The Latest Middle Palaeolithic sites in the Middle Nile Valley

Marta Osypińska & Piotr Osypiński

Introduction

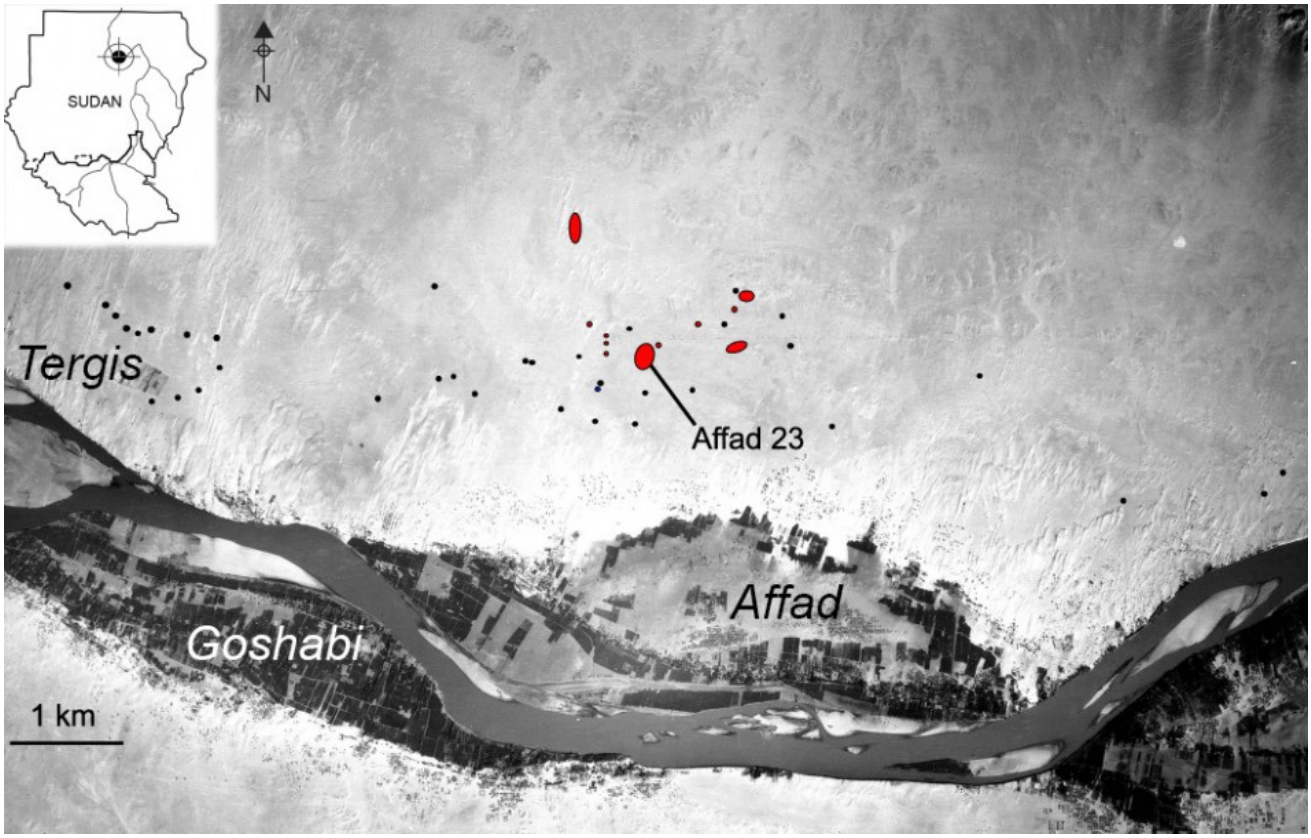


Figure 1. Location of the Late Pleistocene sites within the Affad Basin. Layout and aerial photograph courtesy of the Sudan Survey Department.

During survey in 1998–2003, on the left bank of the Nile around Affad in Sudan (Figure 1), many Palaeolithic sites were identified. Testing in 2003 revealed undisturbed surface assemblages of lithic artefacts alongside animal bone remains (Osypinski *et al.* 2011). Since 2012, a research project run by the Institute of Archaeology and Ethnology of the Polish Academy of Sciences has further investigated these sites, supported by a grant from the Polish National Science Centre (UMO-2011/01/D/HS3/04125) to enable absolute dating using OSL. As well as evidence of flint working, the sites have yielded relics of lightweight organic structures demarcating functionally differentiated zones within these Palaeolithic camps. Mineralised animal bone remains indicate that the ecological niche inhabited and exploited at this time was a wetland on the banks of a river with cyclically rising and subsiding water levels.

