The Aegean and its Cultures

Proceedings of the first Oxford-Athens graduate student workshop organized by the Greek Society and the University of Oxford Taylor Institution, 22-23 April 2005

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Preliminary Report of the 'Halasarna Project': An Intensive Archaeological Survey of the Ancient Demos *Halasarna* on Kos[1]

Konstantinos Kopanias

The 'Halasarna Project'[2] is the diachronic study of the area once occupied by the ancient demos of Halasarna, namely the second demos of Kos in religious importance (**Fig. 1**). This particular demos was chosen mainly for the following reasons: first, from the epigraphic and archaeological evidence it is apparent that ancient Halasarna was an important urban centre, at least during certain historical periods; proof of the diachronic importance of the demos is provided by the important sanctuary of Apollo, the extensive Late Roman settlement, among the very few known in Greece, as well as the four basilicas that belong to the same period. Secondly, a prerequisite for such a study is excavation, since stratification will offer a reliable point of reference for the finds of the wider region. Since 1985, members of the Departments of Classical and Byzantine Archaeology of the University of Athens have been conducting an excavation at the site of ancient Halasarna (**Fig. 2**).[3]

Our team has two aims: 1) to record the finds from the University's past excavation seasons at Halasarna; a digital database has been created for the methodical cataloguing of all the finds and drawings; 2) to conduct a systematic field survey in the wider area.

Since 2003 three fieldwork seasons have taken place, while a fourth occurred in June and July 2005. The final publication is planned for the end of 2008. It will be the first systematic intensive field survey[4] in the Dodecanese.

There is no simple agreed method of conducting a survey; in the work described here the survey area was divided into sectors of the same size, so that results from each sector could be compared to those from the other sectors, without first having to use a mathematical formula to convert them, which could have led to distortion. We used six maps from the Geographic Department of the Greek Army, at a scale of 1:5000 and superimposed, with the help of the computer application 'Oziexlporer', a digital grid with sectors of 100 sq.m. (**Fig. 3**).[5] The exact location of those sectors in the field was determined with the help of mobile GPS devices. Each sector was investigated from one end to the other by a team of five members, who walked steadily forming a chain. The distance between members was 20 meters, which also enabled us to identify smaller habitation areas. The established convention in the bibliography is that a survey is considered to be *extensive* when the distance between team members is greater than twenty meters;[6] thus our investigation was instead *intensive* in character. So far we have covered a total area of 12 sq.km., of which it was possible to investigate only 7 sq.km. in a systematic, intensive way. Due to the morphology of the ground, thick vegetation or modern constructions, the remaining area was explored in a non-systematic manner. On the map the area that has been systematically surveyed is shaded green, while the non-systematically investigated area is a reddish shade (the yellow star on the map presents the location of the university excavation already mentioned above) (**Fig. 4**).

Although some other research groups would have covered more than twice as much area as we did during a similar period of time,[7] we had aimed from the outset to emphasize the analytical character of our investigation, rather than to cover as large an area as possible. All locations, where we discovered significant concentrations of ceramic and/ or architectural objects, were studied further by using a grid with sectors of only 10 sq.m. We have surveyed more than 3 sq.km. in this way. It is evident that this additional method enabled us to validate or reject the results that were produced by the survey using the grid with sectors of 100 sq.m.

[1] I would like to thank Prof. John Bintliff, Dr Simon Price and Ass. Prof. Konstantinos Sbonias for sharing with me some of their experiences of field survey.

[2] This research is conducted under the supervision of Prof. G. Kokkorou-Alevras (University of Athens) and is part of the Program 'PYTHAGORAS: Enhancement of University Research Groups', which is financed by the 'Operational Program for Education and Initial Vocational Training' (O.P. 'Education') and by the European Social Fund. For a full list of the members of the 'Halasarna Project' see the following link: http://archaeology.arch.uoa.gr/Pythagoras/Alevra/pyth_en.html (last accessed: 28 March 2008).

[3] Kokkorou-Alevras 2004, 19-23.

[4] As defined in Alcock 1994, 137-138.

[5] Cf. Bintliff 2000, 213; Forsén and Forsén 2003, 14.

[6] E.g. Alcock 1994, 137; Lang 2002, 107; Forsén and Forsén 2003, 14.

[7] E.g. Davis 2003, 47.

The recording of the data was conducted in the same manner for the surveys of both grids. Every team member used hand-counting devices to count the sherds in each sector. We also kept separate count of tile sherds and collected all lithic objects that were discovered. In every track we have tried to collect a sufficient sample (about 10-20%) of the existing pottery from all periods: emphasis was given to the collection of diagnostic sherds (e.g. those with decoration), but we have explicitly asked all the team members to also collect a specimen of undiagnostic pottery.

When a construction or architectural objects were located, the team leader registered them on the spot. At the end of each sector, every team member had to fill out a standard form: visibility and finds were recorded as well as an assessment concerning the scatter pattern of the finds within his or her track (**Fig. 5**). The corresponding form of the leader of each team was more detailed. The leader also had to describe, among other things, the morphology of the ground and the type of cultivation, if any, that was apparent to them at the time (**Fig. 6**). Every afternoon the finds of the morning were recorded in electronic databases and each received a distinctive inventory number. This time-consuming practice helped us to avoid errors that could have distorted our results. At the same time a separate team worked on the preliminary study and recording of the pottery. Thanks to this schedule, all finds have already been digitally photographed and have been entered into the database. During the expeditions of 2003 and 2004 we collected 4,943 sherds, 112 lithic objects and recorded 651 construction/ architectural objects (including the terrace walls).

