ARCHAEOLOGICAL SURVEY AT THE EPIPALAEOLITHIC SITE OF AL-KHARRĀNA IV

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From July 15 to July 17, 2006, a three-day project was conducted to re-survey and map the Epipalaeolithic site of al-Kharrāna IV. The project was directed by Lisa Maher, along with a small crew consisting of Tobias Richter, Daniel Jones, and Aref Dhughaithem, of the Department of Antiquities. The site consists of a small mound partially enclosed by a barbed wire fence and located approximately 2km southwest of Qaṣr al-Kharrāna at an elevation of ca. 640m a.s.l. (**Fig. 1**). Previous work at the site prematurely ceased more than 20 years ago. Ongoing erosional processes and steady increases in tourism and vehicular traffic have greatly affected the surface sediments, caused slumping of the old excavation trenches, and now disturb the remaining subsurface deposits. The objectives of our three-day project were to document the current state of the site and assess potential future measures for resuming archaeological work on-site, along with its long-term conservation. Our 2006 survey involved detailed mapping of the site with a total station, including its current topography, the location of old excavation trenches and other exposed surface features.

The site was originally surveyed in the 1970's by A. Garrard and N.S. Price (Garrard and Price 1977) and small test excavations were conducted in 1981, 1983 and 1985 by M. Muhesien (Muheisen 1983, 1988a, 1988b, 1988c). Previously excavated Epipalaeolithic sites in Jordan are generally small in size and have relatively low artefact densities. Al-Kharrāna IV, on the other hand, is extremely large in size, encompassing approximately 20 000m^2, and has an exceedingly high artefact density. In fact, the entire surface of the low mound is paved in flint artefacts and animal bone (**Figs. 2-3**). Test trenches

1. A view of the Epipalaeolithic site of al-Kharrāna IV from the north, showing its topography as a low mound. The deflated surface of the site is covered in a pavement of flints, giving it a darker colour from the surrounding landscape.

2. *A close-up view of the surface of the site showing the high density of flints.*

3. *A close-up view of the surface of the site showing the high density of flints and animal bone.*

show that the subsurface deposits continue to exhibit this extremely high artefact content to a depth of more than 1.5m (Muheisen 1988a). As a result of the large size of the site and the unique nature of its material record, renewed survey and excavations at the site will provide critical data on an under-researched period of Jordanian prehistory and highlight the significance of the site for our current understandings of the transition from forager to farmer in the southern Levant.

Background of Research

During the 1980's Mujahed Muheisen conducted several survey and excavation projects in the Jordan Valley and eastern Jordan that contributed greatly to our knowledge of the prehistory of these areas (Muheisen 1988c, 1988d). One of the sites investigated by Muheisen is the large, multi-phase Epipalaeolithic site of al-Kharrāna IV. Muheisen documented at least four occupation phases during the Epipalaeolithic period, containing a complex suite of archaeology remains, such as postholes for hut structures, living floors, hearths, bone tools, ground stone, extremely dense faunal material and lithic tools and debitage, and even two human burials (Muheisen 1988a, 1988b; Rolston 1982). Radiocarbon dates place several of the occupational phases between 15,700 and 10,620 BP. Phases A and B belong to the early Epipalaeolithic (Kebaran) and phases C and D to the middle Epipalaeolithic (Geometric Kebaran) (Muheisen 1988a, 1988b). Sites containing such a wide array of features are extremely rare from this period in Jordan. Al-Kharrāna has the potential to provide us with key data on palaeoclimate, prehistoric technology, mortuary practices, sedentism, architecture, diet and health prior to the Neolithic period.

Survey Methods and Results

As part of his work at the site, Muheisen produced a preliminary surface map of the site and conducted some small test excavations in three areas, totalling ca. 15m^2 (Muheisen 1988a). His excavations were concentrated in the Geometric Kebaran deposits, where he opened up 12m^2 (**Fig. 4**), but a small trench of about 3m^2 was also placed to the east in the Kebaran deposits. In light of the considerable size of the site, especially in comparison to other contemporary sites which average 600-1200m^2, more extensive work at the site is necessary to understand more fully the nature of the site and its unique features.

