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KABAZI II:  
LAST INTERGLACIAL OCCUPATION,  
ENVIRONMENT & SUBSISTENCE

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Палеолитические стоянки Крыма,  
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КАБАЗИ II:  
ПРИРОДА И ЧЕЛОВЕК ВРЕМЕНИ  
ПОСЛЕДНЕГО ИНТЕРГЛЯЦИАЛА

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# Chapter 6

## Kabazi II, Units V and VI: Artefacts

*Victor P. Chabai*

The artefacts presented in this chapter have been classified following the principles of Gladilin classification which was adopted by Chabai and Demidenko for stone assemblages of Crimean Middle Palaeolithic (Gladilin 1976, Chabai, Demidenko 1998). The artefacts of Units V and VI were recovered from a total of 19 archaeological levels, all of which are separated by sterile sediments and should be regarded as discrete archaeological assemblages (see Chapter 1). In this chapter an attempt is made to place these individual assemblages within the context of the Crimean Middle Palaeolithic period.

### STRUCTURE OF ARTEFACT ASSEMBLAGE

The artefact assemblages of Units V and VI comprise a total of 1378 items (Table 6-1). With the exception of two bone retouchers (level VI/11-14) and one pebble tool (level VI/9), all were made on flint. The dominant category is chips (<3 cm), followed by flakes, tools, and chunks (Table 6-1). In contrast, blades, preforms, cores and unfinished bifacial tools are rare, and in each case do not exceed 1 % of the total number of artefacts. Generally speaking, whilst flakes and tools represent the most important pieces of the assemblages, the remaining artefact categories are not statistically pronounced. Additionally, there are no significant statistical differences in the composition of the artefact assemblages from the different levels. To sum up, the structure of each of the artefact assemblages is characterised by the dominance of debitage, a relatively high component of

tools, and the presence of preforms, cores and unfinished bifacial tools. In addition, the sandstone pebbles and fragments of sandstone pebbles should also be mentioned at this point. These were found in each level, although none of them exhibit any evidence of exploitation either as hammer-stones or retouchers. The only modified sandstone pebble is the chopper from level VI/9.

The composition of the assemblages very closely resembles assemblages from Kabazi II, levels III/1-III/3, Sary Kaya, and Chokurcha, Unit IV (Chabai 1998d, 2004b, Veselsky 2003), all of which are characterised by a high amount of tools contrasting a low quantity of cores and preforms. At the same time, of all the complexes mentioned, the assemblages of Kabazi II, Units V and VI demonstrate the lowest percentages of tools.

	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
Chunks	2	·	·	3	3	2	2	7	2	5	7
Chips	53	30	51	72	74	29	40	32	28	56	54
Flakes	10	5	13	18	12	9	14	8	6	20	13
Blades	·	·	·	4	·	·	2	·	·	1	·
Preforms	·	1	1	·	·	·	·	·	·	·	1
Cores	·	·	·	·	·	·	1	1	1	2	·
Unfinished bifacial tools	1	·	·	2	·	1	·	1	·	·	·
Tools	6	4	4	4	5	5	4	3	3	6	4
Total	72	40	69	103	94	46	63	52	40	90	79

	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total:	%	% ess
Chunks	3	2	3	3	9	·	1	1	55	3,99	
Chips	48	45	66	24	170	12	4	2	890	64,59	
Flakes	17	19	13	9	79	2	3	1	271	19,67	62,59
Blades	·	5	2	·	4	2	·	·	20	1,45	4,62
Preforms	·	·	·	1	4	·	·	·	8	0,58	1,85
Cores	1	1	2	·	2	1	·	·	12	0,87	2,77
Unfinished bifacial tools	2	1	1	·	2	·	·	·	11	0,79	2,54
Tools	5	9	12	2	32	2	·	1	111	8,06	25,63
Total	76	82	99	39	302	19	8	5	1378	100,00	100,00

Table 6-1 Kabazi II, levels V/3-VI/17: artefact totals.

## CHUNKS

The chunks – pieces of raw material without pronounced traces of flaking - were found in all levels of Units V and VI with exception of the levels V/4, V/5 and V/15. These pieces rarely exceed 4 cm in maximum dimensions. The only exception is a

single piece of flint plaquette (6,2 x 3,5 x 2,1 cm) from level VI/10. This flint plaquette may constitute the only example of raw material storage brought onto the site area.

## PREFORMS

Preforms are tested flint plaquettes or big primary flakes which might be modified into either core or bifacial tools (Fig. 6-1, 3). They are represented in a total of five levels (Table 6-1). The biggest preform was found in level VI/7 (13,0 X 6,3 X 4,9 cm), and the smallest in level VI/11-14 (5,2 X 5,3 X 4,2 cm). With respect to raw material supply the evidence for flint

storage is not very pronounced, but nevertheless existent. One relatively big flint plaquette which was identified as a chunk and seven preforms comprise about 0,5 – 2 % in both total and essential accounts (Table 6-1). In other words, evidence for flint storage is rare and was only found in 5 of 19 levels.

## CORES

Cores were found in a total of nine levels (Table 6-1). The cores are represented by relatively big (no less than 6 cm in maximum dimension) and not exhausted items (Fig. 6-2, 1, 2). The small number of cores

makes it difficult to define the dominant types. The single-platform and multi-platform cores are more or less equally represented (Table 6-2). The flaking surfaces of both single- and multi-platform cores

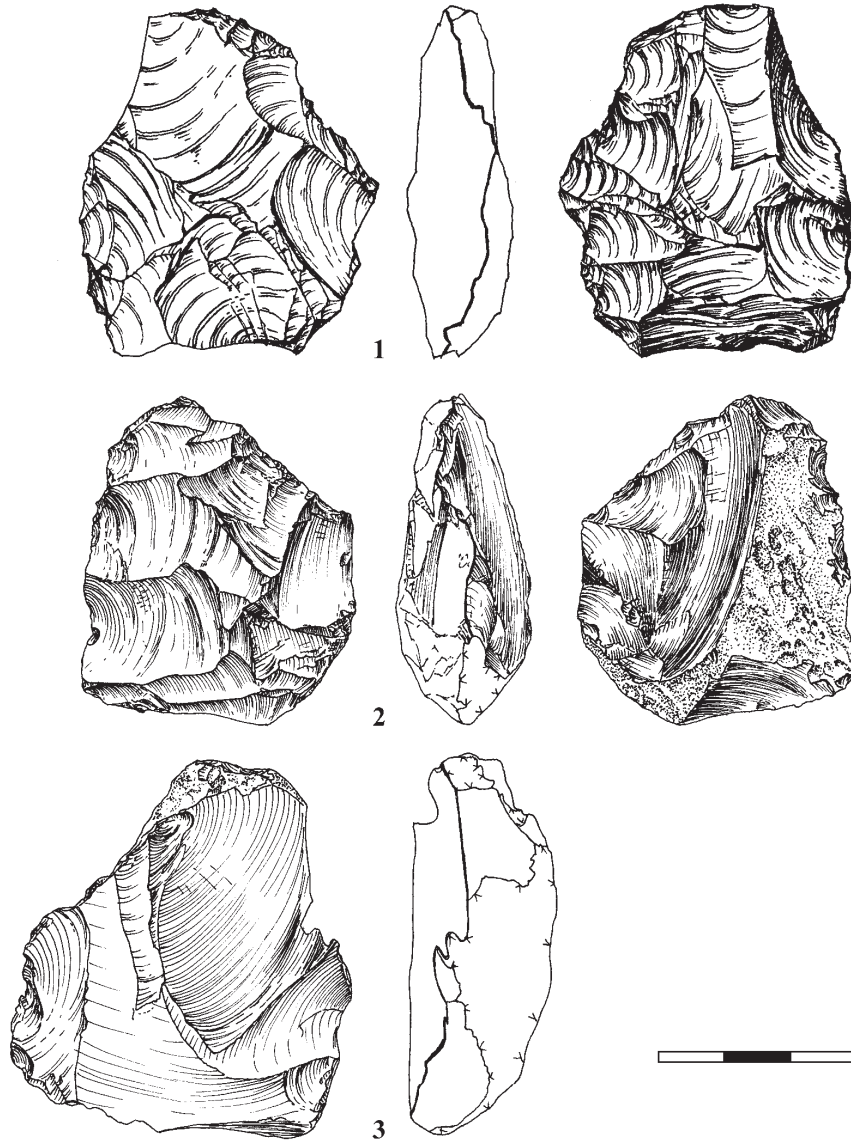


Fig. 6-1 Kabazi II, levels V/3 (1), V/5 (3) and VI/8 (2). Unfinished bifacial tools – 1, 2. Preform on flake – 3.

	VI/3	VI/4	VI/5	VI/6	VI/8	VI/9	VI/9A	VI/11-14	VI/15	Total
Parallel, transverse	1	.	.	.	.	.	.	.	.	1
Parallel, narrow flaked surface	.	.	1	.	.	.	.	.	.	1
Parallel	.	.	.	1	.	.	2	.	.	3
Bi-directional	.	.	.	.	.	1	.	.	.	1
Bi-directional, conjoined	.	.	.	.	.	.	.	.	1	1
Orthogonal, alternative	.	.	.	1	.	.	.	.	.	1
Unsystematic, cubic	.	1	.	.	1	.	.	1	.	3
Unidentifiable	.	.	.	.	.	.	.	1	.	1
Total	1	1	1	2	1	1	2	2	1	12

Table 6-2 Kabazi II, levels V/3-VI/17: cores.

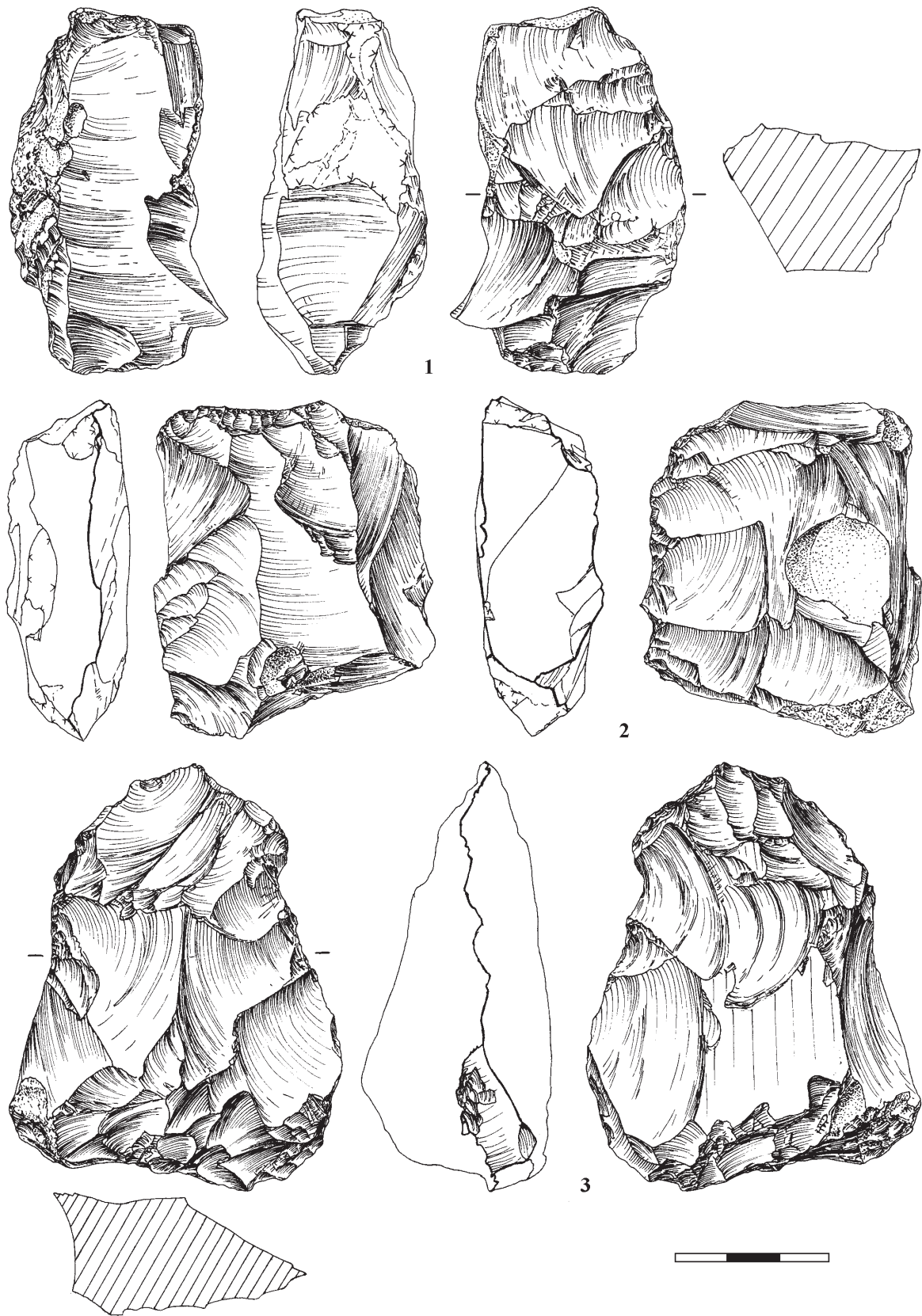


Fig. 6-2 Kabazi II, levels V/6 (3), VI/6 (2) and VI/15 (1). Cores: 1 – bidirectional conjoined; 2 – orthogonal alternative. Unfinished bifacial tool – 3.

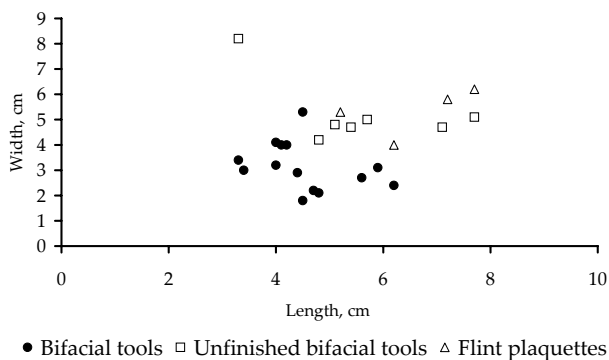
often exhibit a series of parallel negatives. The dominant feature of the core assemblage is the absence of supplementary platforms, as well as the scarcity of faceted main platforms. It would appear that the makers of these assemblages did not practice any specific methods of striking platforms and of flaking surface preparation. In other words, core reduction tends to be of "situational" or "badly controlled" character when the change of removal directions and

striking platforms was caused by the appearance or disappearance of convexity in one or another part of core flaking surface. Taking into account the parallel character of removals, this core reduction strategy has been termed parallel "primitive" flaking (Chabai, Sitlivy 1993). Such core treatment usually results in a number of hinge fractures on the dorsal surface, short proportions of flakes, incurvate lateral profiles and hinged distal ends.

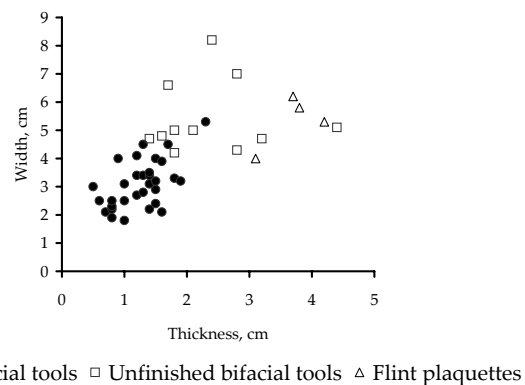
## UNFINISHED BIFACIAL TOOLS

Unfinished bifacial tools were found in eight levels (Table 6-1), and represent one of the most peculiar categories of artefacts (Fig. 6-1, 1, 2; 6-2, 3). On the one hand, they are very closely related to cores, especially when they are broken. On the other hand, they show significant similarities to bifacial tools. Unfinished bifacial tools are in fact raw material pieces which were given a plano-convex shape. They differ from finished tools by the absence of retouch on their edges. In addition, unfinished bifacial tools differ from cores by the absence of

pronounced striking platforms. A further problem is encountered in the identification of the stage of bifacial tool transformation. This could either represent the first stage of bifacial tool manufacture, or equally, a stage of bifacial tool reshaping. In the assemblages, the maximum dimensions of unfinished bifacial tools vary from 8 cm to 4 cm. Only in four cases does the size of an unfinished bifacial tool fall within the range of complete bifacial points and scrapers (Fig. 6-3; 6-4), a possible indication of bifacial tool reshaping.



