

HARRAT JUHAYRAH 2: EXCAVATIONS OF CHALCOLITHIC TAILED OSSUARIES IN THE AL JAFR BASIN, SOUTHERN JORDAN

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Introduction

Harrat Juhayrah is a collective term of large and small basalt foothills around Jabal Juhayra, an isolated volcanic hill behind Jurf Ad Darāwīsh. As mentioned elsewhere in this volume (Fujii, Adachi, Nagaya 2023), our reconnaissance survey in 2003 located a few dozen stone-built features in the southeastern part of the largest foothill that stretches toward the Desert Highway (Fujii 2005a). The second and third surveys resumed in 2015 enlarged the target to the whole range of the foothill and confirmed another three concentration areas of such features. We designated them Harrat Juhayra 1-4, or HJH 1-4 for short, respectively, and registered the exposed features one-by-one as HJH-123 (*i.e.* Feature/Locality 23 in HJH-1), for example. The first two excavation seasons taken place in June and September 2016 focused on HJH-2 and examined four Chalcolithic tailed ossuaries (*i.e.* ossuaries with a tail-like, elongated feature) and two small Neolithic settlements nested in the site. Since the latter are dealt with elsewhere in this volume, this report summarizes the results of the excavations at the unique burial facilities first identified in southern Jordan.

The Site

Harrat Juhayrah 2, or HJH-2, was the first to be located among the four Chalcolithic burial fields. In terms of topography, it extends over the southeastern part of the basalt foothill, overlooking the drainage basin of Wādī Quṣayr and beyond (Fig. 1). This site is *ca.* 12 ha in total area and divided broadly into the following

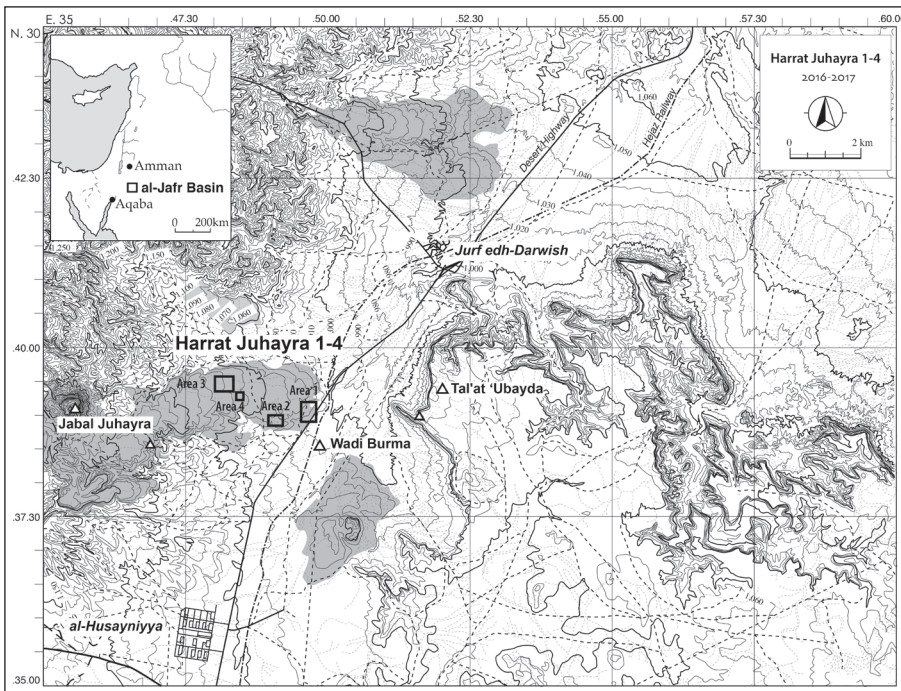
two zones: a Chalcolithic settlement extending along the southern slope and an extensive burial field on the hilltop (Figs. 2, 3). The settlement contains more than a dozen rectangular structures, which are scheduled to be excavated in the next field season. Meanwhile, the burial field contains some sixty stone-built features, five of which are registered as tailed ossuaries. They are aligned along the southern edge of the foothill, being sandwiched between the settlement in the south and the other types of burial fields dotted to the north. We excavated four of them, leaving the remaining one (HJH-237) for future re-investigation.

Tailed Ossuary of HJH-201/1

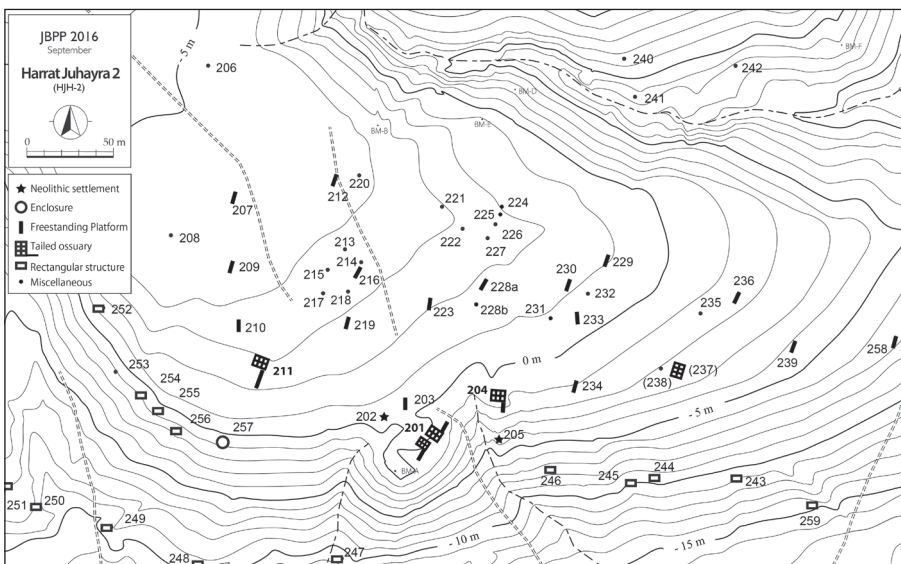
HJH-201 (*i.e.* Feature/Locality 01 in Harrat Juhayrah 2) occupies the center of a tongue-shaped small terrace that protrudes southward from the foothill, containing a pair of structural complexes arranged symmetrically (Figs. 4, 5). HJH-201/1 is its southwestern counterpart.

