

RESEARCH ARTICLE

# ROCK ART AS A REFLECTION OF CULTURAL HERITAGE AND ENVIRONMENTAL CONTEXT: INTERPRETING AND DOCUMENTING NEW EPIGRAPHIC MATERIALS AND ROCK ART FROM JORDAN'S BLACK DESERT

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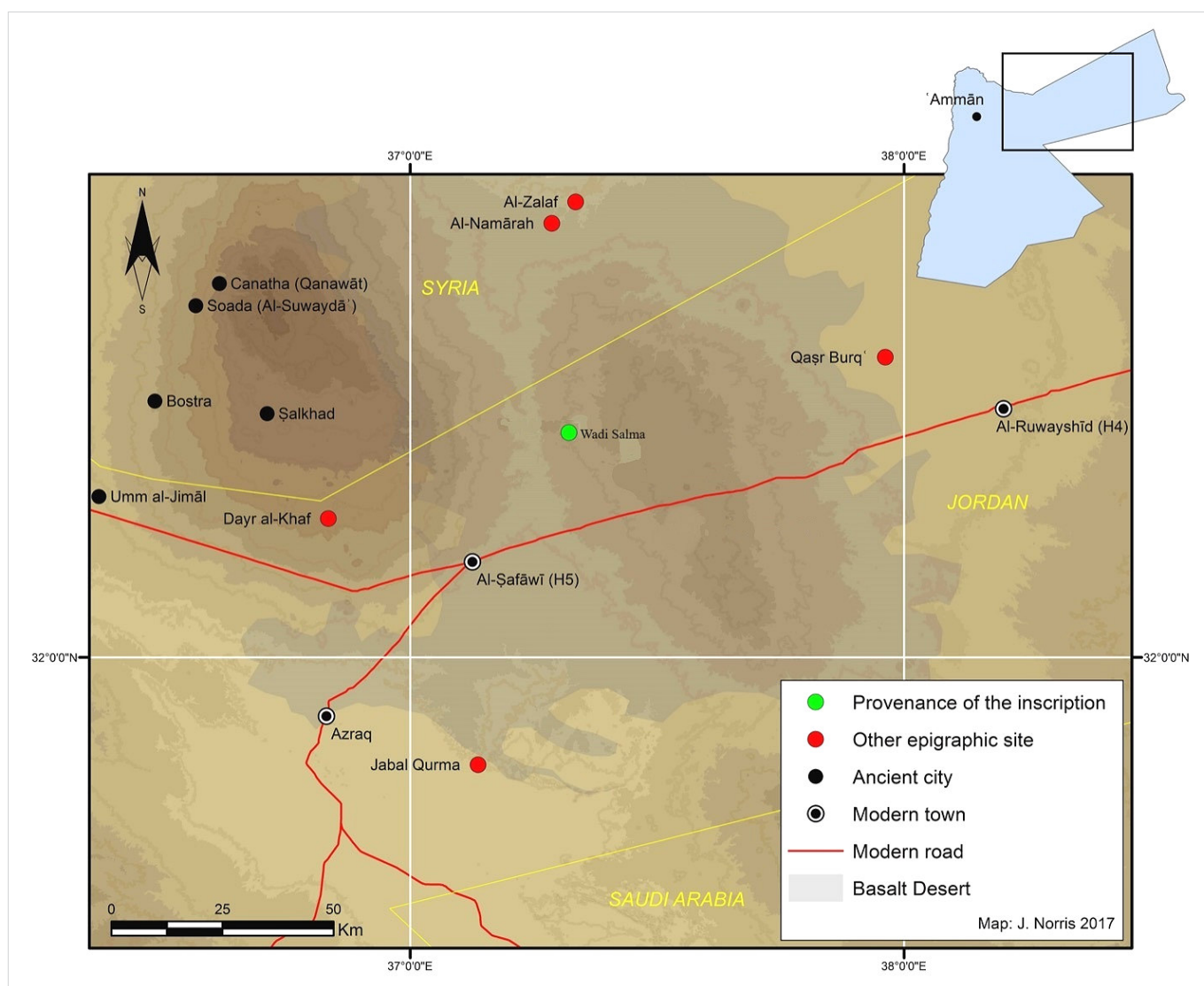


Figure 1. A map of Jordan showing the location of Wadi Salma.

