دائـرة الآثـار العامـة
Department of Antiquities
JORDAN | الأردن

EAMENA
Endangered Archaeology in the Middle East & North Africa

UNIVERSITY OF OXFORD
UNIVERSITY OF LEICESTER
ARCADIA
Durham University
BRITISH COUNCIL
Department for Culture Media & Sport

Publishing Archaeological Data (PADA) workshop:

Ammonite Towers in Amman:

Case Study Khirbat Sarah and Rujm Al Hashmi

Mariam Ibrahim

Hana Lafi

2-4 Dec 2024

The History of Ammonite Towers:

During the Iron Age I, the Ammonite region witnessed dense settlement activity, marking the beginning of the Ammonites' construction of structures like the circular towers. Additionally, excavations have dated several Ammonite buildings to the Iron Age II, as seen at sites like Khirbet al-Hajjar, Southern Rujm al-Malfuf, Rujm al-Makhzan, and the Northern Palace of Khilda.

The Cultural Role of Ammonite Towers:

Researchers agree that these structures, whether circular or square towers, primarily served a military purpose. This conclusion is supported by their massive architectural style, with unrefined flint or limestone blocks, and the lack of surrounding defensive walls, as the towers themselves acted as fortresses.

Construction Methods:

Several conditions were crucial for selecting sites for Ammonite fortifications:

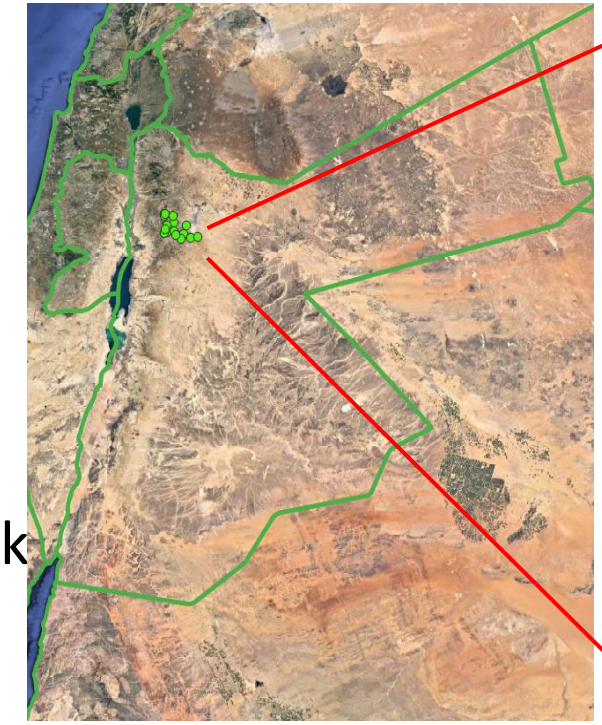
1- Elevated locations to ensure wide visibility.

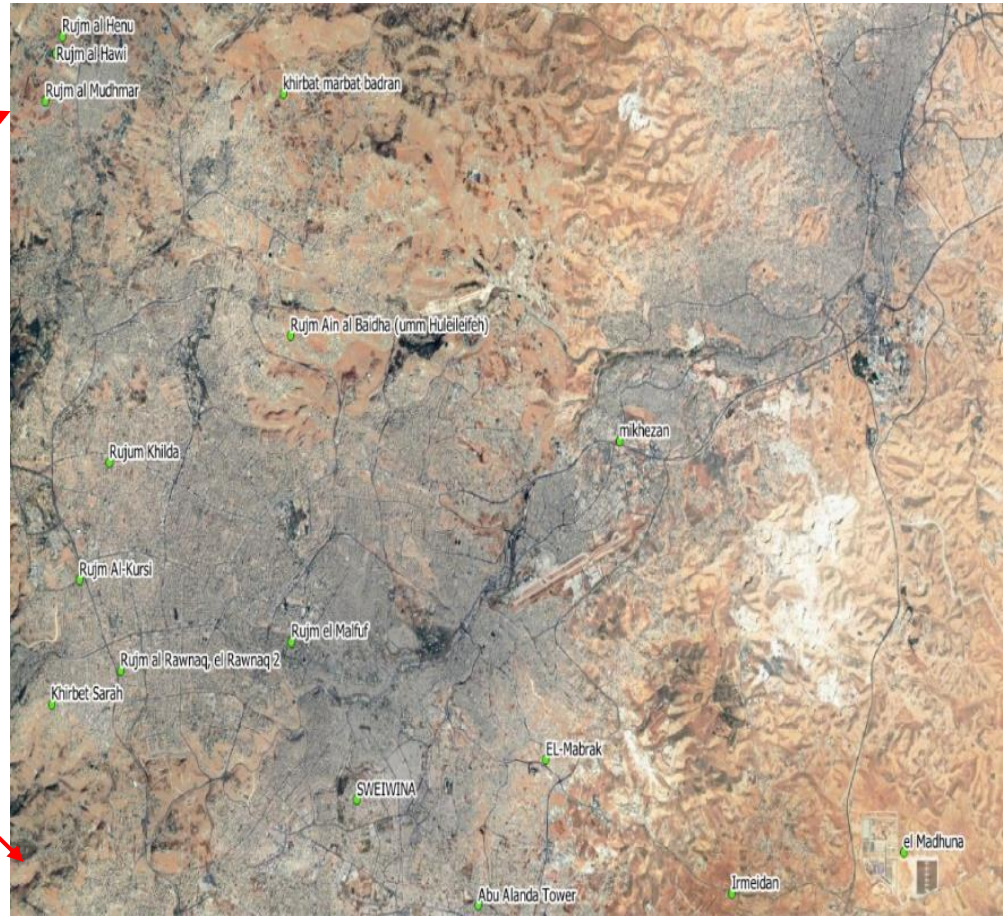
2- Hills overlooking valleys to monitor potential enemy infiltration.

