

INSIGHTS INTO THE CHALCOLITHIC / EARLY BRONZE AGE COLONIZATION OF THE ḤARRA (NE-JORDAN) – PART II: KHIRBAT AL-JA‘BARIYA

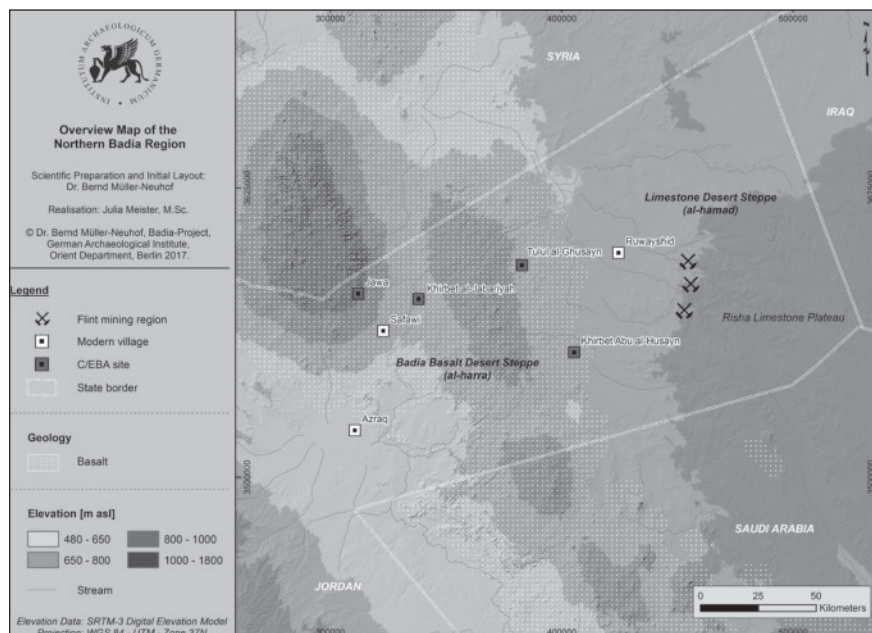
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Introduction

The second field season of the project “*The colonization of the Northern Badia (NE Jordan) in the Late Chalcolithic and Early Bronze Age (4th to 3rd millennium BC): A contribution to archaeological settlement geography in the arid regions of Southwest Asia*” which represents the second phase of the Jawa Hinterland project¹, was undertaken in the Ḥarra from April 1st to April 14, 2016. It was originally planned to carry out soundings and excavations in Khirbat Abū al-Ḥuṣayn, a hillfort site in the eastern edge of the Ḥarra (see Müller-Neuhof 2013), but this was cancelled because all the access routes to this region were flooded, caused by intense rainfall in the eastern desert in that year’s

winter and spring. Therefore, the fieldwork was undertaken at Khirbat al-Ja‘bariya instead, which had previously only been scheduled for a short reconnaissance survey and sounding visit.

The site of Khirbat al-Ja‘bariya (hereafter KaJ: 32.317736° N / 37.280445° E), is located on one basaltic ridge opposite another basaltic ridge, whose field name is *Zumlat al-Ja‘bariya*. The Wādī Marrab al-Ja‘bariya, a tributary of the Wādī Rajil, passes by KaJ, which is located c. 25 km ESE of Jawa (aerial distance; **Fig. 1**) and c. 8km north of the Amman – Baghdad road. The name Khirbat al-Ja‘bariya was assigned to the site by the authors shortly after its discovery on Google Earth satellite images in 2015; the local Bedouins, who were camped close to the site in



1. Map of the Northern Badia (©J. Meister and B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

1. Regarding the background, development and aims of the second phase of the Jawa hinterland project, I refer to the first article on the “Insights into the Chalcolithic / Early Bronze Age

Settlement Activities East of Jawa (North-East Jordan) part I: Tūlūl al-Ghuṣayn” in the current *ADAJ* volume.

