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Epigones of the Levallois Tradition in the Middle Nile Valley: the First Season of a New Prehistoric Project in Affad, Northern Sudan

Marta Osypińska
Polish Academy of Sciences
Institute of Archaeology and Ethnology
Rubież 46
PL-61-612 Poznan
Email: m.osypinska@archeosudan.org

Piotr Osypiński
Patrimonium Foundation
Wodna 27
PL-61-781 Poznan
Email: piotr.osypinski@patrimonium.pl

The discovery and excavations of a late Middle Palaeolithic site at Affad (el-Affat), Northern Province (N 18°00'52" E 32°09'22") known as Afad 23 (Osypiński and Osypińska 2003; Osypiński et al. 2011), was the impulse that initiated a research project concerning Palaeolithic prehistory in that part of Sudan. The project, called "Levallois tradition epigones in the Middle Nile Valley" is financed by the Polish National Center for Science according to the decision DEC-2011/01/D/HS3/04125. Field activities took place in February 2012 and the first results promise interesting studies of settlement remains with well preserved spatial relations of the artifacts both in vertical and horizontal perspective, animal remains, traces of fireplaces and even of light wooden structures. Such finds until now, were not available in the country.

Apart from the surface survey of archaeological locations based on the available data of the Southern Dongola Reach Survey (SDRS) (Żurawski 2003), the project included excavation and geomor-

phological research to be framed by OSL datings, as well as the collection of suitable samples of artifacts and other finds. These will allow for the description of the characteristic features of settlements that did not use blade technology up to the onset of the Holocene. Completing the gap in the present state of research on the Late Pleistocene Middle Nile Valley, the project will produce data of use in the debate concerning the pace and directions of the dispersion of *Homo sapiens*.

The project embraces occurrences on the right (northern-eastern) Nile bank where the river changes its direction, leaving the so-called Great Bend and flowing directly to the north (Figure 1). In this region the river is joined by three large, dry valleys: two from the south (Wadi Muqaddam, Wadi el-Melik), and one from the west (Wadi Howar). These periodically active watercourses no doubt have influenced the composition of the sediments along the Nile. Sandstone inselbergs consisting of remnants of the eroded Nubian Formation (Mesozoic) dot the wide Nile Valley. The most common raw material for knapping used by the Palaeolithic people are from boulders of Hudi Chert from the Tertiary age (Whiteman 1971), redeposited in the riverine gravels of the Nile.

The best-preserved relics of Palaeolithic occupation were recorded on the surface of silty deposits related to the Late Pleistocene aggradation stage of the Nile. Many archaeological sites show evidence that the sediment was eroded, leaving sets of stone artifacts without original context. The same locations also produced evidence of erosion of Holocene sediments.

Verification of the locations and preservation conditions of the palaeolithic SDRS sites around Affad was the first stage of research. These sites occur in four clusters, labeled Tergis, Western Affad, Central Affad and Eastern Affad (Figure 1). An additional set of sites called Rekabiya Cluster, located 35km to the east, was visited as they produced Palaeolithic artifacts and mineralized animal bones comparable with those of Affad 23.