3- Proximity to large agricultural structures.

The main ammonite towers in Amman:

- Rujm Al Malfuf
- Morbat Bedran
- Rujum Khilda
- Rujm Al-Kursi
- Khirbat Sarah
- Rujm al Mudhmar
- Rujm al Henu
- Rujm el Hawi
- Rujm Al Mabrak EL-Mabrak
- Rujm Al Hashmi





Case Study Khirbat Sarah and Rujm Al Hashmi:

Khirbat Sarah

Khirbet Sarah is located on the western outskirts of Amman, on the eastern side of Wadi Al-Seer and the western side of the plateau overlooking Wadi Al-Shita. The site's coordinates are 35.83097, 31.94475, at an altitude of 972 meters above sea level (MEGA No: 11304). Specifically, it lies in the Al-Bayader area, along the old road that once connected Rabbath Ammon to the Jordan Valley via Wadi Al-Seer and Wadi Al-Kafrain.

The name "Sarah" is linked to local memory, suggesting that the site is named after one of two queens—Sarah or Sera—who ruled over the area. Queen Sarah, known for her beauty, attracted the interest of many kings during that period.

Khirbat Sarah

Archaeological Research History:

The first mention of the site as "Khirbet Sar" was in 1877 by Merrill, after that
in 1881, Conder visited the site and described it.
In 1905, Butler revisited the site,
In 1937, archaeologist Nelson Glueck visited and referred to the site as "Qasr al-Sar" (1939: 153-156, Survey Site No. 207).
In 2000, Chang-ho C. Ji from La Sierra University, California, revisited the site (referred to as Khirbet al-Sar, Site 210) during a survey of the Iraq al-Amir and Wadi Al-Kafrain regions.

In 2018, a team of archaeologists from the University of Warsaw, led by Jolanta Młynarczyk and Mariusz Burdajewicz (Młynarczyk & Burdajewicz, 2018), conducted the first archaeological season at the site. They carried out a geophysical survey within the fenced area overseen by the Department of Antiquities, producing an initial site plan alongside mapping all visible architectural remains on the surface.

The Purpose of Selecting the Site

The site of Khirbet Sarah was chosen to study one of the most significant Ammonite towers in Amman and uncover previously unknown historical and architectural details. The selection also aims to shed light on the site's history and its role during the Ammonite period through archaeological excavations that had not been conducted there before. The site has also been exposed to various human and environmental threats and risks.

Threats:

Environmental Threats (Climate Change):

Changes in temperature and humidity can lead to the deterioration of archaeological materials such as stone, accelerating the process of erosion and damage over time.

Animal threat

Natural threat

Threats from some local people

“Ammonite” tower. Viewed from the northeast

Human Threats:

1. Vandalism and Destruction: Archaeological sites are vandalism due to human activities such as illegal excavations to destroy archaeological structures. This can result in the complete loss of historical heritage.
2. Urban Expansion and Residential Projects: The proximity of the archaeological site to the industrial area has added an additional threat, as industrial activities can result in pollution, vibrations, and other environmental factors that could damage the site’s structural integrity and contribute to its deterioration over time.