As a result of the very short duration of our

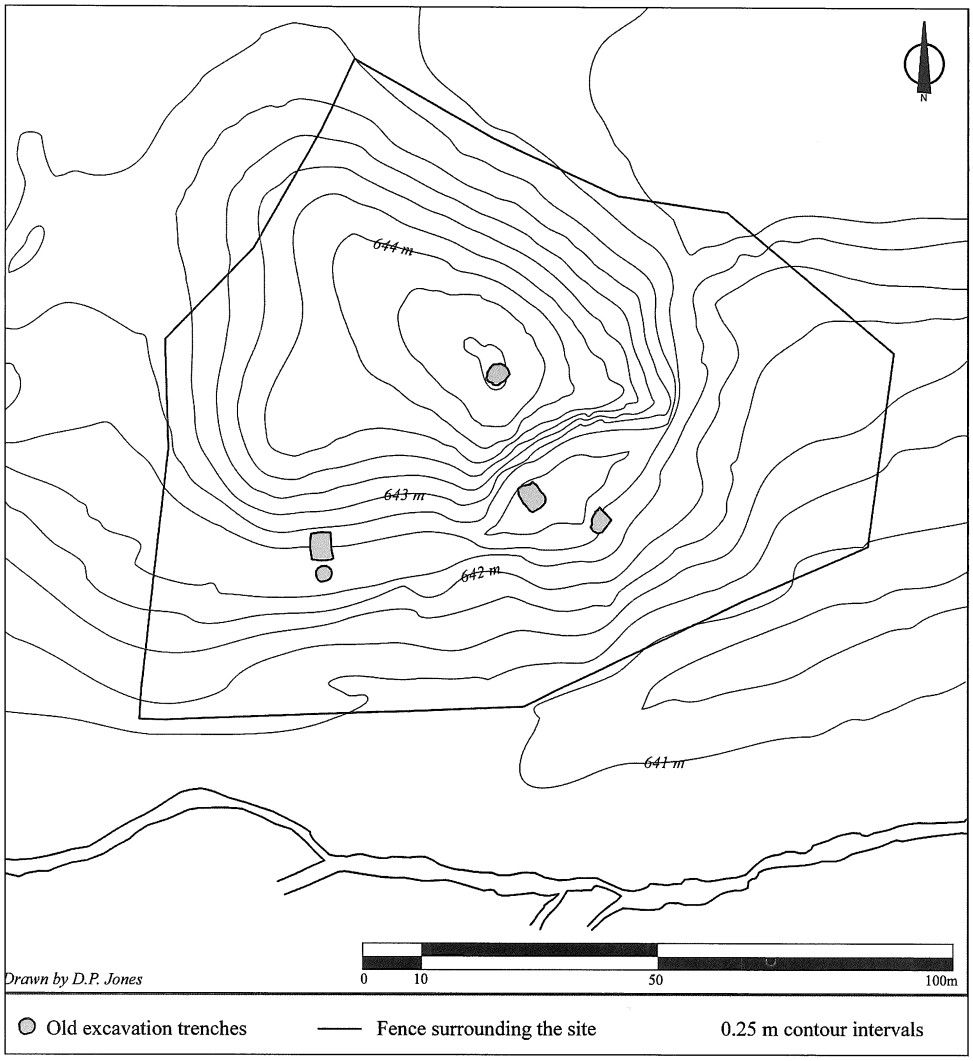
4. *A view south of two old excavation trenches from M. Muheisen's 1985 excavations (Geometric Kebaran trenches).*

project, our primary objective this year was to survey and produce an updated map of the site and its features. Consequently, no excavations were conducted and no artefacts were collected. Over a three-day period, our small crew conducted topographic mapping of the site by walking over the entire surface and simultaneously recording over two thousand three-dimensional coordinates to produce a detailed map of the contours of the site (**Figs. 5-6**). We also included in our map the locations of Muheisen's excavation trenches, the locations of the remaining barbed-wire fence posts, and a portion of the wadi system immediately to the south of the site.

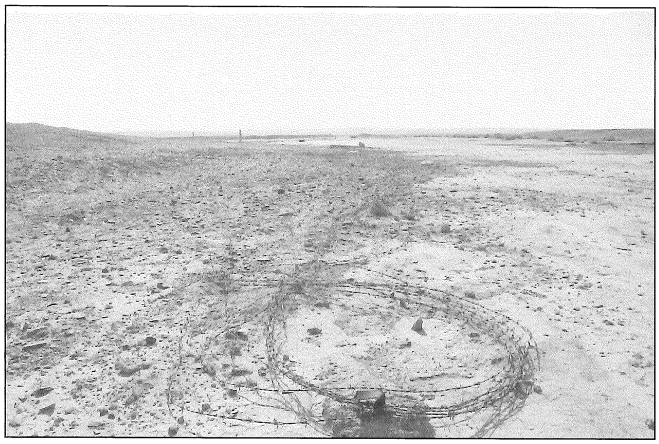
5. Surveying at the site boundaries (marked by the fence) with Qaṣr al-Kharrāna in the background.

Site Conservation

Al-Kharrāna IV is situated near Qaṣr al-Kharrāna and is maintained by the Department of Antiquities. A cement and barbed wire fence once demarcated the site's boundaries and prevented four-wheel drive trucks from driving over the fragile archaeological remains (**Fig. 7**). However, the fence has recently been damaged and tire tracks can clearly be seen on the surface of the site, cutting into and damaging the archaeological deposits (**Figs. 8-9**). Frequent vehicular and pedestrian traffic in the surrounding area mean that portions of the site are cur-



6. A topographic map of al-Kharrāna IV showing the locations of the old excavation trenches, the fence posts, and the modern wadi channel to the south.