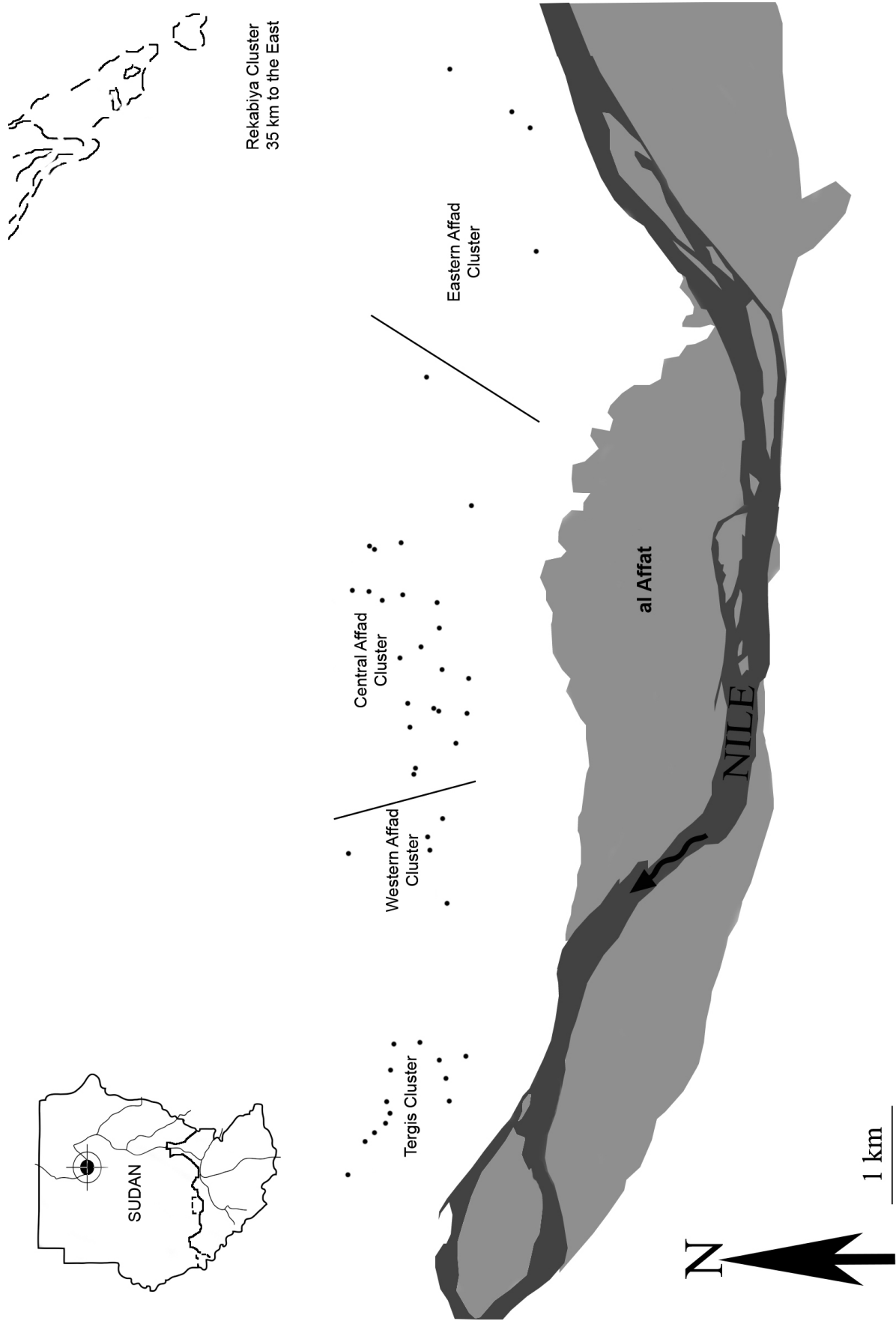


Figure 1: Location of the region of Affad and the five clusters of Palaeolithic sites or occurrences.

Special attention was paid to the effects of erosion on the Late Pleistocene sediments and the resulting artifact assemblages. Representative samples of these artifacts and animal remains were collected from the surface of most locations. With kind permission of the Sudanese authorities, the collected finds were sent to Poznan, Poland for detailed analysis and were deposited in the Archaeobiological Laboratory, Institute of Archaeology and Ethnology, Polish Academy of Sciences.

Tergis and Western Affad (19 loci in total) comprise locations marked by clusters of lithics widely dispersed on the surface. There were no osteological materials nor traces of fireplaces. The surface levels yielded both Late Pleistocene and microlithic Holocene artifacts. Moreover the area of Tergis bore traces of modern cultivation in the form of ditches.

