Huzuq Musa – A Preliminary Report on the Test Excavation at a Final Epipalaeolithic/PPNA Site in the Jordan Valley


Abstract: The transition from mobile hunter-gatherers to sedentary farmers in the Near East was one of the most crucial steps in human evolution. Several sites belonging to either the Late Epipalaeolithic or the Early Neolithic periods were studied in the Jordan Valley, one of the primary research regions for this important shift. However, occupation sites dating to the transitional phase between these periods are rare. Here we present our reconnaissance investigations at one such site, Huzuq Musa (Jordan Valley). The finds bear both Late/Terminal Epipalaeolithic (Natufian culture) and Pre-Pottery Neolithic A (PPNA) characteristics, attesting to an occupation, which most probably dates to a final stage of the Epipalaeolithic period and/or to the earliest local PPNA period. Highly similar lithic components were previously recognized only at one other site—Nahal Ein Gev II. As such, Huzuq Musa may be one of the better-preserved sites that bridge the gap between the Late/Final Natufian and the PPNA in the Jordan Valley.

In the last decade, much information has been accumulating on the nature of the transition between the terminal phases of the Epipalaeolithic (Late/Final Natufian, Harifian and contemporaneous cultures) and the Pre-Pottery Neolithic A (PPNA) period in the Southern Levant.1


This transitional phase is of prime importance, because of its relevance to the understanding of the process of shifting from Epipalaeolithic hunter-gatherer economy to Neolithic cultivating economy. One of the densest areas in terms of relevant sites is the semi-arid Lower Jordan Valley. Here, several Natufian and PPNA sites are known (fig. 1), attesting to Final Pleistocene—Early Holocene occupation of the valley floor. Interestingly, there is only one known Natufian site in...
the water-rich Sea of Galilee Basin, while the highest concentration is further south in the Lower Jordan Valley (Fazael IV, Gilgal II, Salibiya I, and the lowest level at Jericho). PPNA sites include sites such as Ain Suhun, Gilgal I, III and IV, Salibiya IX, Netiv Hagdud and Jericho, as well as Drah and ZAD east of the Dead Sea.

The Natufian sites in this area are usually small, lack architecture and display characteristics of low occupation intensity relative to large Natufian sites in the Galilee and Mount Carmel (e.g., Eynan, Hayonim and el-Wad). Conversely, some PPNA sites in the Lower Jordan Valley are large, rich in finds and attest to large-scale and even communal building activities, beginning of plant cultivation and possibly some kind of public rituals.

This relatively dense cluster of sites makes the Jordan Valley one of the most important areas for the study of the transition from nomadic hunting and gathering to sedentary lifeways practicing plant cultivation. Two distinct sites were recently attributed to this transitional phase, Nahal Ein Gev II on the western slopes of the Golan Heights (near the Sea of Galilee) and Huzuq Musa, further south in the Jordan Valley. In 2008, we started a reconnaissance project at Huzuq Musa. The aims of this preliminary paper are twofold: a) to present preliminary data regarding the finds, including a sample of the flint assemblage found in one of the tested structures, and b) to outline the similarities to Late Natufian and PPNA sites in the Lower Jordan Valley.

2. Marder et al., 2009.
8. Noy et al., 1980; Bar-Yosef et al., 2010.

Fig. 1 – Map with Late/Final Natufian sites (triangles), PPNA sites (circles) and Final Epipaleolithic/Early PPNA sites (stars).
THE SITE

