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Holocene Prehistory of the Wady el Midauwara above Kharga Oasis, Egypt

Introduction

Since 1987, Pleistocene archaeologists, environmentalists and geochronologists belonging to the Dakhleh Oasis Project, and since 2001 to the Kharga Oasis Prehistoric Project (KOPP), have been working on the Escarpment along the eastern edge of Kharga Oasis. The Pleistocene archaeologists, M.R. Klein-dienst, M.F. Wiseman and A.L. Hawkins, are reassessing the classic geoarchaeological sequence established in the 1930's by G. Caton-Thompson and E.W. Gardner, and securing chronometric dates on the tufa deposits that seal some of the archaeological remains. The geologists, R. Giegengack and J.R. Smith, focus on the tufas themselves. Laid down by spring discharge during humid periods, the tufas provide a good record of Quaternary climate change, allowing them to establish a palaeoenvironmental sequence for the last half million years, relevant for the entire Western Desert of Egypt.

Initially, Holocene prehistorians were not involved in these studies. It is general knowledge that there is Holocene material in Kharga Oasis. Caton-Thompson (1952) reported both early and mid-Holocene material in various locations on the oasis floor, and atop the Libyan Plateau overlooking Kharga. Likewise, the Combined Prehistoric Expedition (Wendorf & Schild 1980) published early and mid-Holocene sites near Kharga City, and A. Simmons and R. Mandel (1986) found similar sites on the floor and atop the Plateau in their site survey of the northern part of Kharga. In recent years a team from the French Institute including B. Midant-Reynes has been finding abundant Holocene material as they surveyed northward from Dush on the oasis floor.

The KOPP focus however has been on that transitional zone between the Plateau top and the oasis floor, the Escarpment face. This is where the tufas

occur, but the associated archaeological sites are all of Pleistocene age. In fact, Caton-Thompson, who investigated much of the Escarpment, remarks (1952: 32) that she found virtually no Holocene material “on the scarp undercliffs, and the silty solution basins in the tufas”. It came as a surprise then when, in 1996, colleagues began reporting Holocene material from the Wadi el Midauwara in southern Kharga (which Caton-Thompson had not visited). In 2000, after examining small chipped stone collections from Midauwara made for dating purposes by Smith, I visited the pass for one day of fieldwork. Due to the remoteness of the area, subsequent visits have also been short: one day in 2001, nine days in 2002, six in 2003, and five in 2005.

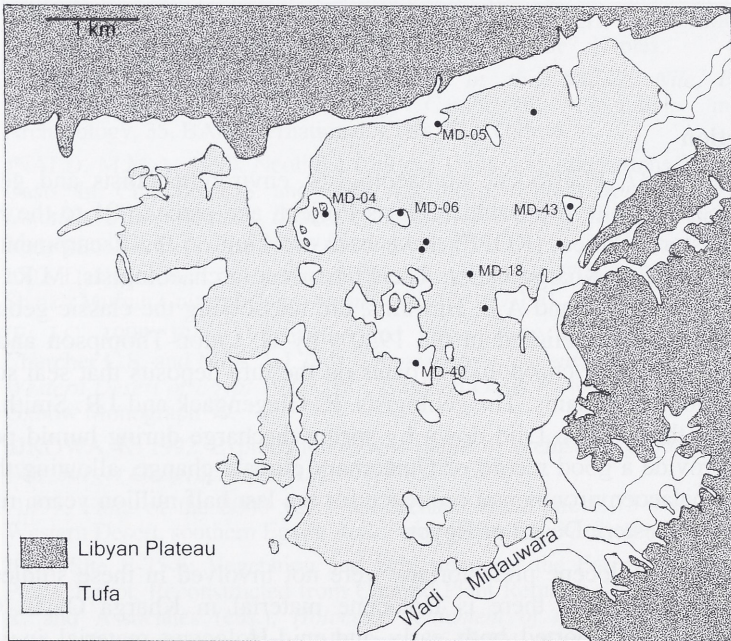


Fig. 1. Kharga Oasis Wadi el Midauwara: Midauwara Unit sites mentioned in text.

