

# THE FLINT ASSEMBLAGES FROM TEL MAGAL

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The flint artifacts from the excavation at Tel Magal (see 'Ad and Yannai, this volume) were retrieved from a stratigraphic sequence that includes strata dating to the Early Pottery Neolithic (Jericho IX culture; Stratum IX), Late Pottery Neolithic (Wadi Raba culture; Strata VIII, VII) and Early Bronze Age (Strata VI–I), as well as isolated finds of Pre-Pottery Neolithic B (PPNB).<sup>1</sup> Since the number of flint artifacts is small (n = 982, 83 of them tools; Tables 1, 2), the assemblages will be described as one unit without any attempt to separate the artifacts according to strata. However, chronologically diagnostic tools (e.g., sickle blades, bifacials) will be referred to according to their particular period. The plates are arranged chronologically, by type.

## Waste Material

Most of the flint artifacts from Tel Magal were manufactured from ordinary quality flint, containing chalk inclusions and varying in color from beige to gray-brown. This type of flint probably originated in the immediate vicinity of the site. In addition, there are two different types of high-quality flint (of Eocene origin?), which were used exclusively for the production of Canaanean blades. One is fine-grained and dark-brown, while the other is coarser, light gray-brown in color. The source of these flints was probably some distance from the site, since no cores of sickle-blade production were retrieved. The closest workshop for Canaanean blades is at Har Haruvim, 30 km to the northeast, where dozens of Canaanean blade-cores of similar coarse-grained, light gray-brown flint were found (Meyerhof 1960; Shimelmitz, Barkai and

**Table 1. Waste Frequencies**

Type	N	%
Primary elements	45	8.1
Flakes	410	73.7
Blades/bladelets	84	15.1
Canaanean blades	7	1.3
CTEs	10	1.8
<i>Total debitage</i>	<i>556</i>	<i>100.0</i>
Chunks	92	28.0
Chips	236	72.0
<i>Total debris</i>	<i>328</i>	<i>100.0</i>
Debitage	556	56.6
Debris	328	33.4
Cores	15	1.5
Tools	83	8.5
<i>Total</i>	<i>982</i>	<i>100.0</i>

**Table 2. Tool Frequencies**

Type	N	%
Neolithic tools	12	14.5
Canaanean sickle blades	16	19.3
Retouched Canaanean blades	11	13.3
Notches on Canaanean blades	3	3.6
Tabular scrapers	2	2.4
Notches and denticulates	9	10.8
End scrapers	7	8.4
Borers	2	2.4
Truncations	1	1.2
Awls	8	9.6
Retouched flakes	8	9.6
Retouched blades/bladelets	4	4.8
<i>Total</i>	<i>83</i>	<i>99.9</i>

Gopher 2000:6). An exhausted Canaanean core of similar raw material was also found in the Early Bronze Age strata at the nearby site of 'En Esur, together with Canaanean blades (Milevski et al. 2006).

The flint assemblages in all the strata at Tel Magal are dominated by flake production, while blades and bladelets are present in low frequencies (Table 1). Cores for ad-hoc tool production are rare (Table 1), and most of them are amorphous and small (length <40 mm). The majority of these cores were used for the production of flakes and chips (Fig. 1:1); only two were used to produce bladelets (Fig. 1:2).

### *Tools*

The tool collection consists of tools that are diagnostic of either the Neolithic period or the Early Bronze Age, as well as ad-hoc tools that are not diagnostic of any particular period, and can be attributed to both. The group of ad-hoc tools is the most abundant. It consists mainly of retouched pieces, notches/denticulates, awls, borers and end-scrapers (e.g., Fig. 1:3, 4). Most of them are made on flakes, and only a few, on blades.

