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One tell to rule them all: surveying the multi-period site of Zambut Meleik, northern Jordan

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Abstract

This paper describes the results of a recent, intensive survey of the multiperiod tell site of Zambut Meleik in northern Jordan. The site was discovered in the 1940s but has received little attention until now. The surface finds collected in the survey represent mainly Bronze and Iron Age cooking and storage vessels, but the monumental structures exposed in recent looter's pits and the apparent centrality of the site in a wider network of tells suggest that it may have been more than just a rural settlement. Recent intensification in the looting of archaeological sites in Jordan puts this and other tells in the region at risk.

Keywords: Iron Age, Bronze Age, Zambut Meleik, survey, looting, Jordan

23.1 Introduction

As the location of the caravan city of Petra, one of world's most iconic archaeological sites, and the desert landscapes of Wadi Rum, which have

provided scenery for movies from *Lawrence of Arabia* to *Star Wars* and *Dune*, Jordan tends to evoke images of desert and sand in the popular imagination. However, the landscape in northern Jordan is very different from the sandy expanses of the south. Here we encounter a more Mediterranean, densely populated country, with olive and fig plantations surrounding villages and towns, and pine and oak forests growing on the slopes of low hills. The archaeology is different too. Whereas the south is rather peripheral to general developments in the Ancient Near East (with the exception of the Nabataean Kingdom), the north is an integral part of the Fertile Crescent and the urban core of the Levant. This saw an intense rise of urbanism in the Bronze and Iron Ages – resulting in a dense landscape of multiperiod tells – which culminated in the rich cities of the Hellenistic and Roman Decapolis such as Jerash (Gerasa) and Umm Qais (Gadara) (e.g. El-Khouri 2009; Porter 2016). Although less well known than Petra or the Decapolis sites, the tells of northern Jordan that resulted from this burst of urbanism are an archaeological treasure trove that demands more attention. This is particularly so as it is increasingly threatened by the two factors that are fast endangering Jordan's archaeological heritage: urban encroachment and rampant looting of archaeological sites.

In this paper, we present preliminary results of our survey of one particularly interesting but so far little-known tell site called Zambut Meleik, located on the outskirts of Jordan's second largest city, Irbid. We also briefly discuss the research potential of using sports watches rather than hand-held GPS devices for tracking the movements of individual surveyors. With this paper we wish to celebrate and draw attention to Prof. Volker Heyd's long-standing contributions to Near Eastern archaeology, particularly relating to the origins of farming and the Early Neolithic of Anatolia (e.g. Brami & Heyd 2011).

23.2 The TYRAS Project

The Tell Ya'moun Regional Archaeological Survey (TYRAS) is a collaborative fieldwork project planned and jointly organized by the Centre of Excellence in Ancient Near Eastern Empires (ANEE), University of Helsinki[1], and the Faculty of Archaeology and Anthropology of Yarmouk University, Jordan. Our project examines the relationship between regional centres of the southern Levant and the capitals of Western Asian Empires in the 1st millennium BCE. We conducted our first survey season in May–June 2022, in the course of which we surveyed an area of almost 300 km^2 to verify and document the presence of sites that we previously identified through satellite imagery analysis. We mainly used images from the U.S. military satellite project CORONA from the 1960s and 1970s based on a methodology well tested in previous MENA surveys (Kouchoukos 2001; Ur et al. 2013; Casana 2014). However, even though the survey focused on 1st millennium BCE rural centres, we recorded all previously unidentified sites even when they belonged to periods outside our chronological focus. The total number of potential sites pre-selected from the satellite images in our area was 91, in addition to which we checked most already known sites found in Jordan's national antiquities database (MEGA-J). Of the potential sites, a total of 13 could be verified as genuine archaeological sites, with numerous initially identified features turning out to be natural formations or inaccessible/destroyed sites (for a more complete review of the survey findings and methodology, see Lorenzon et al. 2023). The success rate was thus fairly low (14%), which is not unexpected for a region with moderate vegetation.

