanting rim and thinned lip; with ledge between neck and shoulder
Figure References: Pl. 2.11, no. 6
Est. D. (max.): 10

Parallel: **Late Roman – Early Byzantine**: Kenkel 2012, Pl. 24, Form Kt12.
Note: —

TZ 000101-003
Type: Cooking pot
Rim Form: Upright or slightly out-curved and short neck with grooved rim and everted lip; the outer lip higher than the inner
Figure References: Pl. 2.11, no. 7; Fig. 2.71
Est. D. (max.): 14 (inside)
Parallel: **Roman – Byzantine**: Kenkel 2012, Pl. 26, Form Kt25.
Note: —

Fig. 2.71 Cooking pot, TZ 000101-003 (Source: BAI/GPIA).

TZ 000325-001
Type: Cooking pot
Rim Form: Flaring rim with out-curved, thickened rim, rounded lip with an edge on the lower outside; strong ribbing on exterior neck
Figure References: Pl. 2.11, no. 8; Fig. 2.72
Est. D. (max.): 12
Parallel: **5th–7th century AD**: Kenkel 2012, Pl. 26, Form Kt30.3.
Note: —

Fig. 2.72 Cooking pot, TZ 000325-001 (Source: BAI/GPIA).

Amphorae

TZ 000325-002
Type: Amphora
Rim Form: Short convex neck with folded rim, creating a hole in the section and flat rounded lip
Figure References: Pl. 2.11, no. 9; Fig. 2.73
Est. D. (max.): 9
Parallel: **Byzantine – Umayyad**: Kenkel 2012, Pl. 43, Form Am23.6c.
Note: —

Fig. 2.73 Amphora, TZ 000325-002 (Source: BAI/GPIA).

Jars/Jugs

TZ 000011-014
Type: Jar/Jug
Rim Form: Flaring, slightly convex neck with rather large everted rim and thinned lip
Figure References: Pl. 2.11, no. 10
Est. D. (max.): 8
Parallel: **Late 3rd – Early 4th century AD**: Kenkel 2012, Pl. 34, Form Kru12.2
Note: —

TZ 000262-001
Type: Jar/Jug
Rim Form: Flaring neck with short, slightly thickened and everted rim and rounded lip
Figure References: Pl. 2.11, no. 11.
Est. D. (max.): 8
Parallel: **Late Roman – Late Byzantine**: Kenkel 2012, Pl. 41, Form Am22.2.
Note: —

TZ 000261-004
Type: Jar/Jug
Rim Form: Almost vertical, irregularly formed neck with short, slightly thickened and everted rim and rounded lip
Figure References: Pl. 2.11, no. 12; Fig. 2.74
Est. D. (max.): 9
Parallel: **Late Roman – Late Byzantine**: Kenkel 2012, Pl. 41, Form Am22.1d.
Note: —

Fig. 2.74 Jar/Jug, TZ 00261-004 (Source: BAI/GPIA).

Oil lamps

TZ 000367-028
Type: Oil lamp
Form: Small fragment of the upper part of an oil lamp with relief decoration. Irregular lines and dots probably all around the *infundibulum* and a row of short lines along the side
Figure References: Pl. 2.11, no. 13
Wall thickness: 0.3
Parallel: **Late Roman – Byzantine**: Kenkel 2012, Pl. 58, Form La72.
Note: Mould made lamp with typical Late Roman – Byzantine decoration.

2.2.1.14. Late Byzantine – Early Islamic, Umayyad and Mamluk Pottery from Tall Zirā'a (*Pl. 2.12, nos. 1–10*)

Bowls (Early Islamic/Umayyad)

TZ 000455-001
Type: Bowl
Rim Form: Rounded wall with rounded rim, slightly grooved below the rim on the outside
Figure References: Pl. 2.12, no. 1; Fig. 2.75; Vieweger et al. 2002, Fig. 19
Est. D. (max.): 12
Parallel: **525–550 AD (Byzantine)**: Hendrix et al. 1997, 241, no. 364; McNicoll et al. 1992, Pl. 111, 7; Uscatescu 2001, Fig. 19, 1; **1st Half of the 8th–Early 9th century AD**: Sauer – Herr 2012, Fig. 4.1, 15.
Note: Incised wavy decoration on the body wall, fine ware. This is a very common bowl type in the Byzantine period.

Fig. 2.75 Bowl, TZ 000455-001 (Source: BAI/GPIA).

Kraters (Early Islamic/Umayyad)

TZ 000324-005
Type: Krater
Rim Form: Flaring, carinated-like body wall with everted rim and an internal ledge, rounded thinned lip; the carination is more an overhanging section
Figure References: Pl. 2.12, no. 2; Fig. 2.76
Est. D. (max.): 60
Parallel: **Early Islamic**: Sauer – Herr 2012, Fig. 3.78, 1; Tonghini 1998, Fig. 115, f.
Note: The examples from Tall Zirā'a are all from a greyish fabric and therefore rather Early Islamic, than Byzantine products. Most are decorated with incised wavy lines on top of the lip and the body wall. This is a very typical decoration pattern for that period.

Fig. 2.76 Krater, TZ 000324-005 (Source: BAI/GPIA).

Amphorae (Early Islamic/Umayyad)

TZ 000398-001
Type: Amphora
Rim Form: Externally thickened and incurving rim
Figure References: Pl. 2.12, no. 3; Fig. 2.77
Est. D. (max.): 11
Parallel: **Byzantine – Umayyad**: Fuller 1987, Fig. 51, B; Kenkel 2012, Pl. 43, Form Am23.7c; Konrad 2001, Fig. 14, 3.
Note: —

Fig. 2.77 Amphora, TZ 000398-001 (Source: BAI/GPIA).

Cooking Pots (Early Islamic/Umayyad)

TZ 000110-003
Type: Cooking pot
Form: Ledge handle
Figure References: Pl. 2.12, no. 4; Fig. 2.78
Wall thickness: 1
Parallel: **Islamic**: Franken – Kalsbeek 1975, Fig. 49, 7.
Note: With incised decoration.

Fig. 2.78 Cooking pot, TZ 000110-003 (Source: BAI/GPIA).

Jars/Jugs (Early Islamic/Umayyad)

TZ 000467-001
Type: Jar/Jug
Form: Body sherd
Figure References: Pl. 2.12, no. 5; Fig. 2.79; Vieweger et al. 2002, Fig. 21
Wall thickness: 0.8
Parallel: **Early Islamic (8th–9th century AD)**: Bloch et al. 2006, p. 38–43; Rousset 2001, 224. 230; Tonghini 1998, Pl. 77–82;
Note: Cream ware? Decorated with a relief. It seems that it consisted of small arrow-like decoration. Probably mouldmade.

Fig. 2.79 Jar/Jug, TZ 000467-001 (Source: BAI/GPIA).

Bowls (Mamluk)

TZ 000040-003
Type: Bowl
Rim Form: Rounded wall and vertical rim with angular lip
Figure References: Pl. 2.12, no. 6; Fig. 2.80; Vieweger et al. 2002, Fig. 19
Est. D. (max.): 30
Parallel: **Mamluk**: Walker et al. 2011, Fig. 29, 1.
Note: Painted brown geometric decoration on a light beige slip. Handmade.

Fig. 2.80 Bowl, TZ 000040-003 (Source: BAI/GPIA).

Jars/Jugs (Mamluk)

Fig. 2.81 Jar/Jug, TZ 000021-016 (Source: BAI/GPIA).

TZ 000021-016
Type: Jar/Jug
Rim Form: Slightly everted rim with thinned rounded lip
Figure References: Pl. 2.12, no. 7; Fig. 2.81; Vieweger et al. 2002, Fig. 19
Est. D. (max.): 10
Parallel: **12th–15th century AD**: Bloch et al. 2006, Pl. 17, Ta.2537, p. 101; Dijkstra et al. 2009, Fig. 4.1.1; Sauer – Herr 2012, Fig. 4.15, 15.
Note: Painted brown geometric decoration on a light beige slip. Handmade.

TZ 000129-002
Type: Jar/Jug
Rim Form: Everted rim with rounded lip
Figure References: Pl. 2.12, no. 8; Vieweger et al. 2002, Fig. 19
Est. D. (max.): 17
Parallel: **12th–15th century AD**: Dijkstra et al. 2009, Fig. 4.1.1; Sauer – Herr 2012, Fig. 4.15, 14.
Note: Painted brown geometric decoration on a light beige slip. Handmade.

TZ 000042-011
Type: Jar/Jug
Form: Handle
Figure References: Pl. 2.12, no. 9; Fig. 2.82
Handle width: 3.4
Parallel: **Ayyubid – Mamluk:** Fuller 1987, Fig. 17–20; Kareem 2000, Fig. 47.1–2; Sauer – Herr 2012, Fig. 4.16, 2–13.
Note: Vertical flat handle.

Fig. 2.82 Jar/Jug, TZ 000042-011 (Source: BAI/GPIA).

TZ 000138-014
Type: Jar/Jug
Form: Body sherd
Figure References: Pl. 2.12, no. 10; Fig. 2.83
Wall thickness: 0.7
Parallel: **Ayyubid – Mamluk**: Fuller 1987, Fig. 17–20; Kareem 2000, Fig. 49.1–8; Sauer – Herr 2012, Fig. 4.16, 2–13.
Note: Painted brown geometric decoration on a light beige slip. Handmade.

Fig. 2.83 Jar/Jug, TZ 000138-014 (Source: BAI/GPIA).

2.2.1.15. Islamic Pottery from Tall Zirāʿa (*Pl. 2.13, nos. 1–13*)

Bowls

TZ 000165-003
Type: Bowl
Rim Form: Slightly thickened rim, rounded lip and carination under the rim on the outside
Figure References: Pl. 2.13, no. 1; Fig. 2.84
Est. D. (max.): 8
Parallel: **Islamic**: Franken – Kalsbeek 1975, Fig. 37, 21–22.
Note: —

Fig. 2.84 Bowl, TZ 000165-003 (Source: BAI/GPIA).

TZ 000054-006
Type: Bowl
Rim Form: Outward bending, slightly thickened rim, rounded lip
Figure References: Pl. 2.13, no. 2
Est. D. (max.): 8
Parallel: **Islamic**: Franken – Kalsbeek 1975, Fig. 37, 7.
Note: —

TZ 000372-007
Type: Bowl
Rim Form: Thickened and slightly outward bending rim, rounded lip
Figure References: Pl. 2.13, no. 3
Est. D. (max.): 21 (inside)
Parallel: **13th–15th century AD**: Kareem 2000, Fig. 6.4.
Note: Brown and green glaze inside.

TZ 000416-003
Type: Bowl
Rim Form: Thickened everted rim, slightly convex at the inside, rounded inward slanting lip
Figure References: Pl. 2.13, no. 4
Est. D. (max.): 26
Parallel: **Mamluk**: Franken – Kalsbeek 1975, Fig. 47, 4.
Note: Brown glaze inside.

TZ 000179-002
Type: Bowl
Rim Form: Rim profiled outward and thickened on the inside; carinated
Figure References: Pl. 2.13, no. 5; Vieweger et al. 2002, Fig. 19
Est. D. (max.): 8
Parallel: **Ayyubid – Mamluk (mainly 13th–14th century AD)**: Franken – Kalsbeek 1975, Fig. 37, 32; Hendrix et al. 1997, 293, 455; Kareem 2000, Fig. 4.9 and 69.5; Walker 2005, Fig. 9, 3.
Note: Green and yellow glaze inside and outside. The most common shape within the glazed ware is the

hemispherical bowl, occasionally carinated, with a slightly upturned rim. It seems to have had utilitarian functions including that of tableware[81].

TZ 000067-007
Type: Bowl
Rim Form: Straight out flaring rim, rounded lip
Figure References: Pl. 2.13, no. 6; Fig. 2.85; Vieweger et al. 2002, Fig. 19
Est. D. (max.): 32
Parallel: **Ayyubid – Mamluk**: Franken – Kalsbeek 1975, Fig. 35, 16.
Note: Brown glaze with yellow stripes, inside and outside.

Fig. 2.85 Bowl, TZ 000067-007 (Source: BAI/GPIA).

Bowls/Plates

TZ 000146-005
Type: Bowl/Plate
Base Form: Flat ring base
Figure References: Pl. 2.13, no. 7
Est. D. (max.): 9
Parallel: **Mamluk**: Franken – Kalsbeek 1975, Fig. 37, 78.
Note: Yellow glaze with brown lines inside.

TZ 000389-002
Type: Bowl/Plate
Base Form: Medium ring foot, slightly splayed
Figure References: Pl. 2.13, no. 8; Fig. 2.86
Est. D. (max.): 10
Parallel: **Mamluk**: Abila 2000, Area J, Tomb 21, Locus 04, Reg. no. 1148.
Note: Greenish-yellow glaze, inside and outside.

Fig. 2.86 Bowl/Plate, TZ 000389-002 (Source: BAI/GPIA).

Cooking Pots

TZ 000311-003
Type: Cooking pot
Rim Form: Globular cooking pot with inverted slightly thickened rim and rounded lip
Figure References: Pl. 2.13, no. 9; Fig. 2.87
Est. D. (max.): 12
Parallel: **12th–13th century AD**: Kareem 2000, Fig. 41.19.
Note: Part of a deep incised line on the outside.

Fig. 2.87 Cooking pot, TZ 000311-003 (Source: BAI/GPIA).

TZ 000216-006
Type: Cooking pot
Rim Form: Thickened inverted rim, angular lip, flat on the top
Figure References: Pl. 2.13, no. 10; Fig. 2.88
Est. D. (max.): 16
Parallel: **Islamic**: Bloch et al. 2006, Resafa Pl. 9, 8. 10, 1–2; Tonghini 1998, Fig. 41 f.
Note: —

Fig. 2.88 Cooking pot, TZ 000216-006 (Source: BAI/GPIA).

81 Tonghini 1998, 62.

TZ 000338-001
Type: Cooking pot
Rim Form: Thickened vertical rim, rounded lip
Figure References: Pl. 2.13, no. 11
Est. D. (max.): 25 (inside)
Parallel: **Islamic**: Bloch et al. 2006, Resafa Pl. 9, 3. 10, 11.
Note: —

TZ 000348-001
Type: Cooking pot
Rim Form: Outcurved neck with everted horizontally rim, rounded lip; slight carination under the neck at the outside body wall
Figure References: Pl. 2.13, no. 12; Fig. 2.89
Est. D. (max.): 28
Parallel: **Islamic**: Bloch et al. 2006, Resafa Pl. 8, 12; 9, 15; Kareem 2000, Fig. 44.5.
Note: —

Fig. 2.89 Cooking pot, TZ 000348-001 (Source: BAI/GPIA).

TZ 000036-007
Type: Cooking pot
Handle Form: Vertical loop handle of a glazed globular cooking pot
Figure References: Pl. 2.13, no. 13
Wall thickness: 0.6
Parallel: **Crusader period**: Houston Smith 1973, Pl. 77, 483; Sauer – Herr 2012, Fig. 4.18, 3–4.
Note: Dark brown glaze.

2.2.1.16. Islamic and Ottoman Pottery from Tall Zirā'a (*Pl. 2.14, nos. 1–16*)

Storage jars

TZ 000032-002
Type: Storage jar
Rim Form: Thickened rim, profiled outward
Figure References: Pl. 2.14, no. 1; Fig. 2.90; Vieweger et al. 2002, Fig. 21
Est. D. (max.): 21
Parallel: **Islamic**: Kareem 2000, Fig. 45.11.
Note: Unglazed Islamic pottery is characterised by strong local connotations; the search for parallels in the literature should thus be restricted to a limited area[82]. Could be an early example.

TZ 000195-004
Type: Storage jar
Rim Form: Collared-in-turned-rim, grooved at the outside
Figure References: Pl. 2.14, no. 2
Est. D. (max.): 20
Parallel: **12th–13th century AD**: Kareem 2000, Fig. 42.2 and 43.13.
Note: Could be an early example.

Fig. 2.90 Storage jar, TZ 000195-004 (Source: BAI/GPIA).

TZ 000348-002
Type: Storage jar
Rim Form: Convex neck and folded rim with rounded lip, ridge at the transition from neck to body wall
Figure References: Pl. 2.14, no. 3
Est. D. (max.): 14.5 (inside)
Parallel: —
Note: —

TZ 000304-003
Type: Storage jar
Rim Form: Thickened and folded horizontal and inward bending rim, rounded lip
Figure References: Pl. 2.14, no. 4
Est. D. (max.): 17 (inside)
Parallel: **Early Islamic**: Bloch 2011, Pl. 22, 466; Franken – Kalsbeek 1975, Fig. 48.
Note: The parallel to the example in Bloch 2011 is only by shape not by fabric.

TZ 000018-001
Type: Storage jar
Rim Form: Thickened, folded band rim, inward bending sides
Figure References: Pl. 2.14, no. 5
Est. D. (max.): 34
Parallel: **Ayyubid – Mamluk (11th–14th century AD)**: Tonghini 1998, Fig. 145 f.
Note: —

82 Tonghini 1998, 63.

Jars/Jugs

TZ 000077-001
Type: Jar/Jug
Rim Form: Thickened everted rim, flat on the top with rounded lip
Figure References: Pl. 2.14, no. 6
Est. D. (max.): 5 (inside)
Parallel: **Early Islamic**: Houston Smith – Day 1989, Pl. 58, 22.
Note: —

TZ 000019-009
Type: Jar/Jug
Rim Form: Thickened everted rim, flat on the top with squared lip
Figure References: Pl. 2.14, no. 7
Est. D. (max.): 11
Parallel: **Umayyad**: Konrad 2001, Fig. 7, 3; **Ayyubid –Mamluk (11th–14th century AD)**: Tonghini 1998, Fig. 148,b.
Note: —

TZ 000075-001
Type: Jar/Amphora
Rim Form: Long straight neck with rolled squared rim profile
Figure References: Pl. 2.14, no. 8; Fig. 2.91
Est. D. (max.): 15
Parallel: **Late Byzantine – Early Umayyad**: Bavant – Orssaud 2001, Fig. 9, 39; Daviau – Beckmann 2001, Fig. 4, 16; **Ayyubid – Mamluk (11th–14th century AD)**: Tonghini 1998, Fig. 122, d.
Note: Probably with two handles.

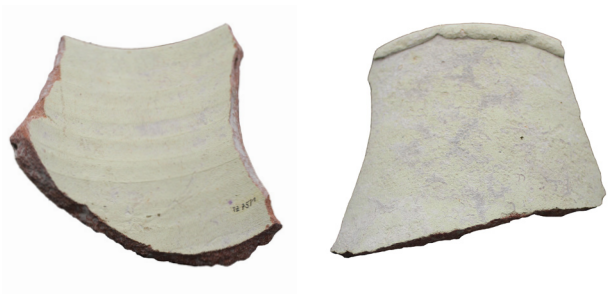


Fig. 2.91 Jar/Amphora, TZ 000075-001 (Source: BAI/GPIA).

TZ 000418-001
Type: Jar/Jug
Rim Form: Outward bending thickened neck with everted squared rim
Figure References: Pl. 2.14, no. 9
Est. D. (max.): 10
Parallel: **Early Islamic (Umayyad?)**: Bloch 2011, Pl. 15, 248 b.
Note: —

TZ 000036-002
Type: Jar/Jug
Rim Form: Everted rim with rounded lip
Figure References: Pl. 2.14, no. 10
Est. D. (max.): 14
Parallel: **Fatimid**: Whitcomb 1988, Fig. 4, a; **Ayyubid – Mamluk (11th–14th century AD)**: Tonghini 1998, Fig. 121, d.
Note: —

TZ 000138-012
Type: Jar/Jug
Form: 'turban-handle'?
Figure References: Pl. 2.14, no. 11
Wall thickness: 0.3
Parallel: **8th–11th century AD**: Tonghini 1998, Fig. 31, u.
Note: It seems that the 'turban shaped' knop of that handle is broken and only the negative round impression is left.

TZ 000430-009
Type: Jar/Jug (Chalice?)
Base Form: Pedestalfragment
Figure References: Pl. 2.14, no. 12; Fig. 2.92
Wall thickness: 1.2
Parallel: **13th–15th century AD**: Sauer – Herr 2012, Fig. 4.20, 20.
Note: Body sherd from the bottom of the vessel with attached remains of a stand.

Fig. 2.92 Jar/Jug, TZ 000430-009 (Source: BAI/GPIA).

TZ 000389-007
Type: Jar/Krater
Form: Body sherd
Figure References: Pl. 2.14, no. 13; Fig. 2.93
Wall thickness: 1
Parallel: **Early/Middle Islamic**: Fuller 1987, Fig. 31, C–D; Fig. 36, A–B; Tonghini 1998, Pl. 54; Walker 2012, Fig. 4.11, 25.
Note: Combed body sherd. Incised wavy lines.

Fig. 2.93 Jar/Jug, TZ 000304-012 (Source: BAI/GPIA).

TZ 000304-012
Type: Jar/Jug
Form: Body sherd
Figure References: Pl. 2.14, no. 14
Wall thickness: 0.6
Parallel: **Early/Middle Islamic**: Bloch 2011, Pl. 19, 209. 435; Fuller 1987, Fig. 31, C–D; Fig. 36, A–B; Tonghini 1998, Fig. 29c.
Note: Combed body sherd, incised wavy lines.

TZ 000430-001
Type: Jar/Jug
Form: Body sherd
Figure References: Pl. 2.14, no. 15
Wall thickness: 0.8
Parallel: **19th century AD**: Simpson 2002, Fig. 2, 11; **Modern**: Fuller 1987, Fig. 16, B.
Note: Decorated body sherd; small squared impressions. It is possible that this is a part of a pipe bowl[83].

Pipes

TZ 000098-001
Type: Pipe bowl
Form: Shank end with parallel dotted lines running around the bowl
Figure References: Pl. 2.14, no. 16; Fig. 2.94
Est. D. (max.): 1.86 and 0.77 inside
Parallel: **Ottoman (19th – Early 20th century AD)**: de Vinzenz 2011, Fig. 1, 1. 3; Tonghini 1998, Pl. 83–88 and Fig. 150 a–f.
Note: Smoker's pipes were discovered throughout the Middle East. They can be attributed to the Ottoman period. Tobacco was only introduced into the Ottoman Empire at the beginning of the seventeenth century AD, but smoking was not popular until the late seventeenth century AD[84].

Fig. 2.94 Pipe bowl, TZ 000098-001 (Source: BAI/GPIA).