*The Neolithic Assemblage* (Fig. 2) has three components, which represent three different facies of the period. The first component is represented by a single, elongated broken sickle blade, brown and semi-translucent. Heavy gloss covers the ventral and dorsal surfaces along its right edge; it shows fine denticulation on the ventral surface and on the left side, opposite the working edge, there is a retouched notch (Fig. 2:1). This type of sickle blade is characteristic of the PPNB (Khalaily and Marder 2003: Fig. 4.4). The second component consists of three different types of tools: a bifacial knife, which was shaped by pressure retouch (Fig. 2:2); several sickle blades, fashioned by partial pressure retouch on the dorsal and ventral surfaces, with no modification on the back (Figs. 2:3–5); and a sickle blade with semi-abrupt retouch on the

back. The working edge of the sickle blade was modified by a deep bifacial denticulation (Fig. 2:4, 5). Similar tools were found at sites such as Ha-Gosherim (Khalaily 1999: Figs. 15:3; 16:2.4–7), Lod (Blockman 1997: Fig. 16:1, 2, 4) and Nizzanim (Yeivin and Olami 1979: Fig. 11:1, 7, 9, 10, 12, 13), which are attributed to the Early Pottery Neolithic (sixth millennium BCE; Jericho IX culture). The third component includes rectangular, backed sickle blades, usually with a trapezoidal cross section. The working edges of the sickle blades display a fine regular retouch or fine denticulation (Fig. 2:6). A broken chisel can also be ascribed to this group (Fig. 2:7). Such chisels are common at the nearby site of 'En Esur (Milevski et al. 2006) and in many sites along the coastal plain and in northern Israel (Barkai and Gopher 1999: Figs. 12:5, 8, 9; 13:5). These tools are attributed to the Late Pottery Neolithic (fifth millennium BCE; Wadi Raba culture).

*The Early Bronze Age Assemblage* (Figs. 3, 4) is characterized by Canaanean sickle blades and Canaanean retouched blades. Other tools on Canaanean blades, such as notches, are not common (Table 2). The edges of the sickle blades were shaped by fine regular, fine irregular and deep denticulation, which usually appears on both the ventral and dorsal surfaces of the items (Figs. 3; 4:1, 2). Occasionally, the blades' edges were left plain, sometimes they show a few signs of use (Figs. 3:5; 4:1). Sickle gloss appears on one or both edges, on the dorsal surface, on the ventral surface, or on both surfaces (Figs. 3; 4:1, 2). Most of the retouched Canaanean blades are broken, usually on both edges. These items were modified by partial, irregular, fine retouch (Fig. 4:3, 4).

In addition, two broken tabular scrapers were found. One of them presents horizontal incisions on the cortex (Fig. 1:5). It should be noted that incised tabular scrapers are distinctive of the Early Bronze Age flint assemblages (Schick 1978; Greenhut 1989; Marder, Braun and Milevski 1995; Rosen 1997; Milevski 2013).

