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**Zakynthos Archaeology Project 2012: a summary report**

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**Introduction**

Within the framework of the Zakynthos Archaeology Project, the fieldwork of 2012 was conducted during a five week campaign from Monday 18 June to Friday 20 July. In this campaign, five trial trenches were excavated on a hill at Lithakia-Kamaroti in our research area A. In 2009 we have investigated the find concentration at the hill and we concluded that it constituted an important site, with finds from the Early Bronze Age to the Roman period, but the majority of the finds being Mycenaean. In addition to the excavations, some intensive field survey was carried out in an area near Limni-Keriou, which we were not able to finish during 2009. Geomorphological researches were also carried out, and the study of finds from previous campaigns continued. In particular, the research concerning ceramic fabrics and pottery technology progressed significantly. In total, 22 people participated in the 2012 campaign.<sup>1</sup>



*Figure 1: Kokkala hill at Lithakia Kamaroti*

### Lithakia Kamaroti

The hill of *Kokkala* at Lithakia Kamaroti was investigated by surface survey in 2005 and 2009. In 2005, we paid a chance visit to the hill and noted many archaeological finds on the surface, among which was a Mycenaean steatite *conulus*. In 2009, the hill was systematically covered by field walking, with full collection of the survey finds. For Zakynthos standards, densities of finds were high (figure 2) and they were highly diagnostic. The finds were concentrated around the lower top and the plateau just below. At the lower top, various wall remains were visible, including an enigmatic “square structure”.