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**ABSTRACT.** *Over the past two decades, the northeastern Jordanian Badia has been a focal point for extensive archaeological research, particularly in epigraphy and rock art documentation. The Badia Epigraphic Survey (BES) Project, launched in 2015, has played a crucial role in re-documenting Safaitic inscriptions and systematically recording newly discovered inscriptions and rock engravings. One of the most significant recent discoveries is a newly documented rock art depiction of an elephant in Wadi Salma, representing the first known example of its kind in the region. This study examines the stylistic features, cultural significance, and possible historical interpretations of this engraving, comparing it to similar elephant depictions found in Al-Ula and Hima (Saudi Arabia). The analysis highlights the influence of environmental, cultural, and artistic factors in rock art production within the harsh desert conditions. The presence of elephants in Arabian rock art suggests either direct encounters with these animals, artistic diffusion through trade, or secondhand knowledge from travelers and oral traditions. Additionally, references to the “Year of the Elephant” (570 CE) in Arabic literary sources raise questions about whether the depiction in Wadi Salma indicates a broader cultural recognition of elephants in pre-Islamic Arabia. However, due to the absence of associated inscriptions, determining the precise meaning of the engraving remains speculative. This study underscores the importance of interdisciplinary approaches in rock art research, integrating archaeology, epigraphy, and cultural history to better understand the significance of such depictions. These findings contribute to the growing body of knowledge on rock art in Jordanian Badia, shedding light on the dynamic cultural exchanges and artistic expressions of ancient desert communities.*

**KEYWORDS.** *Interpretation, documentation, written heritage, Jordan, Black Desert.*

## INTRODUCTION

Over the past two decades, the northeastern Jordanian desert has been a focal point for extensive archaeological research, particularly following a series of significant discoveries in the region. One of the major research initiatives involved the resurveying and systematic documentation of Safaitic inscriptions using scientifically rigorous methods. In 2015, the Badia Epigraphic Survey (BES) Project was launched with the goal of re-documenting all known inscriptions within the Jordanian Black Desert. This effort aligns with previous large-scale documentation projects conducted on the Syrian side by scholars such as Michael Macdonald *et al.* (1996), who began recording inscriptions that had been initially documented by researchers in the twentieth century. A key advancement in these recent efforts has been the integration of modern technologies, particularly GPS mapping, to accurately log the locations of inscriptions.

Between 2015 and 2024, thousands of new inscriptions have been documented, with plans to enter them into a structured database for long-term preservation and study (Al-Manaser 2023; Al-Manaser & Macdonald 2024; Bloomfield & Al-Manaser 2024). Despite these advances, several inscriptions remain unpublished, as various researchers have documented their findings without formally publishing them. One particularly notable discovery is a rock art believed to depict an elephant, located in Wadi Salma (Figure 1). This rock

carving was originally photographed and documented by Mahmoud Al-Rousan, who later entrusted it to Ali Al-Manaser for publication. This rare depiction suggests significant historical or environmental implications, particularly regarding the presence or symbolic representation of elephants in the region's past. Wadi Salma is one of the most significant archaeological sites in the northeastern Jordanian Black Desert, containing a vast number of Safaitic inscriptions.

As part of the Badia Epigraphic Survey, approximately 10,000 inscriptions have been recorded in this region, with around 1,000 inscriptions already entered into the Online Corpus of the Inscriptions of Ancient North Arabia [OCIANA] database for documentation and analysis. The valley stretches for approximately 13 kilometers and is characterized by its unique geographical features and multiple tributaries, notably Wadi Qassab.

This diverse landscape has helped to the high concentration of inscriptions in the area, making it a crucial site for studying the region's ancient epigraphy. Several researchers have contributed significantly to the documentation of Wadi Salma's inscriptions, particularly Sabri Al-Abbadi (2006) and Mahmoud Al-Rousan (2005). The latter compiled numerous inscriptions from Wadi Salma and Wadi Qassab in his doctoral dissertation, providing a comprehensive study of these ancient texts. Moving forward, all inscriptions from the valley will be systematically entered into the database, ensuring accessibility for researchers and facilitating

further study of the region's historical and cultural heritage (Macdonald & Al-Manaser 2017, 2019).

