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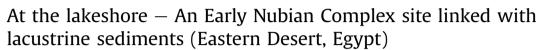
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#### ABSTRACT

Open-air sites dating to the Pleistocene are very rare in the Eastern Desert of Egypt due to the often erosive hyper-arid landscape and its highly geomorphological dynamics. But information retrieved from such sites is also important for an enhanced understanding of the Middle Stone Age in Northeast Africa, though open-air sites present challenges of their own in comparison with cave sites. During an archaeological survey conducted by the universities of Cologne and Leuven, such a new open-air site associated with Pleistocene lacustrine deposits in close proximity to the Sodmein Cave was discovered. The recorded lithic artefacts, which eroded out of the sediments, can be attributed to the Middle Stone Age (MSA). Several Nubian type 2 cores assigned this assemblage most likely to the Early Nubian Complex. Together with the stone artefact material from the lowest layer J at the nearby Sodmein Cave, this new open-air site clearly establishes the presence of the Early Nubian Complex in the region east of the Nile. Although chronometric dating of the Pleistocene playa silts is in progress, the Early Nubian Complex can be correlated, according to the Northeast African chronological evidence, to the Last Interglacial.

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#### 1. Introduction

The mountainous Eastern Desert of Egypt is an extremely arid and eroded environment, where the conditions to encounter Pleistocene archaeological open-air sites in stratified contexts as well as palaeoenvironmental geo-archives are rare (Barnard and Duistermaat, 2012; Dittmann, 1990a, 1990b). Hence, the Eastern Desert has never solicited much archaeological interest and systematic surveys have been carried out only occasionally (i.a. Bomann and Young, 1994; Dittmann, 1990a, 1990b; Montenat, 1986; Prickett, 1979). Accordingly, one of the challenges in the Pleistocene research of the Eastern Desert is to detect some of the few well-preserved archaeological sites. In the past, a number of Palaeolithic localities were reported but without exception they are surface sites (e.g. Prickett, 1979; Montenat, 1986; Dittmann, 1990a, 1990b; Gawarecki and Perry, 1992; Bomann and Young, 1994). None of their lithic assemblages are easily referred to the culturestratigraphic sequence established for the Lower Nile Valley and the Western Desert (cf. Wendorf et al., 1993; Van Peer, 1998; Van Peer and Vermeersch, 2007; Wurz and Van Peer, 2012). Middle Stone Age (MSA) Nubian Complex sites, in particular, seem to be conspicuously absent. Whether this represents a real historic phenomenon is difficult to assess. The few claimed examples of products of Nubian technological style are unconvincing or, at least, they are insufficiently published (e.g. Wadi Deir: Dittmann, 1990a, 1990b; Gebel Mellaha/Abu Girfan and Gebel Tarbul: Montenat, 1986; cf. Vermeersch, 2012: 26–28).

Up to today, the only evidence of significant Pleistocene human occupation and Nubian Complex technology in the Eastern Desert of Egypt comes from the cave site of Sodmein (Fig. 1). The site revealed an archaeological sequence contained within a thick sedimentary record spanning the Upper Pleistocene and the Holocene (Moeyersons et al., 2002; Van Peer et al., 1996; Vermeersch et al., 2015). Even if limited, because most geological formations of the Eastern Desert belong to the Precambrian basement, Eocene limestone does occur in some parts. Generally, cavities and shelters are not uncommon in these limestone formations and, in lack of open-air stratigraphic contexts; they would seem obvious targets of

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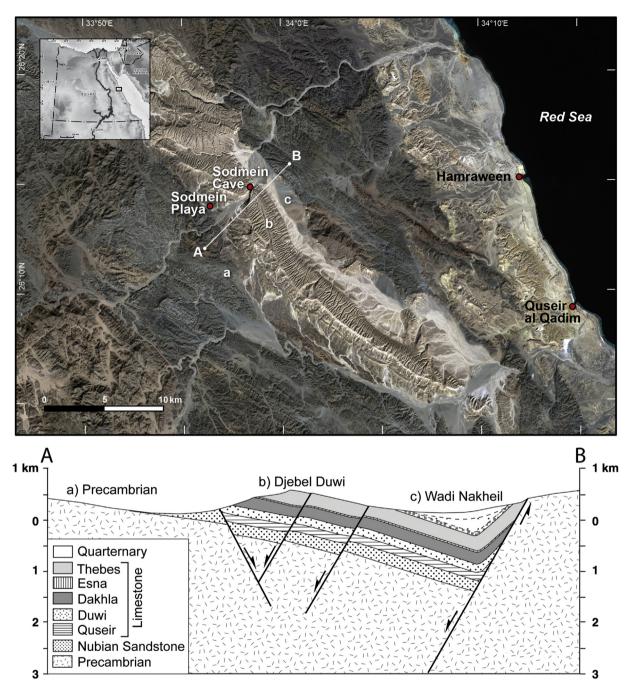
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**Fig. 1.** Site location map of the Sodmein area in the Eastern Desert (LANDSAT 8, U.S. Geological Survey products, Bands 2, 3, 4) with the locations of the Sodmein Cave and the Sodmein Playa. The detail map illustrates the research area in Egypt (based on Digital Elevation Model SRTM-3, U.S. Geological Survey products). The white line marks a structural cross-section across Djebel Duwi from southwest (A) to northeast (B). The schematic graph below illustrates the characteristic geological elements of this cross-section (after Khalil and McClay, 2002).

archaeological surveys. After its discovery in the 1970s (Prickett, 1979), the first series of archaeological excavations were conducted by the *Belgian Middle Egypt Prehistoric Project* between 1993 and 1999 (i.a. Moeyersons et al., 2002; Vermeersch and Van Peer, 2012; Vermeersch et al., 1996). Ten years later, fieldwork at the site was resumed as a joint enterprise of the universities of Cologne and Leuven, within the context of *Collaborative Research Centre 806 'Our Way to Europe'*, which is funded by the *Deutsche Forschungsgemeinschaft* (Kindermann et al., 2013; Richter et al., 2012). However, up to now Sodmein Cave is one of a kind in the Eastern Desert of Egypt due its size and its sediment record.

#### 2. Regional setting

The Sodmein Cave (26°14′27″N, 33°58′12″E) is situated in the Egyptian Red Sea Mountains, around 40 km north-northwest of the modern seaport Quseir (Fig. 1). The hogback of Djebel Umm Hammad/Djebel Duwi, in which the cave is located, consists of Cretaceous Nubian Sandstone that is overlain by various types of Eocene limestone, which are due to extensional fault-related folding building up the hogback of Djebel Duwi (Khalil and McClay, 2002) (Fig. 1). This ridge is dissected by three wadis, named from north to south: Wadi Saqia, Wadi Sodmein

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