Khirbat Sara through different years

Al- Hashmi Archaeological Tower:

The Hashmi Tower is one of the Ammonite towers, characterized by a nearly square structure. Its eastern side is approximately 19 meters long, and the northern side is 20 meters. The tower was damaged due to modern buildings constructed on its eastern side at the beginning of the last century. Three years ago, their owners, causing the destruction of the tower's eastern wall, leveled these buildings.

The average thickness of the remaining outer walls is around 270 cm, except for the destroyed eastern wall, whose remaining foundations have an average width of 170 cm. The remaining walls stand about 3 meters high. No external gates have been found, likely destroyed along with the missing eastern wall. The tower contains five main rooms and three smaller, windowless rooms, which were largely formed due to later modifications and reuse of the structure.

Al Hashmi Tower Archaeological remains
(Original place)

The Threats and reason for relocation to Al Hashmi Tower:

The tower was relocated in 2015 from its original site in the Al-Hashmi Al-Shamali area to the Nuwaijis site, with plans for its reconstruction at the Nuwaijis site between 2018 and 2019. This move was necessary due to threats posed to the tower by surrounding residential projects and the inability of the Department of Antiquities to acquire the land. As a result, the decision was made to abandon the plot after conducting archaeological excavations to ensure it was free of important architectural remains. Consequently, the Ammonite tower was relocated to the Nuwaijis site.

After the Ammonite tower was relocated to Nuwaijis, work began on the implementation of the Research and Archaeological Artifacts Center in 2022. In response to the needs of archaeological work and due to the presence of the Hashemi Tower, which had been relocated from the Al-Hashmi Al-Shamali area and reconstructed in Nuwaijis in 2019, and its location within the construction zone of the Research Center, it became necessary to relocate the tower again to a safer area. This move follows scientific principles to preserve, as much as possible, the archaeological value of the Ammonite tower.

The archaeological tower site in the Nuwaijis area.

New Site Selection:

All records related to archaeological sites in Amman have been reviewed to select the appropriate and proposed location for relocating the tower. This process considered the available resources and adhered to scientific principles in the selection.

A second and current location was selected, leading to the choice of the archaeological site of Khirbet Marbat Badran for meeting all the criteria and conditions mentioned. It has been proposed as the site for relocating the Ammonite archaeological tower. The eastern part of the site was chosen due to its compatible topography and terrain, as well as its distance from existing archaeological landmarks. It is worth noting that the southern area of the site consists of a rugged valley, while the western part contains numerous significant archaeological landmarks and buildings.

Reasons for Choosing the Khirbet Marbat Badran Site for Relocating the Ammonite Tower

1. Suitable Topography: The site has appropriate terrain for relocating the tower, with the eastern part featuring flat land and suitable soil, and it is distant from other archaeological landmarks.
2. Adequate Space: The site offers a large enough area to properly position the tower while preserving its integrity and without affecting other features. Preservation of Archaeological Value: The selection of this site helps maintain as much of the remaining historical and archaeological value of the Ammonite tower as possible.
3. Ownership: the Hashemite Kingdom of Jordan, allowing the Department of Antiquities to manage it without any legal complications, owns the site.
4. Historical Compatibility: The site aligns with the historical period of the Ammonite tower, enhancing the historical harmony between the tower and its new location.
5. Cost and Logistics: The selected site offers favorable conditions in terms of cost, time, and distance for the relocation process, making it an efficient and practical option.

Relocation the stone

The current location of the Hashemi Tower is in Khirbet Badran.

The tower after reconstruction in New Location

Google Earth Engine for Ammonite Tower in Amman

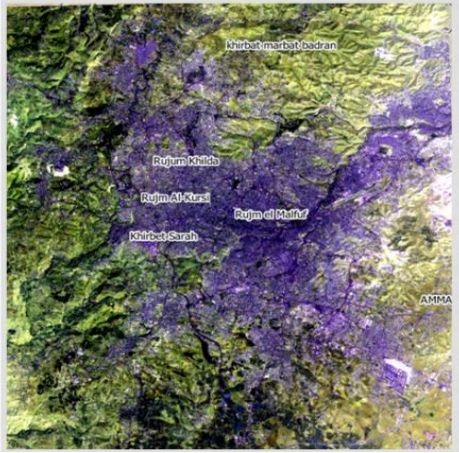
Agricultural areas (bright red)