The site of “Huzuq Musa” (in Arabic: “The Holes of Moses”) was discovered by the ongoing Manasseh Hill-Country survey in 1988. The site was tentatively assigned to the transition from the Natufian to the Neolithic. Other features at the site include small, partly collapsed caves (fig. 2) with burials dated to the Late Bronze Age 1 and Iron Age 2. The site is presently situated in a semi-arid zone (mean annual precipitation 288 mm ± 41%) characterized by winter farming. It is located at the fringes of the Samarian Hills, at an elevation of 240 m below m.s.l. (grid ref. 2515 6782), ca 20 km north of the Salibiya Basin sites (Netiv Hagdud, Gilgal and Salibiya) and ca 2.5 km west of the current course of the Jordan River. The site covers an area of ca 1-2 ha (fig. 3), mainly extending on a slope descending to the east. The bedrock is of the Avdat Formation, with conglomerate and calcrite rocks on the top. Within this area, there are small cliffs, 2-8 m high, which are probably the remnants of natural karstic caves. Many large boulders cover the terrain, indicating the collapse of the cliffs and caves. During the survey of the site in the late 1980s, two phenomena were noted: the presence of several stone structures and the wealth of bedrock features such as deep and shallow mortars and cupmarks.

The contours of structures are mainly oval, sometimes open at one end. Most are 2-4 m in diameter, covering an area of 5-10 m². In Area A, where our 2008 fieldwork concentrated, there are more than ten structures. Additionally, several straight or curvilinear walls between boulders or rock exposures were noted (fig. 3). A few of the oval structures have a long north-south axis, which corresponds to the topographic relief. There are also two larger structures, 7-8 m long, in two different orientations, at the western upper side of Area A. Additional structures and wall remains are visible in other parts of the site.

The stones which were used for construction are locally available and are usually 20-40 cm across. It seems that each wall is one course wide; some appear to be interlaced with each other and in several cases, the walls include rock exposures within their contours. Many bedrock mortars and cupmarks are found on the cliff, as well as on rock exposures and boulders, including inside structures—one of which was excavated during our 2008 fieldwork (Structure 3, see fig. 3).

THE 2008 TEST EXCAVATION

Our test excavation focused on the northern part of the site (Area A), where numerous stone walls are visible on the surface (figs. 3-4). A test pit (3 x 1 m) was located at the upper part of the area, to include the remains of Structure 1, Structure 3 and a small area between them (Locus 2), which may be part of a small enclosure.

A 1 x 1 m grid was placed, and excavation units of 0.5 x 0.5 x 0.05 m were used. All sediments were wet sieved through a 1.0 mm mesh, except for the upper 5.0 cm (surface layer), which was dry sieved through a 2.0 mm mesh. Sediment samples from each unit were extracted for flotation.

STRUCTURES 1 AND 3

Parts of the two adjacent structures, numbered 1 and 3, were tested (figs. 5-6). Structure 1 is oval, probably open to the south, with a 3 m east-west axis. Our probe was annexed to the northern well-preserved wall. Within the structure, a line of several large undressed stones was uncovered, probably representing a small curved wall or installation, enclosing a narrow area (Locus 4) within the structure (figs. 7-8). One of the stones composing this short wall is relatively thin and has a concave outline (fig. 8).

Whereas in most of the trench we excavated to a depth of 10-30 cm, within Locus 4 we reached a depth of 80 cm below surface. The northwestern part of this wall appears to have been well constructed, made of undressed stones varying in size from small boulders to pebbles. We did not reach the floor level or the bottom of the wall, yet it is clear that the wall here has more than four successive courses of stones (fig. 6). The sediments within the structure contained a rich flint...
Fig. 3 – General plan of Area A. Note the density of structures and location of test trench.

Fig. 4 – A view of the eastern slope looking east, with test trench in middle of photo.

Fig. 5 – A cross-section through Area A.
assemblage as well as many beads, a few stone implements and several animal bones (fig. 7). Only a small part near the western wall of Structure 3 was excavated. In this structure, the narrow walls are one stone wide and are at least two courses high. A large rock bearing a deep mortar and an adjacent shallow cupmark is visible within the structure (fig. 9).

THE FLINT ASSEMBLAGE

The flint assemblage collected from the surface of the site during the surveys held prior to 2008 was recently published.22 This surface collection includes over 2,200 items, of which the most revealing types in terms of industrial characteristics and chrono-cultural affinities are the awls/borers (23.4%), sickle

blades (10.3%) as well as three lunates. The assemblage was compared to Nahal Ein Gev II, and assigned to a local facies of the Final Natufian termed by H. Winter “Lissanian.”