Rock art represents a crucial element of human cultural heritage, offering insights into the emotions, creativity, and lived experiences of early societies. As one of the earliest known forms of visual expression, rock art includes both pictograms and petroglyphs, which served as a medium to document cultural narratives, environmental conditions, and social structures. These ancient rock art and inscriptions function as a window into the past, illuminating aspects of daily life, spiritual beliefs, and historical events across different periods. The Jordanian Black Desert stands out as a particularly significant region for rock art discoveries, with thousands of rock art and inscriptions found on basalt stones.

Dating from the second century BCE to the second century CE?, these artefacts span a vast geographic area extending from northeastern Jordan into Syria and Saudi Arabia (Al-Manaser 2023). The documentation and analysis of these artifacts have enhanced our understanding of the cultural and historical contexts in which they were created, providing valuable insights into the lives of those who inhabited these harsh environments.

## THE RELATIONSHIP BETWEEN ROCK ART, ITS CREATORS, AND THE ENVIRONMENT

This study explores the complex interaction between rock art, its creators, and the environmental conditions in which it was produced (Harding 1969). The extreme climate of the Black Desert, characterized by intense heat, arid landscapes, and restricted mobility, adds another layer of complexity to the analysis of these inscriptions.

By examining both the artistic content and the environmental factors associated with this rock art, this research seeks to uncover the deeper cultural and spiritual meanings embedded within these artworks. Interpreting this rock art requires researchers to adopt the cognitive perspective of their creators, many of whom were illiterate and lacked formal education. This presents a major challenge, as the worldview and mental framework of modern scholars differ significantly from those of the original artists. Even with deliberate efforts to think in the same way as the ancient creators, fully grasping their intentions, symbolism, or precise mean-

ings remains difficult, if not impossible (Kubiak-Schneider & Al-Manaser 2024).

## THE ROLE OF SAFAITIC INSCRIPTIONS IN UNDERSTANDING ROCK ART

This rock art frequently appears alongside Safaitic inscriptions, which are widespread in the northeastern Jordanian Black Desert. These inscriptions serve as a valuable contextual tool, helping researchers interpret the meanings and functions of the associated imagery. However, when rock art appears without accompanying inscriptions, its interpretation becomes significantly more challenging, leaving room for speculation regarding its purpose and significance.

## CLASSIFICATION OF ROCK ART IN THE JORDANIAN BLACK DESERT

Rock art found on the basalt surfaces of the Jordanian Black Desert can generally be classified into three primary categories (Figure 2):

1. ANIMAL DEPICTIONS
  - I. Representations of camels, horses, deer, hyenas, dogs, ostriches, and other wildlife.
  - II. Likely reflect the surrounding environment and its importance to the artist in terms of survival, hunting, or symbolism.
2. HUMAN FIGURES
  - I. Ranging from fully human shapes to semi-human forms.
  - II. Possibly illustrating daily life, social interactions, rituals, or symbolic representations.
3. GEOMETRIC PATTERNS
  - I. Comprising circles, lines, squares, sun-like shapes, and other abstract motifs.

These carvings may have symbolic, spiritual, or artistic meanings, reflecting aesthetic creativity and potential cosmological interpretations.

A rock art depicting what is believed to be an elephant was carved onto a black basalt stone in Wadi Salma (Figure 3). The artwork appears to feature two elephants in mirrored or opposite orientations. The identification of the animal was based primarily on the elongated trunk, a stylistic feature resembling depictions of elephants found at the Hima rock art site in Saudi Arabia. The presence of such rare animal depictions in Wadi Salma is not surprising, as other unusual rock art, such