Structural Remains

The excavation revealed a structural complex that consisted of a trapezoidal masonry structure and an elongated, tail-like feature (see Fig. 6). Both components were connected at a right angle with a 1m gap being between and formed, as a whole, an L-shaped complex *ca.* 12m wide and *ca.* 8m deep. In terms of stratigraphy, it was based on the upper surface of Layer 3 and covered with the deposits of Layers 1-2c, sandwiching a low cobble mound *ca.* 0.5m thick in between. Nevertheless, the overlying



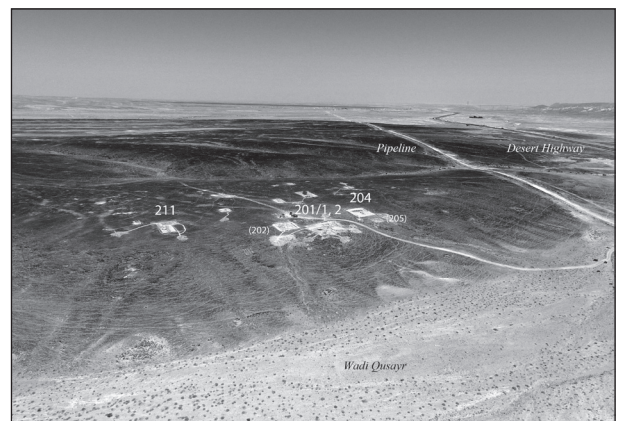
1. *Harrat Juhayrah 1-4: site location.*



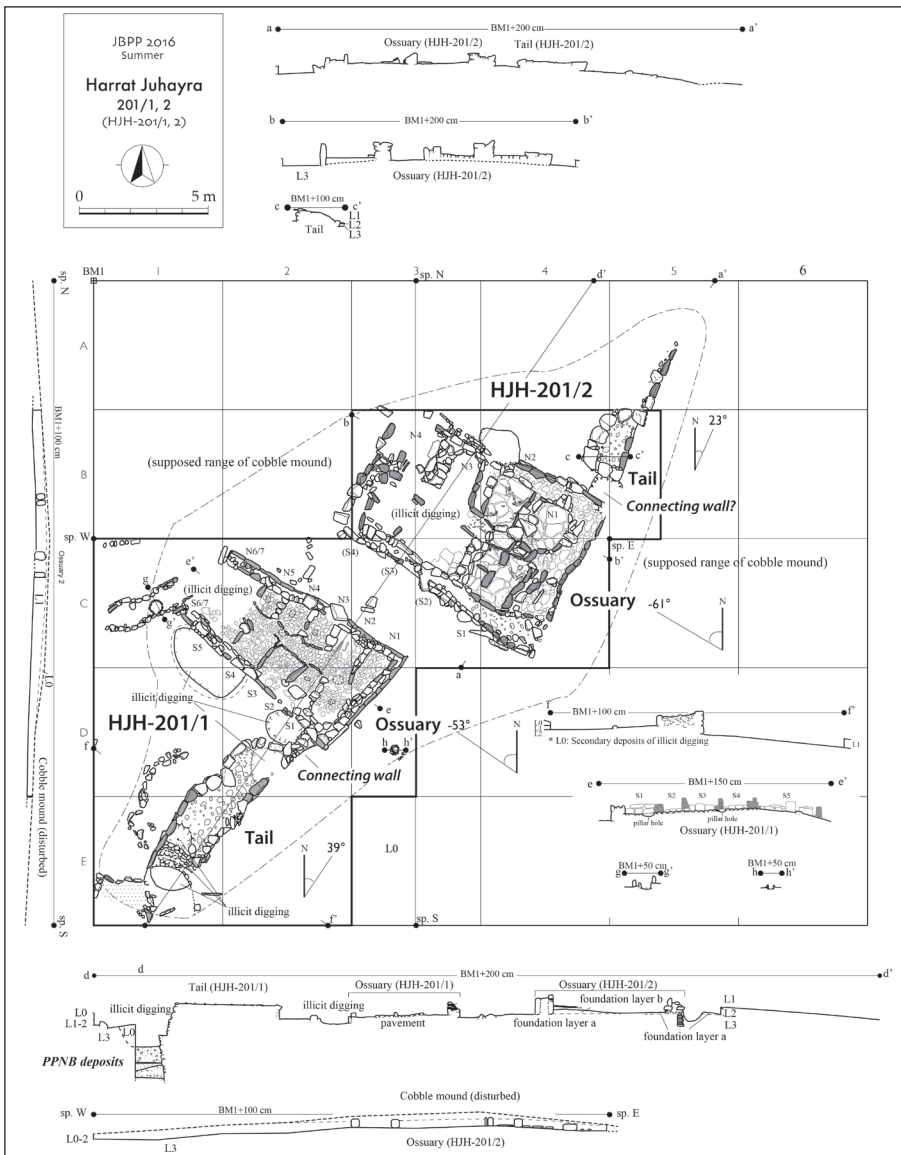
2. *Harrat Juhayrah 2: feature distribution map.*

layers including the cobble mound were badly disturbed by illicit digging, and the underlying complex was partly exposed when we started the excavation.

The trapezoidal structure, the main body of the complex, measured *ca.* 3-4.2m by *ca.* 8m in external size, and its main axis had an azimuth of *ca.* -53 degrees against the magnetic north. The foundation course of the masonry walls was constructed with two-rowed upright basalt boulders, on which up to a few courses smaller stones arranged in a stretcher bond were barely preserved. No clay mortar was confirmed. The masonry walls had a height of



3. *Harrat Juhayrah 2: general view of the tailed ossuaries (as of Sep. 2016, looking NE).*



4. HJH-201: plan and sections/elevations of the twin complex.

up to ca. 0.5-0.7m including the upper courses, but they appear to have been almost this height from the beginning. This is first because the whole complex was covered with the cobble

mound of the same height, and second because fallen stones around the walls were not very frequent. Both facts suggest that the trapezoidal structure was constructed as a low-walled,



5. HJH-201: aerial view of the twin complex (looking SE).



6. HJH-201/1: general view (looking W).

unroofed one from the beginning. Meanwhile, the floor was carefully paved with basalt slabs *ca.* 10-20cm long, although it's northwestern part was scraped off by illicit digging.

Seeing that no clear evidence was confirmed in the other three sides, the entrance to this structure is thought to have been incorporated into the disturbed northwestern wall. The internal space was divided into three vertically long zones along the main axis of the structure, and a dozen square to rectangular compartments (S1~S6/7 and N1~N6/7) were arranged on both sides of a narrow corridor *ca.* 0.5-0.7m wide that stretched southeastwards from the supposed entrance. Each compartment was *ca.* 1-1.5m wide and deep, being fringed with upright basalt slabs *ca.* 10-30cm high. Some of them were associated with a standing stone *ca.* 30-50cm high and/or covered with capstones more than 1m long (Figs. 7, 8). In addition, a pair of stone alignments *ca.* 3.5m long obliquely stretched from the northwestern corner of the structure, but it is thought to belong to the underlying Neolithic layer. The same is probably true of a small stone circle found in Square D3.

Meanwhile, the tail-like feature (hereafter *tail* for short) measured at least 8m long and up to *ca.* 2m wide, stretching at a right angle from the southwestern corner of the trapezoidal structure. However, its distal end was cut off by a looters' pit that penetrated into the Neolithic layer (Layer 3). This elongated feature consisted of a straight front wall and two interlocked curvilinear rear walls, and the dead space between the two was filled up with basalt rubble and silty sand.

Of significance is the existence of a small gap with the main body of the complex, which was bridged by rather an *ad hoc* masonry wall *ca.* 0.8m long (Fig. 9). This unique connection method is common to the other three complexes referred to below, indicating that it was the standard of this type of burial facilities. In addition, a few intermittent wall alignments were exposed around the tail, but they are thought to represent a part of a PPNB settlement that extends southward from the adjacent site of HJH-202 (Fujii, Adachi, Nagaya op. cit).