Sentinel-2 Band: 8\4\3

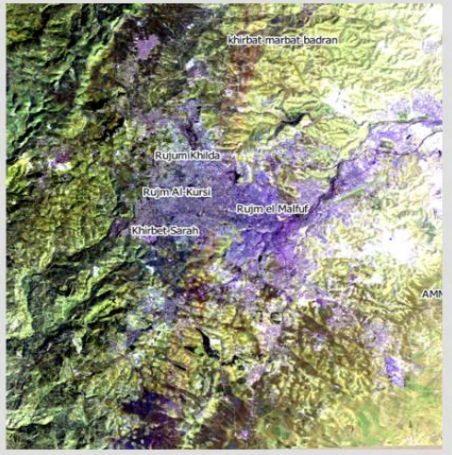
Landsat-5 Band :4\3\2

desertification, mining and industry

Sentinel-2 Band: 12\11\2

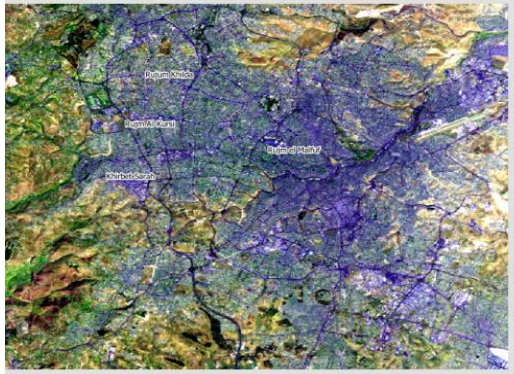


Landsat-5 Band :7\5\1

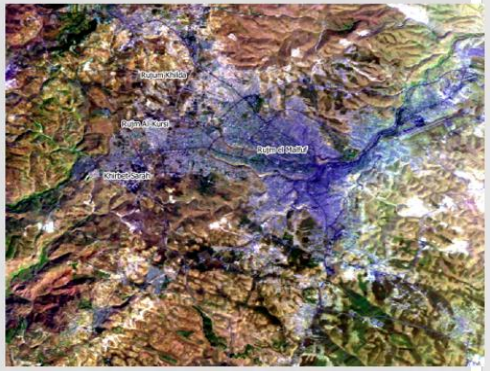


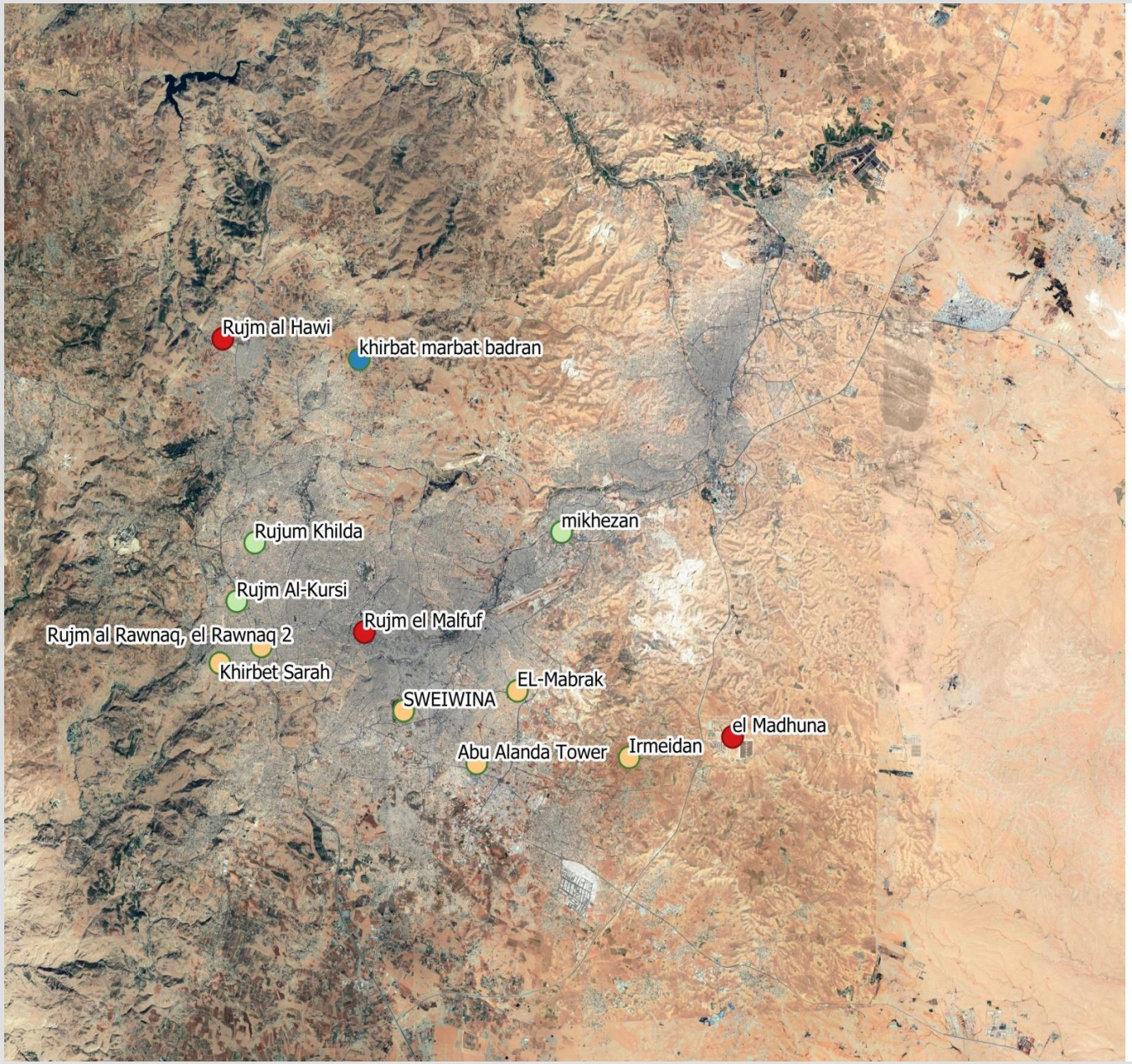
Agricultural areas (bright green)

Sentinel-2 Band: 11\8\2



Landsat-5 Band :5\4\1





Watchlist/ Priority Ammonite towers in Amman

Priority

