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REPORT ON THE SURVEY AND TRIAL EXCAVATIONS OF THE CZECH INSTITUTE OF EGYPTOLOGY, CARRIED IN THE AREA OF EL-HAYEZ, BAHARIA OASIS (2ND SEASON, 6.3.-31. 3. 2004)

ZPRÁVA O PRŮZKUMU A ZJIŠŤOVACÍM VÝZKUMU ČESKÉHO EGYPTOLOGICKÉHO ÚSTAVU V PROSTORU EL-HAYEZ, OÁZA BAHARIJA (2. VÝZKURNÁ SEZONA, 6.3.-31.3. 2004)

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1. Introduction

In 2003 the Czech Institute of Egyptology launched a survey of the El-Hayez area situated in the southernmost part of the Baharia oasis. Nowadays, this area is only sporadically inhabited, and its history is largely unknown. The first scientific investigations into the history of the area were carried out by Ahmed Fakhry (1974, pp. 110-124). Prehistoric research was previously realised only by F. Hassan (1979). More recently, there were archaeological activities carried out by the Bawiti Inspectorate of Antiquities at sites of El-Riz and Ayin el-Khabata during the last decade of the 20th century. Undoubtedly the peak of scientific popularity focused on Baharia several years ago, due to the unprecedented discoveries of Zahi Hawass made at the Valley of the Golden Mummies (Hawass, 2001).

The first stage of the current project has been designed for a period of three years (2003 – 2005). Its primary objective is to provide an overall archaeological map which presents the principal sites, along with a description of their potential, character and stage of preservation, structure, and their relationship to the monuments within the ancient landscape.

2. Methods used

The prehistoric and historic survey was conducted systematically in the areas of Bir el-Showish, Umm el-Okhbain, Gard el-Sheikh, Ayin el-Ezza, Mannsaf, Ayin el-Khabata, Qasr Mas'ouda, Tabla Amun and El-Riz. Additional orientation surveys focused on Gebel Mitteli Radwan, Pyramids area (site with two hills in a shape of pyramids), and the marginal escarpments. The playas received special attention as favourable areas for prehistoric settlement and the lithic outcrops as sources for the tool production.

Already at the very beginning of the project it became clear that the current maps are unsuitable for the intended detailed archaeological work and the ensuing analysis. Therefore, in addition to archaeological objects, additional features were mapped during the survey when

As far as the archaeological objects are concerned, settlements, cemeteries, significant tombs and surrounding irrigation networks were mapped (in our case mainly old fields, gardens and watering systems – so-called manawars).

The tracing of monuments visible on the surface was carried out during the walking surveys. All discernible monuments were located with help of GPS GeoExplorer CE (GeoXT) Trimble receiver. The databases established in this way were processed by GPS Pathfinder Office 2.9 and ESRI ArcPad software. In the next step, the data were imported into GIS software bundle ArcGis 8.3. This software enabled the combination of

the graphic, attributes and photographic databases and the production of the topographic layout.

During the 2004 season the surveying activities were accompanied by trial excavations carried out at three sites: Bir el-Showish, Ayin el-Khabata and El-Riz. The main objectives of the 2004 season were as follows:

- to complete the survey map of the examined area,
- to carry out trial excavations in order to detail selected structures,
- to date individual sites as precisely as possible (using sherds lying on the surface of the desert),
- to analyse human remains found during the trial excavations.

3. Recorded archaeological history of the area of El-Hayez: An overview

3.1 Prehistory

Basing on results of the prehistoric survey realised around el-Hayez during 2003, it was possible to establish the cultural sequence in this region, with several occupation stages: the Acheulian, the Middle Paleolithic and the Epipaleolithic/Neolithic. The 2004 season focused on the Middle Paleolithic occupation horizon (or, horizons) in more detail.

Two goals were followed during the 2004 survey: in the areas already surveyed, representative artifact clusters were sampled (regular squares 104-604) and analysed from viewpoints of lithic technology and typology. In addition, the hither-



Fig. 1. The area of El-Hayez with principal sites examined during the survey.
Oblast El-Hayezu s polohou hlavních lokalit.

unexplored areas between el-Hayez in the south and Miteili Radwani in the north were surveyed in order to complete the archaeological map of the region. Three aspects of settlement strategy are important for location of the Middle Paleolithic sites: secure water resources, lithic raw material outcrops, and positions granting a good overview. In the light of this observation, several site-types were identified:

Cummulative settlements at the playas (samples 204-404, 604). Artifact scatters with a high percentage of curated tools (10-20 %) and a lower percentage of cores (6-12 %) are located near the ancient water sources or on the nearby terraces (Umm el-OKhbain and Mannsaf playas, and at a few other places in southern Baharia). However the artifacts in these areas are widely dispersed and thus their density is relatively low (0,2-1,3 artifacts per m²).

