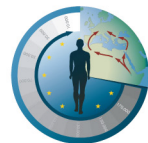




SODMEIN CAVE

First Field Report – Season 2010

CRC 806
OUR WAY TO EUROPE



KATHOLIEKE
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Report on the field season autumn 2010 in Sodmein Cave (Eastern Desert, Egypt)

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1 Introduction

“Sodmein Cave” is a joint research project between the Universities of Leuven (Belgium) and Cologne (Germany). The archaeological research in the area is part of the Collaborative Research Centre 806 established by the Deutsche Forschungsgemeinschaft (Research Funding Organisation) in 2009. Central topics of this long-term project are the culture-environment interaction and the human mobility in the Late Quaternary. The approach described below is part of sub-project A1, dealing with “Late Pleistocene Rockshelter Stratigraphies and Palaeo-Environments in Northeast Africa”. Field research with a combination of geoscientific and archaeological methods is conducted in Egypt as well as in Ethiopia.

Although Sodmein Cave was discovered about 30 years ago by M. Prickett (Prickett 1979), systematic research started during the 1990's by the Belgian Middle Egypt Prehistoric Project (BMEPP) of the Leuven University (e.g. Moeyersons et al. 2002, Vermeersch 1994, Van Peer et al. 1996). With this archaeological field season in 2010 the research in Sodmein Cave was resumed as a joint project of the universities Leuven and Cologne. After the resolution of some administrative problems with regard to the military permit, the fieldwork took place from November 24 to December 6, 2010. The main objectives of the season have been to

- establish the formation history of the cave,
- restore and to restudy the old profiles, and
- extend the former excavations.

2 Cave history

The exceptional site of Sodmein Cave, with more than four meters of stratified human occupation debris, is one of the rare living sites in this time range. It is situated in an isolated Tertiary limestone complex (Jebel Duwi) of the Egyptian Red Sea Mountains; around 30 km west of the seaport Quseir (**fig. 1**). The origin of the

cave must be traced back to an old cavity. Karstic activity with the ability to create solution caves could have occurred prior isotope stage 5e (Moeyersons et al. 2002). The assumption that an older cavity with middle Pleistocene sediments exists, could not be verified in the past. It became clear during this field campaign that this former hypothesis must be abandoned. The rockfall deposits at the base of our previous excavations are directly resting on the bedrock as exposed in sector A (see **fig. 2**). There is probably not a large time gap between the formation of the cave and the roof collapse with which the first human occupations are associated. The latter are mainly situated in the northern part, where a depression existed in the debris deposits. At that time, the large fireplace F200 was created containing the burned remains of large mammals.

Only when the cave floor became level by the contemporaneous deposition of backfill and detritic deposits originating by clasts from the entrance ridge, the southern part became available for occupation.

