/ El-Hamam Cave: A New Natufian Site in the Samaria Hills
מערת אל-חמאם: אתר נטופי חדש בהר שומרון

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El-Hamam Cave: A New Natufian Site in the Samaria Hills

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In memory of Yuval Peleg, who initiated the el-Hamam research project.

ABSTRACT

The Late Epipaleolithic Natufian Culture was initially identified in Dorothy Garrod's excavation at Shuqba Cave (Wadi en-Natuf) in the Samarian Hills, but later research focused on the Mt. Carmel, the Galilee and the Negev regions, leaving the Natufian of the Central Highlands of the southern Levant relatively unknown. We report the recent discovery of a Natufian occurrence in a partly collapsed cave chamber in el-Hamam Cave in the Samaria Hills. The lithic assemblage assigns the site to the Late Natufian, with the possibility of occupation also during the Early Natufian. The faunal assemblage is small but diverse, indicating gazelle as the primary hunted animal. In spite of the limited scope of fieldwork, the site exhibits several landmark Natufian characteristics, including a large lithic assemblage with high diversity of tools, a bedrock mortar, typical faunal remains and groundstone implements. These traits indicate cultural complexity during the varied and prolonged use of the site (possibly multi-period occupation), reminiscent of the better-known Natufian camps in other parts of the Levant.

KEYWORDS: Natufian, Samaria Hills, Lunates, Microburin technique

INTRODUCTION

The Late Epipaleolithic Natufian culture was initially identified in Dorothy Garrod's excavation at Shuqba Cave (Wadi en-Natuf) in the Samaria Hills (Garrod 1942, 1957), while other Natufian sites were later explored by Neuville in the Judean Desert (Neuville 1951). However, the focus of research quickly shifted to the Carmel-Galilee regions and later to the Negev and the Jordan Valley (*e.g.* Belfer-Cohen and Bar-Yosef 2012; Garrod and Bate 1937; Goring-Morris 1980, 1987; Grosman *et al.*1999; Marks 1977; Perrot 1966; Valla 1984; Weinstein-Evron *et al.* 2013). The Natufian of the central highlands of the southern Levant remained relatively unknown. Even today, after almost 100 years of research, it is not clear how sparsely or densely the Samaria and Judean Hills were inhabited by these complex and semi-sedentary foragers, and how their subsistence and way of life differed from that of the rich basecamps and specialized sites in the Carmel-Galilee "Core area". The recent discovery of a Natufian occurrence in el-Hamam Cave in the Samaria

Hills is reported here along with accounts of the finds, in order to shed new light on the Natufian phenomenon in this relatively understudied region.

THE CAVE

El-Hamam Cave (مغارة الحمام) (206605/672715 ITM) is a hypogenic cave located on the northern bank of Nahal Qanah (Wadi Ar'ur), 1.5 km south of Ma'ale Shomron and a similar distance east of Kafar Thulth, facing the junction point with Wadi 'Abu 'Ammar (Fig. 1). The cave was first reported by the Israel Cave Research Center (Cohen 1982) and was resurveyed by A. Amihai in 2007 on behalf of the Israel Nature and Parks Authority as part of a systematic cave survey along Nahal Qanah. Archaeological remains were first discovered in 2005, when a few days of archaeological survey were conducted by the Archaeological Staff Officer team at the site. In 2015 the cave was surveyed again and mapped by the Israel Cave Research Center.

An additional cave, named el-Jam'al (الجمال) and situated 15 m higher, is characterized by a small terrace and an arched entrance with a relatively large chamber (Fig. 2). The entrance size is 3×2 m and it is located in the front of the main chamber and on the top of the cliff edge. On the front of Jamal Cave a number of flint artifacts including a Jericho type point were collected. Thus far it seems that for Jamal Cave, prehistoric finds are restricted to the entrance zone.

Bedrock at el-Hamam Cave is massive dolomite of the late Cenomanian Weradim Formation. The cave is situated in a moderate hill slope ~200 m asl, some 75 m above the wadi bed and 30 m below the hilltop (Fig. 2). El-Hamam Cave consists of southern and northern chambers, which are separated by large boulders (Fig. 3). In front of the northern chamber a wide terrace wall, 17 m long can be seen, located some 5 m beyond the cave's drip-line (Figs. 3, 4). It seems that this wall was built as part of 19–20th century agricultural or shepherds' activities. The chambers' front is collapsed but it seems that in the past both chambers shared the same drip line, which formed a very large entrance. The northern chamber was partially preserved forming a deep rock-shelter, while the ceiling of the southern chamber had totally collapsed with large bedrock debris blocking and filling the original chamber. The northern, main chamber is ~18×17.5 m in

Figure 1. Location map showing el-Hamam Cave and other Natufian sites in the southern Levant (after Marder *et al.* 2007).

size and 6–8 m high. In its interior parts there is a wide niche located on a higher shelf, slightly above the main chamber (Figs. 4, 5). In the northern wall an additional small isolated chamber is found which is connected to the main chamber by a narrow passage (Fig. 4). The cave's main chamber is partly covered by massive boulders and a few speleothems. Between them pockets of sediments, containing archaeological remains, are found. On one of the massive limestone boulders a bedrock mortar, 12 cm in diameter and *ca.* 20 cm deep was hewn (Figs. 4, 6). The time of the collapse in the northern chamber is unclear. On the one hand, several massive boulders overlay the archaeological sediment, indicating that they fell after the Natufian occupation. On the other hand, assuming that the bedrock mortar is Natufian, it was hewn into a limestone boulder, suggesting that some of the boulders