The cluster of sites, labelled Central Affad, contains 24 loci of which the preservation is similar to that of Affad 23. Locations surrounding that site showed concentrations of comparable lithics and animal bones as well as settlement features, such as fireplaces, pits and postholes. Artifacts occur on the surface, but the excavations conducted in 2003 and 2012 at Affad 23 confirm the presence of underground levels containing undisturbed evidence of Palaeolithic occupation.

The Eastern Affad cluster with four loci, presents different preservation states of Palaeolithic remains. Only single, widely dispersed Palaeolithic artifacts were found within the context of Holocene settlements with fireplaces and bones perhaps of exposed human burials. Erosion of the Holocene sediments here was not as advanced as in Central Affad, Tergis or Western Affad, and Pleistocene sediments were not exposed.

Test excavations were carried out only at Affad 23 to verify the stratigraphy and to obtain a better view of the subsurface levels with Palaeolithic remains. Two trenches were opened (8x10m and 10x10m), covering particular artifact concen-

trations. Exploration and recording of finds were based on arbitrary units 1x1m, 10cm thick in the very soft dusty upper surface cover. When the much more solid subsurface was reached, the recording method was changed, taking into account the anthropogenic features encountered. Sediments were sieved, but only one half of each unit was excavated, leaving the other half untouched for geochemical sampling next season.

The stone artifacts collected in 2012 near Affad include 197 distinctive tools or blanks that will be compared with those obtained by the knapping traditions of known Nubian industries. The lithic assemblages of the Central Affad sites are the most informative ones and show a number of features typical of Nubian inventories dated to the end of the Pleistocene (MIS4-MIS2). As stated, the people used Hudi Chert, which was most likely procured from the gravels of the Nile. The raw material palette was completed with other fine grained rocks, such as sandstone, mudstone, and petrified wood that were likely available in the same geological contexts as the chert. The main debitage methods were variations of levallois schemas but without production of Nubian I variant points. This is interesting because near the Second Cataract Nubian I points and cores occur both in early inventories dated to the late MIS5 (Late Nubian Complex) (Van Peer 1992) as well as in the latest ones (Gemaian industry) (Schild and Wendorf 2010) of MIS2.

Lithic artifacts collected during test excavations in 2012 at Affad 23, numbered 2076 pieces. Most of these materials represented waste products from debitage processes. The assemblage is still under study, but in general it presents the same technological traits as the surface finds already described (Osypiński et al. 2011).

Apart from lithic relics, other settlement features preserved are remains of fireplaces marked by burned ground, as well as pits and postholes. The presence of fireplace remains was recorded on the surface during the earlier excavations at Affad 23, however their relation to the palaeolithic settlement

was equivocal. Results of the 2012 excavation in the eastern part of Affad 23 where the test trenches were dug, show that fireplace remains occur also below the surface in the deposits containing Palaeolithic artifacts. The fireplaces of Affad 23 could reach the size of 1.5–2m in diameter, but usually were less than 1m wide. The limited scale of the excavations in 2012 provide too little data to estimate the spatial relation between the features. No evidence of intentional heating of lithic raw material was noted. Also no animal bones exhibited exposure to fire.

The Affad 23 excavations in 2012 produced evidence of small postholes, in the form of holes in the silty ground, filled with loamy sediment lighter in colour and perhaps containing ashes. Eight postholes were recorded within a limited area and indicate the existence of a light wooden structure. Such installations were and are used in various cultures, for example, in the Sudd swamps for meat drying. The alternative interpretation assumes the existence of some kind of shelter or windbreak. Up to now, no such finds were known from prehistoric Nubia or, for that matter, from Sudan.