The verification was done in person by accessing the site and then creating an artificial rectangular area, called transect, that the team walked in parallel lines, positioning the surveyors 2.5 m from each other and collecting all surface material. Our main aim was to analyse and correct subjective deviation from the predesigned walking paths and minimize eventual human errors. To fulfil this latter aim, we employed two different types of smart watches during the survey: the Suunto 9 Baro and Polar Grit X. These were used to record

[1] The ANEE project web page: www.helsinki.fi/anee.

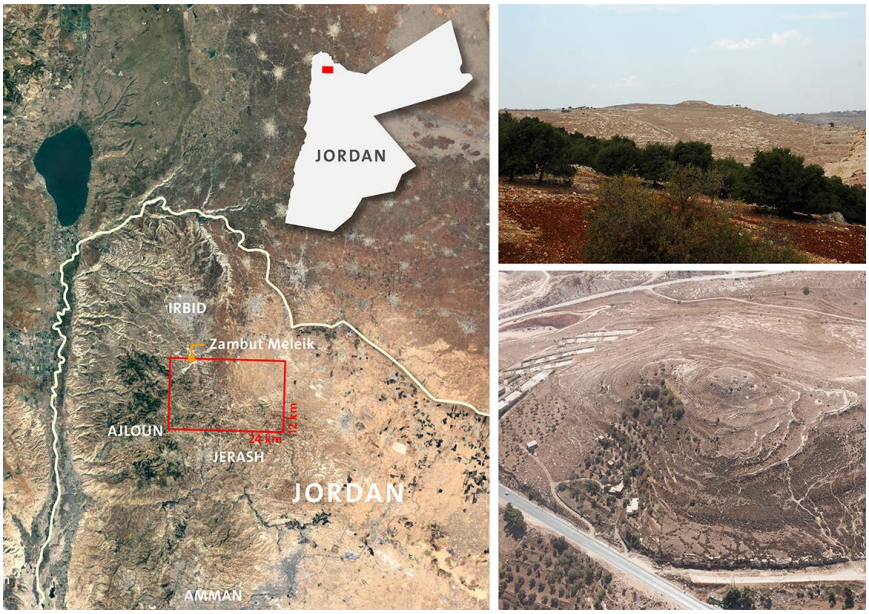

Figure 1. The location of Zambut Meleik within our survey area and an aerial view of the site. The name of the site may derive from the local flower 'zanbūṭ al-rayy' (زنبوط الري) translated as watering lilly (*Asphodelus aestivus*). It is the first flower to bloom after the dry season predicting the rainy autumn weather and it grows commonly on the wastelands in the Levant. The second part of the name derives either from the word meaning angel (ملائكة) 'malā'ika', or royal (ملكي) 'malakī'. Illustration M. Holappa, basemap Google Earth, photos M. Holappa (right top) & APAAME 2015 (right bottom).

walk paths, eventual subjective movements outside the designed lines by the surveyors, and other irregularities in the field collection. Furthermore, as both smart watches contained a GPS and a barometer registering the location and the altitude, it was also possible to record different archaeological features and assemblages identified during the field survey. By extracting the GPS data from the watch and importing it to GIS software, it was possible to combine the GPS tracks of several users and illustrate the results of the actual fieldwalk.

This allowed us to analyse walking patterns in steep terrain and have a better understanding of any implicit bias we encountered during our survey.

Even though the number of previously unknown sites found in the survey was not great, several of the sites discovered are large and impressive tells, with great potential for excavation. One of the sites previously identified in the satellite imagery, attested in MEGA-Jordan and fully surveyed in our project was Zambut Meleik, a multiperiod site with a considerable number of architectural remains partly visible in fresh looters' trenches (Fig. 1).

