EGYPT

The Kharga Oasis Prehistory Project (KOPP): research during the 2006 field season

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Introduction

In 2006, members of the Kharga Oasis Prehistory Project (KOPP) spent 15 field days in Kharga Oasis. Prehistorians included M. M. A. McDonald, M. R. Kleindienst, A. L. Hawkins, and for three days, I. Teubner. C. S. Churcher joined the group as zooarchaeologist, and B. Churcher as project photographer. (Geological research by J. R. Smith, J. M. Kieniewicz, K. Adelsberger, and B. Blackwell is reported separately.) We were ably assisted by Mr. Mohammed Shabaan, Inspector, Kharga Office, Department of Antiquities. Research areas visited within the KOPP Concession are shown in Figure 1. The approximate time relationships of the Cultural Stratigraphic Units recognized at Kharga and Dakhleh oases are shown in Figure 2.

Transect survey of Mata'na area (Hawkins and McDonald)

Hawkins, McDonald, and Kleindienst conducted a survey of the Mata'na area on January 3rd

and 4th, in order to determine the density of prehistoric cultural material in different geomorphological zones of the Kharga Escarpment and Piedmont zones. McDonald and Hawkins conducted a foot transect survey, west to east, covering a distance of ca. 12 km. Surfaces examined include terraces and dissected terraces covered by gravels, wadi bottoms and slope colluviums. Thirty archaeological occurrences were documented, most of Holocene age, but of indeterminate cultural unit affiliation. Middle Stone Age (MSA) material was noted in several places, with variable condition and density. Several heavily abraded/weathered Earlier Stone Age (ESA) bifaces were noted along the western half of the transect.

Although historic tracks to Mata'na cross the Piedmont, no material of Pharaonic, Roman or Byzantine age, nor any rock art, was found. Despite three clear pathways and vehicle tracks, the only modern material discovered was a tin can, probably for mackerel and dating to the early or mid-1900's. All artifacts discovered are lithics, most being flaked stone.

Pleistocene prehistory (Kleindienst)

Work on Pleistocene occurrences was conducted at three previously visited areas (Midauwara, Mata'na and Mata'na West, and Refuf), and at two areas not previously worked by KOPP members (Abu Sighawal and Gebel Yebsa) (Figure 2).

Midauwara Area (MD). At Midauwara on January 20th, 21st and 25th, ESA Localities KH/MD-03, 16 and 33 were reinvestigated (Kleindienst et al. 2003; McDonald et al. 2004). Representative samples were obtained from the first two. No additional material was located at MD-33.

MD-03: small, abraded, Dharb el-Gaga Unit ovate to cordiform bifaces are included in gravel underlying thick Palaeolake Jaja silts, together with a few flakes and cores, and only exposed in the deepest part of the deflated 'Three Balls' basin. Occasional fresher pieces weather out from the silts at higher elevations. (MD-22 occupies part of the basin floor, below).

MD-16: numerous Dharb el-Gaga Unit bifaces are incorporated in gravel bars exposed on the southeast end of the broad deflated 'Handaxe Basin'. The incidence of associated flakes and cores is extremely low, relative to that of the bifaces, probably due to

Figure 1. Concession Research Areas investigated, 2006 KOPP season. Base map = NASA/GSFC/METI/ERSDAC/JAROS. Prepared by the US/Japan ASTER Science Team.