At Midauwara, the tufas and associated archaeology are found just under the crest of the Escarpment, in a roughly rectangular-shaped embayment ca 4 x 5 km, bordered on the south by the main wadi (Smith et al. 2004: fig. 3). While a systematic survey is difficult, given the rough, broken surfaces of the tufa deposits, an estimated 6 km², towards the centre of the embayment’s 20 km², have been examined so far for Holocene remains (Fig. 1). No Holocene cultural

material has been found in direct association with the tufas. Rather, sites occupy many of the silt-filled aeolian depressions, while sparse scatters and individual finds can be found also on the surfaces of the tufas between the hollows.

Sites seem to span much of the early and mid-Holocene, with cognates for units in the sequence found in Dakhleh Oasis and elsewhere in the Western Desert. It seems, moreover, that many locations are not just short-term transit camps for groups traveling to and from the Kharga Oasis Lowland, but are settlement sites, several with stone-built shelters. We have designated two local cultural units, the *Midauwara Unit* for the early Holocene or Epipalaeolithic type of localities, and the *Baris Unit* for the mid-Holocene localities. Both units, it would appear, can be subdivided.

The Midauwara Cultural Unit

Midauwara Unit localities

Seven localities can be classified as Midauwara sites, while four others have both Midauwara and Baris components (Fig. 1). Three types of Midauwara locality have been identified. Most common are relatively small occupation sites with a few features, hearth mounds and/or slab structures, and associated artifacts. Typical perhaps is KH/MD-06, with a few cobble-covered hearth mounds and two or three probable slab structures, one of them measuring 5 x 2.5 m, located on a silt-covered depression floor. Associated with these features is a range of chipped stone tools – Ounan points, drills, notches and denticulates etc., and scatters where blades and flakes had been knapped. There are also grinding slabs, a few ostrich eggshell beads, and a decorated ostrich eggshell fragment. Other Midauwara unit sites of this type include MD-05, 07/44, 29, 37, 38 and 42.

A second type of Midauwara locality is an apparent large settlement consisting of many slab structures. Two have been recorded so far, MD-43 and MD-18, Cluster 1. MD-43 occupies a basin ca. 200 x 80 m overlooking the main wadi (Fig. 2). It consists of at least 20 slab-built structures, a few less coherent piles of slabs, and three clusters of fire cracked rock (FCR). The structures are small (ca. 2 to 3 m across, the largest about 6 m across), and most are arc or crescent-shaped, opening to the south, their slabs either lying flat or perched on edge. Associated with the features are chipped stone tools and knapping scatters, grinding slabs and handstones, and ostrich eggshell scatters and beads. MD-18 Cluster 1 (Fig. 3) consists of perhaps a dozen fairly fragmentary slab structures and several clusters of FCR. Adjacent to it on the depression floor are two other clusters of slab structures assigned to the mid-Holocene Baris unit (see below).

The third type of Midauwara unit locality is an isolated blade-knapping station. Two examples are MD-04 and MD-40. MD-04, on silts at the edge of a large depression in the NW corner of the tufa area, consists of two tight clusters