Flints were the most common find in our 2008 excavation season at Huzuq Musa. Several types of raw materials were identified; these include fine-grained flints in shades of gray and light brown of which the most dominant is a light brown opaque flint. The source of this flint is yet to be identified. Such flint was also found in sites located south of the Sartaba, such as Netiv Hagdud and Gilgal I.

The 2008 recovered assemblage amounts to over 10,000 pieces. Of these, a sample of 2,451 artifacts retrieved from eight excavation units within Structure 1 was studied (table 1). Arrowheads, a Beit Ta’amir knife and lunates that were found in other parts of the excavated area are also included in the described assemblage.

The sample includes tools (n = 92), cores (n = 5), and debitage items (n = 200). Fragments smaller than 15 mm dominate (94.0%), while fragments larger than 15 mm form only a small fraction of the assemblage (table 2).

The debitage includes primary elements that are equally divided between flakes and blades (table 2). The flake/blade ratio in the sample is 18.5:1 and flake/bladelet ratio is 2.6:1. It should be noted that bladelet fragments smaller than 15 mm are included among the debris (n = 58), and altogether bladelets form an important part of the blanks used for tools. Six burin spalls were also included in the debitage counts.

The core trimming elements (n = 17) include core tablets, over-shots and varia. Within the cores (n = 5; fig. 10: 1), there is a bladelet core, a bladelet/flake core, a miniature/exhausted core, a flake core with three striking platforms and a single core.

Table 1 – General breakdown of the flint sample from Structure 1.

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<td>Cores</td>
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Table 2 – Breakdown of the debitage and debris from Structure 1.

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<td>4.0</td>
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<tr>
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<td>Burin Spalls</td>
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<td>varia</td>
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<td>Chunks</td>
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Table 3 – Tool frequencies from Structure 1.

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<td>Backed Blades</td>
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<td>3.3</td>
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<tr>
<td>Backed Bladelets</td>
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<td>Retouched Blades</td>
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<td>Retouched Bladelets</td>
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<td>6.5</td>
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<td>Notches and Denticulates</td>
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<td>1.1</td>
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<td>Perforators</td>
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<td>Truncations</td>
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<td>1.1</td>
</tr>
<tr>
<td>Lunates</td>
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<td>1.1</td>
</tr>
<tr>
<td>Retouched Flakes</td>
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<td>16.3</td>
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<td>Retouched Fragments</td>
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<tr>
<td>TOTAL</td>
<td>92</td>
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23. Ibid.
on flake. Core lengths range between 18 and 56 mm and except for the large flake core, all have a single striking platform.

There are 92 retouched tools (table 3). The most common blanks used for tools are bladelets (n = 48, 52.2% of the tools), followed by blades (16.3%), flakes (17.4%) and fragments (14.1%). However, if selection rate is considered, the importance of blades rises considerably. That is, of the total blades included in the sample (debitage and tools, n = 21), 71.4% were selected for tools. Of the total bladelets in the sample (debitage and tools, n = 90) 53.3% were selected for tools, and of the total flakes in the sample (debitage and tools, n = 128) only 13.3% were selected for tools. Thus, it is clear that blades and bladelets were preferred for production and use.

A single el-Khiam point made on a bladelet and broken at the tip was found in the sample (fig. 11: 3); another possible el-Khiam point was found in an excavated unit not included in the sample. The sickle blades are shaped on bladelets (n = 3) and a blade (n = 1), and except for one, all are broken (fig. 10: 2). A single Beit Ta’amir knife with sickle gloss was found in one of the excavated units, not included in the sample (fig. 10: 3).