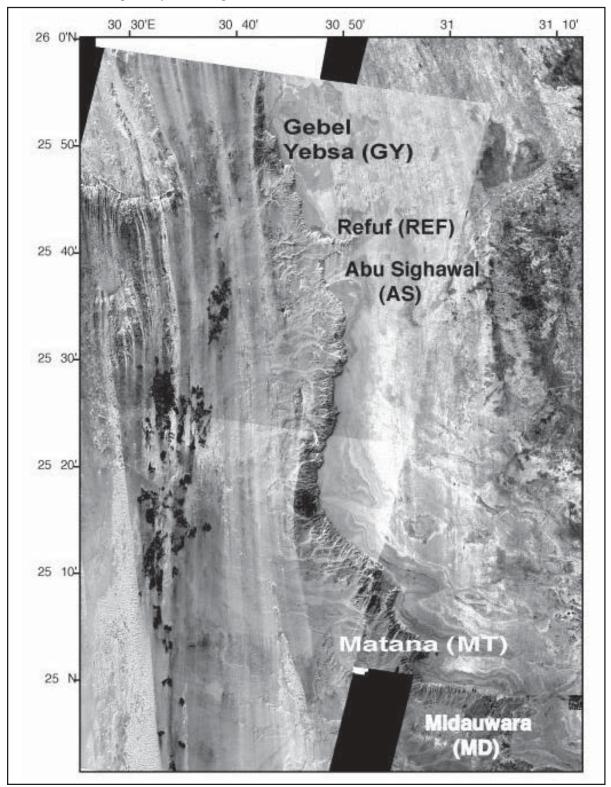


Figure 2. Cultural Stratigraphic Units recognized at Kharga and Dakhleh oases, 2006.

Approximate Age	Cultural Stra	Developmental Stages	
Years B.P.	Dakhleh Oasis Kharga Oasis		otages
4,000	Sheikh Muftah Unit	Yebsa Unit	
6,000	Bashendi Unit	Baris Unit	Neolithic
8,000	Masara Unit	Midauwara Unit	Epipalaeolithic
10,000	Sheikh Mabruk Unit	Khargan Unit	
40,000	Dakhleh Unit	Kharga Aterian Unit	Middle Stone Age
100,000	[undefined unit(s)]	Matana Unit ("Upper Levalloisian")	(Younger)
	Teneida unit		
200,000	Gifata Unit	Refuf Unit ("Lower Levalloisian")	(Older)
300,000	Balat Unit	Dharb el-Gaga	
400,000		Unit KO10 unit	(Terminal)
,	[undefined unit(Acheulian sense	Earlier Stone Age	

Transect	Artifacts / 10 pace intervals				Total # of artifacts	Artifacts / square meter	
	0	1 - 3	4 - 6	7 - 9	9 - 12		
143 sq. m	2	5	1	2	1	34	0.24

Table 1. Transect, eastern gravel bar, MD-16 basin: 110 paces = ~71.5 m.

water sorting. It is still uncertain whether these gravels overlie, or are incorporated within the upper levels of the older 'grey surfaced' tufa deposits (see Smith et al.). A 110-paced transect, ca. 2 m wide, from north to south along the eastern gravel bar yielded 34 artifacts: 28 bifaces, 3 cores, and 3 flakes (Table 1).

Two new Pleistocene localities were logged: MD-46 and MD49.

MD-46. A deep basin, deflated into tufa overlying the silts of Palaeolake Jaja. Intensive search yielded only a few associated flakes that appear to be of ESA type. (Holocene localities MD-47 and 48 are found on the basin floor, below).

MD-49. Discovered by McDonald, an embayment on the north rim of the deeply-entrenched Wadi el-Midauwara includes an MSA variant not previously found. Included are well made bifacial foliates of semi-translucent grey to brown cherts apparently associated with Levallois cores and flakes. These are in geological context only, in gravels; the area requires further survey to find a better context for the aggregate, and to establish the position of these gravels relative to the overlying 'brown surfaced' tufas. Younger generalized MSA found resting on these younger tufas utilizes 'caramel' cherts, and no foliates were found in association. The foliates might predate the Kharga Aterian Unit, where bifacial points were reported by Caton-Thompson (1952: Plates 84 and 85).

Six foliates, slightly damaged, but mainly lightly abraded, and three fragments, were found resting at various angles in the sediment: on edge and point down as well as lying imbricated with other clasts, indicating water deposition. Lengths of the

six range from 67 to 117 mm, with weights from 24 to 69 gms. Shapes range from bipointed to rounded or square based. Most appear to have been worked on end-struck flakes, but cortex on both faces of one 'roughout' suggests either a thin nodule or a tabular piece as the primary form (Figure 3). The foliates bear some similarity to those found in the Kalabsha and Ibrim areas of Nubia by the Yale Prehistoric Expedition in the 1960's. (A similar, isolated foliate was found in a wadi bottom west of Nagb Mata'na.) The points were scattered over an area of about 70 x 40 m, lying with gravel clasts of cherts and limestones, together with Levallois and unspecialized cores, Levallois and unspecialized flakes, and two fragments of possible ESA bifaces. All MSA pieces are in similar physical condition, without desert varnish, but with lightly abraded to abraded edges. A small scatter of mint to fresh Holocene artifacts was noted at a higher elevation upstream of the area, but few obvious pieces were mixed with the older material.

