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Beyond The Wadi El-Midauwara: The Holocene Prehistory of The Plateau Edge above Kharga Oasis, Egypt

Introduction

Since 2001, members of the Kharga Oasis Prehistoric Project (KOPP) have worked on the Escarpment and edge of the Libyan Plateau bordering Kharga Oasis in order to establish the palaeoenvironmental and archaeological sequences from the Plio-Pleistocene through to historic times. As the project's Holocene Prehistorian, I have worked 52 days over seven seasons in the area, spending the bulk of that time, 58%, in the remarkably rich Wadi el-Midauwara at the southern end of the oasis. Discoveries at Midauwara to 2005 have already been reported in this series (McDonald 2006), and work since then, in 2006 and 2008, has been summarized elsewhere (McDonald *et al.* 2006; McDonald in prep.). This paper will focus instead on findings at several other points on the Plateau edge to the north of Midauwara, at the passes of Mata'na, Bulaq, Abu Sighawal, Refuf and Gebel Yebsa (Fig. 1).

The Wadi el-Midauwara had never been explored by archaeologists, so the rich early to mid-Holocene material in the embayment came as a surprise. The archaeological record of the localities to the north along the edge of the Plateau however was better-known, through the publications of Caton-Thompson (1952) and Simmons and Mandel (1986). In establishing their classic geoarchaeological and palaeoenvironmental sequence for the Western Desert, G. Caton-Thompson and E. W. Gardner in the 1930s's surveyed the Plateau rim and Escarpment face from Gebel Yebsa south as far as