While several geometric microliths were found (including lunates) in the assemblage, there is only one lunate in the studied sample (its back is fashioned by an abrupt retouch and its length is 15.0 mm). We studied a total of 14 lunates (fig. 11: ...
1-2) found in all excavated units including the one found in the analyzed sample. These were measured to produce additional information relating to the typo-technological characteristics of the assemblage and compared it to lunates from other Late/Final Natufian and PPNA sites (table 4).

The results show that except for two, all lunates were made of brown opaque flint, the most common raw material at the site. Seven lunates are abruptly retouched while the others have alternating abrupt retouch. Five specimens are complete, 11.0-13.0 mm long, with an average of 11.8 mm. Most of the broken examples apparently miss ca 1.0-2.0 mm of their original length. Of these, only two were originally about 16.0-17.0 mm long and the rest were originally about 11.0-15.0 mm long.

Also present at the site are backed and retouched bladelets (n = 16, 17.4% of the tools). Most of these are distal or proximal fragments and the backs are mainly fashioned by abrupt or semi-abrupt retouch. Backed and retouched blades are rare (n = 5, 5.4% of the tools). A single truncated bladelet and a single notched item were found as well.

Perforators are the most common tool type in the studied sample (n = 35, 38.0% of the tools, fig. 10: 4-11). Except for one, all have bladelets dimensions, but the original blank could not be identified because they are abruptly retouched on all sides. There are several shapes such as squat, twisted, curved and triangular. Most are fragments, which retain the perforating retouched tip. The tips vary in dimensions (usually 1.0-3.0 mm wide and thick, when measured 2.0 mm from the tip-end) and complete specimens are 18.0-27.0 mm long.

OTHER FINDS

Two small upper grinding stones made of limestone pebbles (fig. 12) as well as several small ochre pieces were recovered from Structure 1. In addition, dozens of shell beads and a few stone beads were found in the test excavation (fig. 13). The shell beads include a few Dentalium examples and many Cerastoderma glaucum specimens.

The beads are mainly (yet not solely) round disc beads (including complete specimens, bead fragments and production waste), 5.0-10.0 mm in diameter and 1.0-3.0 mm thick. Some of the disc beads are smoothed or abraded while others have the natural outline of the shell. The round perforations are commonly drilled from both faces of the bead blank, and usually the meeting point of the two drilled conical holes is approximately at the middle of the shaft. The amount of beads and the characteristics of the assemblage seem to reflect local manufacture.
### Table 4 – Length range and average length of lunates from selected Late/Final Natufian, Harifian and PPNA sites. NA: not available; ** Tentative nomenclature.

<table>
<thead>
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<th>Site</th>
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<th>Length Range (mm)</th>
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<td>30</td>
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<td>18</td>
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<td>Givot Hayil I</td>
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<td>Raqefet</td>
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<td>11.8</td>
<td>ENOCH-SHILOH and BAR-YOSEF, 1997</td>
</tr>
<tr>
<td>Ain Darat (Sultanian)</td>
<td>1</td>
<td>25</td>
<td>25.0</td>
<td>GROMAN-YAROSLAVSKI, 2003</td>
</tr>
<tr>
<td>Gesher (Sultanian)</td>
<td>5</td>
<td>17.3-22.3</td>
<td>19.7</td>
<td>GORFUNKEL and DAG, 2006: 93</td>
</tr>
<tr>
<td>Gilgal I (Sultanian)</td>
<td>1</td>
<td>33</td>
<td>33.0</td>
<td>DAG et al., 2010</td>
</tr>
<tr>
<td>Hatoula (Sultanian)</td>
<td>45</td>
<td>NA</td>
<td>19.3</td>
<td>LECHEVALLIER et RONEN, 1994</td>
</tr>
<tr>
<td>Jericho (Sultanian)</td>
<td>3</td>
<td>NA</td>
<td>19.6</td>
<td>CROWFOOT-PAYNE, 1983: figs. 291 and 331</td>
</tr>
<tr>
<td>Netiv Hagdud (Sultanian)</td>
<td>90</td>
<td>10.5-22.5</td>
<td>17.0</td>
<td>NADEL, 1997: 118</td>
</tr>
<tr>
<td>WF16 (Sultanian)</td>
<td>6</td>
<td>?</td>
<td>?</td>
<td>PIRIE, 2007</td>
</tr>
</tbody>
</table>
The wealth of bedrock features (fig. 14) is one of the characteristics of Huzuq Musa.25 These are found throughout the site, both on flat rock exposures and on isolated boulders. The bedrock features vary in terms of shape, depth and diameters, ranging from tiny holes to huge deep mortars. The inclination of the walls also varies considerably, and the funnel-shaped specimens are common.26 Bedrock features appear as isolated cases or in clusters. One of the bedrock exposures, a flat and slightly slanting rock surface (ca 3 m²), has 12 cupmarks (fig. 14: 8). So far, we recorded over 60 specimens, and evidently, this is not a final count, as so far only a part of the site was thoroughly surveyed and only a small trench was excavated.