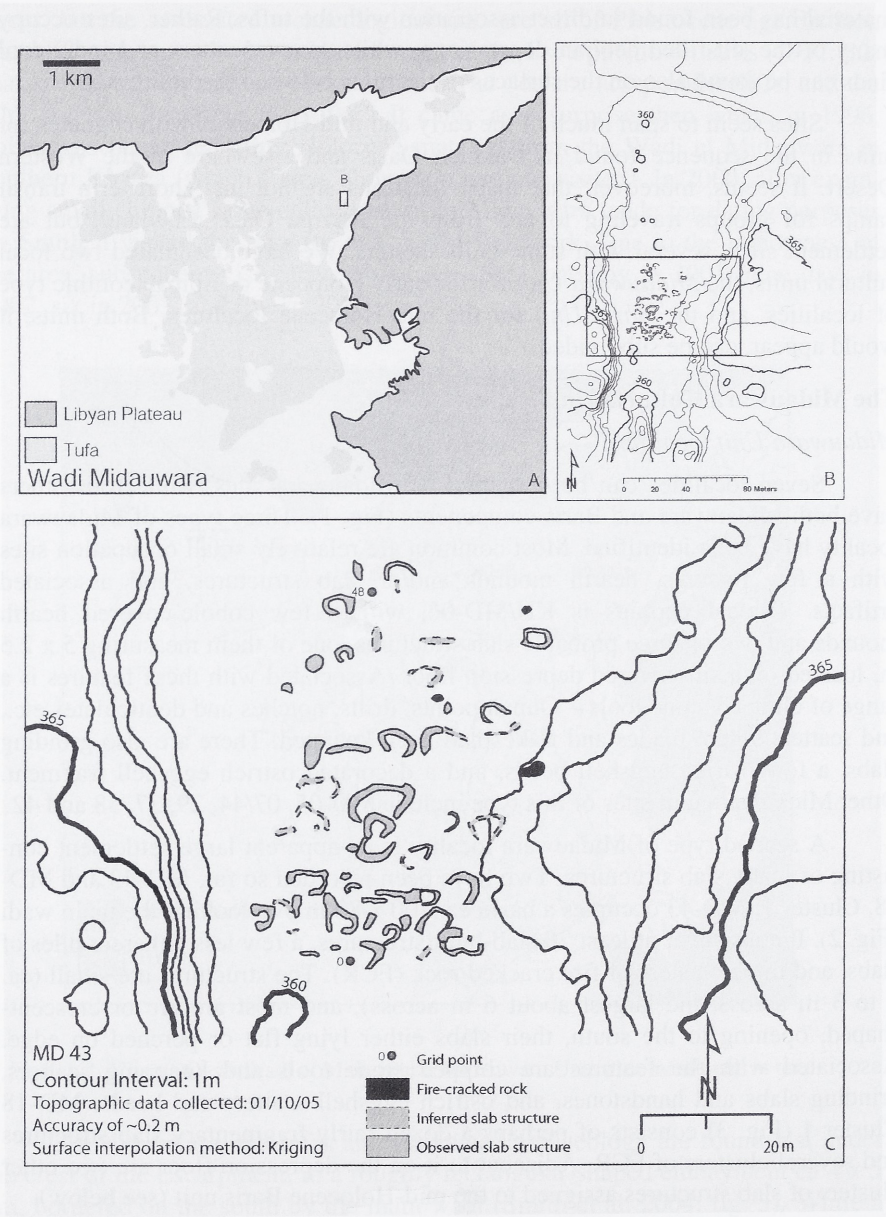


Fig. 2. Locality MD-43 with its slab structures within Wadi el Midauwara. (Illustration by J.R. Smith).

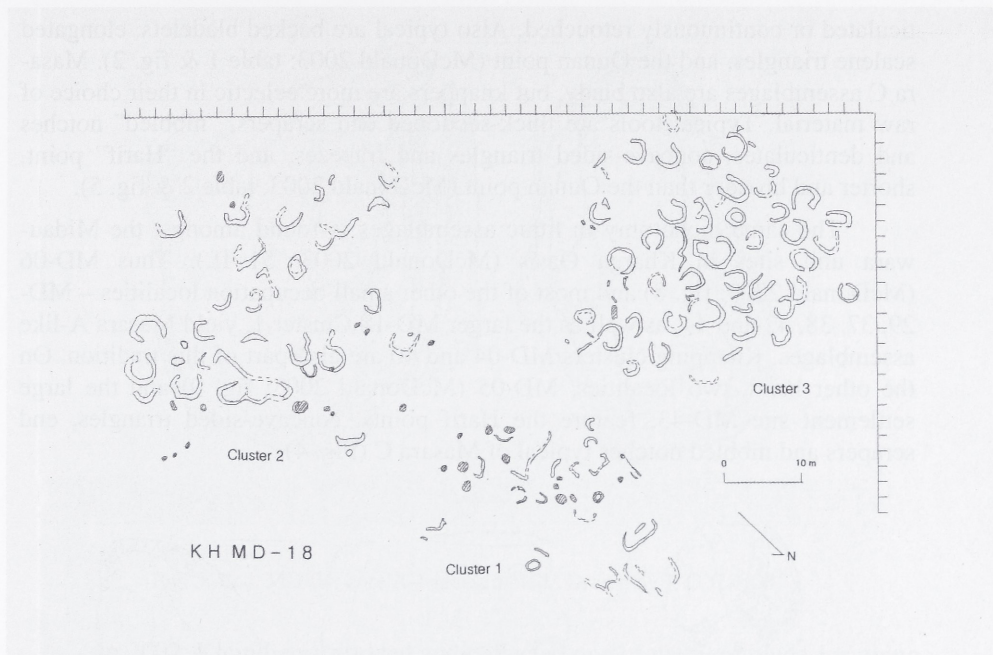


Fig. 3. Loc. MD-18: Cluster 1, Midauwara Unit; Clusters 2 & 3, Baris Unit. Hatched areas: clusters of fire cracked rock.

of knapped material ca. 20 m apart, the larger of the two ca. 3 x 1.5 m. Thirty meters away is a third, more diffuse knapping scatter ca. 14 m in diameter. MD-40 is an isolated blade-knapping station ca. 5 m in diameter, located in the centre of a large deep basin, otherwise thinly covered with Pleistocene-age material, and with a mid-Holocene scatter near its southern rim. A hearth mound covered with dark coloured FCR, located 14 m away, might be associated with the knapping cluster. Almost no formal tools were found on either MD-04 or MD-40.