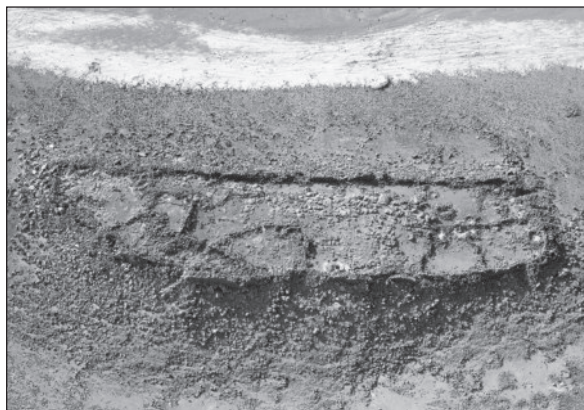
April 2016, were asked for a local name for the site, but no name was forthcoming. In October 2015, the APAAME project in cooperation with the Jawa Hinterland Project, flew over KaJ and took several aerial photos of this settlement (**Fig. 2**).

Since this was the first actual visit to the site, the aims for the season were to complete a general documentation and evaluation of the site and its vicinity, together with detailed architectural descriptions and mapping, small-scale soundings, and excavation. It was also planned to prepare a site plan, to document and characterize all visible architectural features, including the fortification, to collect small finds during surface surveys, to carry out excavation of structures to obtain stratified small finds and organic material for C¹⁴ dating, and soundings to collect sediment samples for geo-scientific analyses.

The settlement at KaJ can be divided into three zones (**Fig. 3**). Zone 1 is the settlement on top of the ridge, enclosed by a fortification wall, Zone 2 contains the dwellings and terraced gardens on the southern slope and foot of the ridge, and Zone 3 refers to the dwellings and terraced gardens on the northern slope and foot of the ridge.

Zone 1

This zone (**Fig. 4**) is an almost flat area on top of the ridge, which measures 2920 m², and is entirely enclosed by a fortification wall (**Fig. 5**), whose double-faced construction is in large parts still preserved (**Fig. 6**). The width of the wall varies between c. 1.10 and 1.80 m (**Fig. 6**). Masonry is visible in almost all



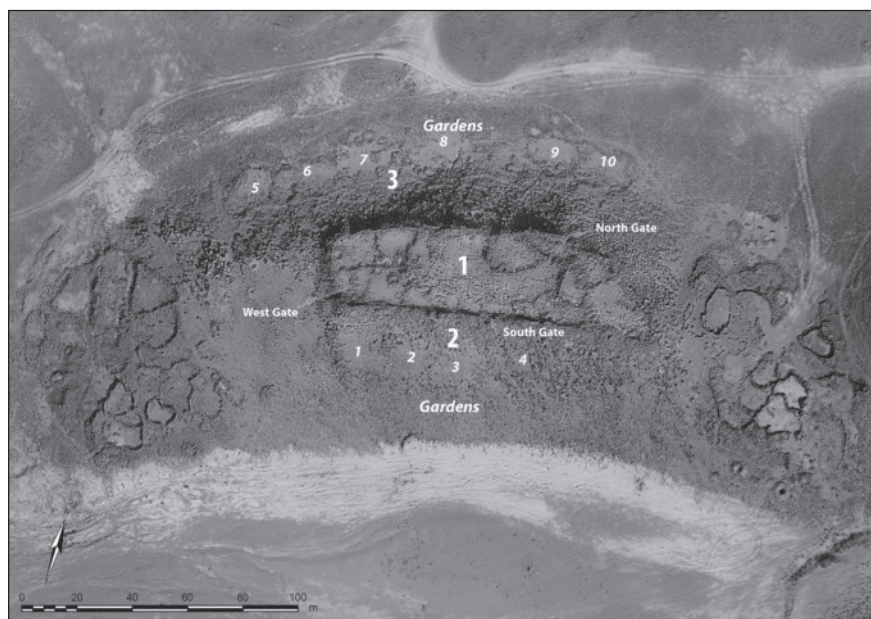
2. Aerial View of Khirbat al-Ja'bariya (©R. Bewley, Courtesy of APAAME).

sections of the wall, and in some sections the inner and outer face masonry is preserved up to 2 m high (**Fig. 7**).

