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## New results from two playa-sites in the Gilf Kebir (Egypt)

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The Gilf Kebir plateau is situated at the southwestern borders of Egypt. The area comprises a number of tablelands, the southern part of which is largely formed from Jurassic sandstone. It reached a height of some 1,100 m above sea level and is rugged, especially in the south and east, by steep-sided valleys. First archaeological work was carried out by the Eleventh German Innerafrican Expedition of Almasy, Frobenius and Rhotert in 1933, followed by Oliver Myers as part of the Bagnold-Mond Expedition in 1938. Apart from preliminary reports, there are, unfortunately, no other major publications yet available and almost all collected material has been destroyed during the war 1939 - 1945. Due to the war there ensued a long interruption which lasted until the mid-seventies, when archaeological investigations were recommenced (the Combined Prehistoric Expedition of 1975) in the Wadi Bakht, Pachur and Gabriel in Wadi el Akhdar in 1977, El Baz and Mc Hugh *et al.* in both Wadis in 1978 although these had to be restricted to short visits owing to logistic considerations (Mc Hugh 1982: 21 - 26; Wendorf and Schild 1980: 216 - 222).

Three campaigns of field-work have been carried out by the Besiedlungsgeschichte der Ost-Sahara (BOS) team in the Wadi el Akhdar and in the Wadi Bakht since 1980. Both valleys had been recognised by Oliver Myers as being particularly rich in finds, as revealed in intensive surveys (Bagnold 1939). Both Wadis were blocked at their headwaters by dunes, behind which playas could be formed during climatically favourable periods. Even though they seem to have contained water only periodically, suitable living conditions seem to have arisen, thus attracting both man and animals. Lake sediments were not, however, deposited over the whole of the enclosed area, but only in hollows whereas elsewhere fluvial sand and gravels were deposited (Fig. 1).

The mapping of sites in the Wadi el Akhdar shows conclusively that the greater part of them lie in the area of the playa sediments in the lowest part of the valley, where the periodically appearing water could be collected. Certain recorded sections could help explain the formation of the playa. One of them, the most important one, is 9 m in length and almost 6 m in depth, whereas its base has not yet been reached.

Hammerseismograph measurements suggest a thickness of sediment of over 15 m. Little structural arrangement visible in isolated lenses and lines of gravel as well as in disappearing or interrupted strata suggests highly localized and short-lasting periods of sedimentation; there are no indications at all of longer lasting periods of humidity (Pachur and Röper 1984: 252). Above the layer marked A, one can recognize



FIG. 1. Map of Wadi el Akhdar

1: Excavation; 2: Survey

an inconsistency clearly resulting from fluvial action. The overlying sediments are plainly distinguishable from the clayey-silty playa by means of a higher sand content. According to the dating we have here a sedimentation of over 4 millennia. Particularly interesting was layer D, with two dates of around 7,700 b.p., which contained numerous sherds of an undecorated ceramic type.



The first finds in this area were discovered by Gabriel in 1977 (Kuper 1981: 231 - 238). There followed an attempt to present a sequence of settlement in the Wadi el Akhdar. 23 sites have been excavated and additionally a large number of single finds and observation have also been made. All artefacts are being recorded following a descriptive feature analysis as ordinary typological classification did not seem to be applicable. The observed technological facts could help to establish a more detailed classification of the material and allow wider comparisons, which by now do not appear possible. Important details will be expected from the analysis of the "internal structures" of the sites and their ecology; those, however, are beyond the scope of this paper.

In the western part of the valley floor artefacts of the Aterian lie upon a low hill measuring some 500 by 300 m, apparently without any recognisable concentration on the surface. There appear bifacial points, Aterian-points and small Levallois-cores.

The succeeding assemblage is represented by a possibly Epipalaeolithic site. The concentration had been partly exposed by a natural ditch. It involves the production of long, narrow and very regular blades. "Crested blades" and "core tablets" show a napping technique, which cannot be observed elsewhere in the Gifl Kebir. Truncations, shouldered bladelets, and a long and narrow triangle occur among the artefacts (Fig. 2: 20 - 27). Unfortunately, there is no datable material available from this site, and the number of retouched pieces is very small (Kuper 1981: 243 - 244, Fig. 16 - 17). An approximately 30 cm thick, sandy find-layer on site 81/4 could be dated by two samples to about 5,700 b.p. Certain reassemblages prove that we are dealing with an uniform find layer. Two compact concentrations of 3 by 3 m and 5 by 4 m have been excavated. The raw material comprises 99% quartzite, fine grained, coloured variations were preferred.