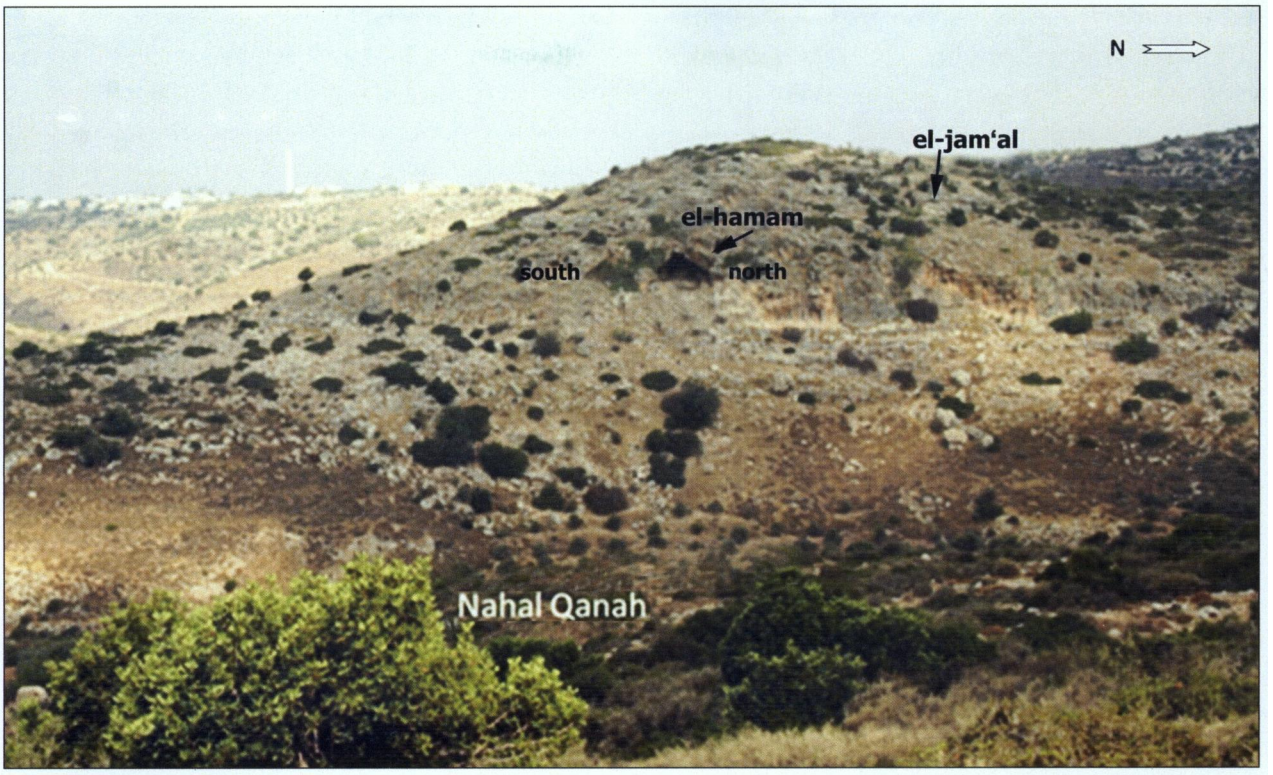

Figure 2. El-Hamam and el-Jam'al Caves, a view to the west. Note the northern and the collapsed southern chambers.

Figure 3. General view of the cave, looking north-west.

were deposited prior to the Natufian occupation.

The archaeological remains were found exposed in close proximity to the surface, with no indication of an overburden layer such as goat dung. The Natufian remains were exposed only in the northern chamber of the cave and archaeological materials were collected from two arbitrary squares (Fig. 4). Square A was opened west of the bedrock mortar and Square B was located about five meters to the north east of it, in front of the narrow passage (Fig.4). In both squares the finds were probably not found *in situ* as they were unearthed at a depth of 10–15 cm below the present day surface. All the sediments from the excavated squares were sieved using a 2 mm mesh, yielding rich finds. The soil in Square A was loose light grey-brown in color and contained numerous debitage items but only few animal bones. In contrast, in Square B the exposed

