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Fazael 5: Soundings in a Chalcolithic Site in the Jordan Valley

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ABSTRACT

Recent excavations at Fazael 5 in Wadi Fazael in the Lower Jordan Valley have revealed a three-stratum Chalcolithic site. While the cultural attribution of the upper and base Strata (I and III) are still obscure, the architecture and finds from Stratum II attest to a Late Ghassulian broadroom house, the typical type so far noted in contemporary sites in the Wadi Fazael floodplain. This paper presents the stratigraphy, architecture and finds from Fazael 5, and attempts to define its place within the Chalcolithic continuum in the region.

KEYWORDS: Fazael 5, Jordan Valley, Chalcolithic

INTRODUCTION (S.B.)

The Fazael 5 Chalcolithic site is located in the lower Jordan Valley (map reference: Israel Old Grid 1914/1616, Figs. 1–4). It was first described very briefly by Glueck (1951) and Porath (1985), then surveyed in the framework of the Manasseh Hill Country Survey (Zertal 2012: site 22), and further analyzed in the Fazael Valley Regional Project (Bar 2008, 2013, 2014a). This site proved to be a concentration of small mounds within a larger swathe of ancient sites covering an area of more than 140 dunams (14 ha) along the northern terrace of Wadi Fazael. The sub-sites Fazael 2, 5, 7 (Bar 2008, 2013, 2014a, 2014b; Bar *et al.* 2013) and salvage excavations carried out in the area by Porath (1985) and Peleg (2000), make up an aggregation of locations, parts of one large site, on the perimeter of the fertile alluvial fan of this watercourse, which drains the steep Samarian Hills to the east.

Fazael 5 is located at the middle of the presumed area of the ancient settlement (Fig. 2), about 250 m south-east of Fazael 2, 50 m west of Fazael 7, and 200 m west of the fence of the modern village of Fazael. The area of this site was estimated to be 3 ha (Bar 2008; Zertal 2012: site 22).

Remains of several structures were noted in the survey:
1. A long wall (no. 1 in Fig. 3), possibly a 3–5 m-thick terrace wall, was found in the eastern part of the site. The masonry is similar to constructions of later periods (mainly Iron Age I–II, although there were no finds from this period in the survey), and consists of two thick walls made of lines of large and medium boulders, with a fill of smaller stones between them. If this thick wall was indeed part of the Chalcolithic site, then it might have served as a terrace wall to level and support the eastern part of the elevated plateau on which the other structures stand.
2. Remains of a very large irregular courtyard (no. 2) were found west of no. 1. It is similar in its shape to other courtyards discovered in the Fazael valley in Chalcolithic sites (*e.g.* Fazael 2, Fazael 7 and Fazael – Porath's excavation).
3. Remains of a large square structure (no. 3) in the centre of the site. Here again, a possible courtyard and a square room can be distinguished. The relation between this unit

and courtyard no. 2 is unclear. This structure is located 10 m from Complex 4, and might be related to it.

4. The remains of what seems to be a long broadroom and an adjacent large courtyard were observed on the surface prior to the excavation (no. 4). If the visible remains are of one complex, then it would have been approximately 40 m wide and 38 m long (almost 1,600 sq. m). Without a large-scale excavation it is difficult to verify these measurements. It is in this broadroom that the excavation reported here was carried out.

5. Remains of additional walls (ancient and modern) were found in the northern part of the site (no. 5).

The majority of the sherds collected during the survey were dated to the Chalcolithic period, with a few Roman sherds and unidentified body sherds also present (Bar 2014a:555).

In 2009 a small probe was excavated in the north-western part of structure no.3 (see Bar 2013 chapter 5 for a detailed report), resulting in an unstratified assemblage mainly dated to the Chalcolithic period, with one Early Bronze Age holemouth jar rim and one Middle Bronze Age 2 cooking pot rim (Bar 2013: fig. 5.6:1, 2).

Renewed excavations at the site took place in February 2012, February 2013, and March 2014. Only 60 sq. m have so far been excavated, concentrating on the large broadroom of structure no. 4 at the site. Three strata were noted and the results are reported here.

STRATIGRAPHY AND ARCHITECTURE (S.B AND G.S)

Stratum III

This stratum was excavated in two shallow trenches, 20 to 45 cm deep, in Squares A1-2 and C1, below the floating heights of the walls and living surfaces of Stratum II (Loci 22, 23, and 54 in the plan in Fig. 5). Both trenches had a brown packed sediment that contained pottery dated to the Chalcolithic period (see below), but no architectural remains were found. A shallow round ash pit, 5 cm deep (Loc. 23), was found, containing a grey crumbling sediment and large body sherds, perhaps the remains of a dismantled installation. The excavation stopped 20 cm below the floating elevation of the Stratum II main building walls without reaching sterile soil or bedrock.

It seems that there was some activity here before the construction of the Stratum II broadroom, possibly related to one of the other structures/courtyards nearby.

Stratum II

A large 14×5.5 m broadroom was exposed in Squares A–C1-2 (Figs. 5–7). Most of its walls were visible on the surface of the site prior to the beginning of the excavation. Walls W1, W2, W3, W35 and W50 were built with masonry of two rows of medium-sized stones with a fill of smaller

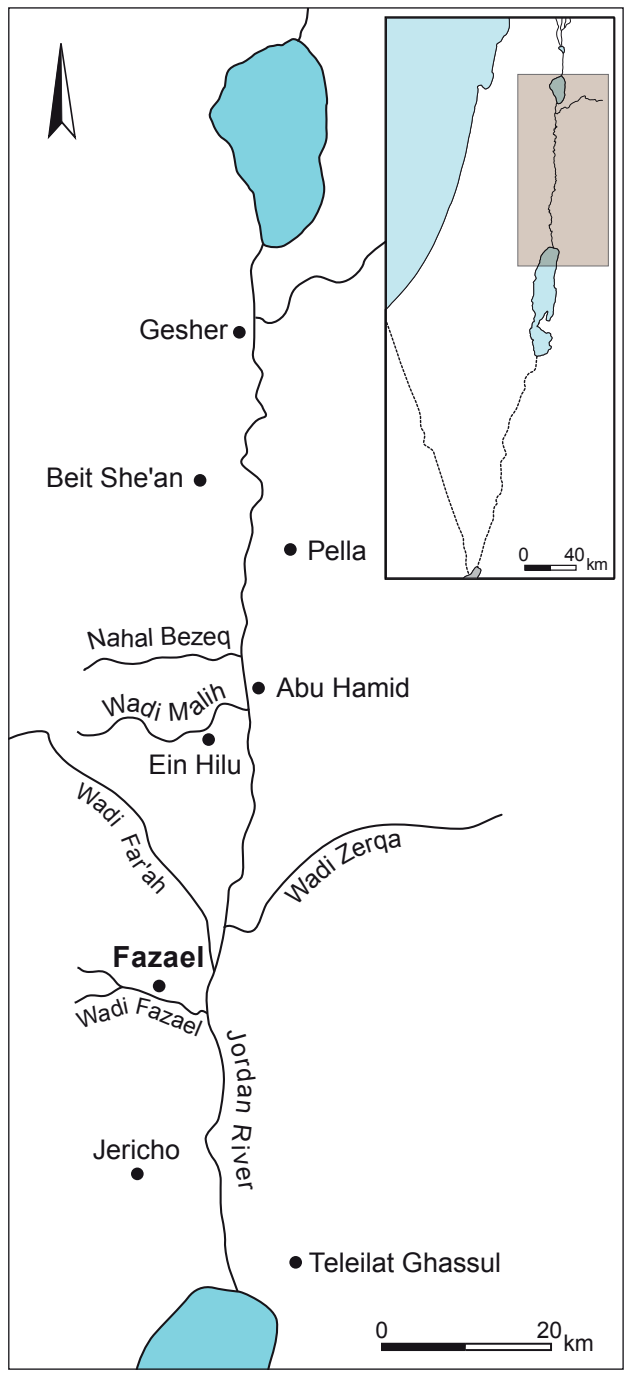

Figure 1. General location map of Chalcolithic sites in the Lower Jordan Valley.

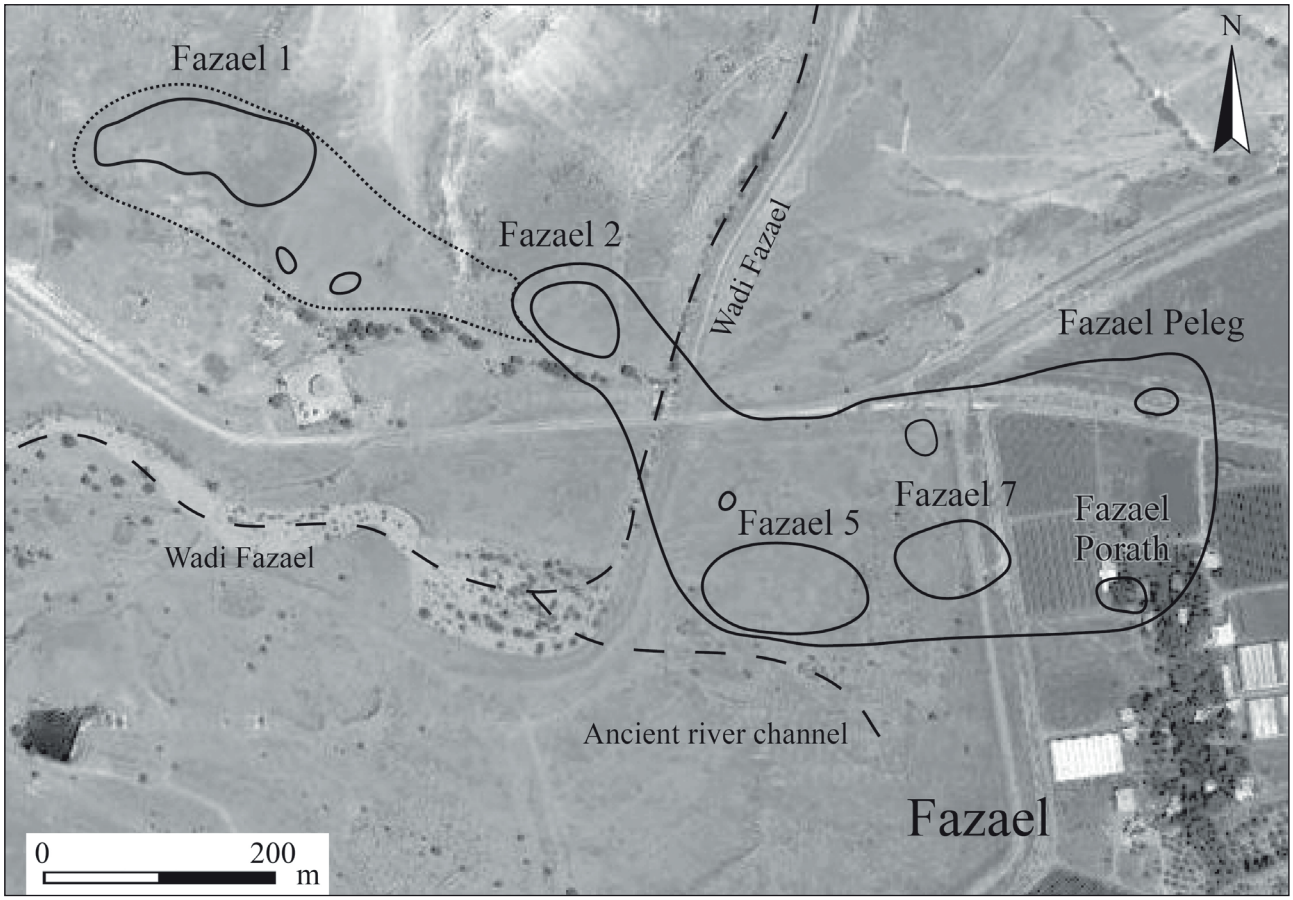

Figure 2. The Fazael Valley showing the Chalcolithic sites identified and the presumed area of ancient settlement (Google Earth).

stones between them. Sometimes larger fieldstones were incorporated into the construction, especially in or near the corners of the building. The walls were 1 m thick, and survived up to three courses high. No remains of foundation trenches were found. Since no stone collapse was found inside the building, it seems that they were foundations for mud-brick walls that did not survive due to the proximity of the building to the surface of the site. The approximately 50 cm fill between the surface of the site and the upper preserved portion of the walls and the habitation level of Stratum II was loose brown sediment containing small stones.