The faunal assemblage retrieved from the test excavation is small and heavily fragmented. Most excavation units yielded animal bones, but these were mainly tiny fragments (< 0.5 cm). Virtually all are covered with thick carbonate concretions. A few of these fragments are identifiable to anatomical part and taxon, representing ungulates and birds. Some green-fractured and burned ungulate limb bones were encountered, suggesting that the assemblage represents the discarded remains of butchered game animals.

Preliminary analysis indicates that most ungulate remains belong to mountain gazelle (Gazella gazella), represented by all skeletal parts. The small-game fraction of the assemblage is composed of medium-size birds (i.e., larger than Passeriformes). The level of fragmentation of bird remains prevented a narrower taxonomic definition, except for one large raptor (Falconiformes) talon.

DISCUSSION

As no radiometric dates are yet available from Huzuq Musa (or from Ein Gev II for that matter), the dating of the site is still provisional and it is largely based on three kinds of material remains (lithics, bedrock features and architecture). These and other aspects will be shortly discussed below with hope that future investigations will shed more light on the issue of the chrono-cultural affiliation of the site.

The flint assemblages of the PPNA in the Southern Levant include the well-defined Sultanian industry;27 and the Khiamian. The latter is considered somewhat older than the Sultanian, with more affinities to the Late Natufian. However, a debate on its techno-typological characteristics was not clearly resolved, and for the Southern Levant there is no clear-cut definition of tool types and their frequencies.28 What is clear is that in both Sultanian and Khiamian industries, the inter-site variability is high, and in largely excavated sites, even the intra-site variability is very high. The most apparent example is Netiv Hagdud, where the upper layers (Sultanian) contain both Sultanian and Khiamian loci according to their flint assemblages.29

25. See also Nadel and Rosenberg, in press.
26. For type-list and discussion see Nadel and Lengyel, 2009; Nadel et al., 2008 and 2009.
Furthermore, the recent publication of Gilgal II, which techno-typologically should also be placed between the Late Natufian and the Sultanian, differs in some characteristics from nearby semi-contemporaneous sites in the Salibiya Basin.30 Naturally, the absence of radiometrically-dated relevant assemblages leaves this issue open for meanwhile. It is against this background that the Huzuq Musa assemblage should be considered. Interestingly, in the Northern Levant the issue of the Khiamian has been long resolved, with sites and layers confidently assigned to this phase/culture.31

The flint assemblage recovered from the fill of Structure 1 is similar to the assemblages retrieved from the fill of Structure 3 and the space between them (Locus 2). However, the assemblage is different from the one that was surface-collected in the past32 by exhibiting distinct PPNA components as well. The essential Natufian characteristics, as presented above, include a high proportion of bladelets and backed bladelets, short lunates and usually small sickle blades.33 Conversely, some typical PPNA tool types such as the El-Khiamian point and the Beit Ta'amir knife are also present.34 In addition, a tendency for blade selection and a high frequency of perforators were observed, which also characterize well-established PPNA assemblages. For example, the perforators of the Sultanian layer at Hatoula comprise 29.68% of the tools.35 In the case of Huzuq Musa, the perforators have a variety of distinctive shapes, different from the common perforators found at sites such as Netiv Hagdud, Gilgal I and Hatoula. Interestingly, they show great similarities in both frequencies and shapes to the perforators found at Nahal Ein Gev II.36 Furthermore, it appears that the high frequency of perforators goes hand in hand with the bead industry, which is one of the most prominent characteristics of the site.