Near the cluster of postholes in Affad 23, numerous animal bones (kob antelope) were recorded reflecting how trash was deposited within the camp. The bones were deposited after meat separation, but as we can deduce from the anatomical context of the finds, they were still held together by sinews (Figure 2). These co-articulating bones show that some prey animals were not exploited intensively; perhaps flesh was indeed stripped from the bones for drying on the nearby wooden structure. Anyhow the bones suggest minimal disturbance after deposition. They also do not exhibit marks left by scavenging carnivores or rodents. Undisturbed spatial relations of the finds confirm the observations from the earlier excavations describing the site as a chert workshop with numerous refittings (Osypiński et al. 2011: 179; Figure 2).

Most of the Central Affad locations produced remains of mammals, reptiles and fish and

exclusively in archaeological contexts in association with lithics and fireplaces. The total amount of bones from the 2012 survey was 1560 and the excavation at Affad 23 produced another 1120 fragments of bones and teeth. All recorded remains are preserved in the same condition, comparable to that of the finds from 2002. Bones were hard, mineralized and black or gray in colour. A fair number of bones still preserve morphological details allowing precise determinations and measurements.

The locations or sites could be grouped into three categories according to the archaeozoological evidence. The first group is characterized mainly by large mammals, (hippopotamus and elephant), and sometimes a few remains of medium sized bovids. The second group of sites produced exclusively fish remains, mostly catfish (*Clarias* sp.) The third group is the most numerous and characterized by fireplaces and chert workshop activities. This group yielded mainly remains of bovids, both medium sized and smaller ones as well as larger ones but in small quantities. The third category also contained remains of reptiles. Affad 23 is typical of the third group.

The list of mammals identified until now with the aid of comparative material in the Palaeontological Research Unit, Ghent University and the Royal Belgian Institute of Natural Sciences, Brussels, includes the already mentioned hippopotamus (*Hippopotamus amphibius*) and elephant (*Loxodonta africana*), buffalo (*Syncerus caffer*), kob (*Kobus kob*), perhaps lechwe (*Kobus megaceros*), oribi (*Ourebia ourebi*) and dorcas gazelle (*Gazella dorcas*) but also the dikdik (*Madoqua saltiana*). The archaeozoological record of this tiny antelope is limited and until now restricted to the Holocene; today it still occurs in the region of Kassala in Sudan. Most archaeozoological data point to kob as the main prey of the palaeolithic hunters of Affad. Kob is a territorial antelope and will not abandon its territories even under the threat of human interference and hunting. The foregoing may suffice to explain the predominance of kob in the hunters' bags at Affad.