Living surfaces L21 and L36 abutted the outer walls, usually at the height of the upper part of the first stone course of each wall. These are beaten earth floors with horizontally-lying crushed pottery and stone installations L24 and L49 testifying to their accurate height levels.

The installations are different in shape. L24 is a circular installation 45 cm in diameter, built of small flat-lying stones (Fig. 6). The ash patches found in the vicinity of this installation and its flat shape suggest that it was used for preparing food. Installation L49 is a typical corner installation found in many Chalcolithic sites in the Fazael valley (see discussion below). It abuts the outer walls W35 and W50, and has a curving wall (Fig. 7). The function of these installations is still obscure.

An inner division was found in the southern part of the broadroom. Walls W27 and W28 form a small cell 2×4 m. W27 abuts external wall W1. The exact relation between W28 and the eastern outer wall cannot be checked due to destruction caused by Stratum I activity. A narrow gap between W27 and W28 was probably the entrance to this cell. A small metal hoard (not discussed in this paper) was found in the fill above floor L36.

Stratum I

Stratum I consists of two pits (L18 in Square B1-2 and L33 in Square C1) up to 30 cm deep, filled with small and medium-sized stones and two very large boulders (Figs. 4, 5, 8). These pits cut into most of the eastern part of the

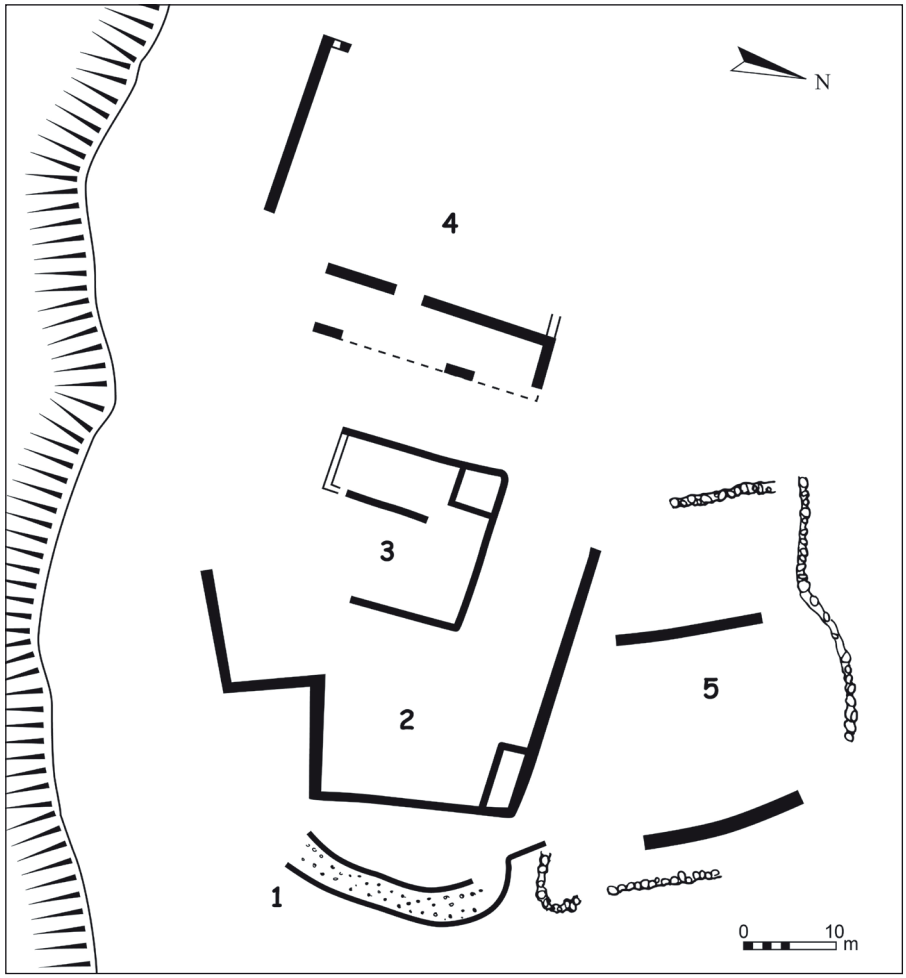

Figure 3. Survey plan of Fazael 5.

Figure 4. View to the south-west of Fazael 5 at the end of the 2013 season.

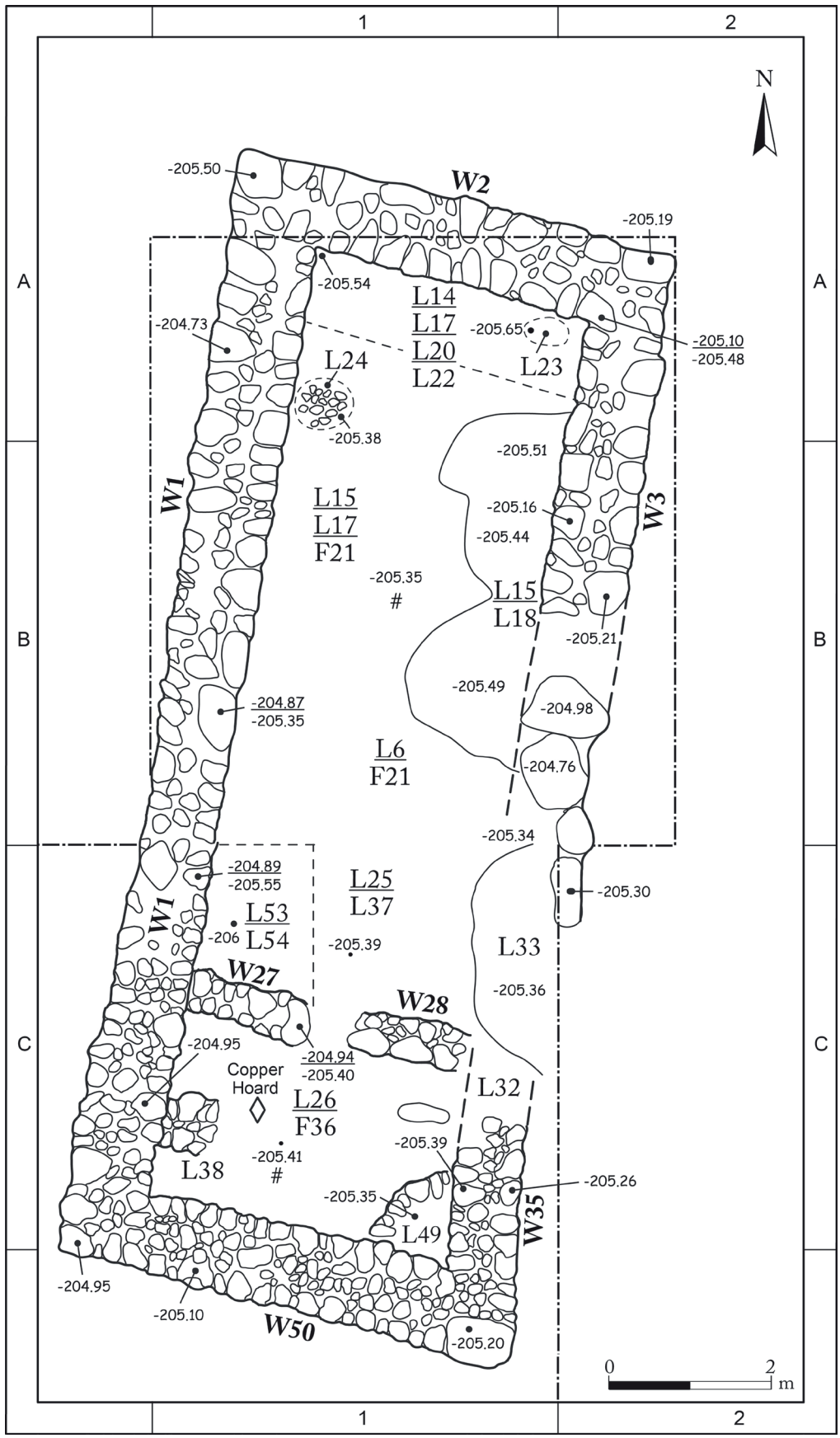

Figure 5. Plan of Fazael 5.

Figure 6. Installation L24, view to the south.

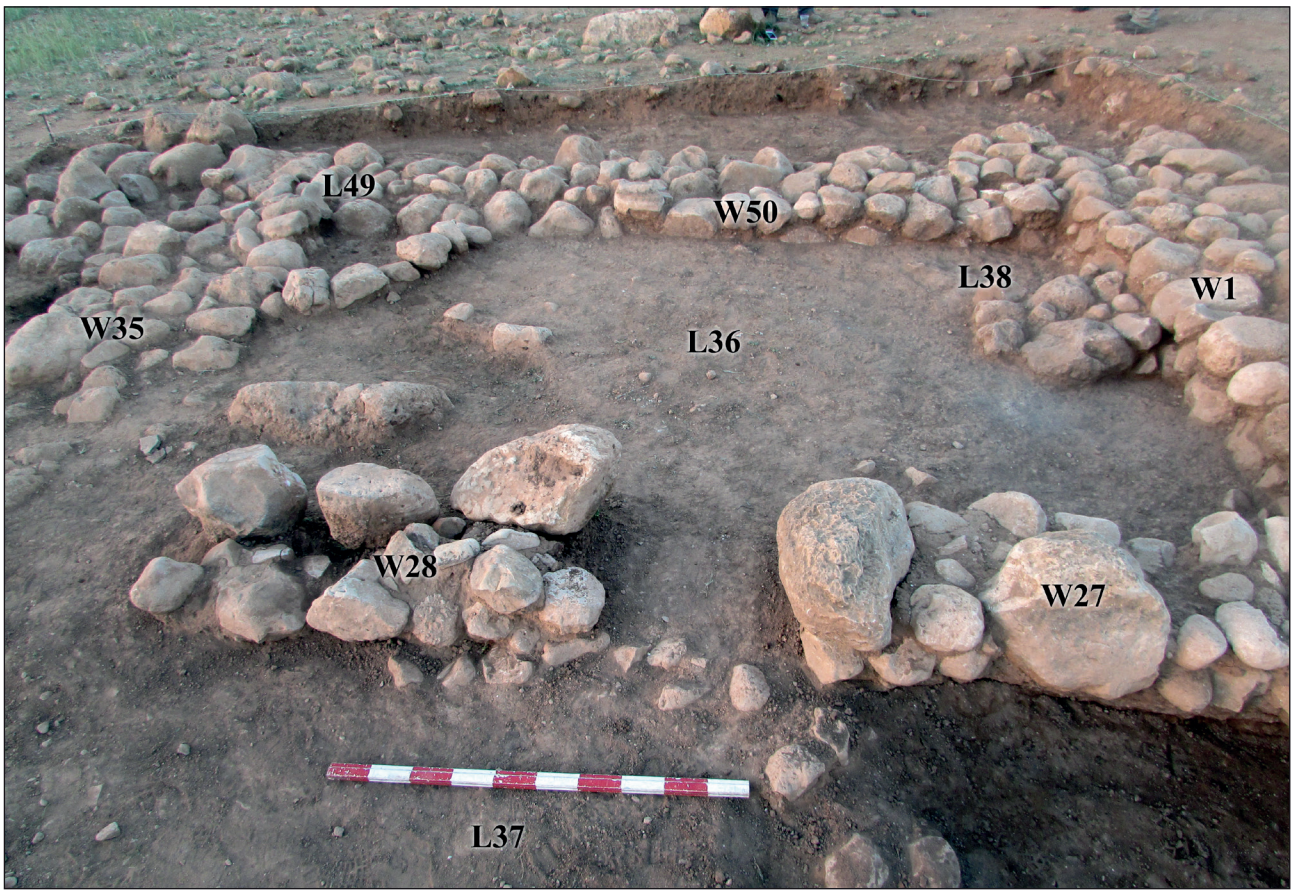

Figure 7. The southern cell of Stratum IIb, view to the south.