Late Pleistocene sites at Affad

The vast area producing artefacts technologically related to Levallois traditions identified by earlier survey work was meticulously searched again during the latest stage of the project. Several of the 53 locations, situated centrally and related to the Late Pleistocene settlement horizon, were identified as camps or hunting/gathering sites. Most sites from the central zone were associated with old Nile aggradation silts. Samples from several stratigraphic sequences were OSL-dated (Figure 2). The Palaeolithic settlement horizon appears to correspond with the phase in which the riverbed started to cut down into the accumulated sediments identified with the Late Palaeolithic Alluviation (LPA) (Schild & Wendorf 2010: 91). A series of

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dates suggests that the absolute chronology of this stage at Affad is *c.* 15ka—the period of humid climate optimum—thus a period most likely corresponding to the global climate change in the early Greenland Interstadial GI-1e.

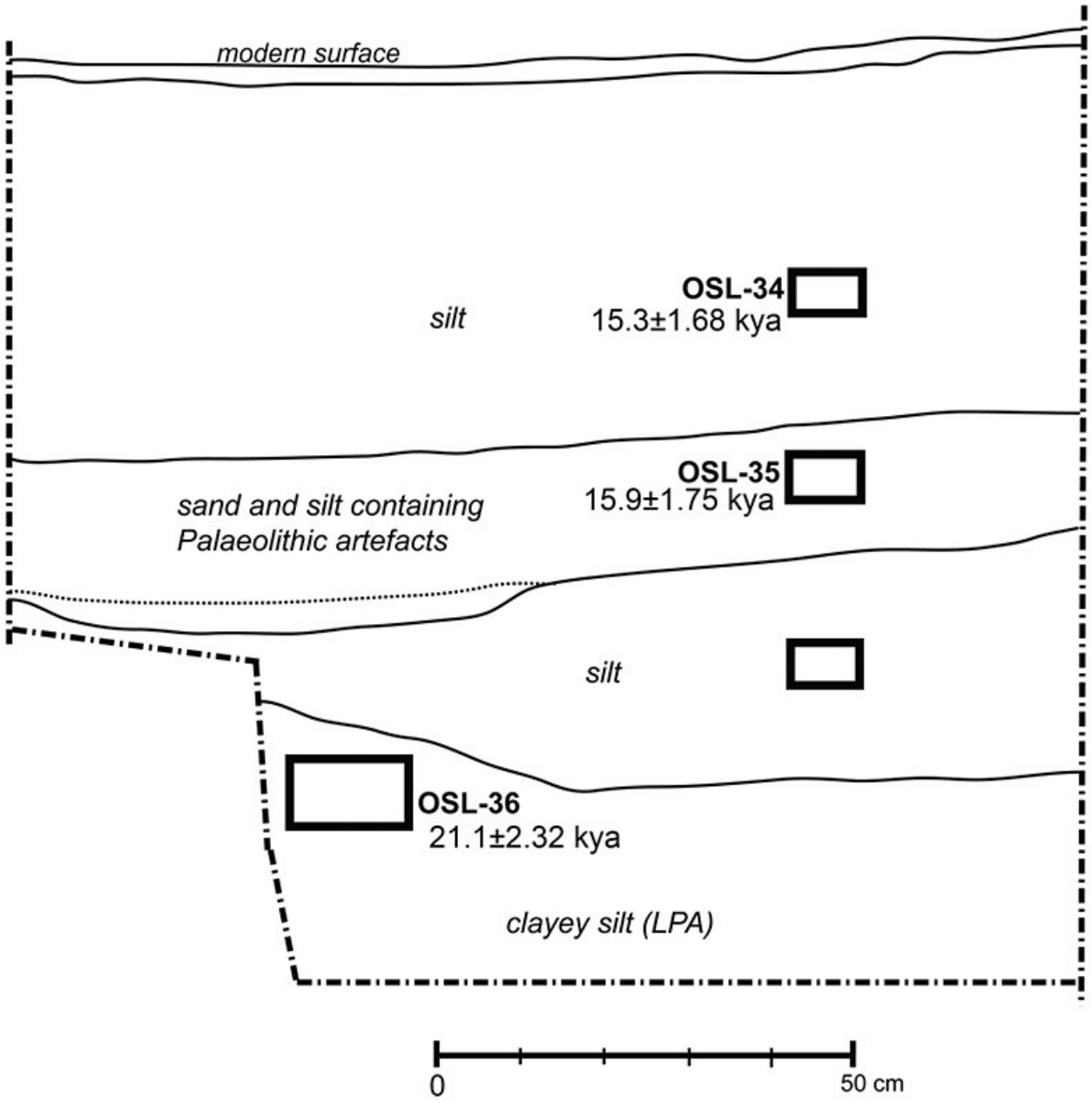


Figure 2. Stratigraphic sequence of dated sediments at the Affad-23 site.

