An Early Neolithic Flint-Knapping Spot from Ali Kosh, Southwestern Iran

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Introduction

The Neolithic mound of Ali Kosh is located in the Deh Luran Plain, southwestern Iran (c. 150 m a.s.l.; Fig. 1). It rises c. 4 m above the surrounding fields, containing c. 7 m of archaeological deposits in thickness. Ali Kosh was first investigated by a French mission in 1903 (Gautier and Lampre 1905: 81-83). However, thanks to later excavations directed by F. Hole in the early 1960s (Hole et al. 1969), it has become one of the most informative sites yielding evidence of early agricultural societies in the eastern wing of the Fertile Crescent. Although Hole and his colleagues have published their excavations at a high standard, the site’s chronology deserves a revision. More recently acquired radiocarbon dates have also increased ambiguities in this regard (cf. Zeder and Hesse 2000). Therefore, a stratigraphic trench was excavated under direction of H. Darabi in 2017 (Darabi et al. 2017). In order to gain new samples from save contexts, a small area (2.5 x 2.5 m) was first opened on the southern edge of the trench remaining from the former excavations (not filled back). Then, this new area was reduced to 2 x 2 m down to virgin soil (Fig. 2). This could provide us with a sequence of layers as close to Hole’s stratigraphy as possible. Generally speaking, the new stratigraphy indicates the remains of 18 occupational phases: Of interest was a “knapping spot” of a thickness between 3-8 cm, resting above virgin soil. This paper discusses a preliminary analysis of the chipped flints recovered from this lowermost layer of the site.
Fig. 2  Aerial view of Ali Kosh and the new stratigraphic trench in 2017. (Photo: L. Ahmadzadeh)

Fig. 3  Concentration of chipped flints revealed in the excavation (A) and the collected assemblage (B). (Photos: H. Darabi)

Fig. 4  Samples of the cores and tools (1-4: bullet-shaped cores; 5-6: drill; 7-8: backed bladelet). (Drawing: H. Darabi)
The Knapping Spot

Former excavations in the early 1960s offered a notable amount of chipped stone that was previously well published (cf. Hole et al. 1969: 74-105) whereas our new stratigraphy has yielded a much smaller assemblage, c. 5,000 pieces in total. In Neolithic sites, stone tools are usually found in residential contexts where they were used and finally wasted. This explains the importance of any in situ knapping floors, an interesting issue seen in the lowermost layer of Ali Kosh. Due to the suitable location of the new stratigraphic trench we could recover a new part of an in situ flint concentration (Fig. 3) that had also been reported previously from the site (cf. Hole et al. 1969: 34). Although Hole and his colleagues have correctly interpreted this dump as a spot where a knapper had worked (ibid: 74) they did not give further information. As mentioned above, a part of the knapping spot was reached in 2017. As the result, a total of 2,036 pieces of flint was found, including tools, cores, debitage and debris (Figs. 4-5). Of these, a small amount (10%) are tools. Most of the tools were made on bladelets (90%). Such biased blank production is also shown by the scars of the bullet-shaped cores, varying between 1.5-8 mm in width. Utilized bladelets are statistically much higher than other types (Fig. 6). Apart from a few reddish-brown samples, a medium-grained grey flint was thoroughly used indicating a homogenous raw material. No obsidian pieces were found.1 Flint nodules and evidently cortical pebbles were used for knapping. Based on our analysis around 50% of the assemblage is more or less cortical. In this regard, highly cortical flakes (85%) and blades (59%) were rarely used as tool, while cortical bladelets (12%) are much less in quantity.

Concluding Remarks

As seen from our analysis, bladelet blanks were preferred for tools; many flakes are the result of core trimming. In general, as shown by previous investigations (e.g. see Kozłowski 1999), the assemblage relates techno-typologically to M’lefatian industries. It seems that the initial occupants of Ali Kosh might have not yet been familiar with obsidian and even fine-grained flint (mid-8th millennium BCE). Instead, they exploited local cortical nodules to produce their desired tools on-site. In terms of spatial analysis, this flint-knapping spot perhaps shows a specific location devoted to tool production. The first settlers of the Deh Luran Plain, however, founded their socio-economic and technological structures on earlier foundations seen in the highland central Zagros.

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Endnote

1 Obsidian was previously reported from Buz Mordeh phase (see Hole et al. 1969; Renfrew 1969). However, no sample was recovered from the lowermost deposits, c. 80 cm in thickness, in 2017. Therefore, it is unclear whether obsidian was introduced into the site since the earliest time of occupation or became available through time.
References