**Fig. 6-3** Kabazi II, levels V/3-VI/17: length/width scatterplot for bifacial tools, unfinished bifacial tools and tested flint plaquettes.



**Fig. 6-4** Kabazi II, levels V/3-VI/17: width/thickness scatterplot for bifacial tools, unfinished bifacial tools and tested flint plaquettes.

## BLANK VARIABILITY

The dominant category of blanks is chips, followed by flakes and bifacial thinning chips. The remaining categories of blanks are only present in very small percentages (Table 6-3). The total percentage of bifacial thinning debitage (including chips, flakes and blades) lies at 12,75 %. Compared to such sites as Chokurcha I, Unit IV, Buran Kaya III, Starosele,

level 1 and Kabazi V, Unit III (Chabai 2004b, Demidenko 2004a, Marks and Monigal 1998, Yevtushenko 1998b), this is the lowest percentage of bifacial thinning debitage. Usually, the amount of bifacial debitage is twice the size. This may be evidence for the comparatively small role of bifacial tool utilisation at the site.

	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
Chips**	48	27	41	60	60	24	34	27	24	51	46
Flakes**	11	6	16	19	16	10	13	11	8	21	12
Blades**	.	.	.	3	.	.	.	.	.	1	.
Bifacial thinning & rejuvenation chips	5	3	10	12	14	5	6	5	4	5	8
Bifacial thinning & rejuvenation flakes	1	.	1	2	.	.	4	.	.	2	4
Bifacial thinning blades	.	.	.	1	.	.	1	.	.	.	.
Total	65	36	68	97	90	39	58	43	36	80	70

	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total	%
Chips**	43	36	61	22	142	11	4	1	762	60,73
Flakes**	20	24	20	9	89	3	3	2	313	24,94
Blades**	.	5	3	.	5	3	.	.	20	1,59
Bifacial thinning & rejuvenation chips	5	9	5	2	28	1	.	1	128	10,19
Bifacial thinning & rejuvenation flakes	2	1	2	1	10	.	.	.	30	2,39
Bifacial thinning blades	.	.	.	.	.	.	.	.	2	0,16
Total	70	75	91	34	274	18	7	4	1255	100,00

\*including tools and preforms

\*\*including "regular" and one with broken butts

**Table 6-3** Kabazi II, levels V/3-VI/17: blank variability\*.

## Chips

Chips are subdivided into three groups: "regular" – 222 pieces; bifacial thinning chips – 128 pieces; and unidentifiable fragments of chips (distal parts) – 540 pieces. Thus, bifacial thinning chips comprise 36,57 % of all identifiable items, and were found in all levels except in level VI/16. Three bifacial thinning chips were obtained from bifacial tool tips. Two of them are typical Prondnik para-burin spalls (Fig. 6-5, 4, 7). The remaining bifacial thinning chips were taken from the edges of bifacial tools (Fig. 6-5, 10). In fact, the role played by the rejuvenation of bifacial tips at the site is relatively small in comparison to other Crimean Micoquian assemblages, e.g. at Starosele, level 1 and Buran Kaya III, layer B where the ratio of rejuvenation chips from bifacial tips is several times higher. Yu. Demidenko (2003b) sees the reason for this anchored in a more intensive bifacial tool reduction at the site.

Additionally, the chips were subdivided into three metric groups: 0,1 – 0,9 cm; 1,0 – 1,9 cm; and 2,0 – 2,9 cm. The first group comprises 12 % of the "regular" and 16,8 % of the bifacial thinning chips, the second group – 50,2 % and 49,6 %, and the third group – 37,8 % and 33,6 % respectively.

## Flakes and Blades

Blades, which are rare and not standardized, were

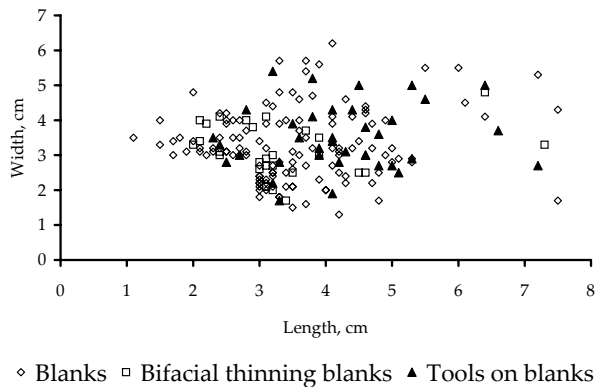
found in seven of the 19 levels (Bordian Index lam=6,03). Two of the 22 blades exhibit pronounced features of bifacial debitage (Fig. 6-5, 2). Therefore, there is no reason to suggest the presence of any kind of blade technology. On the other hand, the evidence for the application of bifacial technology is more pronounced: bifacial thinning blanks comprise 15,9 % of all flakes and blades with preserved platforms (Fig. 6-5, 1, 3, 5, 6, 8, 9, 11, 12, 13, 14). However, this said, the ratio of bifacial thinning blanks at the site still appears to be the smallest among all Crimean Micoquian assemblages.

## Dimensions

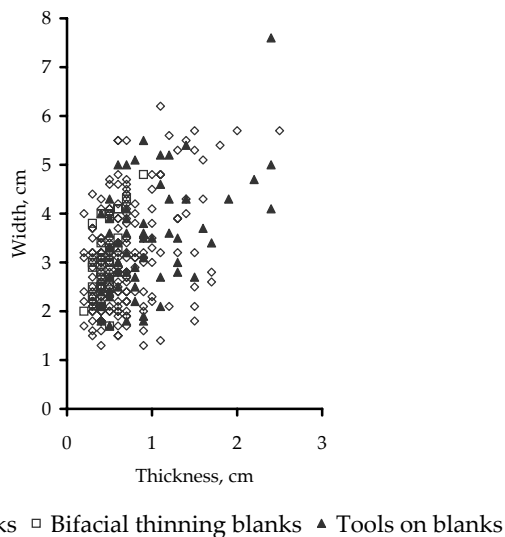
The average dimensions of all types of blanks are: length – 3,89 cm, width – 2,86 cm, thickness – 0,69 cm. At the same time, the "regular" blanks are somewhat larger (av. length – 3,95 cm, av. width – 3,32 cm, av. thickness – 0,73 cm), while the bifacial thinning blanks are somewhat smaller (av. length – 3,33 cm, av. width – 3,11 cm, av. thickness – 0,46 cm). In fact, the majority of "regular" blanks, bifacial thinning blanks and unifacial tools demonstrate about the same dimensions (Fig. 6-6; 6-7). The exceptions are those very few big flakes and tools on flakes whose dimensions are beyond the metric clusters of bifacial thinning debitage (Fig. 6-6; 6-7). The nature of such debitage metrics might be the result of a technologically different origin of "big" and "small" blanks. The "small" blanks might be the result of the shaping of cores, preforms and bifacial tools, while the



Fig. 6-5 Kabazi II, levels V/3 (1), V/4 (12), V/6 (13), VI/1 (14), VI/2 (4), VI/3 (2, 9), VI/7 (3), VI/9 (7), VI/9A (8), VI/11-14 (5, 6, 10, 11). Bifacial thinning debitage: 10 – overpassed chip; 2 – blade; 1, 5, 6, 8, 9, 11, 12, 13, 14 – flakes. Bifacial rejuvenating debitage: 4, 7 – Prondnik para-burin spalls on chip, 3 – flake from bifacial tool tip. Retouched piece: 8 – bilaterally inversely retouched bifacial thinning flake.



**Fig. 6-6** Kabazi II, levels V/3-VI/17: length/width scatterplot for different kinds of blanks and tools on blanks.



**Fig. 6-7** Kabazi II, levels V/3-VI/17: width/thickness scatterplot for different kinds of blanks and tools on blanks.

“big” blanks originate from the initial stage of flint plaquette reduction and, therefore, might be linked with off-site raw material exploitation.

*Surface Cortex*

More than a half (60,77 %) of all blanks demonstrate some cortex on the dorsal surface, and 14,79 % exhibit dorsal surfaces completely covered by cortex. The abundant corticated debitage might be viewed as the result of intensive on-site raw material reduction. At the same time, the proportion of corticated debitage stemming from flint plaquettes, which were

relatively thin and corticated on both sides, is very high. In the Crimean Micoquian, flint plaquettes usually serve as the most frequent blank for core, bifacial tool and preform production. Neither a specific pattern in the position of cortex on dorsal surfaces, nor any indication of any differences in the cortex of “regular” and bifacial thinning debitage could be observed.

*Dorsal Scar Patterns*

The dominant types of dorsal scars are the uni-directional and 3-directional flakes and blades with no or little cortex (Table 6-4). These comprise more than half (55,07 %) of all types of dorsal scar patterns. Additionally, primary debitage is common to all Units V and VI assemblages. The types of dorsal scar patterns mentioned are characteristic for both “regular” and bifacial thinning debitage. The same, or roughly the same, patterns of dorsal scars have been noted at a number of Crimean assemblages with pronounced amounts of bifacial tools and a rarity – or even absence – of cores (Kolosov 1983, Chabai 1998d, 2004b, Yevtushenko 1998b, Marks, Monigal 1998, Demidenko 2004a).

*Axes*

On-axis blanks prevail among both “regular” and bifacial thinning debitage (Table 6-5). Altogether they comprise about 60 % of all kinds of blanks.

*Shapes*

There are no differences in shape type representations between “regular” and bifacial thinning blanks. Trapezoidal shapes are dominant among both “regular” and bifacial thinning blanks (Table 6-6). These are followed by rectangular and irregular forms. The remaining shape types are relatively rare. Blanks tend to be short and wide, or even transversal, elongated shapes are seldom represented. No differences were found in the distribution of shape types between “regular” and bifacial thinning debitage. It should be noted that the dominance of trapezoidal shapes is more characteristic to Micoquian assemblages (Chabai 2004b), while the Levallois-Mousterian blank collections demonstrate a dominance of elongated rectangular shapes of both flakes and blades (Chabai 1998c). Such a difference might be explained by the technologies employed: on the one hand, the plano-convex bifacial method of flaking adopted by Micoquian, and, on the other, the blade and Levallois Tortoise core flaking methods used in the Levallois-Mousterian.

*Lateral & Distal Profiles*

Three types of lateral profiles dominate in roughly

	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
Radial	.	.	.	1	1	1	.	.	.	.	.
Radial with cortex	.	.	.	.	.	.	.	.	.	1	.
Lateral	.	.	1	.	.	.	.	.	.	1	1
Lateral with cortex	.	.	.	1	1	.	.	.	1	.	.
Bi-lateral	.	.	.	2	1	.	.	.	.	1	.
Bi-lateral with cortex	.	.	.	.	.	.	.	.	.	1	.
Uni-directional	2	1	4	2	1	.	3	.	1	1	3
Uni-directional with cortex	4	1	.	3	3	1	4	1	.	2	1
Bi-directional	.	.	.	1	.	.	.	.	2	1	.
Bi-directional with cortex	.	1	1	2	2	1	.	.	1	1	1
3-directional	2	1	1	.	2	2	2	1	1	6	.
3-directional with cortex	2	.	1	4	1	2	1	3	1	3	2
4-directional	.	.	.	.	.	.	.	.	.	.	2
4-directional with cortex	.	.	.	.	.	.	.	.	.	2	.
Cortex	1	1	5	3	3	3	4	4	.	1	2
Total	11	5	13	19	15	10	14	9	7	21	12

	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total	%
Radial	.	.	.	.	.	.	.	.	3	0,97
Radial with cortex	.	.	.	.	.	.	.	.	1	0,32
Lateral	2	.	.	.	3	.	.	.	8	2,57
Lateral with cortex	3	2	2	.	8	1	2	.	21	6,75
Bi-lateral	.	.	.	.	1	.	.	.	5	1,61
Bi-lateral with cortex	.	.	1	.	3	.	.	.	5	1,61
Uni-directional	3	1	4	1	6	.	.	1	34	10,93
Uni-directional with cortex	3	10	4	1	10	1	1	.	50	16,08
Bi-directional	1	.	1	.	3	.	.	.	9	2,89
Bi-directional with cortex	.	2	.	1	4	.	.	.	17	5,47
3-directional	1	5	4	.	18	1	.	.	47	15,11
3-directional with cortex	2	3	2	3	9	1	.	.	40	12,86
4-directional	1	.	1	.	6	.	.	.	10	3,22
4-directional with cortex	1	.	.	.	5	1	.	.	9	2,89
Cortex	1	2	3	3	10	.	.	.	46	14,79
Crested, secondary	1	1	1	.	3	.	.	.	6	1,93
Total	19	26	23	9	89	5	3	1	311	100,00

**Table 6-4** Kabazi II, levels V/3-VI/17: blank dorsal scar patterns.

equal ratios: twisted, flat and curved in the medial part (Table 6-7). Furthermore, three types of distal profiles are dominant: feathered, hinged and blunt (Table 6-7). No differences were identified in the profile type proportions of "regular" and bifacial thinning blanks. On the whole, the assemblages discussed here are based on curved blanks with either blunt or hinged distal extremities. The flat blanks with feathered distal end comprise barely 20 % of both "regular" and bifacial thinning blanks. Such blank profile patterns are characteristic for Micoquian assemblages, being based predominantly on the

implication of bifacial plano-convex technology. The Crimean Levallois-Mousterian assemblages demonstrate a dominance of laterally flat and distally feathered profiles (Chabai 1998c).

#### *Cross-sections at Midpoint*

Blanks with triangular and trapezoidal cross-sections at mid-point are represented in about equal proportions and comprise more than two thirds of all cross-section types studied (Table 6-8). There then follow the blanks with lateral steep and convex cross-sections. The remaining mid-point,

		V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
On-axis	Blanks	6	1	5	13	8	5	10	4	3	13	4
	Bifacial thinning blanks	1	.	1	2	.	.	4	.	.	2	4
Off-axis	Blanks	3	.	5	4	3	3	2	5	3	5	5
	Bifacial thinning blanks	.	1	.	1	.	.	1	.	.	.	.
Total		10	2	11	20	11	8	17	9	6	20	13

		VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total	%
On-axis	Blanks	8	18	9	4	46	3	2	2	164	53,42
	Bifacial thinning blanks	1	1	.	1	3	.	.	.	20	6,51
Off-axis	Blanks	9	7	13	3	36	3	1	.	110	35,83
	Bifacial thinning blanks	1	.	2	.	7	.	.	.	13	4,24
Total		19	26	24	8	92	6	3	2	307	100,00

**Table 6-5** Kabazi II, levels V/3-VI/17: blank axis.

	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
Trapezoidal	1	1	7	6	3	3	7	5	5	9	4
Rectangular	4	1	1	4	3	4	5	1	.	6	3
Treangular	.	.	.	.	1	.	.	.	1	2	.
Crescent	1	.	1	3	.	.	.	.	.	.	1
Ovoid	1	.	.	1	1	.	.	.	.	.	.
Leaf shaped	.	.	.	.	.	.	1	.	.	.	.
Irregular	1	1	.	3	2	1	3	.	.	1	3
Total	8	3	9	17	10	8	16	6	6	18	11

	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total	%
Trapezoidal	9	6	7	5	37	3	1	1	120	43,17
Rectangular	4	11	6	1	16	1	2	.	73	26,26
Treangular	1	3	.	.	1	.	.	.	9	3,24
Crescent	.	2	6	.	7	1	.	.	22	7,91
Ovoid	.	1	.	2	4	.	.	.	10	3,59
Leaf shaped	.	.	.	.	1	.	.	1	3	1,08
Irregular	1	2	3	1	19	.	.	.	41	14,75
Total	15	25	22	9	85	5	3	2	278	100,00

**Table 6-6** Kabazi II, levels V/3-VI/17: blank shapes.

cross-section types are represented by insufficient numbers of blanks. There are no differences in cross-section type percentages of "regular" and bifacial thinning blanks.