Small Finds

The trapezoidal structure yielded a certain

amount of human skeletal remains. Although mostly fragmented, some of them were found *in situ* on the floors of the compartments and the corridor. This means that the multi-compartment structure was used as a communal ossuary.

The small finds from the ossuary included a coarse ware sherd with a horizontal band along its neck (Fig. 10:1), a spoon-shaped miniature vessel made of basalt (Fig. 10:2), a limestone macehead *ca.* 5cm in diameter (Fig. 10:3), and



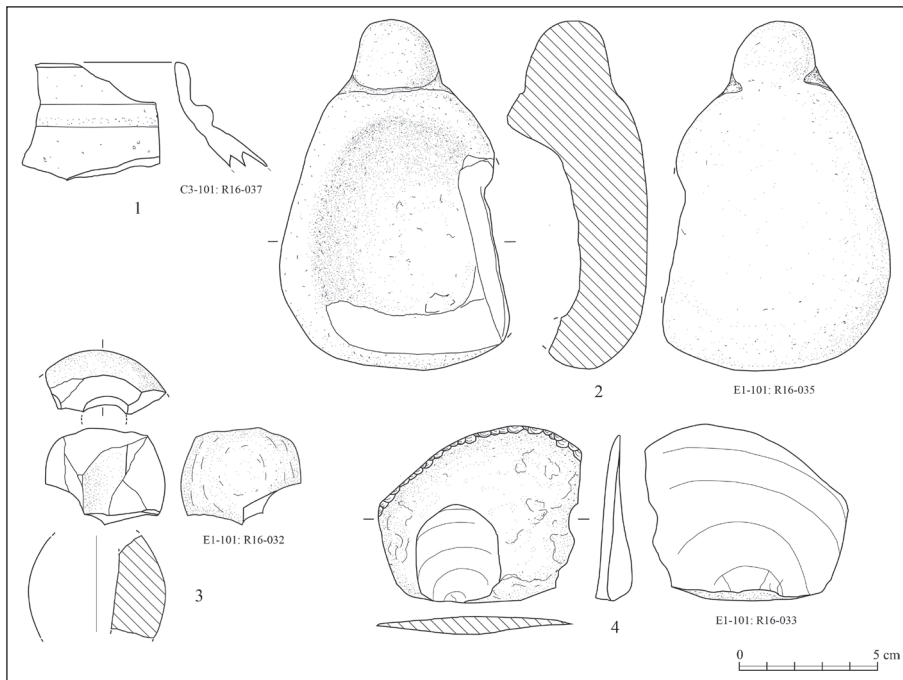
7. HJH-201/1: reconstruction of a standing stone in Compartment S2 (looking SW).



8. HJH-201/1: reconstruction of a capstone in Compartment N4 (looking N).



9. HJH-201/1: connecting wall (looking NWN).



10. HJH-201/1: small finds.

a few small tabular scrapers (**Fig. 10:4**). Although rarely found *in situ*, these artifacts are considered as grave goods offered to the interments. In terms of typology, the spoon shaped miniature vessel resembles clay-made crucibles found at *Hujayrat Al GHuzlān* (Pfeiffer 2009: figs. 2, 4) and *Wādī Fīdān 4* (Hauptmann 2000: fig. 92), corroborating a chronological synchronism with these Chalcolithic sites in southern Jordan. As described below, the scarcity of grave goods is common to the other tailed ossuaries and can be taken as the standard of the Chalcolithic burial practice in the Al Jafr Basin.

Tailed Ossuary of HJH-201/2

HJH-201/2, or Complex 2 at HJH-201, forms the northeastern half of the twin complex. The excavation revealed a structural complex similar to, but slightly larger than, HJH-201/1 mentioned above.

Structural Remains

Again, the combination of a trapezoidal ossuary and an elongated tail was attested (**Fig. 11**). As with the case of HJH-201/1, both components were connected at a right angle to form an L-shaped complex *ca.* 13m wide and *ca.* 9m in deep. This complex was also based on the upper surface of Layer 3 and, though badly disturbed, covered with a low cobble mound *ca.* 0.5m high and the Layers 2-1 deposits.

The ossuary was larger in scale than the southwestern counterpart, measuring *ca.* 5.6-6.7m wide, *ca.* 9m deep and up to *ca.* 0.6m in preserved wall height. The masonry walls were constructed by a dry-walling, rubble-core masonry technique using two-rowed upright basalt boulders. The entrance was probably located again in the middle of the disturbed northwestern wall. A total of eight square to rectangular compartments (S1~S4 and N1~N4) were arranged on both sides of a narrow corridor stretching in the NW-SE direction from the supposed entrance. The floor was paved with large basalt slabs, but its northern half was badly damaged by illicit digging. In view of the small height of the cobble mound, it is conceivable that this ossuary was also a low-walled, unroofed structure from the beginning.

The tail measured *ca.* 6m long and up to *ca.* 1.8m wide, stretching northeastward from the northern edge of the lower base of the trapezoidal ossuary. This tail was also composed of a straight front wall constructed with upright basalt boulders and a curvilinear rear wall built by a stretcher bond masonry technique, and the semi-circular space sandwiched between the two walls was filled with basalt rubble and silty sand. Here again, a small gap *ca.* 1.5m long intervened between the two adjacent features, but their joining method was unknown due to the existence of a looters' pit.

Small Finds

Although mostly fragmented, the ossuary yielded a substantial volume of human skeletal remains. They covered the corridor as well as the compartments, suggesting that this communal burial facility was used for a relatively long time.

The interments were accompanied with a small number of grave goods. What most attracted our attention was a rectangular palette put on a dead body in Compartment S-1 (Figs. 12, 14:1). This sandstone product, measuring *ca.* 19cm long, *ca.* 15cm wide, and *ca.* 2cm thick, still retained traces of red pigment, probably of scoria/basalt origin, along the edges of the working surface. It was probably used in combination with a small sandstone slab from a disturbed fill layer of the same compartment (Fig. 14:2). Though different in both raw material and function, this palette has much in common with clay molds from Hujayrat Al Ghuzlān, a Chalcolithic settlement in the Al ‘Aqabah area (Pfeiffer op. cit: figs. 2, 4).

Compartment S1 contained a pierced shell fragment and a lozenge-shaped shell pendant as well (Fig. 14:4, 7). The other grave goods included a shell bracelet from Compartment N2 (Figs. 13, 14:5), a basalt pestle from Compartment S2 (Fig. 14:3), a stone bead and a shell from the middle of the corridor (Fig. 14:6, 8), and several small tabular scrapers found in various archaeological contexts (Fig. 14:9). As noted above, the scarcity of grave goods appears to be the norm of the tailed ossuary.

Tailed Ossuary of HJH-204

HJH-204 is located *ca.* 30m NE of HJH-201, occupying the head of a gentle slope at the southern edge of the basalt foothill. Unlike the others, this structural complex was found almost intact underneath an undisturbed cobble mound *ca.* 1m high.