There are hardly any pieces larger than 5 cm. Bladelets were predominantly produced and modified into lunates by the application of microburin technique. Further retouched types are rare and occur only as individual pieces (Fig. 2: 1 - 19). For the greater part of the 23 investigated sites we are dealing with exposed concentrations of artifacts usually larger than 5 m in diameter. According to the hitherto obtained radiocarbon dates, the majority of these sites may be placed between 5,500 and 5,000 b.p. The conditions of preservation for pottery and bones are extremely bad, and due to strong winds even pieces of stone smaller than 2 cm are nearly absent.

Since the stone-assemblages from all these sites are very similar, we can take the surface material from site 81/4 as an example. The remains of the hearth lie within a large concentration of artefacts of 10 by 15 m. It is, of course, possible that material from different layers was accumulated by eroding agencies, but as yet there have been no indications to support this thesis. The raw material consists in 98% of quartzite, as in the case of the valley floor. Large pieces often larger than 10 cm, are predominant and they display mostly more or less regular retouched edges.

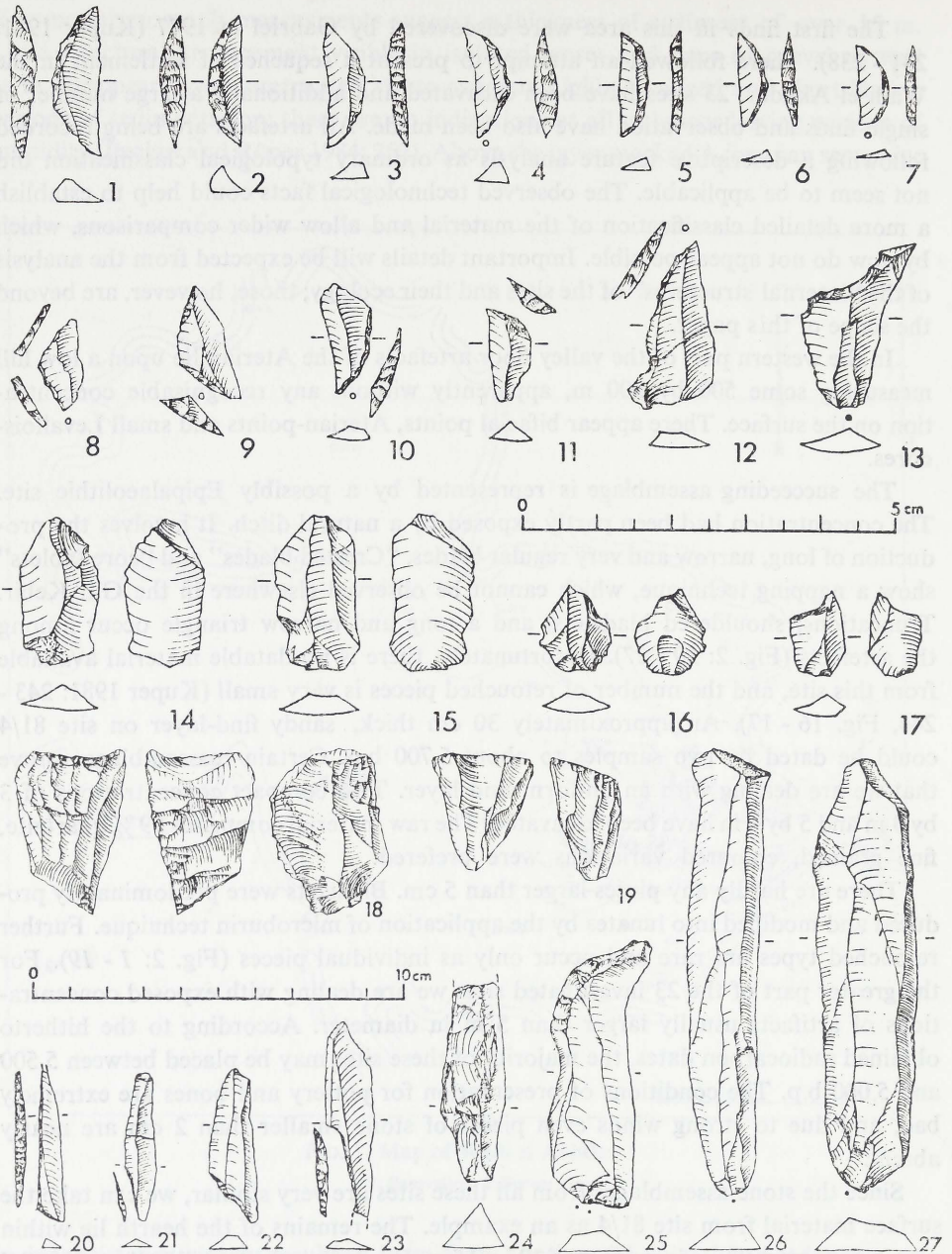


FIG. 2. Site 81/4

1 - 7: Lunates; 8: Triangle; 9 - 11, 13: Truncations; 12: Accidental production of microlith; 14 - 17: Microburins; 18, 19: Cores;

Site 81/7-4

20: Triangle; 21, 22: Truncations; 23: Shouldered bladelet; 24: Crested blade; 25: Core-preparation-blade; 26, 27: Blades.