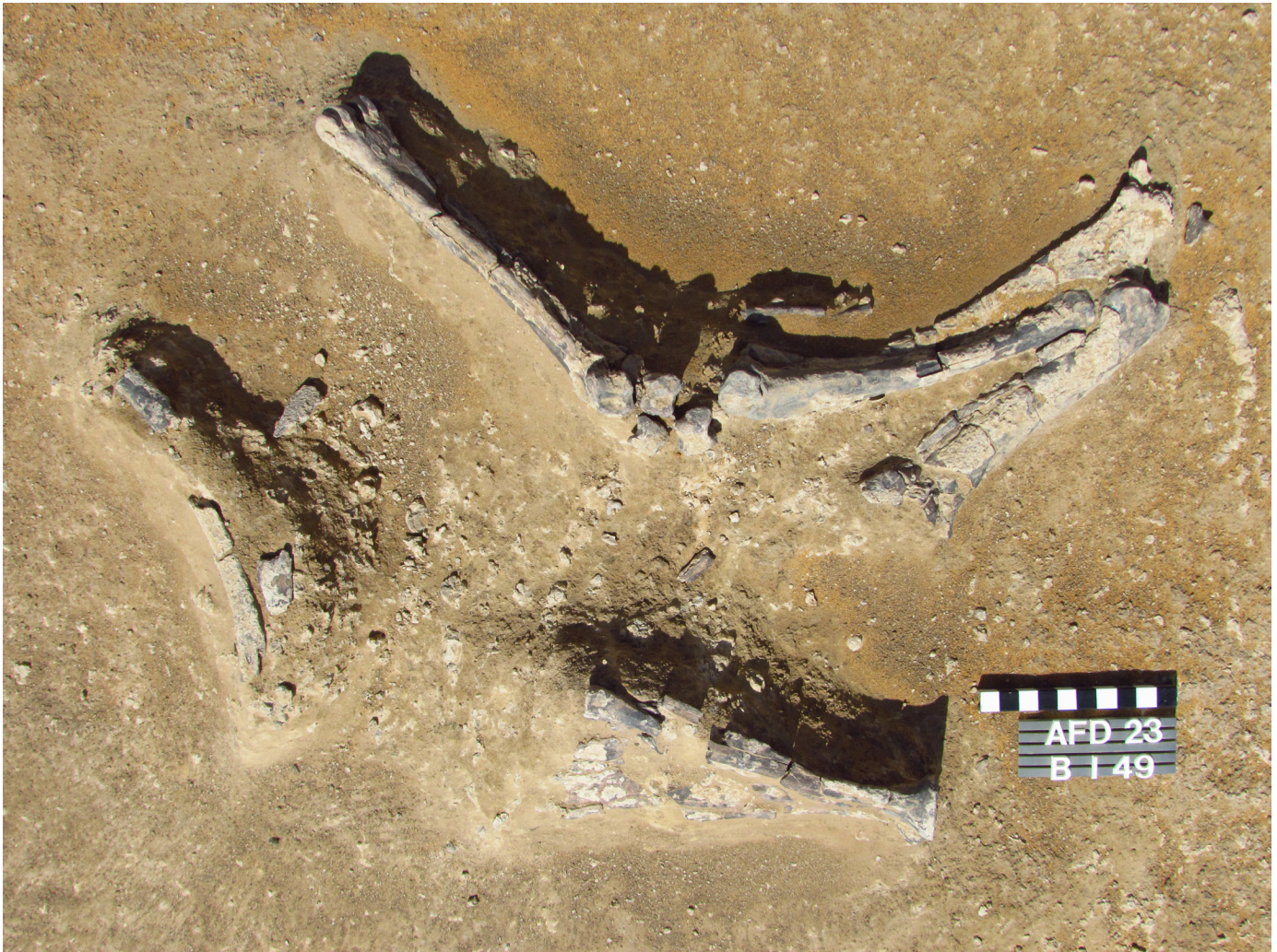


Figure 2: Bones of kob near marks left by a the wooden structure at Affad 23: scapula, almost co-articulating humerus, ulna, radius, carpals, canon bone, derived from one front leg.

As stated, fish is found in limited concentrations mainly in sites without mammals or Nile monitors. As known from later occurrences in Sudan, fish were taken mainly in the high water season in the alluvial plain, and fishing sites may have been occupied early or late in the high water season for short periods after or before the sites with the mammal bones were occupied in the low water season.

Loci with large mammals yielded bones preserved very much as those of Affad 23. It would seem that the finds do not result from differential preservation, smaller animals having been removed by erosion and weathering. These occurrences may

represent kill-and-butchery sites of some larger mammals, but for the moment the available evidence is equivocal.

Initiated in February 2012 the research project focused on the Late Pleistocene prehistory of the middle Nile Valley in Sudan, has produced interesting first results because of the excellent preservation of numerous settlement remains in combination with much less well preserved loci that were produced by people well adapted to the alluvial plain of the Nile Valley. The dates of the sites, as available at the time, point to the period when in other parts of the world, including in the

Egyptian section of the Nile Valley, were settled by human groups producing stone tools within blade traditions. The region between the third and fourth Nile Cataracts was settled by people still producing levallois tools. These groups could have migrated periodically to Nubia where Gemaian and Sebilian inventories represent very late levallois episodes until the beginning of the Holocene. The Affad sites provide extensive collections of lithics together with palaeoenvironmental data that has not been available until now from Sudan. Research in the Affad region will continue in 2013 and 2014.

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