

FLINT ARTIFACTS FROM HORBAT ZEFAT 'ADI (EAST)

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The small flint collection from Horbat Zefat 'Adi (East) ($n = 92$; Table 1; see Smithline 2015) consists of 23 tools and three cores.¹ The artifacts were retrieved from cleaning a section at the southern edge of the excavated area (Area IV). Within this section, which contained remains of a wall, a single layer of Early Chalcolithic pottery was recorded (Smithline 2015: Figs. 12, 13). The soil was not sieved, thus accounting for the absence of small flint finds (<20 mm; Table 1). In contrast to the chronologically homogeneous ceramic sample, the flint assemblage consists of artifacts representing three or even four different periods. The mix of different stratigraphic matrices was caused by the destructive nature of the earthmoving operation (Smithline 2015). The assemblage will be thereby treated as a collection.

The abundant flint outcrops in the vicinity of the site are probably the source of the raw material utilized for the production of the flint artifacts found at Horbat Zefat 'Adi (East).

WASTE

The collection is dominated by flakes, but blade/lets were also common (Table 2). The dominance of flakes and the presence of blade/let production is reflected in the three retrieved cores; of these, one is in preparation, the other is a single-striking platform core for flake production and the third is a single-platform core made on a large, thick flake ($93.8 \times 57.1 \times 36.1$ mm). The blade scars on the debitage surface of this core reflects an unsuccessful attempt to produce blades (Fig. 1:1). Blade blanks were used for the preparation of sickle blades (Fig. 2:4–6) and *ad-hoc* tools (Figs. 2:2, 3).

Of special note are two types of spalls. The first is an overpassed primary ridge blade on purple flint (Fig. 1:2). This type of artifact is a common waste product of the PPNB bi-

Table 1. Flint Collection Breakdown

Type	N	%
Debitage	62	67.4
Debris	4	4.3
Tools	23	25.0
Cores	3	3.3
<i>Total</i>	<i>92</i>	<i>100.0</i>

Table 2. Frequencies of Debitage and Debris

Debitage items	N	%
Primary Elements – Flakes	13	21.0
Primary Elements – Blade/lets	2	3.2
Flakes	32	51.6
Blades/lets	6	9.7
Core Trimming Elements	5	8.1
Burin Spalls	1	1.6
Bifacial spalls	3	4.8
<i>Total</i>	<i>62</i>	<i>100.0</i>
Debris items	N	%
Chips	0	0.0
Chunks	4	100.0
<i>Total</i>	<i>4</i>	<i>100.0</i>

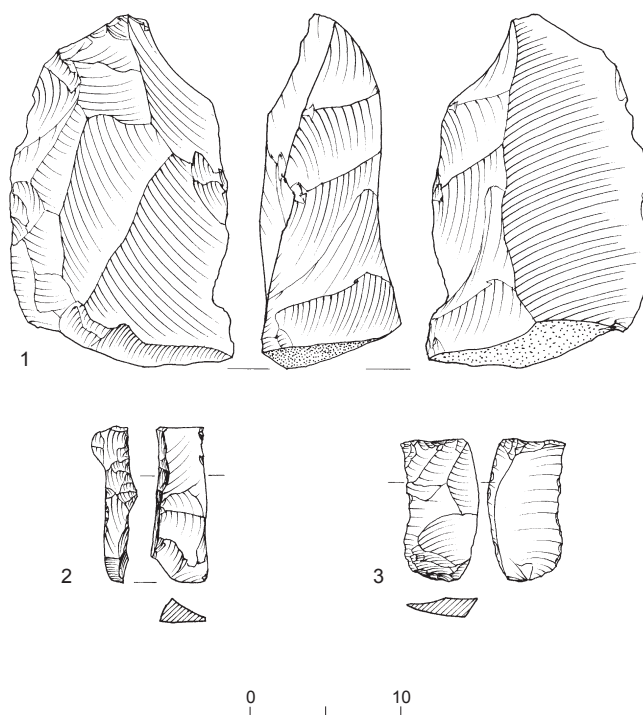


Fig. 1. Flint waste.