The map will constitute the central part of the publication, at a scale of 1:5000, which has been digitized using the computer application "MapInfo" (**Figs. 7-8**). This map is not simply static, but is connected to a bi-directional manner with our database. This means that every modification of a field in the database is automatically depicted on the map; equally, every alteration on the map produces the appropriate changes in the database. The architectural objects have been recorded in layers, thus giving us the possibility to represent *ad libidem* any categorization of them. Of course, in drawing any conclusions, the combination of this layer with the one holding the ceramic distribution is necessary (**Fig. 9**).

In order to achieve greater precision, we have chosen not to sum the data counted by the five members of each group in every sector of 100 sq.m. (**Fig. 10, left**), but rather to present them separately. An example will help to demonstrate this process (**Fig. 10, right**). Each of the rectangles represents the sector area covered by each team member (100x20m); henceforth, we are going to refer to them as 'tracks'. The visibility on each track is represented by the shading of its background; the darker it is, the more vegetation was present on it when the examination took place. If we had chosen instead to sum all tracks of each sector (**Fig. 10, left**), then we would have to calculate the average visibility on all five of them which would have led us to less accurate results. Our system involved entering about 6000 separate tracks on the map (seasons 2003-2004). Every sherd that has been counted is represented as a red dot, randomly placed within the boundaries of the track where it has been found, while each tile is shown in blue (**Fig. 9**). A problem in every field survey is the possibility of underrepresented objects, where visibility is very poor. It is common to use a specific mathematical formula to calculate the approximate quantity of the pottery missed because of poor visibility.[8] In our opinion, this particular practice has two serious disadvantages: since the degree of visibility in each track is very subjective, it cannot be reliably used as a quantitative element in the formula; in addition, in some tracks the lack of finds is not necessarily due to poor visibility, but it could in fact represent a true lack of traces of past activities. Thus, such mathematical formulas could be misleading and could lead to the invention of a site. For this reason, we have so far chosen not to use any formula, but to represent our raw data on the map without any modifications.

As the study of the finds has not yet been completed, we are not in a position to show their scatter pattern within the various historical periods or present the smaller sites that we may have located. Nevertheless, some preliminary results can be presented, but with some reserve, since the project is still ongoing.

Finds from the prehistoric to the Archaic period are scarce, as is also evident in the University's excavation. A slight increase is registered for the finds of the Classical period, although so far we have located only a single site that undoubtedly belongs to this period (**Fig. 11:1**). On the other hand, for the Hellenistic period we have observed a radical increase in pottery. This does not necessarily mean that during this particular period of time the population of the area increased dramatically, but that there was a boost in pottery production. Indeed, the fact that a considerable number of our finds are amphora fragments indicates that during this particular period a marked increase in exports of agricultural products occurred. The finding of a significant amount of poorly-baked clay in three different sites provides strong evidence that at least three separate pottery workshops were in use during various phases of the Hellenistic period within our survey area (**Figs. 11:2, 3, 4**).

The considerable concentration of mainly Hellenistic pottery in the area**s** north and in part west of the modern village may indicate that a part of Hellenistic Halasarna was located there. Unfortunately, it seems that the modern buildings of the village have completely destroyed a large part of the ancient settlement. The fact that the theatre (**Fig. 11:5**) and other important public buildings that have been excavated, as well as the cemetery that has been discovered by us on a nearby hill (**Fig. 11:6**), are also located in the area corroborates the evidence in favour of this location. In another important site a part of a hypocaust and of a mosaic floor were discovered *in situ* (**Fig. 11:2**).

The apparent floruit of the Hellenistic period probably continued in the Early Roman period as well. Nevertheless, the finds that can be dated between the 1st and the 4th centuries AD decline dramatically, as is also observed in the University's excavation. This fact may be attributed to the catastrophic earthquake that occurred in ca. AD 139.[9] We hope that the

[8] Cf. Bintliff 2000, 200.

[9] Kokkorou-Alevras 2004, 22.

future completion of the study of our finds will offer a more detailed picture of this period. On the other hand, the Late Roman settlement was more extensive and was situated along the coast. The presence of four (to date) basilicas indicates that the settlement was important and also rather populous. The fact that the settlement had a maximum length of six kilometres emerges from the significant amount of Late Roman pottery in this area and also from the foundations of several buildings of that era, which are still visible at various points of the coastline and also under water. Nevertheless, it is not evident whether it was cohesive or if it was divided into several, more or less distinct parts. We have so far located two fortification sites, namely Evraiokastro (**Fig. 11:7**) and the unknown until today Paliokastro (**Fig. 11:8**). It seems that there has been some activity since the Hellenistic period, but the majority of the pottery is Late Roman. Both locations are rather distant and could hardly be used by the inhabitants of the far northern part of the settlement in the case of urgent danger. We are examining the possibility that another fortification was situated in that northern area, although so far we have discovered none.

Literary sources inform us that a major earthquake took place in AD 554,[10] which generated a deadly tsunami (Agathias, *Hist.* II, 16.1-7). A significant layer of destruction has been found in the University's excavation. Nevertheless, a sector of the population still remained in the area up to the middle of the 7th century AD, when Arab raids forced most of the inhabitants to move inland, as far away from the coast as possible. A gradual resettlement to the area seems to have occurred only after the 14th-15th centuries AD.