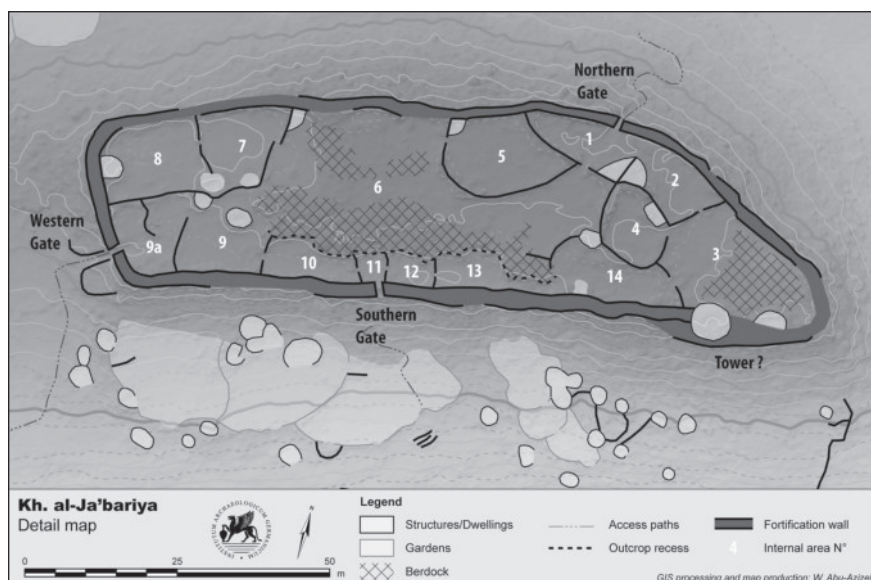
It is largely characterized by a basalt outcrop (Area 6) that emerges for the most part in the centre of the ridge, but also on parts of the eastern half of the enclosed area. The areas with no visible outcrops are divided by low walls into 13 areas (**Fig. 4**), which are partly interlinked by doorways (**Fig. 8**). Towards the south, several parallel short walls divide an elongated zone between the outcrop and the southern wall into a chain of possible rooms (**Fig. 9**). Here a collapsed gate (south gate) was identified, which is one of the three gates that gave access to Zone 1 (**Figs. 4 , 10**). Remains of an access path were identified outside of the south gate. The winding access path that leads towards the north gate is much clearer (**Fig. 11**); it opens into a narrow forecourt (Area 1), from which another gate allows access into the central area (Area 6; **Figs. 4 , 12**). The eastern part of Zone 1, in the vicinity of the north gate, is characterized by several areas that are separated from each other by thick walls, with entrances to the central Area 6.

The west gate is characterized by two terrace-like projections on the outer side of the fortification wall, and two parallel running walls that confine the approach (**Figs. 4 , 13**). This gate gives access to Area 9a, which belongs to a number of enclosed areas in the western part of Zone 1. Access to the west gate is facilitated by a wide, slightly winding path, that starts from the southern end of the settlement on the edge of the Wādī Marrab al-Ja'bariya and leads up to the west gate.

The course of the northern and southern fortification walls more or less follow the natural delineation of the ridge summit, which is mainly characterized by the basalt outcrop, and which causes a curve of the northern wall towards the east, where it meets the southern wall at the eastern end of the top outcrop (**Fig. 3**). However, the western wall does not follow the contour of the top surface of the ridge. Instead, it runs straight in a N-S direction, cutting off the remaining (but narrowing) parts of the western summit, which are characterised by basalt outcrops (**Fig. 3**). It can be assumed that, due to the narrowing of the basalt outcrop



3. Location of the three Zones in KAJ and the Gardens (©W. Abu-Azizeh – B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung, Based on an APAAME Aerial Photography).