Mata'na Area (MT, West). To the west of Naqb Mata'na on the Escarpment, the Piedmont terraces and structural benches overlain by Pleistocene gravels stretch as far as the wadi-cut occupied by the modern railroad, ~10 km from the base of the Escarpment. Bedrocks are Dakhla shales (Klitzsch et al. 1987). On January 3rd I conducted three paced, 100 m transects near the western end of the Piedmont, in order to determine surface raw material and Pleistocene artifact incidences. Observations at each of these covered a ca. 2 m wide strip (= ca. 200 square meters of area), and finds were recorded for each 10 paces. Starting points were randomized by a hammer throw. In addition, all stones within a similar randomly selected, 1 square meter 'density square'

were recorded (Tables 2 and 3). In their transect across the Piedmont benches and terraces, McDonald and Hawkins also encountered scattered MSA, ESA isolates, and numerous small Holocene flaking stations. Possibly the MSA surface incidence reflects the dispersal of material from similar, much older flaking stations, as well as some fluvial transport from the east. Artifact condition does not support long distance transport, however. Rock types in the density squares are typical for Kharga depression gravels away from the Escarpment. A similar suite, but in much smaller sizes, can be found as far west as the western rim of Kharga depression. Several varieties of chert can be recognized. The nodular siliceous limestone is frequently used for biface manufacture in the ESA aggregates, while MSA aggregates almost entirely utilized cherts.

Mata'na Area (MT). KOPP members had previously relocated Caton-Thompson's and Gardner's "Locus G" (KOPP # KH/MT-02) (Caton-Thompson 1952: 139-143; Hawkins et al. 2001), where Gardner recovered later "Upper Levalloisian" (= Matana Unit). On January 4th, Hawkins and McDonald revisited MT-02. We revisited the locality on January 19th.

MT-02, Occurrence 1. Area of MSA from sediments underlying a tufa, excavated in 1933 by

Gardner, and reported by Caton-Thompson. Several old sanded test pits are visible, in addition to the main excavated face. A number of 'waster' artifact piles are related to the excavations. Uranium-series determination on the capping tufa is $103,000 \pm 14,000$ Uyrs (Smith et al. 2004: Table I, MAT002G).

MT-02, Occurrence 2. MSA workshop debris on the bench to the north of the old excavations includes artifacts similar to those described as found in place within the silts overlain by tufa downslope. A small, representative, selected sample from the western part of the surface exposure was collected. The material includes tips of bifacial foliates, one truncated flake and one tanged point (Kharga Aterian Unit type), as well as blades, and Levallois cores and flakes. Whether this aggregate represents separate components remains to be discovered; the workshop material undoubtedly covers an extended time period. Chert nodules are readily available weathering out of the shale knoll just to the west, where a Holocene blade flaking station is located (MT-05. below).

Abu Sighawal Area (AS). January 23rd was spent in the area of Caton-Thompson's and Gardner's excavation on the north flank of their "Tufa Cliff Wadi", where later "Lower Levalloisian" (= Refuf Unit) artifacts were excavated from silts and gravels

Table 2. Mata'na West, paced surface 100 m transects across Pleistocene gravel-capped structural benches, from lower to higher elevations: 10 paces = \sim 6.7 m of transect line, and \sim 13.5 square meters of area observed. NOTES: * highest number found = 9; ** includes 2 isolated ESA bifaces in heavily abraded condition, made of nodular siliceous limestone. Artifacts are mainly MSA flakes made of cherts, in abraded condition with dark brown desert varnish.