[10] Kokkorou-Alevras 2004, 23.

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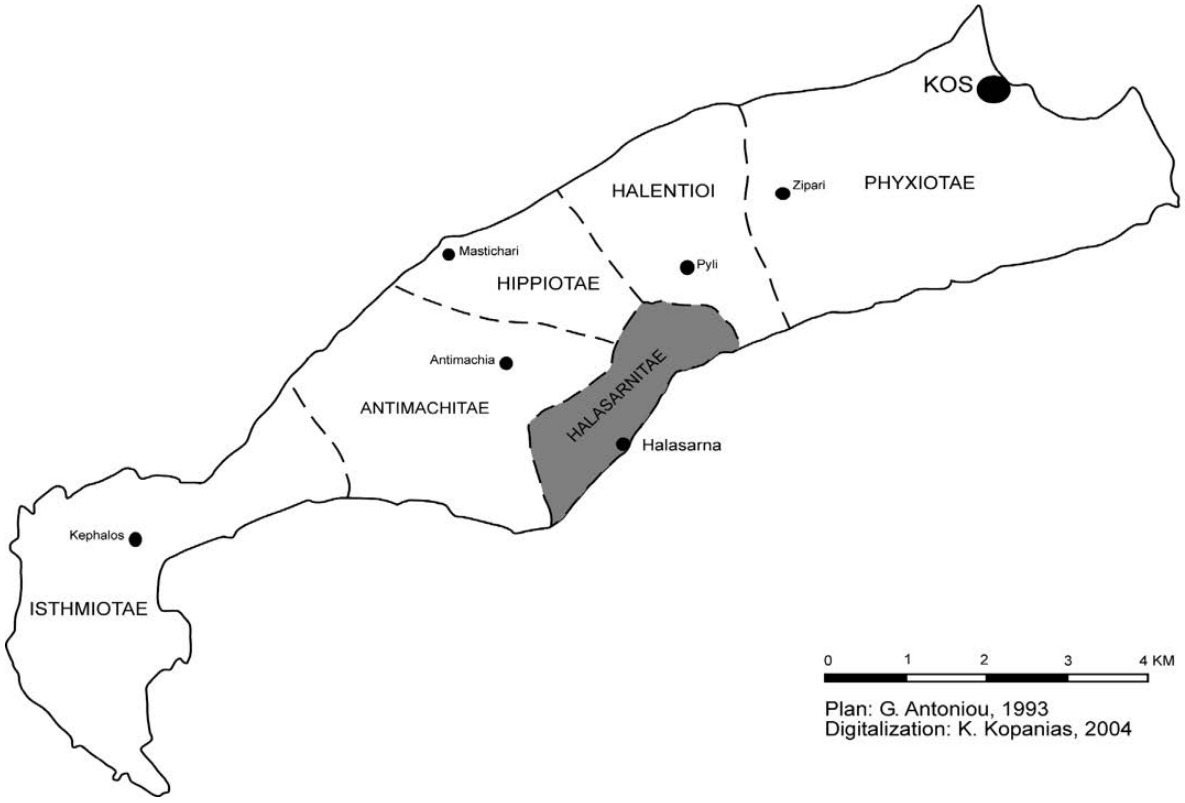

