

WADI AL-HAJANA 1: ADDITIONAL DATASETS ON THE KHIAMIAN AND PPNB FLINT ASSEMBLAGES IN MT. BISHRI, CENTRAL SYRIA

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Introduction

Wadi al-Hajana 1 is a small-scale, stratified Neolithic site in the western piedmont of Mt. Bishri, central Syria, containing a Khiamian encampment and a PPNB (Pre-Pottery Neolithic B) open-air flint workshop (Fig. 1). The site was discovered during a general survey in May 2008 and subsequently excavated in March 2010 [Fujii *et al.* 2011; Fujii and Adachi 2013; Fujii 2014] as a part of our research project in the Bishri mountain range [Fujii and Adachi 2010]. The excavation results were summarized in the preliminary reports cited above, which focused on the description of the overall picture of the two distinct flint assemblages, leaving their details for future study. What happened thereafter was the series of political disturbance. Since then, the access to the excavated materials left behind in our local storage remains interrupted. Then we decided to change the policy and publish even if only basic information now at hand for the convenience of comparative study. This paper presents several new datasets on the Khiamian and PPNB flint assemblages previously outlined. Owing to limited space, we give first priority to the introduction of the additional datasets, keeping comment to a minimum.

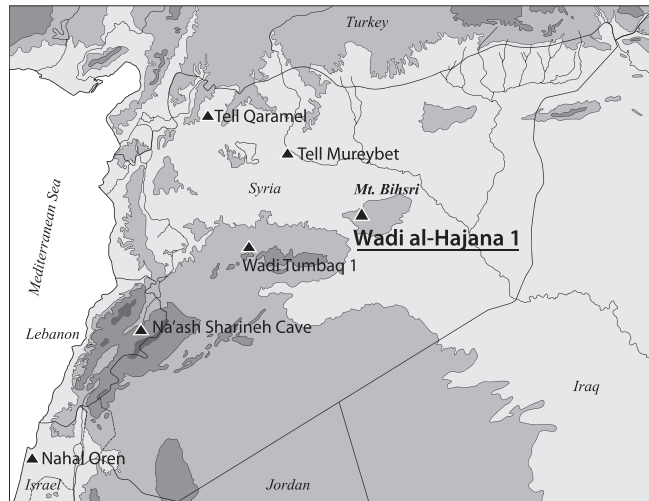


Fig. 1 Wadi al-Hajana 1: site location.

The site and excavation

Wadi al-Hajana 1 (N 35°20.127; E 039°00.140; Elevation: *c.* 556 m) is located on a north-facing, gentle slope sandwiched with a pair of small gullies that join together to flow into Wadi al-Hajana, a major drainage system in the area. We set up two operation areas (Areas 1 and 2) at an interval of 30 m along the ridgeline of the slope and opened a total of fifteen 2.5 m by 5 m test trenches in and around them (Fig. 3). In addition, a 7 m by 7 m excavation sector was set up around a curvilinear wall alignment slightly exposed in the northeastern part of Area 1.

The trench and square excavations revealed a small Khiamian encampment (Layer 2) and a PPNB open-air flint workshop (Layers 1 and 0). The former centered around the exposed wall alignment, which turned out to form a semi-subterranean, roughly round structure (Structure A) *c.* 4–4.5 m in diameter and *c.* 0.3–0.5 m in floor depth. The latter, on the other hand, extended over the two operation areas, being estimated at several hundred square meters in total area. Unlike the Khiamian encampment, no structural remains accompanied it.

The Khiamian flint assemblage

The Khiamian flint artifacts total to 3,258 pieces, the vast majority of which were found in and around

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Structure A. Two kinds of additional datasets will be presented below: the inventory of the flint assemblage and the phase-by-phase techno-typological sequence of el-Khiam type points.

The inventory highlights the basic traits of the assemblage (Table 1). We can point out, for example, that: 1) no flint nodules as raw material for the lithic production are included; 2) single-platform blade/bladelet cores outnumber single-platform flake cores; and 3) the blade/bladelet-versus-flake ratio is 1.47 (= 1403/948); 4) the tool class is characterized by the predominance of el-Khiam points (44% = 44/100), drills (24% = 24/100), and retouched/used blades/flakes (17% = 17/100); and 5) in contrast, the other standard tool classes are extremely scarce. All of these corroborate anew our previous interpretation that the Khiamian encampment at Wadi al-Hajana 1 represents a remote flint workshop specializing in the production of delicate tools such as the el-Khiam points and the slender drills [Fujii and Adachi 2013: 53]. It should also be added that despite the frequency of the el-Khiam points, the assemblage is devoid of Hagdud truncations common at contemporary sites in the central and southern Levant.