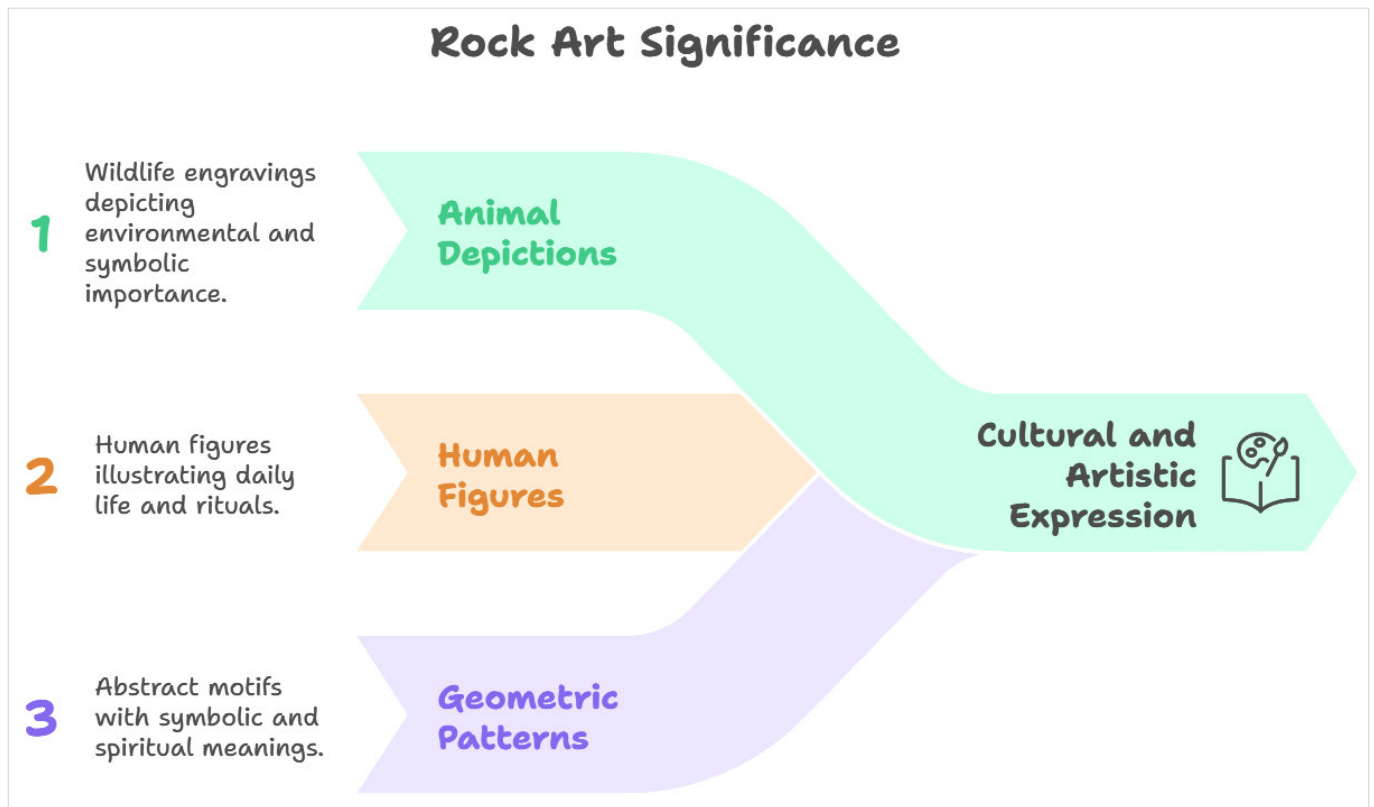


Figure 2. Rock art significance.

as depictions of pigs, have previously been documented and published from the same area. However, the reason for the rock art of these animals remains uncertain (Al-Manaser *et al.* 2021). The artist may have encountered an elephant in real life, heard descriptions from travelers, or attempted to depict a creature based on secondhand knowledge. Dating this rock art is challenging, as Safaitic inscriptions, in general, are attributed to a broad timeframe between the 2nd century BCE and the 2nd century CE. However, if we consider the famous “Year of the Elephant,” a historical event in the 6th century CE (typically dated to 570 CE) in which Abraha led an elephant-backed military campaign against Mecca, this depiction could indicate a rare and significant cultural reference.

The rock art might reflect a broader civilizational and cultural continuity across different regions of the Arabian Peninsula. The artist has employed a simple yet expressive style, with the trunk extending prominently forward and minimalistic legs. Below the first large elephant, an inverted or mirrored image of a second elephant follows the same compositional structure, suggesting a deliberate artistic or symbolic choice in the depiction. This unique rock art adds to the growing body of evidence that rock art in the region captures both local fauna and distant, perhaps legendary, ani-

mals, reflecting the dynamic exchange of ideas and knowledge in the ancient Arabian world.