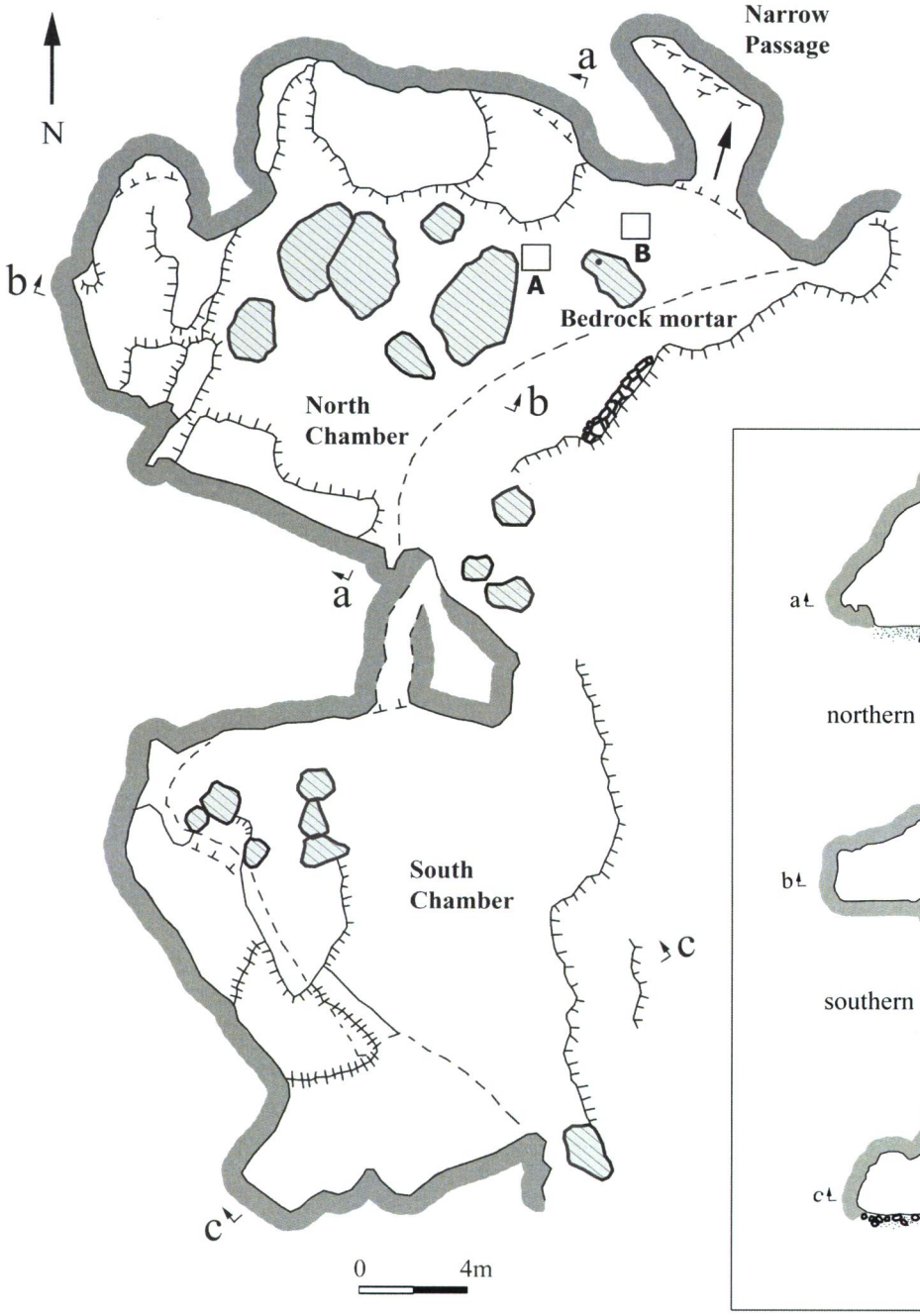

Figure 4. Plan of the site.

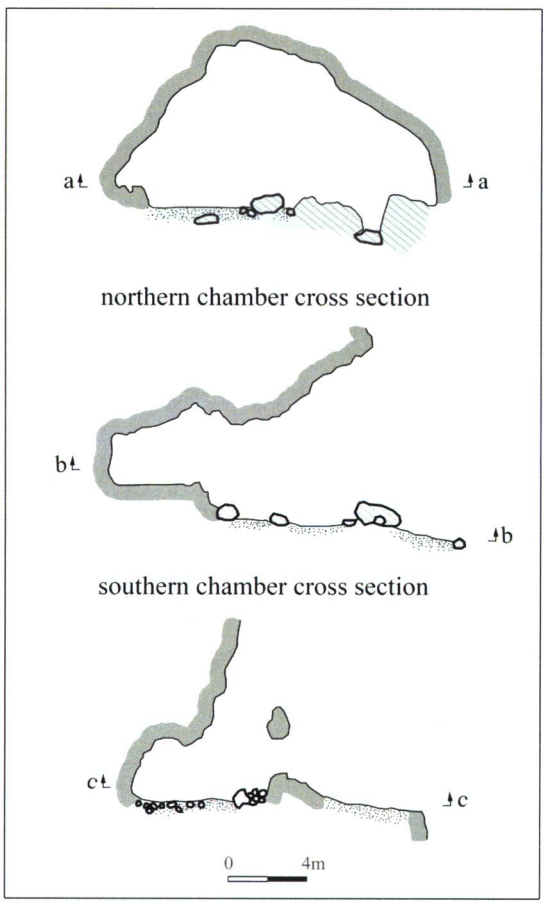

Figure 5. Sections of the southern and northern chambers.

Figure 6. Close-up view of the hewn bedrock mortar.

sediment was whitish-brown in color, exhibiting a smaller frequency of lithic artifacts (mainly micro-flakes) and a higher amount of well-preserved faunal remains. On the terrace to the east of the cave, a few flint items were collected including a trapeze-rectangle.