Meanwhile, the techno-typological sequence of the el-Khiam points from Structure A is suggestive of the gradual increase in frequency of squat specimens with a relatively large width/length ratio (Fig. 2; Fujii and Adachi op. cit.: fig. 9). What happens in conjunction with this trend is the transition from typical products to atypical ones, on one hand, and the downward shift in the position of lateral notches, on the other hand. The appearance of a few pseudo- or primitive tongued points in the final phase can be understood as a consequence of these general trends (e.g. Fig. 2: 27, 28). Although we cannot always take the phenomena at face value in consideration of the small sample size and the short time span (probably several decades) covered by the sequence, it is safe to say that the lithic production at the encampment gradually deteriorated as if keeping in step with the shrinkage of the floor area of Structure A. It should be noted, however, that the frequency of the el-Khiam points in itself doubled in the final phase. This discrepancy possibly suggests that the growth in demand of the points led to their techno-typological de-standardization, or that the de-standardization allowed for the greater demand. Anyhow, the sequence provides valuable insights into the transition from the Khiamian flint assemblage to the PPNA one.

The PPNB flint assemblage

Aside from those excavated within the trenches, most of the PPNB flint artifacts were collected as surface finds in the two operation areas. This paper presents two additional datasets: the distribution map of artifacts and the inventory of the flint assemblage from two units referred to below.

The distribution map shows that overall, the artifact density is higher in Area 2 than Area 1, on one hand, and in the eastern half of the site than its western half, on the other hand (Fig. 3). Reflecting these two general trends, the assemblage forms two concentrations: Unit 1 at the southeastern corner of Area 1 and Unit 2 at the northeastern corner of Area 2. Both units are *c.* 30 m separated north from south but equally have an area of *c.* 150 square meters. No remarkable difference in contents is recognized between the two units, but the inventory referred to below indicates that the average artifact density per square meter is much higher in Unit 2 (20.2 = 3,023 pieces/150 square meters) than in Unit 1 (6.2 = 932/150).

The flint artifacts from the two units amount to 4,574 pieces (Table 2). The inventory indicates that the assemblage is characterized by the absence of nodules, the predominance of naviform cores, the frequency of debitage class specimens, and the extreme scarcity of retouched tools. All of these suggest that the open-air flint workshop was involved exclusively in an intermediate process between the initial core preparation and the tool production, namely, the process of tool blank detachment [Fujii 2014: 70–72]. It is noteworthy, however, that though limited in number, the assemblage includes a variety of standard tools other than projectile points and sickle blades. This fact possibly means that the trial production of standard tools took place at the workshop before produced blanks were

Table 1 Inventory of the Khiamian flint assemblage.

	Phase 1										Phase 2				Phase 3					Miscellaneous				Total
	Upper fill					Lower fill					Lower Floor		Upper fill		Lower fill			Floor		Trench				
	503	504	516	519	521	520	517	522	518	Total	513	514	Total	502	507	508	509	510	511	Total	501	506	523	
Hammerstone	2	1				1				4			0	2		1			3					7
Nodule										0			0						0					0
Total	2	1	0	0	0	0	0	0	0	4	0	0	0	2	0	1	0	0	3					7
Cores																								
Naviform core	1									1			0						0					1
Single-platform blade core	2	1	3	4	2	2	6			20	1	3	4	1	4	2			7	1			1	2
Single-platform flake core	1	1	2	3		1				8	1		1	1			2		3				1	1
Single-platform bladelet core	1					1				2			0	1					1	1				1
Core fragment										0	1	1	1			3			3					4
Total	4	3	5	7	2	2	8	0	0	31	2	4	6	2	5	2	5	0	14	2	0	0	2	4
Debitage/Debris																								
Core-trimming element				1		3	1			5	1	1	2	5	1	2	1	1	10				1	2
Blade	12	24	33	18	2	23	46	40	21	219	18	41	59	19	120	22	87	4	256	12	10	1	1	24
Snapped blade	14	30	20	11	2	25	57	54	28	241	18	38	56	24	116	61	101	8	321	3	29			33
Bladelet	4	9	2	2	12	16	10	13		66	4	21	25	5	30	20	34	1	98	3			2	5
Flake	15	37	62	29	16	43	75	70	35	382	20	34	54	40	178	80	149	1	453	12	32	2	13	59
Chip	2	10		2	49	77	102	63		305	17	69	86	8	86	70	129	4	304	3	9		6	18
Chunk				3		1	1			5			0	6					6					2
Total	41	97	137	61	22	153	275	277	160	1,223	78	204	282	96	541	254	502	19	1,448	30	86	3	24	143
Tools																								
el-Khiam point	1	1	1	1	4	2	1	2		13	3	3	3	2	12	7	5	1	28			1		1
Tongued point										0			0				1		1					0
other point										0			0	1					1					0
Adze				1						1			0						0					0
Digging tool										0			0						0					0
Burin										0			0			1			1					1
End Scraper	1	1				1				3			0						0					0
Round scraper				1				1		2	1	1	1	1					1					0
Drill	1	2		2	3	5	2			15	1	1	1	4	2	1			7			2		2
Retouched/used blade	1			1	2					4	1	1	1	1	2	1			4					0
Retouched/used flake	1		1	1						3	1	2	3	1	1			1	2					0
Miscellaneous										0			0				1		1					0
Total	2	4	6	2	0	8	8	7	4	41	3	6	9	3	20	11	9	0	46	1	3	0	0	4
Total	49	105	148	70	24	163	291	284	164	1,299	89	214	297	103	566	268	516	19	1,511	33	89	3	26	151
Total																								

