

PHAROS

Journal of the Netherlands Institute in Athens

Volume XIII (2005)

CONTENTS

Editorial preface	VII
H.W. Pleket <i>In Memoriam Han Gieben</i>	1
Joost Crouwel, Mieke Prent, Stuart MacVeagh Thorne, Jos van der Vin and Liesbeth Smits <i>Geraki. An Acropolis site in Lakonia. Preliminary report on the eleventh season (2005)</i>	3
John Bintliff <i>The Leiden University Ancient Cities of Boeotia Project: 2005 season at Tanagra</i>	29
Henk Kars, Lisette Kootker, Sjoerd Kluiving and Konstantinos Zachos <i>Nikopolis, A Roman and Byzantine site in Epirus, Greece. Preliminary report on the first season (2005)</i>	39
Gert Jan Van Wijngaarden, Xeni Arapogianni, Roel Rink and Vagelis Tourloukis <i>The Zakynthos Survey 2005. Preliminary report of a pilot survey</i>	59
Chris Dickenson, Lana Radloff and Reinder Reinders <i>The Southeast Gate of the Hellenistic City of New Halos. Description and analysis of the architectural remains</i>	77
Sofia Voutsaki, Sevi Triantaphyllou, Anne Ingvarsson-Sundström, Sofia Kouidou-Andreou, Leda Kovatsi, Albert Nijboer, Dimitra Nikou and Eleni Milka <i>Project on the Middle Helladic Argolid: a report on the 2005 season</i>	93
Alexandra van der Geer, Michael Dermitzakis and John de Vos <i>Crete before the Cretans: the Reign of Dwarfs</i>	119

THE ZAKYNTHOS SURVEY 2005

Preliminary report of a pilot survey

*Gert Jan van Wijngaarden, Xenia Arapogianni,
Roel Rink, Vagelis Tourloukis*

Introduction

In the summer of 2005, the Netherlands Institute in Athens and the 7th Ephorate of Prehistoric and Classical Antiquities conducted a programme of archaeological research at the island of Zakynthos.¹ The aims of the campaign were to gain more insight into the archaeology of the island and to assess the feasibility of a systematic programme of archaeological research.

Zakynthos is conveniently situated along maritime routes and within sight of the western Peloponnese (fig. 1). The suitable harbours of the island make it a node in both regional and Mediterranean maritime traffic.² The geography of the island is dominated by the western mountain range, which consists of Cretaceous limestone.³ Only small pockets of arable land occur here. An extensive plain in the island's centre and eastern part contains large areas of fertile land, now mainly cultivated with currant vines and olives. This plain is at least partly the result of fluvial deposits and until the 1970's a swamp-like lake was situated in the area of the modern airport. The transition between the mountains and the plain appears as a zone of foothills that runs into the southwestern peninsula of Keri. This area has a varying geological subsurface. On the eastern side, the central plain is bordered by Miocene and Pliocene formations that run into the southeastern peninsula of Vasilikos.

In comparison with the neighbouring island of Kephallonia and the western Peloponnese, relatively little is known about the archaeology of the island.⁴ Partly, this appears to be the result

¹ The team consisted of Gert Jan van Wijngaarden (director), Xenia Arapogianni (director), Vladimir Stissi (field and find processing supervisor), Chryssa Sgouroupoulou, Stavroula Iannouli, Zacharo Leventouri (field supervisors), Helle Hochscheid (photography and databases), Vagelis Tourloukis (lithics), Roel Rink (geomorphology), Vassiliki Iyrou (harbours), Amanda Schut, Evangelia Skenteris, Anke Stoker, Nienke Pieters, Guus van Besuijen, Marc van den Enden (students).

² See, for example, Grassetto da Lonigo 1886.

³ Sorel 1993; Duermeijer *et al.* 1999; Rink 2005, 10.

⁴ For an overview: see Kalligas 1993.

of a lack of research. Several travellers visited the island in the 19th and early 20th centuries and commented on the few remaining antiquities and on the presence of lithic artefacts.⁵ Systematic archaeological research began with the visit of the British archaeologist Sylvia Benton, who described several archaeological sites on the island.⁶ Her excavations of a Mycenaean house on Cape Kalogeras near Vasilikos and of a Mycenaean tholos tomb near Alikanas have, unfortunately, never been published.⁷ Benton's work has been supplemented by surveys that focused primarily on the important lithic finds.⁸ Chance finds and rescue excavations by the Archaeological Service aside, only the Mycenaean cemetery at the remote site of Kambi has been systematically investigated and published.⁹