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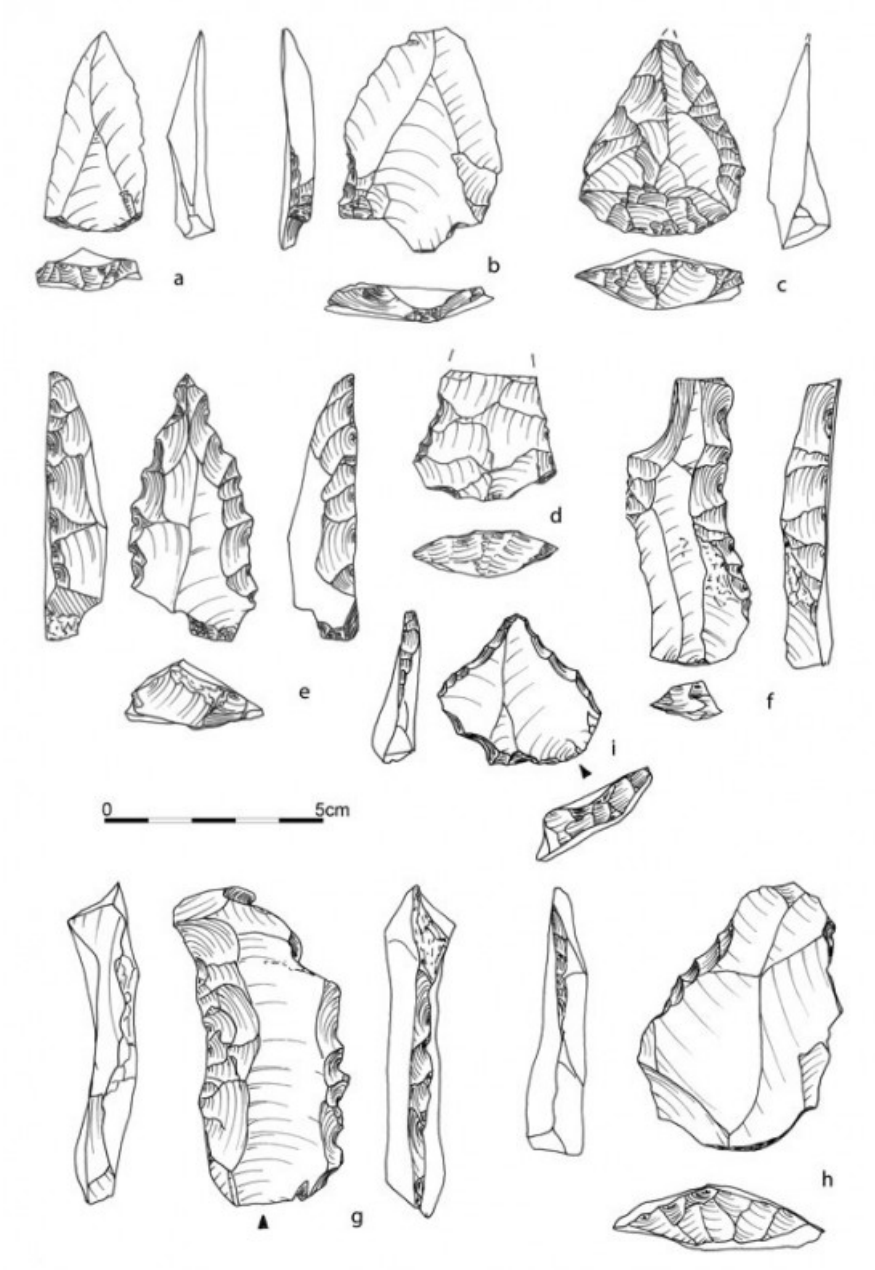


Figure 3. Selected chert tools from the lithic assemblage of Affad-23.