THE CHIPPED STONE ASSEMBLAGE

The small collection from the site consists of 577 items (Table 1, Figs. 7–9). More than half of the assemblage is comprised of debitage while debris is less common. Chalcedony is the most common raw material used, although there is also use of other, more coarse-grained flint for the production of larger size tools (see Fig. 9:9). Accordingly most of the cores are chalcedony flint, and are small to medium in size (Fig. 7:1–4).

Debitage

Debitage constitutes the majority of the assemblage (Table 1). Bladelets are the most common blank type, while flakes are slightly less common. Primary elements are common, suggesting significant on-site knapping activity. The core trimming elements are common, indicating core maintenance and rejuvenation of the striking platforms as part of the lithic knapping at the site (Fig. 9:10). Overpass items are found (N=2), an indication of unsuccessful removals of blades (Fig. 9:11–12).

The cores are found un-broken and many of them bear remnants of cortex. Most of the cores are globular in shape, displaying faceted platforms with more than two striking platforms (Table 2). The most frequent core types have mainly bladelet scars (Fig. 7:1–4).

Most of the microliths bear microburin technique (MBT) scars. Accordingly, micro-burins are noticeably present at 10.7% out of the total assemblage (Table 1; IMBT is 45.7), including both proximal and distal types (Fig. 8:15–23). The presence of both types and the frequency of the typical waste products suggest habitual use of the micro burin technique.

	n	%
Waste		
Flakes	70	20.1
Blades	39	11.2
Bladelets	86	24.6
Primary flakes	28	8.0
Primary blade/lets	42	12.0
Fragments	30	8.6
MBT	37	10.6
C.T.E.	14	4.0
Burin spall	3	0.9
Total debitage	349	100.0
Chips	158	88.3
Chunks	21	11.7
Total debris	179	100.0
Debitage	349	60.5
Debris	179	31.0
Cores	5	0.9
Tools	44	7.6
Total	**577**	**100.0**

Table 1. General breakdown of the lithic assemblage.

	Length	Width	Thickness
Mean	38.5	36.5	25.1
Std.	5.5	1.9	9.2

Table 2. Dimensions of cores (mm).

Tools

The tool assemblage, albeit small, includes most of the typical Natufian tool types (Table 3; see Belfer-Cohen 1988: 49–53). The majority of the tools are made on chalcedony, in particular the microliths. The most dominant tools in the assemblage are microliths (>60%) among which there is a high proportion of geometric microliths (Table 3; Fig. 8:1–14). Among the larger tools, retouched and backed pieces are quite common (9% each; Fig. 9:1–4). Of particular interest is the frequent presence

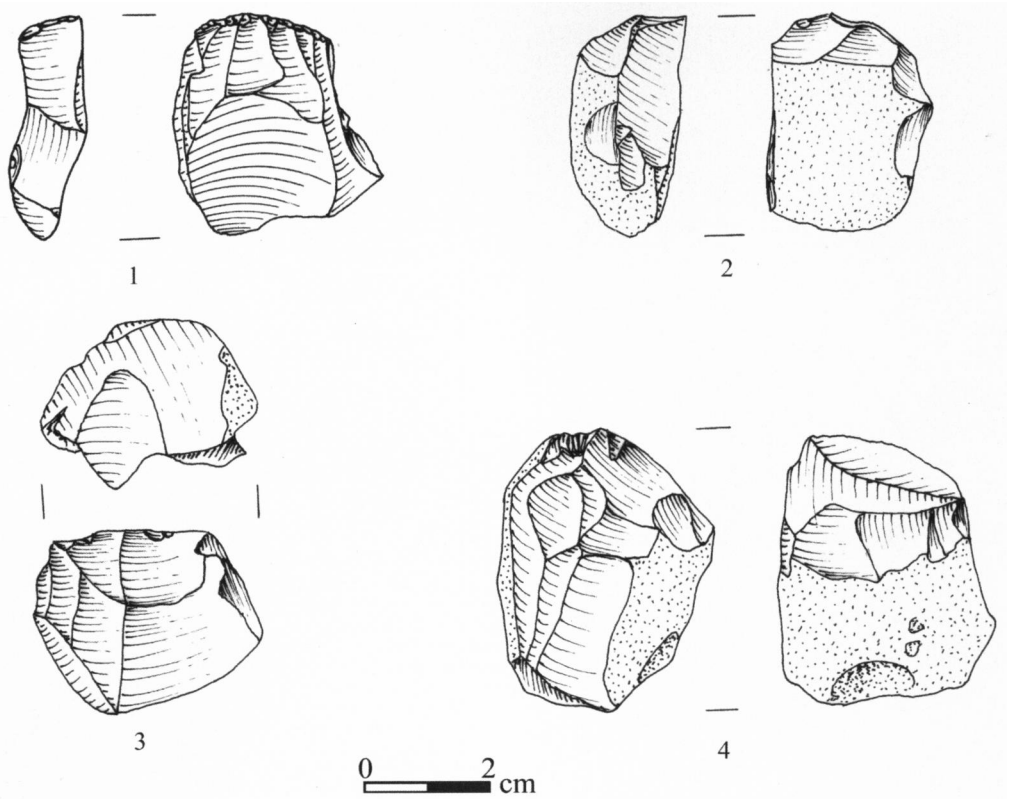

Figure 7. Cores.

of small, backed lunates (Fig. 8:9–14) and curved-back bladelets (Fig. 8:4–8) some of which display bipolar retouch. This can be suggested as an indicator of a Late Natufian affiliation (*e.g.* Valla 1984). In addition, two Helwan lunates (Fig. 8:2, 3) and a Helwan bladelet were found in Square B. The backed lunates are consistently smaller than the Helwan items (n=2), as the mean length and width of the latter are 23.8 mm ±1.3 S.D., 8.7 mm ±0.1 respectively and the mean length and width of the backed lunates (n=7) are 15.9 mm ±2.1 and 4.1 mm ±0.7.