Transect	Artifacts / 1	0 pace interva	Total # of Artifacts	Artifacts / square meter		
#1 Low	6	6	2	1*	32	0.16
#2 Mid	5	10	-	-	16	0.08
#3 High	11	4**	-	-	7	0.035

Table 3. Mata'na West, rock types in 1 square meter density squares in each Transect area. Artifacts (Small Chert Artif.) are small MSA flakes or flake fragments, except for one specialized unstruck core from Transect #3. All are in abraded condition with dark brown desert varnish. The mid-elevation bench surface veneer shows less destruction of the less resistant limestones, and has larger pieces, than do the other two benches. KEY: Lst., limestone; Nod. Sil. Lst., nodular siliceous limestone; Sil. Lst. / Marble, siliceous limestone grading to marbleized limestone; Foss. Bedrk., fossiliferous noncompetent bedrock pieces.

	Rock Types in Density Squares / 1 square meter							
Transect	Chert	Small Chert Artif.	Lst.	Nod. Sil. Lst.	?Sil. Lst./ Marble	Foss. Bedrk.	Total No.	Largest Sized
#1 Low	44	2	17	8	1	-	72	7-8 cm
%	63.9		36.1					
#2 Mid	59	3	113	10	3	-	194	8-20 cm
%	32.0		68.0					
#3 High	101	3	22	14	3	4	147	6-8 cm
%	70.7		26.6	26.6				

underlying a tufa (their KO18; KOPP # KH/AS-06) (Caton-Thompson 1952: 107-111). Surface MSA is scattered over the Esna shales area to the north and west, spilling down onto the "4m terrace" gravels, which flank the wadi downstream. We also noted pieces of burnt 'caramel' chert (= 'wine' chert), and blackened, burnt fragments of tufa. 'Caramel' chert nodules are fairly abundant, some fragmenting naturally into plates and 'pseudo artifacts', but no local bedrock source was seen. No artifacts or cherts were noted in the main wadi bottom gravels below or upstream of the excavated cliff section.

AS-06, Occurrence 1: Only a few chert fragments were recovered from the excavation face; the steep talus below was barren. No 'waster' pile was found, but the bench area to the west, where one might have been located, is covered by sand.

AS-06, Occurrence 2: A concentration of MSA workshop debris rested on a shale nose to the

north, and above the level of the excavated sediments. The aggregate appears to be similar to that reported from the excavation, although Caton-Thompson considered finds from nearer the tufa rim, and above their cut, to be significantly younger in age than those from the cut. A representative surface area sample was collected, which appears to be older generalized MSA (cf. Refuf Unit).

Refuf Area (REF). We were only able to work for a few hours at the Wadi el-Refuf on January 22nd, due to the difficulty in accessing this area. My investigation of the north rim of the wadi was around the high cairned point marked by Gardner as elevation 397 m (Caton-Thompson 1952: Plate 127). Sparsely scattered small artifacts and fragments of 'caramel' chert occur on the several structural benches in the Esna shales below the point. The capping outcrops of El Refuf Formation limestones include large, round siliceous limestone concretions (battikh). One new locality was logged.

Figure 3. Wadi el-Midauwara Area: KH/MD-49 bifacial foliate points, nos. 35 and 36, both chert, lightly abraded to abraded, with broken butts. No. 35 found lying on edge with point up in gravels (MRK, Feb. 06, 2006).



REF-15. To the northwest of the high point, a small concentration of artifacts rests in the bottom of a deflation coulier between limestone yardangs. There is no local source of cherts. The aggregate, in relatively fresh condition, is unusual in that it includes both small-sized Levallois and blade technologies, utilizing both grey to brown and 'caramel' cherts. No shaped tools were noted, excepting one handstone of imported ferruginous sandstone. We have not previously encountered similar material, but there seems to be no obvious reason to support this aggregate being a mixture of two separate components of different ages. Possibly, it represents a terminal Late Pleistocene unit. Further survey on the rim areas is required.

Gebel Yebsa Area (GY). On January 24th, the higher ground north and south of the old road up the Escarpment was surveyed. This area was noted by Caton-Thompson to be rich in Holocene localities (1952: 162-164); and was also surveyed by Simmons and Mandel (1985) who reported some Pleistocene occurrences. Two types of occurrence were noted.