*Platform Preparation*

The platform preparations encountered on "regular"

and bifacial thinning debitage are quite different (Table 6-9). Among "regular" blanks the plain and dihedral platforms dominate, while the different types of faceted platforms are represented only by insufficient percentages. At the same time, the faceted straight and faceted convex platforms comprise about half of the total number of butts of bifacial

	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
Flat	2	1	4	5	3	·	6	3	3	9	2
Incurvate medial	2	1	2	8	2	4	7	2	2	4	1
Incurvate distal	2	·	1	3	7	·	1	2	1	2	3
Twisted	3	3	3	6	2	6	3	2	·	2	8
Convex	1	·	2	1	1	1	1	·	1	4	2
Total	10	5	12	23	15	11	18	9	7	21	16

	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total	%
Flat	4	3	3	1	28	1	·	·	78	23,10
Incurvate medial	5	6	3	3	18	1	1	·	72	21,30
Incurvate distal	3	2	4	3	15	1	·	·	50	14,80
Twisted	5	15	7	2	27	3	2	1	100	29,60
Convex	4	2	6	·	11	·	·	1	38	11,20
Total	21	28	23	9	99	6	3	2	338	100,00

	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
Feathering	1	2	3	5	4	5	5	4	2	7	·
Blunt	1	·	3	6	7	2	3	1	3	5	4
Overpassed	·	·	·	1	1	·	1	·	·	·	1
Hinged	5	2	4	3	2	1	4	·	·	6	3
Retouched	·	·	·	1	1	1	2	·	·	1	2
Total	7	4	10	16	15	9	15	5	5	19	10

	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total	%
Feathering	5	8	8	3	33	3	1	·	99	35,10
Blunt	4	9	5	3	16	·	·	1	73	25,90
Overpassed	·	·	3	·	4	·	1	·	12	4,30
Hinged	7	8	4	3	27	1	1	1	82	29,10
Retouched	·	·	2	·	6	·	·	·	16	5,60
Total	16	25	22	9	86	4	3	2	282	100,00

**Table 6-7** Kabazi II, levels V/3-VI/17: blank lateral & distal profiles.

thinning debitage (Fig. 6-5, 1, 2, 5, 13, 14). Such a difference in platform preparation resulted in rather different indexes of faceting for “regular” (IfI=45,8; Ifs=15,8) and bifacial thinning (IfI=62,8; Ifs=48,6) debitage. The same indexes for both “regular” and bifacial thinning debitage are: IfI=49,7; Ifs=23,2. The last values are characteristic for a number of Crimean Micoquian assemblages where “regular” and bifacial thinning debitage were studied as a combined complex of blanks.

#### *Platform Lipping & Platform Angles*

The difference in the platform lipping of “regular” and bifacial thinning debitage is very pronounced, and is obviously caused by the definition of bifacial

thinning flakes and blades (Table 6-10). At the same time, it must be noted that so-called “regular” debitage also demonstrates very high percentages of lipped and semi-lipped platforms.

Bifacial thinning debitage demonstrates the dominance of obtuse platform angles, this is also due to the definition of bifacial thinning flakes and blades (Table 6-11). Platforms with obtuse and semi-obtuse angles are very pronounced among “regular” debitage.

#### *Platform Dimensions*

The platform metrics of bifacial and “regular” debitage compose - with very few exceptions - a rather dense cluster (Fig. 6-8). The average dimensions of

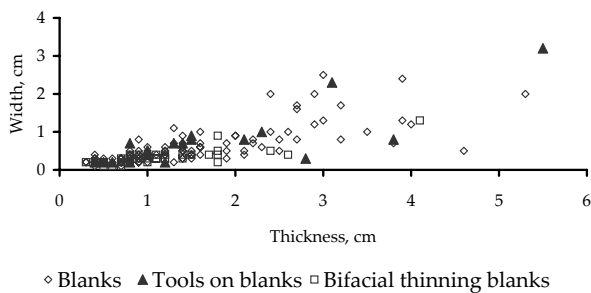
	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
Triangular	5	1	3	8	5	3	4	1	·	8	9
Trapezoidal	4	1	5	8	2	4	8	3	4	9	4
Polyhedral	·	·	1	1	·	·	·	1	·	·	·
Convex	2	2	2	2	·	1	3	3	·	1	2
Lateral steep	·	·	·	3	3	1	3	·	1	2	·
Irregular	·	·	2	1	3	·	·	·	·	·	·
False burin	·	·	·	·	·	·	·	·	·	1	·
Total	11	4	13	23	13	9	18	8	5	21	15

	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total	%
Triangular	6	5	7	2	35	·	1	1	104	32,10
Trapezoidal	9	13	8	3	32	·	1	1	119	36,70
Polyhedral	·	·	1	·	1	1	·	·	6	1,90
Convex	2	4	2	2	10	·	·	·	38	11,70
Lateral steep	1	3	6	1	13	4	1	·	42	12,90
Irregular	1	·	·	2	1	·	·	·	10	3,10
False burin	1	3	·	·	·	·	·	·	5	1,60
Total	20	28	24	10	92	5	3	2	324	100,00

**Table 6-8** Kabazi II, levels V/3-VI/17: blank cross-sections.

all striking platforms are: thickness – 0,54 cm; and width – 1,41 cm. The average dimensions of “regular” blank platforms are somewhat larger: thickness – 0,57 cm; and width – 1,47 cm. In contrast, the average dimensions of bifacial thinning blanks platforms are somewhat smaller: thickness – 0,34 cm; and width – 1,18 cm.



**Fig. 6-8** Kabazi II, levels V/3-VI/17: width/thickness scatterplot for striking platforms of different kinds of blanks and tools on blanks.

*General Characteristics of Debitage*

Taking into account all attributes thus far described, it is possible to conclude that the most common piece ofdebitage is a short and relatively thin flake with a somewhat obtuse, lipped and mainly plain

platform which is much thinner and narrower than the same flake dimensions. Furthermore, this flake tends to be of trapezoidal shape, with a fairly curved lateral profile, a hinged or blunt distal extremity and a mid-point cross-section which is either triangular or trapezoidal. Often, the flake is partially covered by cortex, while the non-corticated part of the dorsal surface demonstrates uni-directional or three-directional negatives from previous removals. Such features are in a good agreement with a reduction of available cores, preforms and bifacial tools as proposed above. Taking into account the number of cores and bifacial tools at different stages of reduction, it is reasonable to suggest that the majority of flakes result from bifacial reduction. Statistics have shown that there are no differences between the attributes of formally determined bifacial thinning pieces and co-called “regular” blanks. At the same time, the ratio of defined bifacial thinningdebitage in Kabazi II, Units V and VI (Table 6-3) is about two times lower than in the assemblages from sites such as Chokurcha I, Unit IV and Buran Kaya III, layer B, where bifacialdebitage comprises about a quarter of all blanks (Chabai 2004b, Demidenko 2004a). Also, in Kabazi II, Units V and VI the unifacial tools made on bifacial thinning blanks are extremely rare. In fact, there were very few retouched pieces made on bifacial thinning flakes (Fig. 6-5, 8). In contrast, at

	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
<i>Blanks</i>											
Cortex	.	.	1	3	1	1	.	.	.	.	.
Plain	3	1	2	3	4	3	1	3	1	6	.
Dihedral	.	.	1	.	1	.	1	3	3	3	.
Multihedral	1	.	.	.	.	.	.	.	.	.	.
Faceted straight	.	.	2	.	1	1	2	1	.	1	.
Faceted convex	1	.	.	.	.	.	.	.	.	.	1
Faceted concave	.	.	.	.	.	.	.	.	.	.	1
Retouched	.	1	1	.	.	.	1	.	.	.	.
Unidentifiable	1	.	1	3	2	1	2	.	1	3	6
Total	6	2	8	9	9	6	7	7	5	13	8
<i>Bifacial thinning blanks</i>											
Plain	.	1	.	2	.	.	.	.	.	2	3
Dihedral	.	.	.	.	.	.	2	.	.	.	.
Multihedral	1	.	.	.	.	.	.	.	.	.	.
Faceted straight	.	.	1	1	.	1	1	.	.	.	1
Faceted convex	.	.	.	.	.	.	2	.	.	.	.
Total	1	1	1	3	.	1	5	.	.	2	4
	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total	%	
<i>Blanks</i>											
Cortex	.	.	.	.	8	.	.	.	14	7,60	
Plain	5	7	6	2	16	2	.	.	65	35,10	
Dihedral	2	2	2	2	12	1	1	1	35	18,90	
Multihedral	.	.	.	.	.	.	.	.	1	0,60	
Faceted straight	1	.	.	.	3	.	.	.	12	6,50	
Faceted convex	.	1	.	.	2	.	1	.	6	3,20	
Faceted concave	.	.	.	.	.	.	.	.	1	0,60	
Retouched	2	3	5	.	5	.	.	.	18	9,70	
Unidentifiable	3	.	2	.	8	.	.	.	33	17,80	
Total	13	13	15	4	54	3	2	1	185	100,00	
<i>Bifacial thinning blanks</i>											
Plain	1	.	.	.	4	.	.	.	13	37,10	
Dihedral	.	.	.	.	2	.	.	.	4	11,40	
Multihedral	.	.	.	.	.	.	.	.	1	2,90	
Faceted straight	1	1	2	.	3	.	.	.	12	34,30	
Faceted convex	.	.	.	1	2	.	.	.	5	14,30	
Total	2	1	2	1	11	.	.	.	35	100,00	

Table 6-9 Kabazi II, levels V/3-VI/17: blank platform types.

	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
<i>Blanks</i>											
Unlipped	5	1	2	5	4	2	1	1	.	5	.
Semi-lipped	1	.	2	.	2	2	2	2	1	4	1
Lipped	.	1	2	4	2	2	1	4	3	2	1
Total	6	2	6	9	8	6	4	7	4	11	2
<i>Bifacial thinning blanks</i>											
Semi-lipped	.	.	.	.	.	1	1	.	.	.	2
Lipped	1	1	1	3	.	.	4	.	.	2	2
Total	1	1	1	3	.	1	5	.	.	2	4
	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total	%	
<i>Blanks</i>											
Unlipped	1	1	3	.	4	2	.	.	37	25,40	
Semi-lipped	4	7	5	1	19	.	1	1	55	37,70	
Lipped	3	2	1	3	20	1	2	.	54	36,90	
Total	8	10	9	4	43	3	3	1	146	100,00	
<i>Bifacial thinning blanks</i>											
Semi-lipped	.	1	.	.	5	.	.	.	10	28,60	
Lipped	2	.	2	1	6	.	.	.	25	71,40	
Total	2	1	2	1	11	.	.	.	35	100,00	

**Table 6-10** Kabazi II, levels V/3-VI/17: blank platform lipping.

	V/3	V/4	V/5	V/6	VI/1	VI/2	VI/3	VI/4	VI/5	VI/6	VI/7
<i>Blanks</i>											
Right, 90	3	1	6	4	1	3	.	1	3	3	.
Semi-obtuse, 90-110	.	.	1	3	2	3	2	3	1	3	.
Obtuse, <110	2	.	1	2	4	.	2	3	.	5	2
Total	5	1	8	9	7	6	4	7	4	11	2
<i>Bifacial thinning blanks</i>											
Obtuse, <110	1	1	1	3	.	1	5	.	.	2	4
	VI/8	VI/9	VI/9A	VI/10	VI/11-14	VI/15	VI/16	VI/17	Total:	%	
<i>Blanks</i>											
Right, 90	2	2	2	1	7	2	1	.	42	28,9	
Semi-obtuse, 90-110	3	3	4	2	13	.	.	.	43	29,7	
Obtuse, <110	3	5	3	1	23	1	2	1	60	41,4	
Total	8	10	9	4	43	3	3	1	145	100,00	
<i>Bifacial thinning blanks</i>											
Obtuse, <110	2	1	2	1	11	.	.	.	35	100,00	

**Table 6-11** Kabazi II, levels V/3-VI/17: blank platform angles.

Chokurcha I, IV bifacial thinning blanks were used for the production of about 14 % of unifacial tools (Chabai 2004a).

It is important to note that a number of flakes and tools on flakes do not correspond very well to the spectrum of attributes mentioned, and can

barely be linked to the available preforms, cores and bifacial tools. For example, there are the relatively big flakes and tools on flakes whose length and/or width dimensions exceed 5 cm, with a thickness of more than 1 cm (Fig. 6-6; 6-7). Such tools and blanks might well be imported to the site area.

## TOOLS

Tools were found in 18 of 19 levels of Kabazi II, Units V and VI. Not a single retouched item was found in level VI/16. The tool kits of Units V and VI comprise the following classes of tools: points – 2,7 %, scrapers – 25,21 %, denticulates – 3,6 %, scaled pieces – 3,6 %, bifacial points – 1,8 %, bifacial points / scrapers – 6,32 %, bifacial scrapers – 13,52 %, bifacially retouched flint plaquette – 0,9 %, bifacially reutilised and heavily exhausted tools – 5,4 %, chopper – 0,9 %, retouched pieces – 24,32 %, thinned pieces – 0,9 %, unidentifiable unifacial tools – 5,42 %, unidentifiable bifacial tools – 4,5 % and bone retouchers – 1,8 %. The bifacial tools comprise 31,54 % of all tool kits.

In essential count (which exclude retouched pieces, thinned pieces, unidentifiable tools and the bone retouchers) the ratio of the different tool classes is as following: points – 4,28 %, scrapers – 40,01 %, denticulates – 5,72 %, scaled pieces – 5,72 %, bifacial points – 2,86 %, bifacial points / scrapers – 10,0 %, bifacial scrapers – 21,42 %, bifacially retouched flint plaquette – 1,43 %, bifacially reutilised and heavily exhausted tools – 7,13 %, chopper – 1,43 %. In this case, bifacial tools comprise 42,84 %. In both total and essential counts the ratio of bifacial tools is one the highest thus far observed in any Crimean Micoquian assemblage. Such a high amount of bifacial tools might well be explained by the impressive number of reutilised bifacial tools – these accounts for 1/6 of all identifiable bifacial tools, which is most unusual for the Crimean Micoquian. The bifacial tools were found in 15 of 18 levels of Units V and VI of Kabazi II. The relative absence of bifacial tools was noted for levels VI/4, VI/15 and VI/17, where the total number of tools varies from one to three pieces. Another feature specific to tool kits from Units V and VI is the wide implication of different kinds of thinning on the ventral surfaces of unifacial tools. A total of 21 of the 39 unifacial tools exhibit traces of ventral thinning. The closest analogy to Kabazi II, Units V and VI is to be found in the Sary Kaya assemblage excavated in 1985-86 field seasons, and which belongs to the Ak Kaya facies of the Crimean Micoquian (Kolosov et al. 1993, Chabai 2003b). At the same time, only very few unifacial tools from the mentioned Sary Kaya assemblage display any signs of ventral thinning.