### COMPARATIVE ANALYSIS OF ELEPHANT ROCK ART IN AL-ULA, AL-HIMA, AND WADI SALMA

Elephant depictions in rock art serve as valuable archaeological evidence of past fauna, trade routes, and cultural exchanges. This study compares this rock art based on stylistic features, potential dating, and historical context.

#### 1. Al-Ula Elephant Rock Art

The Al-Ula rock art was first identified by John Dayton during his exploration near Wadi Kura. It features an outline of an elephant with long, curved tusks, distinctly resembling an African or possibly a now-extinct Syrian elephant (Figure 4). The drawing style appears Egyptian, suggesting possible influences from traders or travelers from the Nile region. This rock art stands out for its placement high on a rock face, indicating it may have been created as a significant marker rather than a casual depiction.



Figure 3. Wadi Salma elephant rock art.

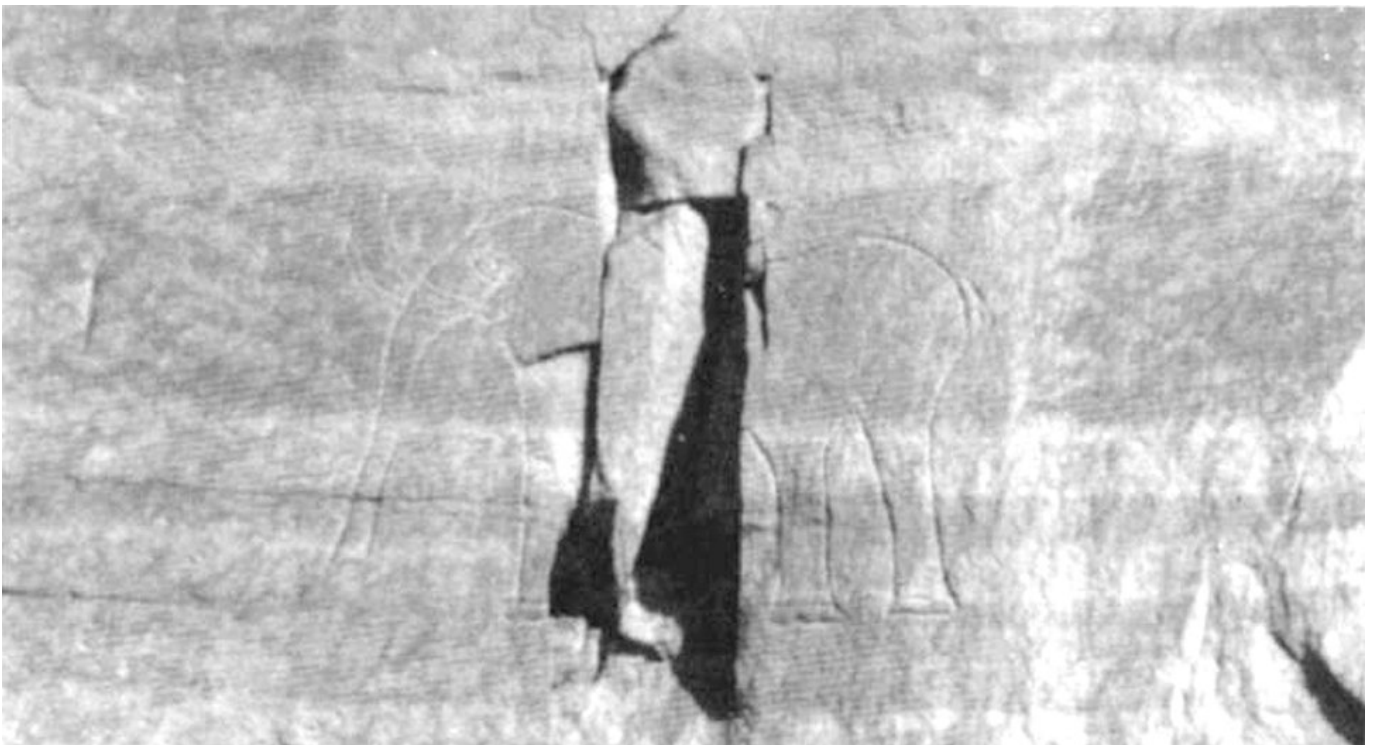


Figure 4. Al-Ula elephant rock art (Dayton 1968).