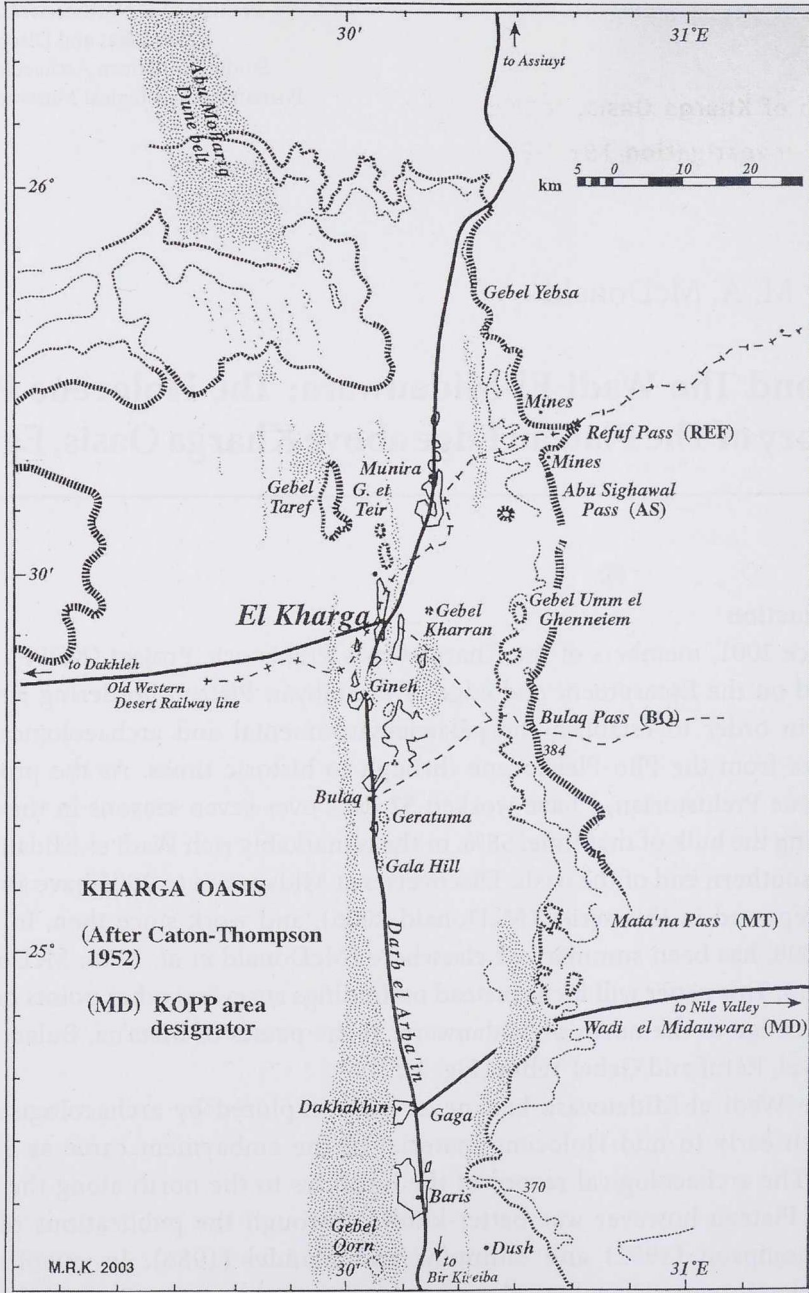


Fig. 1. Kharga Oasis, Egypt, showing passes on the Eastern Escarpment mentioned in this paper. (Base map by M. R. Kleindienst after Caton-Thompson 1952, Pl. 126).

the Mata'na Pass. On the Escarpment face they found little of Holocene age (Caton-Thompson 1952: 32). On the Plateau top, however, they report much early to mid-Holocene material: no really large sites, but rather lithic scatters associated with innumerable "silt-filled little hollows formed in the limestone floor of the high desert" (Caton-Thompson 1952: 162). Such scatters, mostly of the 'Bedouin Microlithic', but also the 'Peasant Neolithic', were recorded at the Yebsa Pass, along the Plateau top from Refuf to Abu Sighawal, between the Gebel Umm-el-Ghenneim and the Bulaq Pass, and at the Mata'na Pass.

A. H. Simmons and R. D. Mandel (1986) in the survey by the Kansas University Western Desert Expedition (KUWDE) of the northern part of Kharga, ran two transects of interest here. Transect 7 lay north and west of the road to Assiut at the pass north of Yebsa, between the road and the edge of the Plateau. The seven sites recorded here include one with a 'Terminal Palaeolithic' component. Transect 4 ran southward from Gebel Yebsa about 3 km along the edge of the Plateau. The 50-odd Transect 4 sites include 15 with Terminal Palaeolithic and/or 'Neolithic' material. A third transect, Transect 1, ran up the old rail line in the Refuf Pass, but no Holocene material was recorded.

Finally, D. Darnell, of the Theban Desert Road Survey, mentions a number of sites on the Plateau near Yebsa that yield both locally-made pottery and Nile Valley imports, including Predynastic and Early Dynastic wares (Darnell 2002:165-66).

My goals, as at Wadi el-Midauwarra, were to refine the Holocene prehistoric sequence preserved on the eastern Kharga Escarpment and along the edge of the Libyan Plateau, and to determine the adaptive patterns of humans during the early and mid-Holocene (ca. 8300 to 2500 cal. B.C.). I have defined two major cultural units: 1) the Midauwarra Unit, an Epipalaeolithic unit dated ca. 8300-6500 cal. B.C.; and 2) the Neolithic Baris Unit, now subdivided into Early (ca. 6400-5650 cal. B.C.) and Late (ca. 5400-3800 cal B.C.) phases. A later prehistoric unit, the *Yebsa*, the equivalent perhaps of the Dakhleh Oasis Sheikh Muftah or the later Predynastic in the Nile Valley, has also been postulated.

This sequence is based on the Late Prehistoric archaeological record at Wadi el-Midauwarra. It was necessary to determine if it was equally applicable to the more northern portions of the Plateau edge at Kharga. I also wished to relocate some of the sites recorded by the earlier projects listed above, and to determine where their material fits into the KOPP archaeological sequence.

1 Dating of these cultural units is on analogy with well-dated sequences from Dakhleh Oasis and elsewhere in the Western Desert, and from the Nile Valley. There are as yet few reliable absolute dates from our Holocene Prehistoric sites at Kharga.