Stratum II building, damaging the eastern wall especially (W3 and W35).

Since no finds other than Chalcolithic pottery were found in the dig, it is possible that this activity took place after the abandonment of the broadroom by the Stratum II inhabitants. It is less likely, but still possible, that the destruction happened after the Chalcolithic period, but left no datable material to suggest a date for this occurrence.

THE POTTERY ASSEMBLAGE (S.B)

The ceramic assemblage recovered during the excavation seasons comprises 1,726 pottery sherds. Only sherds at least 4 cm^2 in area were included. Most of the assemblage originated in the Stratum II deposits (1,440 sherds). Strata I and III yielded far fewer sherds (204 and 82 sherds, respectively).

The different strata assemblages are presented below, with parallels mainly from sites within the Jordan Valley or other nearby regions (see parallels data in the supplementary tables of all Figures).

Stratum III

Finds from Stratum III are sparse (n=82), with only a few indicative items, and thus the results should be regarded as preliminary. Diagnostic rims are of holemouth jars (n=3, Fig. 9:4–6), bowls (n=3, Fig. 9:1–3), and a jar. All the items found were hand-made, apart from one straight-sided bowl (Fig. 9:2) which was probably fashioned on a slow wheel.

The holemouth jars are oblate, with a pointed or plain rim, similar to the most common examples of Stratum II (see below). They are not slipped or decorated. The bowls are all straight-sided like the regularly occurring examples of Stratum II. Surface treatments include only two red-painted rim examples. Bases (n=4) are flat, and the only handle found was a lug handle.

Although very small, this assemblage has parallels in the Stratum II assemblage at the site, as well as in other sites in the Fazael Valley flood plain and the Jordan Valley (see refs. in supplementary table to Fig. 9). Thus it can be dated to the Late Chalcolithic period, probably close to the Stratum II date. It represents activities at the site prior to the construction of the Stratum II broad room. This kind of pre-construction activity is common in all Chalcolithic sites in the Fazael Valley flood plain (see below).

Stratum II

Finds from Stratum II are dominated by bowls. Diagnostic rims include bowls (n=76, Fig. 10), followed by holemouth jars (n=22, Fig. 11:1–5), and jars (n=13, Figs. 11:6–12).

The most common bowl is straight-sided, occurring in a variety of forms and sizes. Most are medium-sized (rim diameter between 8 and 18 cm), with a thin wall, a plain rim, and a red 'lipstick' decoration on the rim (Fig. 10:1–4). Some of these bowls were fashioned on a slow wheel. Other straight-sided bowls are large and deep (rim diameter between 15 and 26 cm - Fig. 10:7–8), with a thicker wall. These are hand-made and usually not decorated. Bowls with a slight S-shaped profile close to the rim, common in all Late Chalcolithic Fazael assemblages, also appear (Fig. 10:5–6). Slightly rounded bowls with a cut rim (Fig. 10:10–11), as well as hemispherical bowls with an everted rim (Fig. 10:9), were also found and some had a red 'lipstick' decoration on the rim. Larger deep undecorated bowls and basins with a thick straight or convex wall include items with outward-protruding rims (Fig. 10:12–14), and others with a gutter on the rim (Fig. 10:15–16). All are about 34 cm in diameter.

The most common holemouth jar type has a narrow body with a thick wall, straight or slightly rounded towards a plain rim (Fig. 11:1, 4), but flatter oblate types with a plain rim and an oblate body (Fig. 11:2–3), and sometimes with an up-pinched rim (Fig. 11:5) also occur. Holemouth jars are hand-made and have no decorations (unless the body sherds found with rope decorations belong to this type).

The commonest jars have a straight-sided high neck and an everted rim (Fig. 11:8–9). A sub-type with a shorter neck (Fig. 11:10–11) also appears. Two rims of large pithoi with an everted rim were also found (Fig. 11:12). All jars are hand-made, and most of them are not decorated. One example of a red stripe on the rim of a jar was found (Fig. 11:7).

Surface treatment is limited to red-painted rims (n=13 items, 0.9% of the total assemblage, Figs. 10:1–4, 9–10; 11:7), rope-like decorations (n=10, 0.7%, Fig. 12:5) and incised herringbone patterns (n=2, Fig. 12:4). Bases (n=73) are always flat, and handles appear as lug (n=12,

7 of which are large, Fig. 12:1), vertical (n=2), or ledge (n=2, Fig. 12:2–3).

Stratum I

Finds from Stratum I are sparse (n=204), with only a few indicative items, thus the results of this stratum should also be regarded as preliminary. Diagnostic rims are of bowls (n=9, Fig. 13:1–3), jars and large basins/pithoi (n=6, Fig. 13:5, 7–8) and one holemouth jar (Fig. 13:6). All the assemblage is hand-made.

The bowls are all straight-sided, like the common examples in Stratum II. Most of these bowls have plain or pointed rims, and one example has a slightly flaring rim (Fig. 13:3).

The jars have a straight-sided high neck and an everted rim (Fig. 13:5), again like the most frequent examples of Stratum II. The pithoi or large basins have thick walls and flaring or hammer-head rims. These large vessels are very common in Chalcolithic assemblages in the Jordan Valley (Bar 2014a: fig. 8.2). Surprisingly only one holemouth jar was found, probably because of the

Type	Stratum I	Stratum II	Stratum III	Total
Bowl and basin	9	76	3	88
Holemouth jar	1	22	3	26
Jar	6	13	1	20
Lug handle	3	12	1	16
Vertical handle		2		2
Ledge handle		2		2
Flat base	16	73	4	93
Red slip		14	2	16
Rope ornamentation		10		10
Incision		2		2
Body sherd	169	1,214	68	1,451
Total sherds	**204**	**1,440**	**82**	**1,726**

Table 1. Breakdown by main types of the pottery sherds from Strata I–III.

Figure 8. General view of the broadroom to the south. Note the Stratum I pit L18 with its two large boulders cutting into the eastern part of the Stratum II broadroom.

limited exposure of this stratum.

Surface treatment is limited to red-painted rims on bowls and jars (Fig. 13:3, 5). Bases (n=16) are flat, and handles appear only as large lugs (n=3, Fig. 13:4).

The pottery assemblage – discussion

The pottery assemblage of Fazael 5 is very limited in size, especially in Strata I and III, and conclusions deriving from the analysis of the different strata should be considered preliminary. Taking these facts into account, some general observations can be made concerning both the assemblage as a whole, and each stratum independently.

An important insight is that some of the most common types of the Ghassulian Chalcolithic culture, such as cornets and churns are missing, and large basins and pithoi, common in Chalcolithic assemblages in the Jordan Valley (Bar 2014a: fig. 8.2), are rare. The same situation was observed in the Fazael 2 and Fazael 7 sites, an observation that supports the idea that they all belong to one large settlement on the northern bank of Wadi Fazael (Bar 2014b).

On the other hand, other common Chalcolithic types do appear in the assemblage: the straight-sided bowl, which is the dominant type in every Chalcolithic assemblage, appears in all strata in abundance. The morphologies of the other types of vessels and handles in all strata have parallels in other Ghassulian Chalcolithic sites in the region, and the decoration and ornamentation techniques, such as red-painting of the rims and rope-like plastic additions to vessels, albeit in small quantities, are the prevalent Chalcolithic types.

Another finding that stems from the comparison of the three strata (taking into account the small exposure and sparse finds at Strata I and III) is the similarity between the different assemblages. This supports the idea that we are not dealing here with three distinct habitation levels representing a long duration, but rather short-term occupations.

A comparison of Fazael 5 with nearby Chalcolithic sites in the Fazael Valley, such as Fazael 2 and Fazael 7 (Bar 2013, 2014a; Bar *et al*. 2013), shows clear close similarities to the pottery assemblage of Stratum II. Almost all types have parallels in either Fazael 2 or Fazael 7, including uncommon types like the ledge handle and the typical incised decoration (Fig. 12:2–4) supporting, as mentioned above, the assumption that Fazael 5 is part of the same large village existing in the later phases of the Late Chalcolithic period in the Fazael Valley flood plain (Bar 2014b).

THE FLINT ASSEMBLAGE (S.P.)

Because of the modest scale of the excavation, the flint assemblage is small (n=368). Strata I and III (see stratigraphic description) are quite insignificant from a quantitative point of view, and therefore they are only presented in Tables 2 and 3. The assemblages in these strata do not include indicative elements, and seem to be quite similar to that in Stratum II. The analysis in this article focuses on Stratum II, but since the analysis is still in progress, only preliminary results are presented here.

The Stratum II assemblage consists of 294 elements including debris (chunks and chips). Since most of the loci were not sieved, the chips category is almost non-existent. This does not mean, however, that no knapping was done at the site. Chunks were defined as artifacts larger than 2 cm whose ventral face was not distinguishable. Artifacts with a ventral face but no bulb of percussion were counted as 'distal flakes', and for this analysis are included in the 'flakes' category.

The debitage

The debitage is largely dominated by flake production with 46% of flakes (including primary flakes), and only 14% of blade/bladelet production (including primary blades (Table 2). Bladelets, made on translucent chalcedony, are rare in this assemblage. Also worth mentioning is that the blades have no standard dimension or shape. The number of primary blades (blades with more than 30% cortex on the dorsal face) is limited to less than 1%, unlike the primary flake category (flakes with more than 30% cortex on the dorsal face) which represents 7.5% of the assemblage.

Cores and core trimming elements

The core category is rather small; only eight cores were identified, including three fragments. All the cores were used for flake production. Three of them are pyramidal, and only one core has more than one striking platform (Fig. 14:1). Some core trimming elements were found (Table 3), constituting 7% of the assemblage. There are

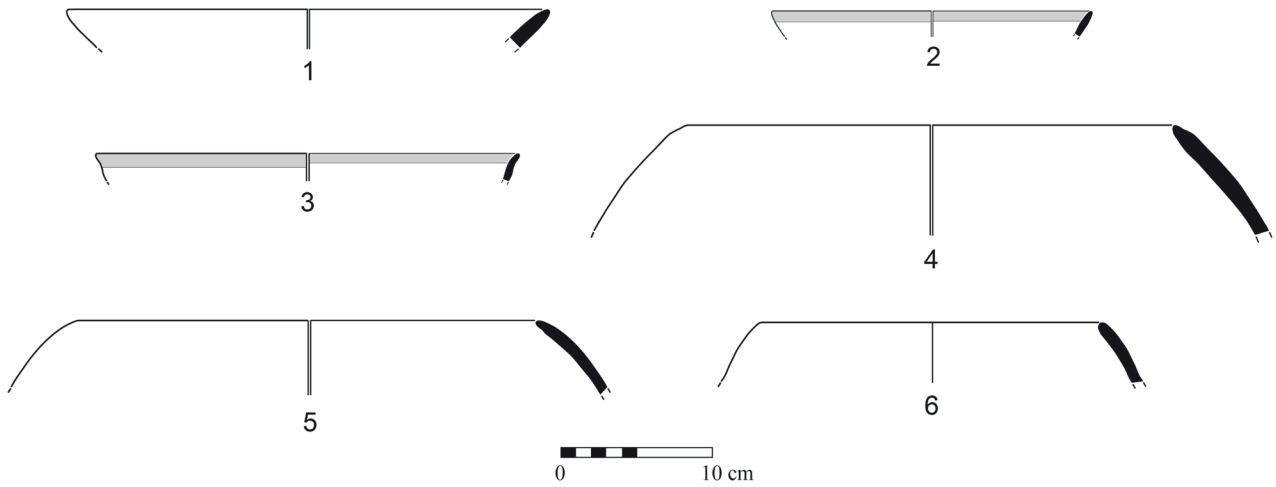

Figure 9. Stratum III: The ceramic assemblage.

