REPORT

ON THE FIELD ACTIVITIES OF THE UPPER GREATER ZAB ARCHAEOLOGICAL RECONNAISSANCE PROJECT IN YEAR 2012

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GENERAL INFORMATION

The Upper Greater Zab Archaeological Reconnaissance (UGZAR) is a scientific project aimed at reconstruction of settlement history of the Iraqi Kurdistan, especially of an area located in the upper part of valley the Greater Zab, approximately between Khabat and Qandil. This task will be achieved by carrying out survey in the area, resulting with a catalogue of actual archeological sites, registering, among others, their size, periods of occupation and a state of preservation. The evaluation of the result of this survey should allow for a reconstruction of the settlement history of an area which is one of least known in the entire Near East. The project will be carried out in years 2012-2014 and is entirely sponsored by a grant of the National Center for Science, Republic of Poland (grant no. 2011/B/03/HS3/01472).

The first field season of the UGZAR Project was realized between September 20th and October 23rd 2012.

The UGZAR team during the 2012 consisted of the following members: Dr. Rafał Koliński (Adam Mickiewicz University), director of the Project, Dr. Dorota Ławecka (University of Warsaw), archaeologist, Dr. Michał Krueger (Adam Mickiewicz University), archaeologist, Mrs. Xenia Kolińska (Past and Present Foundation), archaeologist, Ms. Joanna Mardas (Adam Mickiewicz University), archaeologist, and Mr. Marcin Szabłowski, photographer on the Polish side as well as Mr. Khalil Ali Barzanji and Mr. Rozhgar Rashid Ali, both archaeologists from the regional office of the Antiquities Service in Erbil.

The UGZAR team is greatly indebted to the authorities of the Kurdistan Regional Government, especially from the Antiquities Service of Erbil province (namely Mr. Haidar H. Hussein, Director of the Office, and Mr. Saber H. Hussein (Choman), Director of its Survey Department), and from the General Direction of Antiquities (General Director of the Antiquities of Kurdistan, Mr. Abubakir O. Zinadin (Mala Awat), Mr. Nader Babakan, and Mr. Kaifi M. Ali, Head of the Legal Affairs Section, and to Mr. Ziyad Raoof, representing the Kurdistan Regional Government in Poland. The team has also benefited from immense experience in archaeological surveying of Dr. Jason Ur from the Harvard University, to whom I would like to express our sincere thanks.

INTRODUCTION: METHODOLOGY OF RESEARCH

According to the research plan, the first season was devoted to survey in the Erbil province, in an area limited by *wadi* of Bastora Cay in the South, the Greater Zab river in the West and North-West, and Harir Dagh in the North and North-East.

Before the fieldwork was started the area to be surveyed has been analyzed on the base of satellite imagery, both recent (GeoEye imagery from 2004, available via GoogleEarthTM) and past (CORONA imagery from 1968, available via CORONA Atlas of the Middle East, University of Arkansas and additional pictures from CORONA missions in 1967 provided by Dr. Jason Ur, Harvard University). This interim evaluation of the area was extended by information provided by the "Atlas of Archaeological Sites in Iraq", specifically its map no. 7.

The UGZAR team verified all the information coming from the above mentioned sources during the five weeks long field season. Moreover, interviews were conducted in all the villages located in the surveyed area. They served to verify information referring to the name and the location of previously identified sites, but in numerous instances they provided information on other archaeological locations which previously escaped attention. It turned out that interviews constitute an efficient way of discovering new sites. Finally, transects along the countryside were performed, first of all along the main watercourses (be it perennial or seasonal). This way of acting turned out to be especially efficient in respect of small, flat sites located at a considerable distance from settlement (cf. below, Table 2).