83 See Simpson 2002, Fig. 2, 11.

84 Tonghini 1998, 68.

Plate 2.1: EB pottery from Tall Zirāʿa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	cooking pot	TZ 000369-004	V 109	west slope	HM Buff	EB
2	cooking pot	TZ 000102-004	AQ 141	east slope	HM Coarse	EB
3	cooking pot	TZ 000149-002	Z 113	west slope	HM R2B	EB
4	cooking pot	TZ 000373-004	AD 109	west slope	HM Buff	EB
5	cooking pot	TZ 000349-001	N 133	south slope	HM R2B	EB
6	cooking pot	TZ 000101-001	AM 149	east slope	CP 6	EB
7	cooking pot	TZ 000452-006	R 109	south slope	HM Buff	EB
8	cooking pot	TZ 000125-001	AQ 145	east slope	HM Buff	EB
9	cooking pot	TZ 000368-006	Z 109	west slope	HM Buff	EB
10	cooking pot	TZ 000375-002	AH 113	west slope	HM R2B	EB
11	handle	TZ 000285-002	AU 109	west slope	HM R2B	EB
12	body sherd	TZ 000290-003	AQ 109	west slope	HM Combed	EB
13	body sherd	TZ 000263-008	AY 121	north slope	HM Combed	EB

Plate 2.1: EB pottery from Tall Zirā‘a—Survey 2001

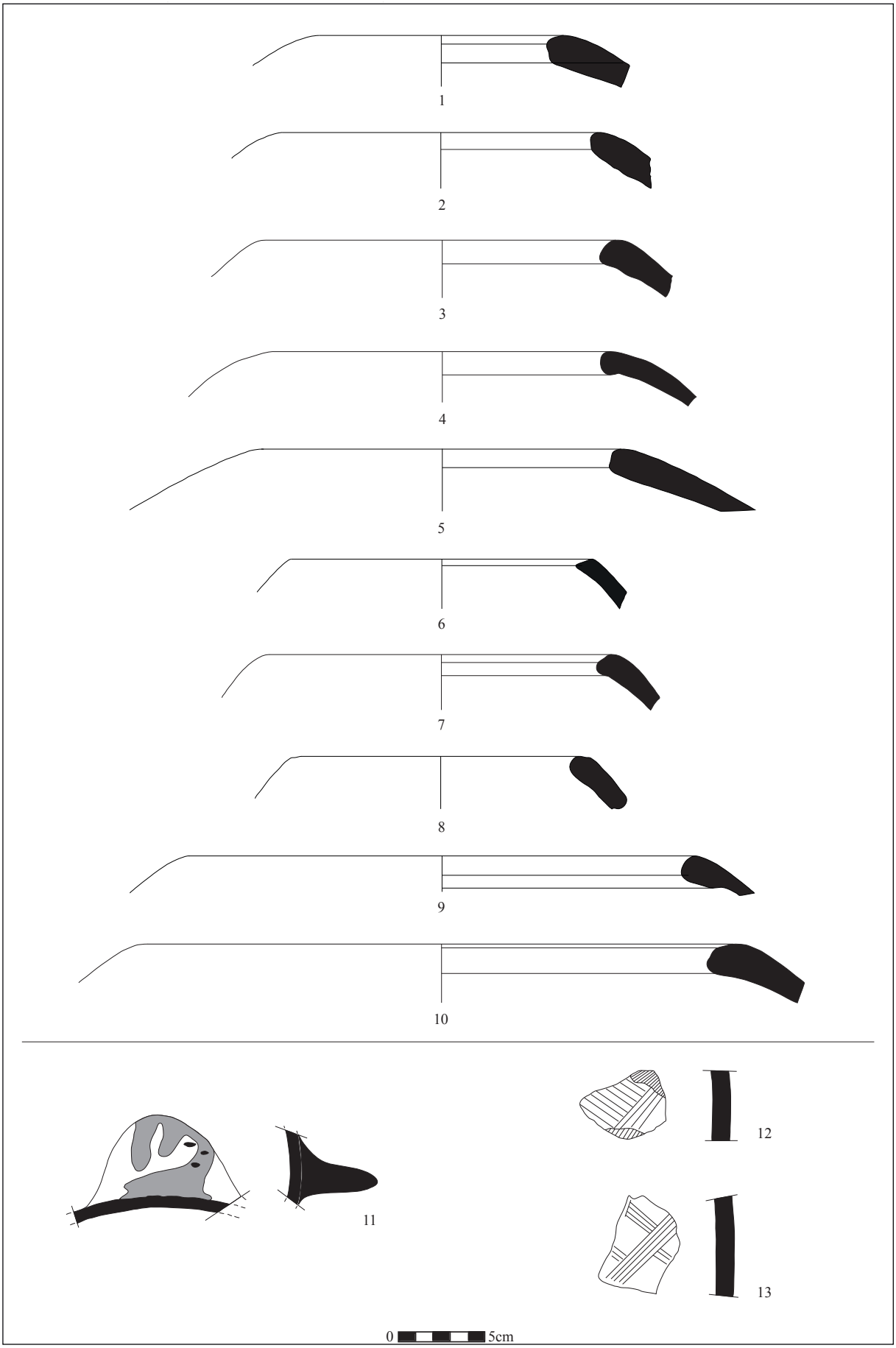


Plate 2.2: EB, EB I/EB II, EB IV/MB I pottery from Tall Zirāʻa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	bowl	TZ 000375-001	AH 113	west slope	HM Buff	MB I/MB II
2	bowl	TZ 000102-006	AQ 141	east slope	HM R2B	EB
3	bowl	TZ 000333-005	AQ 113	west slope	HM GW	EB/MB I
4	cooking pot	TZ 000045-004	AY 125	nord slope	CP 5	EB IV/MB I
5	cooking pot	TZ 000307-001	AM 109	west slope	CP 5	EB IV/MB I
6	jar/jug	TZ 000325-003	AH 113	west slope	HM Coarse	EB II/MB
7	jar/jug	TZ 000367-001	V113	west slope	HM GW	EB

Plate 2.2: EB, EB I/EB II, EB IV/MB I pottery from Tall Zirā‘a—Survey 2001

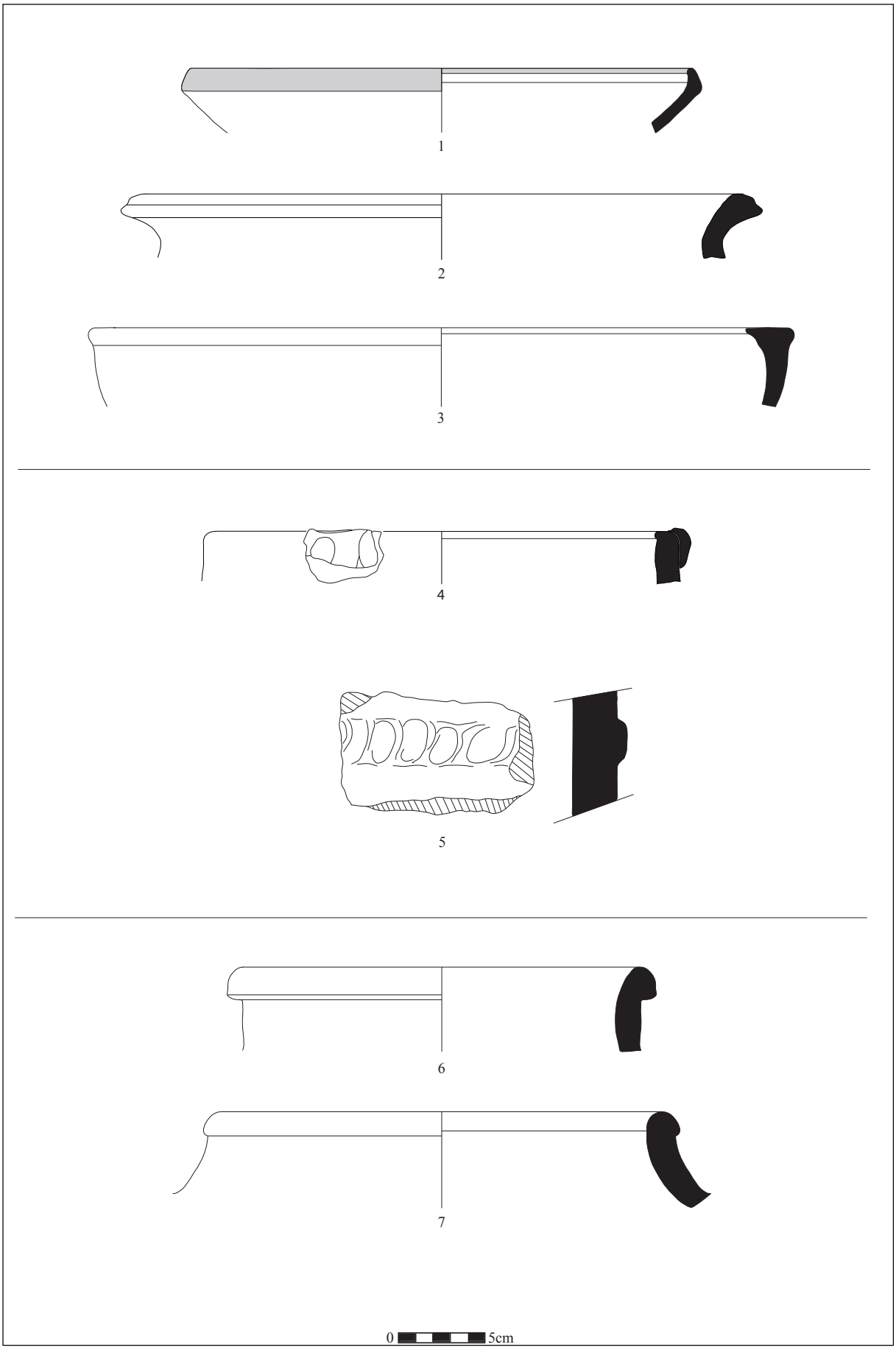


Plate 2.3: MB, MB II/LB I, MB/LB pottery from Tall Zirāʿa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	bowl	TZ 000187-004	AD 137	plateau	HM P-f	MB
2	bowl	TZ 000126-002	AQ 149	east slope	WM C Buff	MB/LB
3	bowl	TZ 000111-003	AQ 141	east slope	WM C SR2B-f	EB/MB
4	bowl/krater	TZ 000403-001	AT 119	–	WM C Buff	MB
5	krater	TZ 000045-003	AY 125	north slope	WM R2B P	MB/LB
6	cooking pot	TZ 000357-005	AH 109	west slope	CP 3-c	MB II/LB I
7	cooking pot	TZ 000229-001	AM 141	east slope	CP 3	MB II/LB I
8	bowl/krater	TZ 000403-005	AT 119	–	WM C Buff	MB
9	bowl/krater	TZ 000336-005	AQ 109	west slope	WM C Buff	MB

Plate 2.3: MB, MB II/LB I, MB/LB pottery from Tall Zirāʿa—Survey 2001

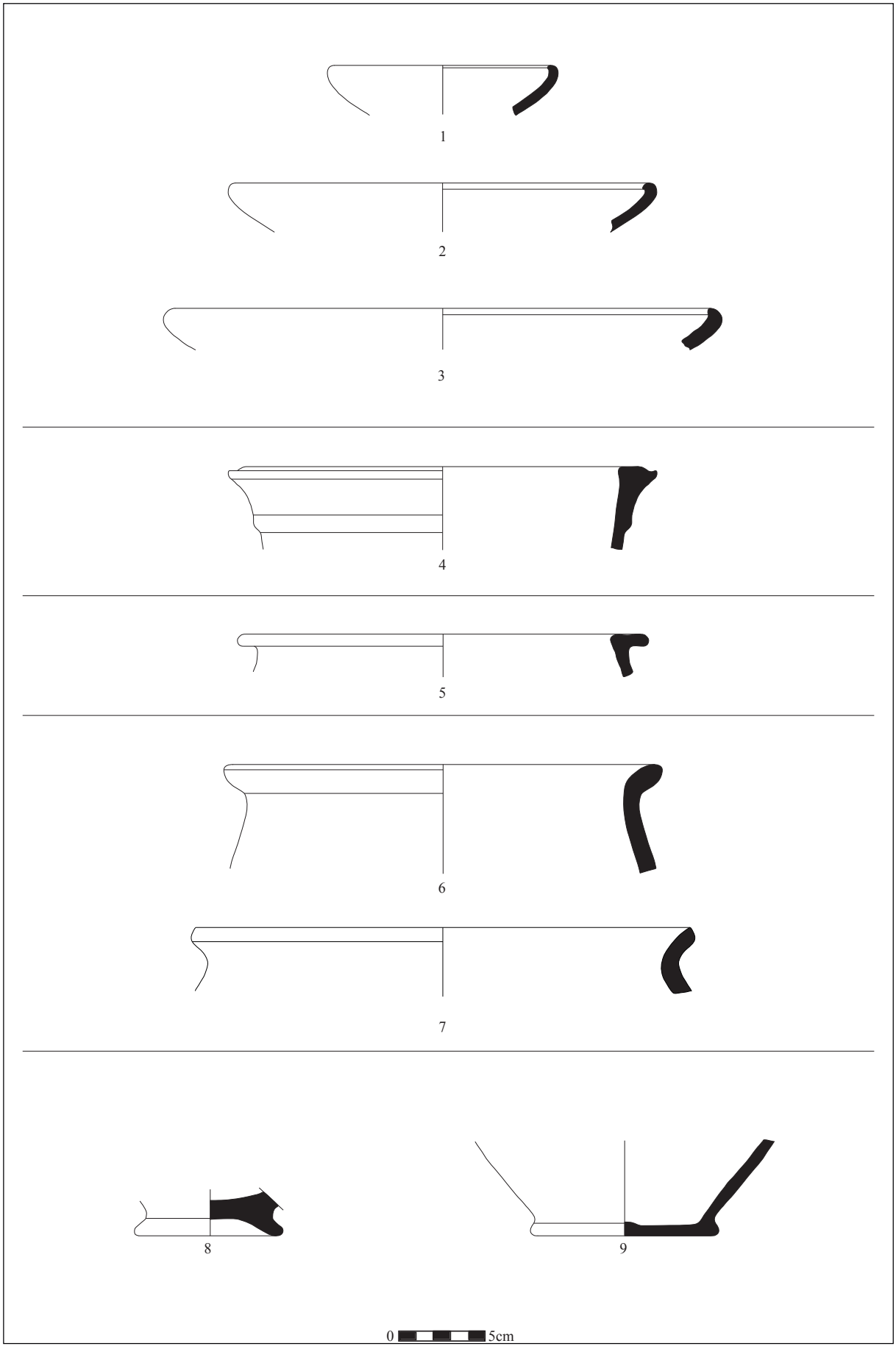


Plate 2.4: LB and LB IIB pottery from Tall Zirāʿa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	milk bowl	TZ 000163-008	BC 125	north slope	Wh Sl (Zyp)	LB
2	bowl	TZ 000111-002	AQ 141	east slope	WM C SBuff-f	LB
3	bowl/krater	TZ 000434-001	Z 145	east slope	WM C R2B	LB
4	cooking pot	TZ 000413-002	AT 119	plateau	CP 3	LB
5	cooking pot	TZ 000011-003	AD 117	plateau	CP 3	LB
6	cooking pot	TZ 000014-015	AD 113	west slope	CP 3	LB
7	cooking pot	TZ 000114-003	AQ 137	east slope	CP 3-c	LB IIB
8	storage jar	TZ 000334-002	AU 109	west slope	WM C R2B	LB
9	pithos	TZ 000127-003	AQ 145	east slope	WM C Buff	LB
10	jug	TZ 000014-008	AD 113	west slope	WM Myk	LB

Plate 2.4: LB and LB IIB pottery from Tall Zirā‘a—Survey 2001

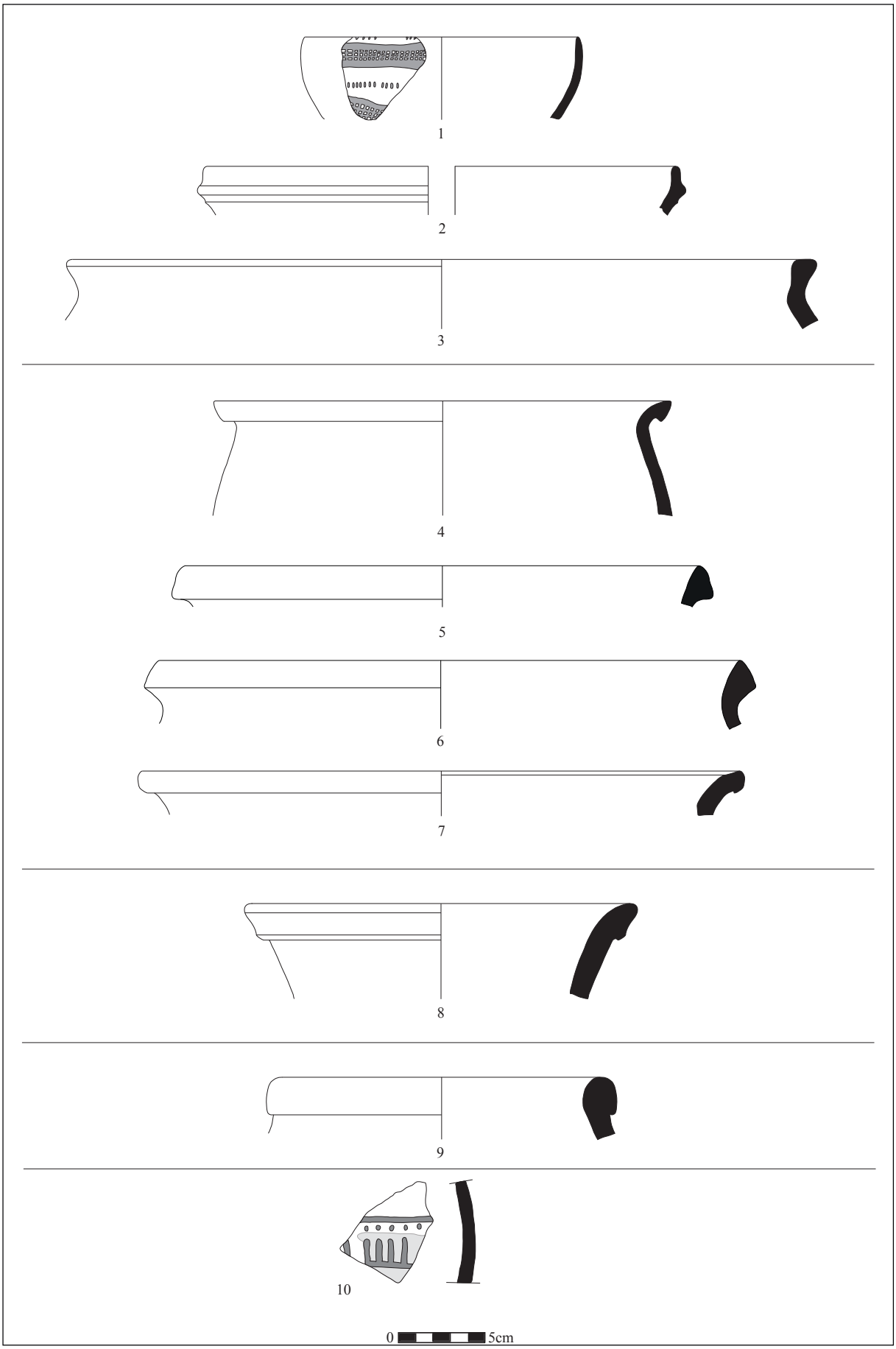


Plate 2.5: LB, LB/IA and IA pottery from Tall Zirāʿa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	bowl	TZ 000397-002	AT 119	west slope	WM C R2B-f	IA
2	bowl	TZ 000021-028	AD 113	west slope	WM C R2B	LB
3	bowl	TZ 000337-001	AY 109	north slope	WM C Buff	LB
4	bowl	TZ 000268-001	AQ 117	west slope	WM C R2B	IA
5	bowl/krater	TZ 000340-001	AU 113	north slope	WM C Buff	LB/IA
6	jar/jug	TZ 000333-001	AQ 113	west slope	WM C R2B	LB/IA
7	jar/jug	TZ 000330-004	AM 113	west slope	WM C R2B-f	LB/IA
8	jar/jug	TZ 000340-002	AU 113	north slope	WM C R2B-f	IA
9	jug/krater	TZ 000471-008	AM 145	east slope	WM C R2B	IA

Plate 2.5: LB, LB/IA and IA pottery from Tall Zirāʿa—Survey 2001

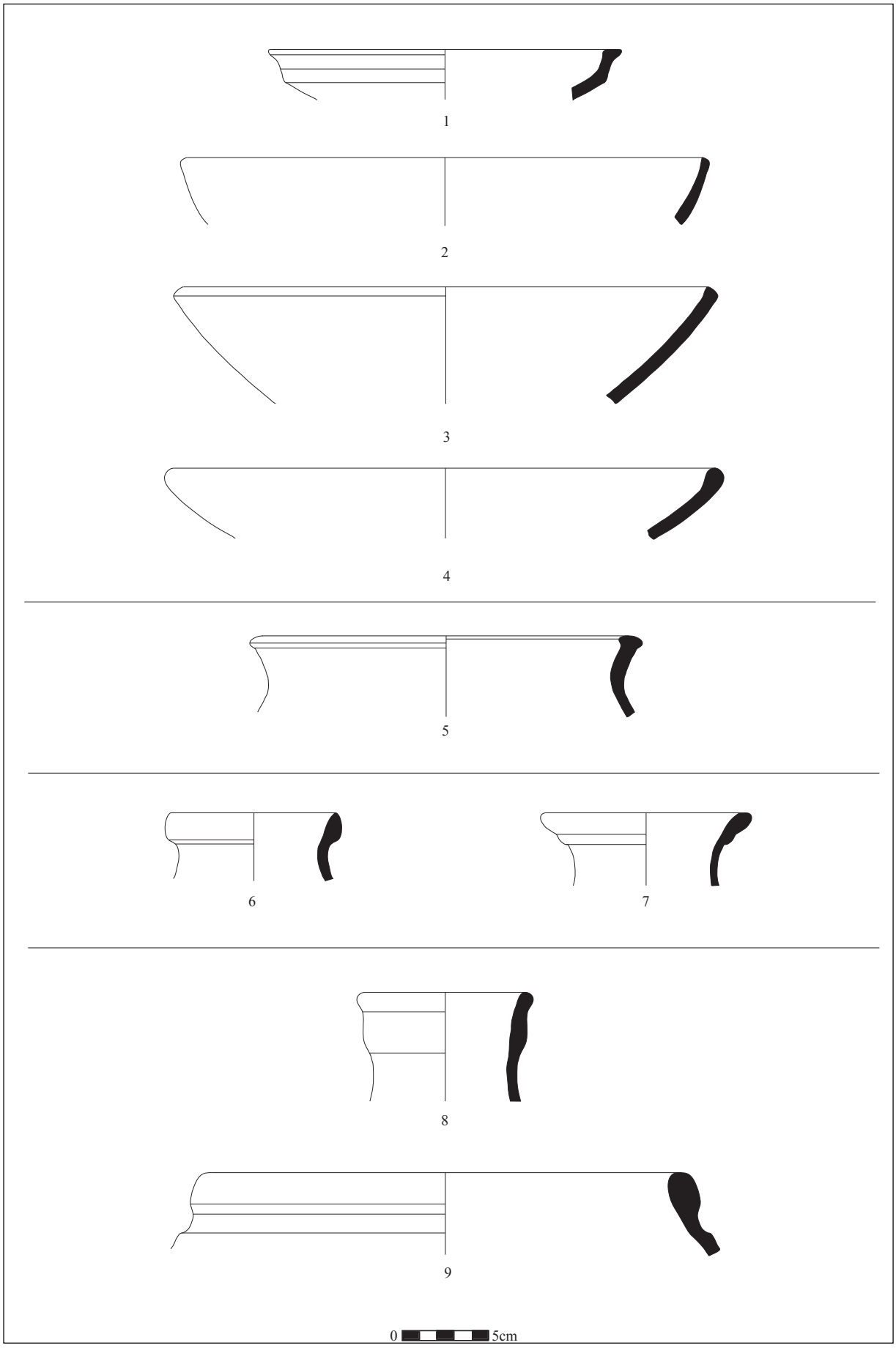


Plate 2.6: IA Cooking pots from Tall Zirāʻa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	cooking pot	TZ 000397-003	AT 119	plateau	CP 1	IA I
2	cooking pot	TZ 000054-022	AQ 121	plateau	CP 1	IA I
3	cooking pot	TZ 000020-004	AM 117	west slope	CP 1	IA II
4	cooking pot	TZ 000081-002	Z 121	plateau	CP 2 TZ	IA II
5	cooking pot	TZ 000190-001	AY 145	north slope	CP 2 TZ	IA
6	cooking pot	TZ 000048-002	AU 129	plateau	CP 1	IA
7	cooking pot	TZ 000476-007	AM 145	east slope	CP 3	IA II
8	cooking pot	TZ 000120-005	AQ 137	east slope	CP 2 TZ	IA II
9	cooking pot	TZ 000238-007	AM 145	east slope	CP 1	IA II
10	cooking pot	TZ 000044-001	AY 125	north slope	CP 1	IA II
11	cooking pot	TZ 000248-002	AD 141	east slope	CP 1	IA
12	cooking pot	TZ 000018-002	AH 121	plateau	CP 1	IA
13	cooking pot	TZ 000126-004	AQ 149	east slope	CP 2 TZ	IA II
14	cooking pot	TZ 000044-009	AY 125	north slope	CP 2 TZ	IA II
15	cooking pot	TZ 000298-012	R 125	plateau	CP 1-f	IA II

Plate 2.6: IA Cooking pots from Tall Zirā‘a—Survey 2001

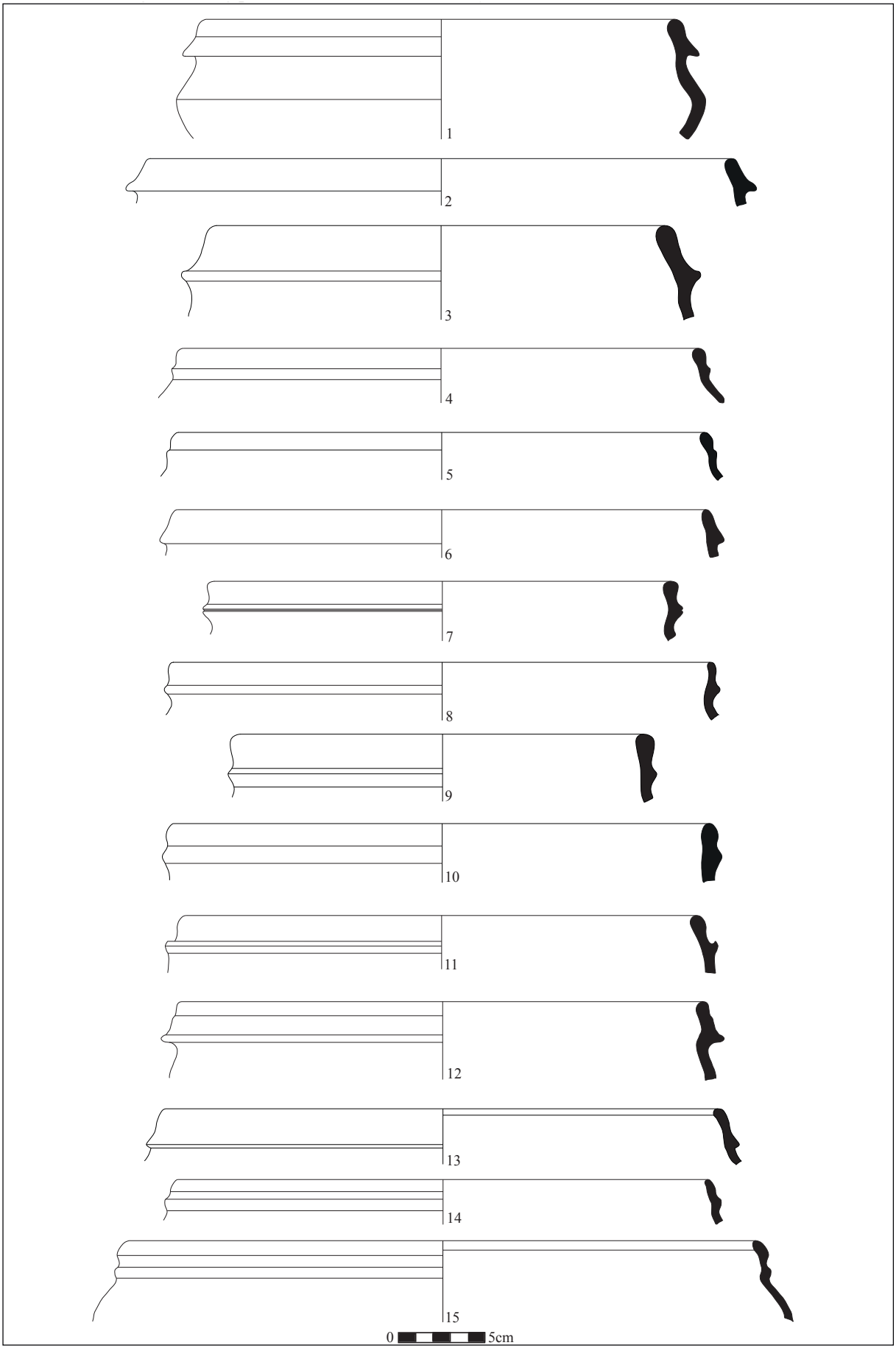


Plate 2.7: IA II, IA IIC pottery from Tall Zirāʿa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	cooking pot	TZ 000044-008	AY 125	north slope	CP 1	IA II
2	cooking jar	TZ 000075-006	AM 137	plateau	CP 3	IA II
3	holemouth	TZ 000391-001	I 133	south slope	WM C R2B	IA II
4	storage jar	TZ 000045-001	AY 125	north slope	WM C Buff	IA II
5	pithos	TZ 000242-003	AD 141	east slope	WM C R2B	IA II
6	jar/jug	TZ 000387-005	I 133	south slope	WM C R2B	IA II
7	jar/jug	TZ 000356-004	AH 105	west slope	WM C Buff	IA II
8	jar/jug	TZ 000248-003	AD 141	east slope	WM C Buff	IA II
9	jug	TZ 000388-004	I 133	south slope	WM C R2B	IA II (Persian?)
10	bowl	TZ 000392-022	I 133	south slope	WM C R2B	IA IIC
11	bowl	TZ 000356-002	AH 105	west slope	WM C R2B	IA IIC