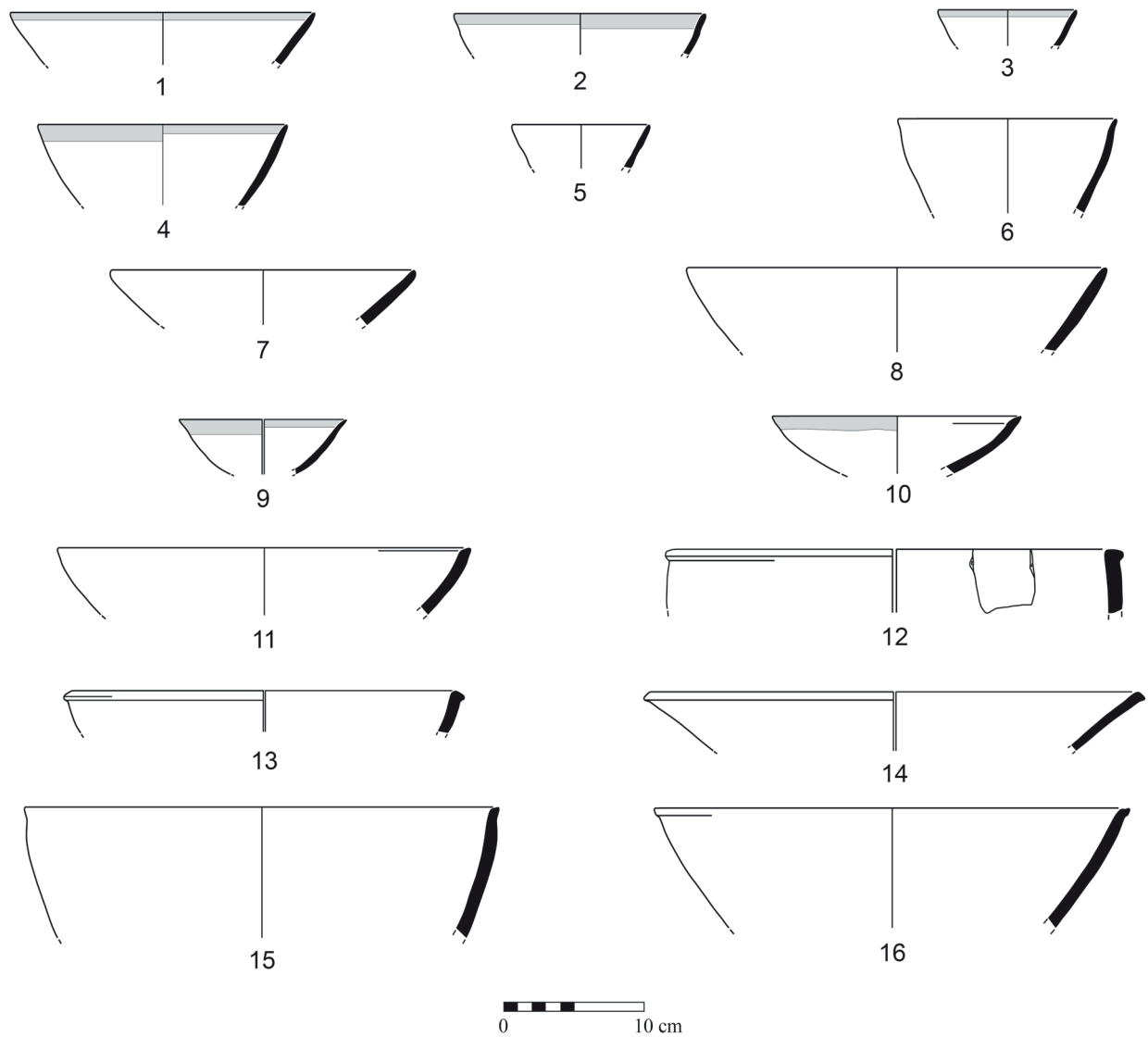

Figure 10. Stratum II: Bowls.

No.	Description	Parallels
1	Light-brown clay and core, good firing, many white and grey grits. Soot traces outside	Fazael 2 Stratum 2 (Bar 2013: fig. 4.19:1); Ein Hilu (Bar 2013: fig. 3.23:1); Teleilat Ghassul (Lovell 2001: fig. 4.31:1, 3);
2	Orange clay and core, good firing, white and grey grits. Red painting on rim (inside and outside)	
3	Light-brown clay and core, medium firing, white and grey grits. Red painting on rim (inside and outside)	Fazael 2 Stratum 2 (Bar 2013: fig. 4.19:5); Fazael 7 (Bar 2013: fig. 6.15:6); Shoham (North) (Commenge 2005: fig. 6.12:3);
4	Brown clay and core, medium firing, white and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.21:1); Shoham (North) (Commenge 2005: fig. 6.18:1); Teleilat Ghassul (Lovell 2001: fig. 4.37:6);
5	Light-orange clay and core, good firing, white and grey grits	
6	Light-brown clay and core, low firing, white and grey grits. Soot traces outside	Fazael 2 Stratum 2 (Bar 2013: fig. 4.21:6); Teleilat Ghassul (Lovell 2001: fig. 4.37:3);

Supplementary table to Figure 9.

No.	Description	Parallels
1	Light-brown clay and core, low-firing, red, white and grey grits. Dark-red painting on rim (inside and outside)	Fazael 2 Stratum 2 (Bar 2013: fig. 4.19:2–4); Fazael 7 (Bar 2013: fig. 6.15:1–5); Ein Hilu (Bar 2013: fig. 3.23:8–9); Shoham (North) (Commenge 2005: fig. 6.3:7–8); Teleilat Ghassul (Lovell 2001: fig. 4.31:5, 7);
2	Light clay and core, low-firing, white and grey grits. Dark-red painting on rim (inside and outside)	
3	Light-brown clay and core, low-firing, dark-red painting on rim (inside and outside)	
4	Reddish-brown clay and core, good firing, white and grey grits	
5	Reddish-brown clay, dark core, good firing, white and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.19:11–12); Fazael 7 (Bar 2013: fig. 6.15: 6–7);
6	Light-brown clay and core, medium firing, white and grey grits. Dark-red painting on rim (inside and outside)	
7	Reddish-brown and yellowish clay and core, medium firing, red, white and grey grits	Ein Hilu (Bar 2013: fig. 3.23:10); Fasa'el (Porath 1985: fig. 4:3); Teleilat Ghassul (Lovell 2001: figs. 4.31:1; 4.32:2, 7; 4.35:4);
8	Reddish-brown clay and core, medium firing, many white and grey grits	
9	Reddish-brown clay and core, good firing, white and grey grits. Dark-red painting on rim (outside)	Shoham (North) (Commenge 2005: figs. 6.3:2; 6.10:10–11); En-Gedi (Ussishkin 1980: fig. 8:6);
10	Light-brown clay and core, good firing, white and grey grits. White wash (?) outside, dark-red painting on rim (inside and outside)	Fazael 7 (Bar 2013: fig. 6.15:13); Fasa'el (Porath 1985: fig. 3:8);
11	Cream clay, reddish-brown core, medium-firing, white and grey grits	
12	Light-brown clay and core, low-firing, white and grey grits	Fazael 7 (Bar 2013: fig. 6.15:14); Teleilat Ghassul (Lovell 2001: figs. 4.32:9; 4.34:1);
13	Light clay, grey core, low-firing, white and grey grits	Fazael 2 Stratum 3 (Bar 2013: fig. 4.26:9);
14	Reddish-brown clay and core, low-firing, red, white and grey grits	
15	Light clay and core, low-firing, many red, white and grey grits	Ein Hilu (Bar 2013: fig. 3.23:23); Teleilat Ghassul (Lovell 2001: fig. 4.32:6);
16	Light clay, reddish core, good-firing, many white and grey grits	

Supplementary table to Figure 10.

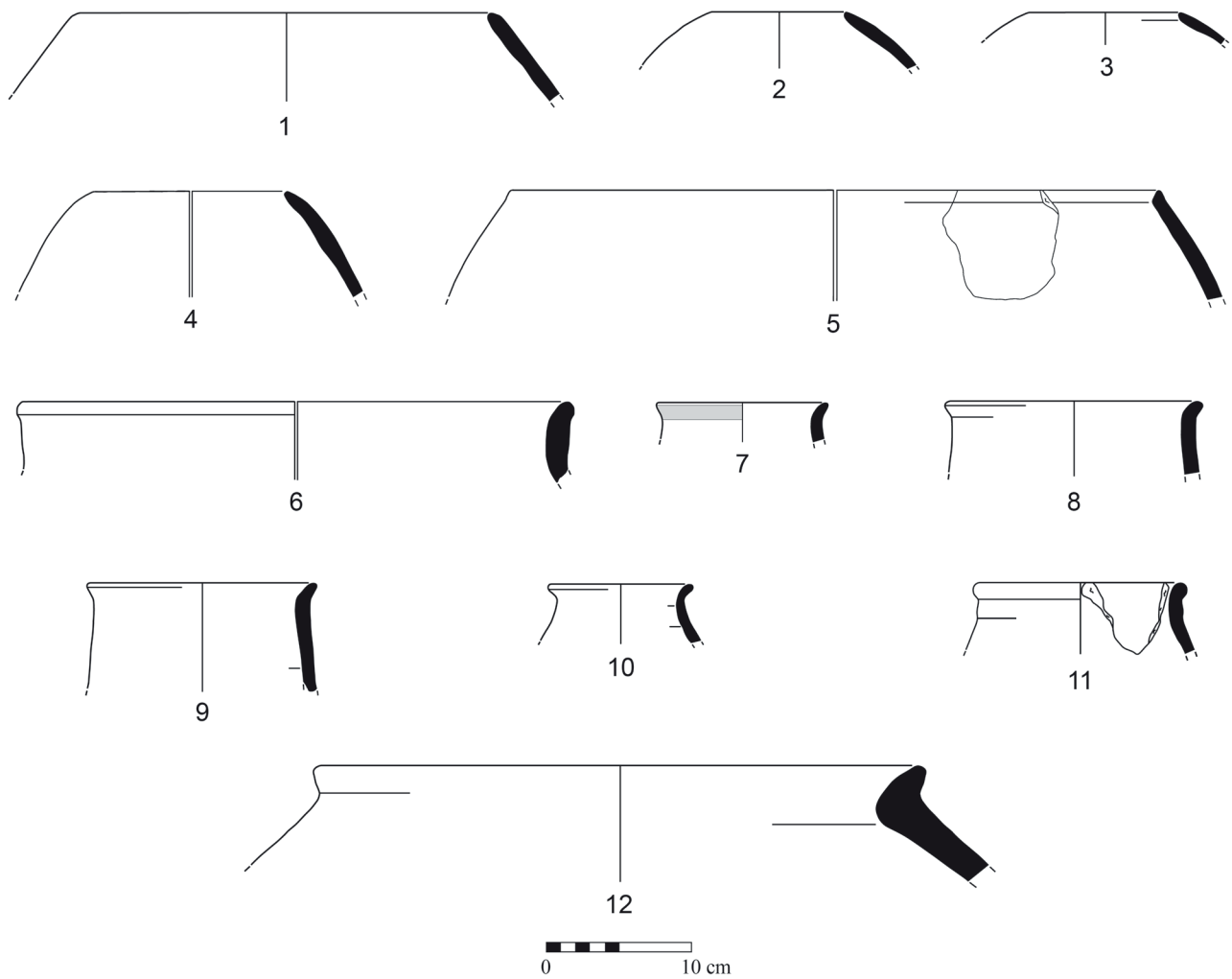

Figure 11. Stratum II: Jars and holemouth jars.