Gebel Yebsa Area

The Gebel Yebsa Area, because of the tarmac road to Assiut running up the pass, is the most accessible of the Plateau edge locations under discussion (Fig. 2). Consequently, it has received the most attention from the earlier projects mentioned above, and as well as from the KOPP in 2006 and 2008. Like Simmons and Mandel, at Yebsa I divided my time between the area north and west of the road (the northern survey), and that running south of Gebel Yebsa (the southern survey).

Gebel Yebsa Area, northern survey

The area between the road to Assiut and the edge of the Plateau has all been heavily disturbed by recent road building activities. In 2008, none of Simmons and Mandel's Transect 4 sites could be relocated. Still, archaeological remains at four recorded locations suggest that the area was occupied throughout Late Prehistory.

GY-16 and **GY-23** are Midauwara Unit sites located near the large northeastern Kharga re-entrant, in an area otherwise bare of Holocene material. Both feature a blade industry and one or two stemmed points, while **GY-16** has two possible hut circles.

A few patches of mid-Holocene material were recorded just north of the road, above the pass, in an area otherwise criss-crossed by bulldozer tracks. **GY-20** consists of three patches of mid-Holocene chipped stone and pottery: the richest patch measures 11 x 14 m; another, 40 m east, is 27 x 16 m; the third patch lies 70m southeast of the first. The only features noted were two scatters of fire-cracked rock (FCR) on the second patch. The first yielded three Armant axes, steep-sectioned denticulates, and a worked white quartz pebble, suggesting it is a Late Baris Phase site. The other two patches might be slightly older: the pottery appears to be Early Baris Phase in age (C. Hope, pers. com. Feb. 2008). A bifacial knife fragment lay on the disturbed ground between these two patches.

GY-18 is a pottery and lithics scatter measuring 11m across and cut on all sides by bulldozer tracks. Colin Hope (pers. com. Feb. 2008), noted in the pottery collection elements resembling both Dakhleh Late Sheikh Muftah pottery and Nile Valley Early Dynastic and Old Kingdom material. The chipped stone collection is rather nondescript, emphasizing points and denticulates on tabular chert. **GY-18** is a Yebsa Unit site.

Gebel Yebsa Area, southern survey

I surveyed this area in both 2006 (McDonald *et al.* 2006) and 2008. In 2006 I walked a 2.5 km strip running southward parallel to the edge of the Plateau, ter-