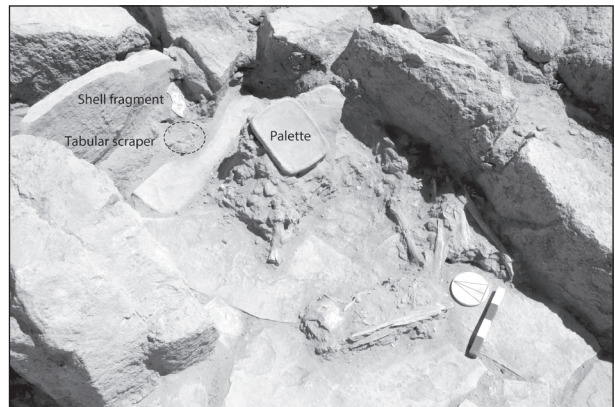
Structural Remains

This L-shaped composite structure was also based on the upper surface of Layer 3, consisting again of a trapezoidal masonry ossuary and an inverted p-shaped tail (Figs. 15, 18 and 19). The ossuary was much more slender in general plan than the twin complex at HJH-201,

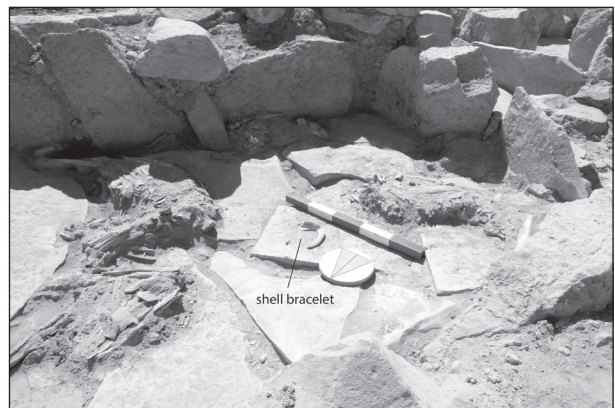
measuring *ca.* 2.5-3.4m wide, *ca.* 7.4m deep, and up to *ca.* 0.8m in preserve wall height. A narrow, sealed entrance was incorporated into the middle of the eastern, gable-side wall, from which a corridor *ca.* 0.5-0.7m wide stretched westward following the major axis of the structure. A total of seventeen compartments (N1~N9 and S1~S8) were arranged roughly symmetrically on both sides of the corridor, but no floor pavement was added in this case. As mentioned above, this ossuary was found nearly intact underneath the undisturbed cobble



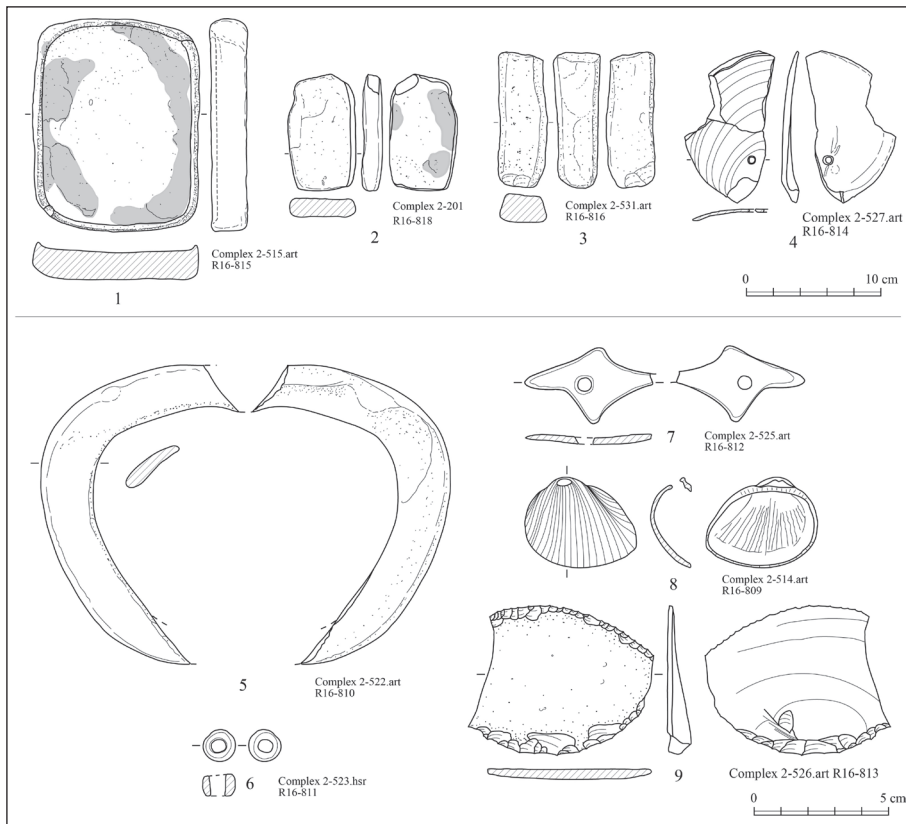
11. HJH-201/2: general view (looking S).



12. HJH-201/2: interment in Compartment S1 (looking WNW).



13. HJH-201/2: interment in Compartment N2 (looking SE).



14. HJJH-201/2: small finds.

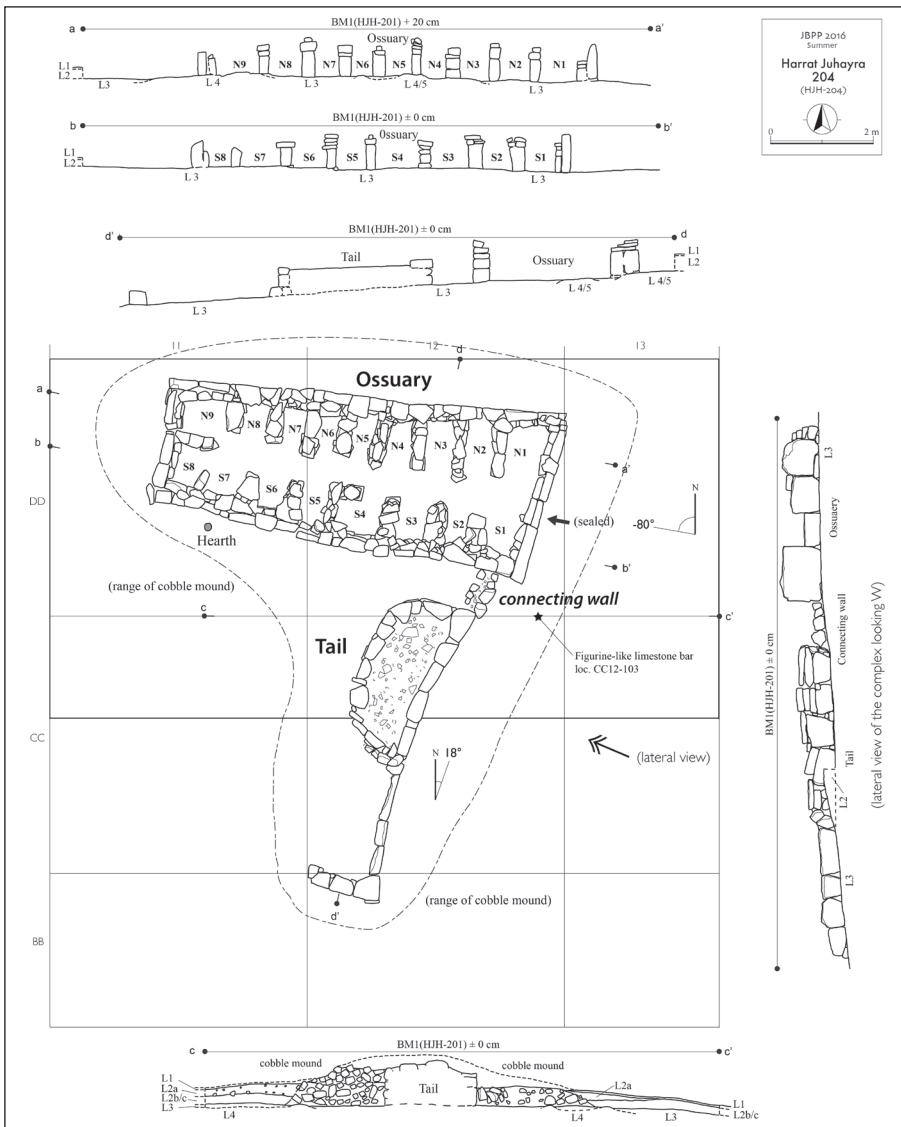
mound (Figs. 16-17). Such an ideal state of preservation has enabled us to revalidate our interpretation that the excavated tailed ossuaries were less than 1m in original wall height and not equipped with a solid roof from the beginning. It should be added, however, that most compartments were covered with slab-capped earth fill (Fig. 20). This means that even though the ossuary itself was unroofed, individual interments were protected in such a simple manner until they were eventually covered with the cobble mound.

