

KOM ED-DAHAB 2015 PRELIMINARY REPORT

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Survey at Kom ed-Dahab

The site at Kom ed-Dahab, Menzala Lake, Damietta Inspectorate, is currently an isolated island in the proximity of the western shore of Lake Menzala (fig. 1), which has so far never been the object of any archaeological fieldwork or precise mapping.

Situated about 12 km south of Damietta and about 12 km to the east of Faraskur at the GPS coordinates 31°18.50'N–31°49.54'E. The site is registered by the MSA in the region of Daqahliya (Damietta Inspectorate) under the number 050105.

The maximum extension of the emerged area measures about 780 × 820 m. The island is circular in shape and has two triangular protrusions on the northern and the southwestern sides. The northern extension is clearly separated from the main site by a flooded area about 120 m long and 80 m wide. The archaeological remains cover an area of about 32 hectares. Be-



Figure 1. Map of the Egyptian Delta with the location of the Kom ed-Dahab in the Eastern Delta (map: G. Marouard)

cause it is still surrounded by water and reeds and can only be accessed by boat, this important settlement located about 2 km from the lake shore was completely untouched before 2015.

The site at Kom ed-Dahab is an early Roman town and an ex-nihilo foundation, which appears to have been established in the Menzala lagoon around the mid-first century BC. Its location and very peculiar installations indicate here a strategic harbor settlement located at the extremity of one of the Nile branches and once connected to a metropolis such as Mendes/Thmouis or Sebennytyos, which lie dozens of kilometers farther toward the center of the Delta. The site is currently threatened by the rapid progression of the cultivated areas, due to the regression of the water level in Lake Menzala (fig. 2).

The difficulty of access is the only reason for its seemingly excellent state of preservation. But the site is severely endangered by the fast-changing landscape and the development of the agricultural crops. Therefore an extensive survey has become urgent in order to record non-invasively the archaeological remains from the surface without digging.

The first survey season was conducted for a dozen days between September 28 and October 8, 2015, under the direction of Gregory Marouard, Research Associate at the Oriental Institute of the University of Chicago. This project was funded by the Oriental Institute of the University of Chicago and an additional grant from the Egypt Exploration Society's Delta Survey Program. Four team members participated in the fieldwork: Aude Simony (ceramicist, University of Poitiers), Robert Ryndziewicz (geomagnetic surveyor), Krzysztof Kiersnowski (geomagnetic surveyor), and Essam Nagy (archaeologist, fieldwork and engagement manager at the Egypt Exploration Society Cairo office).

Inspector Ibrahim Ezzat Ibrahim Ghoneim and inspector Ahmed Ibrahim Abuseer represented the Ministry of State for Antiquities. We would like to sincerely thank Mr. Sami Eid Salah Dohem, Director of the Damietta inspectorate, for his strong support and help in organizing this first season at the site.

An overview of the site was published in "Kom el-Dahab Interpreted," *Egyptian Archaeology* 45 (2014): 25–27, and some results of the geomagnetic survey are presented in the current issue of the *Oriental Institute News & Notes* 231 (Autumn 2016), pp. 16–21.

A Site Recently Rediscovered

The introduction of high resolution and free online satellite images, such as Google Earth Pro, has allowed the discovery of many new sites or at least has helped to reveal new archaeological evidence at sites poorly known before. In 2011 a similar approach allowed us to re-evaluate the archaeological potential for Kom ed-Dahab.

Despite being registered for many years by the Antiquities Service (no. 050105) and inventoried by the Egypt Exploration Society Delta Survey (no. 321), the site was neither explored nor excavated by any archaeological mission. The only reference to it dates back to the inspection conducted in the 1890s by Georges Foucart, who reports on the site without having ever visited it: "Tell el-Dahab, [...] à six kilomètres environ de la limite des basses eaux [...] dans la région de Damiette et ne contient, à ma connaissance, aucune espèce d'antiquités" ("Notes prises dans le Delta," *Recueil de Travaux relatifs à la Philologie et à la Archéologie Égyptiennes et Assyriennes* 20 [1898]: 167; *Annales du Service des Antiquités de l'Égypte* 2 [1901]: 64). Another scholar, Albert Gayet, reported in his book *Coins d'Égypte ignorés* (1905) a very short description of the Geziret-el-Dahab area and noted some antiquities and a possible function of the harbor, considering its location.