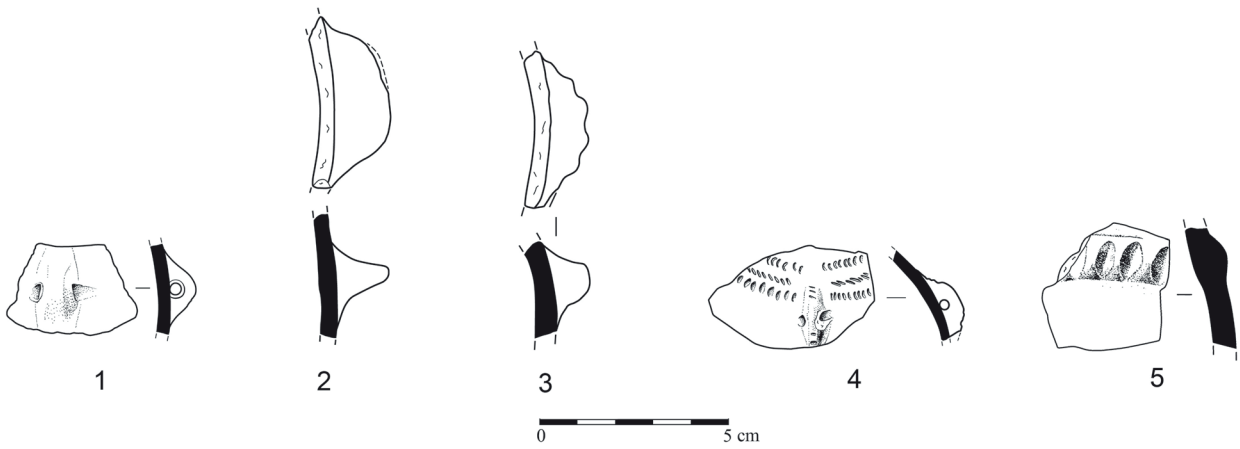

Figure 12. Stratum II: Varia.

No.	Description	Parallels
1	Reddish-brown clay, light core, low-firing, many white and grey grits	Fazael 7 (Bar 2013: fig. 6.16:1, 3); Fasa'el (Porath 1985: fig. 4:6); Teleilat Ghassul (Lovell 2001: fig. 4.36:9);
2	Light-brown clay, brown core, good firing, white and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.21:4–5); Fazael 7 (Bar 2013: fig. 6.16:6); Fasa'el (Porath 1985: fig. 4:7); Teleilat Ghassul (Lovell 2001: fig. 4.37:1–2);
3	Light-brown clay and core, medium firing, white and grey grits	
4	Reddish-brown clay, grey core, medium firing, white and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.21:6); Fazael 7 (Bar 2013: fig. 6.16:5); Teleilat Ghassul (Lovell 2001: fig. 4.36:1);
5	Reddish clay, grey core, medium firing, black and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.21:7);
6	Grey clay, dark core, medium firing, white and grey grits	
7	Reddish-brown clay and core, medium firing, red, white and grey grits. Dark-red painting on rim (outside)	Fazael 7 (Bar 2013: fig. 6.16:11); Ein Hilu (Bar 2013: fig. 3.25:9); Shoham (North) (Commenge 2005: fig. 6.7:2);
8	Reddish-brown clay and core, low-firing, red, white and grey grits	Fazael 7 (Bar 2013: fig. 6.16:10); Fasa'el (Porath 1985: fig. 5:2); Teleilat Ghassul (Lovell 2001: fig. 4.40:3–4);
9	Reddish-brown clay and core, low-firing, red, white and grey grits	
10	Light-brown clay and core, low-firing, white and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.23:6); Ein Hilu (Bar 2013: fig. 3.25:13); Shoham (North) (Commenge 2005: fig. 6.27:2); 'En Esur (Yannai *et al*. 2006: fig. 4.40:12);
11	Light orange clay, yellowish core, medium firing, black and grey grits	Shoham (North) (Commenge 2005: fig. 6.21:9);
12	Reddish-brown clay, grey core, low-firing, many white and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.23:7); 'En Esur (Yannai *et al*. 2006: fig. 4.30:2);

Supplementary table to Figure 11.

No.	Description	Parallels
1	Reddish-brown clay and core, good firing, red, white and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.24:1); Fazael 7 (Bar 2013: fig. 6.17:4); Fasa'el (Porath 1985: fig. 5:10); Teleilat Ghassul (Lovell 2001: fig. 4.43:2–5);
2	Reddish-brown clay and core, good firing, red, white and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.24:6); Fazael 7 (Bar 2013: fig. 6.17:2); Fasa'el (Porath 1985: fig. 5:12);
3	Light coarse clay, grey core, medium firing, white and grey grits	
4	Light clay and core, medium firing, black and grey grits. Incision decoration on body and handle	Fazael 2 Stratum 2 (Bar 2013: fig. 4.24:10–11); Shoham (North) (Commenge 2005: fig. 6.8);
5	Brown clay, grey core, low-firing, white and grey grits, rope ornamentation on outside	Fazael 2 Stratum 2 (Bar 2013: fig. 4.24:8);

Supplementary table to Figure 12.

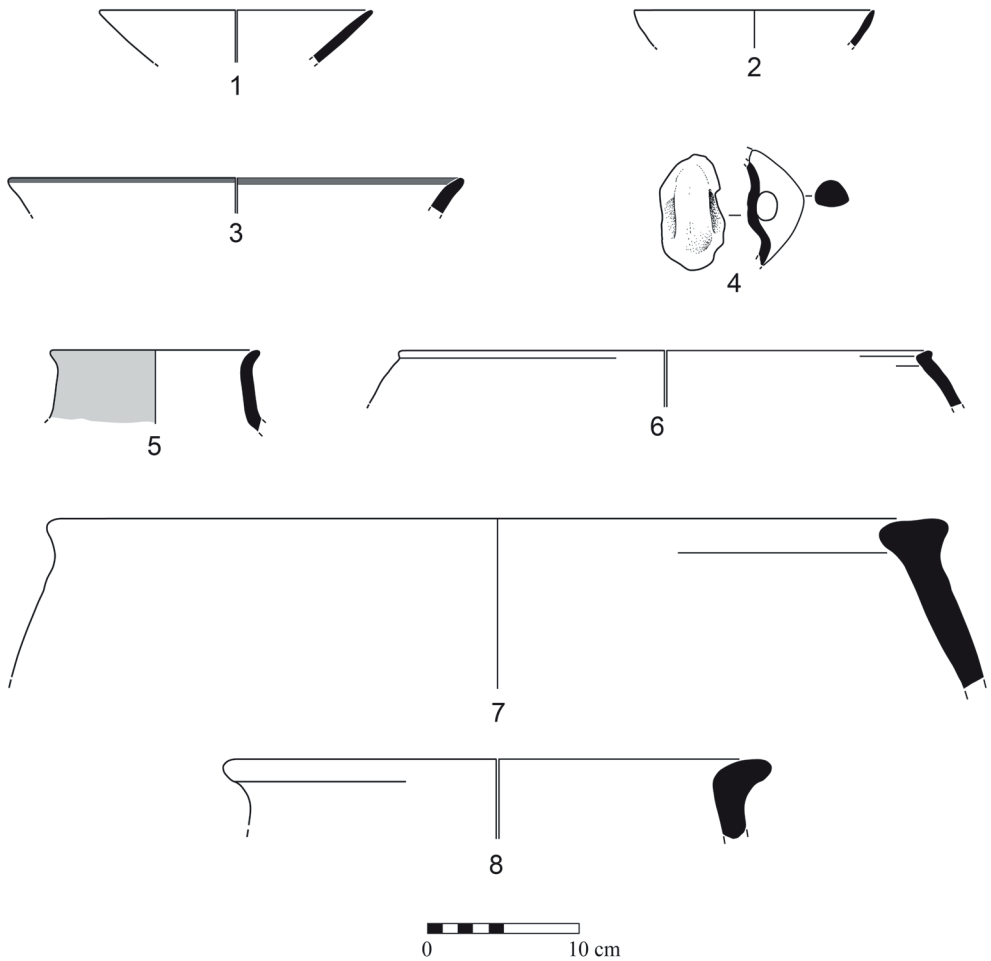

Figure 13. Stratum I: The ceramic assemblage.

No.	Description	Parallels
1	Reddish-brown clay, light core, good firing, red, white and grey grits	Ein Hilu (Bar 2013: fig. 3.23:1); Teleilat Ghassul (Lovell 2001: fig. 4.32:7);
2	Reddish-brown clay, light core, medium firing, white and grey grits	Fazael 2 Stratum 2 (Bar 2013: fig. 4.19:3); Ein Hilu (Bar 2013: fig. 3.23:13); Shoham (North) (Commenge 2005: fig. 6.3:6);
3	Light clay and core, medium firing, white and grey grits. Traces of dark red painting on rim (outside and inside)	Shoham (North) (Commenge 2005: fig. 6.12:3);
4	Light clay and core, medium firing, white and grey grits	Fazael 7 (Bar 2013: fig. 6.17:3);
5	Reddish clay and core, medium firing, red, white and grey grits. Red painting (outside)	Fasa'el (Porath 1985: fig. 5:5); Teleilat Ghassul (Lovell 2001: fig. 4.40:3);
6	Reddish-brown clay and core, low firing, white and grey grits	Ein Hilu (Bar 2013: fig. 3.23:10 - with a pie-crust rim);
7	Light-brown clay and core, good firing, many white and grey grits	En-Gedi (Ussishkin 1980: fig. 9:8); Fasa'el (Porath 1985: fig. 3:14); 'En Esur (Yannai *et al.* 2006: fig. 4.23:5);
8	Reddish-brown clay and core, medium firing, white and grey grits	Fasa'el (Porath 1985: fig. 4:2);

eight core tablets, seven overshots and two crested blades. More overshot flakes were identified, but they do not show clear evidence of core trimming. The 'varia' element of this category is a flake, the back of which shows dorsal scars perpendicular to the flake axis. This flake also has part of the striking platform missing.

Tools

The 77 tools (Table 4) found represent 29.9% of the assemblage. The tools are dominated by scrapers, which constitute 32.5% of the tool assemblage. The scrapers do not show any standardization as the retouch can be on one or two sides and/or on the edge (Fig. 14:8). One of the scrapers was made on a burin spall, but no burins were found. The second largest class of tools is denticulates and notches (20.8%; Fig. 14:6). The third major class is retouched flakes (15.5%). The retouched blades and other tools made on blade blanks (natural backed blades and backed blades) represent 15.6% of the assemblage. In addition to these, two truncations (Fig. 14:4), two bifacials (Fig. 14:9–10), two sickle blades (Fig. 14:2–3), five perforators (Fig. 14:5, 7), and one fan scraper (Fig. 14:11) are included in the tool assemblage. One of the bifacials is an adze, and the other one is broken; it is unclear whether it is an adze or an axe. One of the sickle blades is short and narrow, with a truncation on the distal end, and a broken proximal end. It has a retouched back and sheen on the right lateral edge. The second sickle blade is much larger, complete, with a truncation on the proximal end. It has regular retouch and sheen on both of its lateral edges. A fragment of a hammerstone was also found.

The flint assemblage – a discussion

The Fazael 5 assemblage shows frequencies of major categories of flint slightly different from other Chalcolithic sites, perhaps because of the small size of the sample. The percentages of cores and primary elements are quite low (3.1% and 8.0%, respectively) when compared for example to Fazael 2 (Bar 2014a: figs. 4.27–4.33 – 5.66% and 21.76%), 'En Esur (Yannai 2006: tables 5.1 and 5.10 – 9.89% and 17.20%), and Grar, (Gilead et al 1995: table 5.3 and 5.8 – 4.84% and 16.40%). On the other hand, the number of core trimming elements is quite high (7.0%, compared with 0.3% in Fazael 2 and 2.43% in Grar). The tool category is much more important (about 30%) than in other sites (between 15% and 20% in Fazael 2, 'En Esur and Grar). Conversely, the dominance of flakes in the debitage in Fazael 5 is clear, similar to the other Chalcolithic sites.