Meanwhile, the tail measured *ca.* 6.7m long and hooked at the distal end. Again, it stretched from one end of the lower base of the trapezoidal ossuary, sandwiching a 1m long simple wall segment in between (Fig. 21). The semi-circular space between the straight front wall using upright stones and the semi-circular rear wall built by a stretcher-bond masonry technique was filled up with basalt rubble and, together with the adjacent ossuary, entirely covered with the L-shaped cobble mound.

Small Finds

A preliminary anthropological analysis suggests that the minimum population of buried

dead bodies is nineteen, and that they include five infants and/or juveniles, two young male adults, one young female adult, two mature male adults, two mature female adults, and one aged (Sakaue *et al.* 2017). Thus, the ossuary was probably used as a/an (extended) family tomb. With the only exception of the rear right one (*i.e.* N9), all the compartments included interment, but the number of buried bodies varied depending on *loci* from one to five or six (Fig. 22). Most of them were disarticulated, suggesting that secondary interment was the norm in the Chalcolithic burial fields. Of interest is the occurrence of several metatarsals with clear evidence of kneeling facet, which probably means that the relevant dead bodies were engaged in flour milling during their lifetime (*e.g.* Molleson 1989). Highly suggestive in this regard is the existence of a supposedly contemporary settlement on the southern slope of the foothill, where several surface finds analogous with the grave goods from the tailed ossuaries have been collected. This fact suggests that both structural entities were combined to form a unified cultural entity. In addition, a few skulls with traces of intentional piercing were also attested. Anthropological analysis now in progress is expected to



15. HJH-204: plan, section/elevations, and lateral view.

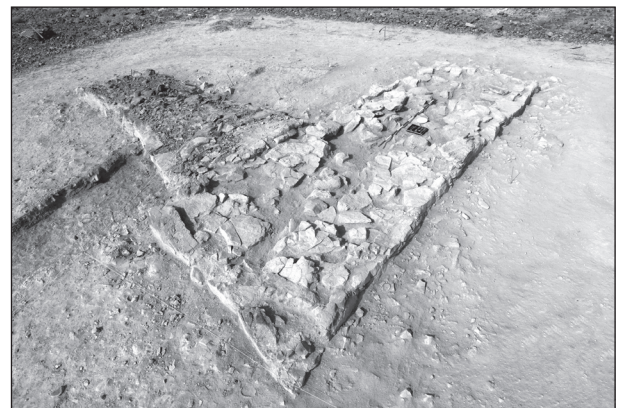
shed light on the overall picture of the interment at this ossuary (Sakaue *et al.* forthcoming).

Grave goods were unexpectedly scarce considering the number of interments, being

limited to a shell bracelet from Compartment S5 (Fig. 23:1) and a basalt pestle from Compartment S1 (Fig. 23:2). The scarcity of grave goods is not attributable to later looting



16. HJH-204: cobble mound after surface cleaning (looking NW).



17. HJH-204: ossuary and tail after removing the cobble mound (looking SW).



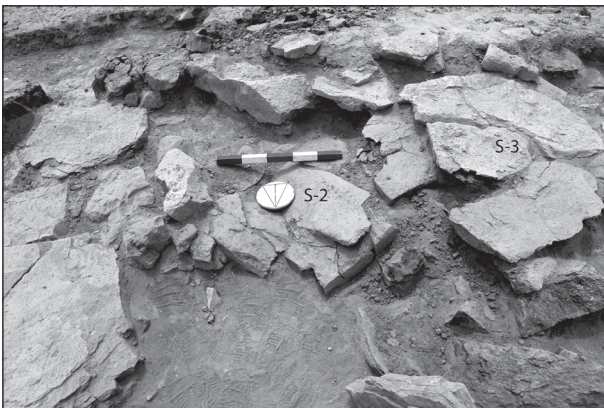
18. HJH-204: general view of the L-shaped complex (looking NW).



21. HJH-204: connecting wall (looking W).



19. HJH-204: general view of the L-shaped complex (looking SE).



20. HJH-204: Compartment S2 ~ S3 during excavation (looking S).

in this case, because this ossuary was sealed underneath the undisturbed cobble mound. In addition, although outside the ossuary, a limestone bar and a limestone quern were found *in situ* on the then ground surface beside the tail. The former took on a somewhat flattened, cylindrical form *ca.* 30cm high and *ca.* 15cm wide, being associated with a pair of headband-like bas-reliefs and a small, nose-like

protrusion at its middle portion (Fig. 23:3). This unique artifact bears some resemblance to a basalt torso found at Qulban Beni-Murra (Gebel 2016: fig. 21), a Chalcolithic burial field near the border of Saudi Arabia, and requires further scrutiny.