Midauwara Unit chipped stone

a) Lithic toolkits

It has been noted above that the Kharga Midauwara unit closely resembles the early Holocene or Epipalaeolithic entity in Dakhleh Oasis labeled the *Masara Unit*. Recently, two major subdivisions of the Dakhleh Masara unit have been defined (McDonald 2003). Masara A and Masara C differ rather dramatically in their timing, adaptation and cultural affiliations beyond the oasis, and they feature quite different lithic assemblages. Briefly, Masara A sites are characterized by blades knapped from good quality nodular chert and then notched, den-

ticulated or continuously retouched. Also typical are backed bladelets, elongated scalene triangles, and the Ounan point (McDonald 2003: table 1 & fig. 2). Masara C assemblages are also blady, but knappers are more eclectic in their choice of raw material. Typical tools are thick-sectioned end scrapers, “nibbled” notches and denticulates, concave-sided triangles and trapezes, and the “Harif” point, shorter and broader than the Ounan point (McDonald 2003: table 2 & fig. 5).

The same dichotomy in lithic assemblages is found amongst the Midauwara unit sites in Kharga Oasis (McDonald 2003: 51 ff.). Thus MD-06 (McDonald 2003: fig. 8) and most of the other small occupation localities – MD-29, 37, 38, 42 and 44, as well as the larger MD-18 Cluster 1, yield Masara A-like assemblages. Knapping clusters MD-04 and 40 are also part of this tradition. On the other hand, two localities, MD-05 (McDonald 2003: fig. 9) and the large settlement site MD-43, feature the Harif points, concave-sided triangles, end scrapers and nibbled notches typical of Masara C (Fig. 4).

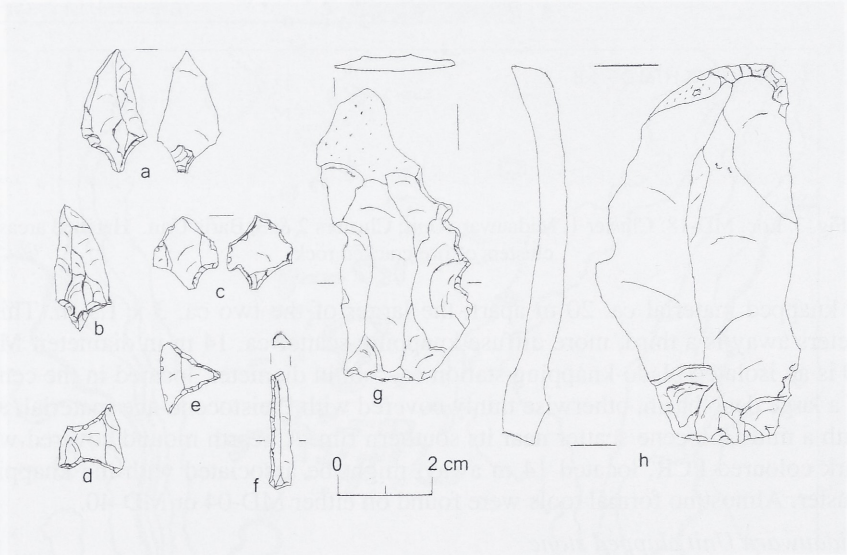


Fig. 4. Loc. MD-43 lithics: a – c, Harif points; d, trapeze; e, triangle; f, backed bladelet; g, denticulate; h, end scraper.

b) Lithic technology

Controlled samples taken from several of the localities, MD-04, 05, 06, 18 Cluster1, and 43, can be used to begin characterizing the technology employed on Midauwara sites. Reduction strategies on the two Midauwara sub-units seem to differ somewhat.