Levallois traditions

The late dates of these settlements, and their association with the Levallois technological traditions, relates these results to those from Lower Nubia. Assemblages of the Sebilian industry, characterised by the working of lithic nodules using Levallois methods, were correspondingly reported in the uppermost parts of the LPA silts or directly overlying them (Schild & Wendorf 2010: 101). Unlike the Sebilian inventories, however, assemblages from Affad do not comprise backed pieces and are similar to the much earlier (MIS4) Khormusan industry (Vermeersch 2010). The tools from Affad (Figure 3) include burins, sidescrapers and scrapers, albeit the most common implement was a tool refined with denticulate retouch. The economy of raw material procurement was based on locally available resources. People occupying the camp at Affad-23 exploited chert nodules from river deposits, whereas the inhabitants of the site Affad-111 utilised ferruginous sandstone from outcrops adjoining the site. Major differences in raw materials notwithstanding, stone-working methods and implement size are similar. The knappers strived to produce Levallois points and flakes within the range of 30–65mm in length. Therefore, the Affad assemblages can be considered a reasonably homogeneous group in terms of technology, and distinct from Nubian industries of the same period. In

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view of the limited knowledge of the older phases of settlement in the Middle Nile Valley, the determination of the origin of the assemblages under study poses considerable difficulties. While the occurrence of the Middle Palaeolithic sites has been confirmed, data on absolute chronology remain modest, thereby restricting understanding of some basic issues. For example, was the presence of hunter-gatherer groups in these areas correlated with cyclical climate oscillations or was it permanent until MIS2?

Palaeoenvironment modelling

A model of the contemporary environment in which the Palaeolithic settlement from Affad functioned is similarly at odds with what is currently accepted for Nubia at that time (Gautier 1987). The animals identified include several species of antelope, African buffalo, warthog, guenons and cane rat (Table 1), which resemble the species from early Holocene sites in central Sudan (Marks *et al.* 1987). A common characteristic of all the animal species identified at Affad is their habitat: wetlands of the shrubby savannah and backwaters. The prevalence of such a biotope is corroborated by geomorphological observations which reflect the presence of a large, periodically flooded area with a rolling surface shaped predominately by water. Human activity appears to have been concentrated on elevated sandy 'islands'. In addition, the existence of shallow and restricted areas of water, formed at the beginning of the dry season, is evidenced by the occurrence of sites which produced solely mineralised fish remains.

Taxon	Affad-23	Affad-110	Affad-111	Survey
Primates				
Small Cercopithecid (Cercopithecus sp.)	x		x	
Rodentia				
Cane rat (Thryonomys swinderianus)	x			
Proboscidea				
African elephant (Loxodonta africana)				x
Artiodactyla				
Warthog (Potamochoerus porcus)			x	
Hippopotamus (Hippopotamus amphibius)	x		x	x
Giraffe (Giraffa camelopardalis)		x		x
Oribi (Ourebia ourebi)	x			x
Bushbuck (Tragelaphus scriptus)				x
Bohor reedbuck (Redunca redunca)				x
Kob (Kobus kob)	x			x
Greater kudu (Tragelaphus strepsiceros)				x
Waterbuck (Kobus ellipsiprimnus)	x			x
Dikdik (Madoqua saltiana)	x			
African buffalo (Syncerus caffer)	x	x	x	x
Reptilia				
Nile crocodile (Crocodylus niloticus)			x	
Nile monitor (Varanus niloticus)	x		x	x
NISP	871	106	152	152
Small sized ruminant	x		x	x
Middle sized ruminant	x		x	x

Table 1. List of identified animals species from Affad Basin (excavations and surface survey).

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Taxon	Affad-23	Affad-110	Affad-111	Survey
Large sized ruminant	x	x	x	x
Small sized mammal	x		x	x
Middle sized mammal	x		x	x
Large sized mammal	x	x	x	x
Mammal	x		x	x
Fish			x	x
Indeterminate	2328	1077	275	1408
Total	**3199**	**1183**	**427**	**1560**

Table 1. List of identified animals species from Affad Basin (excavations and surface survey).

