The SCA Excavations in the Bahariya Oasis
Tarek el-Awadi
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(abstract to be submitted)

Czech Discovery of El-Hayz
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Since 2002, the mission of the Czech Institute of Egyptology has been mapping and undertaking small-scale excavations in the oasis of El-Hayz. In this talk I shall summarize the basic results of the past works and the methods used, introduce an archaeological map of the oasis, and outline the future directions for the work in El-Hayz.

Mapping of El-Hayz
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Since 2002, several remote sensing techniques have been successfully applied during the survey, which contribute immensely towards a better understanding of the oasis development and distribution of the sites throughout the time. Of the same importance is that these methods show clearly a close relationship between archaeological sites and features and local landscape. These methods include archaeological survey with GPS, satellite imaging, 3D modelling of the surveyed area and total station measuring.

"Qanat Landscapes" in the Oases of the Western Desert of Egypt: the Case of Bahariya Oasis
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The *qanat* system is a technique born and developed in the Persian Empire in the Achaemenid Period, spreading rapidly in the basin of Middle and Near East and then in North Africa. Only for Egypt we have stratigraphic data about the presence of *qanat* networks in the South Kharga Oasis used from the V century BC up to Roman time. But the presence of ancient *qanat* is attested also in the North Kharga Oasis and in the South Bahariya Oasis, related to settlements of Roman time. Recently a *qanat* system was found near Qasr Allam, in the North Bahariya Oasis and during our investigations on the North-East of the oasis looking satellite imagery is outcropped an articulate *qanat* system related with ancient settlements, that was confirmed in recent partial surveys of this area. In the Bahariya Oasis, like in Kharga and probably also in the other oases, the *qanat* system is therefore a distinctive aspect of the ancient landscape and an essential instrument to understand the human dynamic of this oasis in post-pharaonic time.

A Preliminary Note on the Ostraca from Bir el-Showish, El-Hayz Oasis
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Archaeological excavations at the Late Antique settlement of Bir el-Showish have brought to light documents written on ostraca. The paper will present this coherent set of sources. Some preliminary observations will be made in regard to the possible attestation of Christians at the site, as well.

The Coptic Graffiti of the al-Hayz Church

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(abstract to be submitted)

Study of Population History in the El-Hayz Oasis

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Two different approaches have been applied in anthropological research in the El-Hayz Oasis. The first part was focused on genetic markers that enable us to detect the population history of this area. We used mitochondrial and Y chromosomal data of 35 unrelated individuals living in the El-Hayz Oasis. Although both male and female gene pools show signs of strong genetic drift, there are clear genetic signs of a Near Eastern input within the Neolithic period. The diversity of L haplotypes (the sub-Saharan contribution) seems to favour a recent introduction of these lineages in the oasis.

The other part was conducted on skeletal remains collected from the cemetery Bir el-Showish associated with the Roman period inhabitants (2nd – 4th Centuries AD). Besides the traditional anthropological analyses the research was concentrated on biological relationships through analyses of non-metric traits and progressive methods of geometric morphometry of the skulls. The data showed certain homogeneity with some exceptions showing a clearer expression of sub-Saharan features.

Finds and Material Culture of the 4th and 5th Centuries in the El-Hayz Oasis

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The field research has provided various items of the material culture of the late Roman horizon of the settlement in this part of the oasis. Especially the excavation of the room in the eastern part of the house No. 3 may be considered essential. Despite the relatively small extent of the excavation (given the size of the house), and cleaning of its floor plan, a most interesting set of ceramic findings, coins and bronze objects has been found. Summarized and labeled were 8656 fragments of ceramic vessels; 104 complete or reconstructed vessels were filed separately. The survey revealed 57 lamps of 3 types, as well as 68 coins (most of which were badly preserved small bronze pieces), a bronze equal-arm beam scale, a ring and a fibula with onion-shaped buttons. This set represents a sound sample of the material culture of a late Roman household in this part of the Egyptian Western Desert.

Bir el-Showish in Roman Times – Archaeological Map

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The field research, realized between 2003 and 2007, made it possible to incorporate many archaeological locations from the Roman times, especially from the 4th and 5th centuries, into the El-Hayz map. They include locations of almost urban type (El-Riz), fortified locations (El-Riz, Qasr Mas^{c}uda), and also rural locations (Ayn Umm Khabata, Bir el-Showish). The archaeological findings are located especially at the Bir el-Showish site, which includes the records of former field ground, production devices such as pottery kilns, cemeteries and residential areas. Especially the archaeological survey of the house No. 3, conducted in 2007, brought to light an important set of

archaeological findings from the 4th and 5th centuries – the top settlement period of the area. It is worth mentioning that the surface search also detected the traces of the later Byzantine and Middle-Age settlement (El-Riz, Tahuna, Tabla Amun).

Botanical Survey at Bahariya Oasis Connected to Local Archaeology

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Botanical survey at Bahariya Oasis was conducted under the project of Grant Agency of the Czech Republic (project no. 404/06/0513) that is now in its final year. It resulted in the classification of habitats present in the area and in the list of locally occurring plants. Most of them are included in an electronic herbarium (http://westerndesert.geolab.cz/en/flora.html) that at present covers some 200 species of vascular plants. Characteristic feature of some areas within Bahariya Oasis are conically-shaped structures called vegetation mounds (*agool*, *nebkha, rebdou* or *tarpha* in different areas of Sahara). These hillocks, sometimes over 10 meters high, are locally formed by four shrubby species belonging to genus *Tamarix*. Investigation into the nature of these vegetation mounds have demonstrated their gradual origin that could have been in progress for more than 2000 years. This is demonstrated by several vertical profiles and archaeological features discovered in their stratigraphy. Establishment of *Tamarix* seedlings is impossible on a dry surface of the desert. It must have taken place in much moister environment, like (a) during a prominent moist climatic event or (b) under the conditions of artificial irrigation of the surface. In Bahariya, close spatial correlation between the occurrence of vegetation mounds and archaeological features dated to Roman Age gives much more weight to the second hypothesis. Our findings have a wide interpretational potential towards the nature of past environments in dry areas of the World.

The Holocene Archaeology in the Northern Oases of Egypt

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The objective of this paper is to summarize the preliminary results of the survey and archaeological exploration of the Holocene remains in the El-Hayz Oasis hitherto conducted by the Czech team in the area. In order to set the results into their proper context, summary of the archaeological exploration of the Northern Oases of Egypt will be presented, together with an outline of the history of human presence, settlement and activity in the region during the Early and Middle Holocene. In conclusion, possibilities and directions of further research and exploration will be suggested.