A single sickle blade with a curved back (Fig. 9:2) and three backed blade/lets with no traces of sickle gloss were also present (Fig. 9:1, 3, 4). In general terms, the medium-sized tools assemblage is comprised of notches and denticulates (Fig. 9:5, 9), retouched blade (Fig. 9:6) and an endscraper on blade (Fig. 9:8).

In addition to the obvious Natufian presence at the site, there are indications that other periods may be present in the lithic assemblage. A single trapeze-rectangle found on the terrace outside the cave (Fig. 8:1) is of possible Geometric Kebaran origin. A retouched blade, which displays a parallel scar pattern and trapezoidal section and resembling a Canaanean blade (Fig. 9:7) was found in addition to a few pottery shards and can be probably assigned to the Early Bronze Age.

GROUNDSTONE ITEMS

Two groundstone items were found, both on the surface of the northern chamber. One is a disc-shaped, flat limestone rubbing stone, regular in its appearance with a diameter of 10.1×9.3 cm and a nearly uniform thickness of 2.8 cm (Fig. 10:1). It appears that both surfaces were used. The second item, a unique artifact, is a natural elongated nodule made of limestone with a rounded and thick base and pointed end, 13.5 cm long and 4.3 cm wide (Fig. 10:2). The pointed end displays burin-like scars on both sides creating a broad and sharp working surface reminiscent of a chisel. This item is convenient to hold in the hand and was possibly used as a chisel or a retoucher.

FAUNAL REMAINS

The surface collection of the cave and the excavation of Square B produced a small collection of animal bones.

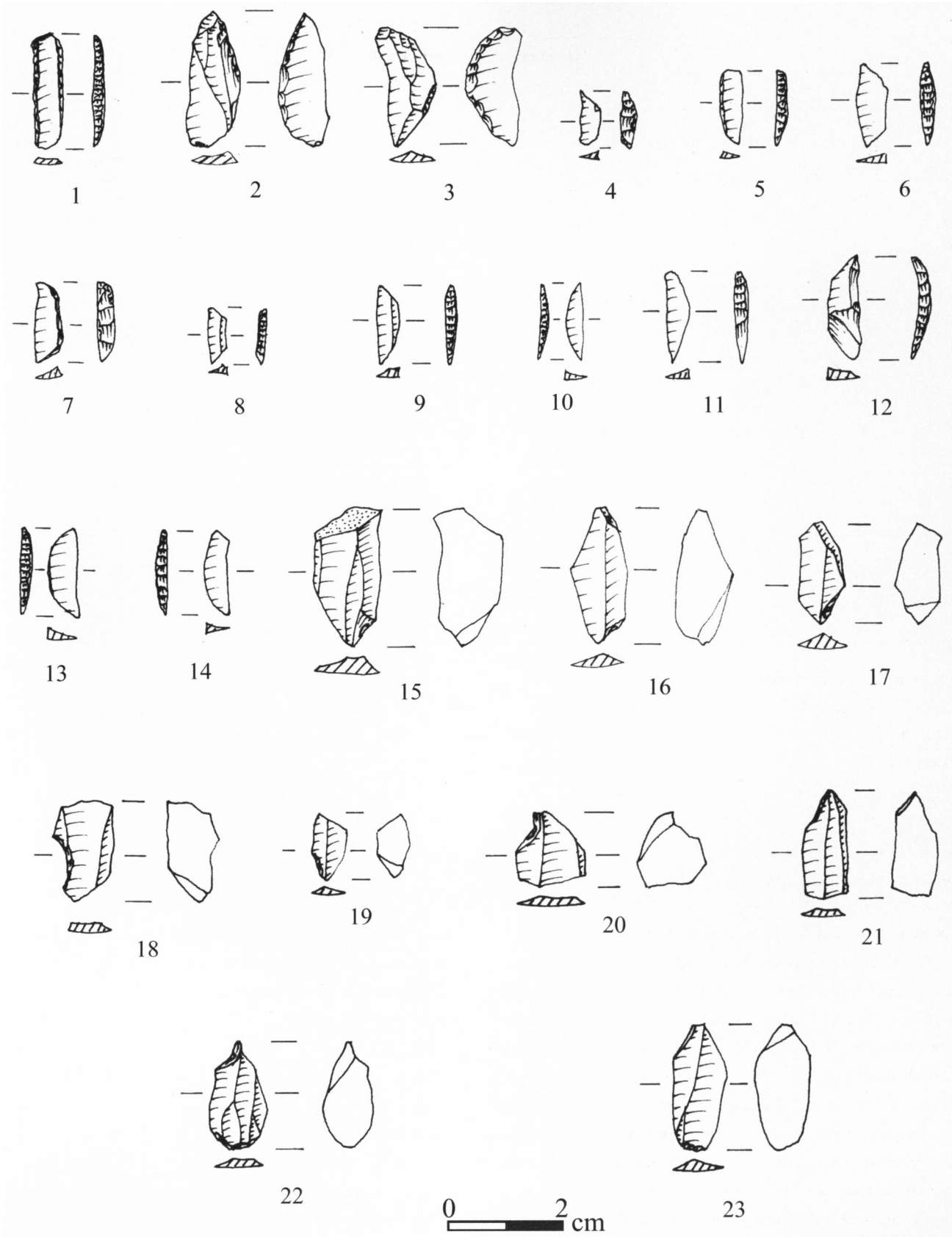

Figure 8. retouched tools: 1) trapeze-rectangle; 2, 3) Helwan lunates; 4–8) backed bladelets; 9–14) lunates; 15–23) microburins.

