

## CHAPTER 7

### THE CHIPPED STONE ASSEMBLAGE

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The chipped stone assemblage from Area B at Yesodot (Khirbet Umm el-Kalkha) is biased towards tools because almost no *débitage* was retained during excavation. Table 7.1 is a summary of the chipped stone artifacts collected. Figure 7.1 is a site plan showing the find spots of the artifacts. Graphic recording of the chipped stone tools can be found in Figure 7.2.

*Débitage* (N=4, Table 7.1:1, 2, 12, 14): Three core trimming elements (Table 7.1:1, 12, 14) and one chip (Table 7.1:2) were recovered from the site. Smaller *débitage* fragments were not collected. The retained flakes and chip could conceivably have been used as *ad hoc* blades or scrapers, although no retouch was applied to them. Microscopic analysis of use-wear patterns would confirm or deny this potential *ad hoc* usage. These flakes were found in Middle Bronze Age and Late Bronze Age (henceforth MB and LB) contexts.

*Core* (N=1, Table 7.1:13; Fig. 7.2:1): The single core recovered from the site produced both flakes and bladelets. Typologically this piece fits the general mixed core tradition (Rosen 1997: 66). However, it is unclear whether the mixed nature of the scar pattern reflects a desire to produce non-bladelet flakes, or simply to prepare striking platforms for bladelets. This core was found in a disturbed context. A Chalcolithic date is likely (see below, sickles).

*Blades* (N=3, Table 7.1:46; Fig. 7.2:2-4): Three simple retouched blade fragments were found. The large-grained chert used for these blades—as opposed to the smoother, harder gray and Eocene flint of the sickles—is revealing of their function and low value, as is the relatively poor standard of

workmanship. Both of these factors might explain the hinge fractures on two of the three blades.

Dates for such simple blades are difficult to assign, their presence having been noted in Neolithic-through-Iron Age contexts. The locus in which these blades were found did not yield clearly datable finds, but it overlay an LB locus—which supports an LB date. It may be worth noting here that a poor quality of workmanship has been associated with an increased use of metal objects, which are understood as supplanting stone tools' practical role and causing their function or status to shift (Rosen 1997: 111, 153, 158, 162)—although Rosen would also maintain that the situation is more complex than this.

*Sickle segments* (N=5, Table 7.1:3, 11, 15-17; Fig. 7.2:5-9): Five sickle segments were recovered. One (Fig. 7.2:5) is a trapezoidal Large Geometric piece and therefore MB or LB in date. Three others (Fig. 7.2:6-8) are in the backed-and-truncated sickle segment tradition, which is a Chalcolithic phenomenon in the southern Levant (apart from the Negev; Rosen 1997: 60). Although two (Fig. 7.2:6, 7) were found in MB/LB contexts, these three sickle segments—along with the above-mentioned core (Fig. 7.2:1)—form something of a group in that they were all made from brown Eocene flint. It is likely, therefore, that they represent Chalcolithic or Neolithic items re-used by the Bronze Age occupants.

The use of backing in these sickle pieces suggests that they were hafted (Rosen 1997: 64) and therefore—as one expects of sickles—they served a cutting and slicing function, rather than deep sawing. Backing also supports a Chalcolithic date, although there are examples of backed blades from Intermediate Bronze Age contexts (Rosen 1997: 65).

Table 7.1. Chipped stone artifacts, according to locus.