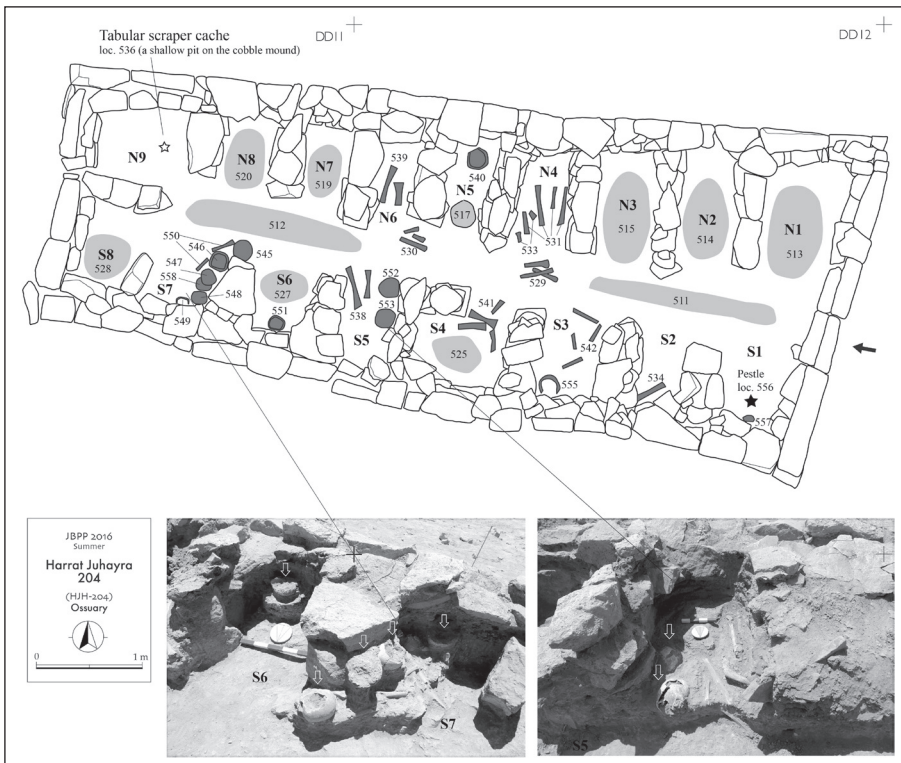
In addition, although not directly related to the tailed ossuary, a total of six tabular scrapers were collectively found on the cobble mound (Fig. 24). In view of their archaeological context, they can probably be regarded as a later addition. In fact, they substantially differ in both dimensions and morphology from the small, horizontally long products from HJH-201/1 and -201/2 (see Figs. 10:4, 14:9), suggesting that a certain degree of chronological gap intervened between the two. This cache-like concentration, together with similar finds on the southern slope of the foothill (Fujii 2011), probably belong to the Early Bronze Age when the drainage basin of Wādī Quşayr served as a major transportation route of large tabular scrapers mass-produced in the Al Jafr Basin.

Tailed Ossuary of HJH-211

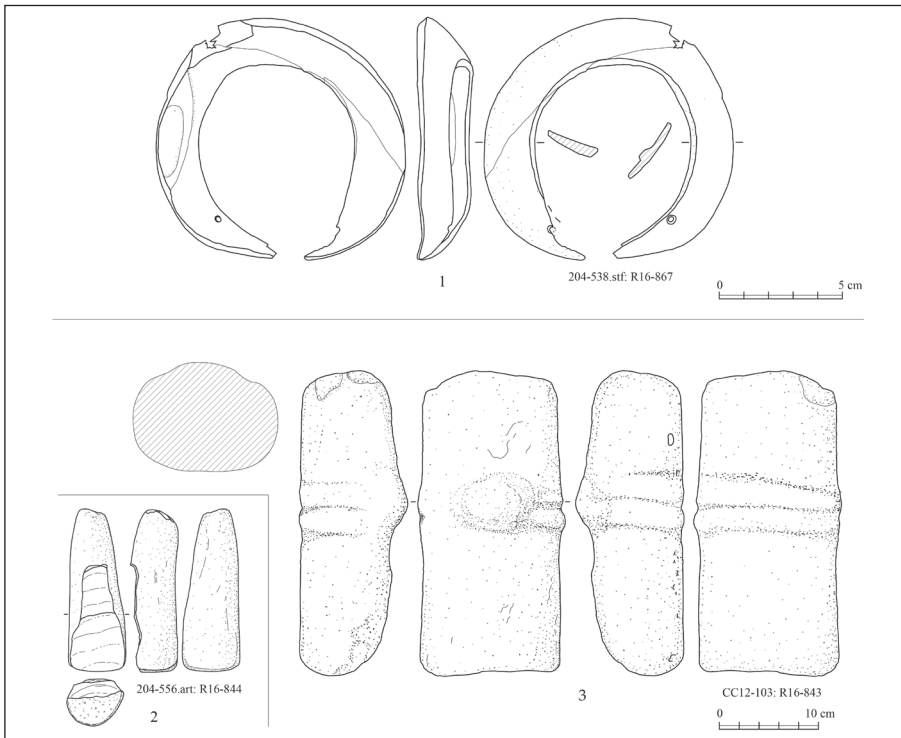
The fourth example of the tailed ossuary was located *ca.* 100m west of the twin complex at HJH-201, occupying a relatively flat terrain near the southern edge of the basalt foothill. A vertically enlarged, L-shaped complex was found underneath a badly disturbed cobble mound (Fig. 25).

Structural Remains

The ossuary of this complex was much smaller in scale than the others (*ca.* 2.6-3.4m wide, *ca.* 5.8m deep, and up to *ca.* 0.5m in



22. HJH-204: finding loci of major human bones in the ossuary.

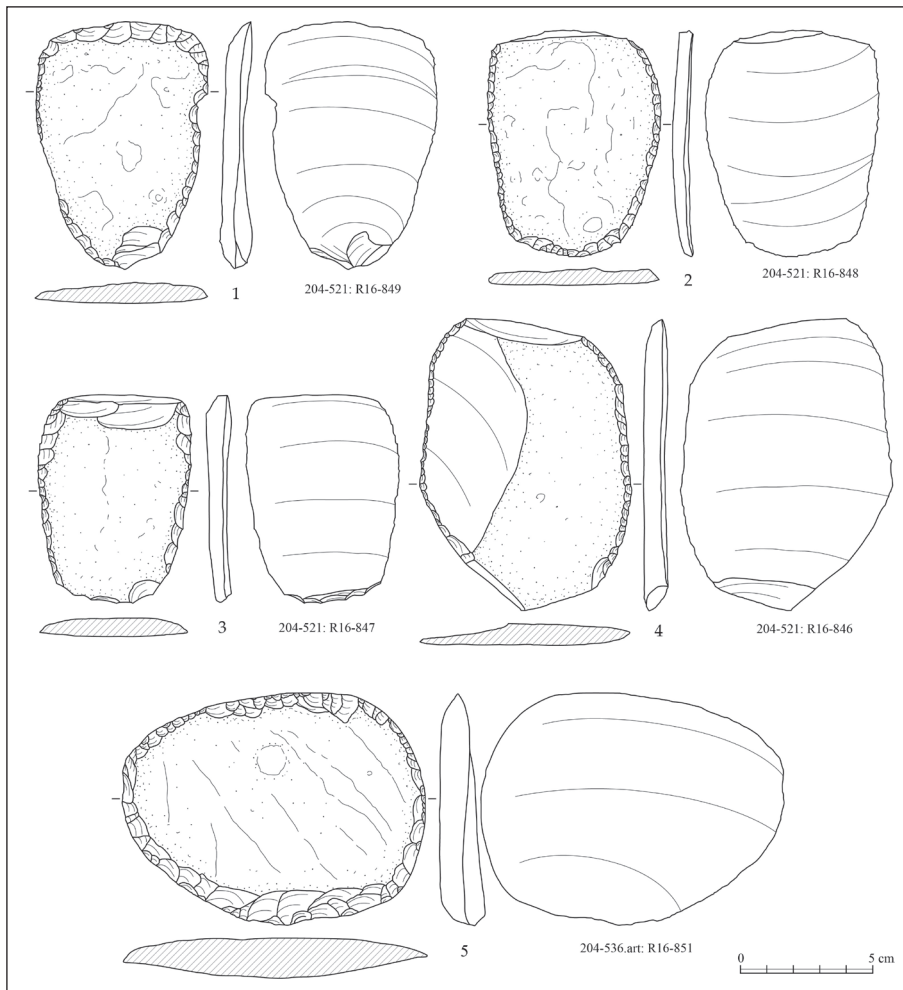


23. HJH-204: small finds.

preserved wall height) and, at the same time, slightly rounded at the western edge. A narrow entrance *ca.* 0.5m wide was incorporated into the middle of the eastern wall, from which a corridor of the same width stretched in the WNW direction. As with HJH-204, the entrance was temporarily sealed with basalt

cobbles, suggesting the intermittent use of the ossuary (Fujii 2016). A total of twelve compartments (S1~S6 and N1~N6) were arranged symmetrically on either side of the corridor, but no floor pavement was added.