No.	Locus	Basket	Description
1	402	4005	Single platform core in preparation
2	101	1007	Ridge blade – overpassed
3	403	1003	Transversal spall

directional blade production (e.g., Barzilai 2010:162–163), although not exclusive to this period. The second type is a transversal spall (Fig. 1:3) that was formed during bifacial rejuvenation. This type of spall is a *fossil directeur* for PPNA industries (Barkai 2005:368–369). It is also common among early PPNB components (e.g., Khalaily et al. 2007), and can be found sporadically among Middle PPNB artifacts (e.g., Barkai 2005:140).

TOOLS

The tool collection is characterized by the dominance of *ad-hoc* tools (Table 3): awls (Fig. 2:1), retouched flakes, retouched blades, denticulates and notches (Fig. 2:2). Diagnostic tools, such as sickles and bifacials, were also retrieved (Fig. 2:4–7).

An unusual recycled tool made on an elongated bi-directional blade was recycled several times during the course of its use (Fig. 2:3). Initially, its proximal part was retouched, thereby creating a scraper-like end. Subsequently, a drill was prepared on its distal end by a partially abrupt retouch on its right edge and a complete abrupt ventral retouch on the opposite edge. The drill was then possibly inserted into a shaft. A burin blow was later struck on

its distal extremity. Approximately two thirds of the tool are covered by an oblique, whitish purple patina, whereas its distal part is covered by light brown patina. The border between the two patinas is possibly where the blank was inserted into the haft. A similar tool, a Byblos point modified into a drill, which was inserted into a hollow bone handle, was found within the PPNB layer at Moza (Khalaily et al. 2005: Fig. 3).

The collection yielded three sickle-blade types:

1. A bi-truncated artifact that displays deep denticulation on its working edge while its opposite side is plain (Fig. 2:4). Similar items were found in nearby sites in the 'Akko Plain, in both Yarmukian

Table 3. Frequencies of Tools

Type	N	%
Sickle blades	3	13.0
Bifacials	1	4.4
Scrapers	2	8.7
Truncations	2	8.7
Awls	5	21.6
Borers	1	4.4
Burins	1	4.4
Retouched Flakes	3	13.0
Retouched Blades	2	8.7
Notch and Denticulates	2	8.7
Varia: Recycled Tools	1	4.4
Total	23	100.0