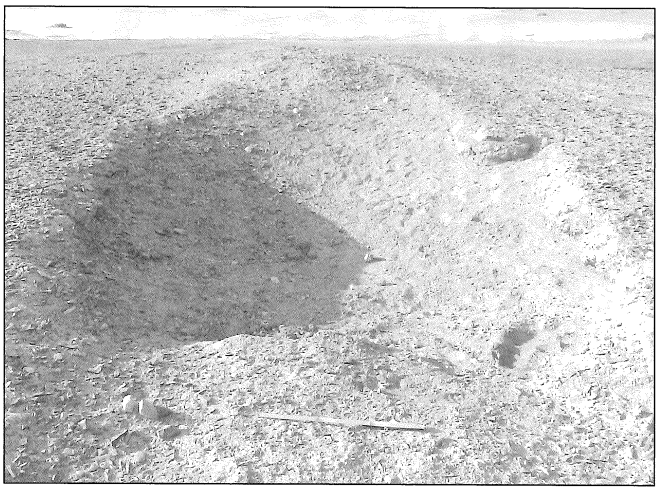
7. The fence on the southern portion of the site has been completely torn down and tire tracks lead from the wadi (right) directly over the site (left).

8. Tire tracks from four-wheel drive trucks dig deeply into the archaeological deposits and promote erosion and destruction of the artefacts.

9. Tire tracks on the site accelerate its destruction by churning up and mixing the flints and bone. This impedes our understanding of the spatial and temporal relationships between the remains; an unfortunate consequence for such a uniquely large and archaeologically-rich prehistoric site.

rently in serious danger of destruction. We have conducted our survey to document the features of the site in its current state and assess any disturbance, with the aim of renewing archaeological excavation at the site, rebuilding the fence to protect and conserve the important Epipalaeolithic remains. The old excavation trenches have been heavily eroded and today are visible only as areas slumped into the site's surface (**Figs. 10-12**). In addition, archaeological material (flint and bone) has been washed off of the site from heavy winter rains along its northern and eastern boundaries. The most immediate cause of destruction, however, is the continued four-wheel drive traffic over the site which gouges into the mound, churns up and breaks artefacts and destroys fragile features like hearths. We hope that the results of our short field work and any future work at the site will help, not only to

10. A view east of an old excavation trench from Muheisen's 1981-1983 excavations (Kebaran trench).



11. Animal bone (including a gazelle horn core) and flints eroding out of the old Geometric Kebaran excavation trenches.

12. Flints and animal bone eroding out of the surface of the site after being churned up by four-wheel drive trucks.

further our knowledge of occupation in eastern Jordan at the end of the Pleistocene and early Holocene, but also to preserve the important archaeological remains.

Conclusions

The unique site of al-Kharrāna IV raises numerous interesting research questions for future research, particularly regarding the intensity of occupation of large sites like al-Kharrāna IV and Jīlāt 6 prior to the Natufian period. Some of these questions include: How has the changing landscape affected land-use and settlement patterns at al-Kharrāna during the Epipalaeolithic period (ca. 20,000-10,200BP)? Where is the source of the flint used to produce tools in such high denstities? What were the nature, duration and extent of settlement at al-Kharrāna during the Epipalaeolithic period? Where is the closest water source? Why did prehistoric people select this particular location for settlement and why did they repeatedly occupy the site throughout the early and middle Epipalaeolithic periods? In order to answer these questions, we must understand both the nature of the occupations at al-Kharrāna, as well as the surrounding landscape.

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References

Garrard, A. and Price, N. S.
1977 A Survey of Prehistoric Sites in the Azraq Basin, Eastern Jordan. *Paléorient* 3: 109-126.

Muheisen, M.
1983 *La Préhistoire en Jordanie. Recherches sur l'Epipaléolithique. L'Example du Gisement de Kharaneh IV.* Unpublished doctoral dissertation, l'Université de Bordeaux I, France.
1988a The Epipalaeolithic phases of Kharaneh IV. Pp. 353-367 in A. Garrard and H. Gebel (eds.), *The Prehistory of Jordan. The State of Research in 1986.* BAR International Series. vol. 396. British Archaeological Reports: Oxford.

1988b Le Gisement de Kharaneh IV, Note Summaire Sur la Phase D. *Paléorient* 14: 265-269.

1988c *Le Paléolithique et l'Epipaléolithique en Jordanie*. Unpublished doctoral dissertation, l'Université de Bordeaux I, France.

1988d A Survey of Prehistoric sites in the Jordan Valley (1985). Pp. 503-523 in A. Garrard and H.-G. Gebel (eds.), *The Prehistory of Jordan. The State of Research in 1986*. vol. 396. B.A.R. Archaeological Reports: Oxford.

Rolston, S. L.

1982 Two Preshistoric Burials from Kharaneh. *ADAJ* 26: 221-222.