### Points

Points were found in three levels: V/6, VI/8, VI/11-14 (Table 6-12). One point takes the form of a semi-leaf item (Fig. 6-9, 3), while two others are semi-crescents with a thinned back (Fig. 6-9, 1, 2). In fact, morphologically, the semi-crescent points are very close to the leaf shaped pieces, the only difference being the shape of the retouched edges. The leafed shaped point exhibits two symmetrically convex retouched edges, while the semi-crescent points display one edge which is slightly more convex than the other. The points were made by flat / semi-steep scalar retouch.

### Scrapers

Scrapers were found in 11 levels (Table 6-12), and are subdivided into 5 morphological groups: transverse, simple, double, convergent and core-like scrapers. The most representative are the simple (9 items) and convergent (10 items) scrapers, followed by the double (5 items), transverse (2) and core-like scrapers (2). The scrapers were made by scalar semi-steep / steep retouch. Half of the scraper-assemblage demonstrates either a base or back thinning of the ventral surface. In most cases, ventral thinning preceded the dorsal retouch. On the one hand, such methods of tool production, especially on convergent scrapers, might be seen as an analogy of the plano-convex method of bifacial tool production. On the other hand, the ventral thinning accompanied by invasive retouch might be evidence for a high degree of scraper assemblage reduction and / or utilisation.

### Transverse Scrapers

Two transverse scrapers originate from levels VI/1 and VI/5 (Table 6-12). In both cases the retouched edges are straight. The proximal part of a transverse scraper from level VI/5 was thinned from the ventral surface (Fig. 6-9, 4).

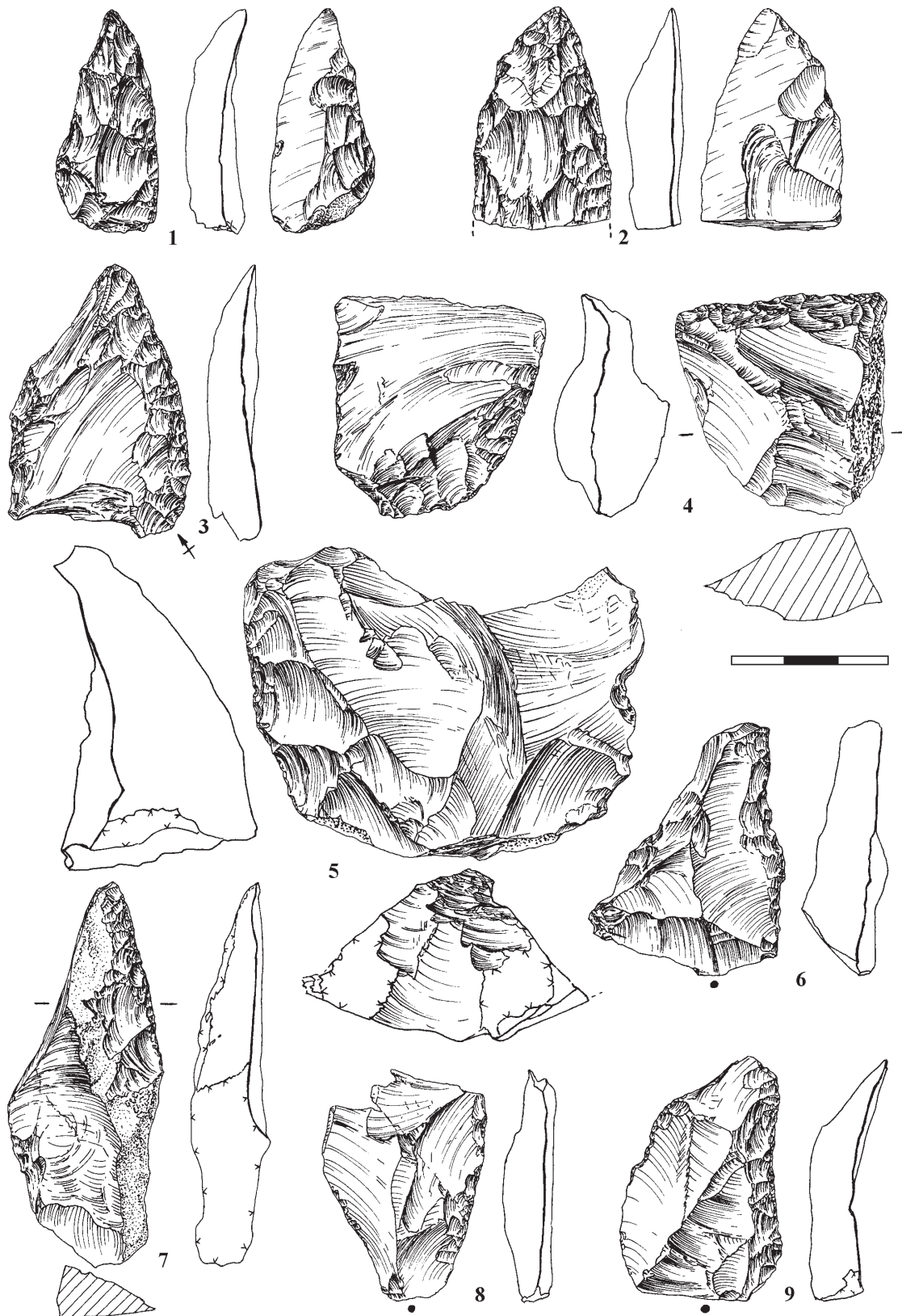
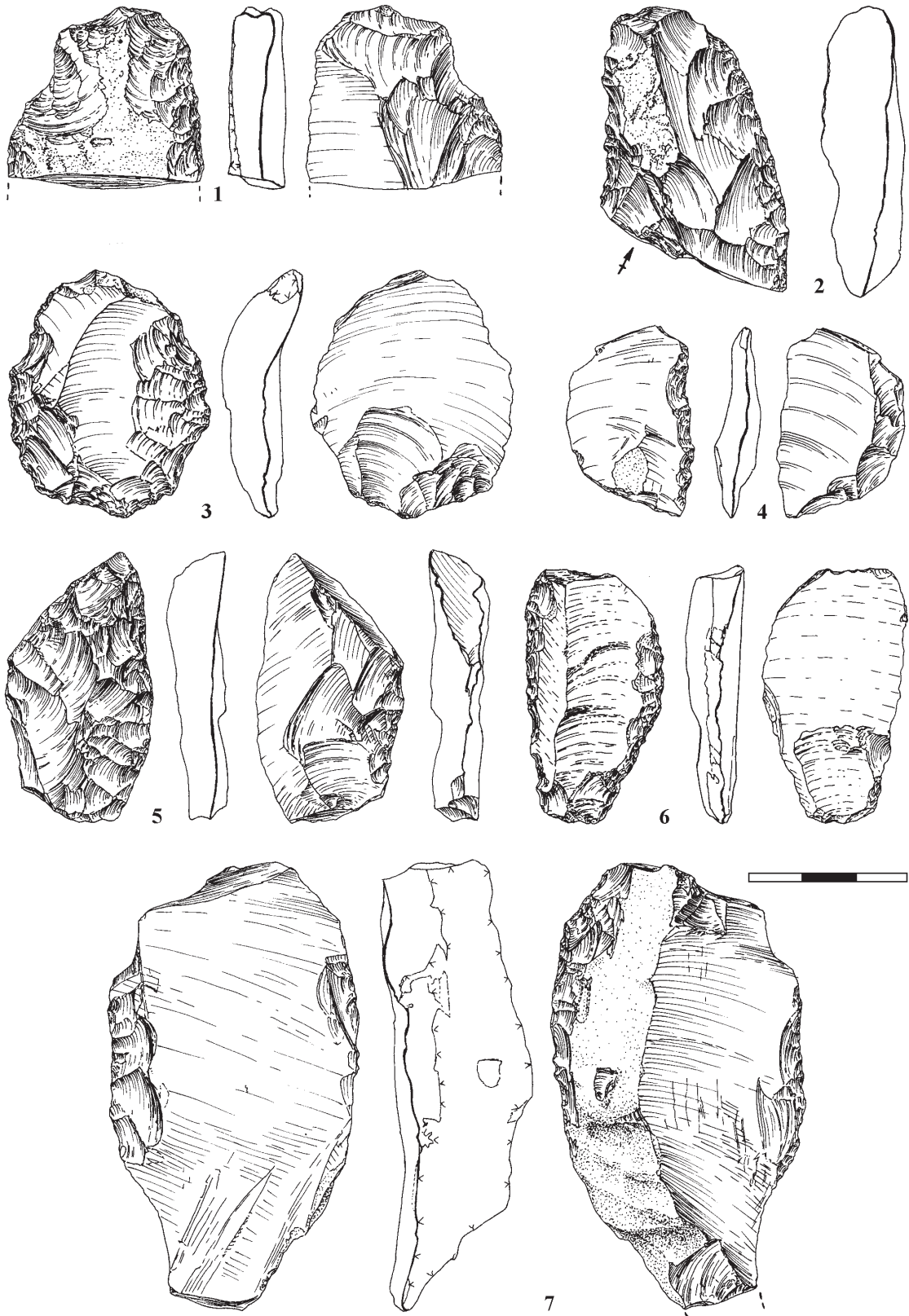


Fig. 6-9 Kabazi II, levels V/6 (2), VI/1 (8), VI/5 (4), VI/6 (6), VI/8 (3), VI/9A (9), VI/11-14 (1, 7), VI/15 (5). Points: 1, 2 – semi-crescent, thinned back; 3 – semi-leaf. Scrapers: 4 – transverse-straight, thinned base; 5 – convex; 6 – wavy; 7 – straight, backed; 9 – concave. Retouched piece: 8 – obversely retouched, lateral.



**Fig. 6-10** Kabazi II, levels VI/1 (1), VI/9 (2, 3), VI/9A (5, 7), VI/11-14 (4, 6). Scrapers: 1 – straight, thinned back; 2 – convex-concave; 3 – double convex, thinned base; 4 – wavy, ventral, thinned back; 5 – convex, thinned back, backed; 6 – straight-convex, thinned base; 7 – convex, thinned back. Dotted lines on negatives of the straight-convex scraper (6) show patinated areas.

	V/3	V/4	V/5	V/6	V/1	V/2	V/3	V/4	V/5	V/6	V/7	V/8	V/9	V/9A	V/10	V/11-14	V/15	V/17	Total	%	esse %	Illustrations	
<b>Points</b>																							
Semi-leaf	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	0,90	1,43	fig. 9; 3
Semi-crescent, thinned back	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	2	1,80	2,85	fig. 9; 1, 2
<b>Scrapers</b>																							
Transverse-straight	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	
Transverse-straight, thinned base	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	fig. 9; 4
Straight, backed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	0,90	1,43	fig. 9; 7
Straight, thinned back	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	fig. 10; 1
Convex	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	0,90	1,43	fig. 9; 5
Convex, thinned back	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	2	1,80	2,85	fig. 10; 7
Convex, thinned back, backed	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	0,90	1,43	fig. 10; 5
Concave	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0,90	1,43	fig. 9; 9
Wavy	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	0,90	1,43	fig. 9; 6
Wavy, ventral, thinned back	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	0,90	1,43	fig. 10; 4
Double straight, alternate, thinned back	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0,90	1,43	
Double straight-convex	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	
Double straight-convex, (thinned base)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0,90	1,43	fig. 10; 6
Double convex, thinned base	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	0,90	1,43	fig. 10; 3
Double convex-concave	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	0,90	1,43	fig. 10; 2
Triangular, thinned back	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	fig. 11; 7
Semi-trapezoidal, alternate	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0,90	1,43	fig. 11; 3
Semi-trapezoidal, thinned back	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	2	1,80	2,85	fig. 12; 1, 3
Sub-trapezoidal, thinned back	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	2	1,80	2,85	fig. 11; 2, 6
Sub-trapezoidal, thinned back, terminal truncation	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	fig. 12; 2
Sub-crescent, bifacially retouched	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0,90	1,43	fig. 11; 5
Leaf-shaped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	0,90	1,43	fig. 11; 4
Sub-leaf, bi-terminally thinned	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	0,90	1,43	fig. 11; 1
Core-like of Chokurcha type	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	2	1,80	2,85	fig. 13; 5, 6
<b>Denticulates</b>																							
Transverse-convex	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	
Diagonal, alternate	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	0,90	1,43	
Straight	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	0,90	1,43	
Concave, thinned back	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	0,90	1,43	fig. 13; 4
<b>Scaled pieces</b>																							
Inverse, bi-terminal	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	2	.	.	.	3	2,71	4,29	fig. 13; 1
Inverse, radial	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	0,90	1,43	fig. 13; 3
<b>Bifacial points</b>																							
Sub-leaf	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0,90	1,43	fig. 14; 1
Sub-leaf, thinned base	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0,90	1,43	fig. 14; 4
<b>Bifacial scrapers</b>																							
Convex, backed	.	.	.	1	.	1	.	.	.	1	.	.	.	.	.	.	.	.	.	3	2,71	4,29	
Straight-convex	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	
Sub-leaf, thinned base	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	.	.	.	2	1,80	2,85	fig. 14; 2
Sub-leaf, unidentifiable	1	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	2	1,80	2,85	fig. 14; 3
Sub-ovoid	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	fig. 14; 5
Sub-ovoid, thinned base	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	fig. 16; 7
Semi-crescent, truncated-faceted base	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90	1,43	fig. 14; 6
Semi-trapezoidal, backed	1	.	.	.	.	.	.	.	.	.	.	.	1	1	.	1	.	.	.	4	3,61	5,71	fig. 15; 1, 2, 4, 5
<b>Bifacial points / scrapers</b>																							
Sub-leaf (the fragments of proximal parts)	.	.	.	.	1	.	1	.	1	1	.	.	1	1	.	1	.	.	.	7	6,32	10,00	fig. 16; 1, 2, 4, 5, 6
<b>Bifacially retouched flint plaquette</b>																							
Bi-terminal	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	0,90	1,43	fig. 15; 3
<b>Reutilized fragments of bifacial tools &amp; heavily exhausted bifacial tools</b>																							
Choppers	1	.	1	.	1	1	.	.	.	.	.	.	1	.	.	.	.	.	.	5	4,50	7,13	fig. 16; 3
<b>Retouched pieces</b>																							
Blades, obversely retouched, lateral	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	0,90		
Flakes, obversely retouched, lateral	1	.	.	.	1	1	1	2	.	1	1	2	1	.	.	4	.	.	15	13,52		fig. 9; 8	
Flakes, alternatively retouched, lateral	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90		
Flakes, obversely retouched, bi-lateral	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	0,90		
Flakes, obversely retouched, distal	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	2	1,80		
Flakes, obversely retouched, lateral / distal	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	0,90		
Flakes, inversely retouched, lateral / distal	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	0,90		
Flakes, inversely retouched, bi-lateral	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	0,90		fig. 5; 8
Flakes, obversely retouched, distal	.	.	.	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	2	1,80		
Flakes, alternatively retouched, proximal / lateral	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0,90		
Chunk	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	0,90		
<b>Thinned pieces</b>																							
Inverse, proximal	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	0,90		fig. 13; 2
<b>Unidentifiable tool fragments</b>																							
unifacial	1	.	.	.	.	.	.	.	1	.	1	.	.	.	.	3	.	.	.	6	5,42		
bifacial	.	.	.	1	.	.	.	.	.	1	1	.	.	.	.	2	.	.	.	5	4,50		
<b>Bone retouchers</b>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	2	1,80		fig. 17
<b>Total</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>5</b>	<b>9</b>	<b>12</b>	<b>2</b>	<b>32</b>	<b>2</b>	<b>1</b>	<b>111</b>	<b>100,00</b>	<b>100,00</b>		

Table 6-12 Kabazi II, levels V/3-VI/17: tool types.