4. Plan of the Top area (Zone 1) of KAJ (©W. Abu-Azizeh, Deutsches Archäologisches Institut, Orientabteilung).



5. View of the Inner Face of the Fortification Wall on the South Side (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

on the summit further west, an incorporation of this part of the summit into the fortified area was not feasible, because the fortification wall needed to be founded on the edges of the outcrop and would therefore leave only a small fortified space. Since the western part of the summit was outside of the fortification, it was necessary to reinforce the western fortification wall, which is thicker and was originally probably even higher than the other parts of the fortification wall.

On the inner side of this part of the wall a small, almost circular structure (KaJ 39, diameter c. 3.00 m) was built close to the inner

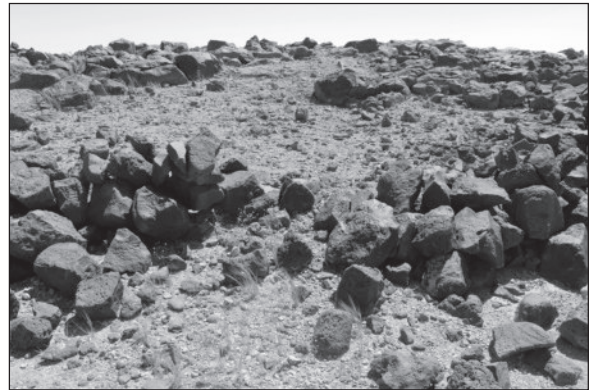


6. Detail of the Wall Thickness on the south side of the Fortification (Scale: 0.5 m) (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).



7. View of the Outer Face of the South Wall (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

face of this western wall, not far from the west gate, which was partly excavated. The aim of this sounding was first to evaluate if this structure served as a dwelling, and secondly if it was somehow attached to the fortification wall. About half of the structure was excavated, reaching the underlying basalt outcrop (**Fig. 14**). A thin ash lens and one Byzantine potsherd came



8. Interlinked Doorway between Areas 7 and 6, in the Fortified Zone on Top of the Ridge (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).



9. View of Chain of Possible Rooms (areas 9-13) on the southern Side of the Fortified Zone on Top of the Ridge (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).



10. View of the Blocked southern Gate (Scale 0.5 m) (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

from the upper part of the structure fill, but no small finds were recovered. The function of this structure is still unclear, but it most probably served as a dwelling. Another possibility is that this structure was part of the reinforcement of the western wall, and may have originally had a tower function. The Byzantine sherd and the radiocarbon analyses, which date the ash to



11. View of the northern Gate (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).



12. View of Area 1 in the Fortified Zone on Top of the Ridge, with the northern Gate in the Background (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).



13. View of the western Gate from Outside (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

around 800 calBC, indicate a later and very short reutilization of this structure.

Proper dwelling structures could not be identified in Zone 1. In view of the large



14. Sounding in Structure 2, Close to the western Gate on the Inner Face of the Fortification Wall (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

amount of stone debris, a larger, originally higher building with partly rectilinear walls was located in the eastern part between Areas 2 and 4, but its original function remains unclear. Several, probably later, cairns were built in the western part of Zone 1 in Areas 7 and 9.

Earlier, probably Neolithic, activities on this site are indicated by a petroglyph depicting a cheetah hunting an oryx (**Fig. 15**), discovered on the basalt outcrop in the area of the southern fortification wall in Area 3, while Safaitic (**Fig. 16**) and Arabic inscriptions on single basalt blocks in Area 6 demonstrate the presence of visitors in KaJ during later periods.