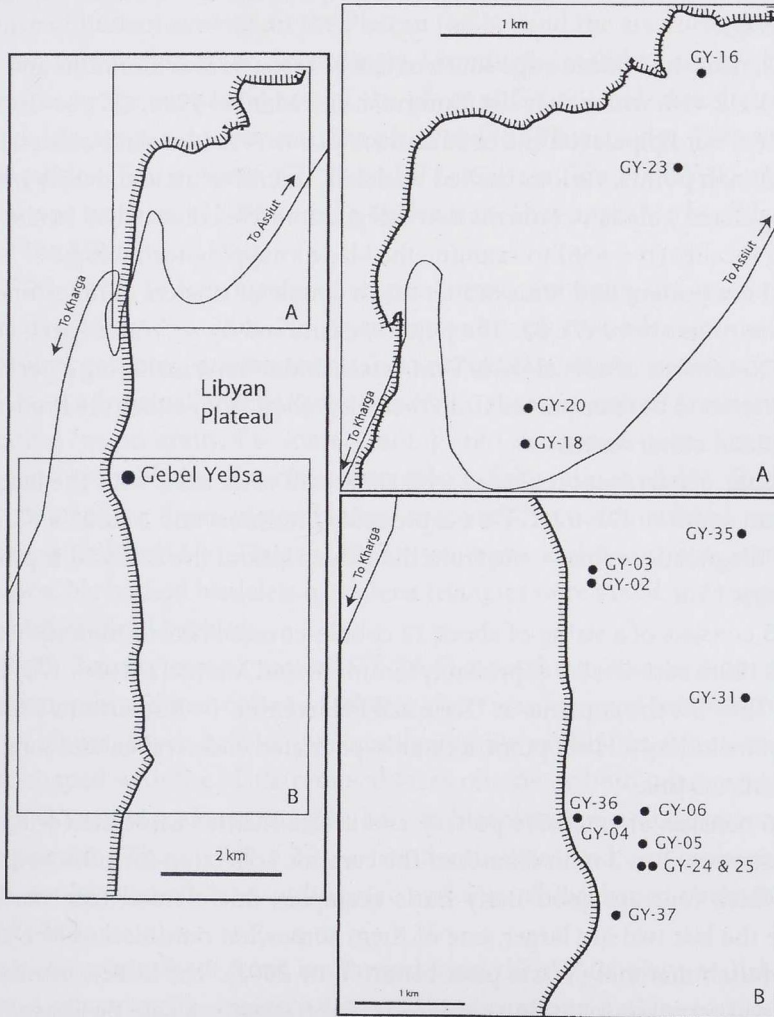


Fig. 2. Gebel Yebsa area showing Holocene Prehistoric sites recorded in the northern (A) and the southern (B) surveys. (Base map by J. R. Smith).

minating about 3 km south of Gebel Yebsa in a large playa. This strip lies within Simmons and Mandel's Transect 4, and also proved to be the region explored by Gardner in 1933. I was able to confirm the conclusions of both earlier groups that the area, particularly the large playa, bears many cultural remains of early to mid-Holocene age.

GY-02, near the Plateau edge south of Gebel Yebsa, is also Simmons and Mandel's KUWDE #18, which they list (Simmons and Mandel 1986: 122) as 'Terminal Palaeolithic', our Epipalaeolithic or Midauwara Unit. A new surface collection, including Ounan points, various backed bladelets, microburins and deeply notched (or 'strangulated') blades, confirms that designation. We collected an in situ blade knapping locality (n = 666) to examine the blade knapping technology.

GY-03 is a pottery and lithic scatter and a couple of clusters of limestone cobbles on the ridge above GY-02. The pottery, examined by A. Warfe (pers. comm. June 2007), consists of a local Baris Unit vessel, and others, including a perforated disk, that seem to be transported from the Nile Valley, from either the Predynastic or the Nubian culture areas.

The other occurrences recorded in 2006 are all associated with the 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 consists of a string of about 12 cobble-covered hearth mounds extending about 100m east-west. It is probably Simmons and Mandel's (1986: 172) KUDWE #59. They list 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 consists of extensive pottery and lithics scatters associated with limestone clusters ca. 1 to 2 m in diameter. The ceramic collection includes seven vessels, of which four are good Early Baris examples, one a small Late Baris vessel, while the last two are larger, one of them somewhat reminiscent of Dakhleh Sheikh Muftah material (Warfe pers. comm. June 2007). The lithics, mostly denticulates and scrapers, including a side blow flake, suggest a Late Baris age.

GY-05 and **GY-06** seem to have both visited by Gardner in 1933. 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.

It was clear from the evidence gathered in 2006, and from the northern survey at Yebsa that this part of the Plateau edge, adjacent to what remains today the main route out of Kharga leading to the Nile Valley, was an attractive camping spot throughout the early and mid-Holocene. In 2008 I wanted to check for evidence of human activity on the Plateau top beyond the area near the pass that had been surveyed in 2006. Accordingly, I conducted walking surveys for several kilometres to the south and east of the playa of GY-06, and visited a portion of the high limestone ridge between the playa and the Plateau edge. I discovered five new localities. Two of these, **GY-24** and **GY-25**, lie within the **GY-06** playa basin, but upslope from the **GY-05** and **GY-06** scatters. They appear to be different variants of the Midauwara Unit.