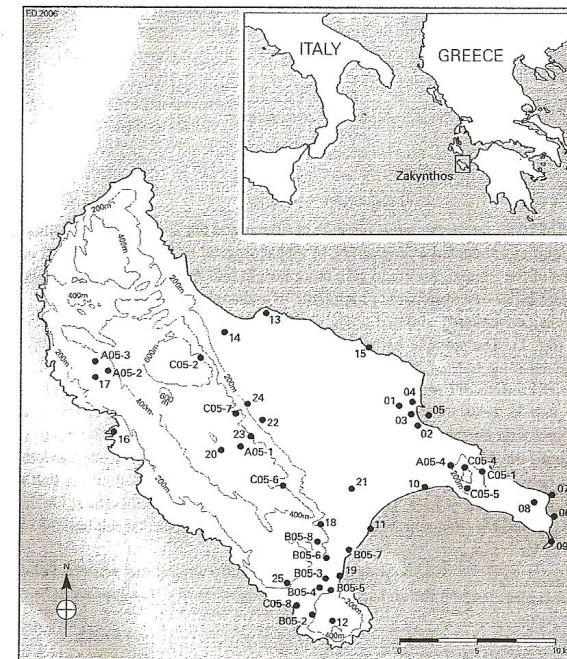


Figure 1. Archaeological sites at Zakynthos (see site catalogue p. 72ss.)

⁵ Holland 1815, 11-26; Ansted 1863, 435; Schmidt 1899, 56-70; Zapfe 1937.

⁶ Benton 1931-1932, 213-220.

⁷ *Archäologische Anzeiger* 49 (1934), 161-162 for a very brief report.

⁸ Sordinas 1970; Kourtesi-Phillipaki 1993.

⁹ Agalopoulou 1972; 1973.

The archaeological remains known from Zakynthos indicate that their relative scarcity is not due to the island being uninhabited in the past. Indeed, there is historical and archaeological evidence for settlement in several periods. The many lithic artefacts that have been found in several parts of the island have been dated from the Palaeolithic to the Early Bronze Age.¹⁰ A number of tombs have been discovered dating to the Late Bronze Age.¹¹ Among them are four tholoi, indicating that Zakynthos became part of the Mycenaean world. At Vasilikos-Kalogeras and near Alikanas, Benton discovered settlement remains dating to the Mycenaean period. The importance of Zakynthos in the Mycenaean period is also clear from the name *za-ku-si-ja* that occurs on Linear B tablets from Pylos.¹² The presence of at least seven rowers in Pylos from the island may indicate close overseas connections with Pylos.

Zakynthos is mentioned in the Homer's Catalogue of Ships (II 2.634) as part of the territory of Odysseus. Archaeological remains from the Early Iron Age and the early Archaic periods are, so far, lacking.¹³ To the Archaic period can be assigned pottery fragments and a clay disc from Vasilikos-Kalogeras.¹⁴ The establishment of the town of Zakynthos on the hill that is now occupied by the imposing Venetian Kastro probably also should be dated to the Archaic period.¹⁵ During Classical and Hellenistic times, the island is frequently mentioned in historical sources, often as an ally of Athens.¹⁶ Remains of the city's fortification walls have been discovered in the town, and at various points Hellenistic walls have been exposed.¹⁷

Very little is known of the Roman habitation on the island. There are several reports on the discovery in 1544 AD of two Roman tombs below a church in the town of Zakynthos. One of these tombs bore the intriguing inscription *M. TVLLI CICERO HAVE ET TV TERITIA ANTONIA* and it may have belonged to the famous Roman orator who died in 43 BC (fig. 2).¹⁸ Roman tombs and individual finds have also been reported from the area around Vasilikos.¹⁹ To Byzantine and medieval times can be assigned several churches, and the island is also known from archival sources.²⁰ In 1484 AD, the island entered a long period under Venetian rule.

The relative scarcity of archaeological remains on Zakynthos is not only due to the few systematic investigations. The frequency of destructive earthquakes, the last of which occurred in 1953, is also to blame.²¹ The effect of earthquakes on minor archaeological remains and plough-soil assemblages is still largely unknown. From the fifteenth century AD onwards, intensive cultivation, particularly of olives, has been practiced,²² leading to the destruction of many smaller sites. The continued cultivation by mechanized means in modern times has destroyed sites that

¹⁰ Sordinas 1970; Kourtesi-Phillipaki 1993.

¹¹ Kalligas 1993, 49-53; Souyoudzoglou 1999, 123-124.

¹² Palaima 1991, 281-282.

¹³ Kalligas 1993, 53-54.