Hunting preferences

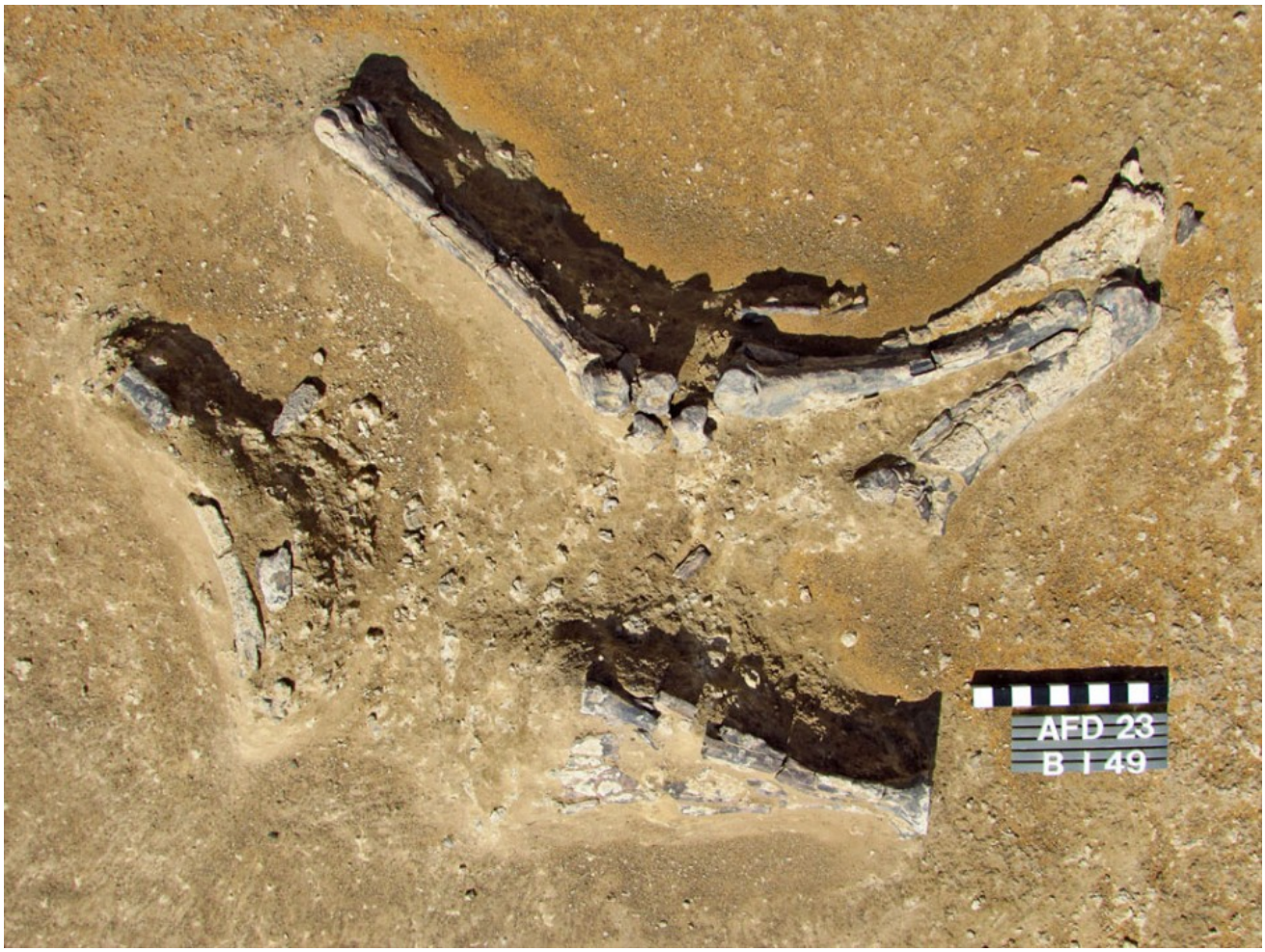


Figure 4. Antelope limb remains recorded at Affad-23 near a cluster of postholes.

Analysis of the faunal assemblage indicates the hunting preferences of Palaeolithic groups from Affad. No skeletal evidence from any predators has been identified with the exception of a single find of crocodile skull fragments. Remains of megafauna (e.g. elephant, hippopotamus) from remote locations have led to these being tentatively interpreted as kill sites. The vast majority of the faunal material, however, comes from ruminants of average size, especially the highly territorial*Kobus kob*. Antelope leg bones recovered in 2012 demonstrate well the ways in which hunted animal carcasses were handled: meat was separated from the bone and probably dried, while the still articulated skeletons were abandoned nearby (Figure 4). This 'insouciant' treatment of animal carcasses implies, on one hand, easy access to sufficient supplies of animals and, on the other, that scavengers were absent on the periphery of this human territory. The ecological niche that was occupied by the growing population can be regarded as safe and bountiful.