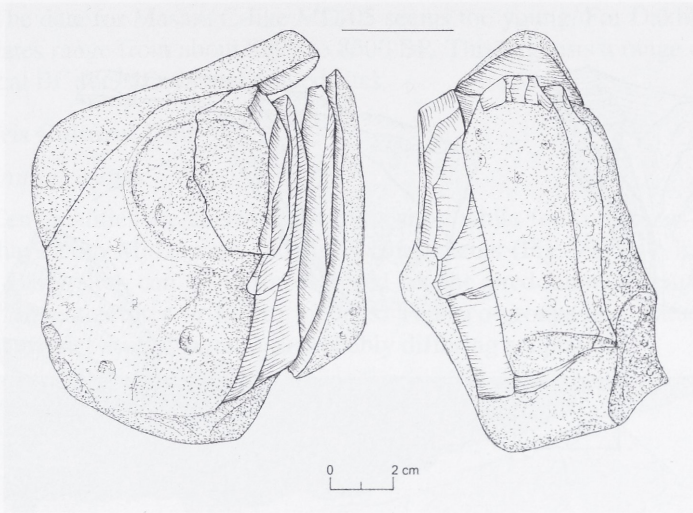


Fig. 5. Loc. MD-04: core A-1 reassembled. Drawn by J. O'Carroll.

In 2002, Kleindienst gridded and collected one of the tight blade-knapping clusters on MD-04 (she wished to ascertain the degree of directional dispersal of differently sized pieces in that environment: Kleindienst et al. 2003: 21). 430 pieces were collected (the deposit was not screened). The raw material is uniformly a good-quality nodular chert patinated to a dark grey-brown. Six of the eight core units on MD-04 could be reassembled to some extent, and they all suggest a simple but efficient approach to blade knapping entailing the very minimum of core preform preparation. The usual procedure (Fig. 5) seems to have been to choose a flat or wedge-shaped nodule of an appropriate size, remove a large cortical flake from the edge, and then use the resulting scar as a platform to strike blades off the edge of the nodule, working that face inward until blades started hinging off or the remaining core became too short (Fig. 6)¹.

Débitage on the knapping site MD-40, and on MD-06 and MD-18 Cluster 1 suggests that a similar technique was commonly employed on those localities. On MD-05 and 43, cores are smaller and appear to have been more heavily worked. Core fragments (ridge flakes, tablets and lateral fragments) suggest more core preparation on these sites, while blades retain very little cortex.

¹ Cf. the elaborate core-shaping strategies employed by roughly contemporaneous Capsian groups in the Maghreb (Rahmani 2004: fig. 11).

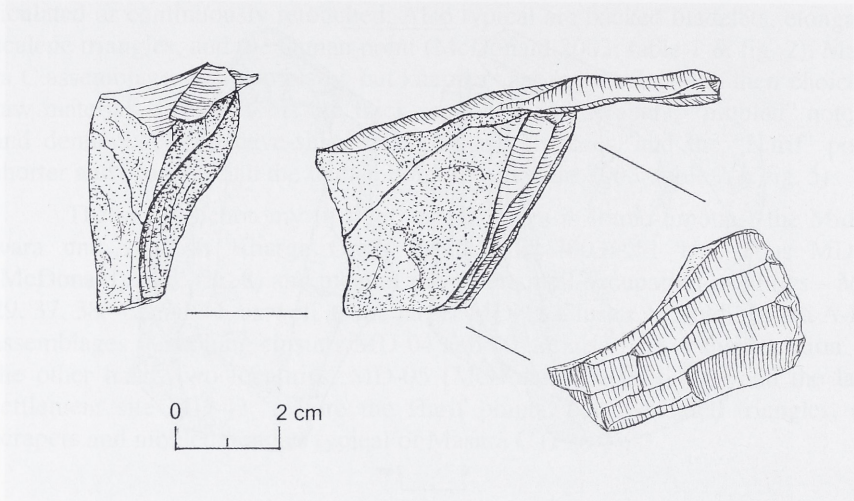


Fig. 6. Loc. MD-04: exhausted core Q-37. Drawn by J. O'Carroll.

On MD-04, 73% of the removals are blades, and of those, 33% are bladelets in the classic sense ($w < 1.2$ cm). The blade/flake ratio is much lower on the other sampled sites, although higher on MD-43 and 05 (50 – 55%) than on MD-06 and 18 (22%). MD-43 has a high percentage of bladelets (50%), and blades are of uniform thickness, perhaps reflecting requirements for the production of geometrics and/or points. On MD-04, 75% of blade platforms are either linear or point form, while on all other sites the most common type is plain or single faceted.