23.3 The site of Zambut Meleik

Zambut Meleik (TYRAS 70) is a small tell site occupying the eastern side of a narrow ridge approximately 7 km south of Irbid, along Highway 55 running between Irbid and Ajloun. Nelson Glueck first identified the site during his survey in the 1940s (Glueck 1942), and based on the surface finds of pottery he dated the site to Early Iron Age I & II, with some activity during the Middle Bronze Age and the Roman-Byzantine period (Glueck 1942: 21; 1951: 108). The site was in pristine condition still at the end of the 1990s when it was visited by the German archaeologist Roland Lamprichs (1998: 16). Since then, however, many looters' trenches have been excavated on the top of the tell and on its southern slope.

The tell has a very distinct, easily recognizable shape that rises above the surrounding ridge and is visible from afar, both north and south. The ruins form a rectangular mound, roughly 40 × 20 m in size and characterized by a flat top. There is a dense stone tumble on the surface, especially on the northern side of the tell, but otherwise rather few obvious structures are clearly visible above ground. A large looter's trench on the northwestern part of the tell reveals bonding walls (Feature 1) that form a room of 2.5 × 2.0 m in size. The walls are built of large (120 × 50 cm) worked limestone blocks arranged in regular rows, with at least four courses visible in the trench (the height of the

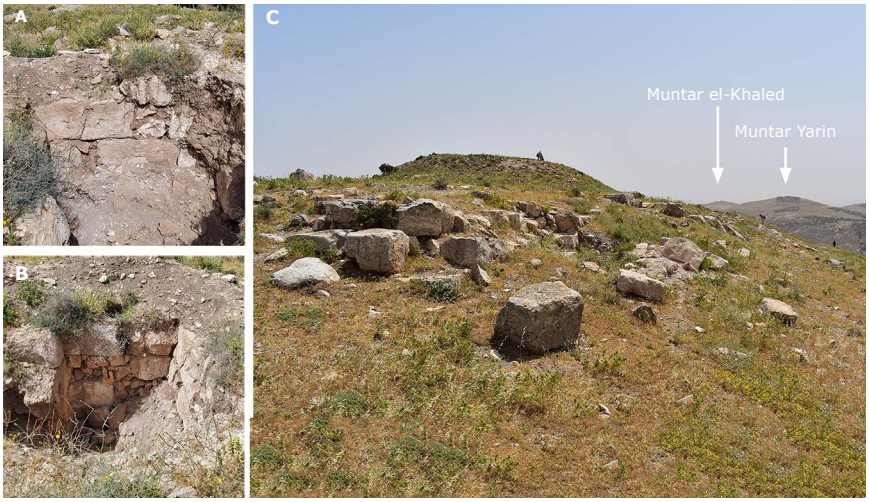

Figure 2. A–B – the adjoining wall structures on the tell top; C – the view from Zambut Meleik towards the east. In the foreground the southwestern corner of the perimeter wall. Photos M. Holappa (A–B) & B. Cutillas-Victoria (C).

visible part of the wall thus being c 2 m). The room possibly had an opening towards the east, and judging by the visible structures, it belongs to a multi-room building that extends towards the east and south from the looter's pit.

The slopes of Zambut Meleik are terraced and may have been so already in antiquity. On the eastern slope of the tell the limestone bedrock becomes visible and features a cistern that is still in use but may well be a reused ancient water catchment facility. On the northern slopes there are some possible wall lines visible on the ground, but due to ongoing land-use it was not possible to study these more closely. On the southern slopes there are two parallel wall lines running in an east–west direction. The lower structure (Feature 3) is badly collapsed, consisting mainly of unmodified or roughly hewn limestone blocks laid on top of each other in an irregular manner. The structure reaches the eastern limit of the site following the natural shape of the hill and is probably a large ancient terrace wall. The upper wall (Feature 2) has survived in

better condition. It is built of two rows of worked limestone blocks (60 × 40 × 55 cm) placed in fairly regular courses, visible in a looter's trench excavated along the wall line. The said trench has also revealed a 2.0 m wide opening in the wall, most likely a gate. Remains of adjoining walls running in a north–south direction and abutting the large wall seem to form enclosed spaces west of the gate structure, perhaps some kind of gate rooms. In the western part of the site, it is possible to see how the wall forms a corner towards the north. Based on the structural elements, it is possible to identify this feature as the perimeter wall for the site, possibly built for defensive purposes. Unfortunately, it was not possible to follow its entire length towards the north around the site, as sections of the wall are badly collapsed. On the southwestern part of the site there were some circular rock-cut features visible, possibly belonging to a water catchment system (Fig. 2).