Plate 2.7: IA II, IA IIC pottery from Tall Zirāʿa—Survey 2001

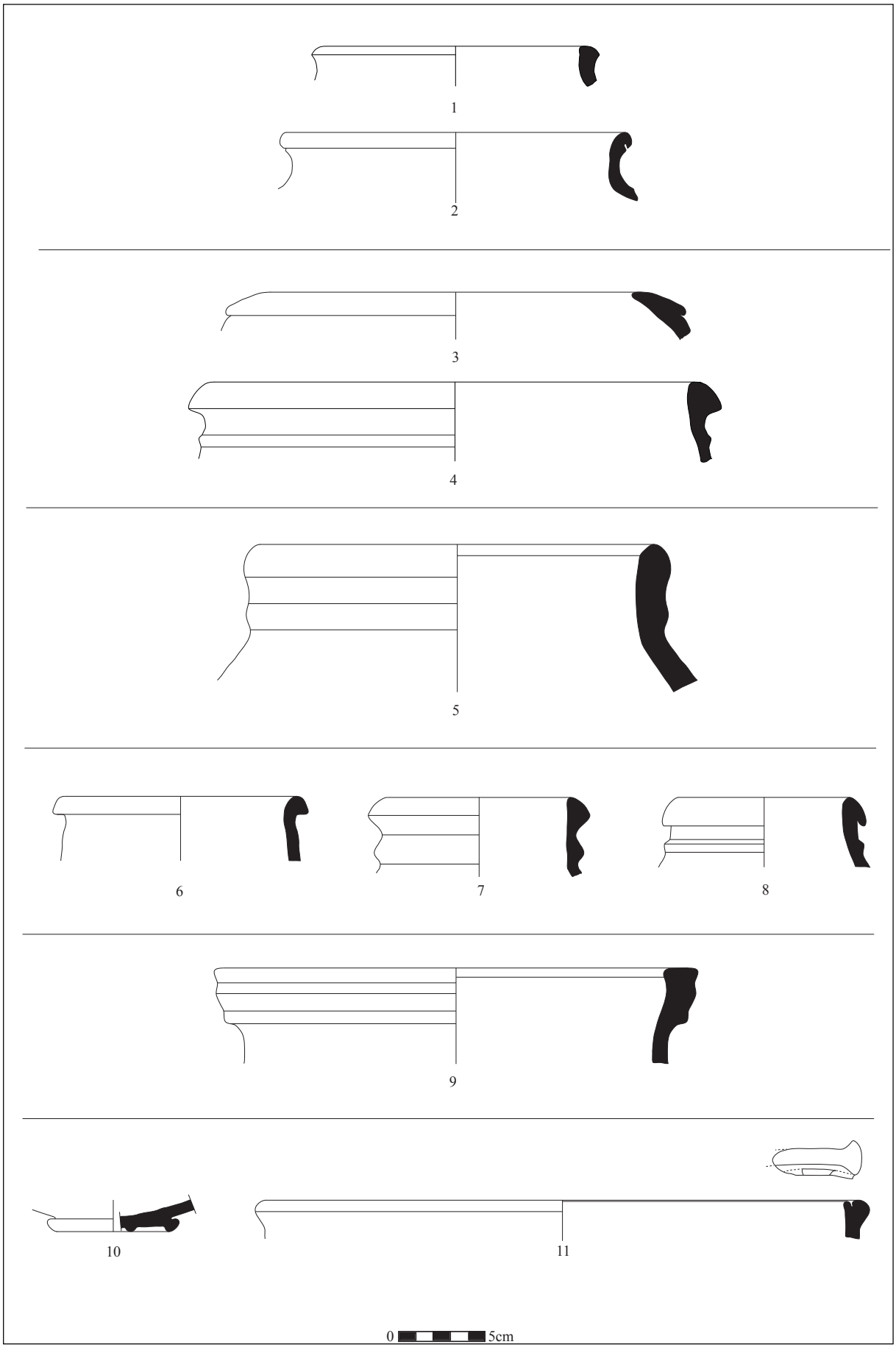


Plate 2.8: Hellenistic and Early Roman pottery from Tall Zirāʿa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	bowl	TZ 000045-007	AY 125	north slope	Cl Grey	Hellenistic
2	bowl	TZ 000196-001	AH 149	east slope	Cl Bu2Br-f-sl	Late Hellenistic
3	bowl	TZ 000111-004	AQ 141	east slope	Cl Coarse Bu2Br	IA II/Early Hellenistic?
4	bowl	TZ 000119-009	AM 137	plateau	ESA	Early Roman
5	bowl	TZ 000075-011	AM 137	plateau	ESA	Late Hellenistic – Early Roman
6	bowl	TZ 000168-007	Z 133	plateau	ESA	Early Roman
7	bowl/plate	TZ 000021-026	AD 113	west slope	ESA	Early Roman
8	amphora	TZ 000219-015	AQ 133	plateau	Cl Chal Red	Hellenistic – Early Roman
9	amphora	TZ 000348-004	N 129	south slope	Cl Chal Bu2Br	Late Hellenistic – Early Roman
10	amphora	TZ 000003-003	AM 121	plateau	Cl Buff	Hellenistic – Early Roman
11	amphora	TZ 000281-002	AU 117	north slope	Cl Chal Red-sl	Hellenistic – Early Roman
12	amphora	TZ 000110-014	AQ 145	east slope	Cl Amph-rhod	Hellenistic
13	cup	TZ 000011-005	AD 117	plateau	Cl Chal Red	Early Roman

Plate 2.8: Hellenistic and Early Roman pottery from Tall Zirā'a—Survey 2001

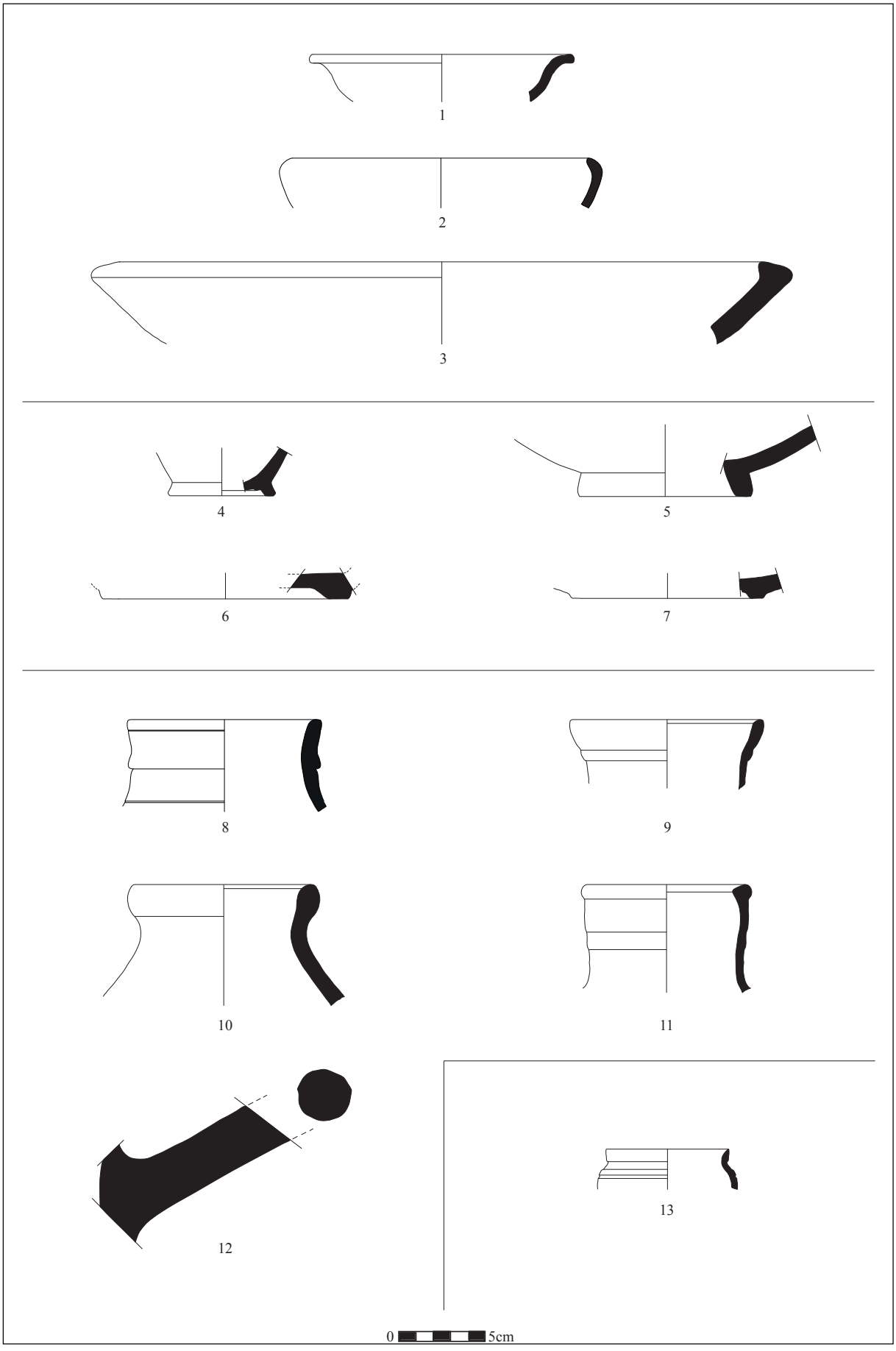


Plate 2.9: Hellenistic/Roman and Roman pottery from Tall Zirāʿa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	bowl	TZ 000204-002	AH 137	plateau	Cl Bu2Br-amph	Late Hellenistic – Early Roman
2	bowl	TZ 000370-002	V 105	west slope	Cl Bu2Br-f-sl	Late Hellenistic – Early Roman
3	bowl	TZ 000202-001	AM 133	plateau	Cl H Buff	Late Hellenistic – Early Roman
4	amphora	TZ 000153-003	AY 129	north slope	Cl Buff-hard	Hellenistic – Roman
5	amphora	TZ 000333-002	AQ 113	west slope	Cl H Buff	Late Hellenistic – Early Roman
6	jar/jug	TZ 000034-001	Z 133	plateau	Cl Bu2Br-amph	Late Hellenistic – Early Roman
7	jar/jug	TZ 000348-005	N 129	south slope	Cl Bu2Br-f	Late Hellenistic (Roman)
8	cooking bowl	TZ 000004-001	AD 117	plateau	Cl Red CP 2	Roman
9	cooking bowl	TZ 000394-001	AT 119	plateau	Cl Red CP 2	Roman
10	cooking bowl	TZ 000267-004	AY 117	north slope	Cl Red CP 2	Roman
11	casserole	TZ 000481-001	R 141	south slope	Cl Red CP 3	Roman
12	casserole	TZ 000014-001	AD 113	west slope	Cl Red CP 2	Roman
13	cooking pot	TZ 000212-001	AH 145	east slope	Cl Red CP 2	Roman
14	cooking pot	TZ 000255-007	BC 121	north slope	Cl Red CP 2	Early Roman
15	cooking pot	TZ 000334-001	AU 109	west slope	Cl Red CP 2	Roman
16	cooking pot	TZ 000291-008	AQ 113	west slope	Cl Red CP 5	Late Roman

Plate 2.9: Hellenistic/Roman and Roman pottery from Tall Zirā‘a—Survey 2001

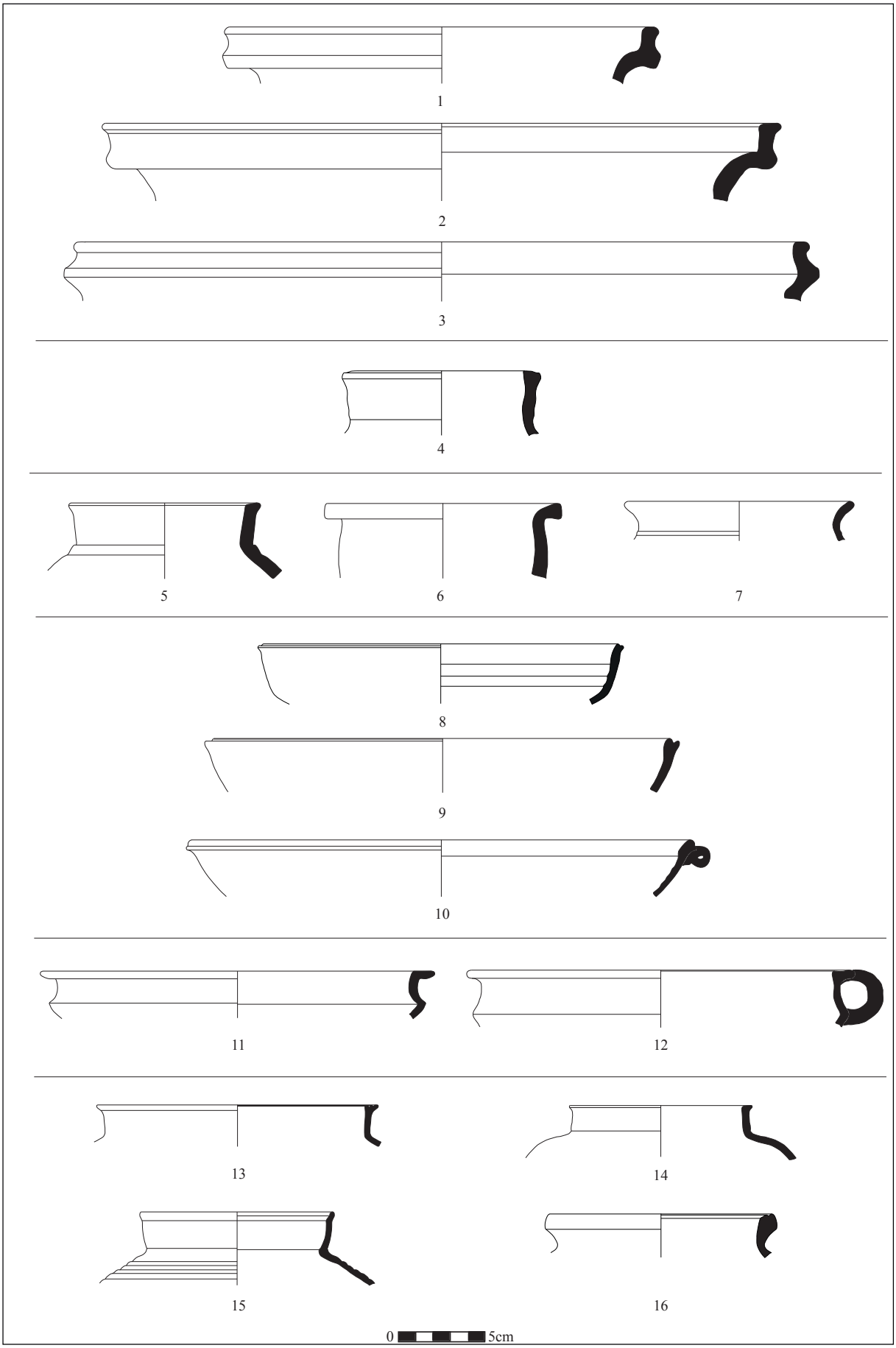


Plate 2.10: Late Roman and Byzantine imports from Tall Zirāʻa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	bowl	TZ 000135-003	Z 121	plateau	ARS	Late Roman – Byzantine
2	bowl	TZ 000061-002	AQ 129	plateau	CRS	Late Roman – Byzantine
3	bowl	TZ 000049-001	AU 129	plateau	CRS	Late Roman – Byzantine
4	bowl	TZ 000043-003	AD 129	plateau	CRS	Late Roman – Byzantine
5	bowl	TZ 000091-002	V 125	plateau	LRC	Byzantine
6	bowl	TZ 000269-001	AQ 117	west slope	LRC	Late Roman – Byzantine
7	bowl	TZ 000267-006	AY 117	north slope	LRC	Late Roman – Byzantine
8	bowl	TZ 000395-003	AQ 121	plateau	LRC	Late Roman – Byzantine
9	bowl	TZ 000262-005	AY 117	north slope	LRC	Late Roman – Byzantine

Plate 2.10: Late Roman and Byzantine imports from Tall Zirā‘a—Survey 2001

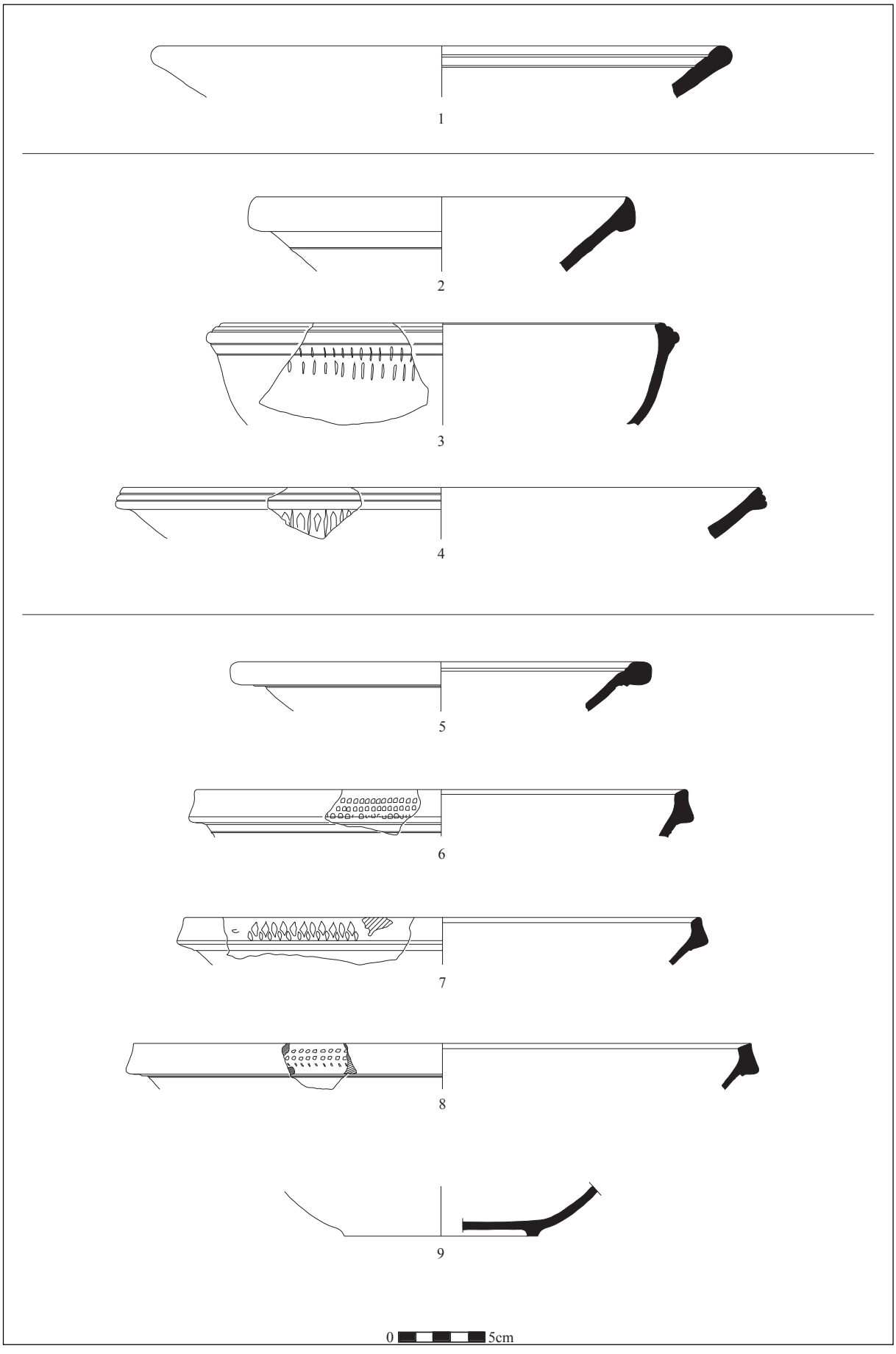


Plate 2.11: Roman – Byzantine, Byzantine and Byzantine – Early Islamic pottery from Tall Zirā'a—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	mortarium	TZ 000420-001	AQ 129	plateau	Cl Bu2Red-grog	Roman – Early Byzantine
2	mortarium	TZ 000280-005	AU 117	north slope	Cl Bu2Red-grog	Roman – Early Byzantine
3	cooking bowl	TZ 000013-011	AM 121	plateau	Cl Red CP 4	Byzantine – Early Umayyad
4	cooking bowl	TZ 000146-002	V 133	south slope	Cl Red CP 4	Byzantine – Early Umayyad
5	casserole	TZ 000153-004	AY 129	north slope	Cl Red CP 3	Roman – Early Byzantine
6	cooking pot	TZ 000345-001	N 137	south slope	Cl Red CP 1	Late Roman – Early Byzantine
7	cooking pot	TZ 000101-003	AM 149	east slope	Cl Red CP 4	Roman – Byzantine
8	cooking pot	TZ 000325-001	R 121	south slope	Cl Red CP 5	Byzantine – Early Umayyad
9	amphora	TZ 000325-002	R 121	south slope	Cl BS WP	Byzantine – Umayyad
10	jar/jug	TZ 000011-014	AD 117	plateau	Cl BP	Late Roman – Early Byzantine
11	jar/jug	TZ 000262-001	AY 121	north slope	Jerash Ware	Late Roman – Late Byzantine
12	jar/jug	TZ 000261-004	AY 121	north slope	Jerash Ware	Late Roman – Late Byzantine
13	oil lamp	TZ 000367-028	V 113	west slope	Cl C Bu2Br-f	Late Roman – Byzantine

Plate 2.11: Roman – Byzantine, Byzantine and Byzantine – Early Islamic pottery from Tall Zirā'a—Survey 2001