¹⁴ Benton 1931-1932, 214.

¹⁵ Mylona 2003, 7-8.

¹⁶ Kalligas 1993, 54-63.

¹⁷ Blackman 1996-1997, 47-48; 1997-1998, 51.

¹⁸ The inscription was marked and drawn by D.S. Pantovano. This drawing was copied by later travellers, see, for example, Zoïs 1955, 49-50 (with refs.).

¹⁹ Benton 1931-1932, 215-216.

²⁰ Mylona 1998, 21-23.

²¹ Lymouris 2001.

²² Zoïs 1955.

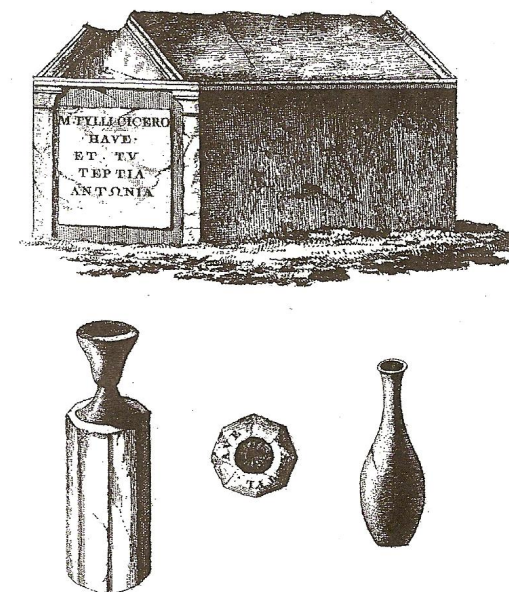


Figure 2. Finds from the "tomb of Cicero". After Saint Saviour 1802

were still recognizable only a few decades ago, as is clear from the difficulty to identify the sites mentioned by Schmidt and Benton.²³ In addition, in many areas recent building for tourism has been destroying the ancient and historical landscapes.

The survey that was carried out by the Netherlands Institute in Athens and the 7th Ephorate of Prehistoric and Classical Antiquities in 2005 had as a general aim to give a first assessment of the quantity and the quality of ancient material remains on the island. More specifically, the project aims to assess the possibilities and strategies for a wider and larger archaeological research project on the island. As in other cases where subsurface remains have been heavily disturbed, the surface assemblages on Zakynthos may be the sole remaining source of information for the diachronic interactions between the island's landscapes and populations.²⁴

²³ Schmidt 1899, 56-70; Souyoudzoglou 1999, 121-212; pers obs.

²⁴ Downum & Brown 1998, 119-120.

Reconnaissance survey

Outside the town of Zakynthos, twenty archaeological sites can be identified in the scientific literature (see catalogue: site nos. 6-25).²⁵ The aim of the reconnaissance survey was to visit all these sites, to determine their exact coordinates by GPS and to count sherd densities on the surface. In addition, a report was made on the geomorphologic context of the sites and of the present state of erosion.

Of the twenty sites mentioned in the archaeological literature, we were able to locate nine (site nos. 06, 09, 11, 12, 16, 21-23, 25). On six sites (nos. 08, 10, 14, 15, 17, 24) there was not enough information on their exact location to find them. The location of five sites (nos. 07, 13, 18-20) was attested, but they have been destroyed by building or by intensive agricultural practices. An important site is Alikanas-Akroteri in the northeast of the island (site no. 13). Benton excavated a Mycenaean tholos here and a possible residential structure from the same period in 1933.²⁶ Remains from the tholos were apparently still visible in the 1950's.²⁷ Our visit to the hill of Alikanas -Akroteri in July 2005 showed that bulldozed terraces with young olive trees were lining the slopes of the hill. Intensive field walking on these terraces did not yield any ancient architecture; nor were surface scatters of pottery attested.

In 1970 A. Sordinas reported a large site near Ayios Sostis (site no. 11), with flint and ceramics indicating a Neolithic or Early Bronze Age date.²⁸ Our visit to the area in 2005 indeed resulted in the collecting of very small quantities of flint and of pottery from the steep scarp that is lining the beach. All finds were very worn and widely scattered. Observations on the geomorphology indicated that this whole area is of an alluvial nature, with soil having been deposited by the various seasonal streams in the area, of which the Arkadiani is the most notable. The fragmentary archaeological artefacts appear to have been deposited by the same processes and the area should be dismissed as an archaeological site.