Dating the Midauwara Unit

Two radiocarbon dates are available for Midauwara Unit sites.

Ostrich eggshell fragments from MD-06 are dated:

TO-9970 34,110 \pm 320 BP

Charcoal from MD-05 is dated:

VRI-2105 6030 \pm 120 BP cal BC 5060 – 4780

The date from MD-06 seems far too old. In Dakhleh, the analogous Masara A, on the basis of nine dates, spans nearly 1500 years, from 9200 BP (McDonald 2003: table 3). In Kharga, three dates from the Combined Prehistoric Expedition "Terminal Palaeolithic" site of E-76-6 on the oasis floor, cluster fairly tightly around 7900 BP (Wendorf & Schild 1980: 188). It is likely that the dates for MD-06 and related sites fall somewhere between 8300 and 6700 cal BC.

The date for Masara C-like MD-05 seems too young. For Dakhleh Masara C, ten dates range from about 8900 to 8300 BP. This suggests a range of ca. 8000 – 7400 cal BC for MD-05 and related sites.

The Baris Cultural Unit

Baris Unit Localities

Ten localities are classified as Baris sites, while four others, as mentioned above, have both Midauwara and Baris components (Fig. 7). Two main groupings of Baris sites can be defined, based on the predominant feature present, whether slab structures or hearth mounds. The two groups are characterized by different artifact assemblages, and probably differing adaptations.

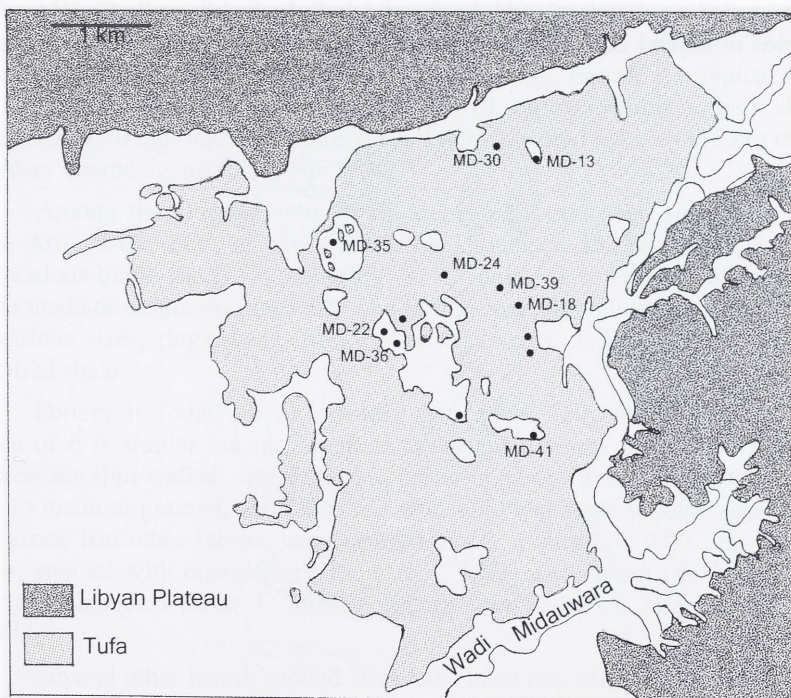


Fig. 7. Wadi el Midauwara: Baris Unit sites mentioned in text.

Baris sites with slab structures

The largest by far of the slab structure sites is MD-18 (see above), where Cluster 2 and Cluster 3 pertain to the Baris Unit (Fig. 3). The site occupies a shallow, triangular-shaped depression measuring 200 x 170 m. Cluster 2 consists

of about 24 structures, and Cluster 3, the most intact of the three, about 40 structures. On Cluster 3, most structures are rounded and ca. 2 to 3 m across, while a couple may be bilobed. On Cluster 2, units appear to be slightly more varied in shape and size. Several clusters of FCR were recorded on Cluster 2, only two on Cluster 3.