## Simple Scrapers

The simple scrapers were found in a total of six levels (Table 6-12). According to the shape of retouched edges the simple scrapers can be subdivided into four major groups: straight, convex, concave and wavy. The straight scrapers are characterised by backed (Fig. 6-9, 7) and thinned back (Fig. 6-10, 1) pieces. The backed piece was made on natural blank. The convex scrapers are represented by convex dorsal (Fig. 6-9, 5), two thinned back (Fig. 6-10, 7) pieces, and a backed item with thinned back (Fig. 6-10, 5). The only concave scraper was made by dorsal retouch without any thinning modifications (Fig. 6-9, 9). Additionally, one of two wavy scrapers was produced by obverse retouch without any thinning (Fig. 6-9, 6), while the other was elaborated by inverse retouch and back thinning (Fig. 6-10, 4).

## Double Scrapers

Double scrapers were found in four levels: V/5, VI/9, VI/9A and VI/11-14 (Table 6-12), and are subdivided into four types: double straight, alternate, thinned back, straight-convex (Fig. 6-10, 6); double convex, thinned base (Fig. 6-10, 3); and convex-concave (Fig. 6-10, 2). One of the two straight-convex scrapers was made on an already patinated and thinned base blank. The fresh retouch on the dorsal surface of this blank was used to shape the straight and convex edges (Fig. 6-10, 6). Obviously, this piece was already patinated when collected, and then retouched and imported to the site area.

## Convergent Scrapers

Convergent scrapers were found in 5 levels: V/3, VI/3, VI/9A, VI/11-14, VI/17. In accordance with the shape of their retouched edges, the convergent scrapers are subdivided into four morphological groups: triangular, trapezoidal, crescent and leaf-shaped (Table 6-12). Due to the number of retouched edges, each of the morphological groups mentioned do tend to display some variation.

The only triangular scraper exhibits three convergent retouched edges and ventral thinning (Fig. 6-11, 7). The last is the common feature of these artefacts. Triangular scrapers with ventral thinning are common-place in the Crimean Micoquian, and are widely represented in such assemblages as Kiik Koba, upper level, Prolom I and Zaskalnaya V, layer IV (Kolosov et al. 1993). Triangular scrapers are taken to represent the extreme manifestation of scraper

reduction (Chabai 2004c: 192).

The semi-trapezoidal alternate scrapers exhibit two convergent retouched edges: inversely and obverse retouched (Fig. 6-11, 3). The inversely retouched edge was made on the proximal part of the flake. The semi-trapezoidal scrapers with ventral thinning are represented by two pieces, both of which differ one from another in the intensity of their utilisation. This difference is seen in the extent of both the obverse retouch and inverse thinning (Fig. 6-11, 1, 3). The intensity of utilisation is most pronounced on the sub-trapezoidal thinned back scrapers (Fig. 6-11, 2, 6; 6-12, 2), which exhibit three retouched edges and intensive ventral thinning. According to Yu.G. Kolosov, the semi- and sub-trapezoidal scrapers constitute one of the most characteristic features of the Ak-Kaya "Mousterian culture" (Kolosov 1983, 1986).

The tip and straight edge of the only sub-crescent scraper is retouched from both sides of the blank: ventral and dorsal (Fig. 6-11, 5). To some extent this kind of elaboration might be termed bifacial retouch.

The leaf shaped scrapes are represented by one sub-leaf, bi-terminally thinned tool (Fig. 6-11, 1), and one broken piece (Fig. 6-11, 4).

## Core-like Scrapers of Chokurcha Type

In Kabazi II core-like scrapers were found in level VI/11-14 (Table 6-12, Fig. 6-13, 5, 6). This type of scraper was previously recognised and defined in the assemblage from Chokurcha I, Unit IV (Chabai 2004b). Refitting from Chokurcha I have demonstrated that core-like scrapers were made on relatively thick flakes whose ventral surface served as the striking platform for the subsequent series of removals. The removal of flakes and the preparation of the striking platform led to the formation of an artefact resembling a pyramidal-shaped core. The ridge between the flaking surface and the striking platform was then elaborated by abrupt retouch. The production of core-like scrapers results in a characteristic by-product: a number of short and relatively thick flakes with wide, thick, obtuse, convex, plain platform. These represent the ventral surface of the initial flake, which is the striking platform of the core-like scraper. A very close analogy of this reduction sequence was studied by J. Jaubert in relation to the Quina method from the Middle Palaeolithic assemblages of the Quercy region (Jaubert 1999). At Chokurcha I, Unit IV the assemblage of core-like scrapers was viewed as evidence for intensive raw material utilisation (Chabai 2004b).

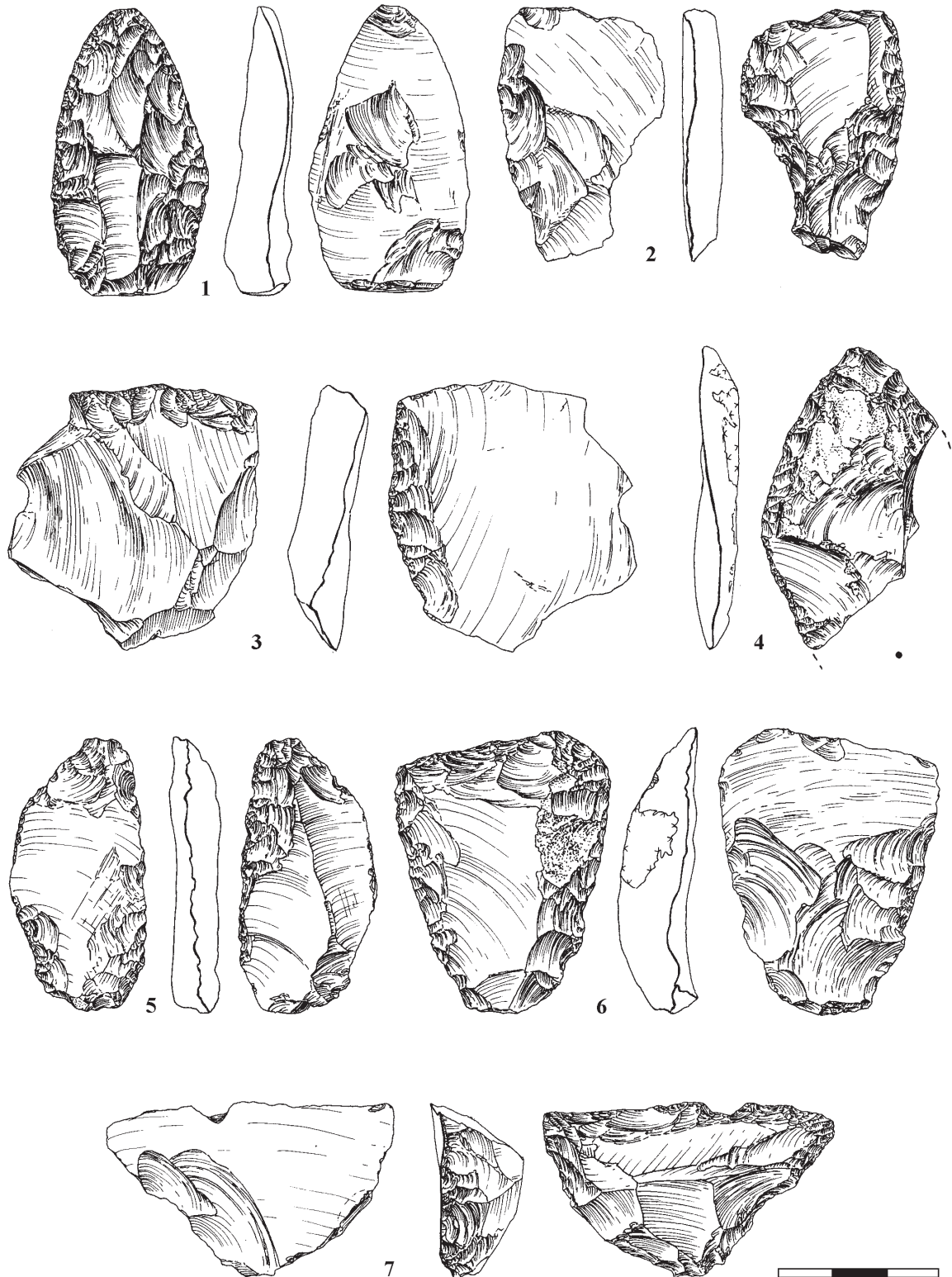


Fig. 6-11 Kabazi II, levels VI/3 (6, 7), VI/9A (2, 3, 5), VI/11-14 (4), VI/17 (1). Scrapers: 1 – sub-leaf, bi-terminally thinned; 2, 6 – sub-trapezoidal, thinned back; 3 – semi-trapezoidal, alternate; 4 – leaf-shaped; 5 – sub-crescent, bifacially retouched; 7 – triangular, thinned back.

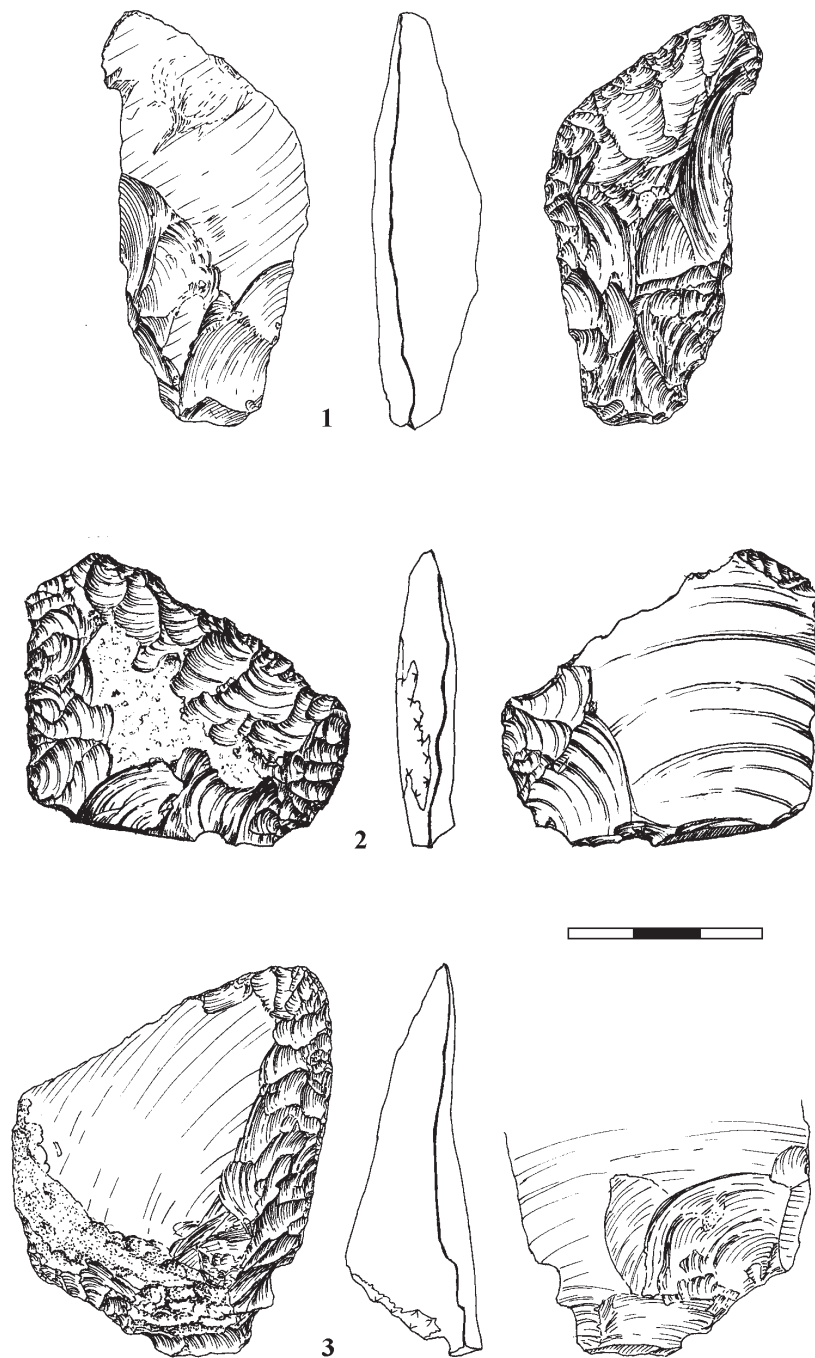


Fig. 6-12 Kabazi II, levels V/3 (2), VI/11-14 (1, 3). Scrapers: 1, 3 – semi-trapezoidal, thinned back; 2 – sub-trapezoidal, thinned back and with terminal truncation.

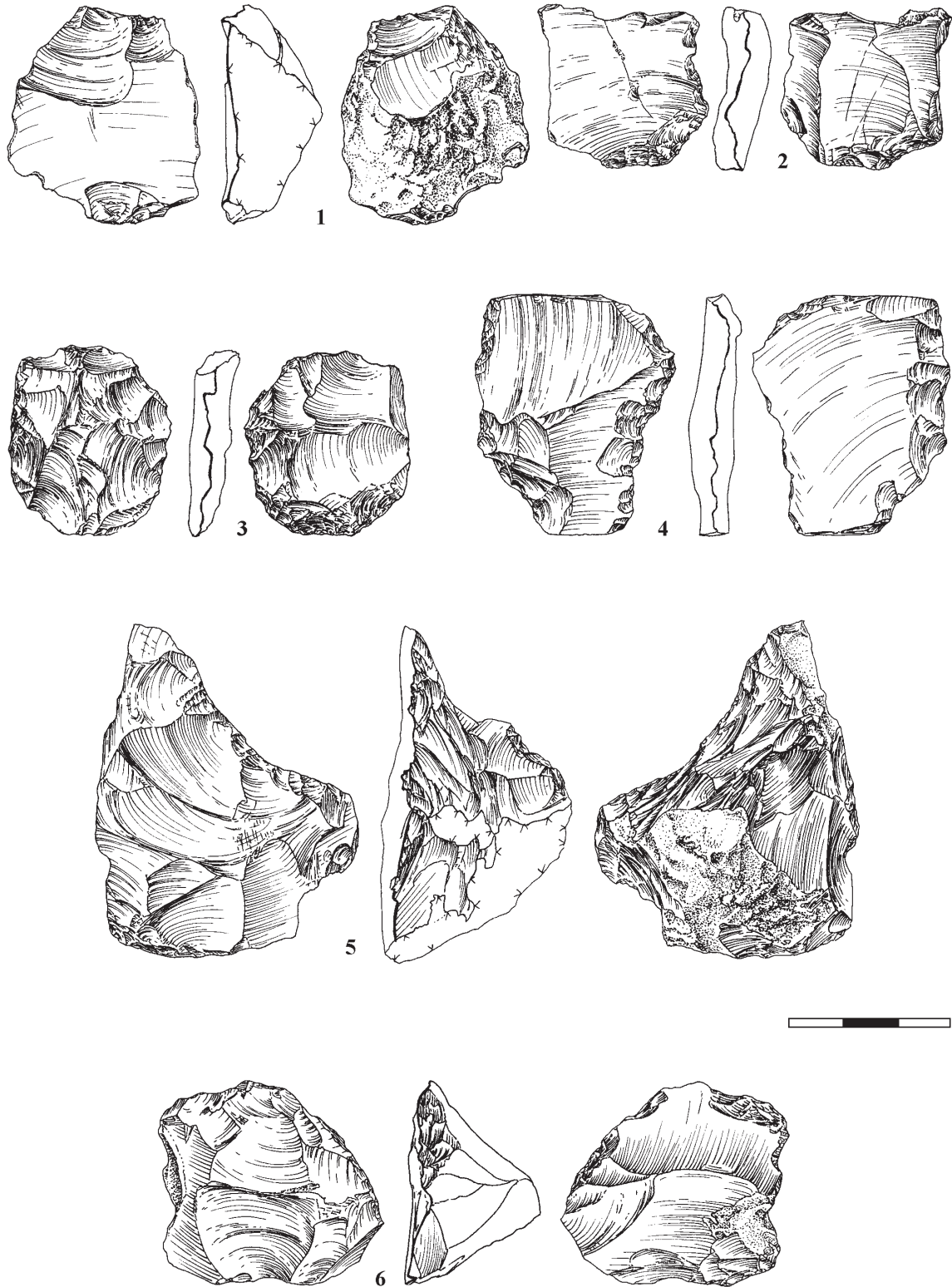


Fig. 6-13 Kabazi II, levels VI/9 (2), VI/11-14 (1, 3, 4, 5, 6). Scaled pieces: 1 – inverse, biterminal; 3 – inverse, radial. Scrapers: 5, 6 – core-like of Chokurcha type. Denticulate: 4 – concave, thinned back. Thinned piece: 2 – inverse, proximal.

