



The 2022 Birsama Survey: Exploration of a Late Roman Fort and its Environs

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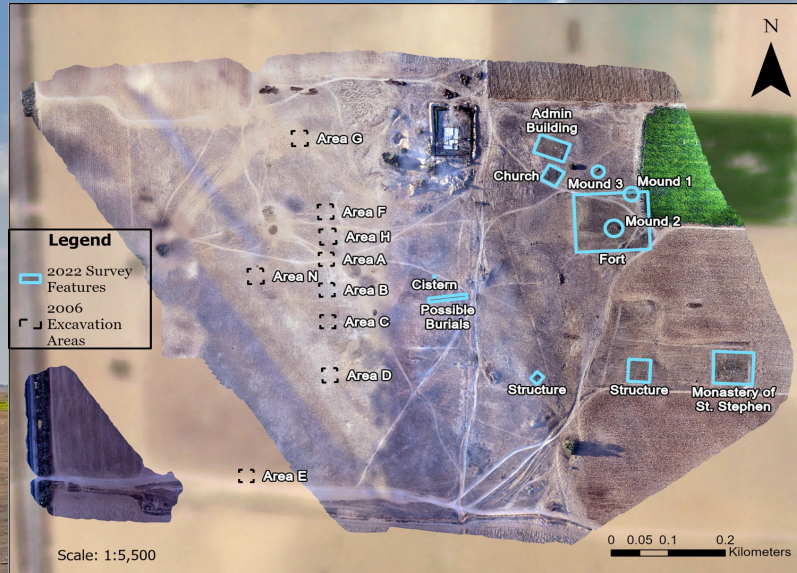
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Introduction

Birsama (Horbat Be'er Shema) is situated in the northwest quadrant of the northern Negev, approximately 21 km southeast of Gaza and 25 km northwest of Be'er Sheva. Interest in the site focuses on the presence of a Late Roman fort and associated structures, including the Byzantine church of St. Stephen, a Roman road, pottery kilns, a potential vicus (civilian camp adjacent to the fort), and other civilian and army structures. The earliest mention of Birsama comes from the mid-2nd century (c. 90 – 168 CE) by Claudius Ptolemy, who makes note of 'Berzama' (Βερζαμμα) in his work Geography. A century and a half later, the site appears in the *Notitia Dignitatum*, distinguished as 'Birsama', a provincial military base for the garrison of the *Equites Thamudeni Illyriciani*. Birsama is mentioned with increasing frequency during the Late Roman period, appearing to have reached a new level of regional significance during this period. The 2006 IAA salvage excavation found evidence of a meager occupation in the Early Islamic period, in which the occupants did not utilize the site's Byzantine installations such as its storerooms and winepress, occupying instead an area to the north in Area F. Following the Early Islamic period was an extended period of abandonment that extended nearly 1000 years, a finding consistent with the broader occupation history of the Negev.

Project Aims

- Investigate the late Roman fort (*quadrivurgium*) and its environs (- i.e. vicus, road, industrial complexes, bath houses, churches, etc.)
- Explore the development of the Roman army and regional administration's connection to the broader network across the Negev during the Late Roman – Byzantine periods.
- Clarify how the Roman army used the site as a strategic economic and administrative base close to the port at Gaza.
- In addition to elements of the built environment, research also focuses on the material culture as it is related to the trade routes extending across the Negev and access to the broader Mediterranean through Gaza.
- Investigate the development of modern Birsama and its relationship to the agricultural environment of the region.



Methodology

Exploration of the site was conducted through aerial survey and mapping using drones combined with a terrestrial field walking survey which included the collection of ceramic material. Using an RTK-enabled DJI Phantom 4, we mapped the entire survey area, as well as zones south and west, covering approximately one square kilometer, at a height of 50 meters. In order to have a real time tracking of each field-walker and their path across the survey area, we used the app Avenza Maps.

To establish fixed points to mesh maps, buckets were filled with cement and the lids painted fluorescent pink; then positioned at the corners of the survey area and partially buried to provide consistent visual points on the landscape. Through methodical field walking within a grid system over the site we were able to access the surface finds, visible features, endangered areas of the site due to modern use, and correlate several previous survey and excavation data into one working, georeferenced map. Within the individual transect's 20 m unit notations were made on the percentage of ceramic coverage, the number of sherds collected, the overall description of the unit and any other materials present, as well as other pertinent observations by the field-walker. At the end of each day the individual field-walker maps were synced showing all of the tracks on to one map, distinguishing between the different tracks with individual colors, and redistributed that updated map to the field-walkers for the next day.



Survey Team taking fixed points with the RTK.