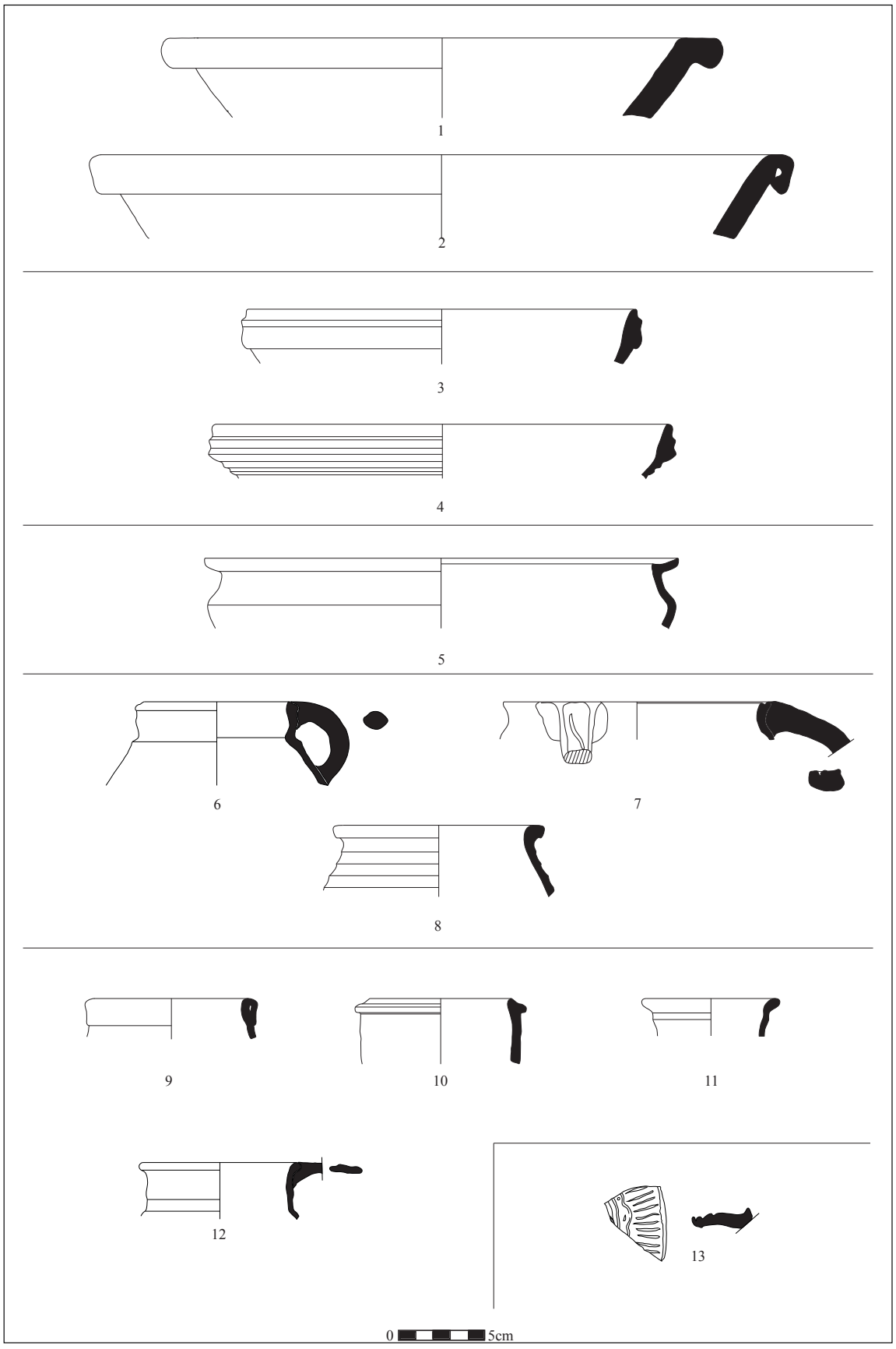


Plate 2.12: Late Byzantine – Early Islamic, Umayyad and Mamluk pottery from Tall Zirāʻa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	bowl	TZ 000455-001	R 109	south slope	PK	Late Byzantine – Umayyad
2	krater	TZ 000324-005	R 117	south slope	Is Grey WS	Umayyad
3	amphora	TZ 000398-001	Z 129	plateau	Is Grey WS	Byzantine – Umayyad
4	cooking pot	TZ 000110-003	AQ 145	east slope	Is HM	Umayyad
5	jar/jug	TZ 000467-001	N 117	south slope	Is Grn	Early Islamic
6	bowl	TZ 000040-003	AD 129	plateau	Is HM Ptd	Ayyubid – Mamluk
7	jar/jug	TZ 000021-016	AD 113	west slope	Is HM Ptd	Ayyubid – Mamluk
8	jar/jug	TZ 000129-002	V 125	plateau	Is HM Ptd	Ayyubid – Mamluk
9	jar/jug	TZ 000042-011	AD 129	plateau	Is HM Ptd	Ayyubid – Mamluk
10	jar/jug	TZ 000138-014	AD 121	plateau	Is HM Ptd	Ayyubid – Mamluk

Plate 2.12: Late Byzantine – Early Islamic, Umayyad and Mamluk pottery from Tall Zirā'a—Survey 2001

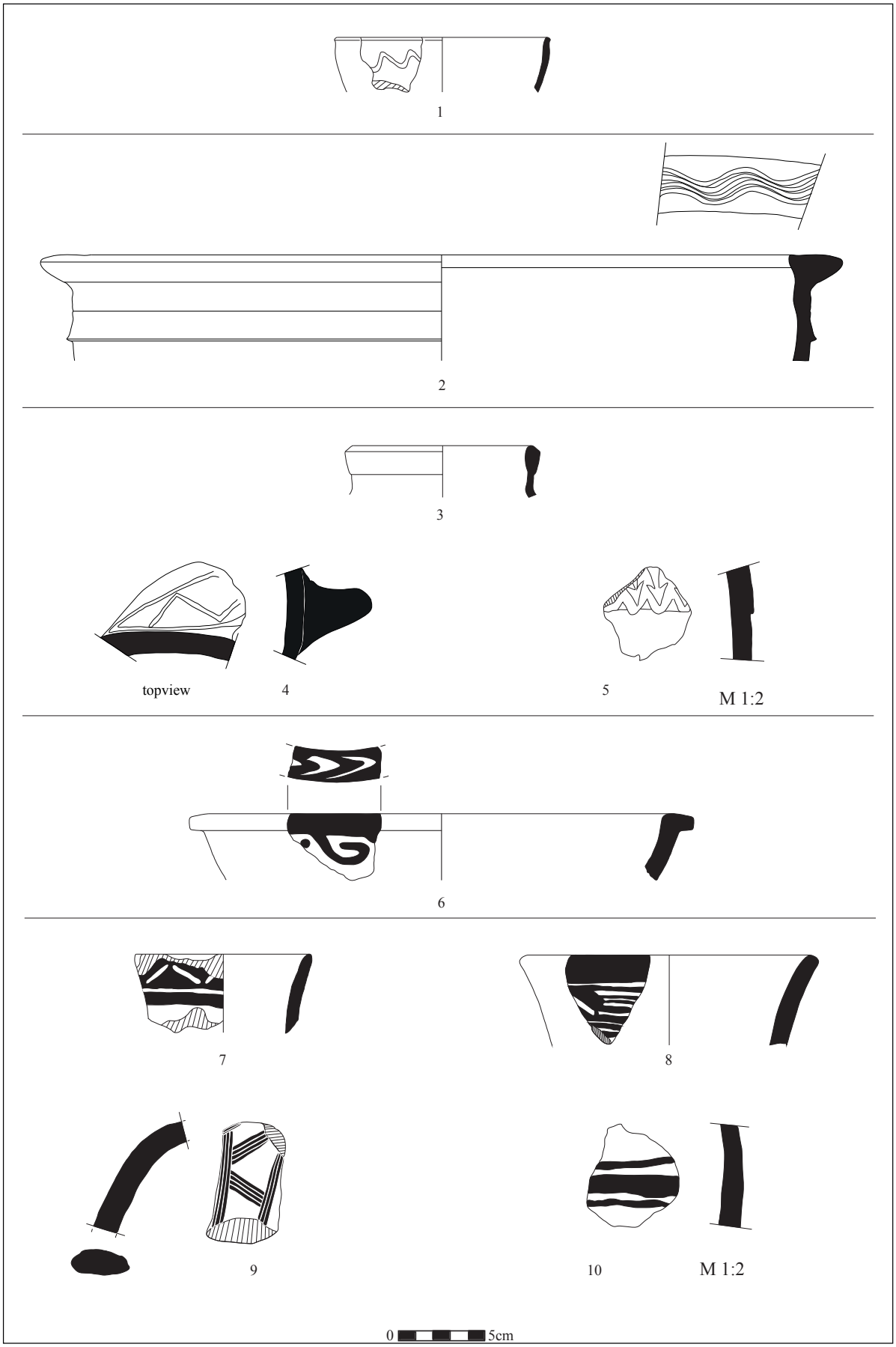


Plate 2.13: Islamic pottery from Tall Zirā'a—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	bowl	TZ 000165-003	V 125	plateau	Is Red-Buff sl	Islamic
2	bowl	TZ 000054-006	AQ 121	plateau	Is Bu2Br	Islamic
3	bowl	TZ 000372-007	AH 113	west slope	Is Glz	Islamic
4	bowl	TZ 000416-003	U 132	–	Is Glz Bu2Br	Mamluk
5	bowl	TZ 000179-002	Z 129	plateau	Is Glz Red	Ayyubid – Mamluk
6	bowl	TZ 000067-007	AD 125	plateau	Is Glz	Ayyubid – Mamluk
7	bowl/plate	TZ 000146-005	V 133	south slope	Is Glz Bu2Br	Mamluk
8	bowl/plate	TZ 000389-002	I 133	south slope	Is Glz Red	Mamluk
9	cooking pot	TZ 000311-003	N 125	south slope	Is Red	Islamic
10	cooking pot	TZ 000216-006	AM 129	plateau	Is Red	Islamic
11	cooking pot	TZ 000338-001	AU 113	north slope	Is Red	Islamic
12	cooking pot	TZ 000348-001	N 129	south slope	Is Red2Br	Islamic
13	cooking pot	TZ 000036-007	AD 125	plateau	Is Glz Red	Crusade

Plate 2.13: Islamic pottery from Tall Zirā'a—Survey 2001

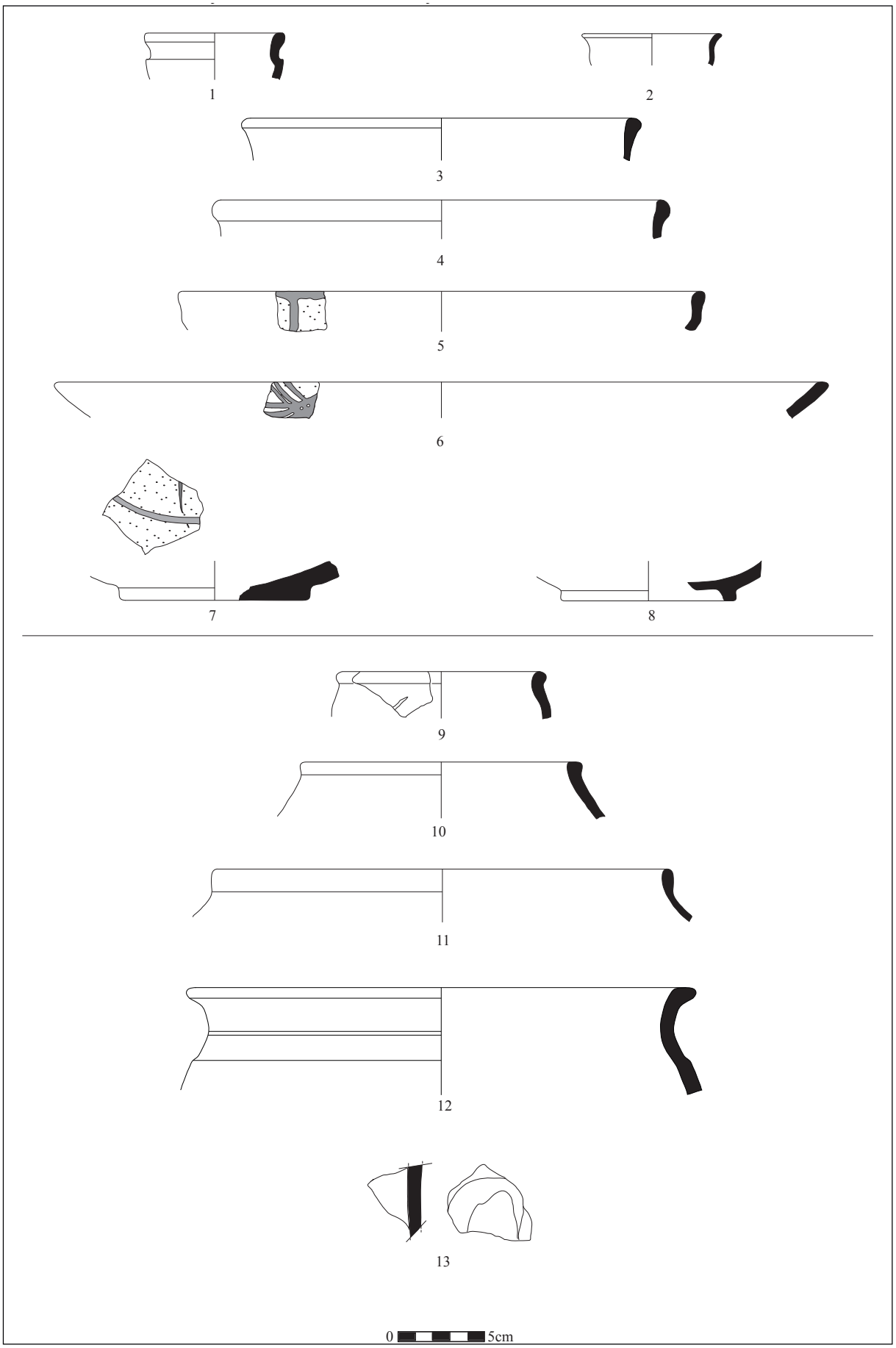
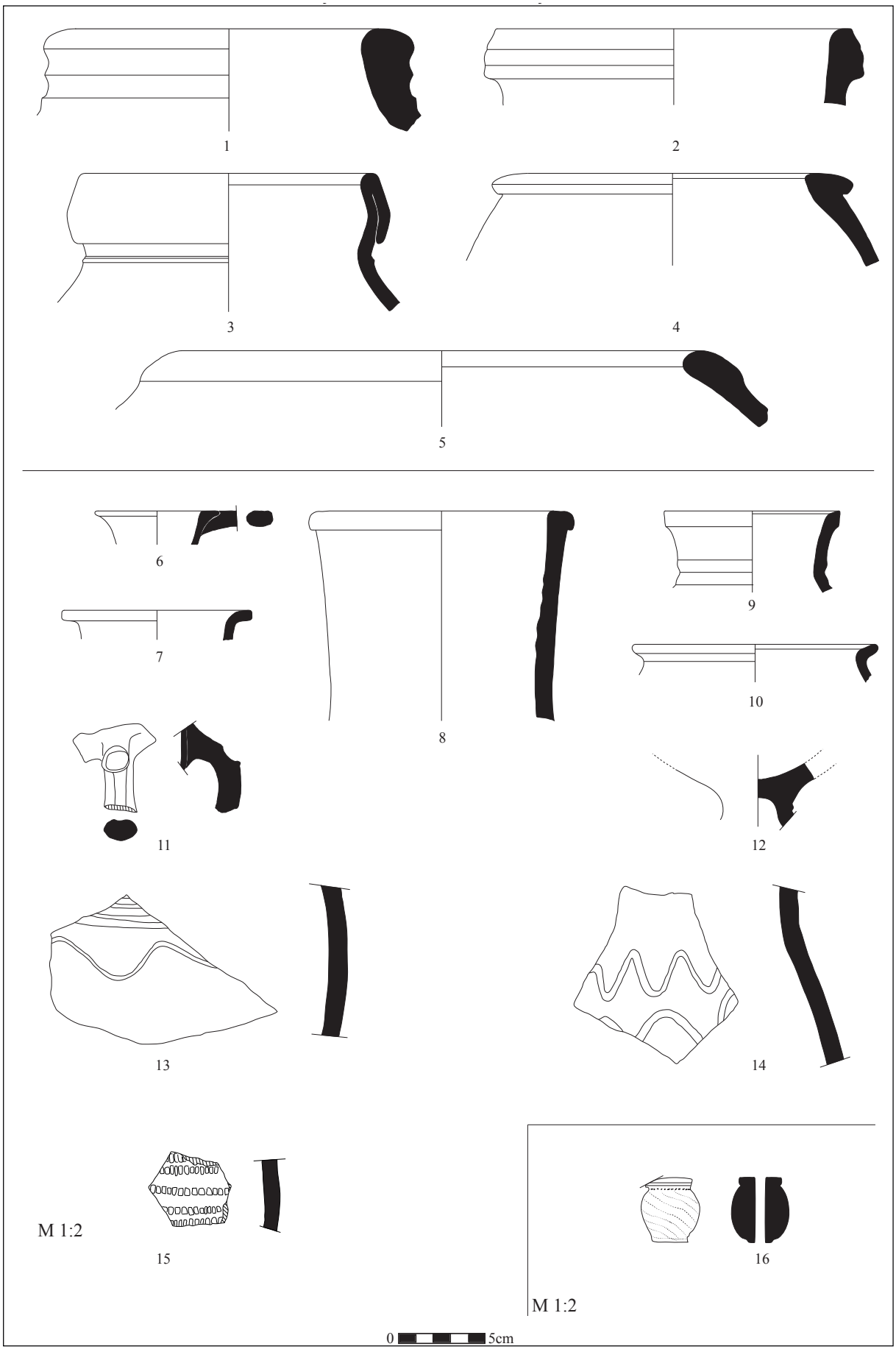


Plate 2.14: Islamic and Ottoman pottery from Tall Zirāʿa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric group	Date
1	storage jar	TZ 000032-002	AH 125	plateau	Is Coarse	Islamic
2	storage jar	TZ 000195-004	AM 145	plateau	Is Coarse	Islamic
3	storage jar	TZ 000348-002	N 129	south slope	Is Red2Br	Islamic
4	storage jar	TZ 000304-003	AM 109	west slope	Is Coarse	Islamic
5	storage jar	TZ 000018-001	AH 121	plateau	Is Coarse	Islamic
6	jar/jug	TZ 000077-001	Z 117	plateau	Is Red	Islamic
7	jar/jug	TZ 000019-009	AM 117	west slope	Is Red2Br	Islamic
8	jar/amphora	TZ 000075-001	AM 137	south slope	Is Red-Buff sl	Islamic
9	jug/jug	TZ 000418-001	AQ 129	plateau	Is Bu2Br-sl	Islamic
10	jar/jug	TZ 000036-002	AD 125	plateau	Is Red2Br	Islamic
11	jar/jug	TZ 000138-012	AD 121	plateau	Is Red	Islamic
12	jar/jug	TZ 000430-009	I 121	south slope	Is Red2Br	Islamic
13	jar/krater	TZ 000389-007	I 133	south slope	Is Red2Br	Islamic
14	jar/jug	TZ 000304-012	AM 109	west slope	Is Buff	Islamic
15	jar/jug	TZ 000430-001	I 121	south slope	Is Grn	19th century AD - Modern
16	pipe bowl	TZ 000098-001	V 117	south slope	–	Ottoman

Plate 2.14: Islamic and Ottoman pottery from Tall Zirāʿa—Survey 2001



2.2.2. Glass Finds from the 2001 Survey

by Stefanie Hoss/Daniel Keller

The glass finds from the 2001 Survey on Tall Zirā'a were first studied by D. Keller, who wrote a report on the finds. The 2003 to 2014 excavation glass finds were studied between 2010 to 2014 by St. Hoss, and will be published in a later volume of the final report of the excavation on Tall Zirā'a. In order to maintain a single glass typology throughout the Tall Zirā'a publications, the typology of the 2001 report was amended by St. Hoss (with D. Keller's consent) in 2015; references to the academic literature were updated at the same time.

All glass fragments included in this report will be classified according to St. Hoss's typology (TZ-Group). The original report did not include sherd measurements, so all measurements included in the plates are approximate.

2.2.2.1. Typology of the Glass Finds (*Pl. 2.15, nos. 1–7*)

Only 44 glass fragments were found during the survey; two are from the twentieth century (TZ 000462-001 and TZ 000462-002), with the other 42 fragments dated from the Early Roman to the Early Byzantine periods.

Sherd TZ 000486-001 is a fairly large piece of molten greenish glass of unidentifiable shape; most likely as a consequence of having been in a fire. It is therefore impossible to determine if it was originally part of a glass vessel (either a large bowl or bottle) or a windowpane. The remaining 41 glass fragments can be divided into two groups: four are from windowpanes, and the remaining 37 are attributed to glass vessels.

Windowpanes

All four window fragments are made of greenish blue glass and belong to rectangular panes (TZ-Group 74). Such rectangular panes were set into wooden frames, secured by lead and perhaps also by putty[85]. Two of them were free-blown (TZ 000095-001 and TZ 000128-001), while the other two (TZ 000485-001 and TZ 000312-001) were cast, and most likely belonged to the same pane. Both free-blown and cast windowpanes were common in Byzantine Jordan, as respective finds from Umm Qēs (Gadara)[86], Ǧaraš (Jerash)[87] and Wādī Mūsā (Petra)[88] show. In Palestine and the wider Levant, glass windowpanes are frequently found in Byzantine churches, although they also occurred in other buildings. Rectangular as well as round windowpanes became more common in Near Eastern houses during Late Antiquity, as examples from Ṭabaqāt Faḥl (Pella) and Sabasṭiya (Samaria) demonstrate[89].

Glass Vessels

Among the 37 glass vessel fragments, two belong to the group of Early Roman cast glass (TZ-Group 5); a greenish blue rim from an early ribbed bowl (TZ 000227-001; *Pl. 2.15, no. 1*) and a flat pale green base (TZ 000241-002), which belongs either to another early ribbed bowl or to a linear cut bowl (TZ-Group 6).

Ribbed bowls are so widely distributed through the whole Mediterranean that D. Grose assumes a widespread manufacture[90]. In the Near East, they are known from Heliopolis (Baalbek)[91] and Bairūt (Beirut)[92] in Lebanon as well as Ǧabȧ (Sha'ar-Ha-'Amakim)[93], Rāmat Ha-Nadīv[94], Tulūl Abū l-'Alā'īq/Tall as-Samrāt (Jericho)[95], 'Ain Ǧidi (En Gedi)[96], Tall Sandaḥanna (Maresha)[97], 'Ain Boqeq[98] in Palestine and Israel as well as Sī' (Seeia) in southern Syria, and Ǧaraš (Jerash)[99] and Wādī Mūsā (Petra)[100] in Jordan. While the start date for the production of this type is difficult to determine, it appears certain that they were in use by the last quarter of the first

85 Keller – Lindblom 2008, 335; Komb 2009, 18 f.; Hoss forthcoming.
86 Unpublished finds studied by D. Keller.
87 Meyer 1988, 194 f.
88 O'Hea 2001, 371 f.
89 O'Hea 2007, 236 f.
90 Grose 2012, 60.
91 Hamel – Greiff 2014, 147.
92 Jennings 2004/2005, 37–42.
93 Burdajewicz 2009, 177 f., Fig. 2, 22–35.
94 Cohen 2000, Pl. 1, 1–3.
95 Jackson-Tal 2013, Pl. 3.4, 25–30. 12.
96 Jackson-Tal 2007, 477, Pl. 2, 1–3.
97 Jackson-Tal 2005, Fig. 2, 1.
98 Jackson-Tal 2000, 73 f., Pl. 1, 2–5.
99 Dussart 1998, 56 type AIII 3, Pl. 2, 23–24.
100 Keller 2006, 188 f.

century BC, with a probable end date of the production by the first half of the first century AD. Linear bowls date from the mid-first century BC until the mid-first century AD[101]; this form was also widespread in the Western and Eastern Mediterranean[102].

The other 35 glass fragments belong to free-blown glass vessels, 17 of which are unidentifiable body sherds. Ten fragments are greenish blue, three each are bluish green and pale green respectively, while one is yellowish green. This is a typical range of colours for Late Roman and Byzantine glass in Jordan and Israel. The absence of colourless glass, which was mainly produced in the second and third centuries AD, demonstrates an absence of glass from the Mid-Roman period, and points towards a Late Roman or Byzantine date for these glass fragments.

The nine bases can be divided by the following groupings: two fairly high base rings and two concave bases, all of a greenish blue colour, two folded bases, one of which is made of pale green glass, while the other is colourless. The remaining three are solid bases from beakers, of pale green or bluish green glass (TZ 000492-006, *Pl. 2.15, no. 2*; TZ 000313-001; TZ 000388-015). They belong to a well-known type of Late Roman beaker dated to the fourth century AD (TZ-Group 33). Beakers with similar bases were found in Sabasṭiya (Samaria)[103], Nahăriyya[104], Məṣad Tāmār[105], 'Ain Ğidi (En Gedi)[106], Umm Qēs (Gadara)[107], Ğaraš (Jerash)[108], Sī' (Seeia),'Ammān and 'Ain az-Zāra[109] as well as in Wādī Mūsā (Petra)[110]. However, in fourth century AD contexts, they appear to be more abundant in the north of Jordan than in the south.

Regarding the nine rims; three are from bluish green, greenish blue or pale green large plates or shallow bowls with a folded rim (TZ-Group 17: TZ 000488-001; TZ 00493-001, *Pl. 2.15, no. 3*; TZ 000253-001). Finds from Ğalāme (Jalame) suggest a fourth century AD date[111]. A typical feature of these vessels is an out-folded collar, which is folded upwards at its lower end. Plates with the same style of rim have also been found in Jordan in Ğaraš (Jerash)[112], 'Ammān and 'Ain az-Zāra[113] They were also a well-known glass vessel shape during the fourth century AD in the Lebanon (Bairūt [Beirut])[114], Jordan valley (Scythopolis [Beth Shean]), Galilee (Tall al-Ḫirba [Meiron]) and Yarmuk valley (al-Ḥamma [Hammat Gader])[115]. Similar plates from southern Jordan and the Negev, such as finds from Wādī Mūsā (Petra)[116] and Məṣad Tāmār do not have the upwards-folded end of the collar[117].