The types of tools found in both sites are similar, and match other Chalcolithic flint assemblages, but with a clear predominance of scrapers (only about 9% in Grar, 7% in 'En Esur, and 12% in Fazael 2). Conversely, similar to these sites, the denticulates/notches and retouched

Type/Stratum	Stratum I	%	Stratum II	%	Stratum III	%
Flakes	16	27.6	99	38.5	5	45.5
Blades	8	13.8	34	13.2		
Bladelets	1	1.7	1	0.4		
Primary flakes	4	6.9	20	7.5		
Primary blades	3	5.2	1	0.4		
CTE	4	6.9	18	7.0	1	9.1
Cores	3	5.2	8	3.1		
Tools	19	32.7	77	29.9	5	45.5
Sub-total	**58**	**100.0**	**258**	**100.0**	**11**	
Chunks	4		31		1	
Chips			5			
Total	**62**		**294**		**12**	

Table 2. General breakdown of the flint assemblage of Fazael 5.

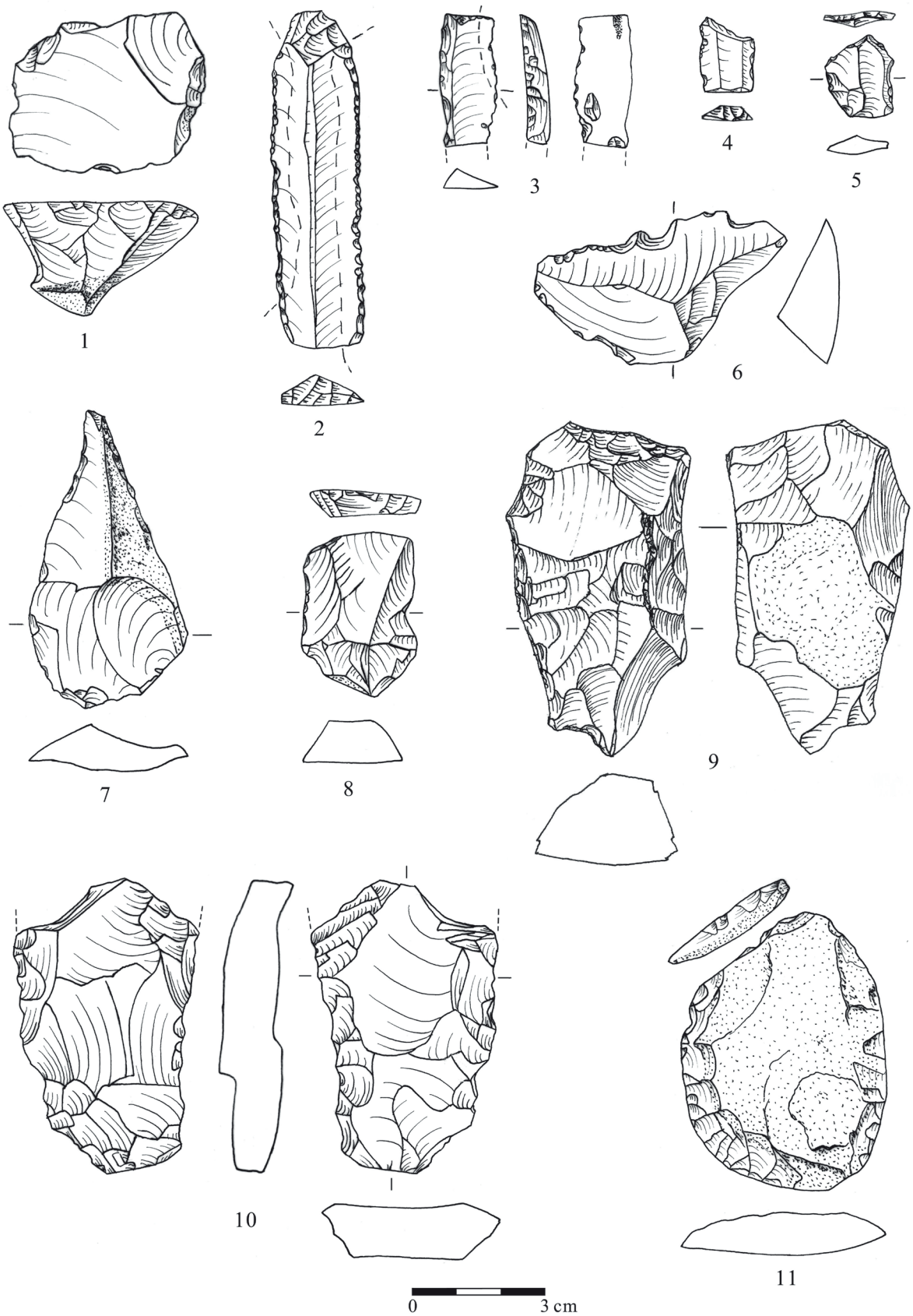

Figure 14. The flint assemblage: 1) core; 2, 3) sickle blades; 4) truncation; 5) perforator; 6) denticulate; 7) perforator; 8) scraper; 9, 10) bifacials; 11) fan scraper.

flakes also dominate the assemblage. It is interesting that only two bifacials were found. In Fazael 2 the published assemblage is at least six times larger and also very few bifacials were found, despite the fact that celts are a characteristic tool type in Chalcolithic assemblages (the same remark applies to Fazael 7). We tend to think that there is a link between the low frequency of celts and the possible fact that the assemblage belongs to a late phase in the Chalcolithic period, but we have to finish the processing of the Fazael flint assemblages in order to verify this link. Nothing can yet be added to the discussion of the types of sickle blades in Fazael because, although one of the sickle blades found in Fazael 5 is typical Chalcolithic, the other one could be either Chalcolithic, or made by the 'Canaanean' technique.

CTE	Stratum II	%
Core tablets	8	44.4
Overshots	7	38.9
Crested blades	2	11.1
Varia	1	5.6
Total	**18**	**100.0**

Table 3. General breakdown of the core trimming element assemblage from Stratum II.

We can conclude that Fazael 5 shows characteristics of a typical late Chalcolithic assemblage. The size of the assemblage is too small to draw additional conclusions, and further analysis is required to validate the information presented here.

THE GROUNDSTONE TOOL ASSEMBLAGE (H.C.K.)

The groundstone tool assemblage of Fazael 5 comprises only eight items, found mostly in fills inside the rooms of the broad house. Therefore, items were most probably not found in their primary deposition. The provenance of the items is described in Tables 5 and 6.

Raw materials were recognized to the general rock type by up to ×100 magnification, and by using HCl acid diluted 1:6. The raw materials seen in the site fit well within the range of raw materials found in the nearby Fazael 2 and Fazael 7 sites, but are seemingly slightly different from those found in Fazael 1 (Bar *et al*. 2014). The raw materials include the local limestone, hard chalk, brecciated *Mishash* flint, the non-local dense basalt, and purple sandstone. The assignment of raw materials to specific tool types also fits well with Fazael 2 and Fazael 7.

The methodology used here is described elsewhere (Cohen-Klonymus 2014). Items were checked by attribute

Tool type	Stratum I	%	Stratum II	%	Stratum III	%
Retouched flakes	2	10.5	12	15.5		
Retouched blades	3	15.8	6	7.8		
Natural backed blades	1	5.3	2	2.6		
Backed blades			4	5.2		
Scrapers	9	47.3	25	32.5	3	60.0
Fan scrapers			1	1.3		
Perforators	2	10.5	5	6.5	2	40.0
Bifacials			2	2.6		
Sickle blades			2	2.6		
Truncations	1	5.3	2	2.6		
Denticulates and notches	1	5.3	16	20.8		
Total	**19**	**100.0**	**77**	**100.0**	**5**	**100.0**

Table 4. General breakdown of the tool assemblage of Fazael 5.

analysis, including use-wear, level of wear, and secondary use similar to Adams (2002) and Adams *et al*. (2009). Items were classified by attribute analysis, considering item function as seen by use signs (pounding, crushing, abrasion, polishing or no use signs), wear patterns (for example, concavity versus convexity of loaf-shaped grinding stones), shape and section of the use surface (for example, as seen in the difference between grinding slabs and grinding querns), and specific type characteristics (for items showing no use signs, such as beads and spindle whorls).

Description of the assemblage

A half of a broken saddle-shaped lower grinding stone made of purple sandstone (Tables 5 and 6: Item 1, Fig. 15:2) was found in the fill above the southern cell. The use surface is concave on its length and slightly convex on its width, showing abrasive wear and re-roughening by pecking. Another small fragment of a flat lower grinding tool is made of dense basalt with very slight porosity (Tables 5 and 6: Item 2, Fig. 15:3). Several grinding tools made of purple sandstone, as well as other sandstone types were found in Fazael 2 and Fazael 7, but not in Fazael 1. The origin of item 1 is suspected to be in a large exposure noticed in Wadi Malih, about 30 km north of the site, although so far no identical durable sandstone specimen has been found in this exposure. A large basalt exposure is known in the same wadi, near Ein Hilu (Sneh *et al.* 1998). Lower grinding stones of similar shape were not found in the Fazael sites, but do appear in other proto-historic sites (Rosenberg 2011; Wright 1992:63).

The only upper grinding tool found so far is a semi-loaf-shaped two-handed grinding stone made of brecciated flint, which is not the local *Mishash* flint (Tables 5 and 6: Item 3, Fig. 15:4). This item's use surface is slightly convex on both its length and width, with polishing on its perimeter, and smoothness and re-roughening by pecking on the rest of the use surface. This item is quite similar in shape to other two-handed grinding stones found in Fazael 2, but it is made of a more durable raw material. The use of flint is not common for large grinding tools in the Chalcolithic period in general, and has been found only in one lower grinding stone found in Fazael 2. Its use wear shows it was probably not wider than the lower stone on which it was used, hinting at a large grinding slab, probably similar to those found in Fazael 2 (Cohen-Klonymus and Bar forthcoming).

One large fragment of a hard chalk mortar was found (Tables 5 and 6: Item 4, Fig. 15:1). The item had a deep basin and walls up to 5 cm thick. The internal bottom

#	Tool type	Locus (Stratum)	Context	Raw material	Measurements length × width × height (weight)*	Diameter (depth)*
1	Lower grinding stone	31 (II)	Fill in the southern cell	Sandstone - purple	~16×15.5×5.5 (~1713.3)	(~1)
2	Lower grinding tool	26 (I/II)	Topsoil	Basalt - slightly porous	~8.7×~7.9×~2.3 (~305.7)	
3	Two-handed grinding stone	17 (II)	Fill in the northern room	Flint - brecciated	15.5×25.5×6.8 (3244)	
4	Bowl mortar	6 (II)	Fill in the northern room	Chalk - hard	~15.5×~9.5×~12.5 (~1357.5)	~9.5 (~8.5)
5	Pestle	15 (I/II)	Fill in the northern room	Basalt - dense	10.3×6.8×5.3 (~478.8)	
6	Hammerstone	6 (II)	Fill in the northern room	Flint - *Mishash*	8×7.8×~6.3 (~552.9)	
7	Suspended weight	18 (I?)	Pit full of ceramics	Limestone - hard	6.8×~4.6×2.5 (~75.2)	2.4 (2.5)
8	Unused drill capstone	6 (II)	Fill in the northern room	Limestone - river pebble	~8×~4.3×3.9 (~154.7)	3.8 (1)

Table 5. Stone items: Context, raw material and dimensions.
* Measurements in centimetres, weight in grams. Measurements of broken items appear with "~".

surface is uneven, showing some inner depression caused by use, as seen by signs of abrasion and pounding. Similar mortars are very common in Fazael 7, and were found in Fazael 2 (Cohen-Klonymus and Bar forthcoming).