Once an archaeological site was identified it was documented in three ways. First, a description card was filled for each site (the data from the card were later transferred to computer database using the FileMakerTM 4.1 software). Then measurements were taken on the base of local reference points with Leica TC407 total-station. These measurements were later transferred to the QuantumGISTM 1.8 program, and the contour map of each site was prepared. The local reference points were geo-referenced using Garmin GPSmap 60 CSx instrument, both in respect to the geographic and to the UTM 38S grid. This made it possible to identify exact geographic location of the site and putting it on the satellite imagery and on the traditional map. Finally, photographic documentation of most of the sites was executed, including a general and sometimes a panoramic view of the site and its surroundings, as well as documentation of damages and of archaeological features observable on the site. This

documentation included photography of large moveable objects of stone, as querns, millstones, mortars and door sockets present on the surface of the site.

Evaluation of spatial extent and of chronological scope of the site was done on the base of cultural remains observed on the surface. As density of material was varying within the site, it was sometimes difficult to establish the site limit. Generally, team avoided splitting larges sites into small areas of higher density of sherds. Therefore, bearing in mind that numerous sites were under cultivation, the evaluations of the site area need to be treated as the highest possible area of the site. This remark is especially valid in respect to flat sites, prone to post depositional dispersal of material by ploughing, where the original settled area was probably much smaller.

For the needs of chronological evaluation of sites the surface material was collected. Usually, a site was divided into several (from two up to seven) collection areas, depending either on the morphology of the site or on the observed chronological differences in pottery present in various part of the site. As a rule, rim and base sherds were collected, as well as other characteristic vessel elements (as spouts or handles) and decorated sherds. The surface material was transported to a house of the mission, washed, catalogued and documented (by drawing, and technological description, and in required cases, by a photograph). Chronological determinations were done on the base of a catalogue used by the Erbil Plain Survey Project, prepared and put at the disposal of the UGZAR project by Dr. Jason Ur, to whom UGZAR team addresses its sincere thanks. Use of the same catalogue was agreed before the actual fieldwork started in aim to have as strong correspondence between results of both projects, as possible, at least in respect of the chronology of settlement. All the data concerning the surface material collected will be later browsed into a FileMakerTM 4.1 database of the project.

It has to be remarked, that the results presented in the following chapters have preliminary character. This is mainly due to the fact that only material from 21 sites has been fully registered, and the further study my slightly change results, mainly in respect to presence/absence of various chronological periods at some of the sites.

SUMMARY OF RESULTS

During nearly five weeks of the field work (21 working days, including two days where work was stopped during the day) the area of ca. 370 square kilometers located in the eastern part of the project area was surveyed (squares E7-9, F6-8, G5-7, H4-7, J3-7 and K6-7 on Map 1). In this area no less than 37 archaeological sites were recorded, and a few other sites located outside of the area indicated was visited to confirm their presence. Of those 37 recorded sites, 33 were fully documented, one was partly documented (because of security constraints the work at the site could not be terminated) and three other sites were only partly recorded(mainly because the entire site was covered by settlement, precluding taking measurements and regular collecting of surface material) (Table 1).

Sites fully	Sites partly	Sites	Sites from Iraqi	Total of
documented	documented	catalogued only	map, not found	identified sites
33	1	3	1	37

Table 1. General information on documented sites

Evaluation of recovery methods demonstrates that while the map of the area provided by the Atlas of Archaeological Sites in Iraq turns out to be quite reliable source of information (13 of 14 sites located in the surveyed area by the Atlas were found in the field, though some of them were clearly misplaced)(Table 2).

	Atlas	Interviews	Transects	Other	Total
	of Archaeological			information	
	Sites in Iraq				
Number	12	10	14	1	37
Percentage	32,4%	27,0%	37,8%	2,7 %	100%

Table 2. The site identification method efficiency during the 2012 field season

Interviews with local population turned out to be nearly as efficient as indications of the Atlas. Ten sites were identified in this way, though most of the sites already known from the Atlas were known to the local population too. The most efficient way of identifying new sites, however, turned out to be transects along the water-courses. Not only flat sites but some settlement mound were found in this way (for instance, S026), though the rate of flat sites recovered by transects is the highest among the all groups. Identifications based on the analysis of the satellite imagery turned out to be very difficult, probably because of a hilly

and mountainous character of the landscape, characterized by concentrations of pebbles of decomposed conglomerate rock visible on the surface, what provided numerous false signals.