The structural remains of Zambut Meleik are monumental in size. Lamprichs (1998) interpreted it as an agricultural site or a small clan settlement, which seems much too modest given the scale of the standing structures at the site (few of which would have been visible during his visit). As there is a clear line of visibility from Zambut Meleik towards the similar hilltop sites of Muntar el-Khaled and Muntar Yarin in the east – and all the way to the major tell site of Kanashreh located in the border zone of the eastern desert – it would seem more reasonable to identify the site as a guard- or watchpost that had a military/defensive function.

23.4 The survey

The objective of our survey at Zambut Meleik was to collect surface pottery in order to refine the chronology of the site, as well as to define the limits of the settlement and document any structural remains visible on the surface. Consequently, the fieldwalk was organized in a slightly different manner compared to the other surveyed sites, without using precisely measured transects.

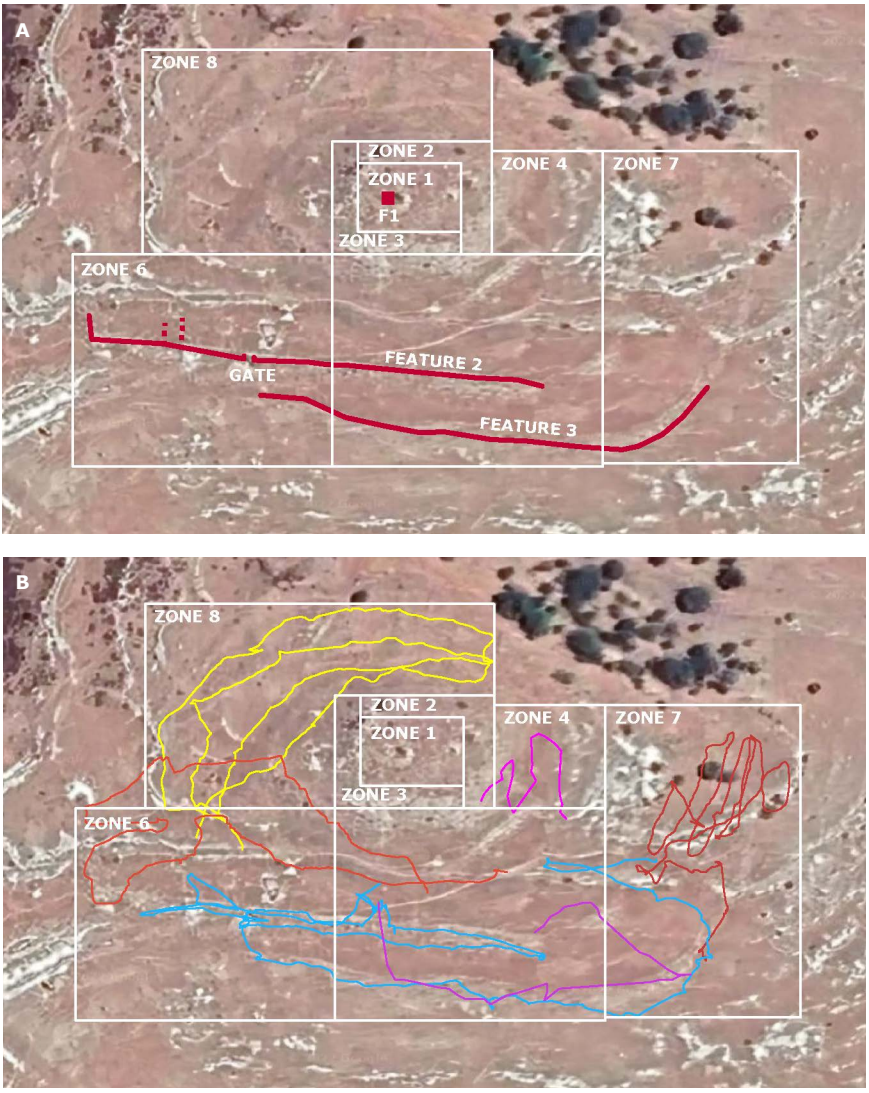

Figure 3. A – The documented structures; B – the tracking of the fieldwalk at Zambut Meleik. Illustration M. Holappa & S. Kautonen, basemap Google Earth.