Category	Sub-category	n	%
Endscrapers	End scraper on retouched blade	1	2.3
Burins	Burin on break or natural pan	1	2.3
Perforators	Awl	1	2.3
Backed pieces	Typical backed blade	1	2.3
	Sickle blade	2	4.5
	Helwan retouched piece	1	2.3
Notches and denticulates	Notches	2	4.5
Retouched pieces	Retouched flake	1	2.3
	Retouched blade	3	6.8
Non-geometric microliths	Alternately retouched bladelet	1	2.3
	Curved backed bladelet	6	13.6
	Bladelet backed on both edges	1	2.3
	Backed and truncated bladelet	1	2.3
	Notched and denticulated bladelet	1	2.3
	Helwan bladelet	2	4.5
	Obliquely truncated bladelet	1	2.3
	Fragment of backed bladelet	4	9.1
	Varia backed	1	2.3
Geometric microliths	Trapeze-rectangle	1	2.3
	Backed lunate	7	15.9
	Helwan lunate	1	2.3
Signs of use		4	9.1
Total		**44**	**100.0**

Table 3. Breakdown of tools.

Only a few and very fragmented bone remains were retrieved from Square A. The contrast between the bones that were collected on the surface and those associated with the Natufian lithic industry is striking. The former are quite complete and yellowish in color and represent domestic livestock (mostly sheep, goat and cattle), while the latter are skeletal elements of game animals, displaying high fragmentation and a reddish-brown appearance. Only the bones from the excavation are presented here.

The assemblage totals several dozen bone fragments. A high proportion of the fragments are charred, and most are covered by carbonate concretions. Nineteen bones were identifiable to taxa higher than body-size class, representing five species and a minimum of seven individual animals: mountain gazelle (*Gazella gazella*, all body parts), wild boar (*Sus scrofa*), red fox (*Vulpes vulpes*), spur-thighed tortoise (*Testudo graeca*) and snake (Table 4).

DISCUSSION

The surveys and the test excavation at el-Hamam Cave revealed the presence of a Natufian habitation in the heart of the Samaria Hills. Although testing was limited in area to two 1 m^2 squares, it exposed rich and diverse remains.

The detailed analysis of the lithic assemblage indicates that the assemblage should be assigned to the later part of