When the Huzuq Musa average lunate length is compared to Late and Final Natufian sites, it is apparent that the small Huzuq Musa sample falls within the range of the Final Natufian phases of sites such as Eynan, Fazael IV and Nahal Oren V (table 4). However, PPNA lunates seem considerably longer, as in all but one site the average is 17.0 mm or more. The range varies between 11.8 mm (Salibiya IX) and 33.0 mm (Gilgal I). PPNA lunates indicate that the reduction in lunate length, which characterizes the shift from Early to Late/Final Natufian industries,37 does not continue into the PPNA. Within the Harifian, the average length of lunates varies between 12.1-16.2 mm, for 19 sites presented by A.N. Goring-Morris.38 These values fit well within the Final Natufian range (table 4).

Bedrock features appear in a wide typological variability in Late Natufian sites that are located in a range of ecological settings (e.g., Hayonim Cave, Nahal Oren, Raqefet Cave, Rosh Zin, Upper Besor 6, the Saffulim-Rosh Horesha complex, Wadi Mataha and J614 in Wadi Nukhayla). They are also common in Harifian sites39 and in PPNA sites whether on rock exposures or on slabs/boulders set on floors of dwellings.40 Two aspects should be considered regarding the bedrock features, namely the typological variability and the indoor/outdoor context (e.g., inside/ outside structures). Recent studies of Late Natufian bedrock features at Raqefet Cave41 and Rosh Zin42 show that at this period a large variety of types was used, including tiny holes just a few centimeters across, cupmarks of various dimensions, large deep mortars, and even bigger basins more than 20 L. in volume.43

The PPNA variability is seemingly rather limited, and most bedrock features (and slab/boulders bearing these cavities) are in the size of cupmarks, with no deep mortars and basins.44 Some PPNA sites revealed no such features.45 Thus, according to the known diachronic typological changes, the Huzuq Musa bedrock features appear to be more in the size range and typological variability characterizing Late Natufian sites.

In terms of context, the Late Natufian remains are common on bedrock exposures and cave floors/terraces. During the PPNA, the setting of limestone slabs with one or more cupmarks on dwelling floors was prevalent and is found at sites such as Ain Darat,46 Gesher,47 Hatoula,48 'Iraq ed-Dubb,49 Nahal Oren,50 Netiv Hagdud,51 WF1652 and ZAD 2.53 Similar

32. WINTER, 2005.
34. BAR-YOSEF et al., 2010; CROWFOOT-PAYNE, 1983; EDWARDS et al., 2002; GOODALE and SMITH, 2001; GOPHER, 1996; NADEL, 1997; PIRIE, 2007.
35. LECHEVALLIER et RONEN, 1994; table 16.
37. BAR-YOSEF et VALLA, 1979; VALLA, 1984; MARDER et al., 2006.
40. See ROSENBERG and NADEL, in press, for further examples and discussion.
41. LENGVEL et al., 2005; NADEL et al., 2008.
42. NADEL et al., 2009.
43. NADEL and LENGVEL, 2009; NADEL and ROSENBERG, 2010.
44. GROSMAN and GOREN-INBAR, 2007; MARDER et al., 2008; ROSENBERG and NADEL, in press; SAMZUN, 1994.
45. E.g., MALINSKI-BULLER et al., 2009.
46. GOPHER, 1996.
47. GOPHER and DAG, 2006.
49. KUIJT, 2004; KUIJT et al., 1991.
50. STEKELIS and YIZRAELI, 1963.
52. MYTHEN et al., 2000.
53. EDWARDS et al., 2002; and see ROSENBERG, 2008.