Typologically, these sites were labeled the Middle Paleolithic with leafpoints, completed by Mousterian points, retouched blades, flat-retouched sidescrapers, and simple burins. Technologically, flat Levallois cores dominate, and some are quite small, without any visible tendencies towards more voluminous core types, to usage of crested blades, and to the blade production in general (I_{lam} remains between 10-16).

The leafpoints, as the most remarkable artifact type, are recorded in the context of Saharan Aterian, around 40 ky ago, but there is a lack of precision at these dates. A comparably late dating estimate for the Baharian Middle Paleolithic would be in accord with the smaller dimensions of a part of the cores and flakes, which are traditionally considered as "late" in Nubia and Egypt.

The specialized lithic workshops (sample 104) were attached to the chert outcrops on the escarpment plateaus, or more frequently, to quartzite covers on tops of the isolated mountain ridges (Gebel el-Showish, the "Black Mountain", the "Table Mountain", etc.). Curated tools are almost absent here (less than 1 %), and, surprisingly, the percentage of cores is not

high either (about 5 %). Density of the artifact, predominantly flake and blades, reaches the highest frequencies ever recorded in this region (about 24 artifacts per m²).

These workshops result most probably from a long-term lithic exploitation process. The generally Levallois character of the production points to the Middle Paleolithic in the broadest sense of the word, but some of the "archaic" flakes on the one hand, and the few crested blades and smaller bladelets on the other, point to a higher technological variability than was recorded at the playa settlements. Certainly, some of the bifacial preforms correlate at least a part of this workshop activity to the Middle Paleolithic with leafpoints, which is the most extended horizon of occupation on the basal plain. However the quartzites originating from the mountain's outcrops are rarely encountered at the playas. In addition, and surprisingly, the blade index in the workshops is higher than in the settlements (I_{lam} = 23). Thus, and contrary to our possible expectations, there is no evidence of a direct import of products down from the mountains.

Episodic sites (sample 504) lie on escarpment edges, without sufficient raw material and water sources, and these may possibly be interpreted as strategic hunting posts (the intact artifact scatter documented on top of the "White Mountain", Fig. 2).

Single artifacts of Middle Paleolithic character are dispersed in considerable distances on the basal plain, terraces, and pediments accross the surveyed landscape.

3.2 Roman period

As a result of the 2003-2004 surveys, larger settlements and what appears to be estates were identified in Bir el-Showish, Ayin el-Khabata and Qasr Mas'ouda. They probably date mainly to the Roman period when the occupation of the oasis perhaps reached its demographic peak. This conclusion is substantiated not only by the individual areas of settlement but also

No. of sample	104	204	304	404	504	604
Altitude (m a.s.l.)	282	150	150	150	253	148
Degrees North	28.04334	28.01289	28.01239	28.01216	28.10967	28.02336
Degrees East	28.67118	28.65702	28.65663	28.65594	28.75500	28.67523
Analyzed area (m)	3 x 3	10 x 20	10 x 20	10 x 20	4 x 7	10 x 10
Total artifacts	212	43	35	61	200	128
Artifact density (per m ²)	23.6	0.2	0.2	0.3	7.1	1.3
I _{lam}	22.9	15.6	11.1	10.9	19.4	13.1
Cores (%)	5.2	7.0	11.4	-	2.0	6.3
Flakes (%)	73.6	62.8	68.6	80.4	81.0	72.6
Blades (%)	20.3	11.6	8.6	9.8	13.0	10.9
Retouched tools (%)	0.9	18.6	11.4	9.8	4	10.2

Tab.1. Summary table of the analyzed samples

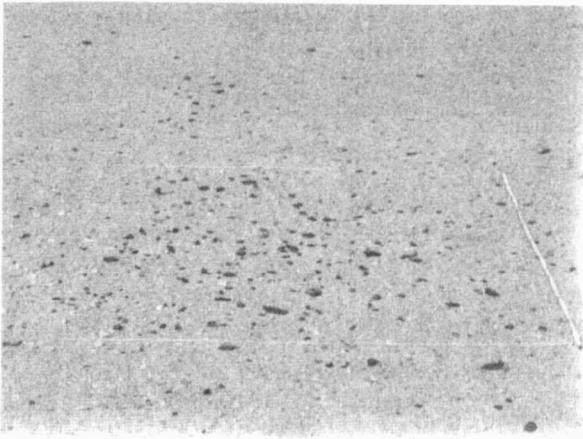


Fig. 2. Episodic scatter of lithic artifacts on top of the White Mountain.
Epizodická koncentrace artefaktů na vrcholové plošině Bílé hory.

by the size of the underground irrigation systems and adjacent fields.