- Beyond 5 years (Low)
- Within 1 to 2 years (High)
- Within 2 to 5 years (Medium)
- Within 6 months to 1 year (Urgent)

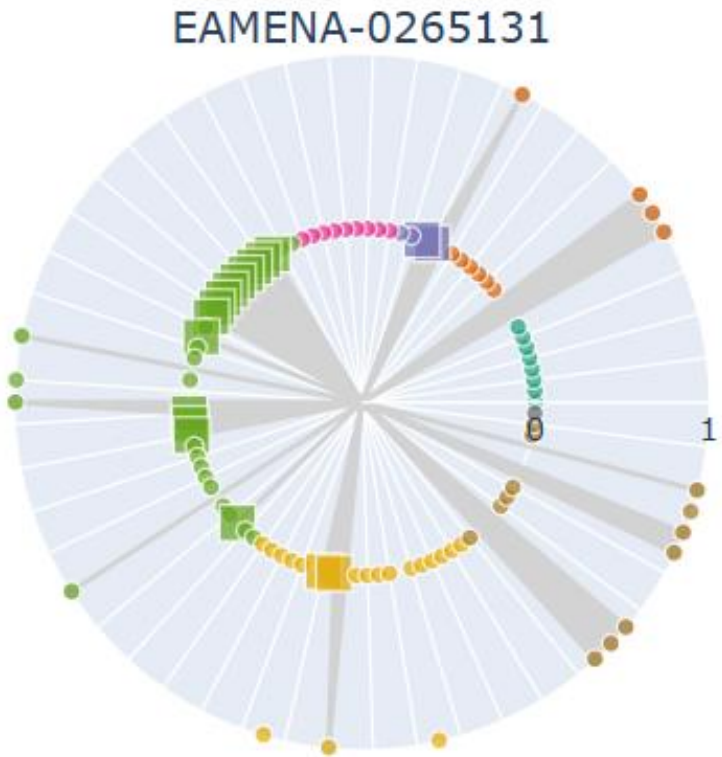
0 5 10 km

Due to the reasons mentioned above and the challenges faced by the Ammonite towers, these towers have been recorded in the EAMENA database. Efforts are underway to prepare a dataset to begin publishing a scientific paper on Zenodo as one of the methods of documenting these sites.