GY-24. Seven to ten clusters of chipped stone, averaging 7m in diameter, occur in an area ca. 85 x 35m. No structures or hearth mounds were noted. A few handstones, grinding slab fragments in imported sandstone, ostrich eggshell fragments, and a few small sherds at one end of the site were noted. A variety of cherts (including 'wood grained')--some grading into limestone--were knapped, predominantly into blades of various sizes (blade/flake ratio is 60:40). Tools include many notched or denticulated blades, some of them strangulated, rod-shaped mèches or drills (#16 in Tixier's [1963] typology), and two simple stemmed arrowheads. No backed bladelets or scalene triangles were noted. This appears to be a late Midauwara Unit site.

GY-25. Seventy meters east of **GY-24**, is a patch ca. 20m in diameter where predominantly caramel-coloured tabular chert was knapped into relatively small narrow blades. Over half of the cores resemble multifaceted burins: they are wedge-shaped with the blade removal faces on one or both narrow edges. Tools include elongated scalene triangles, backed bladelets, some of them very narrow, three piercers (Tixier 1963 # 12), a few denticulates and a microburin. Just off the cluster lay a small flat grinding slab and a carefully shaped handstone with a gabled back.

I ran transects about 6 km southward from the **GY-06** playa and about 2 km eastward, where satellite imagery showed large, promising-looking playas. I encountered three outcrops of tabular chert, none apparently exploited in the Holocene, although one of them had been used in the Younger MSA. Otherwise, aside from the occasional lithic artefact, either of MSA age or from the Holocene, or the isolated cluster of FCR, there was little sign of prehistoric human activity. Exceptions were two localities, **GY-31** and **GY-35**, lying along what may have been a prehistoric communication route approaching the Plateau rim from the northeast.

GY-31. A scatter of ca. 20 clusters of limestone cobbles stretching about 400m on the bare surface at the base of a low ridge. The cobbles measure about 12cm across, while the clusters average about 2 m in diameter. Near the north end of the site is a ring ca. 6 m in diameter made up of large blocks of limestone about 30cm across. Near the south end is an outcrop of siliceous limestone where large flakes were knapped. Cultural material around the clusters is sparse and suggests brief occupations at various times in the Holocene: a sherd of Early Baris Phase vintage; a broken Roman water jar on one of the clusters; some nondescript knapping of blades and flakes; a couple of informal notches.

GY-35. An extensive spread of Early Baris Phase hearth mounds in a flat open area over a kilometre north of **GY-31**. Two main clusters of hearth mounds occur: the east cluster measures about 200 x 25 m; the west one about 100 x 80 m, with about 35 mounds in the west cluster. Mounds range from small, <1.5 m in diameter and spaced only 2 to 4 m apart in the south end of the east cluster, to larger ones <7 m across and spaced further apart in the west cluster. Flakes and blades were knapped from fairly small cores, many on caramel-coloured chert. Tools include bifacially-knapped, mostly bipointed arrowheads <55 mm long, knife fragments with bifacial edge retouch, two rough side blow flakes, three possible planes, three scrapers on thermal spalls, and variously denticulated flakes, blades and spalls. Several handstones and grinding slab fragments were noted. The pottery seems to be largely locally made and dated to the Early Baris Phase (C. Hope, pers. com., Feb. 2008). One or two of the sherds might bear impressions. The assemblage suggests a later Early Baris Phase age.

GY-36. **GY-36** lies on the high limestone ridge between the **GY-06** playa and the edge of the Plateau. It consists of several patches of chipped stone and a few small clusters of limestone, possible hearths. The scatters run 150 m roughly north-south in a wadi-cut depression. The site probably corresponds to Simmons and Mandel's (1986) KUWDE #29. The lithic industry is fairly bladey, and core fragments include several ridge flakes. Tools include four arrowheads, three of them grading into drills, and one with invasive retouch covering most of the dorsal face. There are four double-backed perforators including a short drill bit, and a series of notched or denticulated blades. While the clusters may not all be contemporaneous, the assemblages as a whole suggest a late Midauwara Unit date.