Ayin el-Khabata

The settlement in Ayin el-Khabata seems to have had arelatively restricted size. In the central part of the settlement were identified the remnants of a larger house with a wine press. From the house only the crown of the extant walls was summarily surveyed. On the other hand, the remnants of the wine press were examined in detail. The press consists of one square shaped basin the side walls of which were originally built of large flat lumps of local limestone and covered with lime mortar. The juice from the pressed wine grapes flew into two containers, one on the southern and the second on the eastern side of the basin. The container on the eastern side consisted of three parts: at the bottom there was a large rounded cylindrical vessel of burnt clay whereas the upper part of the container was formed by two square-shaped frames made of burnt clay, too. The container on the southern side also had a cylindrical vessel of burnt clay in its lowest part. The upper part of it, however, were formed by burnt brick masonry plastered with lime mortar.

As in previous cases, only the crown of the extant walls was disclosed. Apparently, the central room in the house has the walls covered with saw.

Bir el-Showish (Fig. 3)

This site is situated near the contemporaneous village of Gharbia in the Western part of the oasis. The largely deserted area consists of three core settlements. These settlements are indicated only by scattered posherds and inconspicuous house walls remains on the surface.

In some cases pottery kilns could also be traced. The settlement is surrounded on the east by a complicated network of manawars, a system of regularly spaced wells connected by underground tunnels designed to collect water from large areas of the slightly sloping plain. Fields lay close to the terminals of the irrigation systems. In the case of Bir el-Showish also some

parts of the original field extensions could be located. The examined area shows that the settlements covered an area of at least 8 ha and the manawars network was some 20 kms long and collected water from an area of about 700 ha.

The eastern plain with several hillocks was used as a cemetery. It seems that the hillocks were reserved for rock-cut tombs of the elite of the settlement whereas simple pit graves were situated in the lower plain. It may be estimated that there are no less than several hundreds of burials in the area, most of them robbed in the past.

The rock tomb

Western slope of one of these hills was selected for a trial excavation in 2004. During the course of cleaning, two smaller courtyards and one looted corridor tomb (Tomb 1, Fig. 4) were documented. Both features form a single burial-cultic installation dating to the Roman period (must probably to 2-3rd centuries A.D.).

Court one was entered from the northwestern corner by an 80 cm wide entrance. The court measures approximately 300 x 320 cm in ground plan and its walls are preserved to a height of about 80 cm. The walls were built of mudbrick except for the rear wall cut in the hill and covered with mud plaster. The west wall contained two niches and a small oven. In the passageway into the second court there was 55 cm wide and 30 cm deep niche.

In the south-east end of the court was a 55 cm wide passageway into the second court (500 x 240 cm in ground plan), which was built in identical way. In its rear wall were embedded three rock-cut niches. The eastern wall preserved one more niche which corresponded with a shaft opening of Tomb 1 situated about 3 m to the east. The eastern wall accommodated two more cavities which may be interpreted as purification basin and an oven, respectively.



Fig. 3. Schematic plan of the principal archaeological features at Bir el-Showish.
Schematický plán hlavních archeologických poloh v prostoru Bir el-Showish.

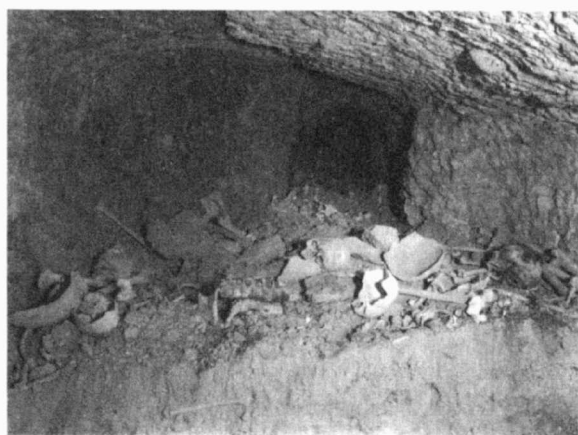


Fig. 4. Tomb 1: detail of the burials inside the corridor tomb.

Hrobka 1: detail pohřbů uvnitř chodbovité hrobky.