## Denticulate tools

In Crimean Micoquian assemblages, denticulate tools are usually not numerous (Chabai 2004c). In Kabazi II, Units V and VI the denticulates stem from levels VI/2, VI/9 and VI/11-14 (Table 6-12), and are represented by the same shapes as the transverse and simple scrapers, this even includes such elements as back thinning (fig 13, 3).

## Scaled pieces

Scaled pieces were found in two levels: VI/9A and VI/11-14 (Table 6-12), of which there are two types: inverse bi-terminal and inverse radial. The first exhibit opposite negatives on the ventral surface (Fig. 6-13, 1). The ventral surface of the radial scaled pieces is completely covered by differently oriented negatives (Fig. 6-13, 3). Radial scaled pieces are also common but are not always numerous at other Eastern European Micoquian sites and Crimean Micoquian assemblages (Gladilin 1976, Marks, Monigal 1998).

## Bifacial points

There are two bifacial sub-leaf points, both from level VI/11-14 (Table 6-12). One was made on transversal flake (Fig. 6-14, 1). The blank used for another point remains unknown, but it exhibits the traces of base thinning (Fig. 6-14, 4). The production of bifacial points on transversal flakes is common for Crimean Micoquian industries. Such tools were also found in the assemblages from Starosele, level 1 and Kabazi V, levels II/4a and III/1a (Koloso et al. 1993, Marks, Monigal 1998, Yevtushenko 1998b).

## Bifacial scrapers

Bifacial scrapers are one of the most representative tool classes in the assemblages of Units V and VI (Table 6-12). They were found in a total of nine of 18 levels. The bifacial scrapers comprise two main morphological groups: simple and convergent. The group of simple scrapers consists of tools with one or two retouched edges which do not converge. The second group is represented by a variety of shapes which are formed by at least two converging retouched edges. Both the bifacial scrapers and the bifacial points were made in a bifacial plano-convex and sometime in a bifacial plano-convex alternating manner.

## Simple Bifacial Scrapers

This group is subdivided on two types: convex backed and straight-convex (Table 6-12). The convex backed bifacial scrapers exhibit one convexly retouched edge and an opposing unretouched back. The straight-convex bifacial scrapers exhibit edges which do not converge: straight and convex. The straight convex and two convex backed (levels V/4 and V/6) bifacial scrapers were made on flakes. A further convex backed bifacial scraper (level VI/6) was made either on flake or on a plaquette.

## Convergent Bifacial Scrapers

Convergent bifacial scrapers are represented by sub-leaf (4 items), sub-ovoid (2 items), semi-crescent (1 item) and semi-trapezoidal (4 items) shapes (Table 6-12). Two sub-leaf scrapers have a thinned base (Fig. 6-14, 2). The proximal part of two scrapers of the same type was broken (Fig. 6-14, 3). In fact, there is no great difference between leaf-shaped bifacial points and scrapers. The only attribute which serves to subdivide bifacial leaf-shaped tools is the sharpness of the tip. For the bifacial point it needs to be sharper both in plan and profile. This attribute is of course very subjective, and in fact the leaf-shaped bifacial tools comprise one morphological group. Furthermore, the bifacial leaf-shaped tools have often been recognised as an indicator of the relatively late chronological position of some Micoquian assemblages (Bosinski 1967, Yevtushenko 1999). As for Crimean Micoquian, the leaf-shaped tools are to be found in almost all assemblages, and are not characteristic of any particular chronological position (Chabai 2003b).

Semi-trapezoidal bifacial scrapers are represented by the backed tools: three broken and one complete (Fig. 6-15, 1, 2, 4, 5). Morphologically speaking, this tool type is closely related to the better known *Keilmesser of Klausennische type* of the Central European Micoquian. The tip of the single complete sub-trapezoidal backed bifacial scraper was shaped by a flat Prondnik-like para-burin spall, while the blanks for this tool were made in a *trifacial* manner (Fig. 6-15, 1).

The sub-ovoid bifacial scrapers are represented by two pieces: one regular (Fig. 6-14, 5), and one with a thinned base (Fig. 6-16, 7). The single semi-crescent bifacial scraper displays a truncated-faceted base (Fig. 6-14, 6).

The determination of the blanks used for the production of convergent scrapers is problematic owing to the invasive retouch and *faconnage*.

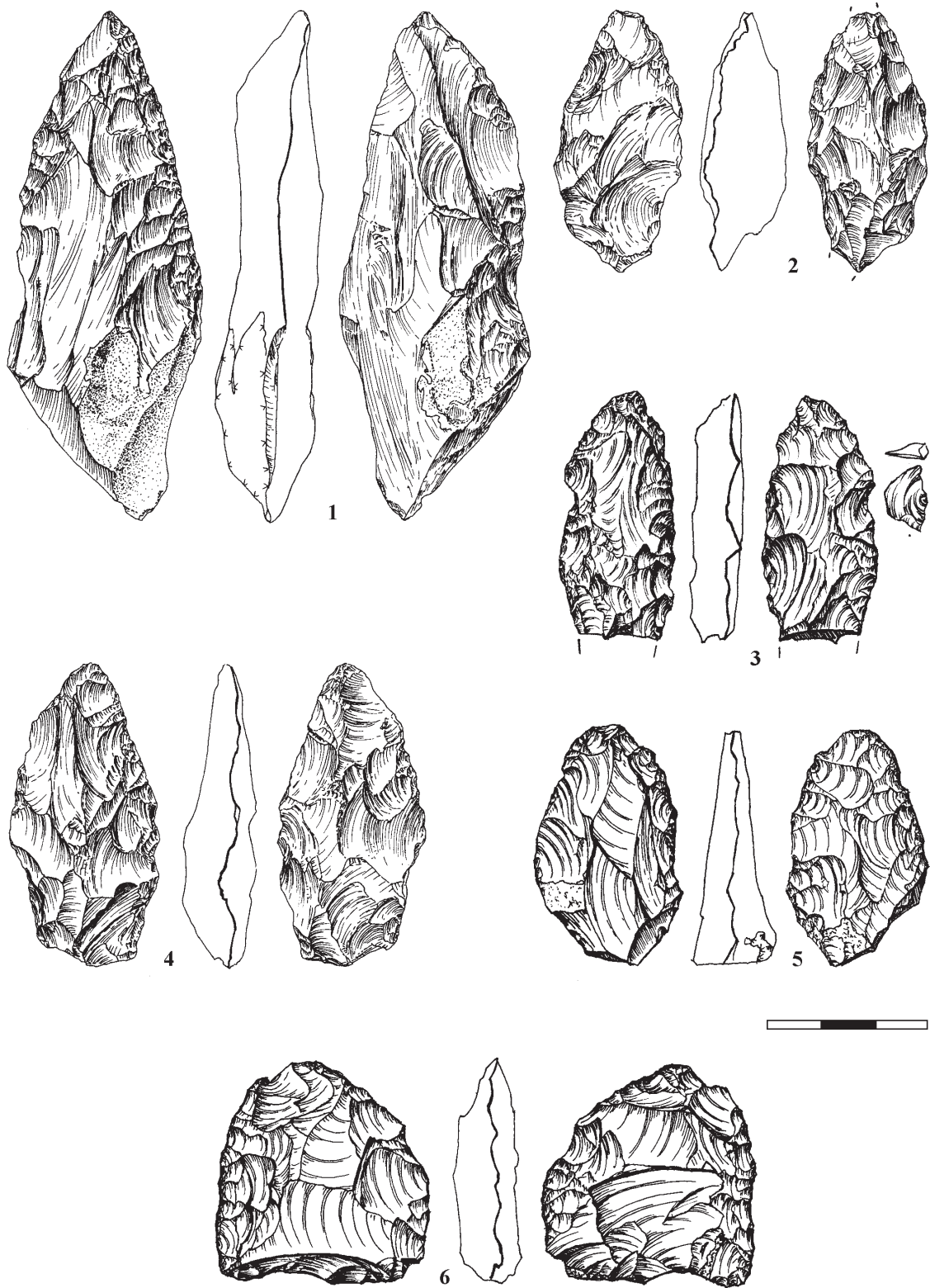


Fig. 6-14 Kabazi II, levels V/3 (3), V/4 (5, 6), VI/11-14 (1, 2, 4). Bifacial points: 1 – sub-leaf; 4 – sub-leaf, thinned base. Bifacial scrapers: 2 – sub-leaf, thinned base; 3 – sub-leaf, unidentifiable; 5 – sub-ovoid; 6 – sub-crescent, truncated-faceted base.

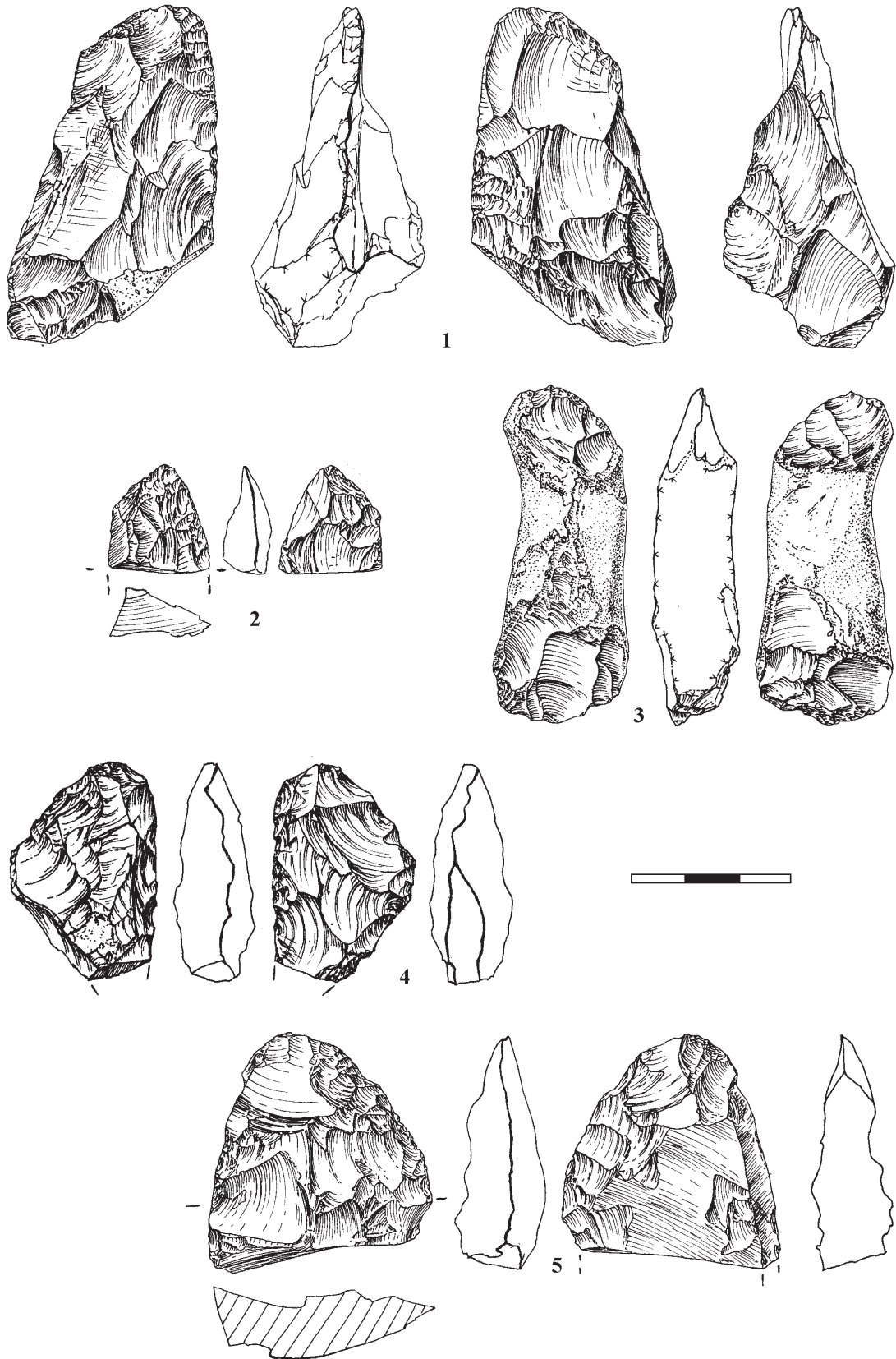


Fig. 6-15 Kabazi II, levels V/3 (4), VI/6 (3), VI/9 (2), VI/9A (1), VI/11-14 (5). Bifacial scrapers: 1, 2, 4, 5 – semi-trapezoidal, backed. Bifacially retouched flint plaquette: 3 – bi-terminal.

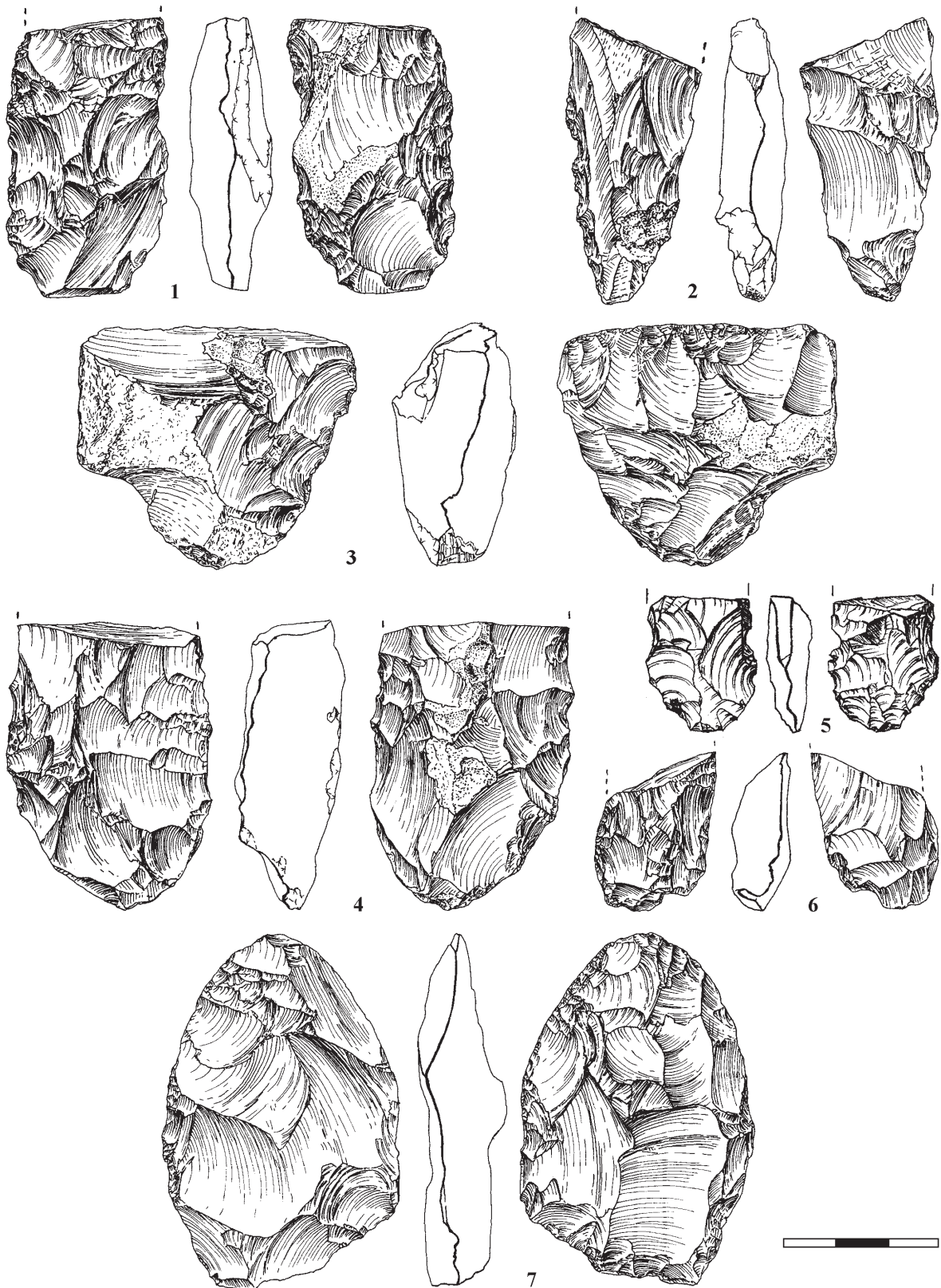


Fig. 6-16 Kabazi II, levels V/3 (5), V/5 (2, 7), VI/2 (3), VI/6 (1), VI/9 (4), VI/9A (6), Bifacial scrapers / points: 1, 2, 4, 5, 6. Reutilized fragments of bifacial tools: 3. Bifacial scraper: 7 – sub-ovoid, thinned base.