Plateau top between Refuf and Abu Sighawal (Fig. 3)

Moving southward from Gebel Yebsa, the next area reported by Caton-Thompson (1952) to be rich in Late Prehistoric material is the Plateau top

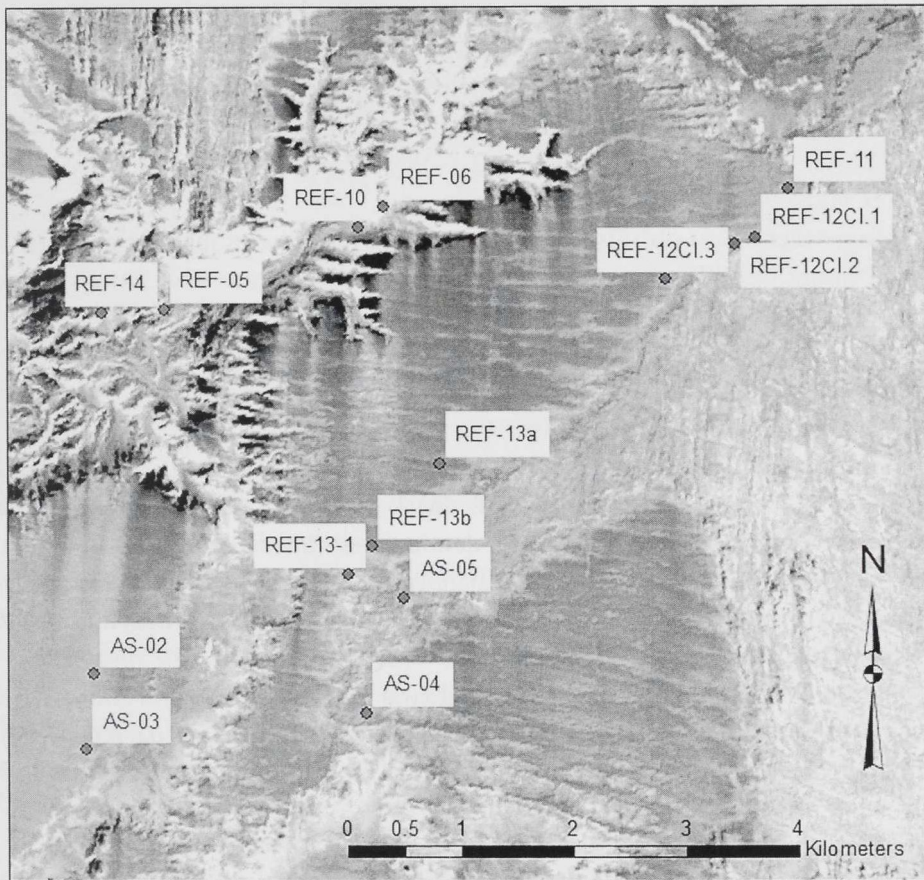


Fig. 3. Holocene Prehistoric sites recorded in the Wadi el-Refuf embayment and on the Plateau top between the head of the Refuf Pass and the Abu Sighawal Pass.

from Refuf to the Abu Sighawal Pass. I spent four days there in the 2006 season, and another day in 2008.

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 which were quarried in Late Prehistoric times (Caton-Thompson 1952: 187 ff). Caton-Thompson (1952: 162, 192) reports two types of localities along the trail, Bedouin Microlithic scatters in small silt-filled hollows, and Peasant Neolithic material associated with hearth mounds. Most of our sites would fall into the latter category, but one earlier locality was recorded.

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, Pl. 98] seems to belong mostly 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 10m across; the mound at REF-12, Cluster 1, is about 20 m in diameter and over one meter high. Associated artifacts, fashioned on the local 'caramel' or brown tabular chert, as well as 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 the 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.

The Embayment of the Wadi el-Refuf Pass.

Little of Holocene age has been reported here by either Caton-Thompson or the KUDWE, and survey by the KOPP has barely begun. So far the picture in the Embayment contrasts dramatically with the extensive 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 others have a thin scatter of mostly unworked brown tabular fragments. Within the latter, a few spots with clear evidence of Holocene human activity were noted.

REF-09 and **10** are spots about 300 m apart where chert was knapped. Both are small scatters (REF-09 is ca. 30 m across) with blade and bladelet cores, core fragments and blades up to 12cm long, mostly in the 'caramel' or brown tabular chert. Few of the blades are retouched, and almost no diagnostic tools were found.