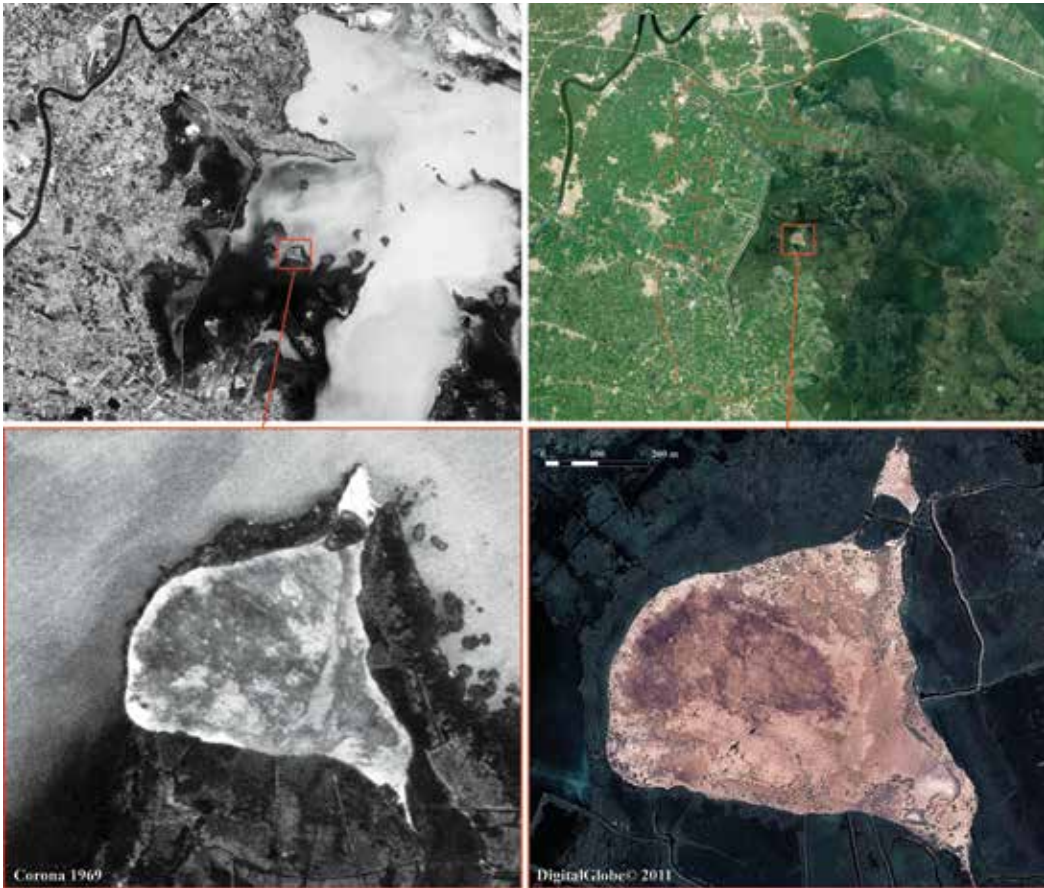


Figure 2. Comparison of satellite views of the Kom ed-Dahab island from Corona (1969) and Google Earth (2011) showing the progression of the fields and the drying process of the lake during the last 40 years (after DigitalGlobe© and Corona)

Only the satellite view of Kom ed-Dahab from 2011 shows on the surface extensive building remains, streets, and major buildings (fig. 2). The most densely urbanized area, with a regular and strictly orthogonal plan, and a hippodamian grid on the eastern part, covers an area of about 350 m from southwest to northwest for at least 450 m (about 16 hectares). At the center of the urban area, an east-west orientated street clearly dominates the grid. It is much wider and extends without interruption over 450 m, leading at its eastern end to a large building, one of the most important ones on site.

Except for a few holes from recent pillaging, some of which were made by using a bulldozer, the surface of the site is totally intact. The two largest looting holes, on the southern part, reveal some water filling which emphasizes the low elevation of the island and the immediate vicinity of the water from Menzaleh Lake at shallow depths. The site seems to have been strongly affected by both rainwater and a probable increase in the level of the lake, as well as, possibly, tsunamis – perhaps one of the reasons for the abandonment of the site, which has caused a very homogeneous leveling of all the archaeological structures, totally invisible on the very flat surface.