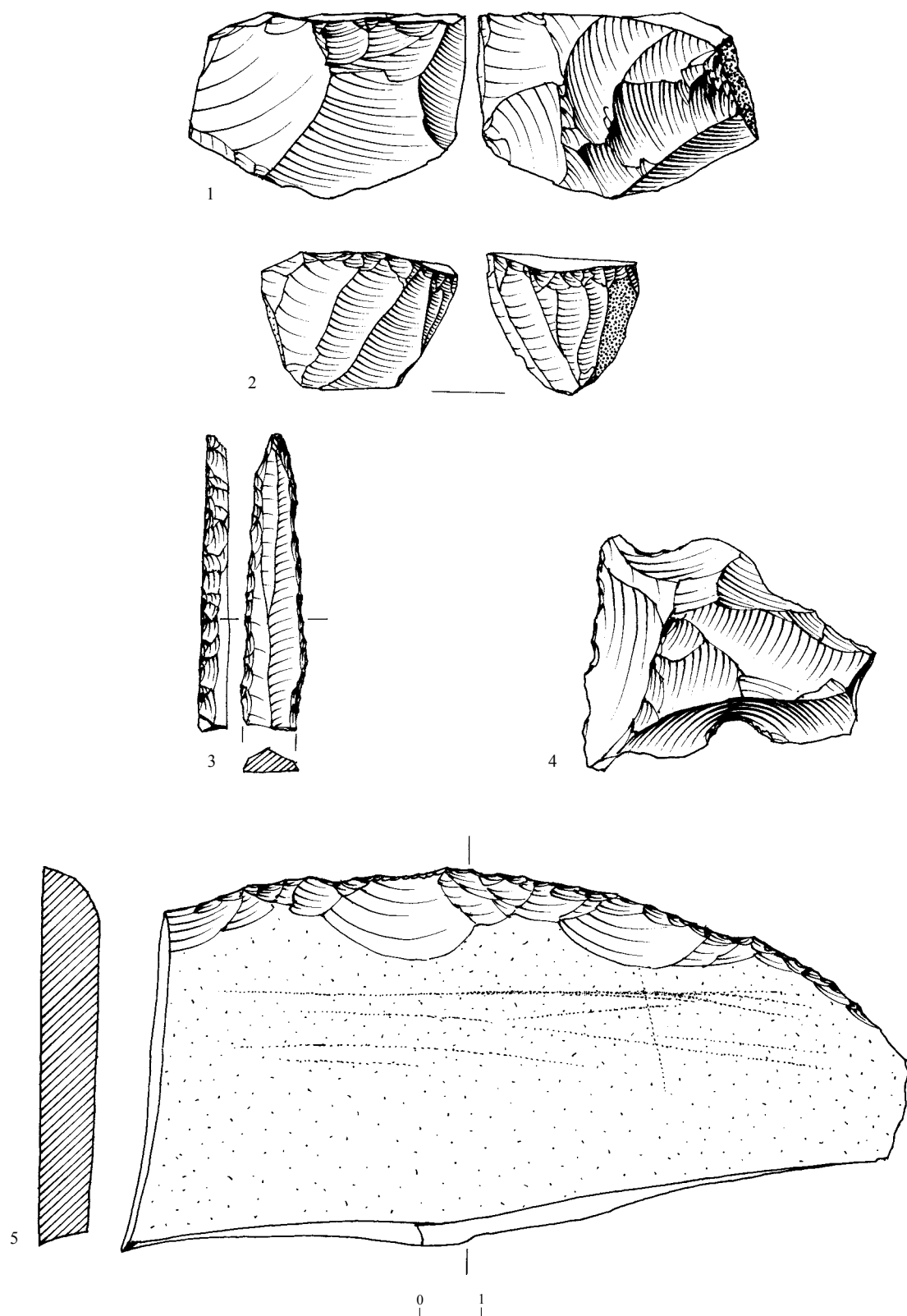


Fig. 1. Ad-hoc tools: cores (1, 2); borer (3); notch (4); and tabular scraper (5).