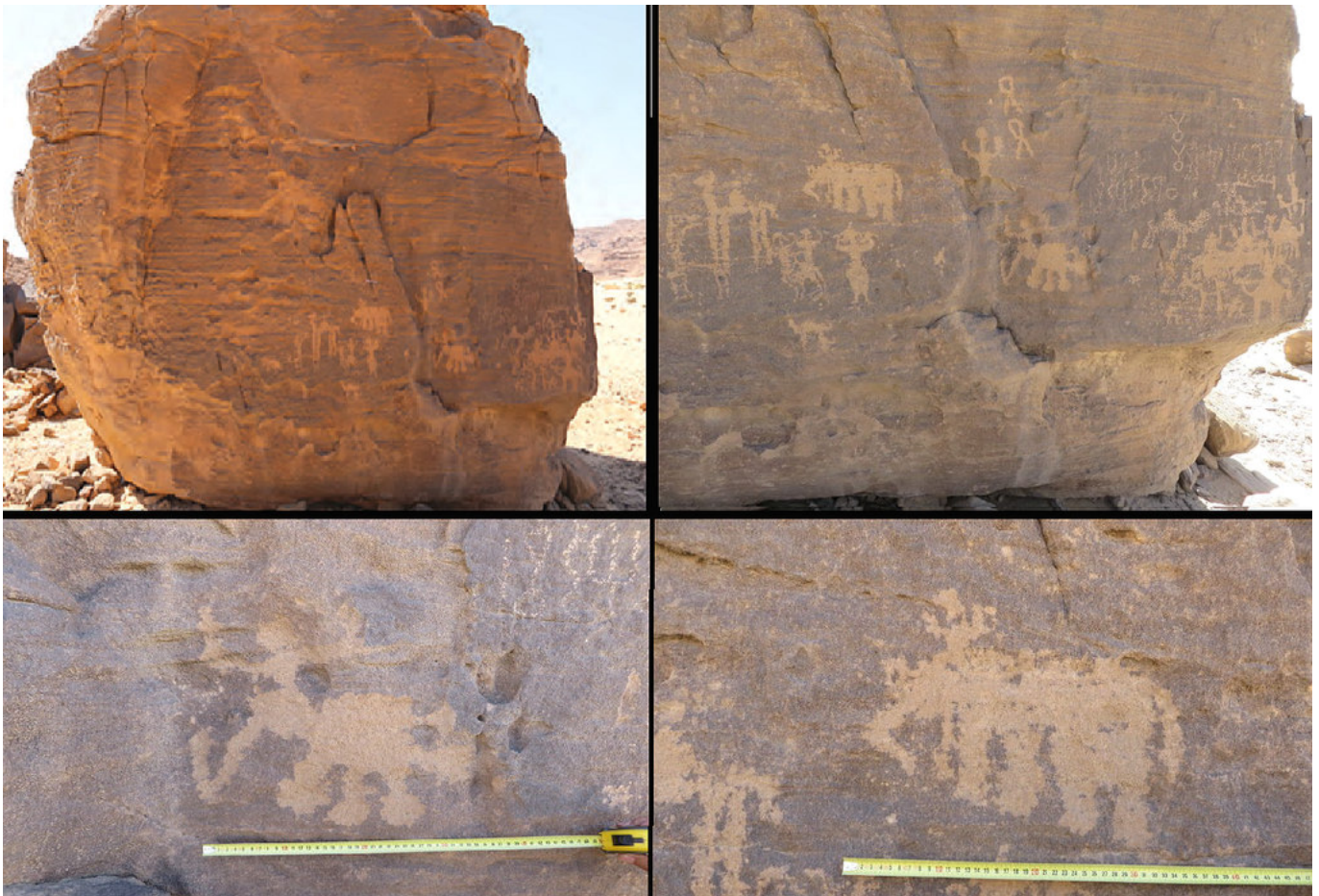


Figure 5. Hima elephant rock art (Robin 2018 and Arbach 2019).