Figure 3. Morning surface moisture bringing out the limits of a house and streets at the corner of a residential block (photo: G. Marouard)



Figure 4. Kite aerial view above the northwestern domestic area showing three Roman tower-houses and the limits of the streets and residential blocks (photo: G. Marouard)

Kite Aerial Photography

As a preliminary to the beginning of the geomagnetic survey, three series of aerial photography using a kite helped us to better illustrate the archaeological surface of the site before daily passage onto the surface produced dense circulation and visual pollution. Consisting of a time-lapse camera simply attached to a picavet suspension system and lifted by a traditional kite, the high-altitude pictures produced provide extremely valuable documentation for the areas that we expect to survey this season.

Due to the variability of hygrometry on the surface (fig. 3) and the different kinds of building materials used for construction — such as red bricks, limestone blocks, and mud-bricks, each of which maintains moisture differently — the surface shows significant differences in colors indicating the direction of the walls. As a result, the internal spaces inside the buildings, the streets, and sometimes the entire plan can be revealed for some important constructions.

This operation was particularly successful for covering areas such as the main buildings already indicated by the satellite images in Zones 1, 2, and 5, and it helped us to better understand the urban organization and the street patterns of the complex domestic areas mostly located on the western part of the settlement (fig. 4).

Geomagnetic Survey

In 2015, an extensive investigation of the surface with a geomagnetic survey delivered much additional data and completed the excellent view of the site already available from the 2011 satellite pictures. The geomagnetic survey was conducted by the team of Tomach Herbich (Institute of Archaeology and Ethnology, Polish Academy of Sciences) represented this season by Krzysztof Kiersnowski and Robert Ryndziewicz. This operation covered a cumulative surface of about 3.6 hectares (36,000 sq. m) in six different zones, which were surveyed using two Geoscan Research FM 256 Fluxgate Gradiometers (fig. 5). All these areas have been mapped with a total station in order to relocate the work on a general map (fig. 6).

Zone 1

Area covered: 3,600 m² (60 × 60 m)

This sector, clearly visible on the satellite images of 2011 and fully covered by kite images, revealed a massive rectangular construction measuring about 43 m long and 28 m wide. Located at the eastern extremity of the main axis of the town (470 m east-west), this major installation can be temporarily interpreted as a possible palatial building from the early Roman period, built with mudbricks and stones. The plan seems to be organized around a huge central peristyle courtyard, beneath which a pipeline system made with red bricks seems to run westward.



Figure 5. Ongoing geomagnetic survey along the grid axes in Zone 3 (photo: G. Marouard)

Zone 2

Area covered: 8,000 sq. m (100 × 80 m)

This area seems to be mostly devoted to domestic installations, and the satellite images indicate here a strict orthogonal organization of the street layout. The geomagnetic survey confirmed the aerial images (fig. 7) and revealed in this grid two large and atypical buildings probably built with limestone: the bigger one on the north measures 33 × 16 m and the smaller one on the south 23 × 16 m (fig. 8).

Zone 3

Area covered: 4,800 sq. m (80 × 60 m)

This large area was not clearly visible on the satellite images, but some very long walls were detected and two small looting holes on the surface indicate the use of half-columns in red bricks in the construction.

Here, the geomagnetic survey produced the plan of a large rectangular construction about 40 × 20 m in extension; mostly built by using red bricks. A large open area seems to stand on all the eastern side of the main building of this complex.

Zone 4

Area covered: 8,000 sq. m (100 × 80 m)

A looting hole produced by bulldozers in 2007 and 2014 revealed in this area the remains of an important building in red bricks, limestone blocks, and red granite elements, but the geomagnetic survey conducted immediately on the eastern side mostly revealed houses and possible pottery kilns. This area should be enlarged in the future.