The six remaining rims represent five different types; a bluish green plate or dish with a double-folded rim (this type does not have a TZ-Group: TZ 000241-001; *Pl. 2.15, no. 4*) is quite a common type in northern Jordan and northern Israel, as finds from Umm Qēs (Gadara)[118], Ğaraš (Jerash) and 'Ammān[119] as well as from Bēsara (Beth She'arim)[120] and Ğalāme (Jalame)[121] indicate. But they do also occur in southern Jordan, as demonstrated by finds from Wādī Mūsā (Petra)[122].

A greenish blue bowl with a fire-rounded rim had a double hollow fold in the wall (TZ-Group 12: TZ 000184-001; *Pl. 2.15, no. 5*). Bowls with this decoration are quite widespread in the Near East, although in lesser quantities than other forms. Parallels occur in Bairūt (Beirut)[123], Ğalāme (Jalame)[124], Rāmat Ha-Nadīv[125], al-Ḥamma (Hammat Gader)[126], 'Ain Ğidi (En Gedi)[127] and Tulūl Abū l-ʿAlāʾīq/Tall as-Samrāt (Jericho)[128]. They also occur occasionally in northern Jordan at Umm Qēs (Gadara)[129], Ğaraš (Jerash)[130] and 'Ammān[131], and are well represented among the Late Roman glass finds from Wādī Mūsā (Petra)[132]. According to R. E. Jackson-Tal, these vessels date from the Late Roman to the Byzantine period[133].

A bluish green bowl with a fire-rounded thickened rim (TZ-Group 7: TZ 000489-001, *Pl. 2.15, no. 6*) belongs to

101 Jennings 2000, 53; Keller 2006, 187 f.
102 Grose 2012, 54.
103 Crowfoot 1957, 404 f. 410. 413 Fig. 94, 14. 95, 20.
104 Barag 1965, 29 Pl. 3.
105 Erdmann 1977, 100. 114 cat. no. 13–25 Pl. 1, 13–16.
106 Jackson-Tal 2007, 484. Pl. 7, 5–6.
107 Andersen 1993, 198 cat. no. 418 Pl. 42.418.
108 Meyer 1988, 193, Fig. 6, Z–dd.7, A–B.
109 Dussart 1998, 96–99 type BVIII. 121 Pl. 21, 18.23–24. 30–36. 38–40.
110 Keller 2006, 220 Pl. 16r.
111 Davidson Weinberg – Goldstein 1988, 47–49 cat. no. 71–76 Fig. 4–7.
112 Meyer 1988, 191 Fig. 6, L–M.
113 Dussart 1998, 75 type BII.311 Pl. 11, 2–10.
114 Jennings 2004/2005, 171–174, Fig. 7.21.
115 Tall al-Ḥiṣn (Beth Shean): Hadad 2005, 21 Pl. 3, 56–59, 67–70. Tall al-Ḫirba (Meiron): Meyers et al. 1981, 70 f. Pl. 9.10, 15–16. 9.11, 1–4. al-Ḥamma (Hammat Gader): Cohen 1997, 400 Pl. I, 10–12.
116 Keller 2006, 201 type VII.2 Pl. 7a.
117 Erdmann 1977, 105. 123 cat. no. 274–275 Pl. 4, 274–275.
118 Andersen 1993, 198 cat. no. 417 Pl. 42, 417.
119 Dussart 1998, 75 f. type BII.312. 321. 322 Pl. 11, 1–16.
120 Avigad 1976, 207. 209–213 cat. no. 49 Fig. 100 Pl. 69.
121 Davidson Weinberg – Goldstein 1988, 49 f. cat. no. 80–81 Fig. 4–8, 80–81.
122 Keller 2006, 210 type VII.20 Pl. 11g.
123 Jennings 2004/2005, 106 Fig. 5.19, 4.
124 Davidson Weinberg – Goldstein 1988, 53 f. cat. no. 109–117 Fig. 4–15.
125 Cohen 2000, 481 Pl. 4, 2.
126 Cohen 1997, 401 Pl. II, 3.
127 Jackson-Tal 2007, 475 Pl. 1, 7.
128 Jackson-Tal 2013, 107 Pl. 3.5, 37.
129 Andersen 1993, 198 cat. no. 412 Pl. 42, 412.
130 Meyer 1988, 191 Fig. 6, Q.
131 Dussart 1998, 78 type BV.12 Pl. 12, 11–13.
132 Keller 2006, 206 f. type VII 10c, 11d and 13d Pl. 9d, 9h, 10a–b.
133 Jackson-Tal 2007, 475; Jackson-Tal 2012, 183.

a type which is also common in Bairūt (Beirut)[134] and Heliopolis (Baalbek)[135], as well as in Ǧalāme (Jalame)[136], Rāmat Ha-Nadīv[137], Scythopolis (Beth Shean)[138], Ḥānitā[139], Tall al-Ḫirba (Meiron)[140] , Tulūl Abū l-'Alā'īq/Tall as-Samrāt (Jericho)[141] and Məṣad Tāmār[142], and also in both northern Jordan[143] and Wādī Mūsā (Petra)[144]. This type of bowl is not only found in contexts from the first century AD (at 'Ain az-Zāra) but also from Levantine contexts dated from the third to the seventh century[145]. The finds from Heliopolis (Baalbek) come from closed contexts of the third/fourth centuries AD[146].

A bluish green bowl or beaker with a fire-rounded straight rim (TZ 000247-001) may have belonged to either TZ-Group 8, a type of small hemispherical bowl, or to TZ-Group 28, which are smallish beakers. As beakers represent a much higher proportion of the glass finds from the excavation than the bowls, it seems likely that this sherd also belonged to TZ-Group 28. Beakers of this type had a very long period of use, from the late first to the eighth century, and are widespread in the Near East, occurring in Lebanon (Bairūt [Beirut])[147], Israel (al-Ḥamma [Hammat Gader])[148] and Ḥorvat Meṣad[149]) southern Syria and northern Jordan (Buṣērā [Bosra], 'Ain az-Zāra, Umm Qēs [Gadara][150], Ǧaraš [Jerash][151] and 'Ammān[152]) as well as southern Jordan (Wādī Mūsā [Petra][153] and Dēr 'Ēn 'Abātā[154]).

Two bluish green bottles with fire-rounded rims and conical necks (TZ-Group 44: TZ 000257-001, *Pl. 2.15, no. 7*; TZ 000461-001) represent a type which has been found in Bairūt (Beirut)[155], Jalame[156], Scythopolis (Beth Shean)[157], Rāmat Ha-Nadīv[158], Ṭabarīya (Tiberias)[159], al-Ḥamma (Hammat Gader)[160], Ḥorvat Meṣad[161], Tulūl Abū l-'Alā'īq/Tall as-Samrāt (Jericho)[162], 'Ain Ǧidi (En Gedi)[163], Umm Qēs (Gadara)[164], Buṣērā (Bosra), Ǧaraš (Jerash), 'Ammān and 'Ain az-Zāra[165] as well as in Wādī Mūsā (Petra)[166] and Dēr 'Ēn 'Abātā[167].

2.2.2.2. Analysis of the Glass Finds

The parallels for all these glass vessel types among the fourth century AD glass finds from Jalame suggest a similar date for the identifiable fragments of blown glass vessels, (although an extension into the early fifth century AD cannot be excluded), and some of the types continue into the sixth or seventh century AD (particularly the bottle and the bowl or beaker with the fire-rounded straight rim). However, it is remarkable that there is not a single typical glass fragment of the later fifth, sixth or early seventh centuries AD, such as stemmed glass lamps, bottles with blue trails, stemmed goblets or bull's eye window panes. It can therefore be concluded that the glass finds from this survey represent only two phases of the settlement of Tall Zirā'a, namely the Early Roman period (the two cast glass vessels), and the fourth/early fifth centuries AD (the blown glass vessels). However, this does not necessarily mean that these two periods were the main occupational phases on Tall Zirā'a, because the finds record of only nine rather small glass fragments is not sufficient evidence to support this hypothesis. Furthermore, one has to be aware of the circumstances influencing the way in which glass enters the archaeological record. First of all, glass was always recycled, which means that broken glass pieces were collected for remelting, and are thus underrepresented in the archaeological record[168]. The two small peaks in the chronological distribution of the

134 Jennings 2004/2005, 105 f., Fig. 5.18, 1–2.
135 Hamel – Greiff 2014, 150 Fig. 16.3–8.
136 Davidson Weinberg – Goldstein 1988, 40 f. cat. no. 6–11. Fig. 4–2.
137 Cohen 2000, 168 Pl. 1, 13.
138 Hadad 2005, 21, Pl. 2, 34–36, 38–39; Hadad 2006, 626 Fig. 19.1, 5–6, 9–10.
139 Barag 1978, 13.21 cat. no. 10.38.
140 Meyers 1981, Pl. 9.10, 1.6.
141 Jackson-Tal 2013, 106 f. Pl. 3.5, 36.
142 Erdmann 1977, 107. 132. 137 cat. no. 565. 730 Pl. 6, 565. 730.
143 Dussart 1998, 60 type BI 211 (Pl. 4, 1–16). 65 f. type BI 4211 (Pl. 6, 1–9). 77 type BIII 1, (Pl. 12, 1–3).
144 Keller 2006, 206 type VII, 11a, Pl. 9e.
145 Keller 2006, 206.
146 Hamel – Greiff 2014, 150, Fig. 16.3–8.
147 Jennings 2004/2005, 71 f., Fig. 4.1, 6–8, 91 f., Fig, 5.7.
148 Cohen 1997, 410, Pl. III,20.
149 Jackson-Tal 2012, 184 Fig. 8.2, 6–7.66
150 Andersen 1993, 198 cat. no. 412 Pl. 42, 412.
151 Meyer 1988, 191 Fig. 6, Q.
152 Dussart 1998, 95 f. type BVIII 111/112. BVIII 15. BVIII 2111. 104–106, Pl. 21, 1V17. Pl. 23, 8–35.
153 Keller 2006, type VII 28a. VII 29 a/b. VII, 31a. VII 32a. 215–218, Pl. 15d. 15k–l. 16c. 16 f.
154 O'Hea, 2012, 305 cat. no. 49–51. Fig. 633–636.
155 Jennings 2006, 77 f. Fig. 4.10, 12. 177 f. Fig. 7.26, 15–20, 22.
156 Davidson Weinberg – Goldstein 1988, 73 cat. no. 293–295. 298. 300 Fig. 4–35.
157 Hadad 2005, 24–27 Pl. 12, 235–237. 244. 246. Pl. 18, 352–354; Hadad 2006, 626 f. Fig. 19.2, 19–21.
158 Cohen 2000, 170, Pl. III, 28–29. 34–36.
159 Hadad 2008, 170 f. Pl. 5.4, 57.
160 Cohen 1997, 419–427 Pl. VI, 6, 13, Pl. VII, 4–5, Pl. VIII, 11–16.
161 Jackson-Tal 2012, 186 Fig. 8.3, 1, 6.
162 Jackson-Tal 2013, 114 Pl. 3.10, 3–5.
163 Jackson-Tal 2007, 487 Pl. 8, 5.
164 Andersen 1993, 197 cat. no. 382 Pl. 41, 382.
165 Dussart 1998, 132–135 type BX.1125a1 Pl. 34, 4–37.35, 1–13.
166 Keller 2006, type VII 54a, 226. Pl. 19h. type VII 79a, 234. Pl. 220.
167 O'Hea 2012, 307 f. cat. no. 65. 68. 70–71. 77. Fig. 649. 652. 654–655. 661.
168 Cool – Price 1995, 6 f.

glass finds from this survey (the first being in the late first century BC/early first century AD, the second in the fourth/early fifth century AD) may indeed reflect two major occupational phases, but there are also other possible explanations for this distribution of glass finds, such as a major destruction of the settlement of Tall Zirā'a during these two periods and a continuous occupation in the intermediate time, in which glass was recycled and did not enter the archaeological record. Neither idea can be verified by analysing survey finds only; without well-documented, well-excavated archaeological contexts, the interpretation of these finds remains uncertain. Based only on the glass finds, it can be stated that they are typical for an overall picture of the glass in use in northern Jordan during the Early Roman period and the Late Roman/ Early Byzantine period; however, they cannot be used to conclude either continuity or discontinuity of occupation on the site.

2.2.2.3. Catalogue of the Glass Finds (*Pl. 2.15, nos. 1–7*)

Rectangular Flat Window Panes/TZ-Group 74

TZ 000485-001
Square AD 117; plateau
Colour: Greenish blue
Description: Rim fragment of a rectangular windowpane; cast
Figure References: —
Dimension: L 1.5; D not measurable; Th 0.9
Parallel: **Byzantine**: Meyer 1988, 194 f.; O'Hea 2001, 371 f.; Komb 2009, 87–94; Jackson-Tal 2012b, 69 Fig. 4, 60–01; O'Hea 2012, 311 Fig. 688; Hoss forthcoming, Group 74. cat. no. W.1–W.6.
Note: This rim fragment probably belongs to the same pane as TZ 000312-001.

TZ 000486-001
Square AD 117; plateau
Colour: Pale green
Description: Melted piece of glass; free-blown
Figure References: —
Dimension: L 11.8; W 4.7
Parallel: **Byzantine**: Meyer 1988, 194 f.; O'Hea 2001, 371 f.; Komb 2009, 87–94; Jackson-Tal 2012b, 69 Fig. 4, 60–01; O'Hea 2012, 311 Fig. 688; Hoss forthcoming, Group 74. cat. no. W.1–W.6.
Note: —

TZ 000095-001
Square Z 121; plateau
Colour: Greenish blue
Description: Rim fragment of a rectangular windowpane with rounded rim; free-blown
Figure References: —
Dimension: L 3; W 2.2; D not measurable; Th 0.25
Parallel: **Byzantine**: Meyer 1988, 194 f.; O'Hea 2001, 371 f.; Komb 2009, 87–94; Jackson-Tal 2012b, 69 Fig. 4, 60–01; O'Hea 2012, 311 Fig. 688; Hoss forthcoming, Group 74. cat. no. W.1–W.6.
Note: —

TZ 000128-001
Square V 117; south slope
Colour: Greenish blue
Description: Rim fragment of a rectangular windowpane with rounded rim; free-blown
Figure References: —
Dimension: L 2; W 2; D not measurable; Th 0.2–0.3
Parallel: **Byzantine**: Meyer 1988, 194 f.; O'Hea 2001, 371 f.; Komb 2009, 87–94; Jackson-Tal 2012b, 69 Fig. 4, 60–01; O'Hea 2012, 311 Fig. 688; Hoss forthcoming, Group 74. cat. no. W.1–W.6.
Note: —

TZ 000312-001
Square R 117; south slope
Colour: Greenish blue
Description: Rim fragment of a rectangular windowpane; cast
Figure References: —
Dimension: L 5.3; W 2.5; Th 0.5
Parallel: **Byzantine**: Meyer 1988, 194 f.; O'Hea 2001, 371 f.; Komb 2009, 87–94; Jackson-Tal 2012b, 69 Fig. 4, 60–01; O'Hea 2012, 311 Fig. 688; Hoss forthcoming, Group 74. cat. no. W.1–W.6.
Note: This rim fragment probably belongs to the same pane as TZ 000485-001.

Ribbed Bowl/TZ-Group 5

TZ 000227-001
Square AM 133; plateau
Colour: Greenish blue
Description: Rim sherd of an early ribbed bowl, cast
Figure References: Pl. 2.15, no. 1
Dimension: L 2.5; D not measurable; Th 0.4
Parallel: **Hellenistic – Roman**: Dussart 1998, 56 type AIII 3 Pl. 2, 23 f.; Cohen 2000, Pl. 1, 1–3; Jackson-Tal 2003, Fig. 2, 1; Jennings 2004/2005, 37–42 Fig. 2, 8–14; Jackson-Tal 2007, 477 Pl. 2,1–3; Burdajewicz 2009, 177 f. Fig. 2,22–35; Jackson-Tal 2013, Pl. 3.4, 25–30; Hoss forthcoming, Group 5. cat. no. A.25–A.29. Pl. 4.
Note: —

Linear-cut Bowl/TZ-Group 6

TZ 000241-002
Square V 137; east slope
Colour: Pale green
Description: Flat base sherd of a linear-cut or early ribbed bowl; cast
Figure References: —
Dimension: —
Parallel: **Early Roman**: Jennings 2000, 50–53 Fig. 6; Keller 2006, 187 f. type II, 3 Pl.1e; Grose 2012, 54 f.; Hoss forthcoming, Group 6. cat. no. A.30–A.31. Pl. 4.
Note: —

Beaker/TZ-Group 33

TZ 000492-006
Square AQ 129; plateau
Colour: Bluish green
Description: Solid base sherd of a beaker; free-blown
Figure References: Pl. 2.15, no. 2
Dimension: L 1.7; D (base) 4.8; Th 0.3
Parallel: **Early Byzantine (4th century AD)**: Davidson Weinberg – Goldstein 1988, 60–62 Fig. 4–23; Cohen 1997, 410 Pl. III, 14–15; Dussart 1998, 96–98 type BVIII 121. Pl. 221,25–41; Keller 2006, 221 type VII38. Pl. 17–18; Hadad 2005, Pl. 21, 400; Gorin-Rosen 2010, 221, Fig./Pl. 10.2, 5; Hoss forthcoming, Group 33. cat. no. E.1–E.8. Pl. 16.
Note: —

TZ 000313-001
Square R 125; plateau
Colour: Pale green
Description: Solid base sherd of a beaker; free-blown
Figure References: —
Dimension: L 1.8; D (base) 5.0; Th 0.3–0.4
Parallel: **Early Byzantine (4th century AD)**: Davidson Weinberg – Goldstein 1988, 60–62 Fig. 4–23; Cohen 1997, 410 Pl. III, 14–15; Dussart 1998, 96–98 type BVIII 121. Pl. 221, 25–41; Keller 2006, 221 type VII38. Pl. 17–18; Hadad 2005, Pl. 21, 400; Gorin-Rosen 2010, 221 Fig./Pl. 10.2, 5; Hoss forthcoming, group 33. cat. no. E.1–E.8. Pl. 16.
Note: —

TZ 000388-015
Square I 133; south slope
Colour: Pale green
Description: Solid base sherd of a beaker; free-blown
Figure References: —
Dimension: Th 0.8
Parallel: **Early Byzantine (4th century AD)**: Davidson Weinberg – Goldstein 1988, 60–62 Fig. 4–23; Cohen 1997, 410 Pl. III, 14–15; Dussart 1998, 96–98 type BVIII 121. Pl. 221, 25–41; Keller 2006, 221 type VII38. Pl. 17–18; Hadad 2005, Pl. 21, 400; Gorin-Rosen 2010, 221, Fig./Pl. 10.2,5; Hoss forthcoming, group 33 cat. no. E.1–E.8, Pl. 16.
Note: —

Plate or Shallow Bowl/TZ-Group 17

TZ 000488-001
Square AD 117; plateau
Colour: Greenish blue
Description: Rim sherd of a plate with folded collar rim; free-blown
Figure References: —
Dimension: L 1.2; Th 0.3; D not measurable
Parallel: **Early Byzantine (4th century AD)**: Isings 1957, 148 form 118; Davidson Weinberg – Goldstein 1988, 47 f. Fig. 4–7; Cohen 1997, 400 Pl. I, 10–12; Dussart 1998, 75 type BII 311. Pl. 11, 2–10; Keller 2006, 201 type VII 2. Pl. 7a; Hadad 2006, 626 Fig. 19, 2. 17; Jennings 2004/2005, 75 f. Fig. 4, 7; Hoss forthcoming, cat. no. B.38–B.40. Pl. 9.
Note: —

TZ 000493-001
Square AY 125; north slope
Colour: Bluish green
Description: Rim sherd of a plate with folded collar rim; free-blown
Figure References: Pl. 2.15, no. 3
Dimension: L 2.8; Th 0.23; D (opening) 34
Parallel: **Early Byzantine (4th century AD)**: Isings 1957, 148 form 118; Davidson Weinberg – Goldstein 1988, 47 f. Fig. 4–7; Cohen 1997, 400 Pl. I,10–12; Dussart 1998, 75 type BII 311. Pl. 11, 2–10; Keller 2006, 201 type VII 2. Pl. 7a, Hadad 2006, 626 Fig. 19, 2, 17; Jennings 2004/2005, 75 f. Fig. 4, 7; Hoss forthcoming, cat. no. B.38–B.40. Pl. 9.
Note: —

TZ 000253-001
Square BC 121; north slope
Colour: Pale green
Description: Rim sherd of a plate with folded collar rim; free-blown
Figure References: —
Dimension: L 1.5; D (opening) 40; Th 0.3
Parallel: **Early Byzantine (4th century AD)**: Isings 1957, 148 form 118; Davidson Weinberg – Goldstein

1988, 47 f. Fig. 4–7; Cohen 1997, 400 Pl. I, 10–12; Dussart 1998, 75 type BII 311. Pl. 11,2–10; Keller 2006, 201 type VII 2. Pl. 7a; Hadad 2006, 626 Fig. 19, 2. 17; Jennings 2004/2005, 75 f. Fig. 4, 7; Hoss forthcoming, cat. no. B.38–B.40. Pl. 9.
Note: —

Plate or Dish/Singular Find at Tall Zirā'a/No TZ-Group

TZ 000241-001
Square V 137; east slope
Colour: Bluish green
Description: Rim sherd of a plate with double-folded rim; free-blown
Figure References: Pl. 2.15, no. 4
Dimension: L 1.3; D (opening) 30; Th 0.15
Parallel: **Late Roman – Early Byzantine**: Avigad 1976, 207. 209–213 no. 49 Fig. 100 pl. 69; Davidson Weinberg – Goldstein 1988, 49 f. cat. no. 80–81 Fig. 4–8. 80–81; Andersen 1993, 198 cat. no. 417 Pl. 42, 417; Dussart 1998, 75 f. type BII.312.321.322 Pl. 11, 11–16; Keller 2006, 210 type VII.20, Pl. 11g.
Note: —

Bowl/TZ-Group 12

TZ 000184-001
Square Z 113; west slope
Colour: Greenish blue
Description: Rim sherd of a bowl with fire-rounded rim and double fold in the wall; free-blown
Figure References: Pl. 2.15, no. 5
Dimension: L 1.6; D not measurable; Th 0.2
Parallel: **Late Roman – Early Byzantine**: Davidson Weinberg – Goldstein 1988, 53 f. Fig. 4–15; Cohen 1997, 401 Pl. II, 3; Dussart 1998, 78 type BV.12 Pl. 12, 11–13; Cohen 2000, 481 Pl. 4, 2; Keller 2006, 206 f. type VII 10c. 11d and 13d. Pl. 9d. 9h. 10a–b; Jennings 2004/2005, 106 Fig. 5, 19. 4; Jackson-Tal 2007, 475 Pl. 1, 7; Jackson-Tal 2013, 107 Pl. 3.5, 37; Hoss forthcoming, cat. no. B.26–B.29. Pl. 8.
Note: —

Bowl/TZ-Group 7

TZ 000489-001
Square AD 133; west slope
Colour: Bluish green
Description: Rim sherd of a bowl with fire-rounded thickened rim; free-blown
Figure References: Pl. 2.15, no. 6
Dimension: L 2; Th 0.2; D (opening) 16
Parallel: **Late Roman – Umayyad**: Davidson Weinberg – Goldstein 1988, 40 f. Fig. 4–2; Dussart 1998, 60 type BI 211 Pl. 4, 1–16. 65 f. type BI 4211 Pl. 6, 1–9 and 77 type BIII 1 Pl. 12, 1–3; Cohen 2000, 168 Pl. 1, 13; Israeli 2003, 157 cat. no. 157; Keller 2006, 206 type VII, 11a Pl. 9e; Hadad 2005, 21 Pl. 2, 34–36. 38 f.; Hadad 2006, 626 Fig. 19.1, 5–6. 9–10; Jennings 2004/2005, 105 f. Fig. 5.18, 1–2; Jackson-Tal 2013, 106 f. Pl. 3.5, 36; Hamel – Greiff 2014, 150 Fig. 16.3–7; Hoss forthcoming, cat. no. B.1–B.7 Pl. 5.
Note: —

Bottles/TZ-Group 44

TZ 000257-001
Square AY 121; north slope
Colour: Bluish green
Description: Rim sherd of a bottle with fire-rounded rim and conical neck; free-blown
Figure References: Pl. 2.15, no. 7
Dimension: L 1.8; D (opening) 6; Th 0.2
Parallel: **Late Roman – Umayyad**: Cohen 1997, 419–427 Pl. VI, 6. 13. Pl. VII, 4–5. Pl. VIII, 11–16; Dussart 1998, type BX 1111b2–BX1121b. 128–132 Pl. 32–33. type BX 1125a1–BX1125a2 132–136 Pl. 34,4–35, 25. type BX 1143138f Pl. 37, 11–22. type BX 131–132. 140 Pl. 38,1–4. type BX 3111–3141. 142 Pl. 1–6. type BXIV 8, 279. Pl. 63, 1; Cohen 2000, 170 Pl. III, 28–29. 34–36; Broshi 2003, 334. 346. 350 cat. no. 431. 455. 462; Israeli 2003, 168 f. 242 cat. no. 179. 181–182. 184–313. 262 cat. no. 343; Keller 2006, type VII 54a. 226 Pl. 19h.type VII 79a. 234. Pl. 220; Hadad 2005, 24–27 Pl. 12, 235–237. 244. 246 Pl. 18, 352–354; Hadad 2006, 626 f. Fig. 19.2, 19–21; Jennings 2004/2005, 77 f. Fig. 4.10, 12, 177 f. Fig. 7.26, 15–20. 22; Jackson-Tal 2007, 487 pl. 8, 5; Hadad 2008, 170 f. Pl. 5.4, 57; Jackson-Tal 2012a, 186 Fig. 8.3, 1, 6; O'Hea 2012, cat. no. 65. 68. 70–71. 77. 307 f. Fig. 649. 652, 654 f.. 661; Jackson-Tal 2013, 114, 3.10, 3–5; Hoss forthcoming, cat. no. K.4–K.9 Pl. 19.
Note: —