The tail stretched in the SWS direction from the southeastern corner of the ossuary,



24. HJJH-204: tabular scraper cache on the cobble mound.

sandwiching a 3m long simple stone alignment in between. This tail consisted of several large and small units to form a festoon-like composite feature *ca.* 13m in total length and up to *ca.* 3.5m wide. Again, the front wall was carefully constructed with upright basalt boulders, whereas the rear walls were built less elaborately by a stretcher bond masonry technique using smaller stones.

Small Finds

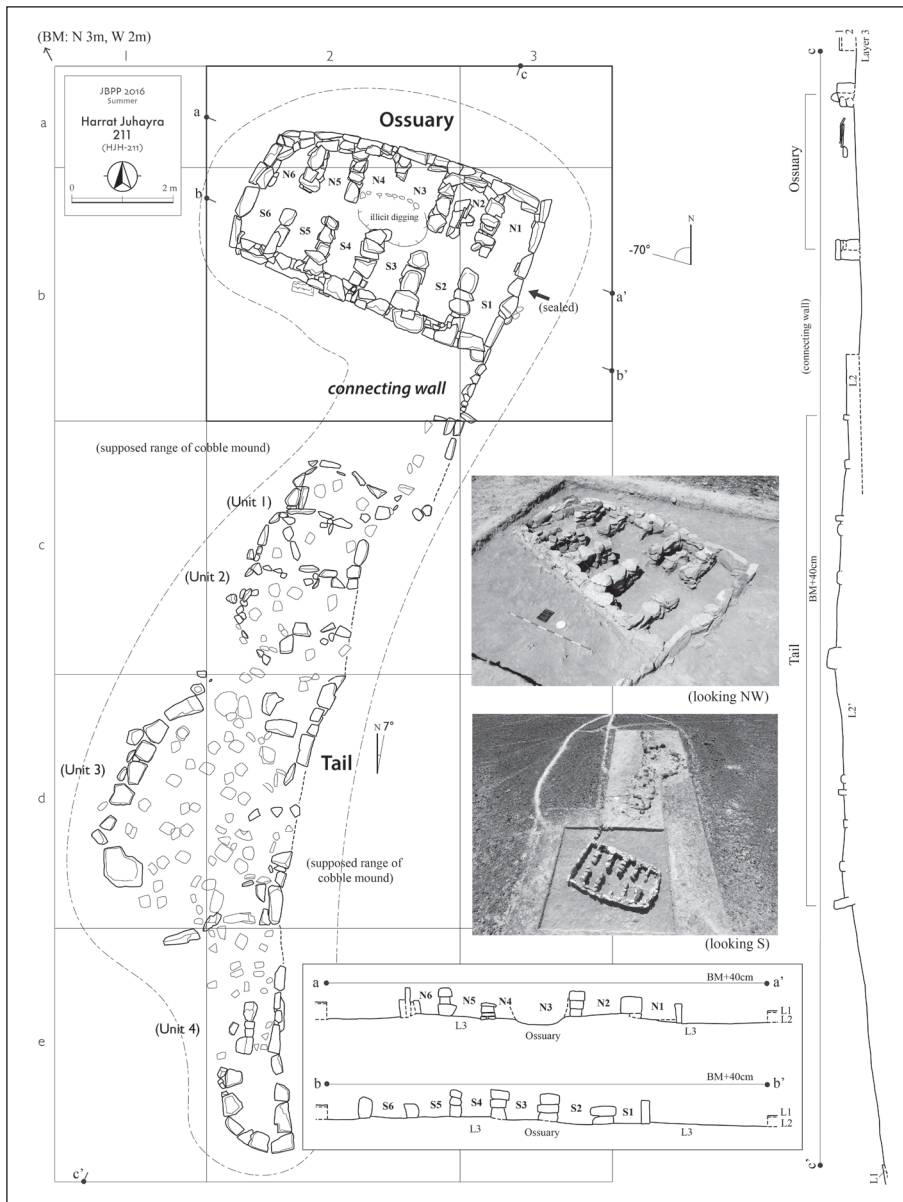
This ossuary was essentially empty, and a limited amount of fragmented human skeletal remains were recovered from Compartment N2 only. No grave goods accompanied them. The downsizing and hollowing-out of the ossuary is inextricably linked to the development and semi-independence of the tail, a sign of the typological transition toward freestanding tails dotted behind the tailed ossuaries.

Discussion

The tailed ossuary is a unique funeral facility first identified in the Al Jafr Basin and expected to shed new light on the post-Neolithic burial practice in southern Jordan thus far poorly understood due to the deficiency of basic information. The following discussion reviews the series of research outcomes according to several major aspects and offers a few tentative perspectives for future study.

Date

Five of six radiocarbon dates converge on a relatively limited time range around 6300-6000 cal BP, suggesting a Middle Chalcolithic date for the four excavated tailed ossuaries (**Table 1**). The occurrence of the small, horizontally long tabular scrapers without careful platform preparation (also called *fan scarpers*) coincides with this dating. In addition, the existence of the PPNB settlement under the twin complex of HJJH-201, on one hand, and the finding of



25. HJH-211: plan and section/elevations.

the cache-like concentration of supposedly EBA tabular scrapers on the cobble mound of HJH-204, on the other hand, serve to narrow down the date from the viewpoint of stratigraphy. It is certain that the tailed ossuaries date back to the Middle Chalcolithic.

Location

The five tailed ossuaries (including the unexcavated example at HJH-237) are aligned along the southern edge of the foothill at the largest interval of *ca.* 100m, commanding their supposed parent settlement stretching again east and west along its southern slope. In this sense, it can be said that they occupy the best location as communal ossuaries.

The question is the mutual relationship to the other types of burial features dotted behind the tailed ossuaries, but nothing specific can be said before excavation. It is highly possible, however, that at least freestanding tails, the major components of the hilltop features, developed from the tailed ossuaries. Among others, HJH-211 shows symptoms of both the hollowing-out of an ossuary and the separation of a tail and, in this sense, potentially bridges the typological gap between the two types of burial features. It is our present interpretation that the tailed ossuaries first occupied the best location as burial facilities, followed by the freestanding tails in terms of both date and location.

Table 1. Radiocarbon dates from the four excavated tailed ossuaries (as of Sep. 2016).