GY-07, 08, 09, and 10. Isolated small scatters of small-sized MSA occur in low slopewash depressions near, but below, the uptilted limestone rim of the Plateau, and west of Simmons' and Mandel's Holocene locality KUDWE #18. Cores, flakes and shaped tools are made of 'caramel' and other cherts from below the rim; occasional non-chert raw mate-

rials must have been imported from the Lowland. The occurrences appear to be places where people stopped to conduct some maintenance activities just after reaching the top of the Escarpment. They are provisionally assigned to the Khargan Unit. These localities do not appear to have been reported previously, although KUDWE #19 through #28 ("Mousterian") could be similar occurrences (Simmons and Mandel 1985: 131-133).

GY-11. The high elongated and cairned ridgetop north of the old tarmac road, and about 1 km east of the Plateau rim, is covered by a mass of desert varnished MSA workshop debris. The yellow to orange chert eroding from the bedrock is of poor quality, full of vugs and inclusions, which probably accounts for the large amount of undiagnostic artifacts. Those seen appeared to be younger generalized MSA (cf. Matana Unit), despite their 'mahogany' patina.

Holocene: Late Prehistory (McDonald)

In addition to the Mata'na survey with Hawkins, I worked another 13 field days, from January 13th through 25th. We found new localities assigned to each of the Holocene cultural units defined for Kharga (Figure 2): the Midauwara Unit, an Epipalaeolithic unit, dated c. 9200-7700 bp, and the Baris Unit, divided into Early Baris (ca. 7500-6800 bp) and Late Baris (ca. 6500-5000 bp). We found two new localities that may postdate Baris. We propose to call this unit the Yebsa Unit, after the area where we discovered one of these localities.

We worked in five areas: Wadi el-Midauwara, the Mata'na Pass, the Plateau top between the Abu Sighawal and Refuf passes, the Refuf embayment, and the Gebel Yebsa Plateau top (Figure 1). We recorded 20 new Late Prehistoric localities, and revisited three others that had been recorded in previous seasons.

Wadi el-Midauwara Area (MD). At Midauwara, we extended survey southward in the area between the main wadi and the railway tracks (Figure 4). We revisited two known localities, MD-22 and 41, and recorded four new ones, MD-47, 48, 50 and 51. At least five localities are Late Baris in age: MD-22, 41, 48, 50 and 51 all occupy deep basins in the southern half of the Midauwara 'grey surfaced', Wadi Tufa 1 area (Smith et al. 2004), They

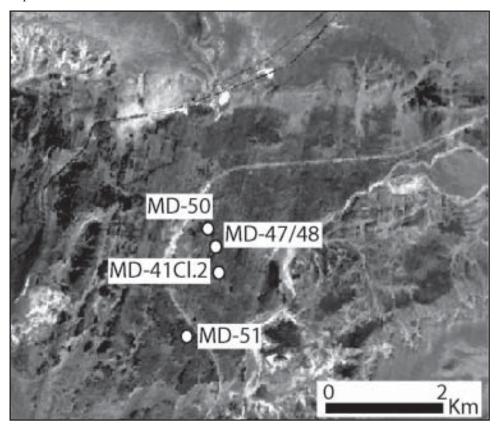


Figure 4. Map of Holocene Prehistoric localities at Wadi el-Midauwara.

all feature hearth mounds, clusters of fire cracked rock, and often possible slab structures. Chipped stone tools include side blow flakes, tranchets and other scrapers and denticulates, bifacial knives, occasional axes, and sometimes a few arrowheads. Most sites feature one or more artificially rounded chert or siliceous limestone balls measuring ca. 9 to 16 cm in diameter (Figure 5), artifacts that have never before been recorded in this area. There are handstones and grinding slabs, and often a few sherds. We suspect the Late Baris people were pastoral nomads, keeping goats and perhaps cattle, but so far the only identified bone, found on two separate spots on MD-22, is hartebeest.