TZ 000461-001
Square I 109; south slope
Colour: Bluish green
Description: Rim sherd of a bottle with fire-rounded rim and conical neck; free-blown
Figure References: —
Dimension: L 1.3; D (opening) 5; Th 0.5
Parallel: **Late Roman – Umayyad**: Cohen 1997, 419–427 Pl. VI, 6, 13. Pl. VII, 4–5. Pl. VIII, 11–16; Dussart 1998, type BX 1111b2–BX1121b. 128–132 Pl. 32–33. type BX 1125a1–BX1125a2. 132–136 Pl. 34, 4–35, 25. type BX 1143138f Pl. 37, 11–22. type BX 131–132. 140 Pl. 38, 1–4. type BX 3111–3141. 142 Pl. 1–6. type BXIV8. 279 Pl. 63, 1; Cohen 2000, 170 Pl. III, 28–29. 34–36; Broshi 2003, 334. 346. 350 cat. no. 431. 455. 462; Israeli 2003, 168 f. 242 cat. no. 179. 181–182. 184. 313. 262 cat. no. 343; Keller 2006, type VII 54a. 226 Pl. 19h. type VII 79a, 234 Pl. 220; Hadad 2005, 24–27 Pl. 12, 235–237. 244. 246 Pl. 18, 352–354; Hadad 2006, 626 f. Fig. 19.2, 19–21; Jennings 2004/2005, 77 f. Fig. 4.10, 12. 177 f. Fig. 7.26. 15–20. 22; Jackson-Tal 2007, 487 Pl. 8, 5; Hadad 2008, 170 f. Pl. 5.4, 57; Jackson-Tal 2012a, 186 Fig. 8.3, 1, 6; O'Hea 2012, cat. no. 65. 68. 70–71. 77. 307 f., Fig. 649, 652, 654 f., 661; Jackson-Tal 2013, 114, 3.10, 3–5; Hoss forthcoming, cat. no. K.4–K.9, pl. 19.
Note: —

Bowl/Beaker with Fire-rounded Straight Rim/TZ-Group 8 (Bowl) or 28 (Beaker)

TZ 000247-001
Square R 129; plateau
Colour: Greenish blue
Description: Rim sherd of a bowl or a beaker with fire-rounded straight rim; free-blown
Figure References: —
Dimension: L 1.3; D (opening) 8; Th 0.2
Parallel: **4th century (bowl)/Roman – Umayyad period (beaker)**: References for the Bowl: Jennings 2004/2005, 95 f. Fig. 5.10–11; Keller 2006, Type VII5d. 202 f. Pl. 7h. References for the Beaker: Cohen 1997, 410 Pl. III, 20; Dussart 1998, 104–106 type BVIII 15. type BVIII 2111 Pl. 23, 8–35; Keller 2006, 215–218 type VII 28a. type VII 29 a/b. type VII 31a. type VII 32a Pl. 15d, 15k–l. 16c. 16 f.; Jennings 2004/2005, 71 f. Fig. 4.1, 6–8. 91 f. Fig, 5.7; Jackson-Tal 2012a, 184 Fig. 8.2, 6–7; O'Hea, 2012, 305 cat. no. 49–51. Fig. 633–636; Hamel – Greiff 2014, 157 Fig. 16.5.25–26; Hoss forthcoming, cat. no. D.12–D.19 Pl. 14.
Note: —

Folded Bases/TZ-Group 25

TZ 000487-001
Square AH 121; plateau
Colour: Colourless
Description: Folded base sherd; free-blown
Figure References: —
Dimension: L 2.1; Th 0.4
Parallel: **Late Roman – Byzantine (probably longer popular)**: Davidson Weinberg – Goldstein 1988, 44 Fig. 4-4; Rütti 1991, cat. no. 4821. 4826. Pl. 178; Cohen 1997, 402 Pl. II, 7–8; Dussart 1998, 77 type BIII 1 Pl. 12,1; Cohen 2000, Pl. I, 10; Hadad 2005, 21 Pl. 74–75; Jennings 2004/2005, 189 Fig. 8.3; O'Hea 2012, 304 cat. no. 43 Fig. 628; Jackson-Tal 2013, 110 Pl. 3.4, 46; Hoss forthcoming, cat. no. C.18–C.27 Pl. 13.
Note: —

TZ 000015-001
Square AM 121; plateau
Colour: Pale green
Description: Folded base sherd; free-blown
Figure References: —
Dimension: L 2.5; W 1.7; D not measurable; Th 0.4
Parallel: **Late Roman – Byzantine (probably longer popular)**: Davidson Weinberg – Goldstein 1988, 44, Fig. 4-4; Rütti 1991, cat. no. 4821. 4826. Pl. 178; Cohen 1997, 402 Pl. II, 7–8; Dussart 1998, 77 type BIII 1 Pl. 12,1; Cohen 2000, Pl. I, 10; Hadad 2005, 21 Pl. 74–75; Jennings 2004/2005, 189 Fig. 8.3; O'Hea 2012, 304 cat. no. 43. Fig. 628; Jackson-Tal 2013, 110 Pl. 3.4, 46; Hoss forthcoming, cat. no. C.18–C.27 Pl. 13.
Note: —

High Base Ring/TZ-Group 24

TZ 000024-001
Square AM 124; plateau
Colour: Greenish blue
Description: Base sherd with high base ring; free-blown
Figure References: —
Dimension: L 2.3; D (base) 8; Th 0.6
Parallel: **Roman – Umayyad**: Davidson Weinberg – Goldstein 1988, 58 Fig. 4–20; Rütti 1991, cat. no. 5057–5080 Pl. 180–181; Cohen 1997, 401 f. Pl. II, 9–11; Dussart 1998, 66 type BI 4212a Pl. 6, 10. 68 type BI 4222a2/b1 Pl. 7, 11–18. 74 type BII 12 Pl. 10, 13–15; Hadad 2005, 21 Pl. 3, 72–72; Jennings 2004/2005, 191–193 Fig. 8.5; O'Hea 2012, 304 cat. no. 44–45 Fig. 629–630; Jackson-Tal 2013, Pl. 6.2, 15; Hoss forthcoming, C.1–C.17 Pl. 12.
Note: —

TZ 000096-001
Square Z 125; plateau
Colour: Greenish blue
Description: Base sherd with high base ring; free-blown
Figure References: —
Dimension: L 2.1; D not measurable; Th 0.2–0.3
Parallel: **Roman – Umayyad**: Davidson Weinberg – Goldstein 1988, 58 Fig. 4–20; Rütti 1991, cat. no. 5057–5080 Pl. 180–181; Cohen 1997, 401 f. Pl. II, 9–11; Dussart 1998, 66 type BI 4212a Pl. 6, 10. 68 type BI 4222a2/b1 Pl. 7, 11–18. 74 type BII 12 Pl. 10, 13–15; Hadad 2005, 21 Pl. 3, 72–72; Jennings 2004/2005, 191–193 Fig. 8.5; O'Hea 2012, 304 cat. no. 44–45 Fig. 629–630; Jackson-Tal 2013, Pl. 6.2,15; Hoss forthcoming, cat. no. C.1–C.17, Pl. 12.
Note: —

Concave Base Ring/TZ-Group 26

TZ 000485-002
Square AD 117; plateau
Colour: Greenish blue
Description: Concave base sherd; free-blown
Figure References: —
Dimension: L 3.2; W 3.1; Th 0.2
Parallel: **Late Roman – Byzantine**: Cohen 1997, 402 Pl. II, 5–6; Dussart 1998, 57 type BI 1211 Pl. 3, 12–15; Cohen 2000, Pl. I, 8–9; Hadad 2005, 21 Pl. 3, 76; Jennings 2004/2005, 80 f. Fig. 4.14, 3–4; Jackson-Tal 2007, Pl. 1, 9; Burdajewicz 2009, Fig. 4, 58. 60–61; Jackson-Tal 2012a, 180 Fig. 8.1, 13; Jackson-Tal 2013, Pl. 3.6, 47–48. 50; Jackson-Tal 2013, 6.2, 17; Hoss forthcoming, cat. no. C.28–C.30 Pl. 13.
Note: —

TZ 000314-001
Square R 121; south slope
Colour: Greenish blue
Description: Concave base sherd; free-blown
Figure References: —
Dimension: L 0.6; D not measurable; Th 0.6
Parallel: **Late Roman – Byzantine**: Cohen 1997, 402 Pl. II, 5–6; Dussart 1998, 57 type BI 1211 Pl. 3, 12–15; Cohen 2000, Pl. I, 8–9; Hadad 2005, 21 Pl. 3, 76; Jennings 2004/2005, 80 f. Fig. 4.14, 3–4; Jackson-Tal 2007, Pl. 1, 9; Burdajewicz 2009, Fig. 4, 58. 60–61; Jackson-Tal 2012a, 180 Fig. 8.1, 13; Jackson-Tal 2013, Pl. 3.6, 47–48, 50; Jackson-Tal 2013, 6.2,17; Hoss forthcoming, cat. no. C.28–C.30 Pl. 13.
Note: —

Unidentifiable Glass Fragments

Pale green

TZ 000488-002; body sherd; free-blown; Square AD 117; plateau

TZ 000276-001; body sherd; free-blown; Square AY 121; north slope

TZ 000464-002; body sherd; free-blown; Square N 117; south slope

Bluish green

TZ 000490-001; body sherd; free-blown; Square AM 117; west slope

TZ 000276-002; body sherd; free-blown; Square AY 121; north slope

TZ 000493-002; body sherd; free-blown; Square AY 125/locus L 2; north slope

Greenish blue

TZ 000494-001; body sherd; free-blown; Square V 121/locus L 2; plateau

TZ 000134-001; body sherd; free-blown; Square Z 117/locus L 1; plateau

TZ 000137-001; body sherd; free-blown; Square AD 121/locus L 1; plateau

TZ 000247-002; body sherd; free-blown; Square R 129; plateau

TZ 000312-002; body sherd; free-blown; Square R 117/locus L 1; south slope

TZ 000314-002; body sherd; free-blown; Square R 121/locus L 2; south slope

TZ 000316-001; body sherd; free-blown; Square N 125; south slope

TZ 000353-001; body sherd; free-blown; Square N 133; south slope

TZ 000353-002; body sherd; free-blown; Square N 133; south slope

TZ 000464-001; body sherd; free-blown; Square N 117; south slope

Yellowish green

TZ 000188-001; body sherd; free-blown; Square AD 137/locus L 1; plateau

Colourless

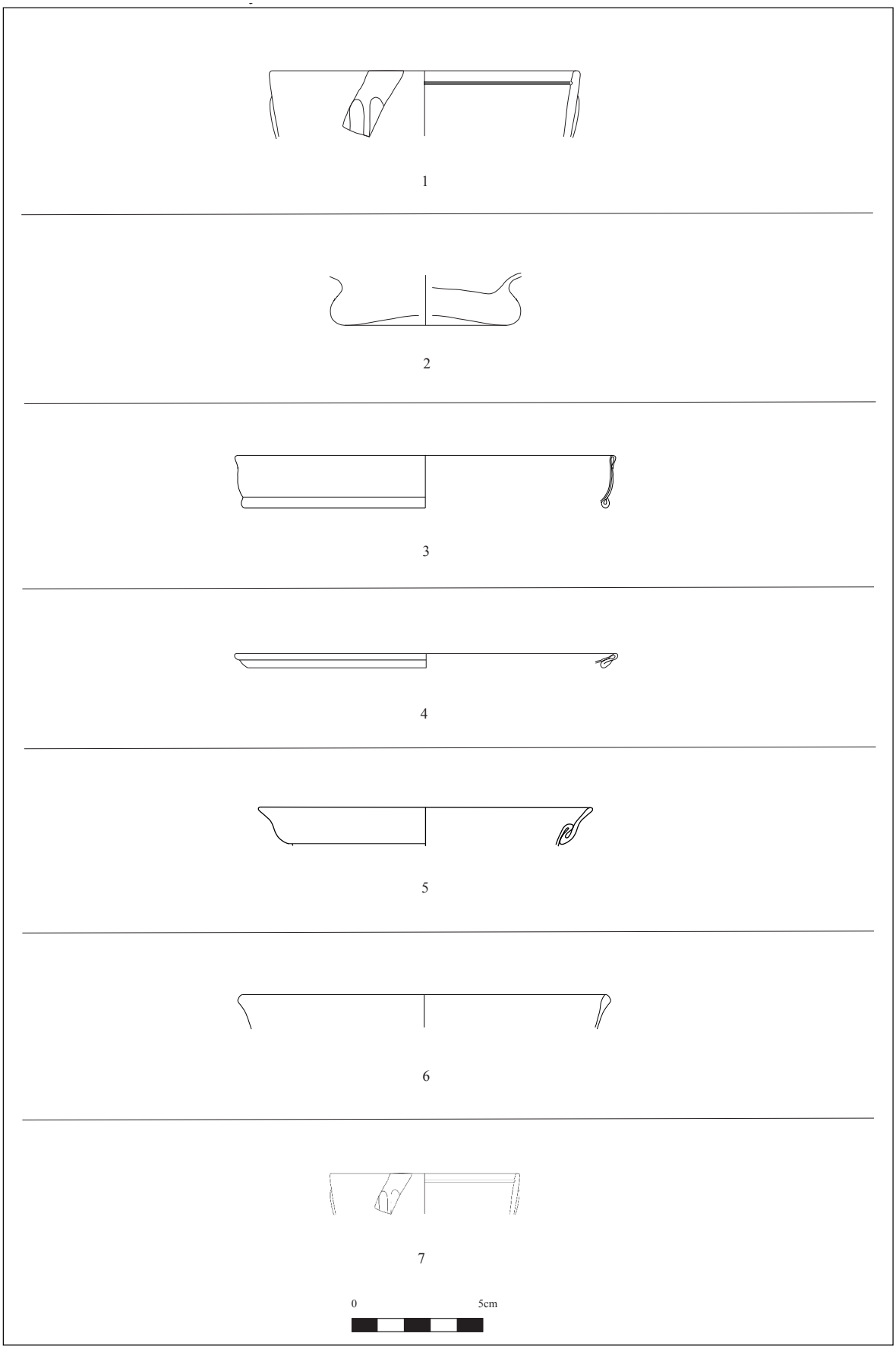
TZ 000462-001; sherd of a modern glass vessel; free-blown; Square I 125; south slope

TZ 000462-002; sherd of a modern glass vessel; free-blown; Square I 125; south slope

Plate 2.15: Glass from Tall Zirāʿa—Survey 2001

No.	Type	Inv.No.	Square	Context	Fabric colour	Date
1	bowl	TZ 000227-001	AM 133	plateau	greenish blue	Hellenistic – Roman
2	beaker	TZ 000492-006	AQ 129	plateau	bluish green	Early Byzantine
3	plate	TZ 000493-001	AY 125	north slope	bluish green	Early Byzantine
4	plate	TZ 000241-001	V 137	east slope	bluish green	Late Roman – Early Byzantine
5	bowl	TZ 000184-001	AD 137	west slope	greenish blue	Late Roman – Early Byzantine
6	bowl	TZ 000489-001	AD 133	west slope	bluish green	Late Roman – Umayyad
7	bottle	TZ 000257-001	AY 125	north slope	bluish green	Late Roman – Umayyad

Plate 2.15: Glass from Tall Zirāʿa—Survey 2001



2.2.3. Stone/Mineral Finds from the 2001 Survey

by Dieter Vieweger

2.2.3.1. Stone/Mineral Finds of Different Types

In all 153 stone/mineral objects were found during the 2001 Survey: five chalk sinter ecofacts, two river pebbles and 146 further artefacts of different types of stones.

The ecofacts consist of chalk sinter. Some of them have a shape of a tube (TZ 000003-013; TZ 000415-001; TZ 000172-001; *Figs. 2.103–2.105*). Of course the naturally perforated chalk sinter tubes emerging from the sinter accumulations could be used both in their complete and their broken state (water pipe, filling aids). But that is not provable for the individual object and probably not likely, since hundreds of such finds were found on Tall Zirā'a, which itselfs arose due to sinter accumulations.

The two pebbles (TZ 000164-002; TZ 000006-002; *Fig. 2.97*) were probably used as rubbing stones.

The other 146 stone artefacts are made of marble (seven finds), limestone (107 finds), basalt (30 finds), silicate stone (one find) and silex (one find). The latter object is a silex pecked hammer stone (TZ 000383-001; *Fig. 2.102*). Like the two pebbles the silicate stone (TZ 000115-001; *Fig. 2.100*) could be used as a grinding stone. However, it has retouchings at one of its narrow sides, which qualifies it also for use as a scraper.

Among the marble finds are plates being smoothed on both sides (e.g. TZ 000124-002; TZ 000131-001) as well as wall/floor tiles (TZ 000359-001; TZ 000359-002; TZ 000065-002). The limestone objects include 102 *tesserae* of different colour (reddish, grey, white, brown; TZ 000446-002), the foot of a large object (TZ 000406-001; *Fig. 2.106*), a ring stone (TZ 000115-002; *Fig. 2.95*), a grinding stone (TZ 000053-001; *Fig. 2.99*) and two Early Roman limestone vessels (TZ 000497-001; TZ 000495-001; *Figs. 2.107–2.110*). Because the latter are considered as a marker for a Jewish population, these two vessels are discussed in a special chapter (*Chaps. 2.2.3.3.* and *2.2.3.4.*). The foot (TZ 000406-001; *Fig. 2.106*) could originally have been part of a vessel or of a table; it is not possible to make a more precise classification of this object.

The described stone finds refer to different areas of everyday life. The ring stones are household items of various functions. Especially the basalt objects show the production and preparation of food: 13 bowls, nine or ten grinding stones and three saddle qerns. The *tesserae*, wall or floor tiles and the marble slabs belong to interior decorations of buildings.

The accumulation of *tesserae* in Square I 117 and the marble plates, widely distributed on the tall's surface refer to a wealthy Roman – Byzantine (Umayyad) settlement on Tall Zirā'a. On this special place a monastery dated to the Byzantine to Umayyad period has been excavated.

2.2.3.2. Catalogue of the Stone/Mineral Finds

Architecture/Interior Decoration

TZ 000059-001
Square AQ 125; plateau
Description: Two flat marble slabs; fragments
Figure References: —
Dimensions: L 9.5/10.4; Th 1.9/2.2
Date: —
Material: Marble

TZ 000124-002
Square AM 137; plateau
Description: Marble slab; fragment; carefully smoothed on both sides
Figure References: —
Dimensions: L 7.7; W 6.8; Th 1.88
Date: —
Material: Marble

TZ 000131-001
Square V 125; plateau
Description: Marble slab; fragment; carefully smoothed on both sides
Figure References: —
Dimensions: L 9.1; W 5.4; Th 4.01
Date: —
Material: Marble

TZ 000328-001
Square R 121; south slope
Description: Marble slab; fragment; smoothed on both sides
Figure References: —
Dimensions: L 17.7; W 11.1; H 2.65
Date: —
Material: Marble

TZ 000359-001
Square AD 105; west slope
Description: Marble slab; wall or floor tiles?; fragments; smoothed only on one visible side
Figure References: —
Dimensions: L 9.1; W 4.1; H 2.7
Date: —
Material: Marble

TZ 000359-002
Square AD 105; west slope
Description: Marble slab; wall or floor tile?; fragment; smoothed only on one visible side
Figure References: —
Dimensions: L 10; W 8; H 3.2
Date: —
Material: Marble

TZ 000065-002
Square AQ 129; plateau
Description: Tessera; completely preserved
Figure References: —
Dimensions: L 2.3; W 2.1; H 2.6
Date: —
Material: Limestone

TZ 000446-002
Square I 117; south slope
Description: 102 *tesserae*; completely preserved; different sizes and colours (reddish, brown, gray, white)
Figure References: —
Dimensions: —
Date: —
Material: Limestone

Household

TZ 000115-002
Square AQ 137; east slope
Description: Stone ring; half preserved; circular; in the middle conically drilled from two sides
Figure References: Fig. 2.95
Dimensions: H 3.8; D (max.) 13; D (opening inside) 2.6
Date: —
Material: limestone

Fig. 2.95 Stone ring, TZ 000115-002 (Source: BAI/GPIA).

TZ 000458-001
Square R 109; south slope
Description: Stone ring; fragment; double conic in cross section; also conically drilled from two sides
Figure References: —
Dimensions: L 5; D (opening inside) 1.6
Date: —
Material: Basalt

TZ 000460-001
Square I 121; south slope
Description: Stone ring; half preserved; round in cross section; conically drilled from two sides
Figure References: —
Dimensions: H 5.6; D (max.) 9.4; D (opening inside) 2.8
Date: —
Material: Basalt

TZ 000117-001
Square AQ 145; east slope
Description: Stone ring; half preserved; circular; conically drilled from two sides
Figure References: —
Dimensions: H 5.9; D (max.) 14.7; D (opening inside) 4.5
Date: —
Material: Basalt

Production of Food

TZ 000164-002
Square V 133; south slope
Description: Grinding stone; half preserved; wear polish; oval in cross section
Figure References: —
Dimensions: L 5.1; W 5.3; H 4
Date: —
Material: Pebble

TZ 000449-001
Square I 109; south slope
Description: Grinding stone?; wear polish
Figure References: —
Dimensions: L 10.4; W 5.9; H 3.9
Date: —
Material: Basalt

TZ 000164-001
Square V 133; south slope
Description: Foot of a bowl; half preserved
Figure References: Fig. 2.96
Dimensions: L 7.6; D (max.) 5.8
Date: —
Material: Basalt

Fig. 2.96 Foot of a stone bowl, TZ 000164-001 (Source: BAI/GPIA).

TZ 000010-001
Square AH 121; plateau
Description: Bowl; fragment
Figure References: —
Dimensions: L 10; W 9; H 7
Date: —
Material: Basalt

TZ 000026-001
Square AD 117; plateau
Description: Bowl; fragment
Figure References: —
Dimensions: L 11; W 6; H 5.9
Date: —
Material: Basalt

TZ 000050-001
Square AU 129; plateau
Description: Bowl; fragment; c. one fifth preserved
Figure References: —
Dimensions: L 16; W 24.5; H 10.7
Date: —
Material: Basalt

TZ 000051-001
Square AY 125; north slope
Description: Bowl with one remaining foot; fragment
Figure References: —
Dimensions: original H 6.1
Date: —
Material: Basalt

TZ 000052-001
Square AU 129; plateau
Description: Bowl; rectangular and flat; half preserved
Figure References: —
Dimensions: L 15.2; W 16; H 6
Date: —
Material: Basalt

TZ 000065-003
Square AQ 129; plateau
Description: Bowl; fragment; with one remaining foot
Figure References: —
Dimensions: L 7; H 5
Date: —
Material: Basalt

TZ 000100-001
Square AM 145; east slope
Description: Bowl; fragment
Figure References: —
Dimensions: H 12; L 18; W 27; Th 3.5
Date: —
Material: Basalt

TZ 000118-001
Square AQ 141; east slope
Description: Bowl; almost completely preserved; irregularly shaped; slightly dented
Figure References: —
Dimensions: L 24.5; W 18; H 7.5
Date: —
Material: Basalt

TZ 000148-001
Square V 129; plateau
Description: Bowl; small rim fragment
Figure References: —
Dimensions: H 6.8; Th 2.06
Date: —
Material: Basalt

TZ 000217-001
Square AQ 133; plateau
Description: Bowl; fragment; without a foot base
Figure References: —
Dimensions: H 10
Date: —
Material: Basalt

TZ 000428-001
Square N 113; south slope
Description: Bowl; fragment.
Figure References: —
Dimensions: H 6.2; Th 1.5
Date: —
Material: Basalt

TZ 000393-001
Square I 133; south slope
Description: Bowl; outside unfinished; completely preserved
Figure References: —
Dimensions: L 11.2; W 9.5; H 6.9; D (opening inside) 5.5
Date: —
Material: Basalt

TZ 000458-002
Square R 109; south slope
Description: Bowl; fragment; contact area carefully smoothed at the bottom
Figure References: —
Dimensions: H 3.6; Th 2.1
Date: —
Material: Basalt

TZ 000006-002
Square AM 117; plateau
Description: Grinding stone?; half preseved; oval in cross section
Figure References: Fig. 2.97
Dimensions: L 8; W 5.5; H 5.2
Date: —
Material: Pebble

Fig. 2.97 Grinding stone?, TZ 000006-002 (Source: BAI/GPIA).

TZ 000010-002
Square AH 121; plateau
Description: Grinding stone; fragment; preserved to one quarter; round or oval in cross section
Figure References: —
Dimensions: D (max.) 5.9
Date: —
Material: Basalt

TZ 000006-001
Square AM 117; plateau
Description: Grinding stone; completely preserved; oval in cross section; wear polish
Figure References: Fig. 2.98
Dimensions: L 9.6; W 8.6; H 5.2
Date: —
Material: Basalt

Fig. 2.98 Grinding stone, TZ 000006-001 (Source: BAI/GPIA).