REF-05: a locality, first recorded in 2001 by Hawkins (Hawkins et al. 2001), about two km down the wadi from Ref-10, in a small basin nestled against the north



Fig. 4. REF-14 from the south showing some of the slab structures. Figure (arrow, middle distance) for scale. (B. Churcher, January 22, 2006).

wall of the Refuf embayment. The artifact scatter extends ca. 70 x 40 m, and near its north end are five possible slab structures, 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-14: A much richer locality in a small northern wadi-cut embayment about 500 m west of REF-05. It consists of about 20 slab-built structures occupying an area ca. 60m in diameter (Fig. 4). 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, another fine bifacial tool, bipoined arrowheads, drills and a rounded scraper. While some of the tools suggest the REF-14 occupation might be contemporary with the Late Predynastic or the Early Dynastic period in the Nile Valley, the pottery is a local Late Baris ware with medium-coarse shale fabric (A. Warfe, pers. comm. June 2007).

Plateau top south of the Abu Sighawal Pass

In my 2008 visit atop Abu Sighawal, I turned southward from the head of the pass. About 1.2 km south along the edge of the Plateau, I encountered a major outcrop of caramel tabular chert, worked in Holocene times, reminiscent of Caton-Thompson's 'chert workings' lying to the north, on either side of the Refuf Pass..

AS-08. The main tabular chert outcrop, at the Plateau edge, measures 150 x 90 m. The ground is covered with reddish caramel chert. The stone on the surface tends to break in rectilinear pieces--slabs up to 40 x 20 x 3 cm, and narrower bars up to 35 x 8 x 4 cm. Amongst the debris a number of large, heavy-duty tools were noted including various mauls and denticulated scrapers. Along the east edge of the outcrop is a "miner's hut" (cf. Caton-Thompson 1952:192). Unlike those recorded by Caton-Thompson, which are arc-shaped dry stone walls built up to 1m high, the AS-08 hut (Fig. 5) is an oval ring 5 x 3.5 m, open to the south, consisting of a single discontinuous layer of limestone blocks measuring <40 x 20 cm, interspersed with three large slabs of tabular chert. Another structure, 15 m away, an arc of stones 2m long, contained a broken Roman water jar. On the north side of the outcrop are other alignments of rock that may or may not be natural.

As Caton-Thompson remarks (1952: 194), it is difficult to assign precise dates to the chert-workings located on this part of the Plateau edge. She argues that much of the extraction work on the sites she investigated is attributable to the Peasant Neolithic (our Late Baris Phase) people whose hearth mounds as mentioned, border the chert outcroppings above the Refuf Pass. She adds that exploitation of this resource may have continued well beyond the Neolithic. For example, large 'ingots' of caramel chert are found at the Old Kingdom capital of 'Ain Aseel in Dakhleh.

AS-09. A blade-knapping scatter covering ca. 4 x 2 m is located 30m south of the main outcrop of AS-08 (Fig. 6). A grab sample of 70 items shows that the edges of tabular chert slabs were knapped to produce relatively short, rectangular-shaped blades with large triangular-shaped butts, most showing no platform preparation. Non-cortical blades measure <70mm long.

The Bulaq Pass

As mentioned above, Caton-Thompson (1952) reported seeing scatters of Holocene artifacts around pans along the edge of the scarp between the Bulaq pass and the Gebel Umm el Ghenneim to the north. In 2005, four members of the KOPP surveyed ca. 4 km² of the Plateau top at the head of the Bulaq Pass. We noted a thin scatter of debris dating from the last several millennia, including isolated chipped stone tools or grindstone fragments of early to mid-Holocene age, a few well-constructed rectangular slab structures that might date to Roman times, and several scatters of sherds bearing basket-impressed decoration that may be of early Islamic age. Within the surveyed area, however, we found no coherent scatter of early or mid-Holocene material. Also, like Caton-Thompson (above, p. 1), we noticed little of Holocene age on the climb up the scarp face to the head of the pass.