Zone 2

Zone 2 encompasses the dwelling and garden area on the southern slope and the foot of the ridge of KaJ (**Figs. 3, 17**). Here four more-or-less adjoining garden terraces (garden nos. G01 – G04) were identified (**Fig. 18**), all of which are located on the upper part of the slope



15. Neolithic Petroglyph, with a Cheetah Hunting an Oryx; Located in Zone 1 (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

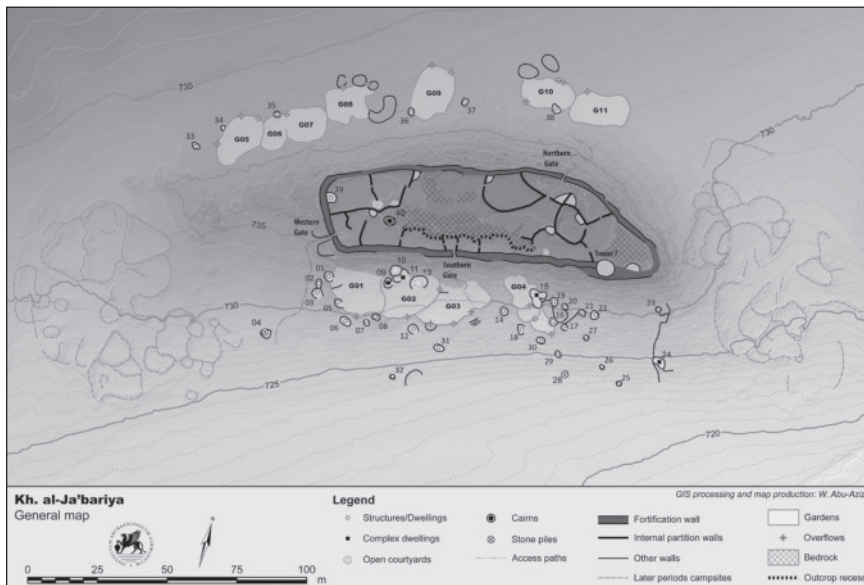


16. Safaitic Inscription Located in Zone 1 (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

indicate the management of water flow

(Fig. 19) from local precipitation in the immediate vicinity. Comparable to Tūlūl al-Ghuṣayn (see Müller-Neuhof and Abu Azizeh this volume), the catchment area for rainwater harvesting to irrigate the garden terraces is limited to the upper parts of the southern slope, and probably parts of the plateau on top of the ridge (Zone 1).

Zone 2 is clearly restricted, especially on its eastern side, where a wall runs generally in a N-S direction from the fortification down to the edge of the wadi (Fig. 20). The southern limit of Zone 2 could not be properly identified. Dwellings are located on the bank of the Wādī



17. General Map of KAJ, with Indication of Structures Outside of Zone 1 (©W. Abu-Azizeh, Deutsches Archäologisches Institut, Orientabteilung).



18. Location of Garden Terraces Nos. G01-G04 on the southern Slope of KAJ (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

just in front of the basalt outcrop on which the fortification wall is erected. Outlets on the southern (downhill) side of the terrace walls



19. View of an Outlet in Garden G02 (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

Marrab al-Ja'bariya. However, remains of stone walls are also located within the sediments of this wadi (Fig.21), which makes it possible that the original southern edges of the settlement



20. N-S Running Wall Limiting the Occupation Area on the southern Slope (Zone 2) in the east (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).



21. View of Zone 2, the southern Slope and the Fortification on Top of the Ridge, with Remains of Stone Walls in the Wadi Sediments in the Foreground (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

have been eroded by the wadi or buried beneath the wadi sediments.

