

## Early Dynastic Bead Workshops at the Central Kom of Tell el-Farkha

MAREK CHŁODNICKI

**Abstract:** In 2002, specialized workshops with micro-perforators (microdrills) were found at Tell el-Farkha. The material was well described as seven separate units. Further analysis shows that originally they formed only two separate workshops. Each workshop occupies a similar space. Although we did not find any finished products or raw material in direct association with the implements, it seems that as on the other sites they were used for bead production.

**Keywords:** Early Dynastic Egypt, bead workshop, microdrills

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Agate and carnelian beads are a very common find at Tell el-Farkha. Beads and amulets made of various stones such as steatite, serpentinite, limestone, amethyst, rock crystal, agate and hematite occur, but ones made of carnelian dominate (**Figs 1–2**). We discovered them in graves as well as in deposits in the administrative-cultic center in the Western Kom. The carnelian and ostrich-eggshell beads were hidden together with the golden figurines on the Eastern Kom. Some amount, not insignificant, was found also scattered around the settlement on all three koms. The oldest collection of stone beads was found at the Lower Egyptian residence on the Central Kom (Naqada IID), but they are most abundant in Early Dynastic times.<sup>1</sup>

Most of the beads were imported to Tell el-Farkha as a ready product. Some of them could have been produced locally, at least in Early Dynastic times. This is perhaps indicated by the concentrations of microdrills and the presence of raw materials on the site. Collections of microdrills discovered on other sites have been interpreted in this way.

The biggest collection of this kind of small implements is known from Hierakonpolis.<sup>2</sup> In 1899 F.W. Green found in two caches an *enormous number of exceedingly small pointed*

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<sup>1</sup> Chłodnicki, Geming 2012: 97–98; Chłodnicki *et al.* 2014: 134–138.

<sup>2</sup> Quibell, Green 1902: 11; Adams 1974: 30–31; Holmes 1992: 41–42; Hikade 2004: 188–191.



*flints* as well as broken carnelian pebbles, some of which had been formed into roughly shaped beads.<sup>3</sup> Selected items (464 microdrills and several unfinished beads) from one cache were sent to the Petrie Museum UCL.<sup>4</sup>

More of these microdrills were found at the ceremonial center Hk29a in Hierakonpolis where several hundred small borers were discovered. These were made of bladelets, which occur together with cores, and other debitage products associated with their manufacture, like a few unfinished stone beads which also occur at the site along with small flakes and chips of carnelian and other materials. D. Holmes suggests that although microdrills had more than one function it seems that their main use was manufacture of stone beads.<sup>5</sup>

At square 10N5W at Hierakonpolis, complete carnelian pebbles, pieces of carnelian and a core were excavated. Several carnelian nodules were reduced to small semi-hemispherical pieces or square blocks of a size which could suggest that they were performed for beads.<sup>6</sup> Thirty-three microdrills made on bladelets or small flakes and about 100 tiny chips made of grayish-brown heterogeneous raw materials were also found there. T. Hikade<sup>7</sup> distinguished three groups among the microdrills. The first is a type with a more elongated outline up to 4cm long and a pronounced working edge, the second has a very pointy tip and broad basal end and the third is a short and robust variant with a small pointed tip.

A collection of microdrills is also known from Abydos. Over three hundred borers were found there in the centre of the settlement together with unworked agate and carnelian. The length of perforators varies from 16 to 48mm and many of the specimens were broken.<sup>8</sup>

Specialized workshops with micro-perforators (microdrills) were discovered also in 2002 at the Central Kom of Tell el-Farkha. These were published as three concentrations of flint with microdrills<sup>9</sup> and classified as Early Dynastic (Naqada IIIB-C) perforator workshops. An inventory of each workshop from a technological and typological point of view was characterized by J. Kabaciński and P. Szejnoga, but nothing was mentioned about the context of these finds. The material was most abundant in workshop 1 (feature C.234) – 1010 artefacts. A smaller number of flints was discovered in workshop 2 – 389 pieces (feature C.239) and workshop 3 – 588 pieces (feature C.232).

In the later publication four other, smaller, workshops were mentioned: workshop 4 – 337 pieces, workshop 5 – 139 pieces, workshop 6 – 100 pieces and workshop 7 – 97 pieces.<sup>10</sup>

<sup>3</sup> Quibell, Green 1902: 11.

<sup>4</sup> Endo, Takamiya, Friedman 2009.

<sup>5</sup> Holmes 1992: 41–42, Fig. 4d-f.