A dense basalt pestle was found in a nearby location, but it possibly relates to a later stratum (Tables 5 and 6: Item 5, Fig. 15:5). The pestle is quite short and cylindrical, with a widening of its lower end. The wide end shows slight side chipping, battering signs and abrasion. This end was damaged after its discard, as is seen in the different patina and undirected blows causing the chipping damage. The opposite narrow end of the pestle was lightly used, showing signs of battering and abrasion. Dense basalt pestles are known from Fazael 1 and Fazael 2, but these are cylindrical without widening of the head, and they show different use by heavy battering and chipping (Bar

#	Tool Type	Condition*	Exterior morphology**	Exterior section**	Outside finishing	Use surface section***	Use wear signs	Notes
1	Lower grinding stone	Broken	Unidentified (rounded?)	Half-elliptical	Chipped and pecked	Concave	Abrasion-heavy wear	Moderately designed.
2	Lower grinding tool	Fragment	Broken	Broken	Abraded	Flat	Abrasion	Use wear does not go over the edges.
3	Two-handed grinding stone	Chipping of edges	Tear drop shape	Half-round	Chipped and pecked	Convex	Abrasion-heavy wear	Moderately designed.
4	Bowl mortar	Fragment	Unidentified (rounded?)	Flat with convex sides	Pecked and abraded	Deep	Pounding & abrasion-heavy wear	Inner diameter ca. 14 cm. Moderately designed.
5	Pestle	Chipping of edges	Cylindrical	Round	Abraded	Convex	Pounding & abrasion-moderate wear	Opposed use surface with light battering signs. Highly designed.
6	Hammerstone	Chipping of the use surface	Ball shape	Round	Pecked and abraded	Convex	Pounding-nearly worn out	Well-made ball shape, moderately designed.
7	Suspended weight	Broken	Unidentified (rounded?)	Elliptical	Smoothed	Hole	No wear	Donut shaped, highly designed.
8	Unused drill capstone	Broken	Unidentified (rounded?)	Elliptical	Pecked and abraded	Deep	No wear?	Small cupmarks on both sides, simply designed.

Table 6. Stone items: Morphology, use wear, preservation, and general notes.

* 'Broken' is used for items broken along either width or length. 'Fragment' is used for items broken along both width and length.

** 'Half-round/oval/elliptical' is used for plano-convex section, while 'half-round' is thicker than 'half-oval' and 'half elliptical' sections (thickness to half the width ratio of 1 to 1–1.2, 1 to 1.2–2, or 1 to 2–3 respectively). U-shaped is used for plano-convex items with round base and flat sides.

*** Surface section is used, regardless of item's exterior morphology. 'Concave' is used for items with concavity along length or width only. 'Sunken'/'Deep' is used for items concave along both length and width of the use surface, creating a shallow basin or a deep basin if basin depth to basin diameter ratio is more than 1:4.

et al. 2013: fig. 11:8–9; Bar *et al*. 2014: fig. 22:5).

Another upper pounding tool is a well-made flint spheroid (Tables 5 and 6: Item 6, Fig. 15:6), showing only one badly chipped use surface. Similar flint spheroids were found in Fazael 2 and Fazael 7, and are common in proto-historical sites and in other regions (Rosen 1997:101; Rowan 2006:214).

A broken doughnut-shaped suspended weight was found in a Stratum I pit (Tables 5 and 6: Item 7, Fig. 15:8). It is pierced approximately in its middle, but seems to be too large and heavy (more than150 g) to be used as a spindle whorl (and see Rowan *et al.* 2006:592–594). The hole is biconical, but it was not drilled. Striations and scratches appear on both its sides from the rim down. These do not seem to be string marks, and are similar to Item 8 (Tables 5 and 6; Fig. 15:7), which is a slightly altered small limestone river rock with two opposed cup marks on its wide surfaces. The cup marks show slight pecking and scratches from the rim down, and no signs of drilling or abrasion. Its use is unclear, and it could probably be seen as an unfinished suspended weight or an unused driller capstone. Similar striations and scratches from the rim down appear on several pierced and unpierced or small cupmark items found in Fazael 2 (Cohen-Klonymus and Bar forthcoming).

The groundstone tools assemblage – discussion

The ground-stone tool assemblage of Fazael 5 can fit well within the assemblage of Fazael 2. Raw materials, technology of design, shapes, and item use are similar to those seen in Fazael 2 (Cohen-Klonymus and Bar forthcoming), and are different from what is known from Fazael 1 (Bar *et al*. 2014:192–198), and Ein Hilu (Bar *et al*. 2008:208–214). No item showed secondary use, and

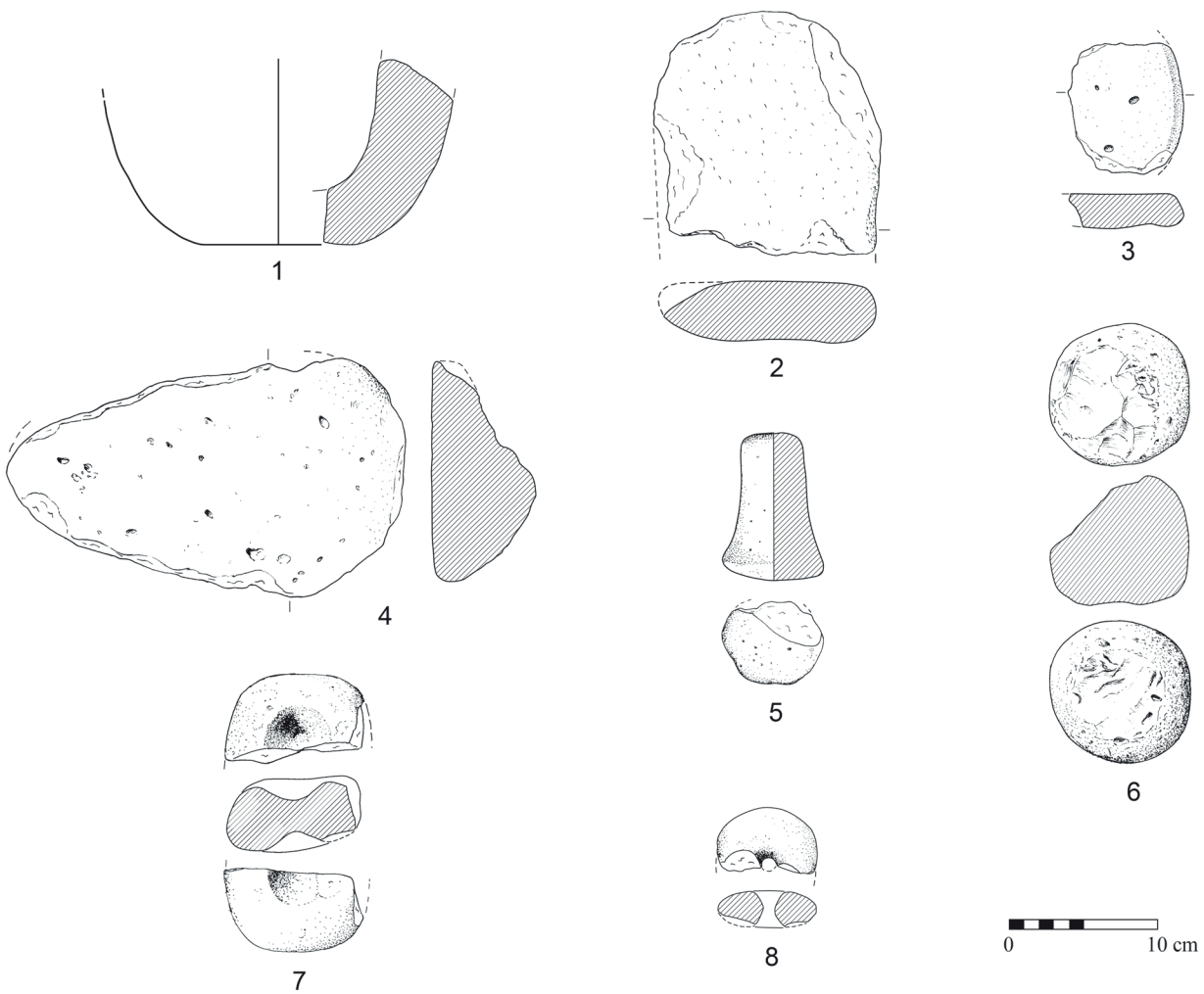

Figure 15. The groundstone tool assemblage.

items include simple to high levels of design. However, the assemblage of Fazael 5 is very small, and gives only a preliminary glimpse of the stone tools of the site. Another point is that unlike Fazael 2, in which basalt vessels are very common, no such items have been found so far in Fazael 5, but this could be due to the small scale of the excavation.

THE FAUNAL REMAINS (G. B-O.)

The small assemblage of Fazael 5 does not allow meaningful analysis of the faunal spectrum represented at the site. The assemblage comprises 12 identified specimens. All are of livestock animals: three cattle and nine sheep/goat. The distribution of identified bones according to locus is shown in Table 7.

The bones are highly fragmented, and usually comprise only long bone shaft fragments. In addition, the bones are highly weathered, probably due to long exposure to atmospheric conditions following their discard at the site. Further evidence of post-deposition bone attrition is attested by the relatively high degree of carnivore damage. At least three sheep/goat specimens (distal ulna, distal calcaneus and scapula glenoid fossa) bear evidence of carnivore chewing and tooth puncture. It seems reasonable to assume that dogs were the main agent.

Due to the poor bone preservation and high rate of fragmentation the taxonomy of the bones is quite limited. In addition, the small sample size prevents us from applying contextual analysis of the finds in relation to the excavated matrix and its architecture. Still, it appears that the bone assemblage probably represents consumption debris, as both rich and poor-meat bone parts were discarded.

The limited assemblage allows some additional observations. Tooth wear shows that both the cattle and the sheep/goat were young individuals. They include a third molar mandible of cattle with little wear (Stage 5 of Grant 1982 wearing scheme) and a deciduous tooth of a sheep/goat with little wear (Stage 4 of Grant 1982 wearing scheme). In addition, we found a single humerus of a sheep/goat neonate (identified using Amorosi 1989). These observations suggest that some culling of livestock was carried out in their juvenile years. Culling of young livestock could indicate a specialized herding economy where animals (mainly males) were slaughtered at a young age when they reached optimal meat off-take (Marom and Bar-Oz 2009; Payne 1973).

This small assemblage can be combined with the larger Chalcolithic assemblages already published from the excavations in the Fazael Valley (Bar *et al*. 2013; 2014) and the Jordan Valley (Bar 2014a; Bar *et al*. 2008). The high percentage of sheep and goats in all these sites attests to rural communities engaged in herding as part of their subsistence economy. The presence of cattle in all the sites indicates that this area could have been a rich pasture land. The location of the Fazael sites in a micro-

Locus	L/R	Bone	Part	Species	%	Note
5	L	Tooth: M3	Mandible	*Bos* sp.		Little wear (Stage 5)
9	R	Ulna	Distal	*Capra/Ovis*	25	Carnivore chewing
9		Metacapus	Proximal	*Capra/Ovis*	40	-
9	R	Calcaneus	Distal	*Capra/Ovis*	40	Carnivore chewing
9		Metacapus	Proximal	*Bos* sp.	30	-
31	L	Calcaneus	Distal	*Capra/Ovis*	50	Unfused
25	L	Scapula	Glenoid-fossa	*Capra/Ovis*	50	Carnivore chewing
30	L	Tooth: dP4	MAN	*Capra/Ovis*		Little wear (Stage 4)
22		Metatarsus	Proximal	Capra/Ovis	40	-
22		Humerus	Medial-shaft	*Capra/Ovis*	30	Neonate
17		Mandible	Fragment	*Bos* sp.	20	Anterior part
17		Phalanx 1	Complete	*Capra/Ovis*	80	-

Table 7. Bone inventory.

region consisting of rich pasture areas and alluvial fans could have supported a stable population, parts of which were involved in herding. This observation suggests some possible vertical transhumance along diverse ecological regions, mainly between the hills of Samaria and the Jordan Valley. The presence of pigs (Bar 2014: figs 2.4, 2.6) in some of the nearby Chalcolithic sites indicates that their landscape organization was not highly mobile.