TZ 000063-001
Square AQ 129; plateau
Description: Grinding stone; half preserved; round in cross section
Figure References: —
Dimensions: L 19; W 13; H 7
Date: —
Material: Basalt

TZ 000124-003
Square AM 137; plateau
Description: Grinding stone; completely preserved; oval in cross section; flat bottom
Figure References: —
Dimensions: L 11.5; W 6.3; H 4.6
Date: —
Material: Basalt

TZ 000124-004
Square AM 137; plateau
Description: Grinding stone; completely preserved; flat bottom
Figure References: —
Dimensions: H 4.3; L 5.6; W 5.2
Date: —
Material: Basalt

TZ 000203-001
Square AM 133; plateau
Description: Grinding stone; fragment; less than a half preserved; flat bottom; round upper side
Figure References: —
Dimensions: H 2; D 8.7
Date: —
Material: Basalt

TZ 000203-002
Square AM 133; plateau
Description: Grinding stone; completely preserved; oval in cross section; rough at both sides, but flat; wear polish
Figure References: —
Dimensions: L 10.6; W 8.2; H 5.4
Date: —
Material: Basalt

TZ 000231-001
Square AM 141; east slope
Description: Grinding stone; fragment; round and flattened at the bottom; wear polish
Figure References: —
Dimensions: H 5.5; D 8.8
Date: —
Material: Basalt

TZ 000383-002
Square I 145; south slope
Description: Grinding stone; completely preserved; ovoid
Figure References: —
Dimensions: L 16; D (max.) 8
Date: —
Material: Basalt

TZ 000053-001
Square AU 125; plateau
Description: Grinding stone/mortar; completely preserved; round in cross section; the outer side is untreated
Figure References: Fig. 2.99
Dimensions: H 3.7; D (max.) 8.8; hollow D (max.) 3.9
Date: —
Material: Limestone

Fig. 2.99 Grinding stone/mortar, TZ 000053-001 (Source: BAI/GPIA).

TZ 000055-001
Square AH 121; plateau
Description: Saddle quern; outside unfinished; completely preserved
Figure References: —
Dimensions: L 27.5; W 14.5; H 7.9
Date: —
Material: Basalt

TZ 000296-001
Square AM 133; plateau
Description: Saddle quern; half preserved
Figure References: —
Dimensions: L 22; W 15.3; H 7.4
Date: —
Material: Basalt

Pecked Hammer Stone

TZ 000383-001
Square I 145; south slope
Description: Pecked hammer stone; completely preserved
Figure References: Fig. 2.102
Dimensions: L 5.4; W 4.3; H 4.9
Date: —
Material: Silex

Ecofacts

TZ 000003-013
Square AM 121; plateau
Description: Ecofact; fusion in the shape of a tube
Figure References: Fig. 2.103
Dimensions: L 5.1; D (max.) 3.3; D (opening inside) 1.2
Date: —
Material: Chalk sinter

TZ 000364-001
Square Z 105; west slope
Description: Saddle quern; fragment
Figure References: —
Dimensions: L 7.2; W 8.7; H 3.9
Date: —
Material: Basalt

TZ 000115-001
Square AQ 137; east slope
Description: Hammer stone; wear polish and retouching at thicker end
Figure References: Fig. 2.100
Dimensions: L 10.8; W (max.) 5.1; H 3
Parallels: Yahalom-Mack 2007, 643 Reg. No. 189255 Fig. 11.3:8; Photo 11.6.
Date: —
Material: Silicate stone

Fig. 2.100–2.101 Left: Hammer stone, TZ 000115-001; right: Hammer stone; Tall al-Ḥiṣn (Beth Schean) (Source: BAI/GPIA/Yahalom-Mack [2007] 645 Photo 11.6).

Fig. 2.102 Pecked hammer stone, TZ 000383-001 (Source: BAI/GPIA).

Fig. 2.103 Ecofact, TZ 000003-013 (Source: BAI/GPIA).

TZ 000415-001
Square AQ 129; plateau
Description: Ecofact; half preserved; object has the shape of a tube; lengthwise broken
Figure References: Fig. 2.104
Dimensions: L 5.7; W 4.8; H 2.4
Date: —
Material: Chalk sinter

Fig. 2.104 Ecofact, TZ 000415-001 (Source: BAI/GPIA).

TZ 000113-001
Square AQ 137; east slope
Description: Ecofact; object has the shape of a small bowl
Figure References: —
Dimensions: H 4.3; D (max.) 8.1
Date: —
Material: Chalk sinter

Uncertain Function

TZ 000406-001
Square Z 129; plateau
Description: Foot of a vessel or the foot of a table; carefully smoothed; flat downwards
Figure References: 2.106
Dimensions: H 4.36; D (foot) 2.6; D (max.) 4.3
Date: —
Material: Limestone.

TZ 000172-001
Square Z 129; plateau
Description: Ecofact; object has the shape of a tube; lenghtwise broken
Figure References: Fig. 2.105
Dimensions: L 11.7; D (max.) 7
Date: —
Material: Chalk sinter

Fig. 2.105 Ecofact, TZ 000172-001 (Source: BAI/GPIA).

TZ 000204-004
Square AH 137; plateau
Description: Ecofact; groove at the flat side. Natural perforation; lengthwise broken
Figure References: —
Dimensions: L 6.7; W 3.6; H 2.9
Date: —
Material: Chalk sinter

Fig. 2.106 Foot of a vessel or table, TZ 000406-001 (Source: BAI/GPIA).

2.2.3.3. Two Early Roman Limestone Vessels

Early Roman limestone vessels from the Southern Levant had their golden age from the end of the first century BC until the beginning of the second century AD. They were particularly popular in Jerusalem, Judea, and Galilee. On Tall Zirā'a, altogether 102 limestone fragments of presumably 81 vessels were found; two of them, TZ 000497-001 and TZ 000495-001 (*Figs. 2.107–2.110*), during the tall's survey in 2001. Particularly in the strata 7 (Early Roman) and 6 (Roman), many objects of this kind were uncovered[169]. These will be published in a later volume of the final report of the excavation.

Archaeological findings of Early Roman limestone vessels took place in Jerusalem as early as the second half of the nineteenth century. The wheelthrown vessels were easy to recognise as bowls and pitchers. However, the fragments of handmade pitchers, cups, or beakers were erroneously termed 'measuring cups'[170].

An initial methodological classification of the limestone vessels found on the Ophel of Jerusalem by R. A. S. Macalister and J. G. Duncan[171] was soon followed by multiple other findings of limestone vessels also beyond the city boundaries of Jerusalem. However, the

169 Vieweger – Häser 2014, 137–156.

170 There is no standard pertaining to the holding capacity of these vessels; thus, their function as measuring cups can definitely be excluded. See Gibson 1983, 184; Gibson 2003, 292 f.; Cahill 1992, 210; Magen 2002, 97.

171 Macalister – Duncan 1926, 158 Fig. 152. Pl. 16, 1–32.

major breakthrough in assessing and appreciating these vessels was only achieved by the following important excavations in Jerusalem by:

- K. Kenyon in Silwān/the City of David[172]
- B. Mazar south of the Temple Mount (today an archaeological park)[173]
- N. Avigad in the Jewish Quarter[174]
- M. Broshi, and Y. Magen on Mount Zion[175]
- Y. Shilo in Silwān/the City of David[176]

The stone vessels were made from soft limestone (Arab. Ka'akule)[177] that could be recovered in quarries but also from the spoil of rock tombs. In most of the quarries whitish, predominantly soft limestone was gouged that had only few impurities and was easy to hew.

The production sites were located outside the settlements close to or even inside the limestone quarries, such as in Hizmā, in Ǧebel al-Mukābir, in Tall al-Fūl (Gibea), and at the eastern foot of Mount Scopus (all close to Jerusalem), and also in Rēnā in Galilee. There, the blocks of stone could be processed directly on site, using the cisterns for imbuing the stone with water, which was necessary for shaping the vessels.

As a consequence, several workshops were located near Jerusalem, such as in Rȧmat Rȧḥel, in Bethany, in Tall al-Fūl (Gibea), in Ḥorvat Zimrī (Pisgat Ze'ev), or in Jerusalem proper. Further workshops are known in:

- Galilee: Ṣaffūrīya (Sepphoris), Talḥūm (Kafernaum/Kapharnaoum), Nabūriya (Nabratein), Bēt Laḥm (Bethlehem)
- Shefela: Ḫirbet Ḥazzāna (Ḥorbat Ḥazzān)
- Golan: as-Salām (Gamla)

Tools, turntables, cores that were separated from the vessels in the turning process, as well as semi-finished goods indicate production sites since it can be assumed that waste—such as the discarded cores from the turning process—would not have been traded along with the finished products[178].

The Early Roman limestone vessels were no luxury goods. This is evidenced by the fact that they were uncovered all across Jerusalem. They were found both in large cities and small villages (such as the Tall Zirā'a) or hamlets. Their wide geographical distribution over a long period of time—from the end of the first century BC right through to the beginning of the second century AD[179]—proves that they must have been affordable.

The emergence of limestone vessels is possibly closely related to the advent of ossuaries only a few years previously. The latter were partly discovered close to the (little older) ritual baths (*Mikwaot*) and to autonomous synagogue buildings. In these cases, they can be viewed as markers of a Jewish community[180]. Accordingly, as mentioned above, the limestone vessels could be found especially in those regions where a predominantly Jewish presence can be assumed (Jerusalem, Judea, Galilee, but also in the coastal settlements with a mixed population—less in Samaria very seldom in Transjordan).

At the end of the first Pre-Christian century, there appear to have been serious changes in the religious rites of Jewish communities.

In 1992, J. M. Cahill presented a fundamental typology of Persian, Hellenistic, and Early Roman limestone vessels in her publication on the stone artefacts from the excavations of Y. Shiloh in Silwān/the City of David[181]. This typology has been applied for the vessels of Tall Zirā'a. A decade later, Y. Magen added a similar system based on his excavation finds on the production site of Ḥizmā[182]. Finally, it should be noted that there are also two more recent typological publications by S. Gibson[183] and again by Y. Magen[184].

The models for the vessel forms at hand were vessels made of wood, metal, glass, or ceramics. The two following types of limestone vessels, as defined by Cahill 1992, could be established during the survey on the Tall Zirā'a:

Type 2.a.i. handmade with traces of chiselling, barrel-shaped vessels or 'measuring cups' (TZ 000495-001; *Figs. 2.107* and *2.108*).

Type 2.a.i.A.1. handmade with traces of chiselling, barrel-shaped vessels or 'measuring cups', cups with a handle (TZ 000497-001; *Figs. 2.109* and *2.110*).

The two stone vessels found during the Survey 2001 on Tall Zirā'a were discovered at a presumed Early Roman settlement (Survey Square AD 133) and at the southern slope (Survey Square I 133) that often served as a waste disposal site in those times.

172 Kenyon 1974, 230. Cf. Tushingham 1985, Fig. 74–76.

173 Mazar 1971, 20 f. Fig. 12; Ben-Dov 1982, 157–160; Mazar – Mazar 1989, 87 Pl. 13,28. 36–37. 99 Pl. 19,12–16. 107 Pl. 24,21.

174 Avigad 1983, 174–183.

175 Broshi 1976, 81–88.

176 Shilo 1984, 30b.

177 Gibson 2003, 289 n. 24 f.

178 Gibson 2003, 291. Cahill holds a different opinion (Cahill 1992, 219).

179 Geva 2006, 218–238.

180 Cf. Gibson 1993, 302.

181 Cahill 1992, 190–274.

182 Magen 2002.

183 Gibson forthcoming. He focusses on the types excavated in Gamlȧ, though, and deals less with the total stock of Early Roman objects.

184 Magen 2002, 63–115.

2.2.3.4. Catalogue of the Early Roman Limestone Vessels

TZ 000497-001
Square AD 133; plateau
Description: Limestone vessel; flat bottom of a beaker with a piece of the wall; vertical chisel marks at its outer side
Type: 2.a.i.A.1. (Cahill 1992)
Figure References: Figs. 2.107 and 2.108
Dimensions: H 3.1; D (foot) 8.25; Th 0.96
Date: **Early Roman**
Material: Limestone

TZ 000495-001
Square I 133; south slope
Description: Limestone vessel; rectangular handle of a bowl with a thumbs' hole
Type: 2.a.i. (Cahill 1992)
Figure References: Figs. 2.109 and 2.110
Dimensions: D (handel height) 5; Th 1.1
Date: **Early Roman**
Material: Limestone

Fig. 2.107 Limestone vessel, TZ 000497-001 (Source: BAI/GPIA).

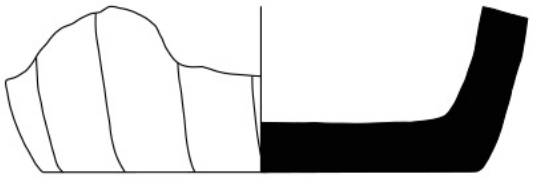


Fig. 2.108 Limestone vessel, TZ 000497-001 (Source: BAI/GPIA).

Fig. 2.109 Limestone vessel, TZ 000495-001 (Source: BAI/GPIA).

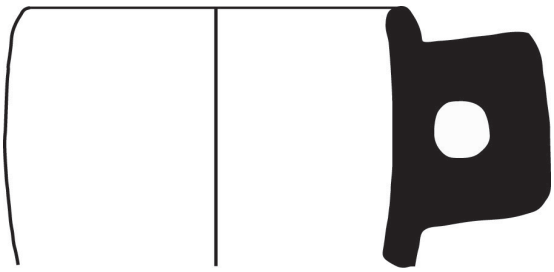


Fig. 2.110 Limestone vessel, TZ 000495-001 (Source: BAI/GPIA).

2.2.4. Bone Finds from the 2001 Survey

by Dieter Vieweger

The catalogue comprises only a small quantity of bone finds. Due to their limited specific significance they do not have any special importance.

TZ 000234-001
Square AM 145; east slope
Description: Indeterminable bone
Dimensions: —

TZ 000463-001
Square I 125; south slope
Description: Sheep; *astragalus*; right talus
Dimensions: L 2.74; W 1.63; H 1.32

TZ 000496-001
Square AM 145; east slope
Description: Indeterminable bone
Dimensions: —

TZ 000482-001
Square AM 145; east slope
Description: Indeterminable bone
Dimensions: —

TZ 000483-001
Square AM 145; east slope
Description: Indeterminable bone
Dimensions: —

TZ 000051-004
Square AY 125; north slope
Description: Sheep/goat; right femoral head
Dimensions: —

TZ 000472-010
Square AM 145; east slope
Description: Cattle; right *calcaneus*
Dimensions: L 7; W 3.1; H 2.6

2.3. The 2001 Survey Results

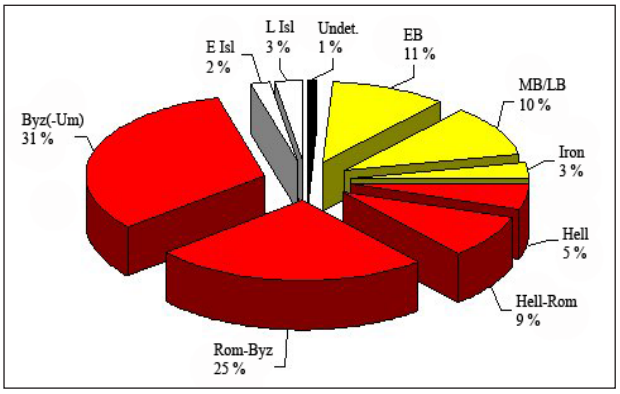
by Dieter Vieweger

2.3.1. Results of Find Distribution

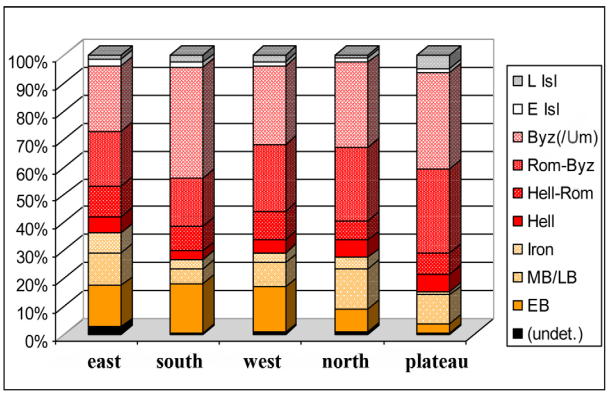
During the 2001 season on Tall Zirā'a the survey covered the whole tall, also including the slopes (in total 5.08 ha, 127 squares, each 20 m x 20 m). Within this survey 22,383 pottery sherds were collected. During a special survey based on the Portugali Method[185] 1,741 sherds were sampled. Altogether this makes 24,124 sherds[186]. All finds were catalogued and analysed according to qualitative and quantitative criteria, with 2,847 sherds registered as diagnostics.

Firstly, the chronological classification of the pottery gathered substantiates a long period of settlement activity on Tall Zirā'a; the earliest period recorded is the Early Bronze Age, the youngest is the Ottoman period (*Graph 2.1*). However, distribution of the sherds was not even over the tall (*Tab. 2.1*). Differences in the numbers and types of sherds found in diverse areas on the tall (from the beginning of the survey, a distinction has been made between the plateau and the slopes) demand a thorough evaluation.

A comparison of the quantity of sherds found for each zone is illustrated in *Graph 2.2*, which describes the proportional distribution of chronologically classified pottery sherds in every zone. The obvious difference between the finds from the plateau and those from the slopes is conspicuous. On the plateau, finds from the later periods are much more numerous, particularly from the Hellenistic to the Byzantine period (78.5 %). Although the number of finds is substantially less for the Islamic periods (6.23 %), ceramics from these periods were nevertheless found here in considerable numbers. However, within the latter group of types, only Early and Late Islamic pottery differentiate significantly between the two different areas of plateau and slopes, with 6.2 % on the plateau compared to 2.4 % (north) – 4.1 % (south) on the slopes. Finds on the plateau from the Pre-Classical periods (from Early Bronze Age to the Iron Age) comprise only 14.6 % and are thus clearly underrepresented. This is quite understandable considering the huge amount of cultural debris of the later periods. It must also be noted that these quantitative differences do not necessarily reflect the intensity of settlement activities during the periods they represent; illicit excavations that can be also traced all over the plateau have probably disturbed the original stratification, and may be responsible for some of the 14.6 % of sherds dating to the Pre-Classical periods which were found.



Graph 2.1 Chronological classification of all ceramics found on Tall Zirā'a (excluding the Portugali Method survey) (Source: BAI/GPIA).



Graph 2.2 Proportional distribution of chronologically classified pottery on Tall Zirā'a (excluding the Portugali Method survey) (Source: BAI/GPIA).

185 Portugali 1982, 170–190.

186 Plus many vestiges of Roman – Byzantine roof tiles.

	East	South	West	North	Plateau	Σ
Undetermined	78	32	36	58	52	256
Early Bronze Age	394	671	675	405	214	2359
Middle/Late Bronze Age	308	197	355	717	695	2272
Iron Age	198	124	152	210	74	758
Hellenistic period	147	124	191	311	419	1192
Hellenistic – Roman period	298	342	429	351	508	1928
Roman – Byzantine period	524	656	990	1327	2044	5541
Byzantine (-Umayyad) period	621	1507	1167	1529	2301	7125
Early Islamic period	59	64	61	83	107	374
Late Islamic period	38	94	94	41	311	578
Total result	2665	3811	4150	5132	6715	**22.383**

Tab. 2.1 Chronological classification of all pottery sherds found on Tall Zirā'a according to survey area (excluding the Portugali Method survey) (Source: BAI/GPIA).

The vast majority of the Pre-Classical sherds (Early Bronze Age to Iron Age) were found on the slopes of the tall (with 25.9 % on the north and 33.7 % on the east side)[187] where, along the extensive edges, the Pre-Classical layers were not covered by later strata as much as on the plateau.

The average number of sherds per square in the total survey area is 176.2 sherds (22.383 in total within 127 squares). On the plateau the average number of sherds is with c. 176.7 sherds similar to the mean value of the total area. A higher number was found on the rocky northern slope which descends steeply to the Wādī al-'Arab, i.e. 233.3 sherds per square. Artefacts were also found in large numbers along the edges and at the bottom of the slopes. The number of pottery sherds was quite good on the west slope (153.7 sherds per square); the many terrace-like edges of this slope, with a height of 25 m and abundant cultural remains covering it, practically guaranteed a lot of finds. By contrast, the south slope and the east slope both produced a lower average number of finds, the former, being well protected by antique walls, and the latter, because it is dominated by scattered ashlars.

The *Graphs 2.3 a–e* provide even more detail for the quantitative data. The x-value for each diagram represents the average number of finds per square (20 m x 20 m). A comparison of the diagrams illustrates that the frequency of Roman – Byzantine sherds (on average 53.78 sherds per survey square) and Byzantine (– Umayyad) finds (60.55 sherds per square) on the plateau is noticeable.

Regarding the finds on the east, south and west slopes, the distribution graphs for chronological classification are quite similar, whereas the flat plateau and the steeply descending slope to the north show similarities in distribution, despite their dissimilarity in appearance. This may be related to the fact that 'slope wash' from the tall during rain periods is less significant on the northern slope because of the stony ground there. Therefore, prehistoric layers are less likely to reach the surface.

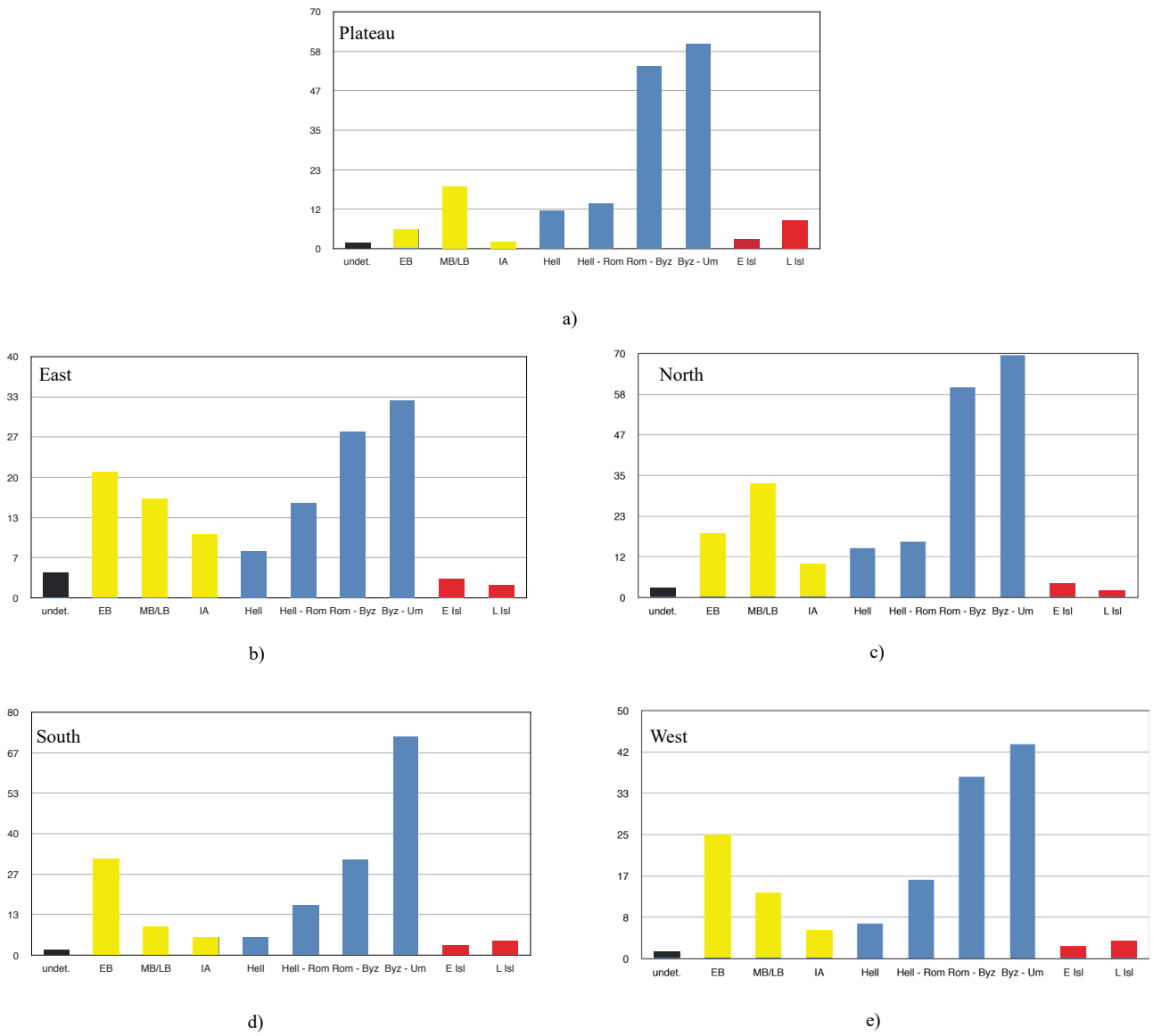
Pre-Classical artefacts were particularly numerous on the slopes, due in part to topographical reasons, but primarily due to intensive settlement activity in the Early Bronze Age. The even distribution of Early Bronze Age pottery sherds over the whole west half and the north-eastern slope of the tall is remarkable. Compared to an average of 18.57 sherds per square over the tall as a whole, up to 94 sherds per square were found in the western area. The two Survey Squares Z 113 and R 109 yielded 80 sherds, while Survey Square AM 109 yielded 94 Early Bronze Age ceramic finds.