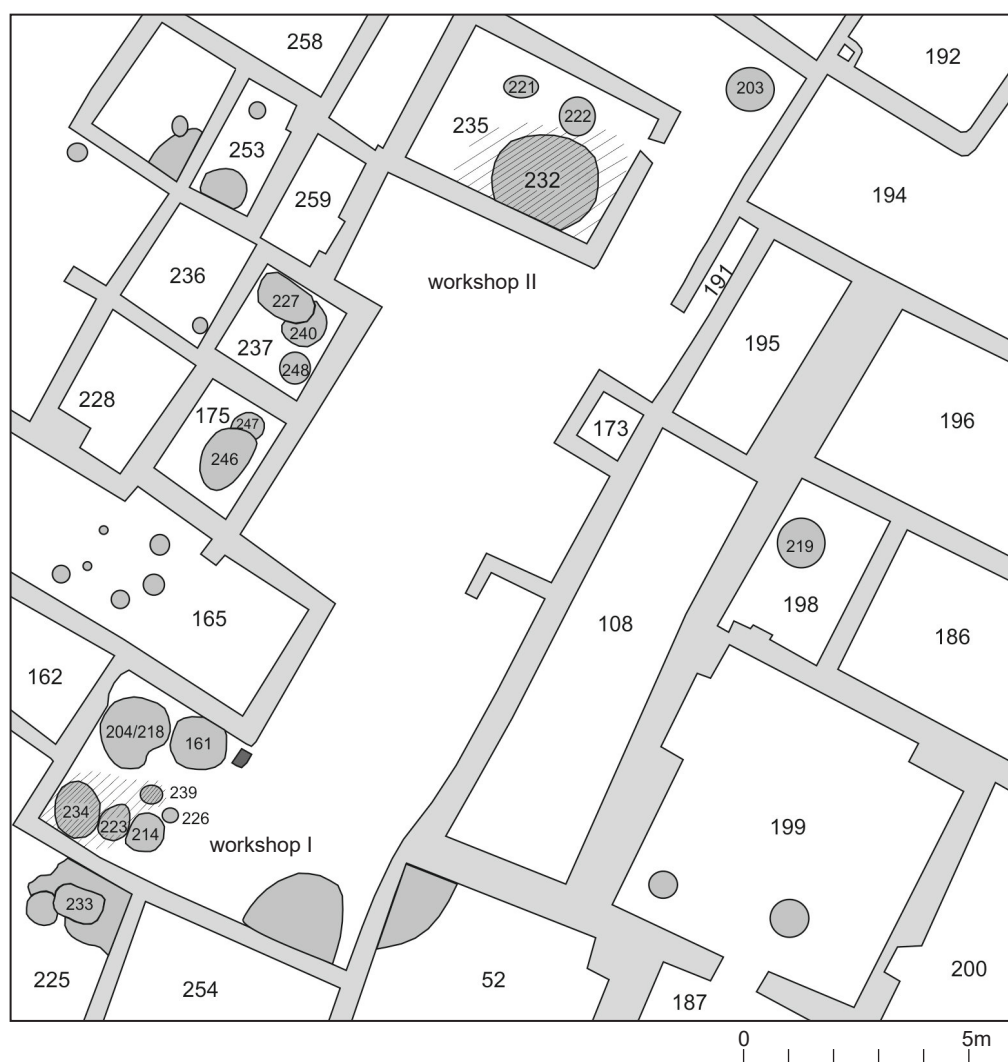
<sup>6</sup> Hikade 2004: 188–189.

<sup>7</sup> Hikade 2004: 190–191.

<sup>8</sup> Peet 1914: 3–4, Pl. 3a.

<sup>9</sup> Chłódnicki *et al.* 2007; Kabaciński 2012: 339–344.

<sup>10</sup> Kabaciński 2012: Tabs 1–2.



3. Central Kom. Location of the workshops I and II (Drawing: M. Chłodnicki).

When all seven concentrations were mapped we realized that originally they formed only two workshops. The first of them (workshop I) contain flint concentrations numbered as workshops 1, 2 and 4, whereas the second (workshop II) consists of previous workshops 3, 5, 6 and 7.

Both workshops were located in the passage between the dwelling area, where bigger houses are arranged around the courtyards and the economic area, with much smaller rooms, on the border of the village (**Fig. 3**). Workshop I contains two fireplaces and is placed in the area surrounded from three sides by walls. It is opened to the east, with a huge stone block on the entrance. The room has about 3 x 3.5m, but the flints were





4. Selection of microdrills from Central Kom (Phot. J. Skłucki).

concentrated only in an area of about 2 x 3m in the southern part – in the fireplaces and around them.