The one new locality still to be firmly placed in our sequence is **MD-47**. MD-47 is a small blade-knapping station within the same small basin as the Late Baris locality MD-48 (basin MD-46, above). MD-47 yielded blade cores in a good quality nodular chert and blades up to 12 cm long, as well as backed bladelets and elongated triangles. Similar blades and microliths have been found elsewhere in

Wadi Midauwara (e.g. MD-04 and MD-40), where they were assumed to belong to the Epipalaeolithic or Midauwara Unit. Now I suspect that Late Baris people may be responsible for some of this blade knapping. Similar blade knapping spots were noted on several other Late Baris occurrences, including MD-50 and 51. This was one of the questions addressed in survey of some other areas visited this year, notably Mata'na, Refuf and Gebel Yebsa. It is essential to work out which blade knapping stations belong to the Midauwara Unit and which are Late Baris, before we can address larger issues of changing adaptive and land use patterns in Late Prehistoric times.

Mata'na Area (MT). During the transect survey to, and up the Mata'na Escarpment to MT-02 (above), we recorded, but did not collect, several spots where either side blow flakes or large blades were being knapped on good quality nodular chert. When I returned to the area on January 19th, I collected a sample from a blade-knapping station, MT-05 in order to study the technology involved.

Figure 5. A natural chert ball from MD-49 embayment Pleistocene gravels; note uneven surface and protuberances (1 kg); b. MD-48 Late Baris scatter, small worked chert ball (not collected); c. MD-22, large worked ball, chert or siliceous limestone (4.5 kg), with smoothed and polished surface, due either to deliberate working or caused by use; function unknown; d. MD-22, small worked ball, chert or siliceous limestone (2.5 kg) (MRK).

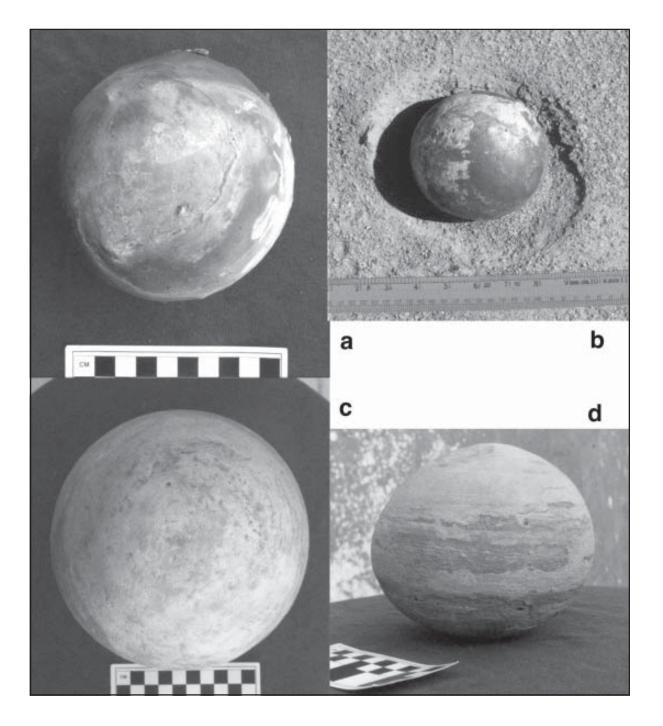


Figure 6. Map of Holocene localities at Refuf and Abu Sighawal.

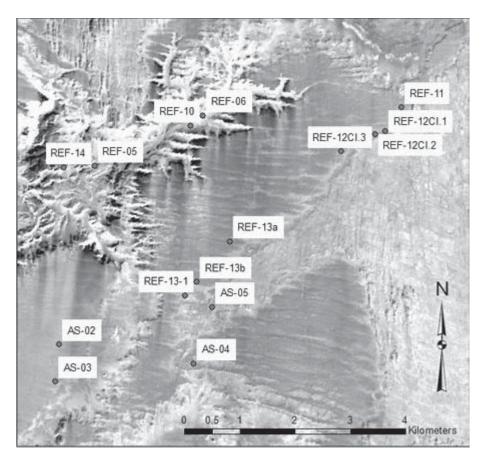


Figure 7. REF-12, Cluster 1. Figure is standing on the large mound, with a smaller mound behind to the right (MMAMcD).