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patterns were observed for the Harifian. At Huzuq Musa, the typological variability is of the Late Natufian sphere, while the presence of bedrock exposures with mortars and cupmarks within the structures suggests a PPNA affinity.

The Huzuq Musa round and oval structures are similar to the ones documented in Late Natufian sites such as Eynan, Hayonim Cave and Rosh Zin. On the other hand, these structures are also rather similar to the PPNA dwellings known from sites such as Gesher, Gilgal I, Nahal Oren, Netiv Hagdud, ZAD 2. It should be stated that in Late Natufian sites the structures are commonly small, while in PPNA sites they are either small (e.g., Nahal Oren) or large (e.g., Hatoula), or both (e.g., Netiv Hagdud). Thus, the Huzuq Musa structures could be either Late Natufian or PPNA, but their size variability seems to be closer to the PPNA than to the Late Natufian.

In addition to these three major lines of evidence considering material culture and cultural-chronological affinities, other aspects should be reviewed in short. Dentalium shell beads are more frequent in the Natufian than in the PPNA, and stone disc beads were manufactured since the Natufian onwards. However, at the final Natufian of Eynan, stone disc beads comprise 78% of the stone bead assemblage and display similarities to the Huzuq Musa beads. The two small processors from Structure 1 are similar to both Natufian and PPNA specimens found in the Southern Levant, and thus could not contribute much to the chronological discussion. Finally, the meat subsistence at Huzuq Musa, based upon gazelle and bird hunting, is comparable to other terminal Epipalaeolithic-Early Neolithic sites in the area. This broad-spectrum economy has been suggested to represent the intensification of resource exploitation that is characteristic of the period.

At this stage, we see two possibilities of interpretation. The first is that the site represents the remains of both Late Natufian and PPNA occupations. So far, this option is not supported by our preliminary fieldwork results. The second concurs with the statements advanced in the past by Winter for Huzuq Musa and by O. Bar-Yosef and A. Belfer-Cohen for Nahal Ein Gev II, suggesting that these two Jordan Valley sites represent a new or at least a Final Epipalaeolithic phase, not known from other parts of the Southern Levant.

However, one must bear in mind the PPNA components as reflected by our 2008 endeavor at Huzuq Musa. While former operations at both sites were restricted to a surface collection (at Huzuq Musa) and a small probe (at Nahal Ein Gev II), our results indicate that the PPNA components within the flint assemblage may be of greater importance than previously suggested.

In sum, the results of our 2008 reconnaissance excavation at Huzuq Musa suggest that a large site was occupied in the Lower Jordan Valley during the transition from the Epipalaeolithic to the Neolithic. The flint assemblage, the bedrock features and the architecture, all strongly suggest that the site could not be simply a Late Natufian, a Harifian variant or an Early PPNA variant. Rather, it appears to contain components of both Late Natufian and PPNA material culture. Thus, if the site is of one cultural phase, it seems reasonable at this stage of our research to suggest that Huzuq Musa should chronologically be assigned to the transition between the two. The terms Khamian, Lissianian and Epi-Natufian have been used in the literature, and future work at the site providing clear stratigraphies and radio-metric dates are needed to obtain a better understanding of the period in question.

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54. Goring-Morris, 1987; and see Rosenberg and Nadel, in press for general considerations.
60. Stekelis and Yizraelli, 1963.
64. Valla et al., 2007: 352-356.
67. Davis, 1989; Tchernov, 1993; see also Yeshurun et al., 2009.
68. Winter, 2005.
70. Although at Nahal Ein Gev II isolated tools that could tentatively be interpreted as Haghul truncation were noted, see Bar-Yosef and Belfer-Cohen, 2000.
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