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Habitation structures

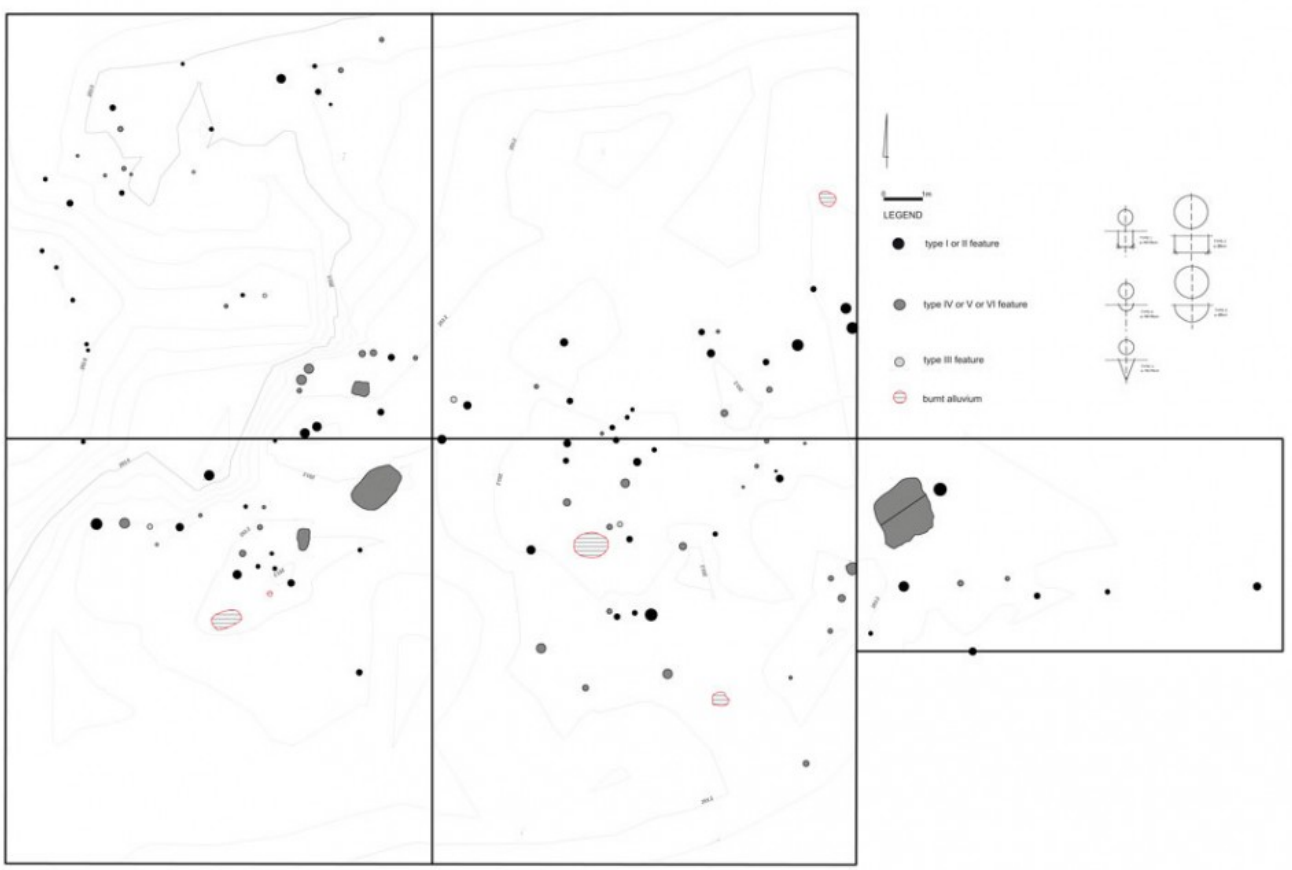


Figure 5. General plan of cut features found in the central part of the Affad-23 site.

Research in Affad-23 also yielded abundant evidence of small features such as postholes, pits and hearths (Figure 5) which clearly indicate the extensive use of lightweight structures intended, for example, as sun shields and frames for the drying of meat; hearths were typically located outside the clusters of postholes. Even though patterns which could reflect the form and size of individual structures are not easily discernible within the plethora of cut features at Affad-23, their presence indisputably attests the existence of various constructions. These discoveries are, therefore, unique.

Acknowledgements

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