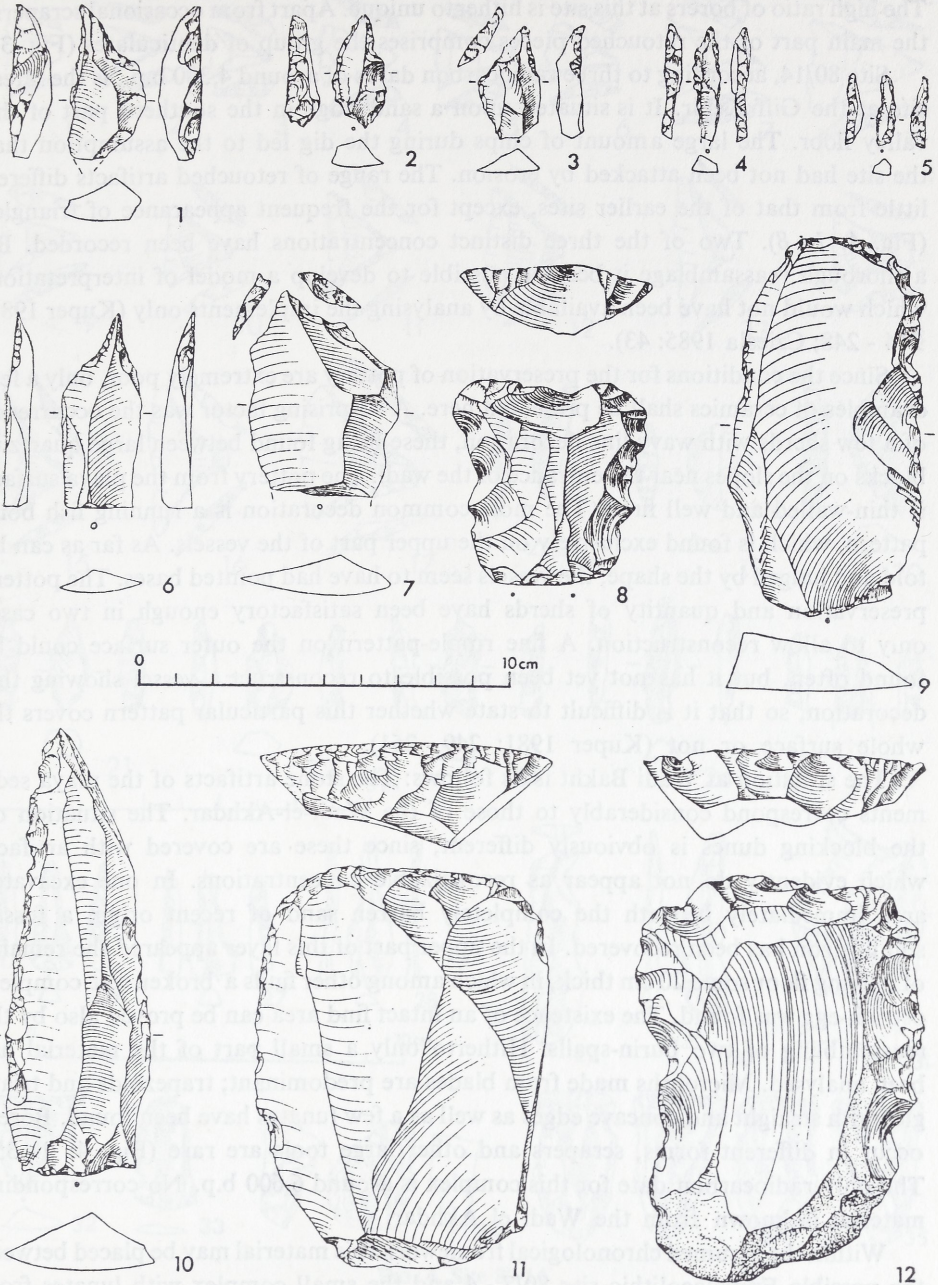


FIG. 3. Site 81/4

1 - 7: Perforators; 8, 9, 12: Denticulates; 10: Retouched blade; 11: Scraper

The high ratio of borers at this site is hitherto unique. Apart from occasional scrapers, the main part of the retouched pieces comprises the group of denticulates (Fig. 3).

Site 80/14, according to three radiocarbon dates of around 4,300 b.p., is the latest site at the Gilf Kebir. It is situated upon a sand ridge in the southern part of the valley floor. The large amount of chips during the dig led to the assumption that the site had not been attacked by erosion. The range of retouched artifacts differed little from that of the earlier sites, except for the frequent appearance of triangles (Fig. 4: 1 - 8). Two of the three distinct concentrations have been recorded. By a thorough reassemblage it became possible to develop a model of interpretation, which would not have been available by analysing the implements only (Kuper 1981: 244 - 248; Cziesla 1985: 43).

Since the conditions for the preservation of pottery are extremely poor, only a few examples of ceramics shall be presented here. A surprising factor was the occurrence of a few sherds with wavy line decoration, these being found between large quartzite blocks on the slopes near the entrance of the wadi. The pottery from the playa surface is thin-walled and well fired. The most common decoration is a running fish bone pattern, which is found exclusively on the upper part of the vessels. As far as can be told and judged by the shape, the vessels seem to have had pointed bases. The pottery preservation and quantity of sherds have been satisfactory enough in two cases only to allow reconstruction. A fine ripple-pattern on the outer surface could be found often, but it has not yet been possible to reconstruct a vessel showing this decoration, so that it is difficult to state whether this particular pattern covers the whole surface or not (Kuper 1981: 249 - 251).