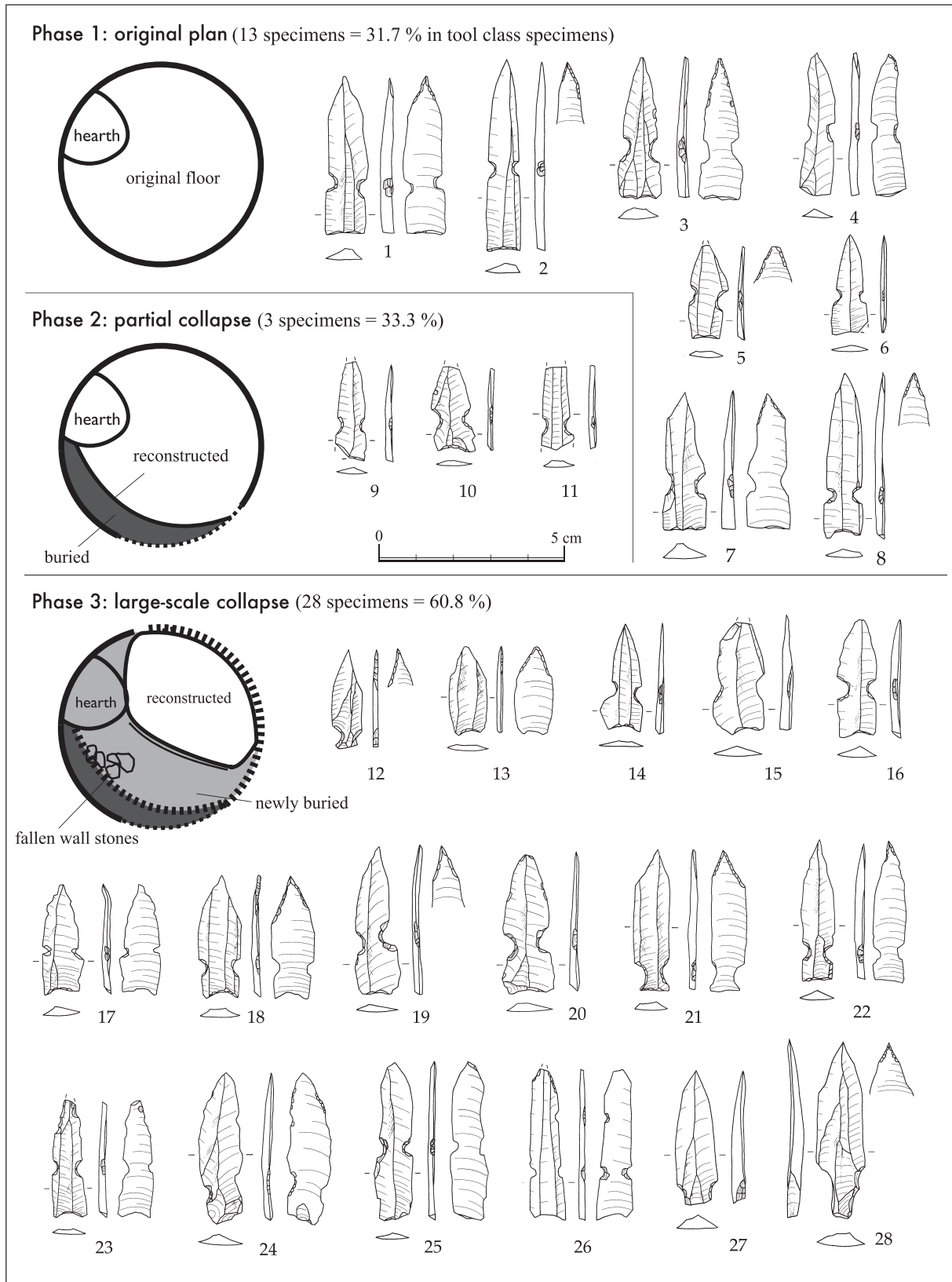


Fig. 2 Khiamian assemblage: techno-typological sequence of el-Khiam points.