### Bifacial points / scrapers

This class of tool was found in seven of 18 levels (Table 6-12). The bifacial points / scrapers are represented by relatively large proximal fragments of tools which do not exhibit any traces of reutilisation (Fig. 6-16, 1, 2, 4, 5, 6). All have slightly convex edges and might well be the fragments of bifacial sub-leaf points or scrapers.

### Heavily exhausted bifacial tools and reutilised fragments of bifacial tools

These tools were found in five of 18 levels (Table 6-12). They are mainly represented by shapeless fragments of bifacial tools with intensive traces of reutilisation. Usually, the part of the tool reutilised by retouch also corresponds to the zone of breakage (Fig. 6-16, 3). The rate of reutilisation of bifacial tools in Kabazi II, Units V and VI are the highest thus far noted for the Crimean Micoquian. In these assemblages reutilised bifacial tools constitute 7.13 % of all tool-kits, or 10 % of tools in essential count, or 16.7 % of all identifiable bifacial tools. The assemblage from Kabazi II, Units V and VI is followed by that from Chokurcha I, Unit IV where bifacial reutilised tools comprise 2.34 % of all tool-kits, or 4.71 % of tools in essential count, but 18.36 % of all identifiable bifacial tools (Chabai 2004b). Usually, Micoquian assemblages contain a large number of broken bifacial tools; these are, however, rarely reutilised (Kolosov 1983, 1986, Chabai 1998d, 1999a, Marks, Monigal 1998, Yevtushenko 1998a, 1998b, Demidenko 2003a, 2004a).

### Bifacially retouched flint plaquettes

This tool originated from level VI/6 (Table 6-12). The opposite sides of a relatively small flint plaquette were retouched, each in a bifacial plano-convex manner (Fig. 6-15, 3). Such tools often occur in the assemblages of the Ak-Kaya facies of the Crimean Micoquian where they are known as “knives with handles” (Kolosov 1978).

### Pebble macro-tools

The only pebble macro-tool is chopper from level VI/9 (Table 6-12). It was made on a sandstone pebble. The dimensions are: length – 15,0 cm; width – 6,2 cm; and thickness – 4,2 cm. Choppers are very rare in Crimean Micoquian. The chopper and chopping

tools are known from Zaskalnaya VI, layers III and IV assemblages (Kolosov 1986) and unlikely represent either a “cultural” or a temporal indicator.

### Retouched & Thinned Pieces

Retouched pieces were found in almost all levels, except V/5, VI/5 and VI/17. The variability of retouched pieces stems from the variety of blank and retouch placement (Table 6-12, Fig. 6-5, 8; 6-9, 8). More than half of retouched pieces were made on flakes using lateral obverse irregular retouch (Fig. 6-9, 8).

The only thinned piece is from level VI/9 (Table 6-12). It is a flake with thinned base (Fig. 6-13, 2).

### Unidentifiable tools

This class of tools is represented by tiny fragments from the edges and proximal / medial parts of both bifacial and unifacial tools (Table 6-12). The fragments of unifacial and bifacial tools occur in roughly equal proportions.

### Bone retouchers

Two bone retouchers were found in level VI/11-14 (Table 6-12). Both are on the fragments of tube bones. One piece exhibits two zones with “retoucher traces” on each of its opposing (Fig. 6-17). Another is classed as a “single zone retoucher”. No other bone retouchers were found in the Kabazi II archaeological sequence. Bone retouchers are typical finds of the Crimean Micoquian. Whilst at such sites as Prolom II and Chokurcha I, IV bone retouchers are very abundant, at other sites, such as Buran Kaya III, B, this tool class is totally absent (Kolosov 1986, Yevtushenko 1998b, Chabai 2004b, Demidenko 2004a).

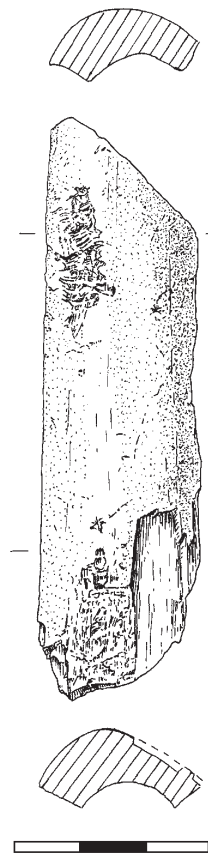


Fig. 6-17 Kabazi II, level VI/11-14. Bone retoucher.

## DISCUSSION: KABAZI II, UNITS V AND VI IN THE CONTEXT OF THE CRIMEAN MIDDLE PALAEOLITHIC

Taking into account the proposed Last Interglacial age of the assemblages from Kabazi II, Units V and VI, one can quite safely assume that these actually represent the oldest manifestation of the Middle Paleolithic in the Crimea. Therefore, the determinations of their typological and technological characteristics, as well as the mode of human activity and the sedimentation processes which resulted in their accumulation, are matters of utmost importance.

### Site formation process

The accumulation of Strata 14A and 14B, which envelope the Units V and VI assemblages, was caused by four major agents: the pedogenic process, slope colluvium, limestone barrier dissolution and human activity. These processes led to the accumulation of between 1,5 m and 2,5 m of sediment in various parts of the site. The occupations of levels V/3 through VI/10 were formed in the upper part of Strata 14A and 14B, after the collapse of the limestone barrier (Stratum 17), on a more or less stable surface and covered by sediments in primary context. Whilst the sharp angle of inclination of the lower part of Stratum 14B (levels VI/11-14, VI/15 and VI/16) suggests that some transportation of artefacts and bone material possibly occurred, it would appear that Stratum 14A was initially somewhat thicker, its upper part probably being truncated by alluvium from Stratum 13A. According to N. Gerasimenko (Chapter 2, this volume), Strata 14A and 14B sediments were formed during the OIS 5d, which lasted about ten thousand years. In other words, between 1,5 m and 2,5 m of sediment accumulated in this time period. This rate of sedimentation is not among the most impressive, but at the same time, bone and limestone debris surfaces are not eroded, and flint artefacts are not patinated. Even bone and artefact material from the obviously redeposited levels VI/11-14, VI/15 and VI/16 are not rounded, naturally damaged or eroded. All of these points would suggest relatively favourable conditions and a resulting quick conservation of fauna and artefact assemblages. In spite of the large number of archaeological levels, there are neither signs of intensive occupations, nor of frequently repeated visits. Each occupation is separated by pronounced sterile sediments which can be up to half a metre thick. The density of both bones and artefacts

is among the lowest noted at a Crimean Middle Palaeolithic site, and is comparable with such ephemeral occupations as at Sary Kaya, known for its poor preservation of fauna.

Thus, the artefact and bone assemblages from Units V and VI are the result of low intensity occupations which accumulated during favourable environmental conditions, and which were relatively rapidly buried by sediments. This kind of site formation process has no strict analogy in the Crimean Middle Palaeolithic.

		Simple	Convergent	Bifacial
Ak-Kaya facie	Kabazi II, V, VI	26,2	24,6	49,2
	Sary Kaya, 1985-86	35,2	20,2	44,6
	Chokurcha I, IV-I	48,1	15,4	36,5
	Zaskalnaya VI, II	37,8	32,1	30,1
	Chokurcha I, IV-M	30,0	40,0	30,0
	Zaskalnaya V, V	28,2	42,3	29,5
	Kabazi II, III	51,3	20,5	28,2
	Chokurcha I, IV	45,1	26,8	28,1
	Sary Kaya, 1977	58,1	15,3	26,6
	Zaskalnaya V, II	49,9	26,2	23,9
	Zaskalnaya V, III	46,1	30,4	23,5
	Zaskalnaya V, VI	41,7	35,4	22,9
Zaskalnaya VI, III	53,9	26,1	20,0	
Starosele facie	Prolom II, III	48,3	34,8	16,9
	Zaskalnaya VI, V	37,9	45,4	16,7
	Zaskalnaya V, I	33,3	50,8	15,9
	Prolom II, II	43,6	42,6	13,8
	Chokurcha I, IV-O	53,1	34,4	12,5
	Zaskalnaya V, IV	39,9	47,7	12,4
	Starosele, 1	44,3	43,4	12,3
Kiik-Koba facie	Zaskalnaya VI, IV	46,9	42,5	10,6
	Prolom II, IV	48,6	44,3	7,10
	Buran Kaya III, B	36,5	49,1	14,4
	Kiik-Koba, upper	26,9	59,3	13,8
	Prolom I, lower	30,2	59,1	10,7
Kiik-Koba facie	Prolom I, upper	30,9	54,4	14,7
	Buran Kaya III, 7-8	37,0	51,9	11,1

**Table 6-13** Ratios of morphological toolgroups in the Crimean Micoquian assemblages.

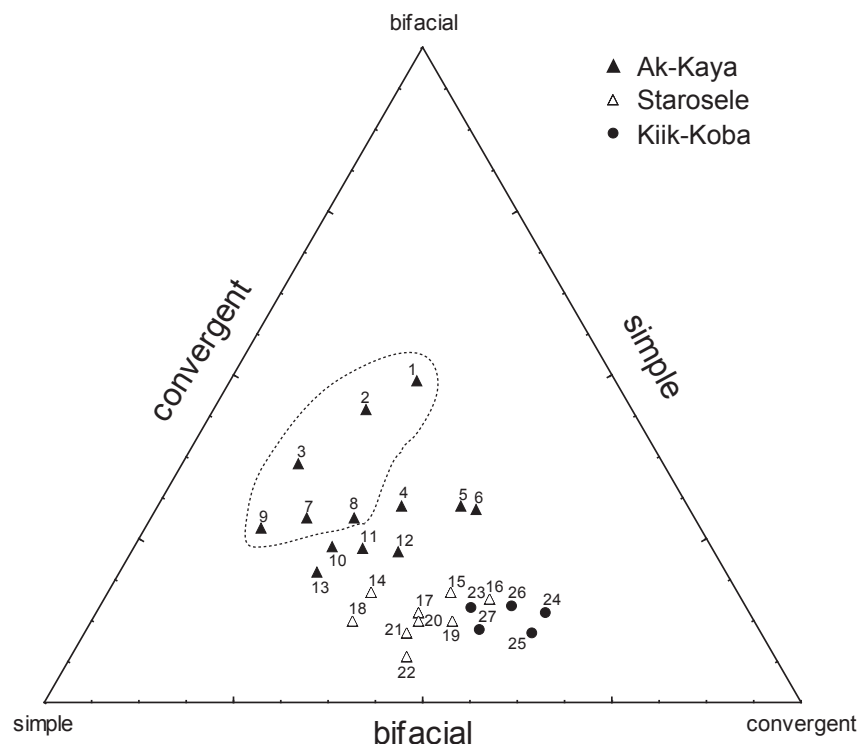
### Technology and typology: temporal perspective

The main characteristic features of levels V/3 – VI/17 assemblages are: an abundance of bifacial tools made in a plano-convex manner; the presence of bifacial backed scrapers and bifacial leaf-shaped points and scrapers; and a large number of unifacial scrapers which were made using various kinds of ventral thinning. In addition, two reduction strategies are distinguishable: bifacial plano-convex and parallel “primitive” core flaking. Such typological and technological attributes are common to all Crimean Micoquian assemblages, all of which are part of the Central and Eastern European Micoquian techno-complex (Chabai 2003a, Chabai et al. 2004).

On the basis of the morphological structures of tool-kits, the Crimean Micoquian is subdivided into three facies: Ak-Kaya, Starosele and Kiik-Koba (Chabai 2004c). The assemblages of the Ak-Kaya facies are characterised by a relatively high percent-

age of bifacial tools and the dominance of simple tools (transverse, diagonal, simple and double scrapers) over convergent tools (convergent scrapers and points) (Table 6-13). The Starosele assemblages display smaller amounts of bifacial tools, and about equal proportions of simple and convergent tools. The amount of bifacial tools in the Kiik-Koba facies assemblages is reminiscent of the Staroselian, while convergent tools clearly outnumber the simple tools. At the same time, there are no tool types which are exclusive to one or two particular assemblages and which are not found in another. In other words, the same tool types are characteristic of all facies, but in different proportions.

The combined assemblages of Units V and VI from Kabazi II correspond well with the Ak-Kaya cluster, this is most evident in the high amount of bifacial tools (Table 6-13, Fig. 6-18), an extreme manifestation of this facies. At the same time, the amount of simple tools in Kabazi II, Unit V and VI assemblages is the lowest among all tool-kits of the



**Fig. 6-18** Tripole graph of ratios of morphological tool groups according to assemblages: 1 – Kabazi II, Units V, VI; 2 – Sary Kaya, 1985-86; 3 – Chokurcha I, level IV-I; 4 – Zaskalnaya VI, layer II; 5 – Chokurcha I, level IV-M; 6 – Zaskalnaya V, layer V; 7 – Kabazi II, Unit III; 8 – Chokurcha I, Unit IV; 9 – Sary Kaya, 1977; 10 – Zaskalnaya V, layer II; 11 – Zaskalnaya V, layer III; 12 – Zaskalnaya V, layer VI; 13 – Zaskalnaya VI, layer III; 14 – Prolom II, layer III; 15 – Zaskalnaya VI, layer V; 16 – Zaskalnaya V, layer I; 17 – Prolom II, layer II; 18 – Chokurcha I, level IV-O; 19 – Zaskalnaya V, layer IV; 20 – Starosele, level 1; 21 – Zaskalnaya VI, layer IV; 22 – Prolom II, layer IV; 23 – Buran Kaya III, layer B; 24 – Kiik-Koba, upper layer; 25 – Prolom I, lower layer; 26 – Prolom I, upper layer; 27 – Buran Kaya III, layer 7-8. The dotted line shows the assemblages which are based on tool import.