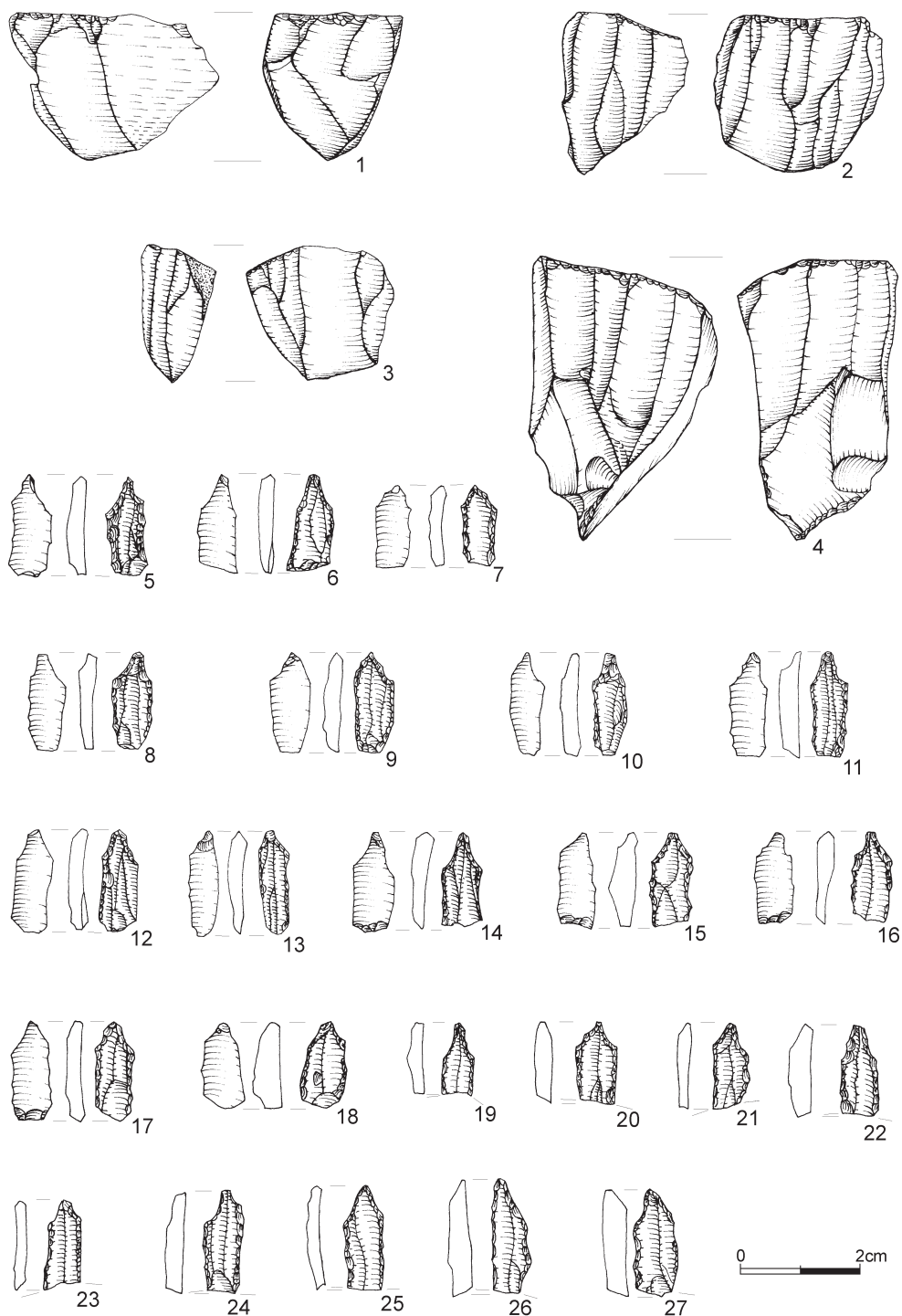
The second workshop was surrounded by the walls from all four sides. The big room has 3 x 4m, but the flints were concentrated also only in an area of 2 x 3m in the south-eastern corner. Most of the flints were discovered in the fireplace.

These were produced mostly from grey to dark brown flint often with dotted and patched calcareous intrusions, rarely brown to light brown flint, without intrusions. In the workshops flakes and chips resulting from the core reduction were predominant. The cores were small and mostly used for removing small blades. Most of them were single-platform cores which were heat-treated for technological reasons. The most common blades are approximately 30–40mm long, 5–7mm wide and 2–3mm thick (**Figs 4–5**).<sup>11</sup> It seems that there were no microdrills of Hikade's first type and that the third type is the most common.