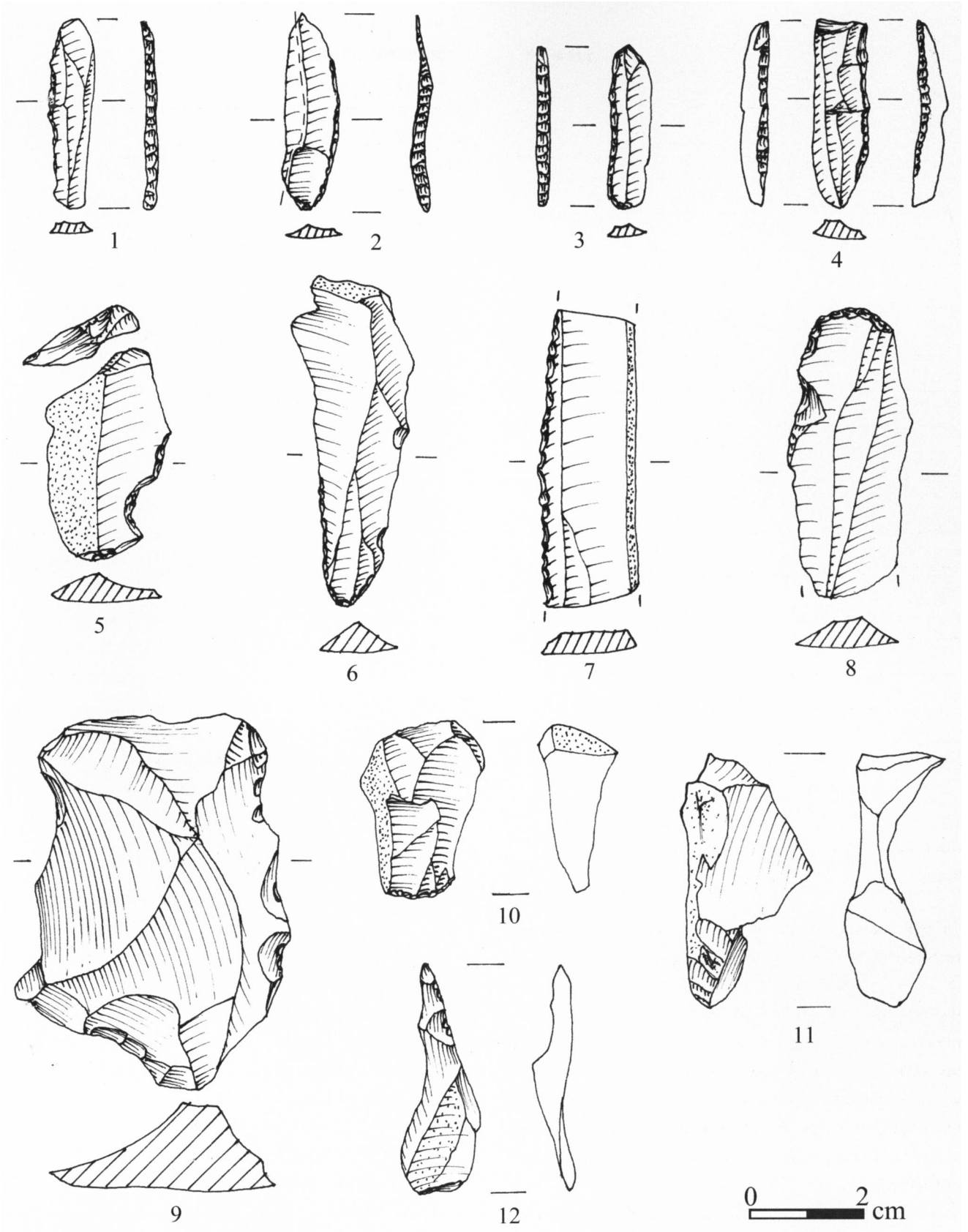

Figure 9. Lithic items: 1, 3, 4) backed blade/lets; 2) sickle blade; 5, 9) notches and denticulates; 6, 7) retouched blades; 8) endscraper on blade; 10–12) core trimming elements.

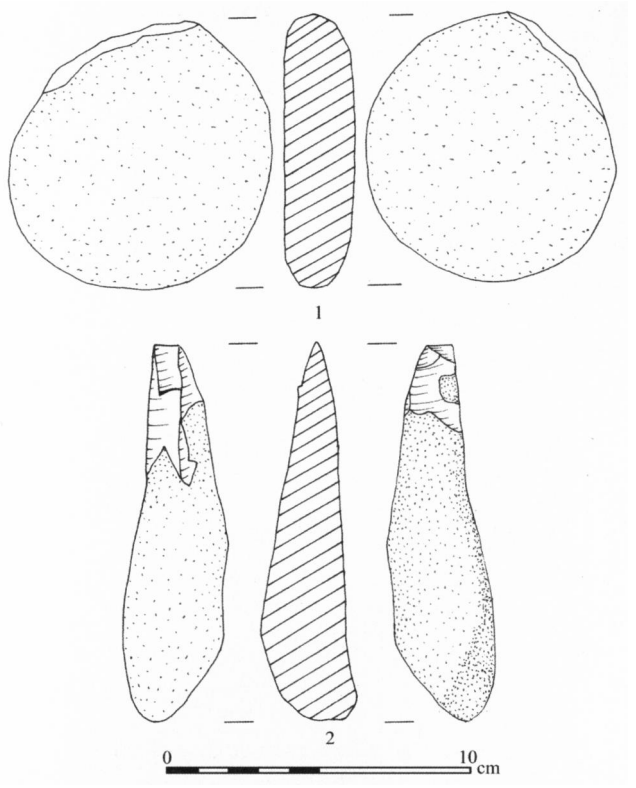

Figure 10. Groundstone items: 1) rubbing stone; 2) limestone retoucher/chisel.

	NISP	MNI
Gazella gazella	6	2
Sus scrofa	1	1
Vulpes vulpes	1	1
Testudo graeca	7	2
Snake (indet.)	4	1
Total	**19**	**7**

Table 4. The faunal remains. NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals.

the Natufian culture. This observation is based upon the prevalence of backed microliths and the habitual use of the MBT. This particular technological characteristic is abundant in other Natufian sites (Goring-Morris 1980; Grosman 1997) yet absent or nearly absent in many. It is rather difficult to find a geographic pattern for the use of this technique in the central-southern Levant. While it was employed in all Late Natufian assemblages from the Negev and Sinai (Ashkenazy 2014; Goring-Morris 1987), the situation is different elsewhere. Indeed, the technique had been used in the Late Natufian at Hayonim Terrace and el-Wad (B1). However, at other Late Natufian sites such as the neighboring site Shuqbah B, there is no evidence for systematic use of MBT (Grosman 1997; Valla 1984).

A comparison of the lunates from el-Hamam to other Late and Final Natufian sites (Fig. 11) indicated that they are close in size to those in Hilazon Tachtit Cave (Ashkenazy 2014; Grosman and Munro 2007) and are larger than those of the Final Natufian (Eynan IB and Fazael IV; Grosman 1997; Valla *et al.* 2001) and Harifian (Ramat Harif – GVIII; Goring-Morris 1987) lunates. The Helwan artifacts from el-Hamam are larger than the backed lunates and are closer in size to the Helwan lunates from Eynan IVA (Valla 1984). Therefore it seems that while there may have been an Early Natufian presence, the majority of the material probably came from a Late Natufian occupation.