Site typology turned out to be quite limited. Four groups of sites were identified during the survey: tells (settlement mounds), tells accompanied by lower town areas, flat settlements and ruins (in this case of a medieval castle)(Table 3). This typology is in fact superfluous for several reasons. First, in some cases (sites S014 and S015, Qalaat Rashwan and Rashwan and sites S020 and S021, Girdi Mawan and Mawan) form most likely different parts of the same site, the first of each pair being a high tell, the other a lower city area. Their relation could not be checked in the field because of the existence of a modern village, partly destroying and to a high extent obscuring visibility of archaeological material. Moreover, site S033, Qalaat Deiri, featuring ruins of a stone-built castle turned out to be, at least in part, built on a prehistoric settlement identified by presence of Ninevite 5 incised sherds. Finally, one site (S001, Kawrasor), is most likely a cemetery as hinted by a presence of a complete Ninevite 5 excised jar dug out when excavating a sink from the depth of ca. 2.5 below the ground. It is very possible, that this cemetery is functionally linked to sites S009 and S010, located towards the east, where painted and incised sherds of Ninevite 5 pottery were discovered.

	Tell	Tell	Flat settlement	Cemetery	Castle
		+ lower town			
Number	9	8	18	1 (?)	1
Percentage	24.3%	21.6%	48.6%	2.7%	2.7%

Table 3. The site typology

Generally speaking, the number of tell sites (including those accompanied by lower city area) and of flat settlements is nearly equal. This proportion is hard to interpret. It may be expected that tells represent longer settlement history (both in terms of sequence of archaeological levels and in terms of year-count), but some of the registered flat sites reveal a remarkably long history as well. The most significant example of this tendency is represented by site S021 (Mawan). The site is cut by wadi Bastora on the South and by an modern shovel trench more than 10 meters deep in the North (both are ca. 150 m apart). Both sections reveal a sequence of stone-paved floors corresponding to subsequent architectural strata. In the northern section, the deepest extant floor is visible ca. 4.5 m below the surface, evidencing remarkable accumulation of debris. Yet, this accumulation hardly corresponds to

morphological features observed on the surface. However, there is no doubt that the situation at S021 is exceptional one. Most of flat sites result from limited settlement activities, both in respect to spatial and to temporal extension.

Most of the discovered sites turned out to be of a limited size. No settlement larger than 10 ha was encountered what demonstrates that the investigated territory was deprived of regional centers. As it was already mentioned, some of the sites were partly covered by modern houses, nevertheless, morphology of the surface does not suggest that any of them could extend on more than 10 ha. The most often are settlements of a size between 3 ha and 1 ha, representing probably villages, with large villages (5 to 3 ha in area) and small ones (1 to 0.5 ha) ranking *ex equo* the second.

Area	> 5 ha	5- 3 ha	3-1 ha	1 – 0.5 ha	0.5-0.2 ha	<0.2 ha	TOTAL
Number	1	7	13	7	4	1	33
Percent	3,3	23,1	40	23,1	13,2	3,3	100%

Table 4. The area of registered sites.

Spatial distribution of sites follows a very clear pattern. Most of the recorded sites are located either along the Bastora Cay (18 sites), or on the terraces in northern meanders of the Greater Zab (14 sites). Two more sites are located along a small side wadi close to the point where Bastora Cay disburse to the Greater Zab. Preference of these locations could be easily explained. On one hand, most of the arable ground with developed soils is located in these areas providing favorable conditions for subsistence activities. On the other, settlements in these locations, especially those located along the Greater Zab, benefited from perennial water availability. Sites located in the mountainous locations were scarce and generally of later age, mostly Medieval or even later. The only exception to this rule is site S033 (Qalaat Deiri), where remains of early 3rd millennium BC settlement are evidenced.