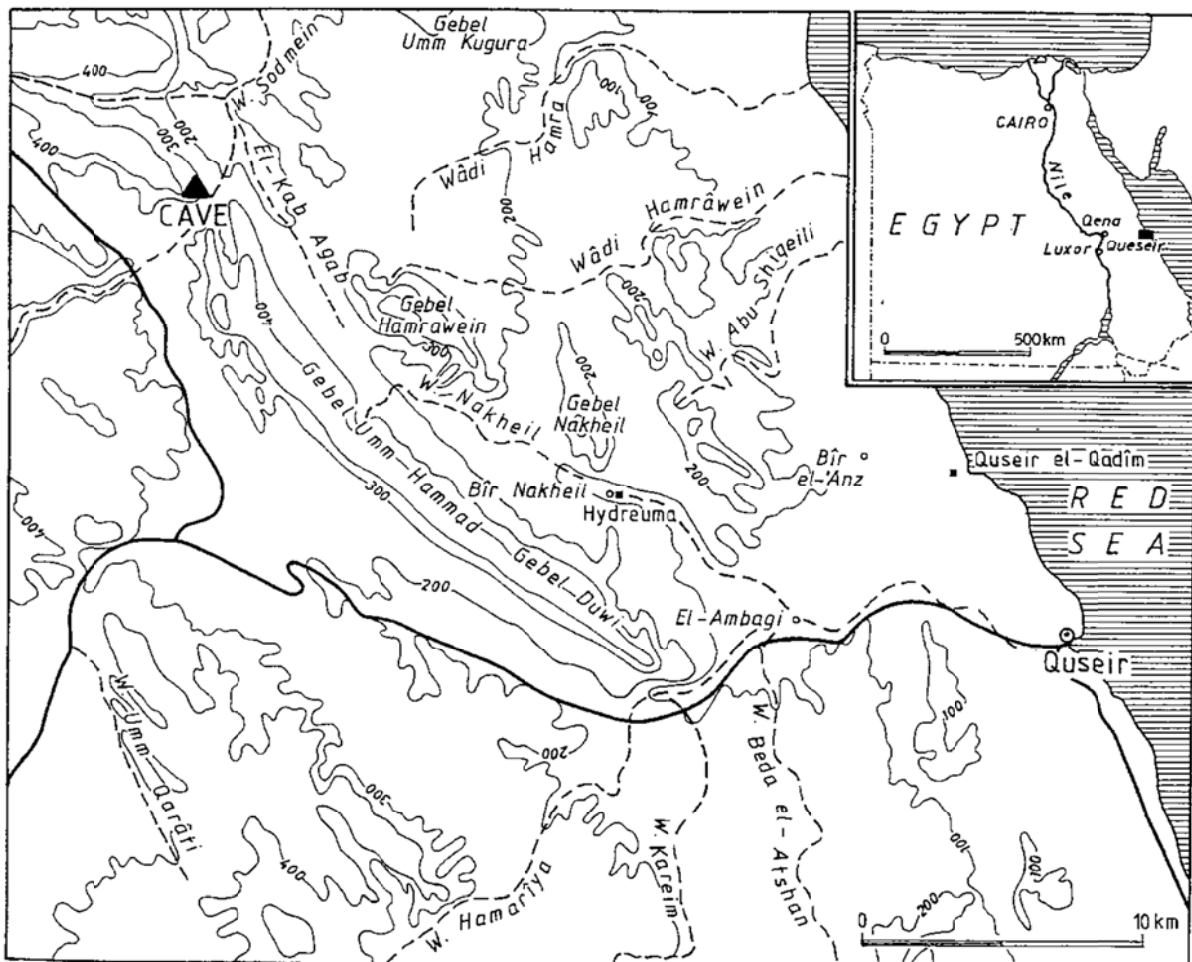


Fig. 1 Map of the research area in which the archaeological sites Sodmein Cave is marked.

3 Stratigraphy

Sodmein cave is one of the first sites in the Eastern Desert to show an archaeological sequence ranging from the Middle Palaeolithic through the Neolithic, with a stratigraphic hiatus between around 7,500 to 25,000 years ago (Moeyersons et al. 2002: 848). Whereas the lowermost levels are associated with the Early Nubian complex and have been dated by thermoluminescence to 118 ± 8 ka also strata of the Nubian complex *sensu stricto* (around 50 ka) and of the Upper Palaeolithic (around 25 ka) were found. The general stratigraphy of the site is well-established by the research of the BMEEP, which excavated different trenches in altogether four sectors named A to D (**fig. 2**). Due to this research seven Palaeolithic layers, separated into two Upper Palaeolithic (UP1, UP2) and 5 Middle Palaeolithic ones (MP1 – MP5; van Peer et al. 1996), and several Neolithic layers (Vermeersch et al. 1996) have been identified.

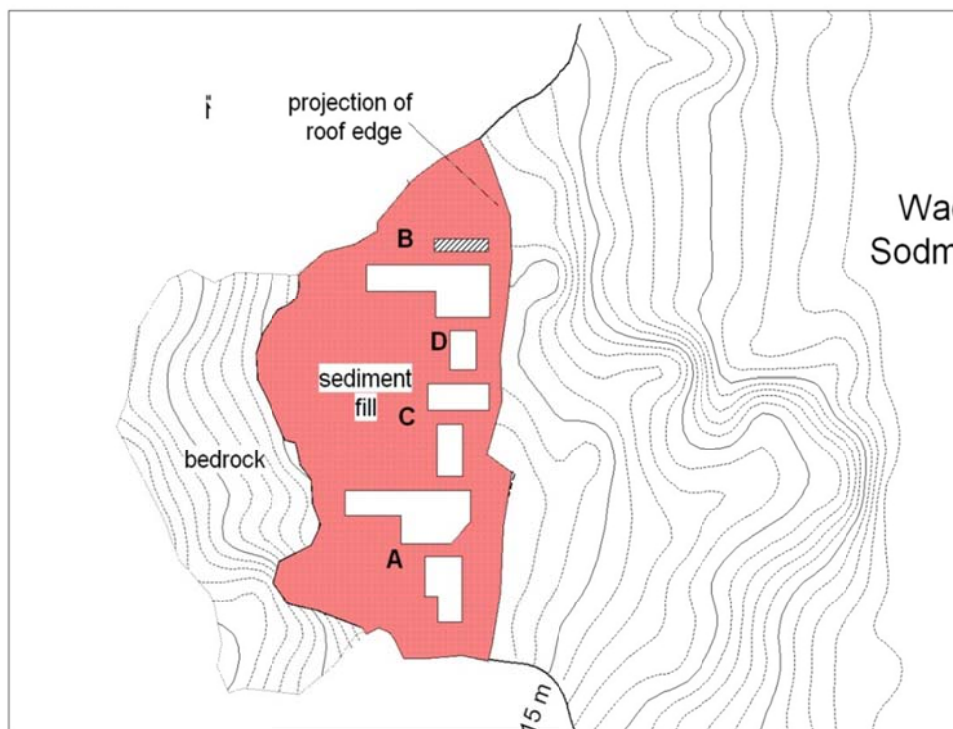


Fig. 2 Plan of the cave floor topography with area of occupation in red; the current excavation trenches are indicated. The new 2010 trench is hatched.