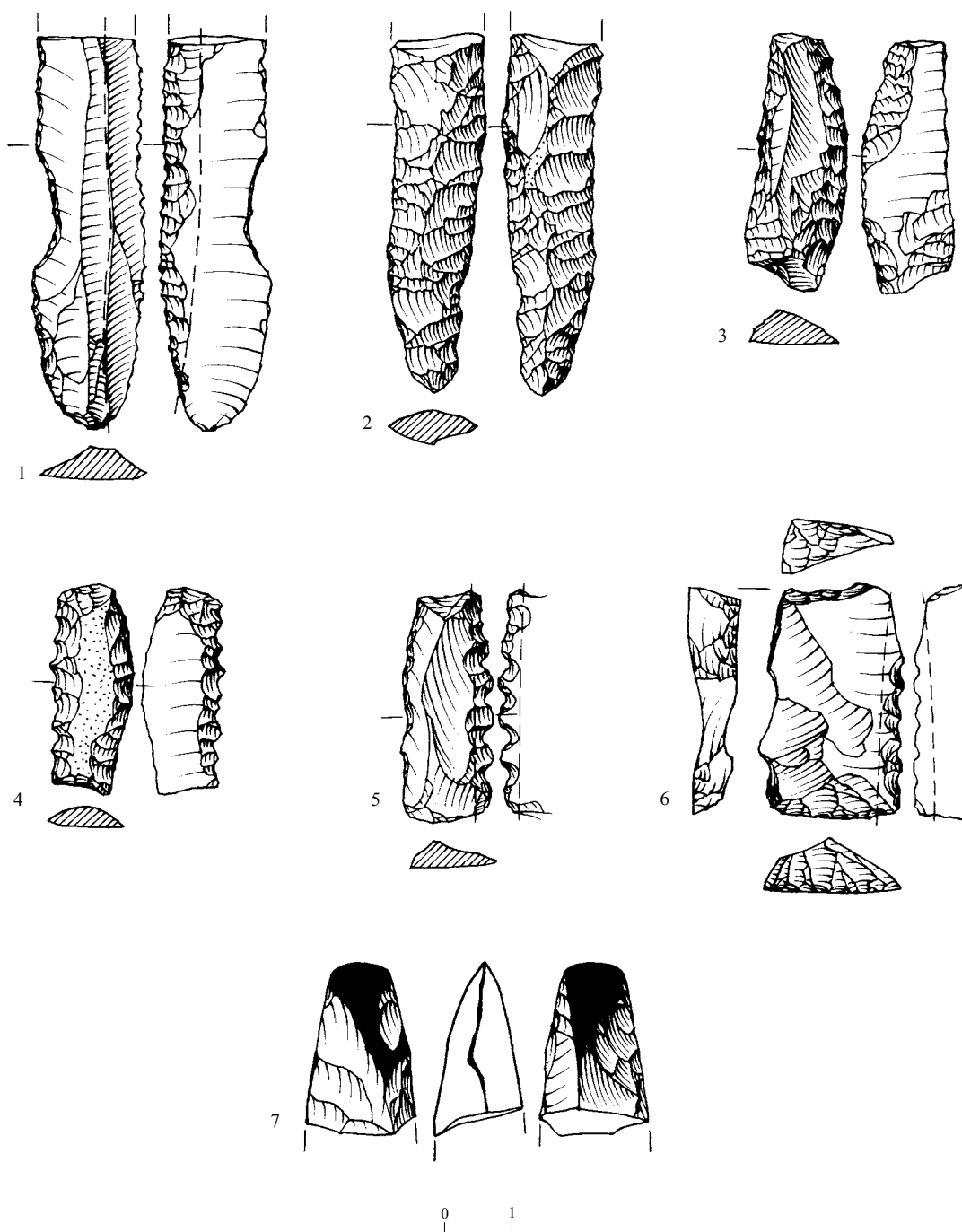


Fig. 2. The Neolithic assemblage: sickle blade, PPNB (1); bifacial knife, Early Pottery Neolithic—Jericho IX culture (2); sickle blades, Early Pottery Neolithic—Jericho IX culture (3–5); sickle blade, Late Pottery Neolithic—Wadi Raba culture (6); chisel, Late Pottery Neolithic—Wadi Raba culture (7).