The situation at Wadi Bakht is as follows: The stone artifacts of the playa sediments correspond considerably to those of the Wadi-el-Akhdar. The situation on the blocking dunes is obviously different, since these are covered with artifacts which evidently do not appear as recognizable concentrations. In one excavated area immediately beneath the completely barren sand of recent origin a fossile soil horizon has been recovered. In the upper part of this layer appeared the remains of a living floor some 20 cm thick, in which among other finds a broken yet complete ostrich-egg was found. The existence of an intact find area can be proved also by the reassembling of two burin-spalls. Hitherto only a small part of the material has been analysed. Microliths made from blades are predominant; trapezoids and triangles with straight and concave edges as well as a few lunates have been found. Borers occur in different forms, scrapers and other large tools are rare (Fig. 4: 9 - 35). The only radiocarbon date for this complex is around 6,600 b.p. No corresponding material is known from the Wadi el Akhdar.

Within the assumed chronological framework this material may be placed between the possible Epipalaeolithic site 80/7 - 4 and the small complex with lunates from site 81/4 from the Wadi el Akhdar. The radiocarbon dates from Gilf Kebir suggest intensive settlement activities between 6,000 and 4,700 b.p. The dates for the Wadi Bakht tend to be somewhat younger than those from the Wadi el-Akhdar. Three





FIG. 4. Site 80/14

1 - 8: Triangles:

Site 82/24

9 - 11: Triangles; 12 - 17: Trapezes; 18 - 20: Lunates; 21 - 28, 31: Perforators; 29, 30: Blades 32, 33: Preparation flakes; 34, 35: Cores

dates of site 80/14 and the samples from the section 80/7 - 1 verify the existence of earlier and later periods of more or less favourable climatic conditions that encouraged prehistoric occupation of that area.

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