DISCUSSION (S.B. and G.S.)

Fazael 5 is situated in the middle of the Chalcolithic settlements in Wadi Fazael. Other reports (Bar 2013, 2014a, 2014b; Bar *et al*. 2013) have shown that the majority of sites in this cluster (Fazael 2, 7, and the Porath 1985 excavation) should be attributed to the final phases of the Ghassulian Chalcolithic or, less probably, to a post-Ghassulian entity. Major characteristics of the architecture and material remains of these sites include very large courtyard houses, each up to 1,500 sq. m in area (Bar 2014b); absence of some noticeable attributions of Ghassulian Chalcolithic culture in the ceramic assemblage, mainly churns and cornets; the appearance of the Canaanean blade industry (Bar 2013: fig. 6.20; Bar and Winter 2010); and the almost complete lack of bifacial tools in the flint assemblage.

Excavations in Fazael 5 show some similar traits with this cultural uniqueness, suggesting that this site is part of the large Late Chalcolithic site on the Fazael Valley flood plain (see additional information in Bar 2014b). The architecture noted in the survey and further exposed in the excavation is similar to the large courtyard houses in nearby sites, as evidenced by wall thickness, masonry and area of dwellings (for further discussion see Bar 2014a:74–81). The pottery assemblage of Stratum II has many parallels in the other sites of this cluster including uncommon types such as the Chalcolithic ledge handle. The flint assemblage is typically Late Chalcolithic, but the question of the Canaanean industry cannot yet be answered due to the very limited extent of the dig.

The site has three strata. While the attribution of the main Stratum II to the later phases of the Late Chalcolithic period is discussed above, we should address the situation of the more problematic Strata I and III.

Stratum I consists of two pits cutting most of the eastern part of the Stratum II building. The finds in these pits are very similar to the Stratum II assemblages, and therefore suggest that the pits were dug very close to the abandonment of the Stratum II building. Another option is that the pits were dug much later, but the diggers left no datable remains to suggest a date for this activity. In this case the finds from the pits were Stratum II materials that were removed from their original context during the digging of the pits.

Stratum III was discovered in two trenches below the foundations of the Stratum II building. Pottery dated to the Chalcolithic period was found, but there were no architectural remains, apart from ash pit L23. It seems that there was some activity here before the construction of the Stratum II broad room. Based on the available data we cannot suggest the duration and extent of this activity, but it is very interesting to note that the same pre-construction phase also appears in the excavated sites of Fazael 2 (Stratum III, Bar *et al*. 2013) and Fazael 7 (Stratum III). This means that in all the Late Chalcolithic sites we excavated, there is an early stratum that pre-dates the construction of the large courtyard house. In the more extensively researched sites of Fazael 2 and 7 these strata, found on the surface of a thick conglomerate layer (probably an ancient river bank), were very rich in finds, including complete vessels and copper artefacts. At neither site was architecture found (but at Fazael 2 pits were dug into the conglomerate surface). It is possible that the same pre-construction phenomena also appeared at Fazael 5.

An architectural feature worth noting is the widespread use of corner installations, a phenomenon characteristic of the Fazael Chalcolithic sites. These installations (*e.g.* at Fazael 5, Fig. 7: Locus 47; at Fazael 2 Stratum II, Bar 2013: fig 4.6: Locus 151; at Fazael 7 Stratum II, Bar 2013: fig. 6.4: Locus 44; and at Fazael 1 Stratum I, Bar *et al*. 2014: fig. 3: Locus 29) are built of one row of medium-sized stones abutting the walls in one of the corners of a broadroom. The thickness of the walls varies between 30 and 45 cm, and most of the walls are only one stone high. The floors of the installations are usually of beaten earth, but less frequently a surface of small stone slabs is found. Finds in these installations are always sparse and not *in situ*. We do not know what these installations were used for. Similar installations are found throughout the region. They are usually rounded in the Jordan Valley in sites such as Teleilat Ghassul (Mallon *et al.* 1934: fig. 12), or Tel Kitan (Eisenberg 1993), and tend to become

more rectangular to the north at sites such as Tel Te'o (Eisenberg *et al.* 2001: figs. 3.24, 3.8) and the Golan sites (Epstein 1998: figs. 40, 80, 82).

Further research at the site and its surroundings will be important for the better understanding of some of the issues presented in this article, and will illuminate our knowledge of some key aspects regarding chronologies, architecture, material culture, and settlement layouts during the later phases of the Chalcolithic period in the southern Levant.

REFERENCES

Adams J.L. 2002. *Ground Stone Analysis: A Technological Approach*. Salt Lake City: University of Utah Press.

Adams J.L., Delgado S., Dubreuil C., Hamon H., Plisson H. and Risch R. 2009. Functional analysis of macro-lithic artefacts: A focus on working surfaces. In: Sternke F., Eigeland L. and Costa L.J. (eds.), *Non-Flint Raw Material Use in Prehistory: Old Prejudices and New Directions*, pp. 43–66. Oxford: Archaeopress.

Amorosi T. 1989. *A Postcranial Guide to Domestic Neo-Natal and Juvenile Mammals – The Identification and Aging of Old World Species*. Oxford: Archaeopress.

Bar S. 2008. *The Pattern of Settlement in the Lower Jordan Valley and the Desert Fringes of Samaria During the Late Chalcolithic Period and Early Bronze Age I*. Unpublished Ph.D. Dissertation. University of Haifa, Haifa (Hebrew).

Bar S. 2013. *Yogvim VeNokdim I*. Haifa: Seker (Hebrew).

Bar S. 2014a. *The Dawn of the Bronze Age.* Boston and Leiden: Brill.

Bar S. 2014b. A new settlement pattern of the Chalcolithic village: The view from the Fazael valley, Israel. *Judea and Samaria Research Studies* 23: 87–98.

Bar S. and Winter H. 2010. Canaanean flint blades in Chalcolithic context and the possible onset of the transition to the Early Bronze Age: A case study from Fazael 2. *Tel Aviv* 37(1): 33–47.

Bar S., Bar Oz G., Boaretto E., Cohen O., Dan E., Raban-Gerstel N., Rosenberg D. and Winter H. 2008. Ein Hilu – A Chalcolithic site on the desert fringes of Samaria. *Journal of the Israel Prehistoric Society* 38: 153–228.

Bar S., Bar Oz G., Ben-Yosef D., Boaretto E., Raban-Gerstel N. and Winter H. 2013. Fazael 2, one of the latest Chalcolithic sites in the Jordan Valley? Report of the 2007-2008 excavation seasons. *Journal of the Israel Prehistoric Society* 43: 148–185.

Bar S., Bar Oz G., Cohen-Klonymus H. and Pinsky S. 2014. Fazael 1, a Chalcolithic site in the Jordan Valley: Report of the 2013-2014 excavation seasons. *Journal of the Israel Prehistoric Society* 44: 180–201.

Cohen-Klonymus H. 2014. *The Iron Age Groundstone Tools Assemblage of Khirbet Qeiyafa: Typology, Spatial Analysis and Sociological Aspects*. Unpublished M.A. Thesis, The Hebrew University of Jerusalem

Cohen-Klonymus H. and Bar S. forthcoming. Groundstone tool assemblages at the end of the Chalcolithic period - A preliminary analysis of the Late Chalcolithic sites in the Fazael Valley. Submitted to *Journal of Lithic Studies*.

Commenge C. 2005. The Late Chalcolithic pottery. In: Brink C.M.E. van den and Gophna R. (eds.), *Shoham (North): Late Chalcolithic Burial Caves in the Lod Valley, Israel*, pp. 51–98. Jerusalem: Israel Antiquities Authority.

Eisenberg E. 1993. Kitan, Tel. In: Stern E. (ed.), *New Encyclopaedia of Archaeological Excavations in the Holy Land*, pp. 878–881. Jerusalem: Israel Exploration Society.

Eisenberg E., Gopher A. and Greenberg R. 2001. *Tel Te'o – A Neolithic, Chalcolithic and Early Bronze Age Site in the Hula Valley*. Jerusalem: Israel Antiquities Authority.

Epstein C. 1998. *The Chalcolithic Culture of the Golan*. Jerusalem: Israel Antiquities Authority.

Gilead I., Hershman D. and Marder O. 1995. The flint assemblages from Grar. In: Gilead I. (ed.), *Grar:A Chalcolithic Site in the Northern Negev*, pp. 223–280. Beer-Sheva: Ben-Gurion University of the Negev Press.

Glueck N. 1951. *Exploration in Eastern Palestine IV (Part I: Text)*. American Association of Oriental Research 25–28. New Haven.

Grant A. 1982. The use of tooth wear as a guide to the age of domestic ungulates, In: Wilson B., Grigson C. and Payne S. (eds.), *Ageing and Sexing Animal Bones from Archaeological Sites*, pp. 91–108. Oxford: BAR.

Lovell J.L. 2001. *The Late Neolithic and Chalcolithic Periods in the Southern Levant: New Data from the Site of Teleilat Ghassul, Jordan* (BAR International Series 974). Oxford.

Mallon A., Koeppel R. and Neuville R. 1934. *Teleilat Ghassul*. Rome: L'Institut biblique pontifical.

Marom N. and Bar-Oz G. 2009. Culling profiles: the indeterminacy of archaeozoological data to survivorship curve modelling of sheep and goat herd maintenance strategies. *Journal of Archaeological Science* 36: 1184–1187.

Payne S. 1973. Kill-off patterns in sheep and goats: The mandibles from Asvan Kale. *Anatolian Studies* 23: 281–303.

Peleg Y. 2000. Fasa'el (north). *Hadashot Archaeologiot* 112: 67–68 (Hebrew).

Porath Y.1985. A Chalcolithic building at Fasa'el. *'Atiqot* 17: 1–19.

Rosen S.A. 1997. *Lithics after the Stone Age: A Handbook of Stone Tools from the Levant*. Walnut Creek, CA: Alta Mira Press.

Rosenberg D. 2011. *Development, Continuity and Change: The Stone Industries ofthe Early Ceramic Bearing Cultures of the Southern Levant*. Unpublished Ph.D. Dissertation. University of Haifa, Haifa (Hebrew with English summary).

Rowan Y.M. 2006. The groundstone assemblages. In: Yannai E. (ed.),*'En Esur ('Ein Asawir) I, Excavations at a Protohistoric Site in the Coastal Plain of Israel*, (IAA 31), pp. 211–250. Jerusalem: Israel Antiquities Authority.

Rowan Y.M., Levy T.E., Alon D. and Goren Y. 2006. Gilat's ground stone assemblage: Stone fenestrated stands, bowls, palettes and related artifacts. In: Levy T. E. (ed.), *Archaeology, Anthropology and Cult: The Sanctuary at Gilat*, pp. 575–684. London: Equinox.

Sneh A., Bartov Y., Weissbrod T. and Rosensaft M. 1998. *Geological Map of Israel, 1:200,000*. Jerusalem: Israel Geological Survey.

Ussishkin D. 1980. The Ghassulian shrine at En-Gedi. *Tel Aviv* 7: 1–44.

Wright K.I. 1992. A classification system for groundstone tools from the prehistoric Levant. *Paléorient* 18 (2): 53–81.

Yannai E. 2006. *'En Esur ('Ein Asawir) I, Excavations at a Protohistoric Site in the Coastal Plain of Israel*, (IAA 31). Jerusalem: Israel Antiquities Authority.

Yannai E., Lazar-Shorer D. and Grosinger Z. 2006. Chapter 4: The pottery assemblages. In: Yannai E. (ed.), *'En Esur ('Ein Asawir) I, Excavations at a Protohistoric Site in the Coastal Plain of Israel*, (IAA 31), pp. 63–178. Jerusalem: Israel Antiquities Authority.

Zertal A. 2012. *The Manasseh Hill Country Survey – Volume 5*. Haifa: Seker (Hebrew).