The chipped stone industry on Clusters 2 and 3 is predominantly flake-based and fashioned on a greater range of raw materials than the Midauwara industry. Tools include bifacial arrowheads in a variety of sizes and shapes, bifacial knives and side blow flakes, and drills, notches and denticulates. Grinding slabs and handstones and a few ostrich eggshell beads were recorded. Pottery is present but rare on most Baris sites. Seventeen sherds from up to six vessels were recorded on Cluster 2 and 3. They include both thin-walled, undecorated examples in a sand and gypsum fabric, and impressed sherds in a coarse sand fabric².

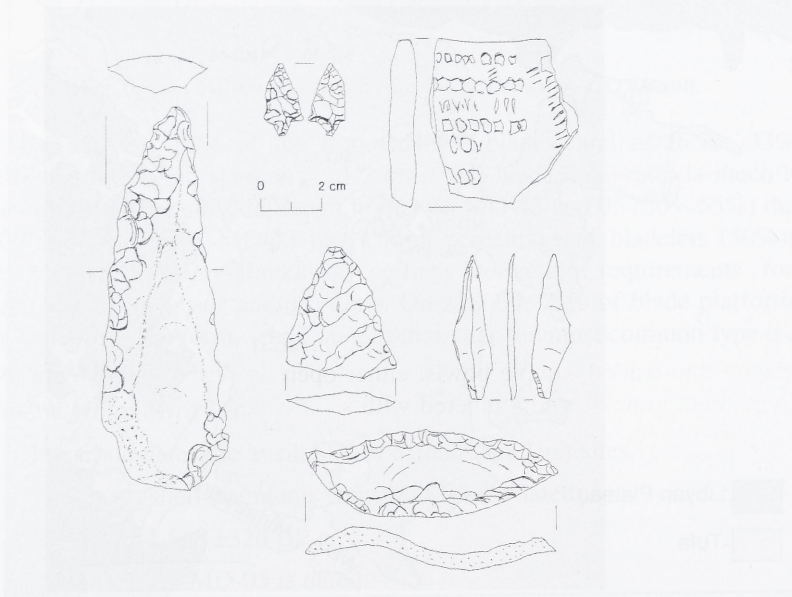


Figure 8. Loc. MD-24 artifacts: chipped stone tools and impressed sherd.

MD-24 is a much smaller site, occupying a narrow depression ca. 90 x 30 m. It consists of nine or ten oval and crescent-shaped slab structures. The artifact

² Analysis of the pottery from Wadi el Midauwara is by A.R. Warfe (Warfe not dated a; not dated b).

scatter includes grinding slabs and handstones, knives, side blow flakes, and a bifacial arrowhead (Fig. 8). Fourteen sherds were collected, twelve of them thin-walled and undecorated, the other two bearing impressed decoration.

MD-30, in a shallow basin ca. 80 x 25 m atop a tufa ridge, consists of about six structures built of slabs and cobbles, and a pair of mounds with FCR. Artifacts include a grinding slab fragment and several handstones, arrowheads, a drill, and a thin tabular item with bifacial retouch on one edge.

Baris hearth mound sites

Most of the hearth mound sites are found downslope to the west of MD-18 and 24, and occupy large deep basins.

MD-22, in a deeply deflated basin ca. 300 x 200 m, consists of five clusters of hearth mounds and associated features and artifacts. There are between 25 and 30 hearth mounds in Cluster 1 alone. Hearth 1, a typical mound ca. 120 cm in diameter and 20 cm high proved, on excavation, to be a shallow basin, 100 x 70 cm, with a flat fire-stained floor covered by a layer 6 cm thick of powdery charcoal, and filled with FCR.

Among the chipped stone tools are knives, tranchets, side blow flakes, three Armant-like celts or axes (cf. Caton-Thompson 1952: 173 & plate 103), and various blade and flake tools (Fig. 9). Grinding slabs and handstones occur, some made on imported materials. The rich ground stone industry includes balls of various sizes, rings, beads, mace head fragments, and a small axe of black silicified shale.

Pottery is found on all clusters, and about 550 sherds were collected. Much of it is similar but not identical to the plain wares from MD-18 and 24. Vessels are thin-walled, simple bowls, either open or closed. Fabrics are mostly fine to medium grained, and tempered with sand and shale in varying quantities and sizes. But other fabrics were noted as well: a silty one with organic inclusions, another with coarse shale inclusions, while a Badarian ripple-ware sherd was recorded on Cluster 1. Similar pottery was found on MD-36, just to the south.