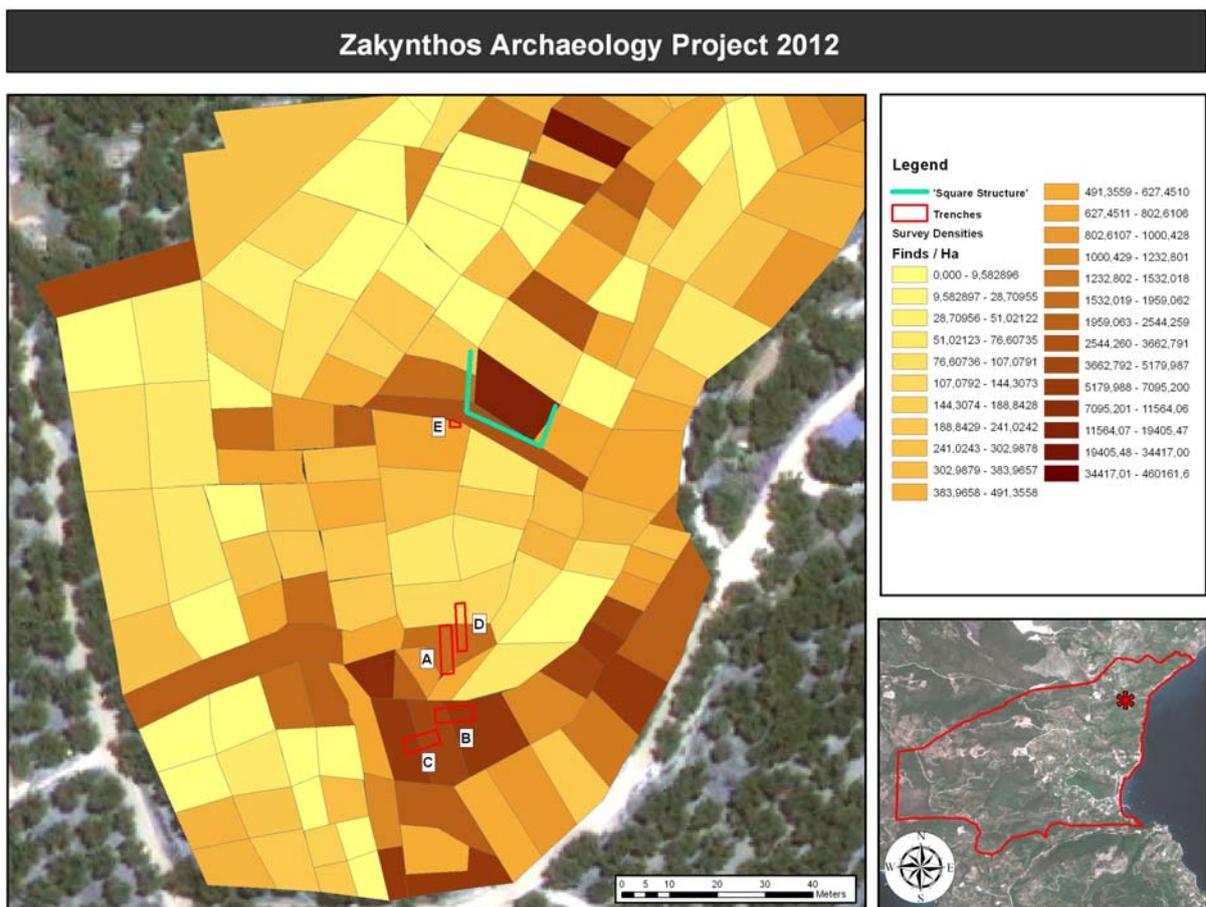


Figure 2: Density map of survey at Kokkala hill, indicating the excavated trenches

The hill on which the site is situated is, mostly, cultivated with olive trees on small terraces. Aerial photographs from 1934 indicate that large scale changes to the landscape by bulldozing have not occurred. The land on the hill belongs to five different owners. Only one of these allowed us to conduct test trenches on his property. Unfortunately, we were not allowed to investigate the so-called “square structure” and the western slopes. The trenches were laid out on the large plateau immediately south of the top and on terraces on the south slope of the hill (figure 2). The trenches were backfilled after the excavations. In addition to the excavations a programme of cleaning and study of terrace sections was conducted in parts where walls had collapsed.

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## Trench A

A trench measuring 2,5 x 10 m was set out on the southern edge of the plateau in north-south direction. Below the topsoil, a fill of field stones became visible, which was subsequently removed. The thick fill of boulders yielded Mycenaean pottery, but also tiles, pieces of bone and grinding stones. The tiles appeared to be of Classical-Hellenistic date (5<sup>th</sup>-2<sup>nd</sup> centuries BC), which would fit well with the fragments of black-glazed pottery that were also found. The stone fill appears to belong to a re-arrangement of the hill during the Classical-Hellenistic period. Tiles and pieces of bone and a human tooth suggest the presence of tile graves from the same period.



*Figure 3: Wall from the Mycenaean period in Trench A*

In the central part of the trench, a double-faced wall running NW-SE was attested (figure 3). It was made of well-laid, but unworked field stones, all of similar size. The width of the wall was 0.70-0.80 m. and it was preserved to a maximum of 0.82 cms. Pieces of mud-brick, which had been found during the removal of the stone fill, may once have belonged to the wall.

South of the wall, the packing of a floor was attested, which consisted of small stones in a light brown, hard soil. This packing was 21-32 cm. thick. On the floor, and in the top of the packing, there was a concentration of Mycenaean pottery, among which were large fragments of a stemmed bowl (FS 305), several deep bowls (FS 281) or krater (FS 284) fragments, a krater rim (FS 7) and kylix stems (figure 4). Even though further study of the pottery is necessary, the ceramic assemblage that can be associated with the floor and its packing can be dated within a LH IIIB2-IIIC early horizon (ca. 1250-1150 BC).

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*Figure 4: Objects retrieved in and on the upper floor (Unit 5016).*

Below the upper packing of the floor, a second packing was attested, which was made of harder, grey soil and somewhat larger stones. This packing was 30-38 cms thick. The material found in the packing was somewhat more heterogeneous than that from the layer above (figure 5). The handle of a krater (FS 281) and a deep bowl rim (FS 284) probably date to LH IIIB. But there was also ringless base of a possible LH IIB-III A alabastron, a beautiful flint blade and a bronze nodule. It is not clear whether this lower packing represents the remains of an earlier floor, or whether it is a lower packing of the same floor above. However, considering the more heterogeneous nature of the finds, it is most likely that the lower packing represents an earlier phase of the floor, which can be dated sometime in LH IIIB (ca. 1300-1200 BC).