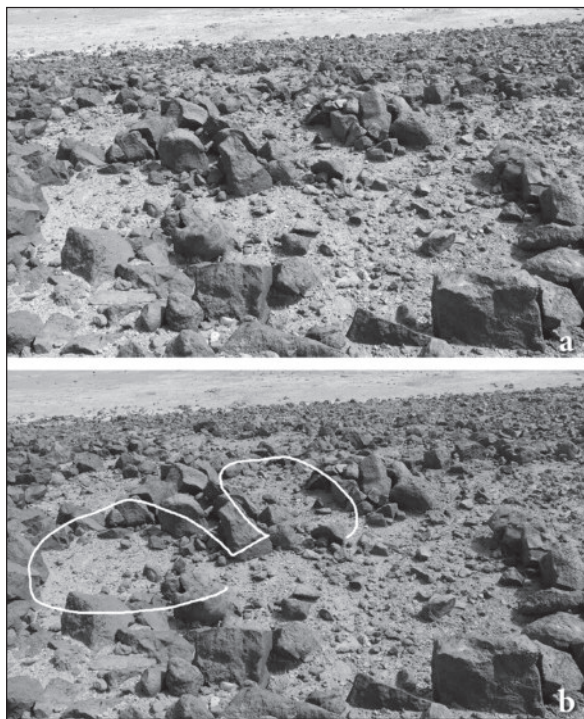
The settlement structure of Zone 2 is characterized by dwellings that are located close to the gardens. In most cases, these dwellings are incorporated into the terrace walls, which

suggests simultaneous construction of the gardens and these parts of the settlement. Another cluster of dwellings was recognized east of the gardens; these dwellings are connected to each other by a pathway, walls and several open spaces, which may have been used as courtyards or small gardens. This is the only area in Zone 2 where a recognizable settlement layout becomes visible. Farther to the east, the settlement area is limited by a north-south (downhill) running wall, whose possible gate is blocked by a larger dwelling (KAJ 24) on its eastern face. The remaining part of the occupation area of Zone 2, south of the gardens and the above-mentioned dwelling cluster, is characterized by an area with scattered dwellings, without any evidence for settlement planning.

In addition to the gardens, 32 structures (KAJ 1-32) have been identified in Zone 2. Two of them (KAJ 4 and 28) were stone piles of unclear function; one structure (KAJ 10) is a terrace wall and one structure (KAJ 13) was a small enclosed open area attached to garden no. 4. The remaining 28 structures seem to be remains of dwellings. Four of them (KAJ 9, 11, 15 and 24) were two-roomed buildings, with the rooms located diagonally to each other (**Figs. 22a, 22b**); the other 24 dwellings are one-room buildings, mostly with a sub-circular to oval outline, measuring between 3.00 to 5.00 m length and 1.80 to 4.00 m in width. The walls of these dwellings were made of basalt boulders and stones, and were either single- or double-faced. In contrast to the dwellings at Tūlūl al-Ghuṣayn (Müller-Neuhof – Abu-Azizeh this volume), the double-faced walls in KaJ lacked any filling between the two faces.

Two of the one-room dwellings (KaJ 1: **Figs. 23, 25** and KaJ 8: **Figs. 24, 26**) were partly excavated. In both cases, grinding stones were located inside the structures on the surface (**Figs. 23, 26**). These grinding stones, and other grinding implements found on the surface of Zone 2, are further evidence of agricultural activities in Zone 2 of KaJ, in addition to the gardens described above.

The excavations, together with sieving of the room fills in Zone 2, revealed only a few artefacts; mostly undiagnostic flint debitage and some animal bones, but no pottery. In both



22 a. View of the Two-Room Building KAJ 15 (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).
b. View of the Two-Room Building KAJ 15, with Indication of the Rooms (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).



23. View of One-Room Dwelling KAJ 1 before Excavation, with Grinding Stones on the Surface (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

excavations, reddish virgin soil was reached, on which remains of fireplaces were visible. The fireplace of KAJ 1 is characterised by stone packing (Fig. 19), while the fireplace of KAJ 8 is characterized solely by an ash concentration (Fig. 20). In both cases, abundant charcoal remains were collected for C¹⁴ dating (Müller-Neuhof and Abu-Azizeh 2016), which revealed an occupation date between 4,200 and 3,700