Fig. 1: Map of the ancient Demoi on Kos

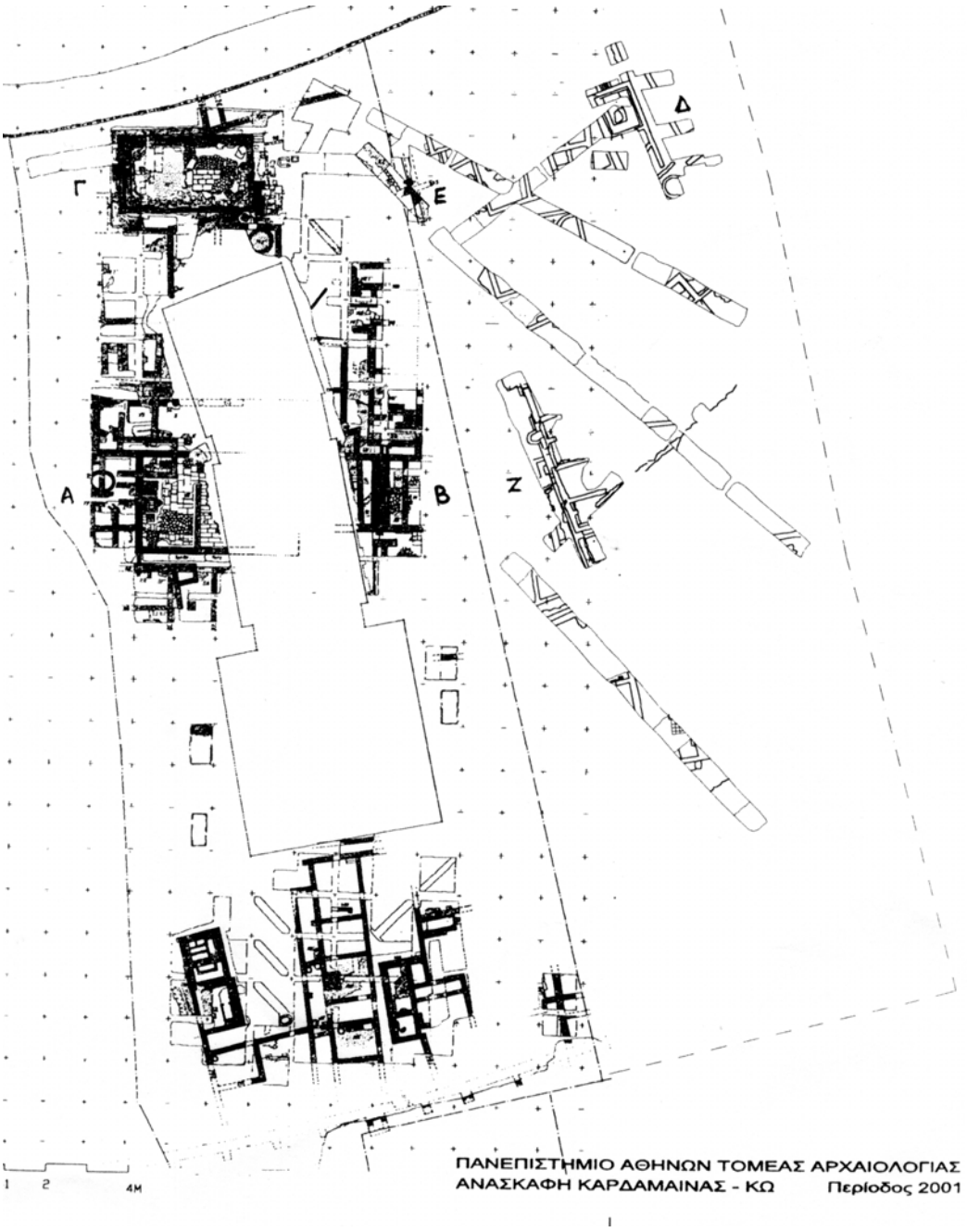

Fig. 2: General plan of the University of Athens excavation in Kardamaina (ancient Halasarna) on Kos