*Figure 5: Objects from the lower floor packing (Unit 5018).*

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Below the lower floor packing, bedrock appeared at a depth of ca. 1 meter below the surface. This was substantially higher than the area north of the wall, where bedrock appeared below the thick stone fill at a depth of ca. 1.70 m. It appears that the Mycenaean structure was built in a depression against the slope. The bedrock was cut to accommodate the wall. The depression was filled in Classical-Hellenistic times with fieldstones.

## Trench B

Trench B was situated one terrace lower than Trench A, in a field that had yielded a particularly high densities of finds during the survey. The trench was 4x6 m. and orientated southwest-northeast. Below the top soil bedrock appeared immediately in the greater part of the trench. Bedrock on Kokkala hill consists of tough green-yellow clay loams.



Figure 6: Decorated pottery from the slope deposit in trench B (Unit 6007)

Only in the south-western part of the trench a fill of ceramics and stones was visible. This deposit was excavated and yielded a large amount of Mycenaean pottery. A few pieces of pottery probably belonging to earlier periods (Neolithic and Middle Helladic) were also found, as well as some lithic artefacts. The majority by far of the pottery consisted of decorated Mycenaean vessels. The deposit included a large number of kylikes, kraters, cups and jugs, which, preliminarily, could mostly be dated to LH IIIB-LH IIIC early (ca. 1300-1150 BC). One stirrup jar disk was also found.

Considering the high number of drinking and dining vessels and the animal bones, which we also found in the deposit, we initially thought that we were excavating the remains of a rubbish pit. However, clear edges could not be attested and the deposit appears to be the remains of a cleaning operation in which the inventory of a structure were pushed down the hill. This inventory may be associated with the structure that we found in trench A, just a

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few meters away, but it may also have belonged to a structure of which remains are no longer there.

### **Trench C**

Trench C was situated one terrace below Trench B in an area with high find densities during the survey. Immediately below the topsoil, the tough green-yellow clay loams appeared which are the bedrock of the hill. Some finds came from the topsoil, and these compared well to the survey finds in this area. Most finds could, preliminarily, be dated to the Bronze Age. However, a small piece of a black-glazed cup was also found.



*Figure 7: Trenches D (left) and A (right) during excavation*

### **Trench D**

The cleaning of the terrace sections where walls had collapsed showed that on the eastern slope of the hill there were no fields with substantial soil deposits that could contain archaeological remains. For this reason, a trench was set out adjacent to Trench A, in order to clarify the position of the Mycenaean structure (figure 7). The trench was 2x10 meters and oriented north-south.

Immediately below the topsoil in the northern part of the trench the characteristic bedrock appeared. In fact, only directly adjacent to the stone fill of Trench A an archaeological deposit was discovered. The excavation of this deposit yielded a great

number of finds, mostly Mycenaean decorated pottery. However, a decorated pithos probably belonging to later periods was also found. The wall that was found in trench A was not attested. The excavated stone deposit was part of the same re-arrangement of the area in Classical-Hellenistic times. Trench D showed the severity of this rearrangement quite clearly.

### **Trench E**

Below the so-called ‘square structure’, which is situated to the north and outside our excavation field, there is a large field wall, which incorporates various sections that may be of ancient date. Since our excavation trenches had all been smaller than the allowed 25 m<sup>2</sup>, it was decided by A. Sotiriou that we should make one small trench to investigate a section of this wall. Unfortunately, it was impossible to investigate a stretch of wall itself, since they were all located outside the fields in which we could do excavations.