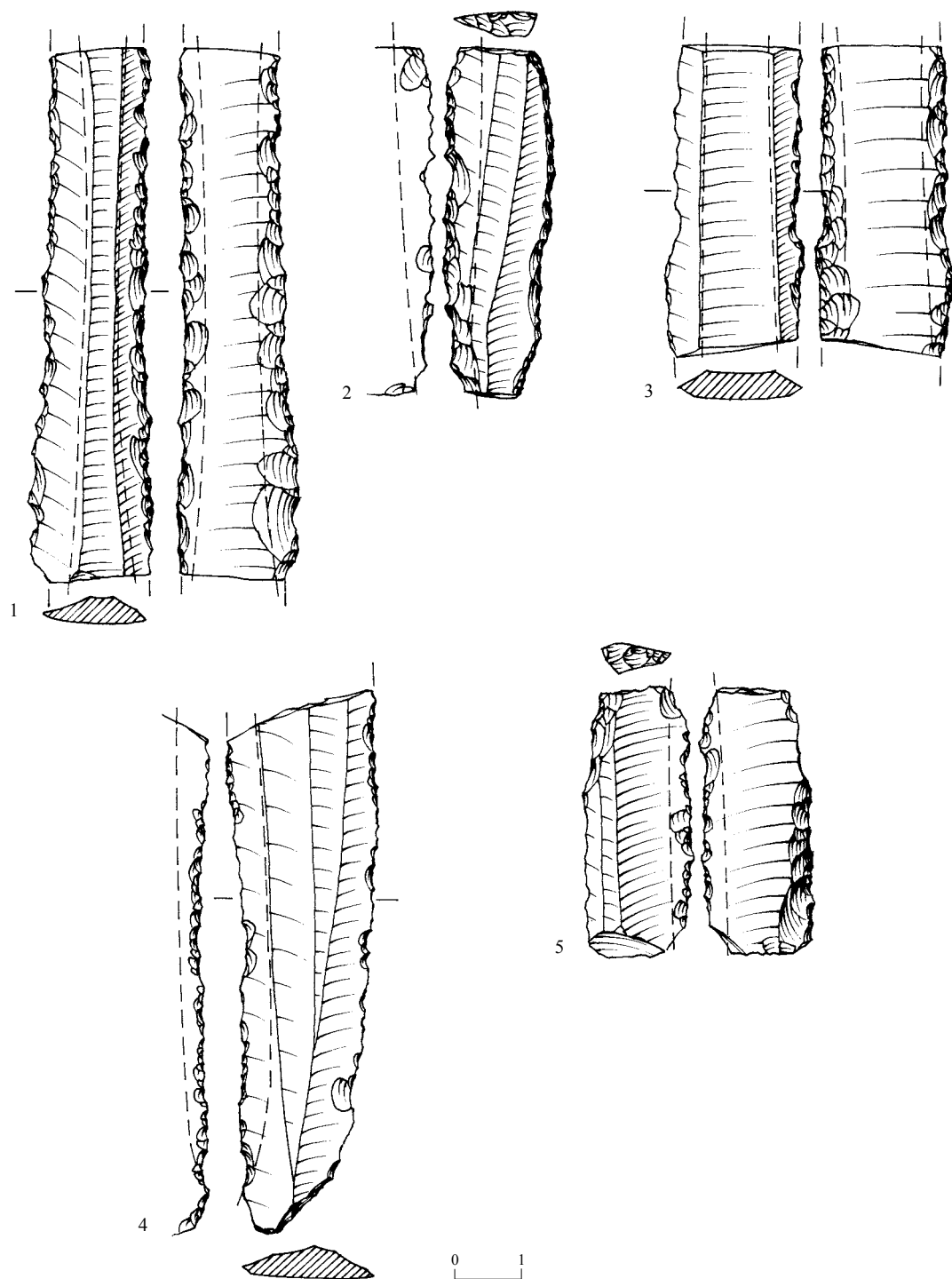


Fig. 3. The Early Bronze Age assemblage: Canaanite sickle blades.