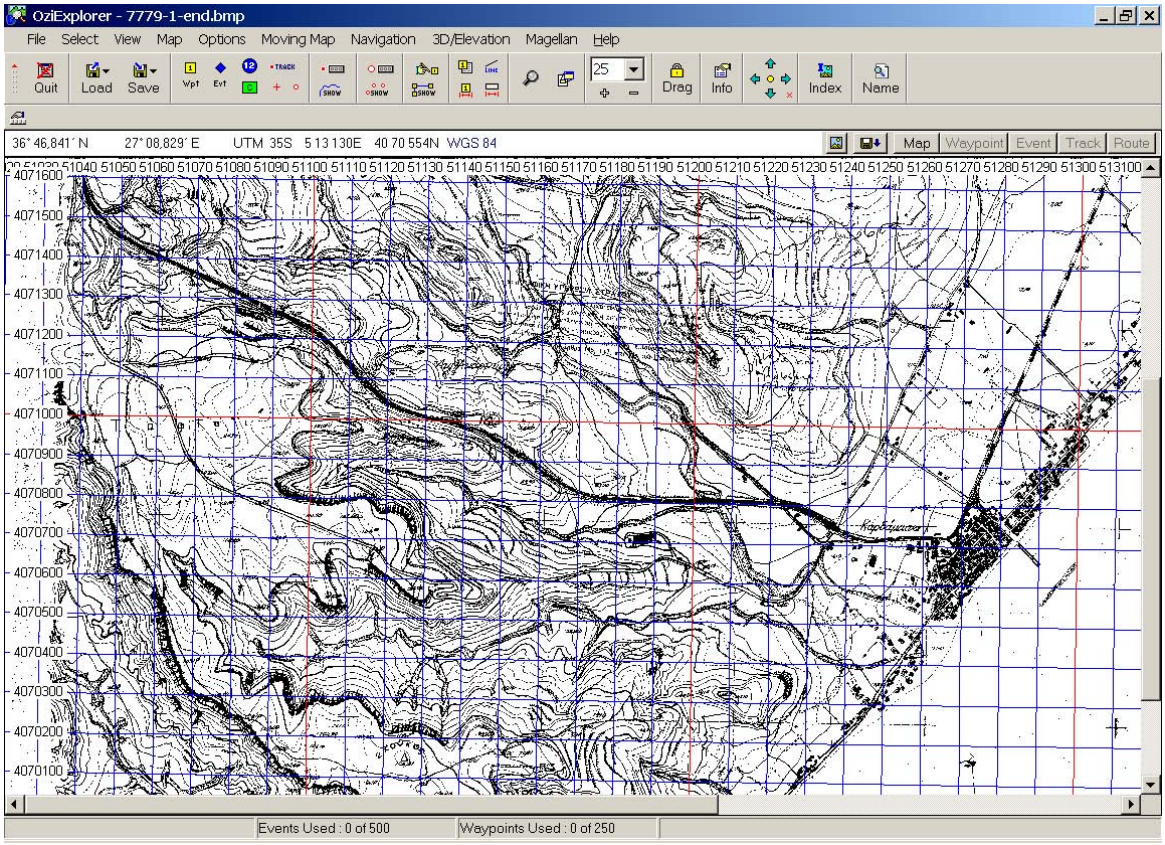

Fig. 3: Part of the digital grid

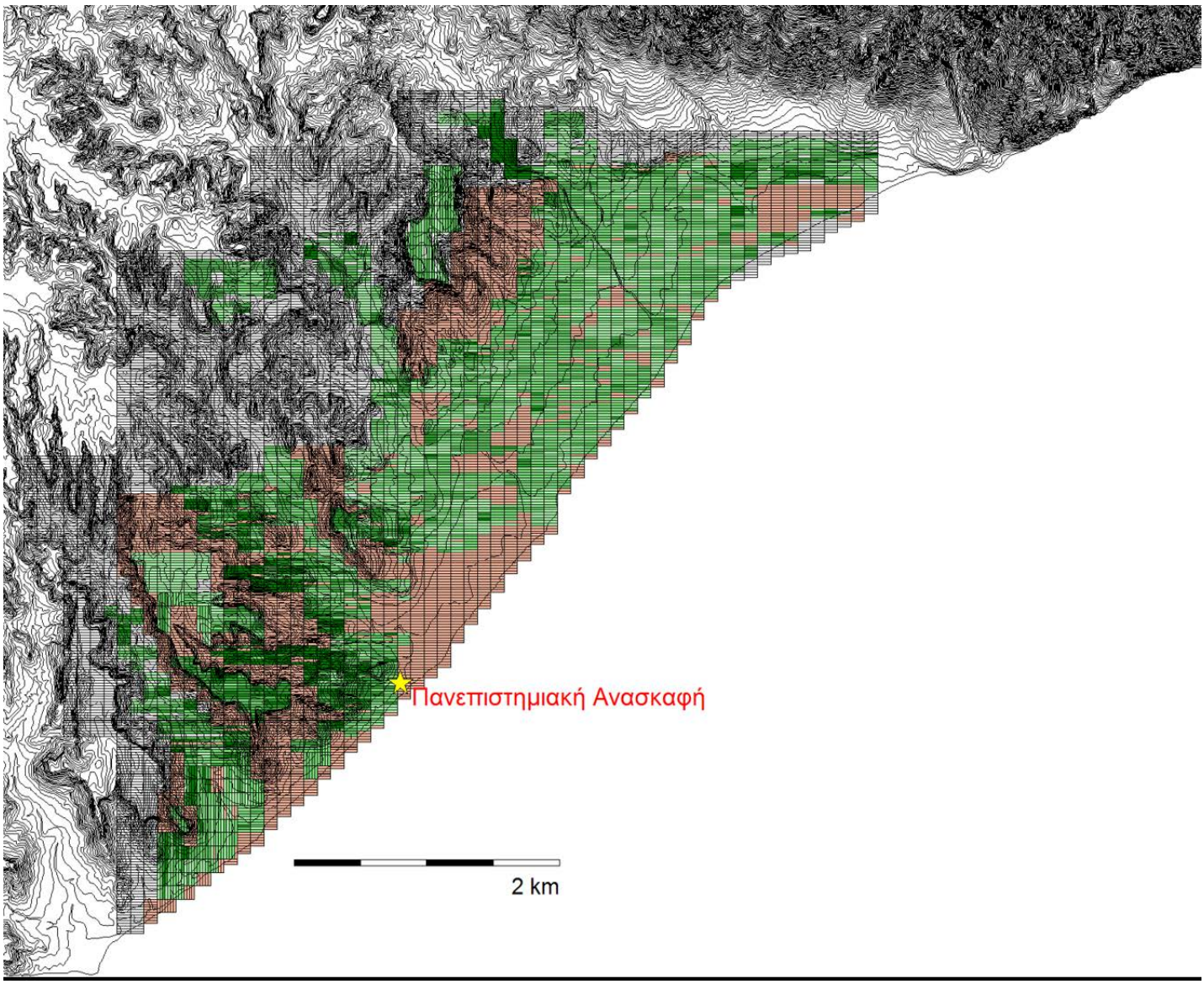

Fig. 4: Map of the systematically surveyed area

Member's Name **Member's Nr.** **Date** . 7. 2004

Sector and Track	Visibility	Sherd Nr.	Terrac. Nr.	Collected Nr.		Bag Nr.	Append. Nr.	Scatter Pattern	Remarks
	1 2 3 4 5					04/ /K .		Beginning Middle End	
	1 2 3 4 5					04/ /K .		Beginning Middle End	
	1 2 3 4 5					04/ /K .		Beginning Middle End	
	1 2 3 4 5					04/ /K .		Beginning Middle End	
	1 2 3 4 5					04/ /K .		Beginning Middle End	
	1 2 3 4 5					04/ /K .		Beginning Middle End	

Example for the Bag Nr.:
<year>-<group><member nr.>-<sector>.<track> e.g. *04 / B4 / K31.03*, namely 2004, group B, member 4, sector K31, track 03

Fig. 5: Standard recording form for survey finds

Group Manager **Member Number** **Date** . 7. 2004

Sector and Track	Visibility	Sherd Nr.	Terrac. Nr.	Collected Nr.		Bag Nr.	Append. Nr.	FIND SCATTER PATTERN: BEGINNING MIDDLE END Remarks
	1 2 3 4 5					04/ /K .		
	Direction	Field Walkers		Film/Photograph Nr.				Field Description

Sector and Track	Visibility	Sherd Nr.	Terrac. Nr.	Collected Nr.		Bag Nr.	Append. Nr.	FIND SCATTER PATTERN: BEGINNING MIDDLE END Remarks
	1 2 3 4 5					04/ /K .		
	Direction	Field Walkers		Film/Photograph Nr.				Field Description