The small trench of 1x1,5 meter, showed that below the section of wall next to which it was located there was no older, ancient wall such as the ones visible outside the allotted fields. In addition, since the wall was founded on bedrock, which was higher than the current surface of the plateau, it showed that at some moment soil has been removed from the excavation plateau.

### **Preliminary results of the test excavations**

The excavations at Lithakia-Kamaroti were aimed to clarify the archaeological site on the hill in chronological and spatial terms. It is clear that the hill of *Kokkala* has been re-arranged extensively in the past, but, in particular, during the Classical-Hellenistic period (5<sup>th</sup>-2<sup>nd</sup> centuries BC). The plateau on which the Mycenaean structure was found appears also to have been created during this period. Moreover, the corner of the plateau coincides with field walls in the lower plateaus, indicating that an infrastructure of terraces was created on the hill during the Classical-Hellenistic age. The various grinding stones that were found in trenches A and D and fragments of storage jars all point to an agricultural use of the landscape.

The rearrangement of the landscape in Classical-Hellenistic times, has severely damaged the remains of the Mycenaean occupation that was there before. Nevertheless, part of at least one building has been preserved. It is interesting that this structure was situated at a corner on the southern slope of the hill. Its position resembles that of the ‘square structure’ that is situated to the north of our excavation plateau. It is difficult to assess the nature of the newly discovered structure. It should be noted that a remarkably high proportion of the excavated finds are of decorated pottery (71% of the ceramic finds from the layers below the topsoil are of fine ware). Moreover, among these cups, kylikes and bowls are most prominent. It may be that the building had some type of specific function to do with drinking and dining. It should also be remarked that clear élite connotations, such as seals, frescoes or metals have not been found.

The excavations and the study of the collapsed terrace walls have given us clear indication about the areas where archaeological deposits can be expected at the site. This is clearly the case near the ‘square structure’ and near the newly discovered building. The geomorphological research in 2009 showed that the western slope of the hill contained

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relatively thick soil deposits above the bedrock where archaeological remains can be expected. During the building of a small agricultural road in 2010 on the western slopes, many archaeological finds were exposed. In contrast, there appear to be no archaeological remains left on the southern and eastern slopes of the hill. Of course, to the northwest and south of the excavation area, there are additional concentrations of finds, which have not been investigated.