Fig. 5. AS-08 “miner’s hut” with the outcrop of reddish chert behind it to the left.



Fig. 6. AS-09 blade knapping scatter.

The Mata'na Area

The Plateau top at the Mata'na Pass is one of the locations where Caton-Thompson (1952:164) recorded 'microlithic' (our Midauwara and perhaps Early Baris units) material. I have not yet visited this part of the Plateau top. In 2006 however, A. L. Hawkins and I ran a transect survey eastward for 12 km across the Piedmont zone and up the Escarpment to the head of Mata'na Pass, in order to determine the density of prehistoric cultural material in different geomorphological zones (McDonald *et al.* 2006:2). Thirty archaeological occurrences were recorded, two-thirds of them of Holocene age. Both the Midauwara and Baris units may be represented. Six are locations where a few side blow flakes were removed from a nodule, in a sequence similar to one recorded at Djara to the north, on the Abu Muhariq Plateau (Kindermann 2004:43 ff.). Like the Djara examples, these side blow flakes (none of which had been modified into tools) are probably of mid-Holocene age.

The other Holocene occurrences we recorded consist of one or two tools, or of spots where a few flakes or blades were knapped. At one of the blade knapping stations near the head of the pass, (*MT-05*), a simple sequence was followed. At a spot where chert was eroding out of the hillside, flattish nodules were chosen and blades removed with little evidence of core preparation. The resulting primary and secondary blades were up to 100mm long, fairly wide, and had large single-faceted butts. On the whole, the technology suggests a mid-Holocene rather than an early Holocene (Epipalaeolithic) date (cf. Riemer *et al.* 2004). Some of the other stations, showing a more elaborate core preparation technique, could belong to the Midauwara unit.

Discussion

In summary, except at Bulaq, we found abundant traces of human activity from the Late Prehistoric period atop the major passes from Mata'na to Yebsa. The Yebsa area, the most thoroughly explored, yielded the most sites, and evidence of occupation throughout the early and mid-Holocene, with all of our cultural units represented. Half the Yebsa sites belong to the Midauwara unit. The rich archaeological scatters between Abu Sighawal and the head of the pass at Refuf are mostly of Late Baris age. However, we recorded one Early Baris locality there, and Caton-Thompson (1952, Pl 98) documented a Midauwara unit site. The portion of the Refuf embayment explored so far yielded traces of what is likely Midauwara unit activity, plus one quite coherent slab structure site, probably dating to the Late Baris. Finally, in the survey below the Mata'na Pass, we recorded evidence of activity from the mid-Holocene (probably the Late Baris unit), and possibly from the Midauwara unit as well, while Caton-Thompson mentions Midauwara unit material found atop the pass.

Finally, it is noteworthy that, compared with the embayment at Wadi el-Midauwara, and to some extent that at Refuf, the Plateau top at the head of the major passes seems to have served as the locus for relatively short-term, if not just over-night, encampments. With the exception of GY-24 and GY-25 (which may be special-purpose sites), and the much disturbed ones near the road to Assiut, all recorded localities feature hearth mounds. These features vary from site to site in number, in size, and in the nature of the rocks on their surfaces. Also a few of these sites feature a hut circle or two. This seems the case at GY-16 near the re-entrant north of Yebsa, and there may be two or three structures on AS-02 near Abu Sighawal. As noted, a structure or two of undetermined age is sometimes found along the fringes of the extensive 'chert workings' near Refuf. On GY-02 (or KUWDE 18), Simmons and Mandel (1986: 127, fig. 15, 16, 17) noted a number of 'cobble features' or clusters of cobbles, which they suggest, among other possibilities, might be hut circles. These features do not resemble the rings of slabs or cobbles that we interpret as structures on other sites. Their other suggestions, that they might be hearths or roasting features, seem more likely. In sum, on none of the Plateau top areas that we visited are there the sites with clusters of, in some cases dozens of slab structures as in the Wadi el-Midauwara, sites that may represent some degree of sedentism in that embayment.

Acknowledgments

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