Several other hearth mound sites have been recorded at Midauwara, some of them featuring a few slab structures as well. MD-35 is a hearth mound field ca. 200 x 80 m in the large basin to the north of MD-22 that also contains MD-04. One or two possible slab structures were noted as well. MD-41 is located in a deep basin to the south of MD-22. Here a number of hearth mounds and a few crescent-shaped slab structures occupy a series of narrow draws along the west side of the basin. MD-39, on the other hand, is somewhat anomalous, lying upslope to the east in one of the shallow depressions between MD-18 and MD-24.

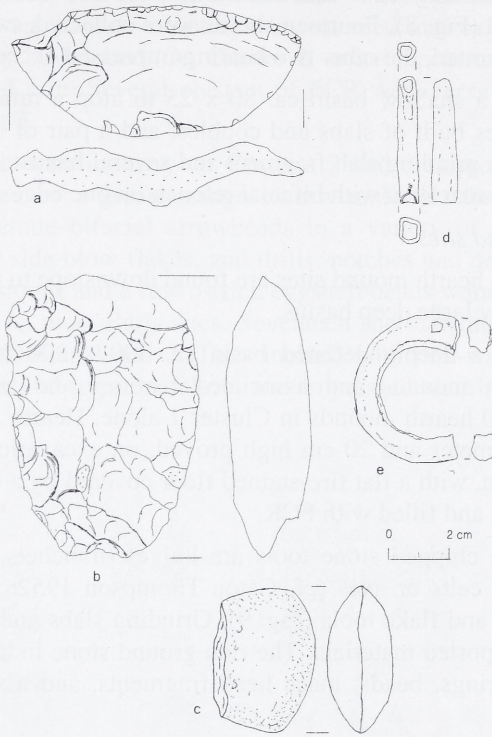


Fig. 9. Loc. MD-22 artifacts: a, side blow flake; b, Armant axe; c, ground stone axe; d, stone bead; e, ground stone ring

Dating the Baris Unit

For the Baris Unit, as yet no absolute dates are available. Dating is on the basis of more securely dated sequences elsewhere in the Western Desert and beyond. As with the Midauwara Unit, the closest ties seem to be with the mid-Holocene sequence in Dakhleh Oasis, which is divided into Bashendi A, dated ca. 7500 – 6800 BP, Bashendi B, 6700 – 5000 BP, and Sheikh Muftah, 5200 – 4000 BP (McDonald 2001; 2002). In this scheme, Baris slab structure sites can be equated with Bashendi A localities such as 270 and 307. Sites in both oases share the structures themselves, and similar chipped stone and ceramic assemblages. Similarly, Baris hearth mound sites closely resemble Bashendi B and Sheikh Muftah localities in terms of the mounds themselves, their chipped and ground stone industries, and the pottery.

Support for this framework can be found in dated material from elsewhere in the region that has been found on Baris sites. An example is the “Khartoum related” impressed ware found on MD-18 and 24. This pottery, which occurs in Dakhleh as well, appears to have been imported from the south, where it has been dated ca. 7500 BP (Gehlen et al. 2002: 95-96). As for material on the hearth mound sites, imports from the Nile Valley such as the Badarian ripple ware and Armant axes would date ca. 5500 – 5000 BP.

On this evidence, the Baris Unit may span a long period, and be divisible into early and late subunits. Thus *Early Baris* would include sites such as MD-18 and 24, and date ca. 7000 BP or 5800 cal BC. *Late Baris* sites such as MD-22, 36 and 41, with artifacts reminiscent of Bashendi B and early Sheikh Muftah, and with imports from the Nile Valley, might date ca. 6000 – 5000 BP or 4900 – 3800 cal BC.

There is not much evidence for occupation of the Midauwara Pass beyond that point. What little there is, such as a Pharaonic era copper axe, probably represents travel through the pass, rather than an occupation.

Subsistence and adaptations in the Baris Unit

There is as yet little firm evidence on subsistence for Baris Unit sites, beyond a hartebeest tooth from MD-22, and tools such as a tethering stone on MD-13, small stone circles, possible watering places (cf. Gabriel 2002: 60) on several sites, and arrowheads and grinding stones, also on several sites. Based on evidence of this sort, and on comparisons with the Dakhleh sequence, one can postulate that, in Early Baris times, semi-sedentary groups on MD-18 exploited abundant wild resources, both plant and animal, and might also have herded goats. The later groups responsible for the hearth mounds on MD-22 may have been primarily pastoral nomads.

Acknowledgments

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