

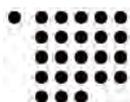
WADI SURA

Field Report
Season 2011-2

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University of Cologne



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Wadi Sura Project

<http://www.wadisura.phil-fak.uni-koeln.de>

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Institute of Prehistoric Archaeology and
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Report on the fifth field season of the Wadi Sura Project (Gilf Kebir, SW Egypt), autumn 2011

Rudolph Kuper, Hans Leisen, Heiko Riemer, Sabine Krause, Frank Förster

1. Introduction

The fifth campaign of the Wadi Sura Project took place in autumn 2011. It started by the end of September, and ran until mid-November. During this time, three individual field trips to Wadi Sura were carried out, interrupted by two supply drives to Dakhla oasis, each of about a week. The first and second field trips devoted to the cleaning and excavation of the shelter's sand fill at Wadi Sura II ('Cave of Beasts'), and the subsequent completion of the 3D laser scanning and photography of the rock art areas freed from the sand, started as planned. The third and longest field trip was planned to run for three weeks, aiming at a continuation of conservation research, computer-aided rock art recording, and archaeological survey in the Wadi Sura area. This trip, however, was restrained by security restrictions that resulted in an effective halving of working time in the field. Apart from the fact that major research targets were achieved during the first and second trip, the conservation work and archaeological survey could not be completed as originally envisaged.

This report will present three new tops in research activities and results from the campaign 2011-2 as follows:

- Cleaning and excavation of the Wadi Sura II shelter
- Conservation research and first measures
- Archaeological survey: paths and passages

2. Cleaning and excavation of the Wadi Sura II shelter

A testing of the sand slope and sediment fill under the rock overhang of Wadi Sura II ('Cave of beasts') was started during the 2009-1 campaign, when the sand was hand augered to check the composition of the sediments including the possible occurrences of artefacts or other traces of



Fig. 2 The shelter of Wadi Sura II ('Cave of Beasts') after excavation in October 2011.

human habitation in the shelter (Kuper et al. 2009a). The testing, however, indicated a sterile sandy sediment down to c. 3.5 m, without reaching the base of the fill. The second drilling in spring 2011 (Kuper et al. 2011), conducted with more appropriate hand drill and coring devices under the direction of the geomorphologist Olaf Bubbenzer, reached a depth of 6.5 m below the current level in the shelter. Again no artificial material was discovered. The sediment seems to change at about 3.5 m below the current surface from eolian sand to a coarser material that may be interpreted as a result of pronounced rock weathering. Moreover, a test excavation in the easternmost part of the shelter undertaken in 2010 indicated that rock pictures occur on the rear wall down to a depth of c. 1 to 1.5 m below the surface of the sand fill (Kuper et al. 2010).

The excavation in 2010 had revealed – contrary to initial apprehensions – that the sand fill appears as remarkably more stable than any loose sand, supporting the possibility of a more extended cleaning and excavation of the shelter in autumn 2011 without evoking a collapse of the adjacent heap of sand and rock fall. Actually, the excavation in autumn 2011 could proceed over a distance of some 15 m from the eastern entrance of the shelter to its western end (Fig. 2). This was made possible, first and foremost, by five excellent Egyptian workmen from Dakhla. Based on static grounds, the southern limit of the excavation facing the rock fall heap was sloped by an angle that allowed excavating down to about 2 m below the original surface of the sand fill (Fig. 3). Col-