Both courts were filled with clean wind blown sand devoid of any artefacts except for some sherds.

About 3 m to the east of the Court 2 was discovered opening of a 2 m deep shaft leading into a corridor tomb dated to the Roman period. To the north of the shaft opening was found a Roman oil lamp. The bottom of the shaft assumes a rectangular shape 140 x 80 cm in ground plan. In its north wall is a 240 cm long and 75 cm wide corridor leading into a corridor shaped tomb. The first part of the corridor is 260 cm long and 160 cm wide, after that the corridor bends towards the north-east and continues for another 440 cm.

The whole space was filled with human bones, remnants of disintegrated burials (Excav. No. 2/BS/2004). In the 20-50 cms thick floor fill were found several items, remains of the original burial equipment. The items were as follows: three different pottery vessels (Excav. Nos. 3-5/BS/2004), one calcite miniature cup (6/BS/2004) and a small fayance pendant of Bes (7/BS/2004). Lying on the surface were some limestone hammers used for digging manawars.

Pottery

The survey of Roman pottery from settlements in the El-Hayes oasis (Bir el-Showish, Ayin el-Khabata, Ayin Gomma, Bir Ayin Naga, El-Riz and Qasr Masaouda) is still in its primary phase. It revealed the ceramic forms dating from the Roman period and offered important insights in patterns of exchange and production amphorae, fine wares and locally made coarse wares (cooking-pots) in the region.

Amphorae for the storage of oil and wine were plentiful amongst the pottery material: shapes Africana I and II, Late Roman North African amphorae; (Peacock and Williams class 33, 34 and 35.A). The types of African Red Slip ware (fine ware) were made and exported mainly from northern Tunisia, Algeria (Roman provinces Africa and Numidia). Finds from El-Shawish and El-Riz were mainly small dishes and bowls with thick and dark red Slip (generally 2nd to 4th century AD; also probably Early Late Roman B). The locally made coarse and cooking-ware shapes, round-bottomed and normally ribbed,

were of two main fabrics - red (or reddish-brown) and grey ware (jugs, casseroles, dishes).

The settlement in the El-Hayez oasis reached its peak probably during 3rd to 4th century AD.

Manawars

Trial excavations were carried out in two better preserved manawar shafts. These shafts were 7-8 m deep and measured 130 x 55 cm in ground plan. It seems that the whole network of the underground channels has been sanded up and the future investigation would require a serious investment of time and means.

Settlement

In the north-eastern part of the oasis of Bir el Showish, large mudbrick structures were revealed. The structures seem to have once covered an area of about 20 ha. The remnants of the settlement form a sort of two low hillocks. Some of the mudbrick walls are visible on the desert surface. The area of the settlement is covered with potsherds and fragments of different types of glass, alabaster, corroded copper, etc.

In the aforesaid area two trial diggings were carried out. In one sondage, covering an area of 40 x 40 m, was revealed a complex of rooms built of mud brick (Fig. 6-7). The rooms, from which only the crowns of walls were unearthed, have different sizes. Some of them were obviously open, without ceilings, the others have vaulted roofs. As shown by the clearing of one of the rooms, the height of the extant walls amounts up to 2.5 m. The rooms are of rectangular plan oriented either in the north-south or east-west direction. The examined room was filled with drift sand except for the remnants of the broken vault lying on the floor. The walls of the room were plastered with clay mortar and covered with a thin layer of stucco and painted red. In the southern and northern walls of the room were niches. In the room no objects were discovered.

The second trial digging was carried out in the southern part of the settlement. The digging led to the discovery of a pottery kiln, or, more precisely, two kilns adjacent to each other. The kilns, built of burnt bricks, had a typical conical shape and represent typical examples of the so-called two-chambered vertical kilns. Both of them were surmounted by a vaulted super-



Fig. 6. Bir el-Showish, House 2. Bir el-Showish, dům 2.

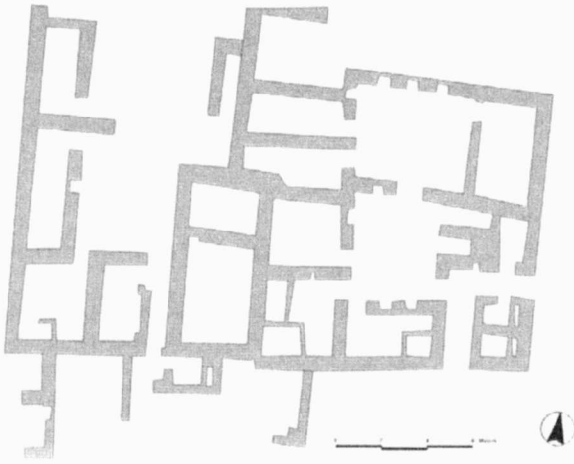


Fig. 7. Plan of Bir el-Showish, House 2.
Plán domu 2.

structure of which today only the tinely remnants survive. Apparently, both kilns fell in disuse already in the antiquity as indicated by the fire chambers sealed by clay. Adjacent to one of the kilns lay a broken large vessel, obviously a water container.