About 10–15% of the assemblages are tools (**Tab. 1**), mostly (60–92%) micro-perforators (microdrills). Together, 284 microdrills were found in the workshops. They have well-defined stings, with semi abrupt retouching on their dorsal face. They can be divided into categories depending on location of the sting on the bladelet and form of the base.<sup>12</sup> In each workshop the number of pieces representing particular types varies, which may reflect the specific preferences of the flint-knapper. For example, in workshop I microdrills with a retouched base were preferred, whereas in workshop II it was the ones with a snapped base (**Tab. 2**).

<sup>11</sup> Chłodnicki *et al.* 2007: 85; Kabaciński 2012: 340.

<sup>12</sup> Chłodnicki *et al.* 2007: 85; Kabaciński 2012: 341.



5. Cores and micro-perforators (microdrills) from workshop 3 (II) (Kabaciński 2012: Fig. 18).

**Tab. 1.** General technological structure of workshops (based on: Kabaciński 2012: Tab. 1)

Category	WORKSHOP I Workshops 1+2+4	WORKSHOP II Workshops 3+5+6+7
<b>Group I – preparation and initial exploitation of the cores</b>		
Cortex flakes	34	15
Cortex blades	18	14
Primary crested blades	9	2
Core trimming flakes	10	2
<b>Group II – production of flakes</b>		
Single platform cores on flakes	–	3
Flakes from single platform cores	52	30
Flakes from opposed platform cores	22	3
Flakes from cores with changed orientation	2	2
<b>Group III – production of blades</b>		
Single platform cores for blades	6	5
Blades from single platform cores	192	141
Opposed platform cores for blades	2	1
Blades from opposed platform cores	10	7
Cores for blades with changed orientation	7	1
Blades from cores with changed orientation	3	1
<b>Group IV – repairs</b>		
Core tablets	5	3
Secondary crested blades	6	21
<b>Group V – production of tools</b>		
Tools	190	156
Burin spalls	2	–
Flakes from production bifaces	8	–
<b>Group VI – unidentified and fragments</b>		
Unidentified flakes	10	5
Unidentified blades	3	1
Unidentified cores and fragments	–	1
Chips	1052	484
Chunks	93	26
<b>Total</b>	<b>1736</b>	<b>924</b>

**Tab. 2.** Typological structure of perforators from workshops I and II (based on: Kabaciński 2012: Tab. 2)

Category	WORKSHOP I Workshops 1+2+4		WORKSHOP II Workshops 3+5+6+7	
	amount	%	amount	%
Micro-perforators with natural base and sting located in proximal part of bladelet	4	2.5	3	2.3
Micro-perforators with sting located in distal part of bladelet and natural base with preserved bulb	41	26.1	28	22.0
Micro-perforators with retouched base	49	31.2	22	17.3
Micro-perforators with snapped base	9	5.7	65	51.3
Unidentified perforators and fragments	4	34.5	9	7.1
<b>Total</b>	<b>157</b>	<b>100.0</b>	<b>127</b>	<b>100.0</b>

The size of the implements was very uniform. They are 10–19mm long, 4–7mm wide and 2–4mm thick. Their width and thickness corresponds to the dimensions of the most frequent blades produced at the workshops. The stings of the micro-perforators are heavily reduced as a result of intensive use and the tips often exhibits signs of having been crushed. The implements were definitely produced and used in the same place.<sup>13</sup>

\*

Although we did not find agate fragments or unfinished beads in the workshops at the Central Kom, the workshop discovered in 2004 at the Eastern Kom could confirm that agate was used locally for bead production. That workshop is a bit older (Naqada IIIA2–IIIB) and takes the form of a pit of a diameter of about 1.5m and 10cm deep (feature EN.92), filled mostly with stone debitage. 391 objects were discovered there, with one third of the collection being agate fragments – raw material nodules and cores. Quartz hammer stones and sandstone polishers were also found there, but only three micro-perforators were recorded.<sup>14</sup> The concentration of agate fragments was surprising. It seems that they were collected for the bead production.

Although we do not have all phases of bead production process in one place, it seems that the stone beads could be manufactured at the site. It is also possible that the microdrills were used for other purposes – for drilling holes in other materials as bone or pottery. But, in such a case, it is not necessary to have so many implements in the one place. Only boring holes in hard stones needs to use many micro-drills. Moreover, carnelian pieces found on the site, material locally unavailable, suggest that they were brought for bead production.

<sup>13</sup> Chłodnicki *et al.* 2007: 86; Kabaciński 2012: 343.

<sup>14</sup> Chłodnicki *et al.* 2007: 90–91, Tab. 4.



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