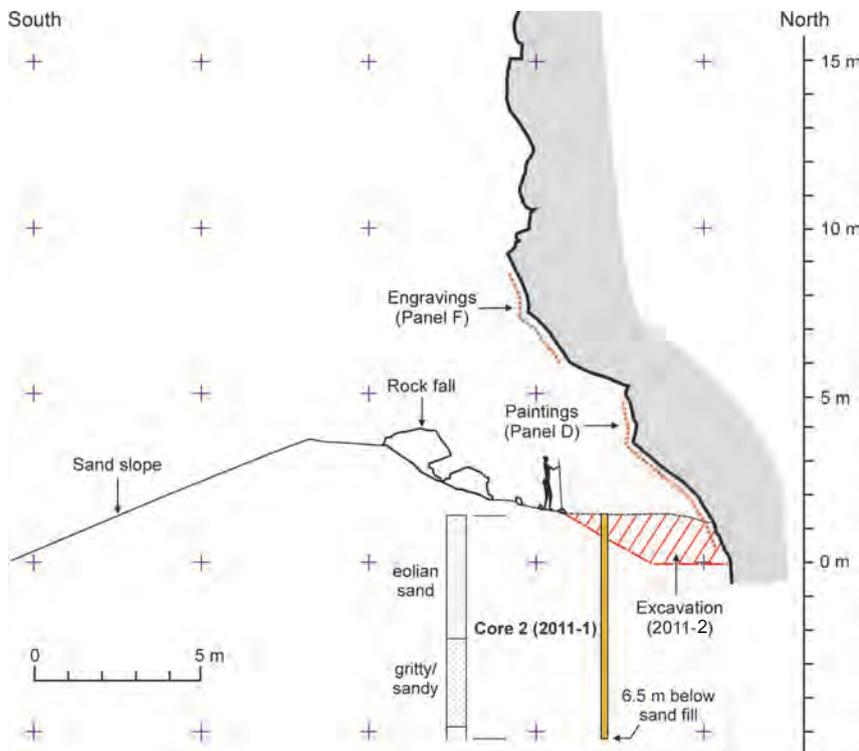


Fig. 3 Section of the Wadi Sura II shelter showing the location of the excavation area of the 2011-2 campaign, as well as the drilling conducted in 2011-1.



Fig. 4 Bags filled with sand stabilised the slope of sand and rock fall during the excavation.

lapse or drifting of the slope sand was additionally counteracted by stabilising the foot of the slope by some 50 synthetic bags filled with sand (Fig. 4). The bags were subsequently removed at the end of the campaign to not litter the shelter by quickly weathering bag remains.

Another factor allowed to proceed fast through the excavation: As already indicated by drillings and test excavation, the sand fill appeared as almost free of artefacts or other artificial remains, nor did it reveal any distinct geomorphological layering or cultural features, such as pits or camp fires. Sample screening of the spoiled sand was made in regular intervals to detect even tiny artefacts overseen during excavation. Yet, the number of findings actually made during the 2011 excavation is extremely small.

Among the findings removed from the sand fill are a considerable number of dung pellets that belong to representatives of the caprinae subfamily, e.g. sheep, goat, or Barbary sheep (*Ammotragus lervia*). Possibly, goats were kept under the rock overhang, such as in other shelters. The dung pellets occur in spots, and often together with agglutinated sand lumps strongly smelling of urine. Where such lumps were well preserved they show a disc-like shape with a characteristic pee hole in the middle. Moreover, there is some wood charcoal removed from the excavation, as well as remains of non-charred plant material, and some root casts along the rear wall that will be subject to archaeobotanical analysis.