24. View of One-Room Dwelling KAJ 8 before Excavation (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

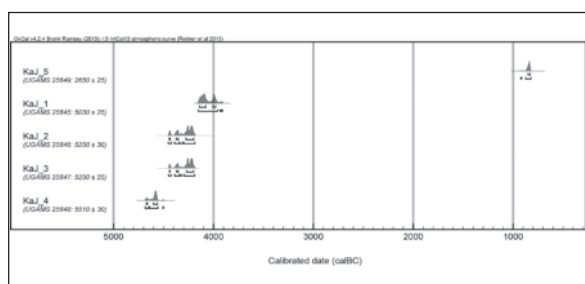


25. Excavated southern Half of the Interior of Dwelling KAJ 1, with Stone Packing which Served as a Fire Place in the Center (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).



26. Excavated northern half of Dwelling KAJ 8, with Charcoal Remains of the Fireplace in the Trench, and Grinding Stones Lying on Top of the southern Part of the Dwelling (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

calBC for KAJ 1, and 4,400 and 4,200 for KAJ 2. However, two samples (one from each of the two dwellings) provided parallel dates between 4,300 and 4,000 calBC; the researchers believe this range to be more reliable (Fig. 27).



27. C^{14} Charts of the Calibrated Dates from Khirbat al-Ja'bariya.

Zone 3

Zone 3 is located on the lower part and at the foot of the northern slope of Khirbat al-Ja'bariya. Gardens could again be identified here, although, contrary to the gardens on the southern slope, the northern slope gardens are located on the foot of the ridge. The seven Zone 3 gardens (garden nos. 7-11) are arranged in a row, and are enclosed by low terrace walls with outlets in the direction of the plain (**Fig. 28**). Additionally six, mostly sub-circular, dwellings between 2.80 – 3.20 m long and 1.30 – 2.90 m wide (KAJ 33-38) have been identified in Zone 3, which are in most cases incorporated into the garden walls. Generally, the gardens in Zone 3 are more poorly preserved than the Zone 2 gardens. Moreover, it seems that later activities, such as ephemeral camps, have caused a great deal of destruction to the original layout of the gardens and their walls. It is therefore highly likely that gardens also originally existed on the western and eastern slopes of the ridge. However, later animal pens and Bedouin campsites in these areas have overlain these garden structure layouts, which are no longer reconstructable.



28. Garden Structures G05-G08 on the Foot of the northern Slope of KAJ (Zone 3) (©B. Müller-Neuhof, Deutsches Archäologisches Institut, Orientabteilung).

Discussion

Khirbat al-Ja'bariya is the fourth fortified hillside found in the *Harra* after Jawa, Khirbet Abū al-Huṣayn and Tūlūl al-Ghuṣayn. Like Jawa and Tūlūl al-Ghuṣayn, there is evidence for rainwater harvesting agriculture on terraced gardens, an observation that is further supported by the discovery of several grinding stones. The very few surface finds, together with the nature of the structural remains, show several similarities with the above mentioned settlements, and allows for a tentative date to the 4th millennium (Early Bronze Age I). The radiocarbon dates from two dwellings on the southern slope, however, date to the second half of the fifth millennium calBC, which is a surprise. Although we cannot yet determine that the fortification also dates to the Late Chalcolithic, there is high probability that it is contemporaneous to the dwellings. This would mean we now have a longer occupation sequence for the *Harra*, defined by fortified settlements ranging from the Late Chalcolithic to the EBA I.

These results direct attention towards late 5th to 4th millennium BC activities in a hitherto poorly understood region east of Jawa. Furthermore, the debate regarding the emergence of fortified settlements in the EBA, the origin of which have hitherto geographically been located in the southwestern Levant and chronologically placed during EBA II, will be heightened by the evidence for fortified settlements dating to the beginning of the EBA I in the *Harra*. The results from the analyses of small finds and sediment samples, together with the outcome of future fieldwork seasons, will hopefully provide more information on the formation, development, and most importantly, the background of the settlement processes in the *Harra*, and the evolution of fortified settlements in such a region.

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