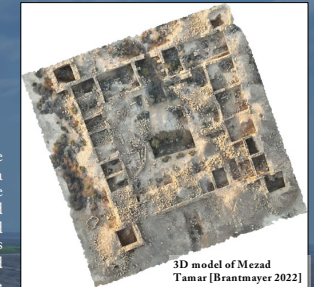
Field-walking survey transects

Survey Results

Aerial drone survey and field-walking resulted in the identification of several structures across the surveyed area of the site, a basic pottery chronology based on surface finds, and information to formulate a research plan for future excavation. The outline of the Late Roman fort measuring approximately 70 m by 70 m as an estimate at the top of the visibly preserved exterior walls was identified in the northeast quadrant of the survey area, abutting a modern agricultural field on its eastern side. There is a noticeable decline within the center of the fort that is consistent with the typical layout of a Late Roman *quadrivurgium* fort with casemate walls surrounding a central courtyard and protruding corner towers. Northwest of the fort we identified two other buildings indicated by the presence of numerous large (30-80 cm) carved kurkur stone blocks.



Architectural remains of the "Admin Building".

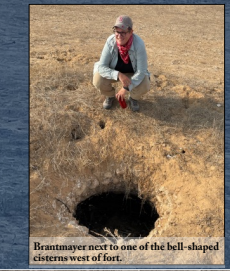


3D model of Mezad Tamar (Brantmayer 2022)

Two additional structures were identified in the immediate vicinity of the fort, both with a suggestive monumental nature based on the presence of kurkur, cut building stones and architectural elements, such as capital bases, found in association with the blocks. Significant amounts of Middle Byzantine pottery were also identified in the immediate area of these two structures, which we tentatively named the "Admin Building" and "church". West of the remains of St. Stephen's Monastery our survey identified the remains of small walls and mudbrick debris possibly belonging to domestic structures within the vicus associated with the Roman fort. In the area just beyond our western most transect, where general field-walking was conducted, aerial imaging identified several features which included raised rectangular mounds in a line and sporadically located several bell-shaped cisterns, a type commonly used in the Byzantine period, particularly in domestic contexts. Pottery recovered from field walking showed a chronological concentration of material in the Early – Middle Byzantine periods (350-550 CE), with significant material also coming from the Late Byzantine (550-650 CE) and Imperial Roman (250-350 CE). Outliers present included material from the late Hellenistic/early Roman period, Umayyad, and Ottoman/British Mandate periods.



Architectural remains found adjacent to the fort



Brantmayer next to one of the bell-shaped cisterns west of fort.

Conclusions and Future Research

The 2022 survey significantly expanded our understanding of the site from a chronological framework as well as the actual geography of the site. The architectural outline of the fort, as seen in the drone aerial survey and in terrestrial survey, indicates that it is a *quadrivurgium* fort type approximately 70 m² with projecting corner towers. The closest parallel for this type and size is the late Roman fort at Me'zad Tamar, south of the Dead Sea which is approximately 60m². Copious examples of the *quadrivurgium* fort type are found throughout the late Roman empire and more specifically within *Palestina* and *Arabia*. While intensive field-walking and survey concentrated on the eastern portion of the site, aerial survey and fieldwalking examination of the western portion of the site (from the modern water pipeline to the road) yielded numerous examples of Byzantine occupation visible on the field surface. This included the discovery of multiple bell cisterns, new architectural remains, high concentrations of storage-jar fragments, and slag. The evidence from the western survey suggests the site is much larger than previously thought, in this area we identified ceramics and architectural remains indicative of a more industrial or non-domestic occupation. Examination of the area immediately around the modern 'Carrot Factory' was carried out to better understand the concentration of vegetation in this area and the proposed reservoir/amphitheater depression south of the Carrot Factory. The character of this area further west of the fort is very suggestive of the expanded early-middle Byzantine city mentioned in the historical sources. As we plan to excavate the Roman fort as a focal point in future seasons there is an abundance of intriguing remains to further investigate throughout the broader site. During the summer of 2023 we plan to make initial excavations at the fort, in the area of the 'Admin Building and Church', and the vicus, while we also continue to carry out aerial and terrestrial survey of the western site. The ceramic finds recovered during the 2022 season indicate an occupation phase prior to the establishment of the fort in the early 4th century. The relative abundance of ESA (Eastern Sigillata A), Nabataean Fine Ware, and imported amphorae support the assertion of earlier phases of occupation at the site. This information helps our team formulate short- and long-term excavation plans, taking into consideration the presence of earlier material we will focus beyond just the historical record. The material culture recovered during this initial survey season, along with potentially excavated material next season (summer 2023) will be analyzed comparatively with other chronologically parallel sites in the region, such as Halutzta, Shivta, Nitzana, Avdat, and Me'zad Tamar, among others. The excavation of Birsama, both the fort and its environs, will provide not only another example of this type of military architecture and building but it will be an interesting point of comparison for the material culture found here between the eastern and western provincial examples, given the site's proximity to the coast and possible influence from more far-reaching examples.

References and Acknowledgements

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For more information about the Birsama Exploration Project, our full report, and details how to join us during our Summer 2023 season, please visit our website - www.birsama.wordpress.com



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