Feature	Locus	Material	IAAA-	(yrBP)	calBP (2 δ)
201/1	507.art	shell	160885	5816 \pm 30	6296-6171 (95.4%)
201/1	C4-202.chr	chacoal	160888	4433 \pm 27	5069-4952 (62.1%)
201/1	E1-505.chr	"	160314	5353 \pm 29	6163-6100 (31.2%)
201/2	507.art	Shell	160885	5340 \pm 30	6271-6206 (95.4%)
204	DD11-104.chr	Charcoal	160891	5176 \pm 29	5990-5903 (95.4%)
211	518.chr	"	160892	5240 \pm 30	6022-5919 (83.2%)

Function and Specific Usage

In view of the co-occurrence of human skeletal remains and grave goods, it is evident that the multi-compartment masonry structures were used as ossuaries. Meanwhile, the tail is devoid of interment and, therefore, can be regarded as an attachment feature with some symbolic meaning. Thus, as a whole, the tailed ossuary is defined as a communal burial facility associated with a symbolic feature. Seeing that surface finds from the adjacent settlement have much in common with the grave goods from the tailed ossuaries, both of these were, most likely, combined to form a unified settlement.

The well-preserved example at HJH-204 offers a glimpse into the specific use of the tailed ossuary. Available evidence suggests that: 1) the opening and temporary sealing of the entrance was repeated after every interment; 2) up to five or six dead bodies were buried in a compartment; 3) grave goods were rarely offered to them; and 4) every interment was tentatively protected with slab-capped earth fill and eventually covered with a low, L-shaped cobble mound. It is also noteworthy that the interment often overflows into the corridor beyond the compartments. This fact, coupled with the remarkable difference in the number of dead bodies in a compartment, seems to indicate that the use of the ossuary were flexible and had no strict rules. The fact that every dead body was treated equally probably suggests that no full-scale hierarchization progressed in the middle Chalcolithic society in the Al Jafr Basin.

Techno-Typology

In terms of construction technology, the tailed ossuary is characterized by the low-walled,

unroofed structure. In addition, the dry-walling, rubble core masonry technique making great use of upright basalt boulders and the eventual covering by a cobble mound are also hallmarks of these structures. In terms of typology, it is defined as an L-shaped composite structure that connects a trapezoidal ossuary and an (often inverted) p-shaped tail at a right angle. It is also noteworthy that both components are not directly connected but always bridged by a 1-3m long, rather *ad hoc* wall segment or stone alignment. This inexplicable connection method reminds us of the unique formation process of linear open sanctuaries in the Neolithic Al Jafr Basin (e.g. Fujii 2000, 2002, 2005b, 2013; Fujii, Adachi *et al.* 2013; Fujii, Yamafuji *et al.* 2012), but its real implication is as yet unknown.

The ossuary incorporates up to seventeen compartments, which are arranged roughly symmetrically on both sides of a narrow corridor stretching along the major axis of the trapezoidal structure. Understandably, the entrance was set up in a gable side, in the middle of the upper or lower base of the trapezoidal structure, but its orientation varies from the northwest (HJH-201/1 and 201/2) to the east (HJH-204) or the southeast (HJH-211), depending on the orientation of the ossuary itself and, more importantly, into which of the two opposed gable sides it is incorporated.

Meanwhile, the tail is composed of a straight front wall (carefully built with a single row and course of upright basalt boulders) and up to several semi-circular rear walls (less carefully constructed by a stretcher bond masonry technique using smaller stones). Thus, as a whole, it has an inverted p-shaped plan (in the case of the single unit type) or a chain-like plan

(in the case of the multi-unit type). In terms of orientation, it always stretches at a right angle from one edge of the upper or lower base of the trapezoidal ossuary and, therefore, faces to the east or to the southeast. Basalt rubble and silty sands are compacted into the semi-circular empty space between the two walls, but neither human bones nor burial gifts are included there.

Both components are eventually covered with a L-shaped cobble mound less than 1m high. The reason why the mound required only such a small height is that its target structural complex itself was equally low in wall height.

Origin and Intra-Site Typological Sequence

Nothing is known of the origin of the tailed ossuary. The series of unique traits—the low-walled, unroofed structure, the trapezoidal plan, the unique indoor space division, the combination with a long tail, and the eventual covering with a cobble mound—provides a key to approaching the issue, but no comparative examples have been attested in surrounding areas, to say nothing of the Al Jafr Basin. This gives us an impression that the tailed ossuary suddenly appeared without any clear cultural context, but this is probably not the case. An available hint, if any, is the grave goods. As noted above, the spoon-shaped miniature vessels and the rectangular palette have parallel examples at the contemporary sites in the Al ‘Aqabah and Wādī Faynān areas. Although no copper products are included in the grave goods from the tailed ossuaries, this fact is suggestive of some cultural contact with the contemporary copper mining and/or producing centers in southern Jordan. The origin of the tailed ossuary could be pursued in this context.

Meanwhile, the intra-site typological sequence of the tailed ossuary can be discussed in some detail on the basis of the research outcomes. Noteworthy is the difference in internal composition among the four excavated tailed ossuaries. HJH-204 at the eastern edge combines the large, standardized ossuary with practical interment and the single-unit tail. In contrast, HJH-211 at the western end combines the small, less standardized, essentially empty ossuary and the long, multi-unit tail. HJH-201/1 and -201/2 in the center exhibit a literally intermediate form between the two terminal complexes.

A few different interpretations are possible for the differences. One is the eastward development, but it is difficult to imagine that the tailed ossuary started with the small, essentially empty example and suddenly interrupted with the fully developed one. Thus the opposite sequence, namely, the deterioration from the full-fledged example with practical interment to the small, substantially empty one, seems more likely. However, the series of radiocarbon dates do not always descend in this order. Taking this into consideration, it is also highly possible that the tailed ossuary began with the central twin complex occupying the most ideal location as communal burial facilities and, then, developed or deteriorated to both directions.

No clear-cut conclusion seems to be reached at the present stage, but what is important here is that HJH-211 falls into one of the latest examples in terms of both radiocarbon date and supposed typological sequence. Given this, it would follow that the burial custom at the four excavated tailed ossuaries underwent the following two symmetric changes: the downsizing and hollowing-out of the ossuary, and the development and semi-dependence of the tail. The former change highlights the deterioration of practical interment, whereas the latter means the increase in relative importance of the symbolic attachment feature. Now that the necessity of the ossuary as a receptacle of dead bodies decreased, it is a natural consequence that the tail grew increasingly important. This assumption would offer a rational explanation for the enlargement of the gap between the two components and its consequent semi-independence of the tail. As suggested above, the appearance of freestanding tails behind the tailed ossuaries could be understood as an extension of such general trends.

Concluding Remarks

The finding of the tailed ossuaries has shed new light on the Chalcolithic burial practice in the Al Jafr Basin. They are probably combined with the adjacent settlement and, therefore, potentially contribute to a comprehensive understanding of the Al Jafr Chalcolithic. However, many issues—including the comparative study of the grave goods, the anthropological analysis of the human skeletal

remains, and the integrative study on the origin of the tailed ossuary-remain to be done. We would like to pursue these key issues in future study.

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