No.	Locus	Field no.	Description	Typological Lifespan	Length (mm)	Width (mm)	Thickness (mm)	Level (t/b)	Type (after Rosen 1997)		
1.	137	1049/5	flake (core trimming element); marbled light gray, cortex	X	46	29	9	81.6/81.56	n/a		
2.		1049/6	chip; brown		28	12	10				
3.	139	1057/2	sickle blade fragment (Canaanean, retouched); marbled medium gray, cortex	Ch-EB	66	21	11	81.54/81.5	C1		
4.	140	1056/2	blade fragment; grainy beige	N-IAII	69	31	5	81.71/81.53	C4		
5.		1056/4	blade fragment; dark gray		75	25	6				
6.		1056/5	blade fragment: grainy beige/gray		87	21	5				
7.		1056/6	notch (flat): grainy gray	N-MBI	82	50	12		J1a		
8.		1056/7	notch (flat): dark gray, cortex		72	46	15				
9.		1056/8	notch (flat): dark gray, cortex		94	57	14				
10.		1056/9	notch (flat): beige/light gray, cortex		74	31	8				
11.		150	1052/1	trapezoidal sickle segment (backed)	MBI-IAII	42	29		9	81.62/81.61	B4c
12.			1052/2	flake (core trimming element): marbled	X	117	62		33		n/a
13.		301	3001/3	core (mixed flake and bladelet); brown	Ch-IAII	58	45		37	82.11/81.84	n/a
14.	339	3120/26	flake (core trimming element); beige	X	50	27	15	80.88/80.83	n/a		
15.	386	3294/1	sickle blade segment (backed)	Ch-IA	70	15	5	79.98/79.62	B3b		
16.	414	3359/1	sickle blade segment (backed, truncated)		78	23	8	79.45/79.15			
17.	surface	3360/1	sickle blade segment (backed, truncated)		86	27	7	X			

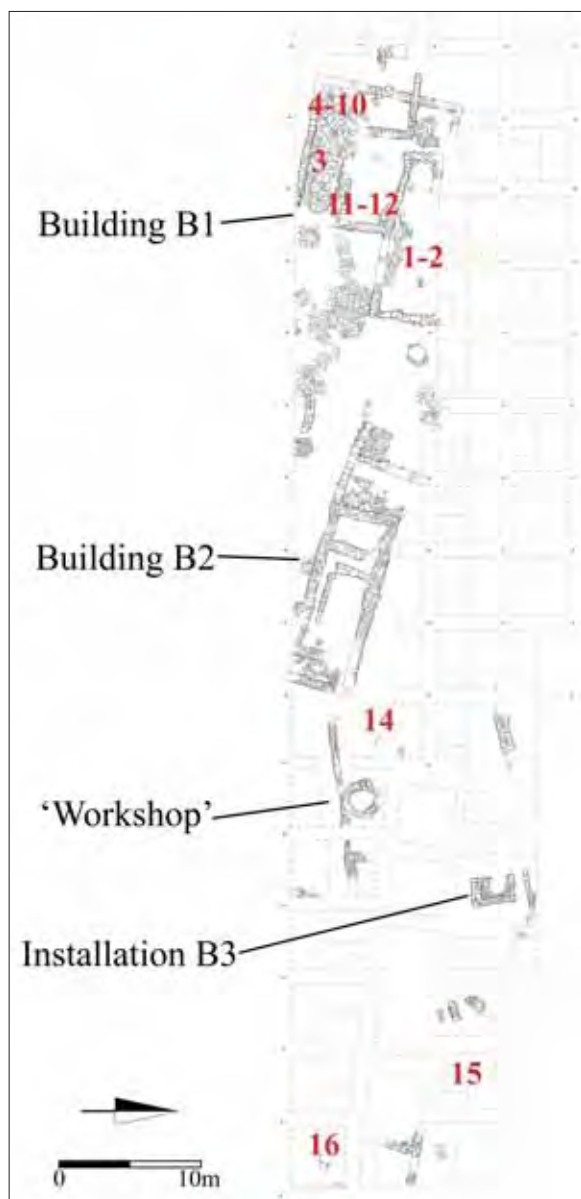


Fig. 7.1. Details and find locations of chipped stone artifacts from Area B (numbers in red correspond to those in Table 7.1).

A fifth sickle fragment (Fig. 7.2:9), of a marbled gray cortex flint, is very much of the Canaanite type—steep sides and prismatic profile—which would probably suggest a 4th–3rd millennium date, conceivably as ancient as the Early Bronze Age (see Rosen 1997: 60, Fig. 3.19). It was found in an LB context, to which it might have arrived through disturbance or re-use. The parallel longitudinal sides of this Canaanite sickle are a technical

feat that may have been achieved using a punch, which could have been made of copper (Rosen 1997: 48).