The efforts of this current field season were directed in sector B to further understand the nature and phasing of fireplace 200 as exposed in the section of the 38N-profile

(fig. 3). Clearing of the profile showed that the oldest hearth is small and contained within the layer J-complex, which is undated so far. It may be final middle Pleistocene. Next a large fire pit has been dug in and it has been reburned several times. The thickness of the ash layers extends to >50 cm. This phase is covered by unburned J-deposits, after which a final firepit has been dug, stratigraphically associated with layer I. This is dug into the J fireplace and its fill consists of a large accumulation of piled up limestones and ashes.

In sector A, we recorded the western profile of the trench. It appears that here a depression existed after the last interglacial, with a unique infill in which occupations with transitional technological features took place. This occupation phase is very important and establishes a major interest of Sodmein Cave. Therefore, we proceeded with a detailed stratigraphic recording.

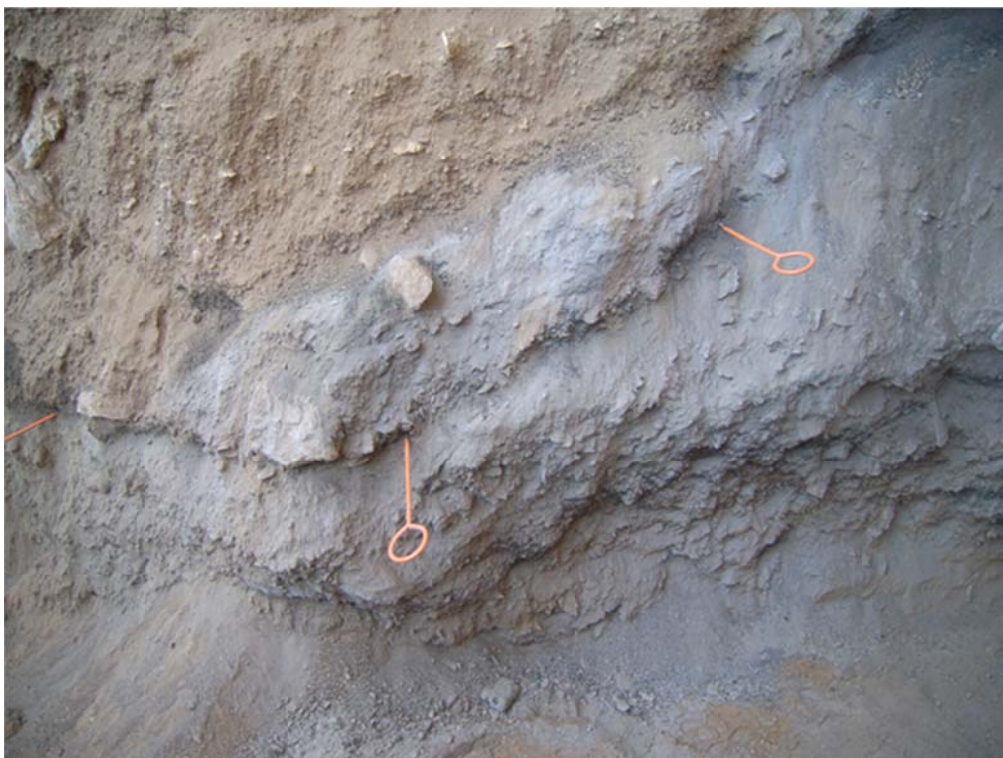


Fig. 3 Picture of the large fireplace 200 in sector B (section of the 38N-profile).

4 Further excavations

The current excavations were a continuation of the 1990's activities of the BMEPP in Sodmein Cave. At first the former trenches, which are still in relative good conditions, were cleaned from rubble (**fig. 4**) and the original measurement system

was reinstalled. The recent archaeological activities of the 2010 field season are shortly recalled here after the different sectors.