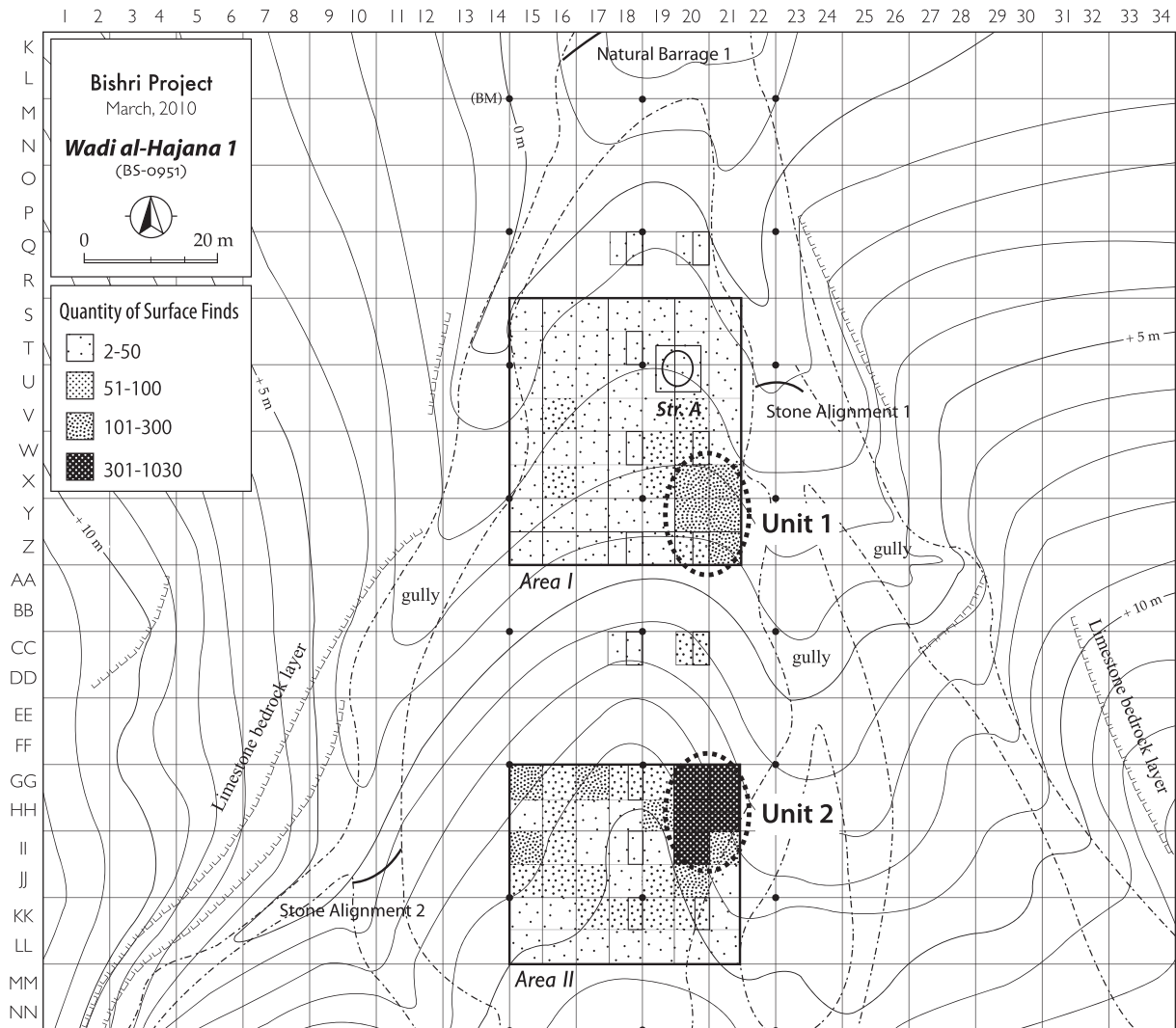


Fig. 3 PPNB assemblage: distribution map of artifacts.