## 2. Hima Elephant Rock Art

Hima, a well-documented petroglyph site in Saudi Arabia (Figure 5), contains three distinct examples of elephant rock art. This rock art depicts elephants under human control, likely guided by mahouts, a feature absent in Al-Ula and Wadi Salma rock art. This suggests that the elephants in Hima may have been part of military expeditions or trade routes, possibly linked to the campaigns of Abraha, the Aksumite ruler who led an elephant-backed army against Mecca in the 6th century CE.

## 3. Wadi Salma Elephant Rock Art

The Wadi Salma rock art presents two elephants in a mirrored or opposite orientation, identified primarily by the elongated trunks.

This stylistic choice closely resembles rock art found in Hima, yet lacks the depiction of a mahout or any contextual inscriptions. Dating the rock art is difficult, but it likely falls within the Safaitic inscription period

(2nd century BCE–2nd century CE), though later influences such as the “Year of the Elephant” event cannot be ruled out.

## Comparative Analysis and Interpretations

### 1. STYLISTIC DIFFERENCES

- AL-ULA: Egyptian-influenced depiction with precise anatomical details.
- HIMA: Shows elephants in organized use, possibly military-related.
- WADI SALMA: Simple, mirrored depiction without clear context.

### 2. CHRONOLOGICAL VARIATION

- AL-ULA rock art may date as far back as the Bronze Age (1200 BCE or earlier).
- HIMA rock art likely relates to the 6th century CE Aksumite military campaigns.
- WADI SALMA rock art remains ambiguous, but may align with “Safaitic cultural periods” (2nd century BCE–2nd century CE).

### 3. CULTURAL AND HISTORICAL IMPLICATIONS



Figure 6. Elephant-headed capital from the “Great Temple” in Petra, general view (Joukowsky 2007: 95, Fig. 3.8).

- The presence of elephants in this rock art reinforces historical records of elephant use in Arabia.
- The differences in artistic execution suggest varied exposure to elephants, some through direct interaction (Hima) and others through secondhand accounts or external artistic influences (Al-Ula, Wadi Salma).
- The elephants of Hima are the most explicitly linked to historical events, whereas those in Al-Ula and Wadi Salma might reflect earlier or alternative interactions with these animals.

### THE ELEPHANT-HEADED CAPITAL FROM THE “GREAT TEMPLE” IN PETRA

Elephants held significant symbolic and religious importance for the Nabataeans. They were likely associated with power, wisdom, and divine protection, making their depiction in temple architecture highly meaningful. The decorative elements of the elephant-headed capitals suggest strong influences from Hellenistic and Roman architectural traditions, while also incorporating unique Nabataean stylistic elements. A detailed analysis of the carvings proposes that the elephants represented in the Petra capitals (Figure 6) are of the Indian species rather than the African variety (Dimitrov

2007: 132). This points to extensive trade and cultural exchanges between the Nabataeans and the Indian subcontinent, possibly through long-distance caravan trade routes. The incorporation of elephant motifs in Nabataean architecture indicates a blend of artistic traditions from Hellenistic, Eastern, and local Nabataean sources (Markoe 2003: 218).

These decorative elements were likely intended to enhance the grandeur and sacredness of the temple spaces, reinforcing themes of divine power and protection (Taylor 2001: 109). The presence of elephant imagery, specifically modeled after Indian elephants, strongly suggests that the Nabataeans had direct or indirect trade connections with India, importing not only goods but also artistic and cultural motifs (Joukowsky 2007: 366).

### THE HYENA ROCK ART

This stone features a Safaitic inscription alongside a rock art depicting a knight engaged in combat with an animal, likely a hyena. Despite being fractured primarily in the middle, the inscription remains fully legible, and the rock art can be thoroughly analyzed. The depiction showcases a knight mounted on a horse in an upright stance while the animal lunges at him. The knight



Figure 7. The hyena rock art.

wields weapons commonly depicted in Safaitic inscriptions in similar combat scenes. Notably, the horse is shown in a fully upright posture, suggesting deliberate artistic intent. The horse is adorned with geometric patterns, likely symbolizing the knight's status and importance. A spear extends from the knight's grip toward the attacking animal, emphasizing the moment of confrontation.