A single trapeze-rectangle may suggest an earlier Geometric Kebaran presence in the vicinity of the site. It seems that the site was occasionally visited also in post-Epipaleolithic times, as evidenced by a few Early Bronze Age lithics and shards.

The deep and narrow bedrock mortar observed inside the cave resembles similar features usually attributed to the later part of the Natufian, such as those discovered at Huzuk Musa, Raqefet Cave and Rosh Zin (Eitam 2008; Nadel and Rosenberg 2010; Nadel *et al.* 2009 respectively), thus according well with the lithic evidence.

The faunal assemblage, albeit scant, accords very well with the typical and unique Natufian hunting patterns, relying on gazelles and an array of small mammal and reptile species (*e.g.* Yeshurun *et al.* 2014).

The site is located *ca.* 20 km north of Shuqba Cave, where the Natufian culture was first identified (Garrod 1942). In general, in the western flanks of the Samaria Hills few Late Natufian occurrences are known, such as Hatula (Ronen and Lechevallier 1991) and Sha'ar Ephraim South (Barkai 1998). Several other Natufian sites are known from the eastern flanks of Samaria and the middle Jordan Valley, such as Huzuk Musa (Rosenberg *et al.* 2010; Winter 2005) and the Fazael and Salibiya clusters of sites (Fig. 1; Goring-Morris 1980; Grosman 1997; Grosman *et al.* 1999). Thus, el-Hamam Cave is not an isolated Natufian locality but rather a site that is located in the heart of the Mediterranean Zone of the Natufian Core Area in the southern Levant.

A reconstruction of the role of el-Hamam Cave in the

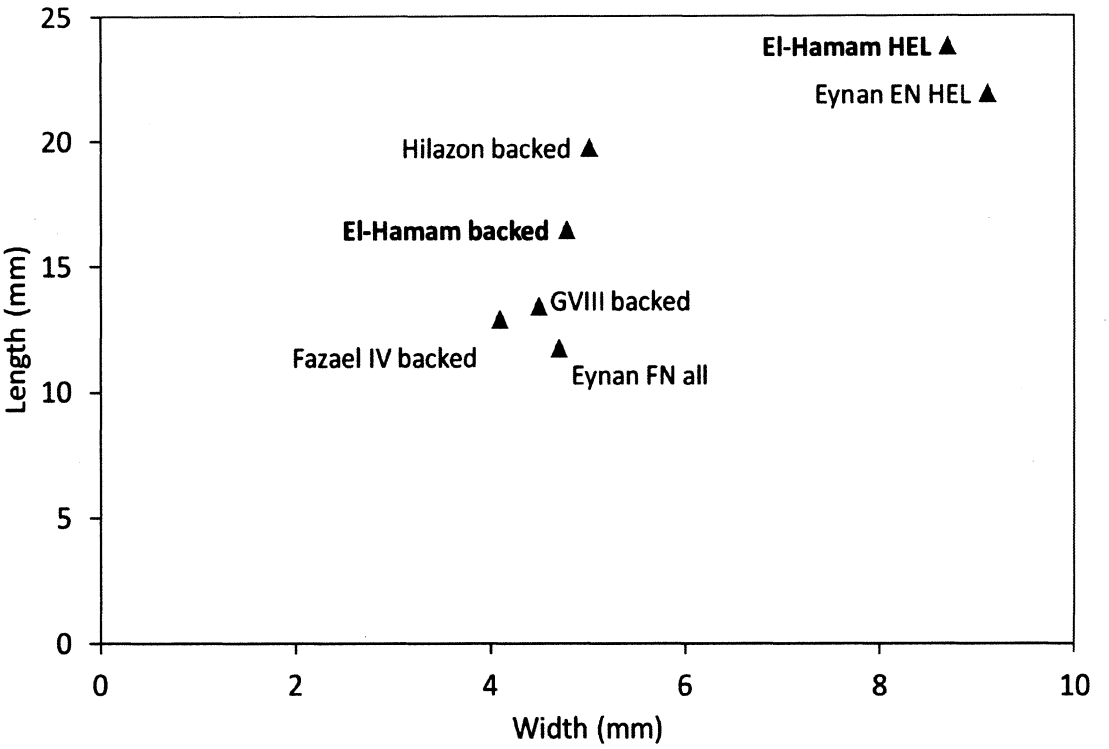

Figure 11. Comparison of lunate dimensions of el-Hamam Cave to other Natufian assemblages. See references in the text.

settlement system of the Late Natufian can be suggested. Many small and medium sites are scattered throughout the Levant during this phase (Henry 2013). At el-Hamam, the large chamber (*ca.* 300 m^2) with a terrace was occupied, located above a major drainage system of Nahal Qanah, with high accessibility from the Wadi bed (see Ullman 2014). In spite of the limited scope of excavation, the site exhibits several of the Natufian landmarks, such as the large lithic assemblage with high diversity of tools, a hewn bedrock mortar, diverse faunal remains and groundstone implements. These traits may indicate intensive site occupation with a depth of cultural deposits. The small scale of the archaeological investigations cannot determine whether the cave was a complex occupation of a sedentary village. Nevertheless, the heterogenic and rich assemblage hint to a large scale prolonged occupation, reminiscent to that of the better-known Natufian sites in other parts of the Levant (Bar-Yosef 1998).

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