Figure 8. REF-14 from the south showing some of the slab structures. Figure (middle distance) for scale. (B. Churcher, January 22, 2006).



Figure 9. REF-14 bifacial knife, 'caramel' chert. (B. Churcher, January 22, 2006).

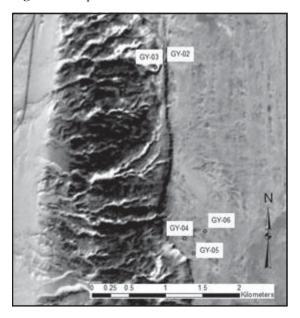


This may help determine whether blade knapping stations can be attributed to different cultural units.

Plateau top between Abu Sighawal and Refuf passes (AS and REF). On the Plateau top a well-marked trail runs from the Abu Sighawal Pass northeastward to the head of the Refuf Pass. It is bordered on the east by a low scarp. To the west, between the trail and the Plateau edge, lie Caton-Thompson's "chert workings", the extensive outcrops of tabular chert that were quarried in Late Prehistoric times (1952:187 ff.). Caton-Thompson (1952:162, 192) reports two types of localities in this area, "Bedouin Microlithic" scatters in small siltfilled hollows, and "Peasant Neolithic" material associated with hearth mounds. Most of our localities would fall into the latter category (Figure 6), but one earlier occurrence was recorded: Locality AS-05 seems Early Baris in age. It consists of about eight, mostly small hearth mounds within a silt-filled hollow about 100m across. The associated industry, emphasizing flakes more than blades, includes denticulates and scrapers, bipointed and tanged arrowheads, and a single backed bladelet. (Caton-Thompson's published locality from the area [1952:163-4 and Pl. 98] seems to belong to the earlier Midauwara Unit).

Most occurrences on this stretch of the Plateau top resemble Caton-Thompson's "Peasant Neolithic" material, and in our sequence are probably Late Baris localities. Running southward about 5 km from the head of the Refuf Pass and west of the low scarp is quite a rich scatter of hearth mounds and associated artifacts, sampled at localities REF-12 and 13. Most mounds measure one to two meters across, but a few larger ones are over 10 m across; the mound at REF-12, Cluster 1, is about 20 m in diameter and over one meter high (Figure 7). Associated artifacts, fashioned on the local 'caramel' or brown tabular chert as well as of a black nodular chert, include tranchets and other scrapers, denticulates, knives and drills. In several spots, a series of side blow flakes was knapped off and then retouched. No arrowheads or pottery were noted. Several grinding slabs with raised rims and round flattened handstones were recorded. Further south, approaching Abu Sighawal Pass, similar features and artifacts are found, but are fewer, and the artifact scatters are sparse (e.g. AS-02, 03 and 04). Three alignments of cobbles and limestone blocks on AS-02 might have been shelters.

Figure 10. Map of Holocene localities at Gebel Yebsa.



The Embayment of the Wadi el-Refuf Pass

(REF). Survey of the embayment at Refuf Pass for Late Prehistoric occurrences has barely begun, but finds here contrast with the Late Baris hearth mound fields atop the Plateau. The area surveyed in 2006, up to 3.5 km westward from the head of the pass, is not rich archaeologically. Some surfaces are sanded over, others barren of chert, and still others that have a thin scatter of mostly unworked brown tabular fragments, but which include a few spots with clear evidence of Holocene human activity:

REF-05: a locality, first recorded in 2001 by Hawkins, about two km down wadi from REF-10, in a small basin nestled against the north wall of the Refuf embayment. The artifact scatter extends ca. 70 x 40 m, with five possible slab structures near its north end, each up to 2 m across. It is a knapping site where mostly the local tabular chert was worked into flakes and blades up to 8 cm long. As with REF-09 and 10, almost no diagnostics were found. The blades, and small bladelet cores, might suggest the Midauwara Unit, but there were no backed bladelets, arrowheads or other tools that would confirm that assignment.