The artist employed a distinctive stylistic approach to render the animal, notably enlarging its head—a characteristic used in “Safaitic rock art” to differentiate hyenas from lions. In Safaitic iconography, this exaggeration of head size serves as a defining feature for hyena representations.

The inscription begins near the horse's tail and follows the outer contour of the stone, encircling the scene before concluding behind the hyena. This positioning suggests an intentional integration of text and imagery, a common practice in “Safaitic rock art” to provide contextual or narrative elements alongside visual depictions. The geometric lines present on the hyena's body may serve as a visual reference to the striped hyena (*Hyaena hyaena*), a species known to inhabit the Arabian Peninsula. This stylistic choice indicates that the artist may have intended to depict this specific type of hyena rather than a generic representation. In Ara-

bian Black Desert culture, the hyena has historically been regarded with fear and disdain, as it is perceived as a dangerous and menacing creature.

Many Black Desert dwellers actively avoid interactions with it, reinforcing its negative image in local traditions. Ethnographic and archaeological surveys conducted in Black Desert regions have revealed the presence of numerous caves, which provide ideal shelter for striped hyenas. These natural formations serve as hiding places, allowing the species to thrive in arid environments, despite human aversion. This depiction within the Safaitic inscription aligns with the broader cultural perception of the hyena as a threatening and unwelcome presence in the Black Desert landscape, further highlighting the symbolic and narrative significance of the carving (Brusgaard 2019; Brusgaard & Akkermans 2021).

The depiction of the knight on horseback follows a common artistic convention seen in many similar “Safaitic rock art,” utilizing a two-dimensional perspective. In this representation, the knight is positioned to face the viewer directly, a deliberate artistic choice intended to convey a message. This positioning suggests that the knight sought to emphasize his presence and significance, aiming to communicate that his act, whether hunting or confronting the hyena, was a feat



of bravery and distinction. The scene reinforces the notion that hunting hyenas or standing against them was regarded as a mark of courage among the knights of this region. The dynamic rendering of the horse's movement, along with the deliberate posture of both the knight and his mount, appears to carry symbolic weight, likely meant to underscore the stature and valor of the individual depicted.

This interpretation is further supported by the presence of the "Safaitic" word *khattat* within the inscription, which suggests that the rock art or inscription belongs to the knight himself. The term may indicate authorship or ownership, reinforcing the idea that the rock art served as a personal or commemorative statement by the individual who created or commissioned it.

## CONCLUSION

The study confirms that the harsh environmental conditions of the Jordanian Black Desert played a significant role in shaping the themes and artistic styles of rock engravings. The presence of wildlife, human figures, and geometric patterns in these engravings suggests that they reflect both daily life activities and symbolic representations of early desert inhabitants. A previously undocumented rock engraving of an elephant was identified in Wadi Salma, marking it as the

first known depiction of its kind in the region. The engraving is characterized by a mirrored or opposing orientation of two elephants, a unique stylistic feature not previously recorded in local rock art. An elongated trunk closely resembles stylistic representations found at the Hima rock art site in Saudi Arabia. The absence of a mahout (an elephant handler) distinguishes it from military-related elephant depictions, such as those observed in Hima. A comparative stylistic analysis of the Wadi Salma engraving and similar elephant depictions in Saudi Arabia has provided new insights into potential artistic influences and cultural interpretations.

The presence of elephants in Arabian rock art suggests that these animals were known in the region, either through direct encounters or indirect representations via trade or oral traditions. Additionally, the reference to the "Year of the Elephant" (570 CE) in early Islamic literary sources and the Qur'an raises questions about whether the Wadi Salma engraving reflects a broader cultural awareness of elephants in pre-Islamic Arabia. However, the absence of associated inscriptions makes it difficult to determine the precise meaning of the depiction, emphasizing the need for further archaeological and epigraphic investigation.

These findings contribute to the growing body of research on Jordanian Black Desert rock art and illustrate the importance of using an interdisciplinary approach to analyze pre-Islamic visual culture.

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