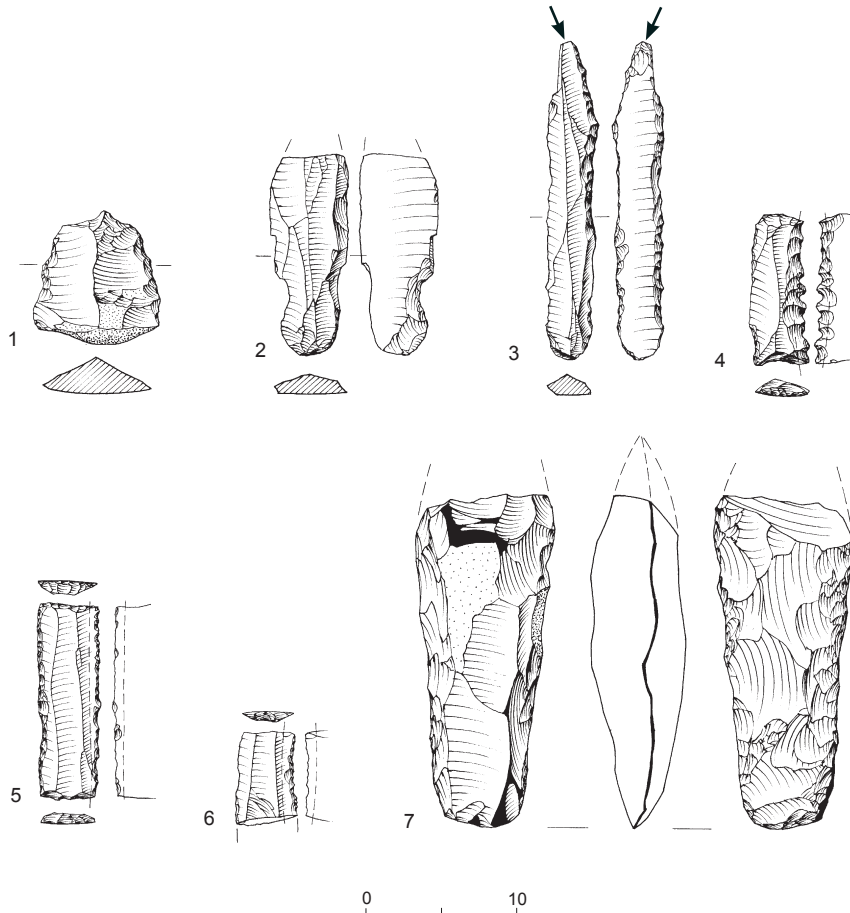


Fig. 2. Flint tools.

◀ Fig. 2.

No.	Locus	Basket	Description
1	301	3004	Awl
2	301	3004	Notch on blade
3	402	4005	Recycled tool
4	301	3005	Pottery Neolithic sickle blade
5	402	4003	Chalcolithic sickle blade
6	301	3003	Canaanite sickle blade
7	401	4002	Adze

contexts—Naḥal Bezet II and Ard el-Samra (Getzov et al. 2009: Figs. 6:3, 5, 6; 20:5–9)—and a Jericho IX context—Ḥorbat ‘Uza, Stratum 20 (Getzov and Lieberman-Wander 2009: Fig. 2.19:4–5).

2. A typical Chalcolithic sickle blade, bi-truncated, trapezoidal in section and backed with a finely retouched working edge (Fig. 2:5). Similar blades were discovered at Ḥorbat ‘Uza, Strata 17–16 (Getzov and Lieberman-Wander 2009: Figs. 2.47:1–2; 2.52:1, 8).

3. An Early Bronze Age fragmented Canaanite sickle blade (Fig. 2:6).

An additional item worthy of mention is a broken Chalcolithic adze (Fig. 2:7). Similar items were found in both an Early Chalcolithic site, Yir’on East (Uziel et al. 2007: Figs. 23:2; 24:1), and in Late Chalcolithic assemblages—Kaukab (Hermon 2008: Fig. 31:2) and Ḥorbat ‘Uza 17–16 (Getzov and Lieberman-Wander 2009: Fig. 2.51:1).

DISCUSSION

Although the flint collection from Ḥorbat Zefat ‘Adi (East) is small and does not originate from secure loci, its study reflects three or possibly even four distinct periods of occupation. Three of them were clearly discerned: from the Pre-Pottery Neolithic B and the Early Chalcolithic (post Wadi Rabah) periods and from the Early Bronze Age. An Early Chalcolithic occupation at the site is further verified by the rich ceramic assemblage found during the excavation (Smithline 2015: Figs. 12, 13). In addition, one sickle blade that may be attributed to the Pottery Neolithic (Yarmukian/Jericho IX) was recorded. This limited assemblage has been augmented by finds from a more recent salvage excavation at the site, albeit in a separate area, directed by N. Feig (Permit No. A-4990). This excavation revealed a multilayer, prehistoric/proto-historic occupation sequence. At least four of the layers date to the Early Bronze Age, the Early Chalcolithic and the Pottery Neolithic periods (N. Feig and H. Khalaily, personal communication). The Pottery Neolithic (Yarmukian/Jericho IX) assemblage from this later excavation is characterized by Herzliya and Amuq points. Blades exhibiting fine ventral retouch and an axe attributed to the Pre-Pottery Neolithic B were also unearthed. The flint finds from the two excavations indicate the existence of PPNB and Early Bronze Age occupations at the site in addition to the Early Chalcolithic and Pottery Neolithic presence discussed above.

NOTE

¹ I would like to thank the excavator, Howard Smithline, for inviting me to publish these finds.

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