REF-09: a scatter ca. 30 m across with blade and bladelet cores, core fragments and blades up to 12 cm long, mostly in the 'caramel' or brown tabular

chert. Few of the blades are retouched, and almost no diagnostic tools were found.

REF-10: A small scatter similar to and about 300 m away from REF-09, where cherts were knapped.

REF-14: in a small northern wadi-cut embayment about 500 m west of REF-05, the settlement consists of about 20 slab-built structures occupying an area about 60 m in diameter (Figure 8). The structures, many with their slabs on edge, range from round or oval ones 2 to 3 m across to bilobed or crescent shapes up to 5 m long. Associated tools, mostly in local tabular chert, include two large knives (Figure 9), another fine bifacial tool, bipointed arrowheads, drills and a rounded scraper. Also noted were pottery with coarse shale inclusions, a grinding slab fragment, and ostrich eggshell fragments. The chipped stone collection suggests REF-14 occupation might be contemporary with the Late Predynastic or the Early Dynastic period in the Nile Valley; thus, it is probably younger than the Late Baris localities.

Gebel Yebsa Area (GY). The Plateau surface at Gebel Yebsa was previously investigated by Gardner in 1932-33 (Caton-Thompson 1952:197) and by Simmons and Mandel (1986). Two days were spent in relocating some of their localities, in order to determine where their material fits into our archaeological sequence. Five localities, GY-02 to 06, were recorded (Figure 10).

GY-02: east of the Escarpment rim is Simmons and Mandel's KUWDE #18, which they list as "Terminal Palaeolithic" (1986: 122) (= the Epipalaeolithic Midauwara Unit). A new surface collection, including Ounan points, various backed bladelets, microburins and deeply notched (or 'strangulated') blades, confirms that designation. We made a complete collection (n = 666 pieces) of an *in situ* blade knapping locality on GY-02 to represent Midauwara blade knapping technology that we could then compare with the technology found at problematic sites such as MD-47 (above).

GY-03: on the ridge above GY-02, pottery and chipped stone may postdate the Late Baris. These resemble the Sheikh Muftah Unit in Dakhleh Oasis. I ascribe this material, as well as that from REF-14 (above) to a new cultural unit, the Yebsa Unit.

The other three occurrences at Yebsa are all associated with a large pan about 2 km south of GY-02. **GY-04** is probably Simmons and Mandel's KUDWE #61. Few diagnostics remain, but from their description, the material is probably largely Baris Unit. **GY-05** and **GY-06** were both visited by Gardner or her assistants. Their location matches the published descriptions (Caton-Thompson 1952:162), and the piles of chipped stone left behind and old test pits are still visible. The published collection from Yebsa (Caton-Thompson 1952, Pl. 97), which is a combination of Midauwara (e.g. # 1 - 12, 16) and Baris tools (tanged and bipointed arrowheads, #19-27), seems to be drawn from both GY-05 and 06, which are almost adjacent to each other.

GY-05: probably Simmons and Mandel's (1986:172) KUDWE #59. They assign the contents as "Terminal Palaeolithic" (= Midauwara Unit). My collection including a Harif point, a double-patinated end scraper, and long ridge flakes, confirms this.

GY-06: features scatters of sherds similar to Bashendi Unit pottery in Dakhleh (C. Hope, pers. comm., Feb., 2006). together with tools such as side blow flakes. These suggest that the locality belongs to the Baris Unit.

Conclusion

In summary, in 2006 we continued our survey of the archaeologically-rich Midauwara Area, and extended work northward to four other locales along the Kharga Escarpment. In each area we found abundant traces of human activity during Late Prehistory, with more than one cultural unit represented in several areas. Perhaps most surprising is the evidence that the Refuf embayment, like the embayment at Midauwara, may occasionally have been a focus of settlement. The slab-built structures of REF-14, like those of MD-18 and MD-43, suggest that these locations were more than just temporary camping sites for groups entering or leaving the oasis. It should be noted as well that not all the Kharga 'passes' were equally attractive at the time: a survey of the Bulaq Pass in 2005 found no major Late Prehistoric presence in that area. One of our challenges in the future will be to determine what it was that attracted people to each location at different times in the early and mid-Holocene.

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