Sector A

In sector A, in the southern part of the cave, a trench has been dug in squares 14-17N2-4W. It has been lowered to a depth of 18.7 m. At least four stratigraphic units can be distinguished. An upper, probably Bedouin microlithic, occupation layer was characterized by a flake industry, containing very few characteristic artifacts; some denticulates were present but also two arrowheads. Several hearths, mostly characterized by the presence of charcoal, have been encountered. Below, three Palaeolithic layers can be observed. The upper one, PAL1, because of the presence of some blades, can be attributed to the transition of the Middle to the Upper Palaeolithic. The middle one, PAL2, has a limited assemblage of artifacts. Some Levallois characteristics can be noted. It is attributed to the Middle Palaeolithic. The lower one, PAL3, was the richest providing hundreds of artifacts. The assemblage is characterized as a flake industry based on an early type of Levallois method debitage. In addition, some Nubian cores and Nubian points could be collected. According to the position of the artifacts and their horizontal distribution pattern, it can be deduced that the archaeological layer is a palimpsest of an occupation horizon by an early Middle Palaeolithic hunter band. They made a large unstructured hearth where lot of charcoals could be collected. In the hearth numerous burned stones were present.

It is considered as probable that still lower levels in this trench could be explored. We expect that even older assemblages could be present. However, due to lack of time, such an excavation has been postponed to a later campaign.

In sector A, a connection has been made between the trenches from two years ago, being 19-21N2-6W and 20-21N8-12W. This gave the possibilities for geomorphologists, palaeoanthropologist and archaeozoologist to study the stratigraphic succession of the sediments. In the western part of the cave it seems that a still large cave is present beneath the actual visible cave surface. We did not try to excavate it because of possible collapsing of larger blocs.

Sector D

In sector D, 24-27N2-3W, an extensive Neolithic or Bedouin Microlithic occupation horizon has been found. It contains at least four different kinds of ceramics of which only sherds were recovered. The ceramic is a hard ceramic with mostly polished surface, including a sherd of the red blacked topped ware. Lithic artifacts are numerous but not quite characteristic. Debitage activities resulted in the production of irregular flakes out of local chert. Some charcoal accumulations were present, some of which can be interpreted as unconstructed hearths.

Below the Neolithic layers, at least two different Palaeolithic layers could be observed. They were separated by sterile fine sediments. The upper one is characterized by a number of mostly large flakes, some irregular cores which do not allow positioning the assemblage in the Palaeolithic succession of the cave. The lower assemblage at a depth of 18.4 m consists of larger flakes with a single Levallois flake, suggesting an attribution to the Middle Palaeolithic.

No specific occupation layers have been found, suggesting that the archaeological materials may be in derived position. At a depth of 17.2 m excavations were stopped by an accumulation of very large limestone blocs originating from the destruction of the cave ceiling.

Sector C

No specific excavation were organized in this sector, but the trench from previous excavation was extended over two meters in western direction in order to study the contact between the deposits originating from the outside of the cave and those from the cave backfill. No archaeological material was collected.

Sector B

The trench from previous excavation was enlarged. We also tried to go as deep as possible, thereby reaching a depth 13.80 m. At that depth, the deposit base was still not reached suggesting that a huge deposit may still be present in lower levels. This could be of utmost importance for the study of Middle and even Lower Pleistocene deposits. Indeed, the profiles exhibit a succession of backfill and other deposits that are very old. Characteristic for the whole succession is the presence of animal droppings and plant remains in very good state of conservation which could

document the changes in environmental condition of the cave for a period stretching over hundred thousands of years. The only problem with the deposits is that it is not yet clear how they can be characterized. Research will be done in order to provide a research strategy. In the stratigraphic succession it was possible to locate several large unstructured hearths.



Fig. 4 Cleaning former trenches from rubble (foreground) and starting a new excavation trench north of sector B (background).

Sector B was extended in the 2010 campaign with a 4 m² trench 41N / 0-2W (**fig. 2**). Until now, the excavation has only removed the Holocene deposits and little archaeological material has been uncovered as yet. However, this work will be continued in a next campaign.

5 Conservation measures

During our present campaign, we have observed that illegal digging activities have taken place in the cave. In particular, large blocks of limestone have been cut out of the cave floor and were accumulated in one of our trenches in sector A (**fig. 5**).



Fig. 5 Pile of limestones, left behind after illegal excavations in sector A (foreground left).



Fig. 6 Sodmein Cave (in the right background) with current mining activities.

Furthermore, an intensive limestone mining with heavy equipment is taking place in the direct surrounding of Sodmein Cave (**fig. 6**). An Egyptian company is quarrying stones directly on the ridge north of the cave entrance. Due to these activities the cave and the archaeological site itself are extremely endangered. Numerous cracks in the cave ceiling are probably caused by the vibration, occurring during the mining process, and could lead sooner or later to its collapse.

The illegal excavations together with the limestone quarry that is rapidly approaching the cave, represents a serious threat to this unique archaeological site of major scientific importance. Therefore serious protection measures should be considered by the SCA.

Acknowledgements

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We wish to thank the Permanent Committee of SCA for the permission to carry out the archaeological work in the cave. The next field campaign of the “Wadi Sodmein” project is scheduled for the period from October until December 2011.

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