These sickle fragments and segments have been identified largely on the basis of gloss. Of course, gloss is not the exclusive preserve of sickles. Studies have shown that a similar lustrous effect can be produced on flint tools by cutting canes, reeds, woodworking, and perhaps even by hoeing and digging (Neuville 1934-5; Anderson 1980; Unger-Hamilton 1984, 1991; Rosen 1997: 55, citing Curwen 1930, 1935). Therefore microscopic analysis of these tools would be required to conclusively establish their identification as sickles. In the meantime, basing our interpretation on typology and the balance of evidence, we are confident in categorizing these pieces as sickles.

*Notches* (N=4, Table 7.1:7-10; Fig. 7.2:10, 11): This tool type is difficult to classify and can often be confused with larger (secondary) flakes and core trimming elements.

Four notches of the flat type were found. None show signs of retouch. One of them includes a facet of cortex. Dating notches is also very problematic. However, these four pieces were found in the same stratigraphically-late context (L140) as the above-mentioned poor-quality blades (Table 7.1:4-6, Fig. 7.2:2-4). That seven prosaic stone tools were the (only) artifactual contents of this locus is interesting in itself. Two of the blades and four of the notches (Table 7.1:5-10) may even have been struck from the same core.

## Conclusions

Going on typology alone, many of the chipped stone tools in Area B could conceivably pre-date the Bronze Age settlement. They are types with very long life spans. Stratigraphically, however, most are to be associated with the settlement. On balance, such an association seems likely. The blades and notches appear to be LB in date, with the débitage and sickles either MB or LB. Noteworthy is the concentration of chipped stone artifacts around Building B1.

Table 7.2. Chipped stone tools, according to type.

No.	Type; description	Type (after Rosen 1997)	Typological lifespan	Length (mm)	Width (mm)	Thickness (mm)	Locus	Field no.	Level
1.	Core (mixed flake and bladelet); probably Chalcolithic; brown	n/a	Ch-IAII	58	45	37	301	3001/3	82.11/81.84
2.	Blade; fragment; probably LB; grainy beige	C4	N-IAII	69	31	5	140	1056/2	81.71/81.53
3.	Blade; fragment; probably LB; dark gray	C4	N-IAII	75	25	6	140	1056/4	81.71/81.53
4.	Blade; fragment; probably LB; grainy beige/gray	C4	N-IAII	87	21	5	140	1056/5	81.71/81.53
5.	Sickle segment; trapezoidal, backed; probably MB/LB	B4c	MBI-IAII	42	29	9	150	1052/1	81.62/81.61
6.	Sickle blade segment; backed; probably originally Chalcolithic/ Neolithic, and re-used in MB/LB	B3b	Ch-IA	70	15	5	386	3294/1	79.98/79.62
7.	Sickle blade segment; backed, truncated; probably originally Chalcolithic/ Neolithic, and re-used in MB/LB	B3b	Ch-IA	78	23	8	414	3359/1	79.45/79.15
8.	Sickle blade segment; backed, truncated; probably Chalcolithic/ Neolithic	B3b	Ch-IA	86	27	7	surface	3360/1	X
9.	Sickle blade; Canaanian; fragment; retouched; marbled medium gray, cortex	C1	Ch-EB	66	21	11	139	1057/2	81.54/81.5
10.	Notch (flat); dark gray, cortex	J1a	N-MBI	72	46	15	140	1056/7	81.71/81.53
11.	Notch (flat); dark gray, cortex	J1a	N-MBI	94	57	14	140	1056/8	81.71/81.53