Zone 5

Area covered: 10,000 sq. m (100 × 100 m)



Figure 6. Location of the six zones surveyed in 2015 by geomagnetic detection (plan: G. Marouard on DigitalGlobe© picture)

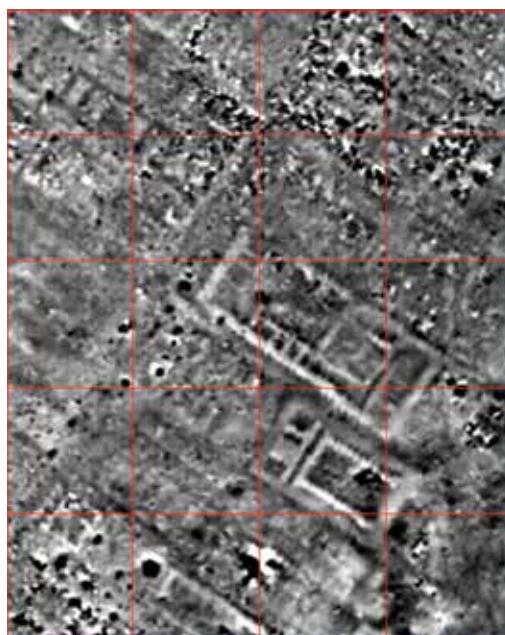


Figure 8. Magnetic map of Zone 2 (100 x 80 m) showing the orthogonal organization of the streets and residential blocks, and two peculiar large stone buildings



Figure 7. Kite aerial view above Zone 2 with the two main buildings before the geomagnetic survey (photo: G. Marouard)

On Google Earth© images, this large area is characterized by a large construction interpreted since the preliminary research as a theater from the Roman period. Both the aerial photography by kite and the geomagnetic survey clearly confirmed the existence of this building (fig. 9). It measures 56 to 58 m in length and has a maximum width of about 44 m. The *orchestra* must have had an original diameter of about 12 m. The hemicycle of the *cavea*, with a diameter of 58 m, is divided into two distinct zones of seats, which are visible due to an important concentration of vegetation on the surface. The *scaenae frons*, rectangular in plan, measures about 56 m long and 15 m wide.

This theater is only the fifth example identified so far in Egypt, including two examples at Pelusion, one in Antinoopolis, and one in Oxyrhynchus. Its dimensions are nevertheless very similar but slightly smaller than the two theaters at Pelusion (Tell el-Farama and Tell el-Kana'is). The plan is clearly in line with the imperial pattern and in the tradition of the installations from the Antonine period. This rare building marks the importance of the urban site at Kom ed-Dahab and it follows, at its own scale, the development of a classical monumental ornamentation that characterizes the Eastern Mediterranean towns during the course of the second century AD. The presence of this building also underlines the probable strong Romanization of the local population and its close contact and openness with the Mediterranean world.

Zone 6

Area covered: 1,800 sq. m (60 × 30 m)

Located on the northern island of Kom ed-Dahab, this part of the site can be interpreted as the location of the main harbor installation, with long parallel rooms as possible magazines. The geomagnetic survey also revealed some large pottery kilns that could explain the huge amount of Egyptian amphora fragments observed in the dumps of recent lootings (2012).

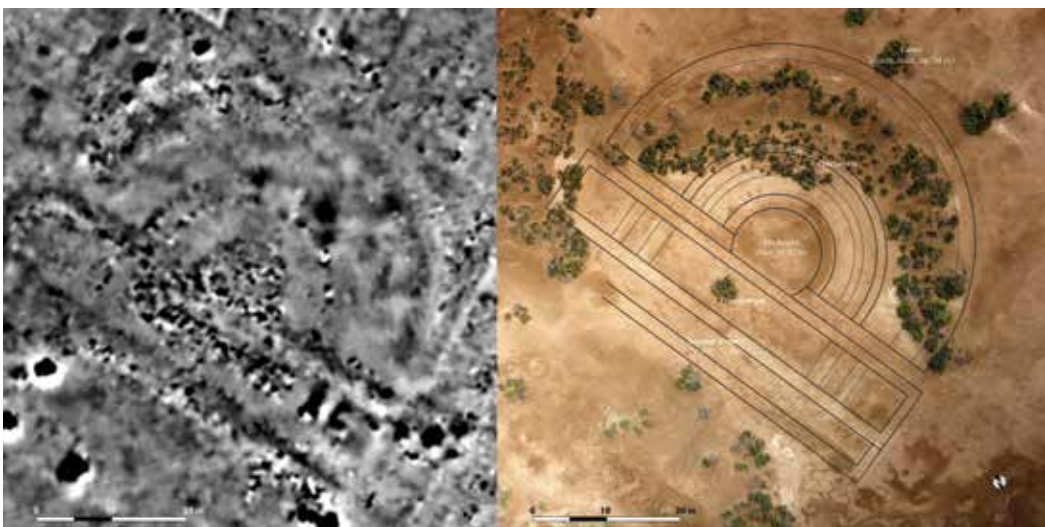


Figure 9. Magnetic map and interpreted aerial view of the Roman theater area in Zone 5 (plan: G. Marouard)