brought back to elsewhere.

Concluding remarks

We have presented the four additional datasets. As for the Khiamian flint assemblage, the inventory has corroborated anew the peculiarity of the lithic production at Wadi al-Hajana 1. The phase-by-phase techno-typological sequence of the el-Khiam points has highlighted the gradual transition toward the PPNA flint assemblage. Meanwhile, the other two datasets have provided complementary insights into the PPNB flint assemblage specializing in the production of tool blanks. Although the current situation does not seem to allow the resumption of the on-the-spot lithic study, we would like to persist in our efforts towards a better understanding of the Bishri Neolithic.

Acknowledgements

We are grateful to Prof. Katsuhiko Ohnuma, general director of the research project “*Formation of Tribal Community in the Bishri Mountains, Central Syria*” taken place in 2005–2009. He kindly invited us to the unique project and offered various facilities for our branch project in the western piedmont of Mt. Bishri. It should also be added that we were always encouraged by his friendly smile.

Table 2 Inventory of the PPNB flint assemblage from Units 1 and 2.

(Locus)	Unit I (Area I): 001							Unit 2 (Area II): 001							101				Total
	X20	Y20	Z20	X21	Y21	Z21	Total	GG20	HH20	II20	GG21	HH21	II21	Total	Z20	GG20	II20	Total	
Hammerstone	3				2		5	1	1	1				3				0	8
Nodule							0							0				0	0
Total	3	0	0	0	2	0	5	1	1	1	0	0	0	3	0	0	0	0	8
Cores																			
Naviform core	4	1			7	8	20	3	6	3	5	3	2	22	2	9	2	13	55
Opposed-platform blade core				1			1	1			1			2				0	3
Single-platform blade core					3	1	4			1	2		4	7	1	7		8	19
Single-platform flake core	2				2	3	7		5	2	2	2		11		3		3	21
Single-platform bladelet core	1						1	1						1				0	2
Discoidal flake core					1		1			1				2		2		2	5
Core fragment							0					4		4		4		4	8
Total	7	1	0	1	13	12	34	5	11	7	10	9	7	49	3	25	2	30	113
Debitage/Debris																			
Core-trimming element	6	4	5	5	11	5	36	18	35	16	43	19	13	144	4	57	1	62	242
Blade	6	1	4	3	11	11	36	27	43	21	37	23	6	157	10	39		49	242
Snapped blade	38	56	28	51	62	39	274	190	210	55	311	103	28	897	15	115	6	136	1,307
Bladelet	5	1		6	5	6	23	6	19	10	20		3	58	2	3		5	86
Flake	101	63	43	60	78	35	380	232	257	117	382	197	50	1,235	18	265	6	289	1,904
Chip	36	24	10	19	14	11	114	61	62	42	222	52	8	447	6	33		39	600
Chunk	1	2		1	6	2	12	7	7	2	3		2	21		7		7	40
Total	193	151	90	145	187	109	875	541	633	263	1,018	394	110	2,959	55	519	13	587	4,421
Tools																			
Adze	1						1							0				0	1
Axe	1						1							0				0	1
Notch	1						1			1				1				0	2
Burin	2						2	1						1				0	4
End scraper	1						1		1					1				0	2
Round scraper							0			1				1				0	1
Drill				1			1			1	1			2				0	3
Splintered piece						1	1			1				1		1		1	3
Truncated blade	1						1							0				0	1
Retouched blade	1	1	1			1	4						1	1	1			1	6
Retouched flake	1	1					2	1				1	1	3				0	5
Miscellaneous				2		1	3							0				0	3
Total	9	2	1	3	0	3	18	2	1	3	2	1	3	12	1	1	0	2	32
Total	212	154	91	149	202	124	932	549	646	274	1,030	404	120	3,023	59	545	15	619	4,574

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