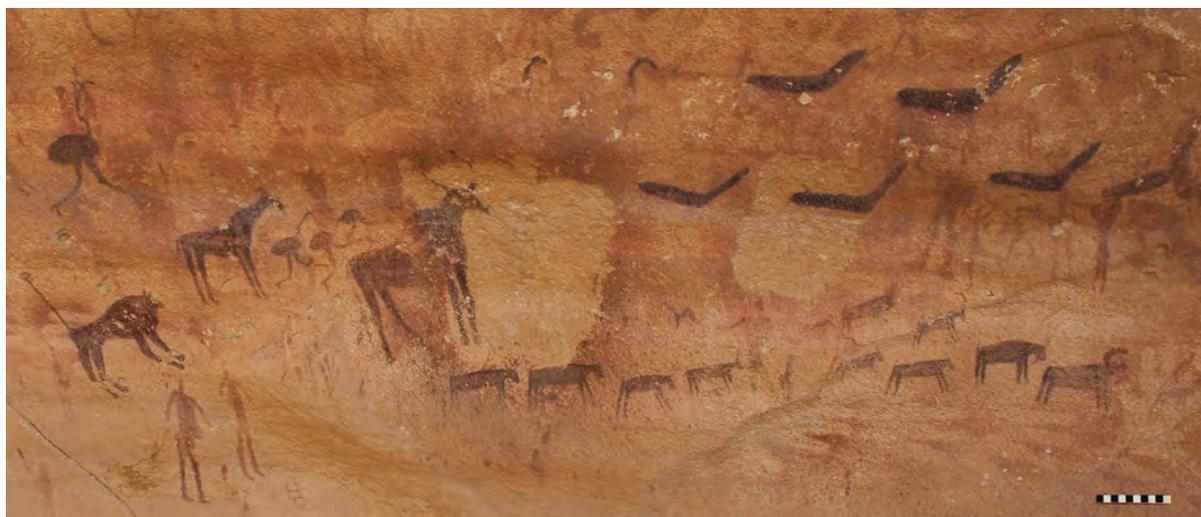


Fig. 5 New rock paintings formerly covered by sand came to light during the excavation in 2011.

While no pottery was found during the excavation, there is a handful of flaked lithic artefacts. They are few, but most distinctive: A small notched piece made of a translucent chalcedony; and some chips and small flakes of quartz, representing the typical microlithic production strategy known from the Gilf B phase sites at Wadi Sura (Fig. 7). Thus, the general dating affiliation of the rock art of Wadi Sura with the Gilf B phase, c. 6500–4400 BC, such as highly suggested from the archaeological survey results (cf. Kuper & Riemer, in press), is now corroborated by the lithic material from the shelter of Wadi Sura II. The lithic material was removed from the lower western part of the excavation, probably indicating a kind of habitation level when the rock art, at least of the lower rear wall, was applied.

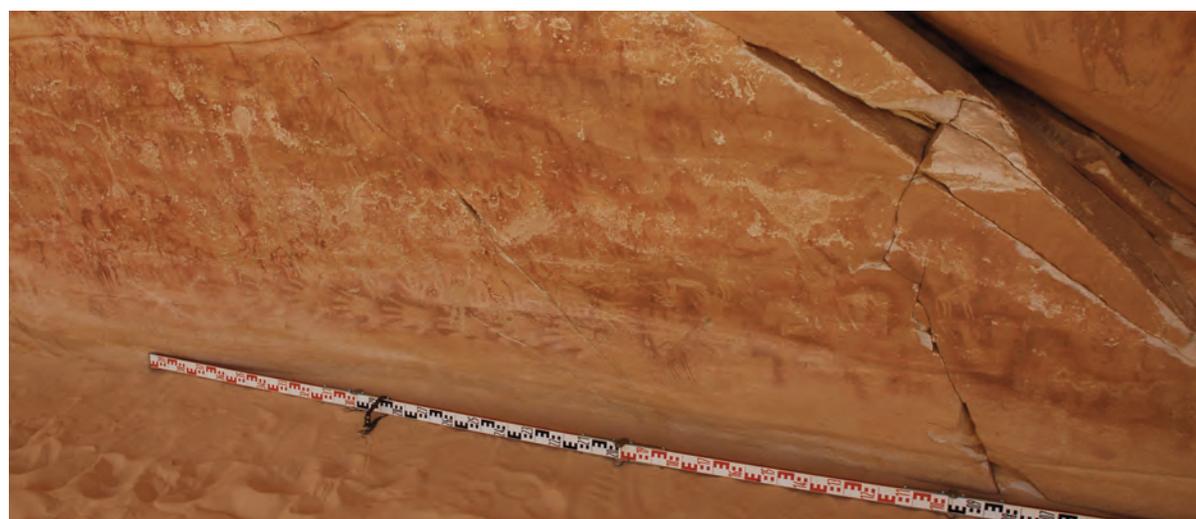


Fig. 6 Bands of hand stencils demarkate the lower extension of rock art at the rear wall of Wadi Sura II.