Instead, the site was divided into eight distinct zones based on the topography: 1 – the top of the tell; 2 – the northern and eastern steep slope of the tell; 3 – the southern and western steep slope of the tell; 4 – eastern slope; 5 – southern slope; 6 – southwestern terrace; 7 – lower eastern slope; and 8 – western and northern slope. Because the top of the tell and the slopes were easily defined areas, they were surveyed without GPS tracking, but in the rest of the zones the fieldwalk was documented using sports watches.

The advantage of a sports watch compared to a traditional GPS device is that it is wearable and thus interferes less with other activities such as photography, writing forms and taking measurements. As a general observation, with both of our devices (Polar Grit X and Suunto 9 Baro) the GPS tracking was very accurate and quite suitable for survey purposes. The devices had different methods of documenting location: in the Polar watch, one had to choose a 'fast-paced sport' mode to have more accurate GPS data. The sequence of collected GPS locations was 1/minute in the walking exercise program, and 1/second in the program designed for running. By documenting the fieldwalk as a running exercise we were able to collect more accurate data, although the battery also ran out faster. Depending on the task at hand, one has to optimize between data collection and battery life. The Suunto watch has a GPS that works differently, by setting up a battery-saving mode that automatically reduces the number of points taken when the battery runs low.

Both brands provide applications that can be used to extract the data from the watch in GPX format that can be imported to GIS applications. The tracking of the fieldwalk (Fig. 3) reveals how the limits of each zone overlapped during the survey, as the corners of the 'transects' were not marked with flags and the surveyors could roam more freely across the assigned area. Furthermore, it is also possible to see how sometimes the attention of the walker was distracted by features visible on the ground. At the time of our survey (May 2022), it was not possible to document points of interest (POI) in Polar Grit X, except by setting up a new lap to document a point. Unfortunately, points thus taken were only visible in the Polar Application and excluded from the

extracted GPX data. In Suunto 9 this function was possible; however, one could not extract the point data as a GPX file. The only way to do it would have been to write down the coordinate information of each point from the Suunto Application. This was the main difficulty we encountered in using sports watches in archaeological fieldwork and we have sent our feedback to the product developers of both Polar and Suunto.

A final difficulty in using the sports watches related to the handling and extraction of data in the device applications. It was complicated to control several devices in one application, as it was not possible to rename each watch, nor was it possible to give an identifier to data from a particular watch in the GPX file. The filenames do contain information on date and time, which makes file handling easier. These issues, however, were easy to understand as few regular users would have several watches of the same type in use simultaneously.

23.5 Ceramic evidence from the Zambut Meleik survey

A total of 270 ceramic fragments were collected from the eight zones surveyed at the site of Zambut Meleik. Zone 5 produced the highest number of sherds (n=61), seconded by c 40–50 sherds from Zones 1 (n=55), 3 (n=40), 4 (n=48) and 7 (n=40). Significantly less material, <10 sherds were collected from Zones 2, 6 and 8 each. The Zambut Meleik ceramic assemblage is a typical multiperiod surface corpus of worn-out, small-sized ceramic fragments, with only a few securely datable, diagnostic ceramics, such as rim-sherds or decorated fragments. The ceramics are domestic and utilitarian forms, namely cooking pots, bowls, basins, and jars, probably produced and used relatively locally to process, store and transport agricultural products. There were no imported fine wares in the assemblage (Fig. 4).