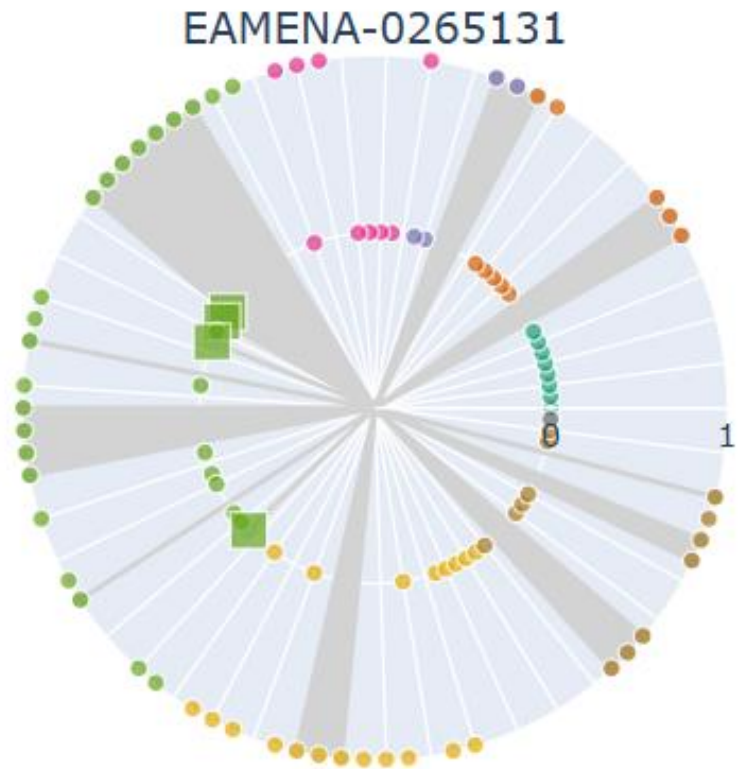
DataSet

NO	Site name	Record number	URL
1	Rujm el Malfuf	EAMENA-0185879	
2	MORBAT BEDRAN	EAMENA-0184352	
3	Rujum Khilda	EAMENA-0185498	**https://database.eamena.org/resource/aa9b6e80-1089-4dcd-88c9-768f6e3b85f7#**
4	Rujm Al-Kursi	EAMENA-0185659	**https://database.eamena.org/report/9afbd781-8673-432e-8846-fdb6f5033115**
5	Khirbet Sarah	EAMENA-0185865	**https://database.eamena.org/report/20b207d1-cdca-4eeb-b844-71c411536762**
6	Rujm al Mudhmar	EAMENA-0179896	**https://database.eamena.org/report/0ca236a6-0f7b-404d-9360-216bc5e5ba97**
7	Rujm al Henu	EAMENA-0179898	**https://database.eamena.org/report/0ebb83e2-2283-402f-a03e-f5509ee29808**
8	Rujm el Hawi	EAMENA-0179647	**https://database.eamena.org/report/999e4ebd-59b0-4e87-bbcd-aaa407ffe17f**
9	Rujm Al Mabrak EL-(Mabrak)	EAMENA-0179577	**https://database.eamena.org/report/8e3f1a29-a3ea-4b64-bc70-8c8cdd9c8428**
10	Rujm Al Hashmi (NEW ADDED)	EAMENA-0265131	**https://database.eamena.org/report/6ce80108-b091-4d6a-8e72-009b218ed76e**

The records after and before process and editing (MDS) to prepare to publish in Zenodo web site