Rock art appears in almost all parts of the lower rear wall down to a level of approximately 1.2 m below the former sand fill surface. The lower limits are characterised by horizontal bands of hand stencils (Fig. 6). Some animal figures in the central part of the rear wall may represent goats and cattle or hartebeest (Fig. 5).

Photography and 3D scanning of the lower compartments formerly covered by the sand fill were carried out during the second part of the campaign, thus completing the photographic and 3D documentation of the Wadi Sura II shelter (for technical aspects of 3D scanning and photography see Kuper et al. 2009b; 2010; 2011).

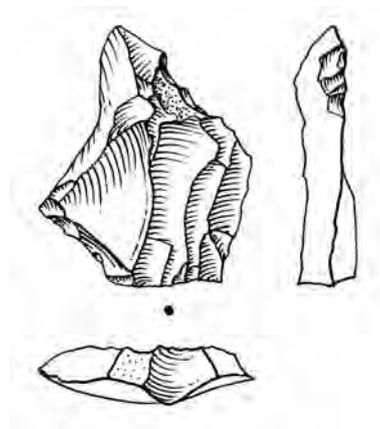


Fig. 7 Notched stone tool excavated from the shelter of Wadi Sura II. This and few microlithic flakes and chips indicate an affiliation with the phase GilfB, 6500–4400 calBC. Scale 1:1.

2. Conservation research and measures

The conservation research started in 2009 with a number of test areas and test series on sandstone samples, as well as measurements on climate and hydrology. These activities were continued during the campaign in autumn 2011; and this research has not been completed yet, because of the aim to test and control physical parameters of preservation over a relatively long period of time, at least during the whole range of the project. However, it is yet in sight that a more thorough report

Fig. 8 After a phase of extended testing, the first conservation measures were carried out in 2011, using mortar to point porous rock surfaces in order to prevent scaling or exfoliation of the painted sandstone. Because of the climatic extremes in the desert an unorganic silicat-based mortar similar to the sandstone was used, instead of, e.g., acrylic resins.

Right hand side:
Before (top) and after pointing (below).



can be presented in 2013 including recommendations on a number of conservation strategies and measures at Wadi Sura II in particular, and on Saharan rock art in general.

Although the preservation conditions of rock art and sandstone at Wadi Sura II is relatively good, a concept of measures to stabilise the sandstone on which rock art was applied is most pressing. This derives not only from other shelters, such as Wadi Sura I ('Cave of Swimmers'), where conditions are more alarming than on other sites, but from Wadi Sura II as well, where scaling and exfoliation of sandstone surfaces begin to appear. The local sandstone generally tends to disintegrate in a soft layer below the rock surface. Yet, the latter is hardened by crusts, resulting in a general risk that painted surfaces may drop off.

On the basis of these experiences, a test measure on the rear wall was carried out in autumn 2011 to stabilise most endangered cavernous rock surfaces and crust edges by means of pointing (Fig. 8). The mortar used for pointing has been developed on the basis of Syton X30 as binder, and a specific sand mixture. Syton X30 is a silicate-based product very similar to the natural sandstone. Facing the extreme climatic conditions at Wadi Sura, we favour the inorganic binder Syton, instead of synthetic products based on acrylic resins.

3. Archaeological survey: paths and passages

Survey activities during the 2011-2 campaign focused especially on exploring and mapping prehistoric paths and passages, as well as archaeological sites and artefacts along these trails, following the discovery made during former campaigns that trails can be recorded by means of paths visible on stony surfaces (Fig. 9), and by natural valley passages where no alternative routes exist. Usually evidence of trails in archaeology is rare, though they have undoubtedly played an important role in mobility and economic concerns, as well as in landscape perception and the settings of campsites. At Wadi Sura, however, there is a possibility to study how trails interact with archaeological sites within a micro region, thus contributing an important facet to the aims of landscape archaeology.