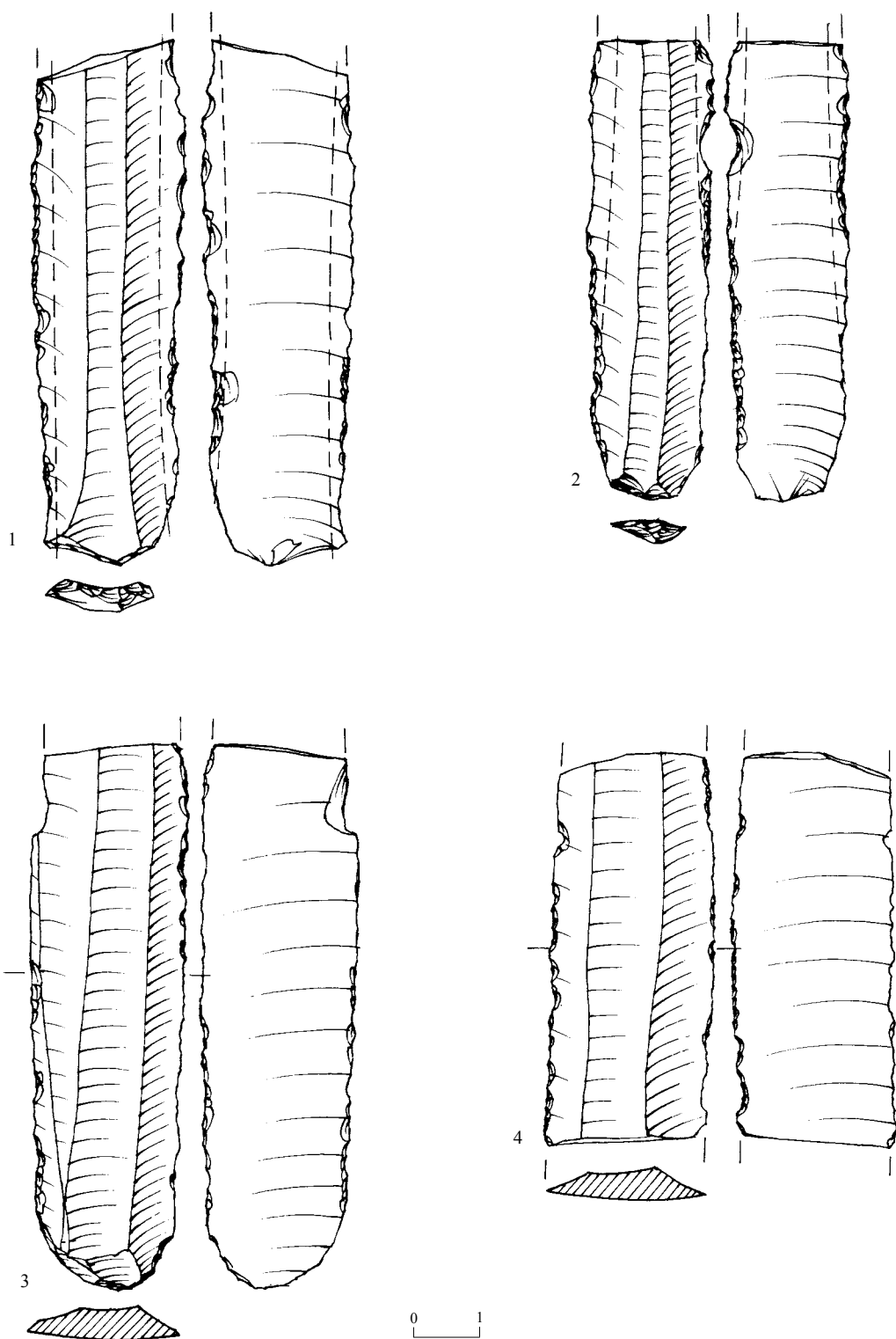


Fig. 4. The Early Bronze Age assemblage: Canaanite sickle blades (1, 2); Canaanite retouched blades (3, 4).

### Discussion

The Tel Magal flint assemblage displays four distinct pre- and proto-historic periods. Three of them (Early Pottery Neolithic, Late Pottery Neolithic and Early Bronze Age) are directly associated with archaeological strata at the site, while the fourth (PPNB) is represented only by a few isolated artifacts. At this stage of research, it is not clear whether these items appear randomly at the site, or if there is a PPNB stratum underlying the Early Pottery Neolithic horizon.

Canaanite sickle blades and Canaanite retouched blades are dominant within the Early Bronze Age tool-kit at Tel Magal, while other types of tools, especially multiple tools on Canaanite blades, which are frequent in Early Bronze Age assemblage elsewhere (cf. Marder, Braun and Milevski 1995; Zbenovich 2004), are absent. This is probably due to the fact that the site is situated near the sources of raw material for the Canaanite tools, which were therefore not recycled or reused.

### NOTE

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