Pottery Survey and Analysis

The study of pottery was conducted by Aude Simony (fig. 10). She devoted special attention to surveying the very recent looting areas concentrated mostly in the western periphery and the southern part of the site, where according to the satellite images, bulldozers excavated several deep trenches in 2007 and again in 2014.

Only a few pottery sherds have been collected from the surface in fourteen different sectors, in order to draw the forms, describe the fabrics, and to get a more accurate date for the general occupation. The preliminary analysis of the pottery at the site indicates an occupation exclusively from the early Roman period, limited to the period between the middle of the first century BC and the end of the second century AD. Despite few later pottery sherds, which indicates a light occupation until maybe the early fourth century AD, most of the Egyptian and imported productions clearly match this time frame.

Concerning the imported pottery, the surface regularly revealed in all the parts of the site a significant number of Eastern Sigillata fragments, a typical fine tableware production for the early Roman period, probably imported from such distant Eastern Mediterranean areas as Cyprus (Eastern Sigillata D) or Turkey (Eastern Sigillata C).

Finally, it should be mentioned that the recent lootings (between 2012 and 2013, according to satellite images) on the northern island located at the very north part of the Kom ed-Dahab revealed a significant volume of fragments of Egyptian amphora, mostly dated from the first century BC to the first century AD, which confirms the general dates observed on the main site.

GPS Survey of Artifacts on the Surface

In order to complement the pottery survey, concentrations of other categories of artifacts were recorded in various areas of the settlement. All these objects were not collected, but were systematically photographed and geo-localized with GPS points (fig. 11).

Two main categories of diagnostic objects, glass and coins, were primarily recorded, because of their better state of preservation on the very exposed and washed surface of the site, where many other kinds of objects were not properly conserved.

Thirty-one concentrations of glass have been marked on the surface, all located in the central, higher, and more densely urbanized part of the site. Most of the forms recognized and colors identified belong to the Roman period (fig. 11, upper right), with a chronological frame situated between the middle of the first century BC and the end of the second century AD, as already underlined by the pottery sherds from the surface.

Some forms are more frequently observed, such as very typical ribbed bowls, narrow-necked jugs, spherical bottles, kohls, flasks, unguentaria, and patella. The majority seem to be imported from the Levant (Syro-Palestinian) area, but some were apparently produced in Italy, Cyprus(?), or maybe Egypt (in this case intended for exportation).

Dozens of coins were located on the surface, most of them in a pretty poor state of conservation, but some are occasionally



Figure 10. Aude Simony recording and analyzing the pottery sherds on the spot (photo: G. Marouard)



Figure 11. GPS position of the glass fragments and copper coins on the surface (photo: G. Marouard)

better preserved on both faces, such as a coin from the reign of Claudius, ca. 50 AD (fig. 11, lower right).

Training

This first season 2015 at Kom ed-Dahab was extremely well supported by a very nice and dynamic team of two young inspectors from the Damietta inspectorate, Ibrahim Ezzat Ibrahim Ghoneim and Ahmed Ibrahim Abuseer, who were already well experienced in field archeology from their work on the Late Period necropolis at Tell ed-Deir, a Ministry of Antiquities rescue excavation located west of Damietta and conducted by the head of the inspectorate. Our survey work on the Roman settlement at Kom ed-Dahab provided the occasion for them to learn how to use a Leica Total Station (fig. 12), to set a 100 × 100 m grid for the geomagnetic survey with a Leica distancemeter, and to do some pottery survey or experiment with pottery drawing with our ceramicist, Aude Simony.

We would like to sincerely thank both of them and the entire inspectorate for their help and their extremely valuable support, and we hope to be able to continue this training support in the future.



Figure 12. Inspectors Ahmed and Ibrahim learning the use of the Leica Total Station for setting a grid on Zone 6 (photo: G. Marouard)