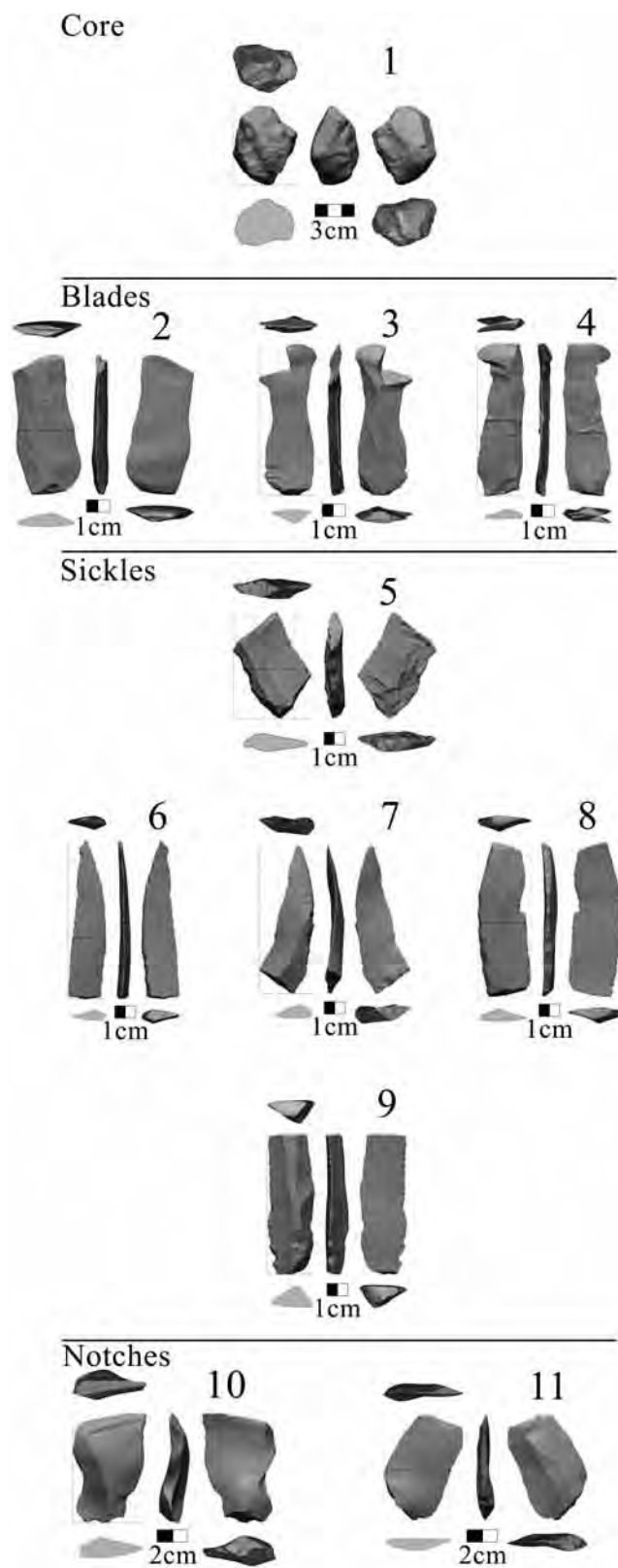


Fig. 7.2. Chipped stone tools, according to type. Details are provided in Table 7.2.

The only exceptions to this MB and LB stratigraphic association are the Canaanite sickle fragment (Fig. 7.2:9) and the Eocene flint pieces (the backed and truncated sickle segments [Fig. 7.2:6-8], and the core [Fig. 7.2:1]). On typological grounds, these pieces are unambiguously older than the settlement and any stratigraphic association with the latter can only be the result of re-use, bioturbation, or some other means of disturbance. It may be that these tools came from the early phases of Area A (Paz and Nativ, in preparation). In this context it is also worth noting the proximity of Chalcolithic Gat Guvrin, which has yielded Canaanite lithics (Khalaily and Hermon, forthcoming).

Regarding intra-site spatiality, the general dearth of chipped stone tool debitage sampled from Area B makes it impossible to identify stone working areas (if any such specialized areas existed). However, it is

noteworthy that the recovered assemblage indicates a concentration of chipped stone tool use around Building B1 (with a find apiece from Building B2, Installation B3 and the waste disposal area at the east end of the site also).<sup>1</sup> It is tentatively suggested that the three blades and four notches found in L140 at the west end of Building B1 indicate at least one episode of tool manufacture, or were part of a flint cache or butchering area.

The chipped stone tools from Area B reveal that stone tool production was also being carried out on the site and that stone blades were in use, some at least being recycled items from earlier occupations. These blades support the impression that cereals were probably an important element of the settlement's subsistence strategy and economy. Microscopic use-wear analyses might allow for a more detailed picture.

## References

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<sup>1</sup> Of course, a certain interpretive weight must be given to the fact that these sections of the site were, as a matter of course, more carefully excavated than the intervening squares and Area Ba to the west.