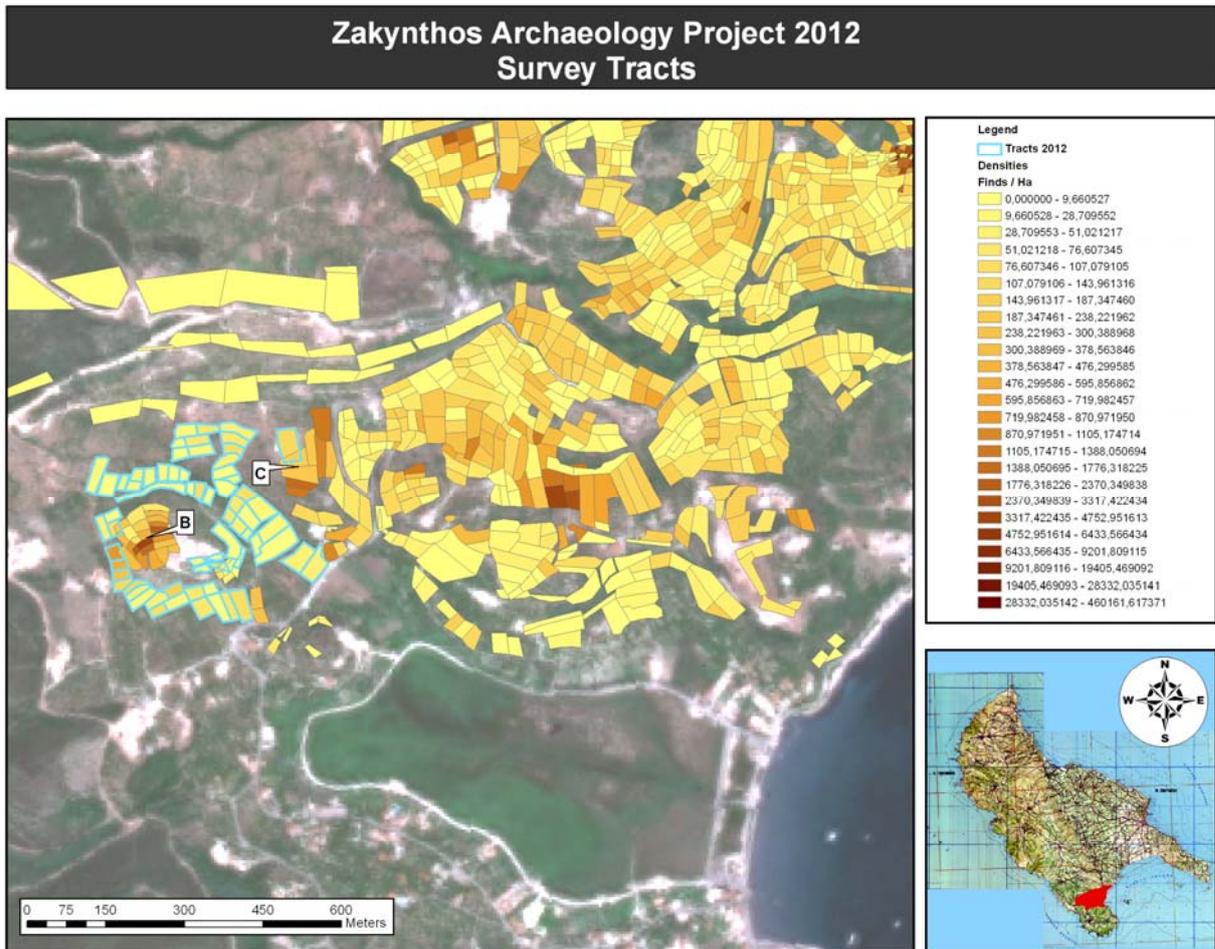


Figure 8: Density map of the surveyed area near Limni Keriou. The 2012 tracts are indicated in blue.

## Survey

The intensive archaeological survey of 2009 ended in the area west of Limni Keriou near a concentration of archaeological artefacts, among which were lithic objects, Bronze Age material and some Hellenistic-Roman finds (C in figure 8). Moreover, somewhat to the south a concentration of ancient tiles had been attested (B in figure 8). In 2012, the relationship between these two concentrations and their wider context could be investigated.

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To this aim, field survey was carried out in the area around a hill, which is referred to, simply, as Lofos.

A total of 65 tracts were surveyed, resulting in ca. 115 finds. Among them were only 3 lithic objects, a relatively low number in comparison to the survey in previous years. It is clear that the two concentrations of finds attested in 2009 are spatially separated from each other. The valley in between the two concentrations hardly yielded any archaeological finds. Interestingly, the concentration of tiles on Lofos hill seems to extend somewhat southwards on a saddle that connects the hill with the opposite slopes. The preliminary dating of the tiles suggest that some type of settlement, possibly a farmstead, occupied the hill during Hellenistic-Roman times.

### **Geomorphological research**

The physical geographical work that was done in 2012 aimed to provide a synthesis of the various studies done in previous campaigns. Detailed descriptions were made of selected landscapes within the three research areas on Zakynthos. The research aims to describe and analyze the formation of the landscape on three levels: in detail around the various archaeological sites (micro scale), a general description of each of the three research areas (meso scale) and an analysis of the formation of the island in general (macro scale).



*Figure 9 Sampling clay sources on Zakynthos for the technological fabric research*

### **Technological study of the survey ceramics**

The survey finds collected by means of systematic survey from 2006 until 2010 form the basis of a PhD research on chronological and technological variation in ceramic production on the island. The survey ceramics have been studied for their morphological, decorative

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and mineralogical/textural characteristics, which has resulted in analytical groups relating to raw material sources and technological acts in production.

