Zooarchaeological evidence for domestic maintenance in the Early Epipalaeolithic

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Introduction

The origin of systematic refuse disposal in the Near East is conventionally attributed to the Pre-Pottery Neolithic B period when sedentary villagers devised novel ways of reducing the burden of accumulating rubbish. Material evidence from Early Natufian occupations at Wadi Hammeh 27 and El Wad Terrace suggest that waste management practices before the Neolithic were indifferent[1,2].

Kharaneh IV, a pre-Natufian site in eastern Jordan, provides zooarchaeological evidence indicating structured deposition of animal remains and highly variable spatial patterns of discarded bone refuse. These results pose a challenge to this conventional wisdom.

Materials

Figure 1. Map of the southern Levant showing location of Kharaneh IV.

- Kharaneh IV is a large (21,000 m^2) aggregation site in the Azraq drainage basin of Eastern Jordan (Fig. 1).
- 13 AMS dates from Area B place the occupation between 19.8-18.6 ka cal BP (95% confidence) – Early Epipalaeolithic.[3]
- Excavations in Area B revealed hut structures, exterior occupation surfaces, external hearths, middens, pits and caches (Fig. 2).[4]
- Combination of primary, secondary, and *de facto* depostion contexts is unusual in the Early Epipalaeolithic.

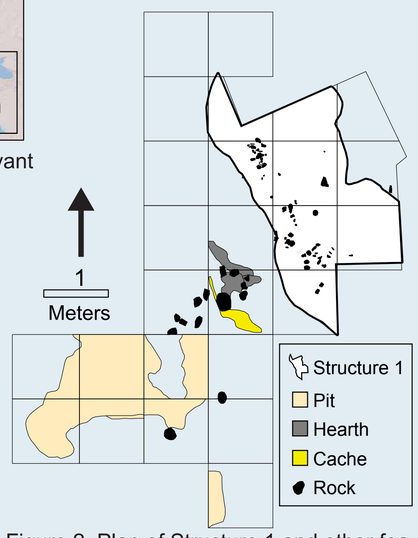

Figure 2. Plan of Structure 1 and other features in Area B at Kharaneh IV.

Results

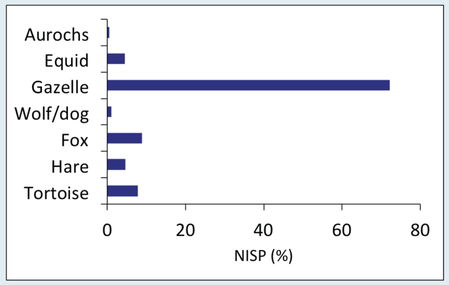

Fig. 3. Taxonomic abundance data showing predominance of gazelle in site assemblage.

Ongoing faunal analysis has recorded over 9,000 animal bone and tooth fragments, of which about 22% are identified to a low taxon (NISP).

Gazelle are the most abundant taxon in most contexts, but not in Structure 1 (Fig. 3). Other animals such as equid, aurochs, wolf or dog, hare, tortoise, and ostrich comprise minor components of the site-wide assemblage.

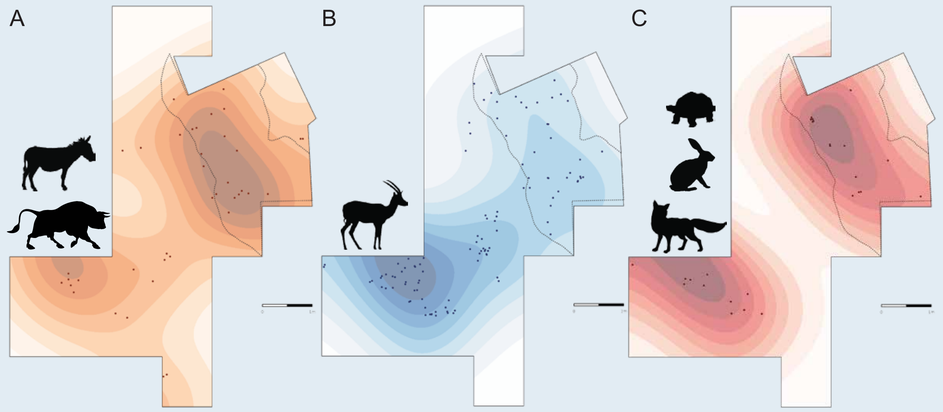

Fig. 4. Kernel density maps of animal types. (A) large ungulates (equid and aurochs); (B) small ungulates (gazelle); and (C) small game (fox, hare and tortoise).

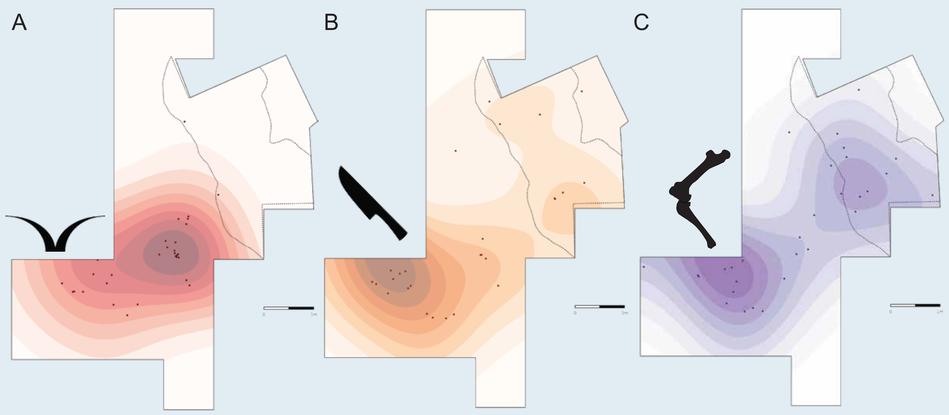

Fig. 5. Kernel density maps showing discard of particular categories of faunal remains. (A) gazelle horn cores; (B) butchered bones; and (C) articulated, paired, refitted and very fragile bones.

Summary

The Structure 1 assemblage is distinct from all other features:

- Small prey, particularly tortoise, predominate in Structure 1, whereas gazelle are the dominant taxon in all other features (Fig.4B-C)
- Gazelle horn cores, which are the most common gazelle skeletal portions according to MNE, are rare inside Structure 1 and abundant in the cache and pit (Fig. 5A, 6)
- Butchered bone is concentrated in the large pit (Fig. 5B), suggesting a site of secondary bone refuse disposal
- Multi-element articulations are found throughout, but tortoise shells and paws of small fur-bearing prey, are conspicuous in Structure 1 and around the external hearth (Fig. 5C, 7)

Fig. 6. Cache of gazelle and aurochs horn cores.

Fig. 7. Four articulated fox paws that surrounded a worked flint core and found at the edge of a hearth.

Discussion

The intra-site spatial analysis of zooarchaeological remains from Kharaneh IV shows that refuse disposal practices relied on principles of taxonomic and anatomical selectivity, which resulted in distinct faunal deposits. This patterning suggests that refuse discard behaviours were highly structured.

While refuse disposal and structured deposition are conventionally regarded as practical and symbolic behaviours, respectively, we argue that both were formal, deliberate, habitual practices that together constituted alternate forms of Early Epipalaeolithic domestic maintenance.

References

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