Geochronology	Sites, levels / layers	AMS	ESR	Facie
Denekamp	Prolom II, II	Ki-10617, 28,1±0,35		Starosele
	Buran-Kaya III, B	OxA-6674, 28,52±0,46		Kiik-Koba
		OxA-6673, 28,84±0,46		
	Zaskalnaya V, I	Ki-10891, 28,85±0,4		Starosele
Ki-10744, 30,08±0,35				
Stadial	Zaskalnaya VI, II	OxA-4131, 30,11±0,63		Ak-Kaya
		Ki-10893, 30,7±0,45		
	Zaskalnaya V, II	Ki-10607, 30,22±0,4	41,8±3,1	
		Ki-10743, 31,6±0,35		
	Prolom I, upper layer	GrA-13917, 30,51±0,58/0,53		Kiik-Koba
		GrA-13919, 31,3±0,63/0,58		
Prolom I, lower layer	Ki-10615, 33,5±0,4			
	Ki-10616, 35,2±0,45			
Hengelo	Starosele, 1	OxA-4772, 35,25±0,9	41,2±3,6	Starosele
		Ki-10609, 38,2±0,4		
	Zaskalnaya VI, III	Ki-10894, 36,4±0,45		Ak-Kaya
		OxA-4132, 30,76±0,69		
Zaskalnaya VI, IIIa	OxA-4773, 39,1±1,5			
	Ki-10610, 39,4±0,48			
Stadial	Chokurcha I, IV-I, IV-M	OxA-4775, 41,2±1,8	41,2±3,6	Starosele
		OxA-4887, 42,5±3,6		
	Ki-1061?, 41,6±0,8		Ak-Kaya	
Stadial	Chokurcha I, IV-O	OxA-10877, >45,4		
	Zaskalnaya V, IV	GrA-13916, >46,0		Starosele
	Zaskalnaya VI, IV	Ki-10611, >47,0		
Moershoofd	Kabazi II, IIA/4			
Stadial	Kabazi II, III/1A; III/1			
Odderade	Kabazi II, III/2		74-85	
Stadial	Kabazi II, III/2A		82±10	Ak-Kaya
	Kabazi II, III/3			
Brörup	Zaskalnaya V, V			
Stadial				
Last Interglacial	Kabazi II, V/3-VI/17			

**Table 6-14** The chronology of the Crimean Micoquian by facie.

Ak-Kaya facie. None of the tool types identified at Kabazi II, Units V and VI were discovered here for the first time in a Crimean Micoquian context.

The subdivision of tool-kits into bifacial, simple and convergent morphological groups reflects the degree of tool reduction. The most reduced assemblages of Kiik-Koba facie demonstrate high percentages of convergent tools and small amounts of bifacial tools. At the same time, less reduced assemblages of the Ak-Kaya facie display the highest percentages of simple and bifacial tools, and much lower amount of convergent tools. Furthermore, the implication of Dibble's reduction model (Dibble 1984, 1995) is supported by the tool sizes. The biggest tools were

found in Ak-Kaya assemblages, while the smallest tools are characteristic for Kiik-Koba assemblages.

There are no time indicative tool types or *Leitformen* which should be used to separate these assemblages from other manifestations of the Micoquian in the Crimea. The chronological frame of the Crimean Micoquian was established on the base of different kinds of radiometric dating systems and environmental studies (Hedges et al. 1996, McKinney and Rink, 1996, Rink et al. 1998, McKinney 1998, Pettitt 1998, Chabai et al. 1998, 1999, Gerasimenko 1999, 2003, 2004, Markova 1999, 2004a, 2004b, 2004c, Mikhailescu 1999, 2004, Stepanchuk et al. 2004, Rink et al. in press). The temporal position of Kabazi II,

Units V and VI assemblages was determined by the environmental studies of the whole stratigraphical sequence of this site (Chapters 1, 2, 3 and 4, this volume). The present day concept of the evolution of the Crimean Micoquian suggests that this techno-complex existed within this territory over a period of roughly 90-100 kyr, from the Last Interglacial up to the Arcy (Denekamp) Interstadial (Chabai 2003a, 2003b). The temporal distribution of Crimean Micoquian assemblages is demonstrated by the chronological interstratifications and the coexistence of the Ak-Kaya, Starosele and Kiik-Koba facies (Table 6-14), all three of which were present in both Stadials and Interstadials. Thus, neither chronological nor environmental factors are explanation enough for the facies variability of the Crimean Micoquian. On the other hand, the Crimean Micoquian, which lasted about 100 kyr, demonstrates both technological and typological stability. There is no evidence for any technological or typological innovations.

### Raw material and fauna exploitation

The reasons behind the typological variability within Micoquian assemblages should be sought in the different models of raw material and fauna exploitation, all of which resulted in a different intensity of occupation (Chabai et al. 1995, 2000, Demidenko 1996, Chabai 1999a, 2004c). The less intensive occupations belong to the Ak-Kaya facie, while more intensive on-site exploitation of fauna and raw material is characteristic of the Starosele and Kiik-Koba facies.

On the basis of the raw material supply, the Micoquian occupation of the Crimea can be subdivided into three main groups: occupation based mainly on imported tool-kits; occupation with mainly on-site tool production; and occupation practicing both on-site raw material reduction and using imported tool-kits. The first group is represented by Kabazi II, Units III, V, VI, Sary Kaya, and Chokurcha I, Unit IV assemblages. The remaining Micoquian sites are attributable to the second and third groups. The main characteristic feature of assemblages belonging to the first group is the large number of bifacial tools – the highest ratio among all Crimean Micoquian sites. At the same time, the assemblages of the first group also differ one from another in the ratio of bifacial, simple and convergent tools. Furthermore, it is possible to state that some of the assemblages from the first group comprise a distinct cluster within the Ak-Kaya facie (Fig. 6-18, 1, 2, 3, 9, 7), while the others are in the frames of average Ak-Kaya morphological proportions (Fig. 6-18, 8, 5).

The raw material supply groups do not strictly correspond to the distance of the sites from the raw material sources. For example, the inhabitants of sites situated near to flint outcrops, e.g. Sary Kaya, used the imported tool-kit, while the raw material exploitation at the site of Buran Kaya III, B, which lies more than 10 km from the flint sources, was based on both raw material and tools transportation (Richter 2004, Uthmeier 2004a, 2004b). Our present knowledge of the distribution of Micoquian sites and sources of raw material makes it possible to state that such sites as Zaskalnaya V, Zaskalnaya VI and Sary Kaya were all situated at a distance of no more than 2 km from flint outcrops, and that the remaining Micoquian occupation sites are all situated at between 8 and 25 km from located flint sources. Thus, with the exception of Sary Kaya, the occupations of the first supply group are all located at a not inconsiderable distance from flint outcrops.

Micoquian occupation sites also differ according to their mode of fauna exploitation. Kabazi II, Unit III, and probably Sary Kaya, are primary butchering stations only, the remaining sites being either secondary butchering camps (Zaskalnaya V, Zaskalnaya VI, Kiik-Koba, Prolom I), or combinations of the two (Chokurcha I, Prolom II, Buran Kaya III, B).

It is for this reason that the assemblages from Kabazi II, Units V and VI are characterised by high proportion of tools, particularly high percentages of bifacial and bifacial reutilised tools, a rarity of cores and preforms, a low amount of bifacial debitage, and a specific metrical distribution of some flakes and tools. All of these features suggest only very little, or even the absence, of on-site flint reduction and tool rejuvenation. The main human activity which resulted in the accumulation of artefacts at the site was the transportation of tools, mainly bifacial, and sometimes of big flakes, cores and preforms. Therefore, the short term character of the occupations does not lead to the intensive tool rejuvenation and reshaping. At the same time, a quantity of already multiply reshaped unifacial tools was brought to the site. This resulted in a roughly equal proportion of simple and convergent tools. Furthermore, it is likely that some already reutilised tools were also imported to the site.

These “travelling/imported” and already somewhere reshaped convergent and probably bifacial tools are the main distinct feature of Kabazi II, Units V and VI assemblages and set them apart from the same mode of raw material exploitation practiced at Sary Kaya site. Sary Kaya is an open-air site with several ephemeral occupations and situated near a rich flint outcrop. The site was excavated as a one layer site in 1977, however, during the 1985-86 field

season, five occupational levels each separated by sterile sediments were found. Two Sary Kaya assemblages are very closely related in all respects. The amount of tools in all Sary Kaya collections varies from 44 to 77 %. Evidence for on-site raw material reduction, as well as processes of tool reshaping and rejuvenation are only very slight, if at all existent (Veselsky 2003). Thus, complete tools were brought to the site from the closely situated flint outcrop. Compared to Kabazi II, Units V and VI smaller proportions of convergent tools in both Sary Kaya assemblages can be explained by the nearby situated outcrop (no need for a travelling tool-kit). Additionally, butchering activity did not make a long time tool exploitation necessary. On the other hand, due to the nearby flint outcrop the Sary Kaya is deficient in reutilised bifacial tools. This might well be the reason for the smaller proportion of bifacial tools in these assemblages.

Another close analogy to Kabazi II, Units V and VI is the assemblage from Unit III of the same site. Features of the Kabazi II, Unit III assemblages, i.e. the ratio of tools, the rarity or even absence of on-site raw material reduction, and the morphological structure of tool assemblages (Table 6-13), are all very similar to those found at Sary Kaya in 1977. The only kind of activity noted in the occupations at Kabazi II, Unit III was butchering. On the other hand, the distance to the nearest flint outcrop from Kabazi II, Unit III was no less than 8 km. A few reutilised bifacial tools are known from Kabazi II, Unit III (Chabai 1999a).

The Chokurcha I, Unit IV assemblages are based on imported tool-kits which were intensively utilised at the site. The high percentages of tools, bifacial tools and sufficient amount of bifacial reutilised tools are accompanied by an abundant bifacial debitage and unifacial tools on bifacial thinning flakes (Chabai

2004b). Chokurcha I, Unit IV occupations are characterised by a high density of artefacts, an intensive use of fire-places (Chabai 2004a), and a combination of on-site primary and secondary butchering (Patou-Mathis 2004b). Depending on the intensity of the occupations the proportions of morphological groups of tools also varies. Less intensively occupied levels, such as level IV-I, display a high amount of bifacial simple and a low amount of convergent tools (Table 6-13). More intensively occupied levels, such as IV-M, show a dominance of convergent over bifacial and simple tools (Table 6-13).

Thus, with regard to models of raw material and fauna exploitation, the closest analogy to Kabazi II, Units V and VI assemblages is to be found at Chokurcha I, level IV-I. These occupations were based on imported tool-kits. Their inhabitants employed a combination of primary and secondary butchering. The main difference between Kabazi II, Units V, VI and Chokurcha I, level IV-I is in the intensity of on-site raw material utilisation. The Chokurcha I occupants utilised the available flint and bone materials much more intensively, this was probably due to the more abundant fauna resources whose exploitation resulted in a longer stay at the site.

To conclude, the earliest Micoquian assemblages of the Crimea found at Kabazi II, in Units V and VI show neither technological nor typological peculiarities which might be used for a temporal subdivision of the Micoquian in this region. Furthermore, the inhabitants of the Kabazi II, Units V and VI occupations practiced no particular models of raw material or fauna exploitation which were not known to their successors and implied over the next 100 thousand years of Crimean Micoquian evolution. Such an impressive stability assumes at least both well developed and variable adaptive abilities.

## ABSTRACT

## КАБАЗИ II, КУЛЬТУРНО-ХРОНОЛОГИЧЕСКИЕ СЛОИ V И VI: АРТЕФАКТЫ

В. П. ЧАБАЙ

В 19 горизонтах V и VI культурно-хронологических слоев обнаружено 1379 артефактов. В целом структура комплекса артефактов характеризуется преобладанием дебитажа, высоким процентным выражением орудий, наличием преформ, нуклеусов и полуфабрикатов двусторонних орудий. Преформы являются относительно крупными, протестированными одним - двумя снятиями кремневыми плитками и первичными отщепами. Одно - и многоплощадочные нуклеусы представлены приблизительно одинаковыми пропорциями. Вспомогательные площадки на нуклеусах отсутствуют. Фасетаж ударных площадок не применялся. В целом, нуклеусное расщепление характеризуется как «примитивно параллельное». Полуфабрикаты двусторонних орудий изготовлены в плоско-выпуклой манере и отличаются от двусторонних орудий отсутствием ретуши на лезвиях. Среди сколов достаточно ощутимо представлены чешуйки (36,57 %), отщепы и пластины (15,9 %) снятые с двусторонних орудий. Пластины крайне редки и не стандартизированы ( $P_{am}=6,03$ ). Средние метрические параметры сколов составляют: длина – 3,89 см; ширина – 2,86 см; толщина – 0,73 см. Фасетаж ударных площадок сколов составляет:  $I_{fl}=49,7$ ;  $I_{fs}=23,2$ . В целом, наиболее часто встречаемый скол представлен коротким, широким, относительно тонким отщепом со скошенной, *lipped*, гладкой ударной площадкой. Форма данного скола – трапецевидная, латеральный профиль – изогнут, дистальный профиль – петлевидный или тупой. Зачастую на дорсальной поверхности присутствуют участки желвачной корки и несколько однонаправленных или разнонаправленных негативов. Данные характеристики сколов вполне согласуются с производством имеющихся в коллекции нуклеусов и изготовлением двусторонних орудий.

Орудийный набор представлен следующими классами изделий: остроконечники – 2,7 %, скребла – 25,21 %, зубчатые – 3,6 %, долотовидные – 3,6 %, двусторонние острия – 1,8 %, двусторонние острия / скребла – 6,32 %, двусторонние скребла 13,52 %, двусторонние ретушированные плитки – 0,9 %, двусторонние реутилизированные / сработанные орудия – 5,4 %, чопперы – 0,9 %, сколы с ретушью – 24,32 %, утонченные сколы – 0,9 %, неопределимые односторонние орудия – 5,42 %, неопределимые двусторонние орудия – 4,5 % и костяные ретушеры – 1,8 %. Двусторонние орудия составляют 31,54 % от общего числа орудий и 42,84 % без учета сколов с ретушью, с утончениями, неопределимых орудий и костяных ретушеров. Это одни из самых высоких показателей двусторонних орудий в среднем палеолите Крыма. Второй характерной чертой орудийного набора является широкое распространение приемов вентральных утончений односторонних орудий: на 21 из 39 односторонних орудий обнаружены базальные, тыльные и терминальные утончения. В целом, технологически и типологически индустрии Кабази II, V и VI демонстрируют полный набор характерных черт микокского технокомплекса. Наиболее близкими аналогиями комплексу орудий Кабази II, V и VI культурно-хронологических слоев являются коллекции Чокурчи I, IV и Сары-Каи (1985-86), которые относятся к аккайской фации крымского микока. Более того, Кабази II, V и VI являются древнейшим проявлением микока не только в Крыму, но и на территории Восточной Европы.

Несмотря на достаточно впечатляющую продолжительность крымского микока – около 90 тыс. лет, отсутствуют какие-либо основания предполагать наличие технологических и /

или типологических инноваций. Плоско-выпуклая манера изготовления двусторонних орудий и примитивно-параллельное расщепление нуклеусов существовало на всем протяжении крымского микока без каких-либо существенных изменений. Нет значимых отличий и в типологии орудийных наборов, которые как в наиболее ранних, так и наиболее поздних комплексах основаны на двусторонних листовидных и сегментовидных формах и односторонних простых, трапециевидных и сегментовидных скреблах. Двусторонние и односторонние орудия зачастую оснащались обушками и различными видами утончений.

С точки зрения функциональной вариабельности крымского микока, поселения V и VI культурно-хронологических слоев Кабази II относятся к типу кратковременных лагерей, на которых производилась первичная и вторичная разделка животных, в основном, принесенными на стоянку готовыми орудиями. Изготовление орудий на территории стоянки имело ограниченный характер. Приблизительно такие же модели использования кремневого сырья и фауны характерны для поселений IV культурного слоя Чокурчи I.