Much more surprising is the temporal distribution of sites (Table 5). Starting the fieldwork we expected quite wide and even chronological distribution of settlements, from the Pre-pottery Neolithic till Late Medieval sites. However, identified sites revealed a pattern in which some periods are not represented at all. No Pre-pottery Neolithic site were found, probably because they were located on higher areas, beyond the cultivated zone, and were less likely to be spotted by local population because they lack pottery on the surface. However, later Neolithic settlement were missing as well, the only exception being site S006 (Gird Ali

Agha), a proto-Hassuna site excavated by Robert Braidwood in the 50-ties of the XXth century.¹ The Late Chalcolithic period is represented on three sites (S002, S027 and S037), but only on the last of the listed three sites northern Uruk is represented (LC 1-2 periods). Sites with Ninevite 5 settlement, featuring either incised or painted pottery, or both are quite popular, despite the fact that only on three sites (S012, S017 and S029) sherds representing this period appeared in a larger quantity. Later 3rd millennium turned out to be rare in the area, being identified by more extensive sherd collection on one site only (S037). On the contrary, settlements with the 2nd millennium BC pottery are quite abundant, representing both the earlier and the later part of this millennium. Khabur Ware is quite rare, and painted band decoration represents rather later 2nd millennium variants, than classical Khabur Ware motives. Neither Nuzi Ware, nor Red Band plates typical of the Mitanni period were encountered. The 1st millennium BC settlements are more rare (both Neo-Assyrian, Post-Assyrian and Hellenistic), these periods being represented more extensively on sites no. S016, S021 and S027 only. The settlement number increases significantly in the Sassanian period and continues to be quite high in the Early Islamic and Abbasid period. Some Late Islamic settlements of small size, are more or less evenly distributed allover the surveyed territory.

Period	Significant settlements	Traces of settlement	Total
PPN	0	0	0
Proto-Hassuna/Hassuna	1	0	1
Halaf	0	0	0
Ubaid	0	0	0
Uruk	1	0	1
Late Uruk (Southern)	3	0	3
Ninevite 5	8	2	10
Middle/Late 3 rd mill.	3	2	5
Khabur Ware	12	0	12
Mitanni/Middle Assyrian	8	2	10
Neo- and Late Assyrian	10	1	11
Post-Assyrian	0	5	5
Seleucid	3	4	7
Parthian/Roman	1	8	9
Sassanian	11	4	15
Early Islamic/Abbasid	10	2	12
Midlle and Late Islamic	10	2	12

Table 5. Temporal distribution of settlement

¹ J. R. Caldwell, "The pottery from the Sounding at Gird Ali Agha and al-Khan with Appendix: The Nonceramic Yield from Ali Agha and al Khan (editors), in: R. J. Braidwood et al., *Prehistoric Pottery Along the Zagros Flanks*, OIP 105, Chicago 1983..

The state of preservation of the registered sites varies considerably. The most damaged are sites located within villages. Flat sites and lower city areas of composite sites are generally build up with houses and other household structures, including ditches for water, canalization and other media. High mounds are more rarely used for structures (the only exception are water towers present on sites S014 and S020). However, they usually suffer a considerable damage from leveling activities, meant for obtaining a level area for building new houses. The extant of leveling differ from site to site: in some cases only marginal area of the settlement mound is affected (S014), while in other cases about 30% of the tell (S020) or even more than 50% (S037) of the original artificial mound area is gone. Much better preserved are settlement mounds located at a distance form modern settlements. They were/are often used as burial grounds (9 sites), what resulted in disturbance of the topmost archaeological levels, but, on the other hand, protected lower levels from destruction. Most of flat sites are presently under cultivation, what means that relatively fast eroding, in fact some of the sherds collected on the surface of S017, S023 or S031 are very worn, demonstrating that they were exhibited to elements for a quite long period of time. On some sites (S003, S035) circular pits of a diameter up to 3 m were observed, which may witness to attempts of looting, but such traces were rare. Neo-Assyrian sites are as much popular as the earlier ones, but later 1st millennium is clearly another period of settlement crisis. The most intensively evidenced period is Sassanian, represented by the highest number of settlements. Most of them continue to exist in the Early Islamic period.