Another settlement was revealed in the site number 2 near the cottage of the garden. From the settlement, which seems to extend to the west and north, only the crowns of one house and a pottery kiln were unearthed. The pottery kiln seems to have had a different plan than the kiln in the Site No. 1. A more detailed examination of the kiln in the site No. 2 is planned for the next season.

El Riz

This is by far the largest settlement in the El-Hayez oasis (Fig. 8). It covers an area of cca. 10 ha, and once it had undoubtedly formed a real centre of the whole area. The site is



Fig. 8. El-Riz with its dominant, the fortress.
El-Riz s pevností jako dominantou.

dominated by a Roman fortress, once briefly explored by A. Fakhri. Not far from the fortress lies an early Christian church. Near the fortress can also be seen the remnants of orchards (two obviously very old nabq trees). The site has recently (about 10 years ago) been partly excavated by the local Inspectorate of Antiquities at Bawiti. During these excavations were revealed the remnants of a palace (of the commander of the fortress?) and a wine cellar. In the surroundings of El-Riz extend large cemeteries which have also been partly excavated by the aforesaid Inspectorate from Bawiti.

Mapping of Riz in 2004

In the season of 2004, the mapping of manawars continued in the area about 1 km south of the fortress of Riz. In the area two systems of manawars were identified. The manawar situated closer to the fortress seems to have conducted the water to the fields and gardens in the close vicinity of the fortress. The second manawar lying south of the previous one represents a large and complex system consisting of many branches. In the upper part of this manawar, there is a series of large rounded structures built of tafla. It seems that these structures were once vaulted, dome-shaped superstructures of perhaps larger shafts giving access to the underground galleries of the manawar.

About one km south of the fortress of Riz were revealed the remnants of a large tomb which seems to date from late Roman times. From the tomb, only a portion of the superstructure, built of mudbrick was revealed. The superstructure seems to have been formed by a vault resting on a rectangular base. The examination of the tomb is planned to be continued in the next season.

4. Conclusions

The most important results of the first stage of the archaeological survey of the El-Hayez oasis may be summarized as follows:

1. In frame of the Baharian Middle Paleolithic, the only trend that may be recognized is the development from the bifacial Acheulian handaxes towards the fine leaf-points (the latter associated with Mousterian points and flat-retouched sidescrapers), and probably, a tendency to reduction in size of the cores and flakes. Contrary to the sites in Negev and Cyrenaica, the Middle Paleolithic of northern Egypt shows no trends towards an increased blade productions nor to Upper Paleolithic technology.
2. one site, localized by surface survey (Bir al-Ghard al-Awiat), suggests a possibly pharaonic age on basis of the lithic industry and the ceramics,
3. the peak of the popularity of the area was very likely attained during the Roman period when the data indicate that the occupation in this area was most dense; there was an elaborate system of settlements and irrigation network that required a systematic deployment of a large workforce;
4. All the aforesaid sites had their own, local cemeteries. These were set up mostly on the slopes of the nearby hillocks. The two prevalent types of tombs in these cemeteries are:
 - a) undecorated rock-cut tombs with burial niches for the burials of the individual members of the family; these are in prominent locations and usually contain a large number of burials,
 - b) simple pits occupying lower locations on the hill slopes.

The primary goal for the 2005 season will be to conclude the archaeological survey of the Qasr Mas'ouda and El-Riz areas. In the next season, the survey is intended to be combined with some further trial diggings in order to clarify the stratigraphy, dating, and character of some of the monuments (man-awars, etc.).

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Resumé

Během druhé výzkumné sezony Českého egyptologického ústavu UK v jižní části oázy Baharija probíhaly na prvním místě archeologické výzkumy vybraných objektů z římského období v prostoru Ain el-Khabata a Bir el-Showish (výzkum hrobky, domu a dalších objektů) včetně hodnocení římské keramiky, dále antropologický výzkum, statistické vyhodnocení vzorků kamenné industrie středního paleolitu a celkové archeologické mapování regionu.