The excavations in the western part of the tall evidenced signs of a landslide that had seriously affected the settlement; refilling conducted immediately afterwards yielded ceramic finds dating to the Early Bronze Age (see Stratum 15 which will be published in Volume 3).

However, only a few but very distinctive ceramic concentrations were discovered at the north-eastern transition from the plateau to the upper slopes (*Fig. 2.112*); 38 sherds in Survey Square AQ 133, 68 in Survey Square AU 137 and 158 in Survey Square AM 141.

The Iron Age ceramic finds, which were less well attested in terms of quantity (on average 5.96 sherds per square), were concentrated for the most part on the north-

187 Sherds dating to the Early Bronze Age were found 10 times more often on the slopes of the tall than on the plateau; sherds from the Iron Age nine times more often. On average, the comparison of the number of sherds from other periods is 2 : 1 (finds from the slopes/ the plateau).



Graphs 2.3 a-e Overview of the distribution of sherds for the main areas on Tall Zirā'a

west slopes (15–29 sherds per square) (*Fig. 2.113*) and, to a lesser extent, in the north-east (up to 25 sherds per square) and south-east (up to 19 sherds per square). With 59 sherds, the robbed grave in Survey Square AM 145 obviously yielded the highest density of Iron Age pottery.

In contrast to the expected results, Hellenistic, Hellenistic – Roman, Roman – Byzantine, and Byzantine (– Umayyad) sherds, which were found in great numbers over the tall as a whole (114.95 sherds per square), were not quantitatively numerous in the south-east and eastern areas of the plateau. Two survey squares contained large numbers of finds from this period (*Fig. 2.115*); both Z 121 and R 125, yielded 210 sherds. An examination of the ashlars from the building remains, including column drums and bases, cisterns etc., lead to the assumption that a large building of the Roman – Byzantine period would be found in that area. Roman – Byzantine period pottery sherds were concentrated in the central west (more than 200 in almost every survey square, with 550 sherds per square in some cases; e.g. Square AD 117), north-west (up to 460 sherds per square) and north-east (up to 320 sherds per square) areas of the plateau and the upper slopes of the tall adjoining these areas.

Islamic period sherds were concentrated on the plateau (11.0 sherds per square), particularly in the vicinity of the artesian spring (69 sherds per square); although the quantities of finds from the different Islamic periods were not consistent. However, in spite of the fact that the majority of the sherds were painted or glazed, the actual quantity of the sherds found was quite limited. The Middle and Late Islamic ceramic finds covered the area extending from the artesian spring and its immediate surroundings to the south (*Fig. 2.116*), whereas the Early Islamic finds occurred primarily close to the artesian spring, especially in the north-east corner of the plateau. Hence, one can infer that only certain parts of the plateau were used for settlement purposes during the Islamic periods. However, the validity of such conclusions can only

be proven by excavation. Nonetheless, G. Schumacher reported at the end of the nineteenth century that the hill was at least partially inhabited again[188].

Finally, it must be stated that the quantitative differences between prehistoric finds (from the Early Bronze Age until the Iron Age) and sherds dating to Classical periods does not necessarily reflect the intensity of settlement activity in that period. Rather, such differences might be better explained by the deep cultural deposits from younger strata which overly older strata over the whole tall.

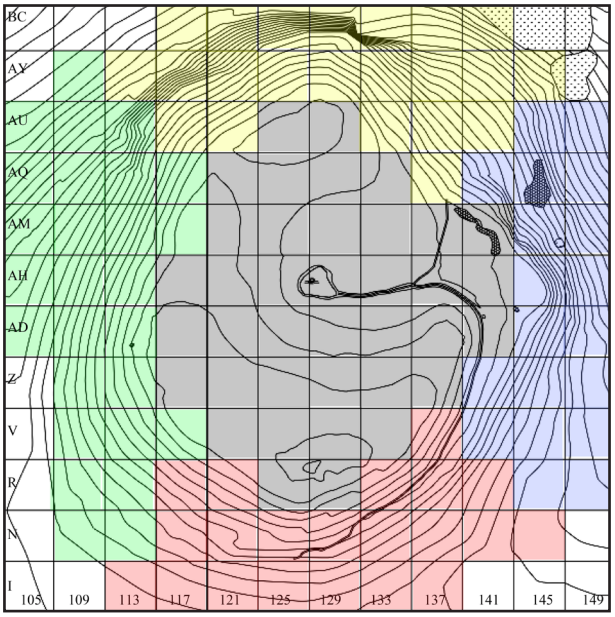


Fig. 2.111 Tall Zirā'a. Survey squares and areas of search: north (yellow), south (red), east (blue), west (green) and plateau (grey) (Source: BAI/GPIA).

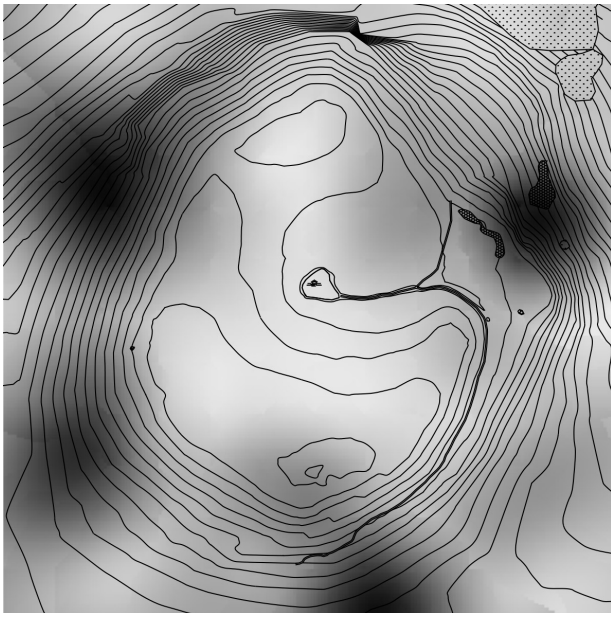


Fig. 2.112 Pottery sherd distribution. Early Bronze Age. Distribution between 0 (white) and 15 (black) sherds per 400 m² (Source: BAI/GPIA).

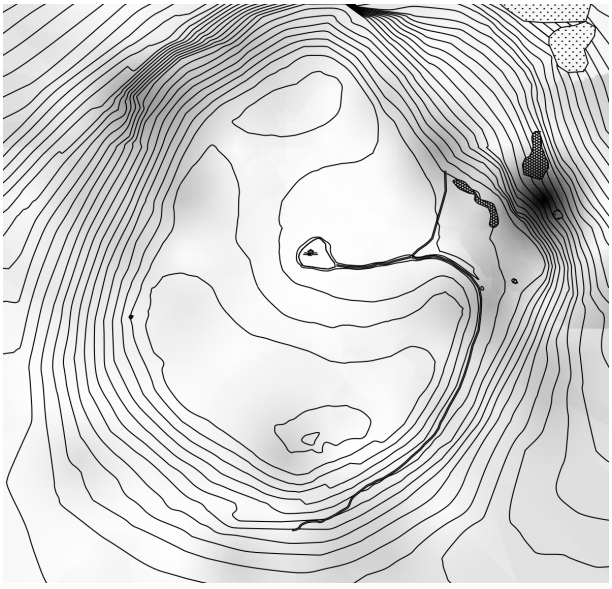


Fig. 2.113 Pottery sherd distribution. Iron Age. Distribution between 0 (white) and 15 (black) sherds per 400 m² (Source: BAI/GPIA).

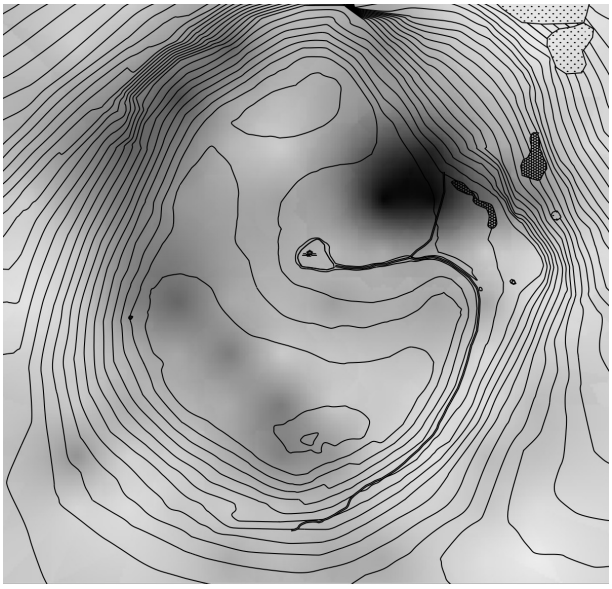


Fig. 2.114 Pottery sherd distribution. Hellenistic – Roman. Distribution between 0 (white) and 15 (black) sherds per 400 m² (Source: BAI/GPIA).

188 Steuernagel 1926, 81.

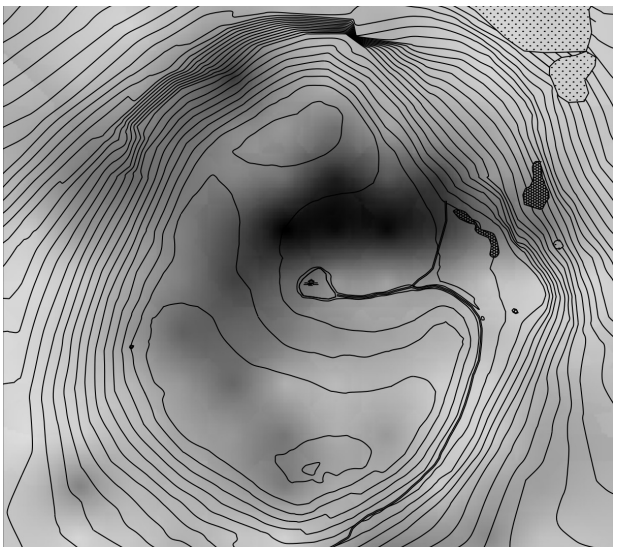


Fig. 2.115 Pottery sherd distribution. Roman – Byzantine. Distribution between 0 (white) and 15 (black) sherds per 400 m² (Source: BAI/GPIA).

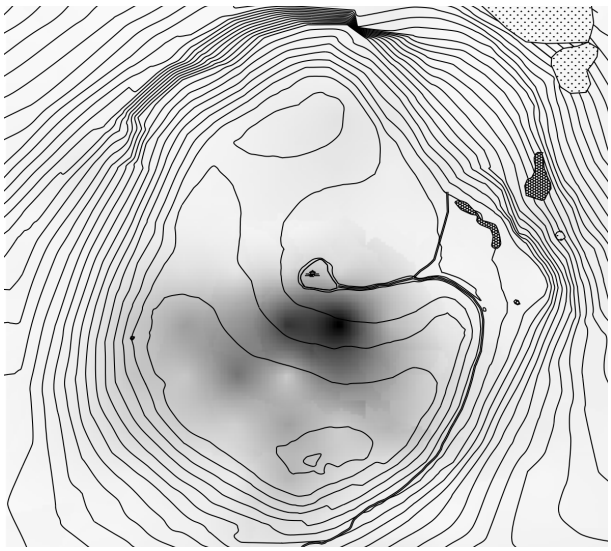


Fig. 2.116 Pottery sherd distribution. Late Islamic. Distribution between 0 (white) and 15 (black) sherds per 400 m² (Source: BAI/GPIA).

2.3.2. Comparison of Different Survey Methods

Several alternative survey methods were discussed during the planning stage of the Tall Zirā'a Survey. Additionally, because none of the team members from the Biblical Archaeological Institute Wuppertal (BAI) was experienced in surveying a tall site such as Tall Zirā'a, which had been settled over an extensive timespan, with massive cultural deposits, the autumn 2001 Season served not only as the initial archaeological investigation of the tall itself, but also as a study in alternative survey methods.

Various survey methods were tested; in addition to a complete collection of every visible artefact on the surface, the survey applied the directives presented by Y. Portugali[189], thus examining the surface up to the depth of a shovel, was applied. The focus was to determine whether the Portugali Method would, in addition to a quantitative increase in the number of artefacts, also lead to better qualitative results for a tall which had been occupied over a long period of time.

It was tested whether random selection or directed selection of squares better reflect the overall distribution of finds on the tall. This has been carried out in order to be able to test the results statistically and to be more efficient. That is, not only the reliability of the different methods was measured, but also the amount of work which had to be invested to gain the result.

In order to ensure comparable survey results, specific directives were given to guarantee a consistent standard; teams were instructed jointly, the composition of the teams remained unchanged, and teams were given a specific time frame for sampling, of one survey square per hour. The geographic achievement profile (that is, the proportion of steep slopes compared to more gently inclined and level surfaces) was planned in advance to ensure that physical work required on any given day was comparable to any other day. Requiring additional work on any given day, completing a survey square in less than one hour, or any other change to the designated work schedule, such as delays, were considered undesirable. These measures were intended to maintain the same standard of collection from the first to the last square, and to prevent an increase in the error rate as a result of individual, subjective decisions regarding collection method, speed, topographically caused problems or other nonstandard ideas.

Processing included:

a) The completed Tall Survey:

- Area: 127 squares, each 20 m x 20 m
- Expenditure of work: 18 work days for two teams of two people

b 1–4) Four surveys using alternative random samples for survey squares (with each using a separate set of standards). A random sample of the tall as a whole was chosen on three separate occasions. On one occasion, a random sample of three squares from each of the five main areas of the tall (the plateau and the four hill slopes) was chosen:

- Area: 15 squares, each 20 m x 20 m
- Expenditure of work: two work days for two teams of two people

189 Portugali 1982, 177–188.

Fig. 2.117 Survey participants applying the Portugali Method (Source: BAI/GPIA).

Fig. 2.118 Survey participants sampling in one square (Source: BAI/GPIA).

c 1) One survey based on a directed sample of survey squares (standard: three squares per slope and three squares on top of the plateau). After a thorough inspection of the tall, before commencing the survey, fifteen representative squares were selected.

- Area: 15 squares, each 20 m x 20 m, per person
- Expenditure of work: two work days for two teams of two people

c 2) One survey based on a directed sample of survey squares (without any preconditions concerning the location on the tall):

- Area: 15 squares, each 20 m x 20 m per person
- Expenditure of work: two work days for two teams of two people

d) One survey was conducted based on the methodological directives of Y. Portugali[190]. As a complete exploration of all 127 squares of the tall according to these directives appeared to be impracticable, the method described above in c 1) was chosen as a basis for the selection of the 'Portugali Squares'; that is, a survey based on a directed sample, without any preconditions concerning location on the tall):

- Area: 15 squares, each 5 m x 5 m
- Expenditure of work: four work days for two teams of two people
  Estimated work expenditure for the completed survey: 135.5 work days for two teams of two people

A complete survey which would have required 18 work days for each two person team was not considered to be cost effective. Conventional survey require two work days, whereas surveys (conducted over 15 squares) according to the Portugali Method require four work days. The expenditure of work required to conduct a complete survey according to the Portugali Method is enormous; 135.5 work days for each team of two people. It would have been impossible to conduct the survey with the same number of team members. Although the investigated area and the number of finds collected as a result would have been increased, the inevitable subjective decisions regarding site selection would have caused issues for the survey analysis. Consequently, it was decided that, given the usual length of excavation seasons in foreign countries, conducting a traditional Portugali Survey Method was not feasible.

Comparison of the five methods described above produced the following results:

a) A survey which requires a total pick up of all sherds (*Graph 2.1*) guarantees the most representative view of the facts regarding the chronology of a tall. It allows not only for an overall evaluation of the complete tall, but also of single (even small) areas in a representative way. An effective excavation strategy can be created only after the collection of reliable data regarding which areas would be most suitable for further investigation after the ground survey; for example, areas with either a higher or lower concentration of sherds of a specific ware or period must be investigated, to discover the reasons for this. Therefore, a survey which covered all areas seemed to be an unalterable precondition for the excavation of a multiphased tall with abundant cultural deposits.

b 1–4) Random selection (*Graph 2.4*) of about 10 % from the possible total survey area has produced a surprisingly rich database, which does provide enough information for a reliable estimation of chronology to be formulated. In all tests that were based on random selection, the value of data collected was greater compared to that collected from purposive sampling. If talls are to be included within the scope of extensive geographic explorations, this method appears to be recommendable.

However, single areas of the tall cannot be surveyed comprehensively using this method, as

190 See Portugali 1982, 170–188.

corresponding analyses produced partly significant dissonant values.

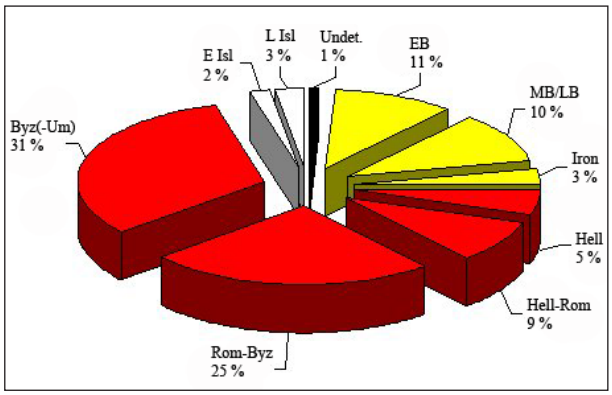
c 1) Selection 1 (*Graph 2.6*), which was specifically selected, achieved a satisfying result of finds collection, although they were less than the results from other areas which were selected randomly. Nonetheless, because of the selection criteria, it was possible to get approximate data about chronological distribution on the main areas of the tall.

However, despite the fact that the amount of work to conduct such a survey in preparation for an excavation is not onerous, this method is not recommended.

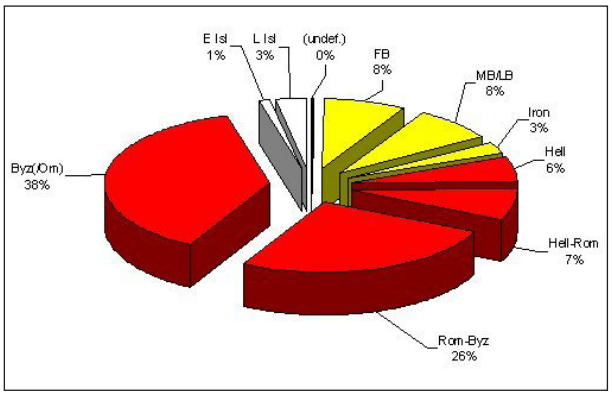
c 2) Although the results from Selection 2 (*Graph 2.5*) produced useful interpretations, the same reservations regarding excavation preparation which apply to Selection 1 are also valid, particularly as it is not possible to produce any reliable statements about individual areas of the tall due to the design of the sample method.

d) The expenditure of work required to conduct a survey properly according to the Portugali Method (*Graph 2.7*) is enormous; furthermore, because of the size of Tall Zirā'a, only a sample of squares from the survey will be able to act as the basis of future explorations. Considering the limited prospects for gathering information in light of the plethora of periods and the enduring settlement of the tall, conducting a survey based on this method has been discounted at the present time.

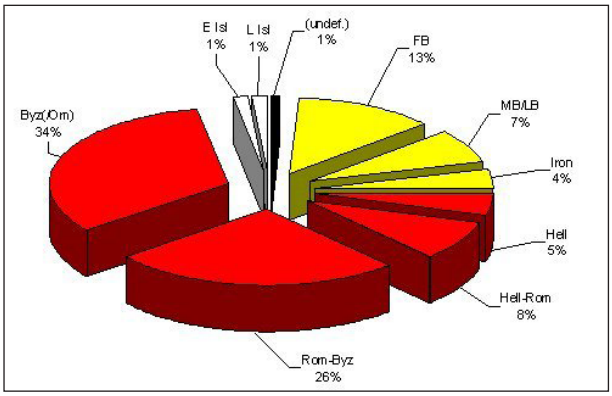
In addition to the significant amount of work required, and the rather mediocre results for calculations of the total numbers, it is not possible to gain insights for every individual area of the tall; however, this is exactly what is required for an excavation strategy. It must also be remembered that, in contrast to a one- or two-phase excavation site, which is excavated to a depth of approx. 10–15 cm, with surface finds thus reflecting to a great extent what should be found below the surface, Tall Zirā'a has cultural debris deposits from c. 16 m, with the survey therefore providing little indication for much of the underlying deposits.



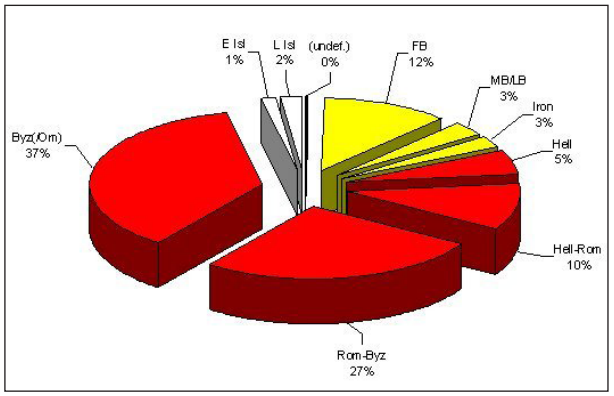
Graph 2.4 Survey results from randomly selected surface areas; Selection b 1 (Baseline: 15 squares; 2,266 sherds) (Source: BAI/GPIA).



Graph 2.5 Survey results from systematically selected surface areas; Selection 2 (Baseline: 15 squares; 2,998 sherds) (Source: BAI/GPIA).



Graph 2.6 Survey results from systematically selected surface areas; Selection 1 (Baseline: 15 squares; 2,941 sherds) (Source: BAI/GPIA).



Graph 2.7 Survey results from the Portugali Method area (Baseline: 15 squares; 2,490 sherds) (Source: BAI/GPIA).

Percent (%)	Tall survey a	Random selection				Directed selection		Portugali Method
		b_1	b_2	b_3	b_4	c_1	c_2	d
Undetermined	1	1	0	2	1	1	0	0
Early Bronze Age	11	13	9	12	11	13	8	12
Middle Bronze Age/Late Bronze Age	10	10	12	8	9	7	8	3
Iron Age	3	4	4	4	4	4	3	3
Hellenistic period	5	4	6	6	5	5	6	5
Hellenistic − Roman period	9	10	8	8	9	8	7	10
Roman − Byzantine period	25	22	26	26	28	26	26	27
Byzantine (Ummayad) period	31	32	32	31	29	34	38	37
Early Islamic period	2	2	1	2	1	1	1	1
Late Islamic period	3	2	2	2	3	1	3	2
Deviation	0	4.24	4.0	3.16	4.0	5.48	8.37	9.70

Tab. 2.2 Sequence of deviations (all values are percentages and rounded off to the closest whole integer)
Random Selection: The average deviation with 99 % confidence is 2.8 %, the maximal deviation is 10 %; the average deviation with 95 % confidence is 2.4 %, the maximal deviation is 8.5 %.
Directed selection: The average deviation with 99 % confidence is 3 %, the maximal deviation is 11 %; the average deviation with 95 % is 3 %, the maximal deviation is 10 %.

The Portugali Method, therefore, is principally useful when the natural conditions present a strong possibility that a representative collection of sherds will be found on the surface itself or close to the surface, or if the investigated area has to be thoroughly surveyed because of a threat to survival (for example, due to modern construction) in order to arrive at a useful survey result.

If one relates the individual survey types to a complete survey of the tall, which includes the largest quantity of sherds and a complete account of all tall areas, the following calculation of deviation is attained:

$$\|x - y\|^2 = \sum_{i=1}^{n} (x_i - y_i)^2$$

The deviations in the bottom line and a clear sequence of deviation from the defined standard highlights the squares that were selected by the random generator during the four surveys. Considering the comparatively small effort required for surveying randomly generated squares (including less intensive work with the finds material after the survey) this is the most suitable method for investigating talls in the context of extensive area surveys.

However, when taking preparation of the excavation into account, one arrives at a different conclusion. Admittedly, a complete survey of a tall is a lot of work, but it not only enables more reliable findings, but also provides the possibility to determine fundamental facts about individual areas of the tall, both large and small, based on analysis of all sherds.

As the development of an excavation strategy should be focused on obtaining reliable results for particular areas of a tall (e.g. areas with unusually high or low concentrations of sherds of a certain type or time) a complete Tall Survey emerges as the method of choice before excavation when the tall is multiphased with correspondingly deep deposits of cultural debris, thus assembling a sufficiently cohesive reference material, which accurately reflects topographical as well as chronological data. This is of fundamental importance if accurate statistical data is to be achieved as an end result of the project. It should be stated here that the Portugali Method does provide both large numbers of finds (approx. four times the number of sherds per square as other survey methods), and accurate statistically quantifiable data; its advantages for a one- or two-phase tall are undisputed. However, it did not produce finds which were qualitatively superior.

The excavation required full recording and mapping of all recognizable structures on the surface, e.g. walls, channels, cisterns, walkways, graves, caves and many others; therefore, a full survey could be carried out on Tall Zirā'a with little additional effort. Before the autumn 2001 season, the team would have preferred to identify and select appropriate squares to be investigated, restricting the survey to one-tenth of the total surface area of the site, compared to the investigation produced by random selection; an assessment of the results of such a survey cannot now be ascertained.

The final results from the various survey methods will be compared to the excavation results in the following volumes of the final report of the excavation.

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