Example for the Bag Nr.:
<year>-<group><member nr.>-<sector>.<track> e.g. *04 / B4 / K31.03*, namely 2004, group B, member 4, sector K31, track 03

Fig. 6: Team leader's recording form for survey finds

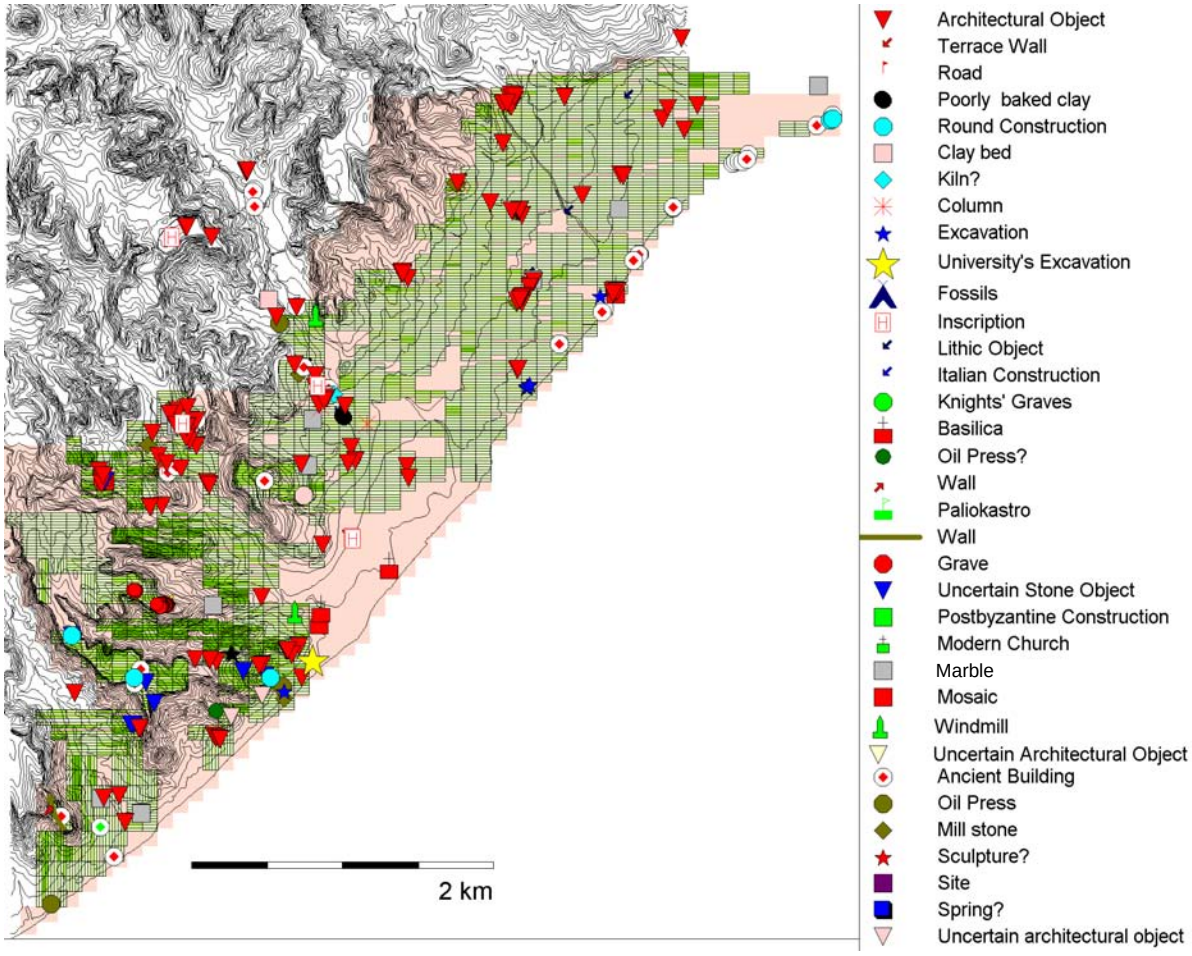

Fig. 7: Map of the architectural objects found in the survey area

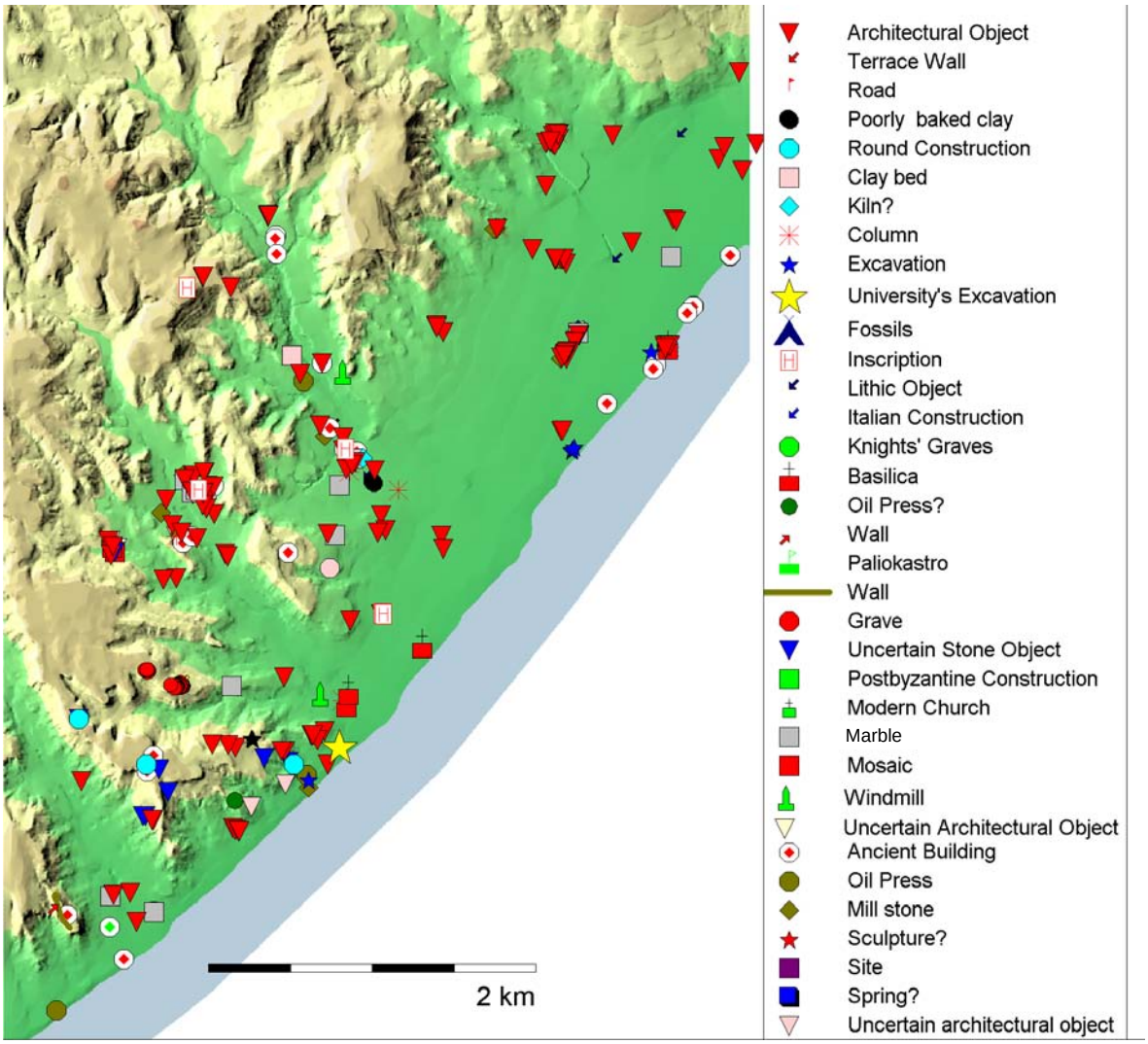

Fig. 8: Three dimensional map of the architectural objects found in the survey area