CONCLUSION

The first season of the field work of the Upper Greater Zab Archaeological Reconnaissance project yielded very interesting results, despite limited length of the field activities.

Firstly, it was ascertained, that there is much more archaeological sites present in this part of Kurdistan (about 3 times more) than it was evidenced in the only scientific source referring to this region, namely "Atlas of Archaeological sites in Iraq", published in Baghdad, in 1976. The site density varies significantly within the area; intensive settlement is clearly related to availability of good agricultural land. Most of discovered sites (34 out of 37) are in fact located either on the Greater Zab, or along the Bastora Cay. Density of settlement in the highland valleys and plains is extremely low.

Secondly, the settlement history within the researched area shows a significant discontinuity in the settlement dynamics. Neolithic and Early Chalcolithic settlements are nearly non-existent, and only with the 4th millennium BC villages start to appear, but still they are limited in number. The first settlement peak comes in the Ninevite 5 period, but the overall population continues to be pretty low in number, as nearly all the sites belonging to this period are small or very small. Later 3rd millennium is scarcely evidenced, but with the advent of the 2nd millennium BC the situation changes. More than 10, usually quite large settlement exists in the area, and most of them continues into the later part of the millennium.

The state of preservation of archaeological sites in the surveyed are varies to a high degree. Some sites, especially those covered by cemeteries, are in stable conditions, the only damage suffered when new graves are excavated. Most of the sites, either belonging to flat site category, or flat areas of composite sites (tell and lower city) are more endangered, because they are under cultivation. Mechanical ploughs could reach as deep as 0.5 m under the surface, inflicting serious damage to archaeological remains underlying the soil. Some sites, especially those featuring low thickness of cultural may be destroyed in this way entirely within a few decades. The most difficult conditions are on the sites located in or under the present villages, because they are continuously destroyed by building activities of various kinds, as raising of new houses, and other household structures, or infrastructure projects like constructing of new roads, of running water installations etc. Three sites seem to be affected to a large degree by those activities. The most aggravated situation is at Girdi Mikrdan (S037) where approximately half of the high mound was destroyed. Slightly better is the situation at Qalaat Rashwan (S014) and Girdi Mawan (S020), both these sites suffered significant damage.

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From the scientific point of view three sites located in the researches area seem to represent high research potential. These are S021 (Mawan), S033 (Qalaat Deiri) and S037 (Girdi Mikrdan).

Importance of the first of the listed sites lays in very good state of preservation of archaeological deposits, which are approximately 4,5 m. deep. The site was inhabited mainly in the 1st millennium BC, down to the Sassanian period. Size of the settlement (about 5 ha) and reported chance finds including coins suggest that the settlement was of considerable wealth therefore it offers a high potential for scientific research. However, stable conditions of the site (the only threat is a further development of village of Mawan towards West) suggest that there is no necessity of carrying out archaeological work at the site in the very close future.

The site of Qalaat Deiri and ruins of a village located at the foot of the castle hill are interesting for other reason. The village is quite recent, and seems to be well preserved and rather wealthy. However, an earlier site is located under the Islamic level, probably under the castle itself. The potential of the site could be not fully evaluated at the moment because the site has not been fully researched and registered.

The last of the listed site, Gird Mikrdan, is interesting because of important Late Chalcolithic settlement, featuring both Northern Uruk and Southern Uruk phase. The site has been recently seriously damaged by building activities, what allowed for evaluating of the scientific potential of the site, but destroyed irrecoverably its southern part. In this situation it is **strongly recommended** to carry out a rescue excavation at the site, as soon as it would be possible. Only in this way important information on the history of this part of Kurdistan will be registered. Moreover, active interest of Antiquity Service at the site will most likely stop further attempts to damage its extant part.

Erbil, October 24, 2012

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