Paths and passages at Wadi Sura appear in the mountain zone, between the foot zone (at c. 650 m a.s.l.) where most camp sites were found, and the steep escarpment rim in the north (c. 1000 m a.s.l.). This mountain zone is a spectacular rocky landscape ranging from the charming boulder hills in the foot zone to rocky gorges, huge barren rock faces, and rugged steep slopes. Moving from one place to another in this region is difficult; there are only the valleys that allow to enter certain parts of the mountains along more or less comfortable routes. In some areas large debris fans of blackish quartzite rubble stretch up into the mountain zone. The fans were not only used to exploit quartzite for tool production, as evidenced by masses of large cores and flakes found there, but also as corridors into hidden places of the mountain area where water could be collected after rainfall. Paths visible on the rubble surface connect camp sites in the foot zone with small sites in the mountains, and almost all sites in this area are close to such tracks. Rock art in this area associates not only with water resources, but with trafficked places where trails end or interconnect.

To get up onto the plateau surface some 350 m above the foot zone, however, is almost impossible, given the vertical cap rock that crowns the escarpment almost everywhere along its



Fig. 9 Paths used by animals and humans remain visible where the surface is stony. Such trails connect archaeological sites, rock art shelters, watering places and the like.

rim. There is only one passage in the entire study area at Wadi Sura where the plateau can be climbed comfortably – in a way that would allow people less experienced in climbing to get there. This passage has two principle starting points in the foot zone, the shorter one of which starts at the mouth of a valley that charged the playa basin at site 09/1 in front of the shelter of Wadi Sura II. From there one finally reaches at a steep sand ramp that goes up out of the valley into Wadi Ras at c. 850 m a.s.l. The trip takes about one hour, with minor scrambling, and the succeeding climb onto the plateau surface (at 1000 m a.s.l.), through a boulder slope in an eastern side-valley of Wadi Ras, takes another hour. That this passage had been used in prehistoric times is indicated by a GilfB phase potsherd and some stone artefacts lost along the route, as well as by a considerable number of sites found in upper Wadi Ras during the survey, most of which exhibit rock art.

The position of Wadi Sura II just at the beginning of this important passage may explain why the rock art site was so frequently visited and painted, and it perhaps throws a light on the significance of this place as a location of transition and transformation during the seasonal movement from the lowland to the green valleys of Wadi Abd el Malik and Wadi Hamra in the north.

While sites are usually connected by comfortable paths and passages, there is also some astounding evidence of extreme climbing: The valley west of the aforementioned passage ends up in a 120 m high gorge, with the surface of Wadi Ras at its upper rim. Here, more than 100 hand and foot holds were pecked along a fault into the almost vertical rock wall (Figs. 10–12). The site was already noticed in 2004, and first inspections during the Wadi Sura Project was carried out in 2009,



Fig. 10 Extreme climbing is indicated by this rock ladder composed of some hundreds of foot and hand holes. This is one of, at least, three places where foot and handholes occur in this valley.



Fig. 11 Entrance to the valley where foot and hand holes allowed climbing the vertical rocks.



Fig. 12 View into the valley from its upper rim, c.120 m above its ground.

yet there was much to doubt the anthropogenic character of the site. Actually, continued examination over the years, both by geo-scientists and archaeologists of the project, has revealed that the rock ladder was human-made. There is, moreover, a similar site with hand and foot holds, though not more than a few metres high, at a site listed as Wadi Sura 10/29 (=WG43/A in Zboray 2009). During this season, there was the possibility to use the 3D laser scanner to measure the lower parts of the valley with most of the visible foot and hand holes with high precision. An additional tachymetric surveying yielded some good results to map the valley's extension and the height of the rock faces. The integration of scanning data into the tachymetric measures now allows to accurately map this unique place.

According to this, after some 60 m above the ground of the gorge the foot and hand holds disappear where the rock wall turns into a more gentle angle. It is suggested that the upper half of the 120 m high gorge were easier to climb, so that hand and foot holds were not needed. But even then, the climb could have been made only by persons well experienced in extreme climbing. Moreover, it remains quite mysterious why the rock ladder was made just at this place: The much more comfortable passage along the neighbouring valley mentioned above is at a distance of less than one hour walking from the rock climb. This gives reason to suggest that the ladder was the focus of specific social activities and perhaps rituals rather than a usual stairway to the Gilf Kebir plateau.

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