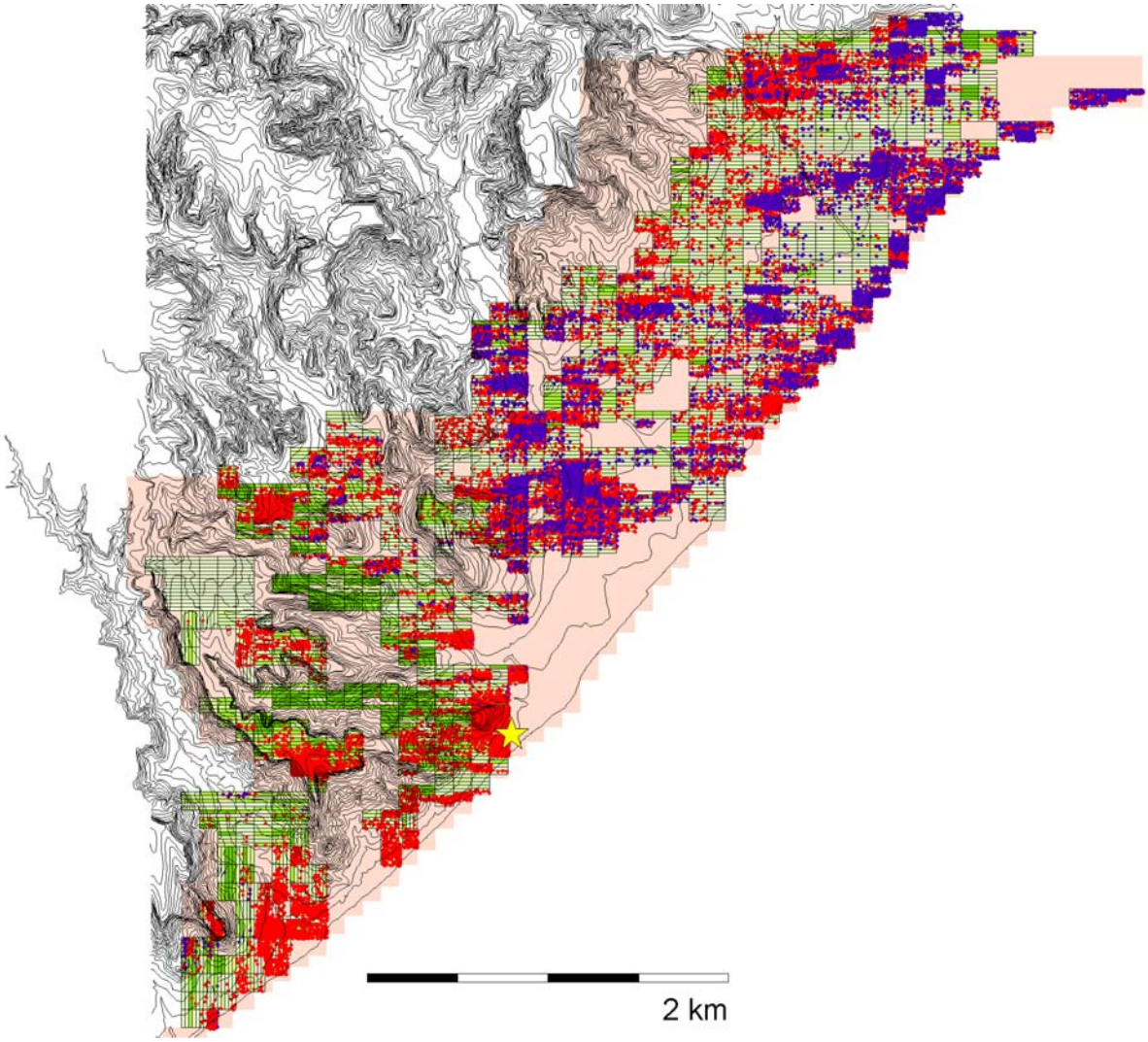

Fig. 9: Map of the ceramic distribution in the survey area

Fig. 10: Sectors and tracks

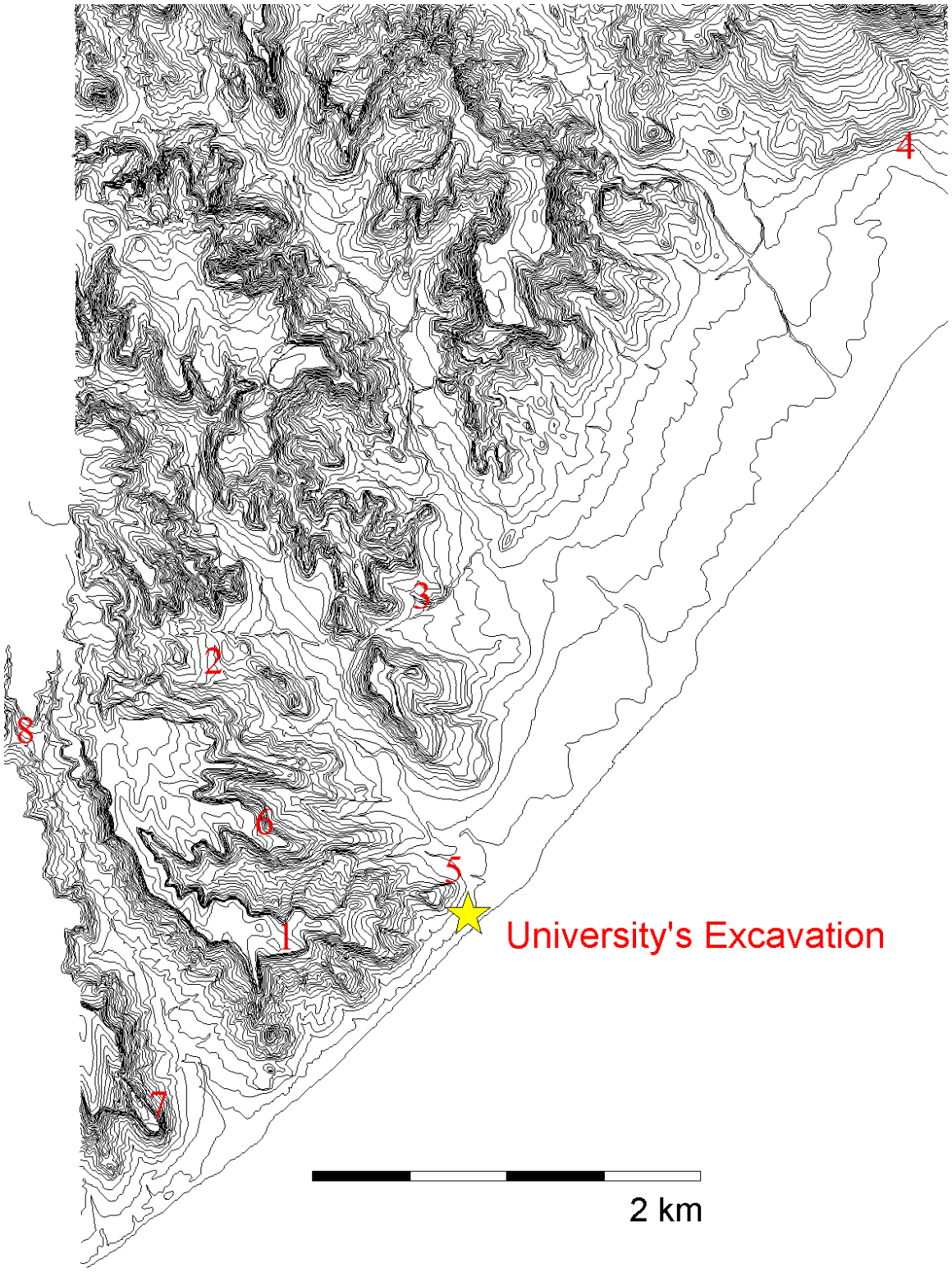

Fig. 11: Significant sites in the surveyed area