Due to a lack of physical evidence of ancient pottery kilns it is very hard to pinpoint the regions and locations where pottery production took place. For this reason, a geomorphological survey was conducted with the aim of collecting suitable clays that can be associated to clays in the ancient ceramic material. At 34 locations within research areas A, B and C and at 1 location near Zakynthos town- where early modern ruins of industrial kilns can be found- sediments were collected (figure 9). The sediments were prepared into clay briquettes and have been fired and thin-sectioned. From the survey material- from about 22 concentrations of ancient material - a selection of 150 ceramics, representing three chronological phases: Neolithic- Greek Iron Age, Archaic- Hellenistic and the Roman period, will be thin-sectioned and compared to the clays to better understand developments in pottery production and distribution through time.

### **Preliminary results**

The 2009 survey at Lithakia-Kamaroti had shown that there was an important archaeological site on and around the hill of Kokkala. The test trenches dug in 2012 enable us to understand in more detail the chronology, nature and spatial extent of this site. In addition, the pottery that has been found stratigraphically enables us to assess much better the survey finds from our previous campaigns on the island. The preliminary results of the 2012 season are:

- Remains of a Mycenaean settlement are present on the hill of Kokkala. Currently, there are indications for at least two buildings: the 'square structure' on the top of the hill and a newly discovered building in trench A.
- The remains of the Mycenaean building that have been excavated consist of a wall and associated floors. There appear to be two phases in the use of the building: a lower floor with finds dating to a LH IIIB horizon (ca. 1300-1200 BC) and an upper floor with finds dating to LH IIIB-IIIC (ca. 1250-1150 BC).
- Among the finds directly associated with this newly excavated structure and from the trenches nearby there is a remarkably high proportion of decorated fine wares, notably Mycenaean drinking cups and dinner vessels. Possibly, practices involving drinking and dining were carried out in this building
- In Classical or Hellenistic times (5<sup>th</sup>-2<sup>nd</sup> centuries BC), the landscape at the hill of Kokkala was rearranged to create an infrastructure of agricultural plateaus.
- The re-arrangements of the landscape in antiquity and later agricultural practices have severely damaged the archaeological record at Kokkala hill. On the southern and eastern slopes of the hill, there are no longer any archaeological remains *in situ*. However, on the top near the 'square structure', in the area of trenches A and D and on the western slope archaeological remains *in situ* can be expected.
- The concentration of tiles at the hill referred to as Lofos near Limni Keriou extends somewhat to the south. This concentration appears to be the remains of some type of Hellenistic-Roman rural settlement.

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<sup>1</sup> The Zakynthos Archaeology Project is directed by A. Sotiriou from the 35<sup>th</sup> Ephorate of Prehistoric and Classical Antiquities (35<sup>th</sup> EPKA) and Dr G.J. van Wijngaarden from the University of Amsterdam (UvA). V. Sarris of the 35<sup>th</sup> EPKA participated in the 2012 excavations and helped us in various ways. D. Nikolia (from the 20<sup>th</sup> Ephorate of Byzantine Antiquities) also helped us. The study of ceramics is coordinated by Professor V. Stissi (UvA). N. Pieters (UvA) organised the find processing and carried out ceramic studies, assisted by L. Hoff (UvA). J. Hillditch (UvA) supervised the taking of samples from clay beds for the technological ceramic studies. The geomorphological research was done by R. de Bruijn (Utrecht University). At the excavation, the trench supervisors were B. Bogaard & L. De Gelder (both UvA). Student and volunteer excavators were: D. Boonstoppel, M. de Haan, S. Logie, N. Mussert, W. Post, L. Romijn, R. Ruijs, E. Schraven, E. Weijnsman, N. Zhuravska (all UvA). Workmen Nikos Soulis and Panagiotis Soulis did a wonderful job. The excavations could not have been done without the permission and the active help and support of the land-owners Angela and Spyros Loutzis. The directors of ZAP12 are grateful to all participants for their expertise, energy and companionship.