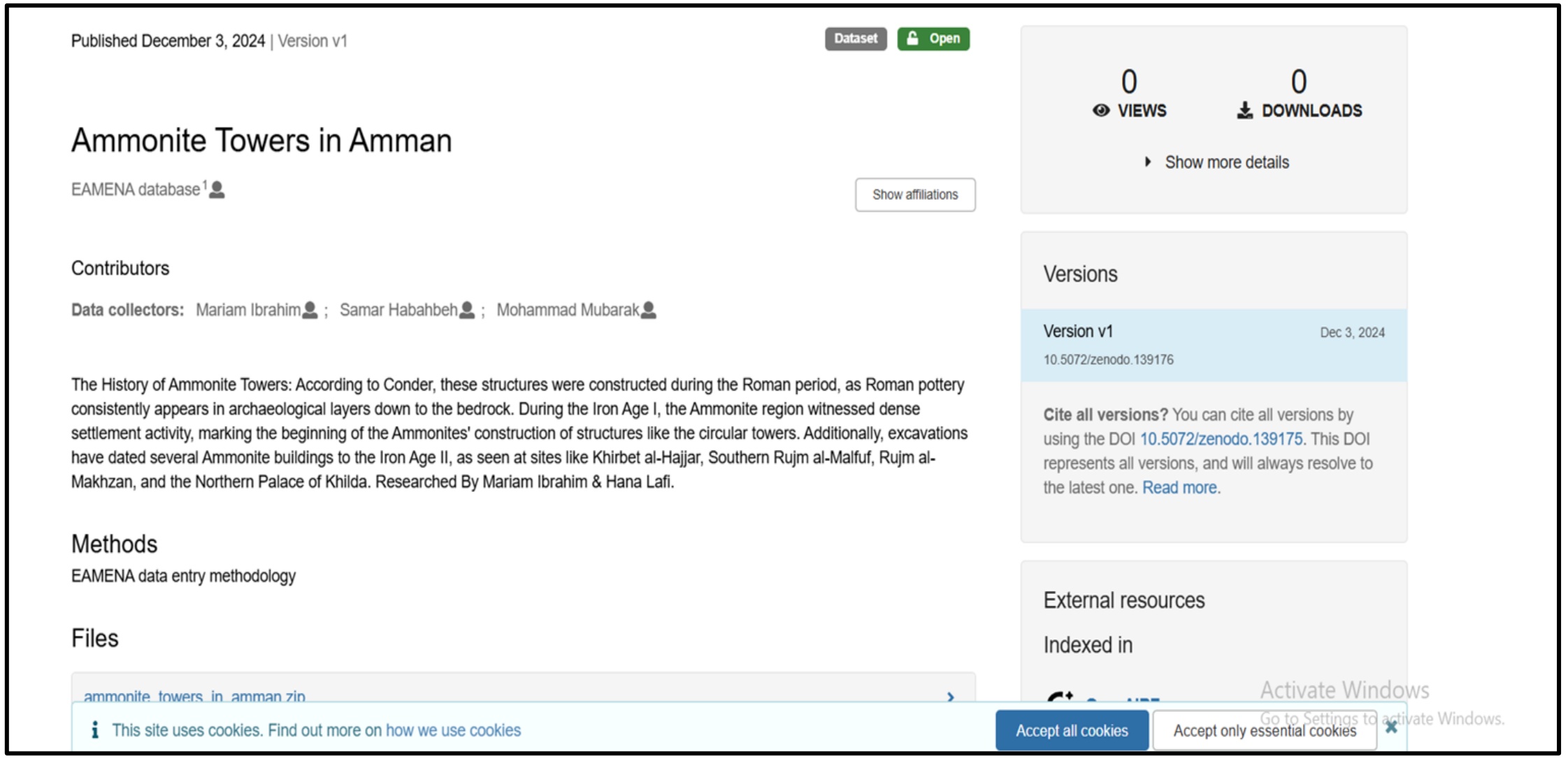


After



Before

Dataset in Zenado Sandbox



Published December 3, 2024 | Version v1

Dataset Open

Ammonite Towers in Amman

EAMENA database[1]

Show affiliations

Contributors

Data collectors: Mariam Ibrahim ; Samar Hababheh ; Mohammad Mubarak

The History of Ammonite Towers: According to Conder, these structures were constructed during the Roman period, as Roman pottery consistently appears in archaeological layers down to the bedrock. During the Iron Age I, the Ammonite region witnessed dense settlement activity, marking the beginning of the Ammonites' construction of structures like the circular towers. Additionally, excavations have dated several Ammonite buildings to the Iron Age II, as seen at sites like Khirbet al-Hajjar, Southern Rujm al-Malfuf, Rujm al-Makhzan, and the Northern Palace of Khilda. Researched By Mariam Ibrahim & Hana Lafi.

Methods

EAMENA data entry methodology

Files

ammonite_towers_in_amman.zip

0 VIEWS 0 DOWNLOADS

Show more details

Versions

Version v1 Dec 3, 2024

10.5072/zenodo.139176

Cite all versions? You can cite all versions by using the DOI 10.5072/zenodo.139175. This DOI represents all versions, and will always resolve to the latest one. Read more.

External resources

Indexed in

Thank You