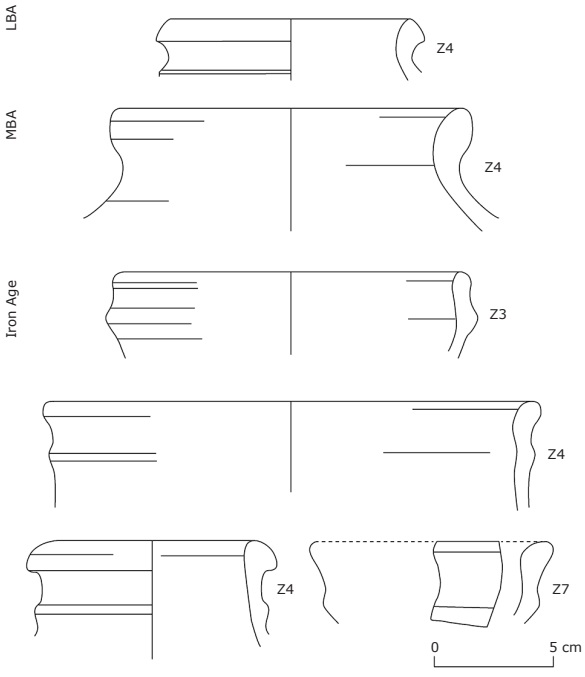

Figure 4. Selected ceramic sherds from the survey. Illustration E. Holmqvist & M. Holappa.

In the preliminary ceramic study during the field season, 81 of the sherds (30% of the total) were assigned to chronological categories, the most dominant category being Late Bronze Age (28.4% of the diagnostic sherds), followed by Iron Age (25.9%), Middle Bronze Age (21%) and Early Bronze Age (17.3%), while only sporadic Chalcolithic and Roman–Late Roman sherds were identified. Most zones produced finds belonging to the four dominant phases in fairly equal relative quantities, and none of the zones appear to be dominated by finds from a particular phase. It should be noted that the generally poor state-of-preservation of the surface finds with practically no context data and the inclusion of plain body sherds (with chronologically specific fabric characteristics) in the chronological categories can blur the divisions, particularly between the Late Bronze and Iron Ages. Plain body sherds in particular are easily misidentified. At best this kind of inclusive approach can increase the number of finds considered, potentially enhancing the representativity of the ceramic record and the chronological resolution of the site. However, poorly identifiable yet quantitatively abundant plain body sherds also pose a risk of falsely biased ceramic records, not

representative of the cultural phases or their intensities at the site. All in all, the Zambut Meleik ceramic repertoire reflects the tell's local rural economy and its role in the surrounding environment.

23.6 Conclusion

The site of Zambut Meleik is glaringly obvious to anyone who is familiar with Levantine tell sites. It lies right next to the Irbid-Ajloun highway, one of the busiest roads in northern Jordan, and its flat top is visible to thousands of passers-by every day. Yet, although it was in principle known to archaeology prior to our survey, having been briefly described in Glueck's and Lamprich's surveys, it remains virtually unexplored by archaeologists – but less so by looters. Persistent myths of hidden gold treasures feed growing ranks of looters in Jordan, and tell sites are today routinely mined for objects as part of a chain involving semi-professional looters, various intermediaries, antiquities dealers, and of course collectors in both the West and the Gulf States (Kersel & Hill 2019). Surveys like the TYRAS project are revealing that the situation is dire.

Zambut Meleik has not yet been bulldozed using heavy machinery like some other sites documented in our survey, but the numerous looters' holes have caused considerable damage to a site that was in pristine condition just twenty years ago. Tell sites may not be as attractive to visitors as Petra or Jerash, but Zambut Meleik could even have tourist potential – if it is sufficiently investigated and protected from further looting. Few tell sites in northern Jordan are as accessible as Zambut Meleik, or have similar vistas over the surrounding landscape. Although the surface finds collected in our survey are not extraordinary in any way, some of the structures seem monumental in character and preliminary visibility analyses suggest that the site is centrally located and exceptionally well connected. It may thus, in some ways, have formed a central node in the wider network of tells.

Acknowledgments

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