The reconnaissance survey also included the investigation of archaeological sites that are as yet unpublished, but that were pointed out to us by local informants (site nos. A05-1-A05-3; C05-4-C05-7). Several of these sites (nos. C05-4 - C05-7) are ruined churches or monasteries in different parts of the island. The result of the recurring earthquakes in the island is a large number of ruins, of which the date of destruction is often not immediately clear. Two sites pointed out to us by local informants were clearly abandoned villages. Pano Maries-Ayios Charalambas (site no. A05-3) was probably abandoned several centuries ago, since no structures apart from the church were visible, and only scatters of ceramics indicate the site.²⁹ Mouzaki-Panayia (site no. C05-6), however, was abandoned in 1953 and is clearly identified by ruins in various states of decay. In our pilot survey, find densities around the structures were established; a photographic record was made of each of these sites and exact coordinates established by GPS.

²⁵ Various churches that were destroyed in the 1953 earthquake have not been included in this list. See, for example, Mylonas 1998.

²⁶ See Souyoudzoglou-Haywood 1999, 121 (with full refs.).

²⁷ Kalligas 1993, 49-50.

²⁸ Sordinas 1970, 127.

²⁹ Local inhabitants referred to the area as the old village and, indeed, identify the place as the area were Mary Magdalen, on her way to Rome, found shelter after shipwrecking along the Zakynthian coast.



Plate I. Photograph of one of the Pano Maries cist tombs. Visible are the covering slabs from below

A fascinating discovery was made at the site of Pano Maries-Gouliamou (site no. A05-2). Two rectangular cist graves are visible in the ceiling of a man-made cave, probably an old lime quarry. The quarry has cut away the bottom of the two graves and they are thus seen from below, with the covering slabs still in place (plate I). No finds can be associated with the tombs, but they are simple cists, cut into the limestone bedrock and covered with rectangular slabs. They resemble some of the tombs at the nearby site of Kambi and may also be of Mycenaean date.³⁰ However, the dimensions of the Pano Maries tombs are somewhat smaller and they may also belong to later periods. Interesting from the point of view of survey methodology is that the two graves are not recognizable on the surface above the cave, which is overgrown with brush. It is as yet unclear whether these two graves are isolated or part of a larger cemetery.

Intensive survey

In the southwestern part of the island, in the region of the villages of Lithakia and Keri an area of ca. 2000 ha. has been selected for more intensive survey research (fig. 3). This survey area encompasses the four main geological zones of the island and covers a variety of landscape types.

³⁰ Aggelopoulou 1973, 198-214.

In addition, the region incorporates three known sites (nos. 12, 19 and 25) and the swamp known as Limni Keriou. Within this area, field walking was conducted in different types of landscapes and in various geomorphologic units. The basic units of research were tracts which were defined in the field by topographical features, usually corresponding to fields.³¹ The field walking team consisted of 5-8 students who were spaced ca. five meters apart. In the case of artefact scatters, very small selections of diagnostic finds were collected. In addition, photographs and GPS readings were taken of each tract. Brief geomorphologic observations were also made. A total of 222 tracts were investigated by field walking (fig. 3).

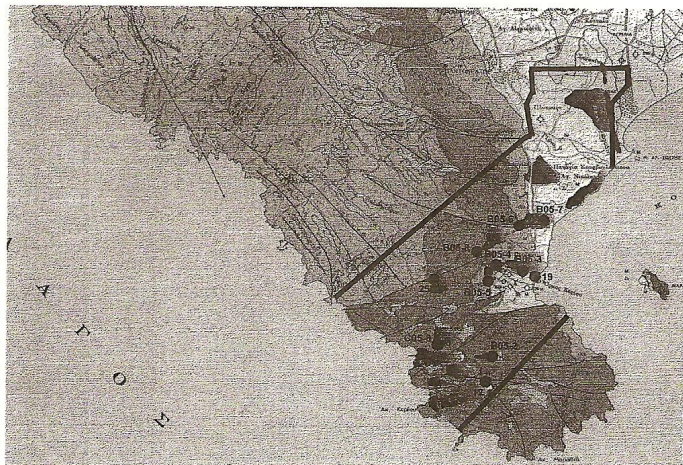


Figure 3. The survey area in the SE of the island, covering different geographical zones. The shaded areas are those covered by fieldwalking. For sites, see the catalogue

The area around the village of Keri is characterized by steep hills with small valleys in between. The valleys themselves are used for agriculture, mostly currant vines and olives. The slopes are often overgrown with brushes and trees. Agriculture, generally, is not practiced on the slopes but the abundance of terrace walls hidden in the woods shows that this was once different. The Mycenaean tomb near Keri was discovered in 1966 during the construction of a road.³² The tomb is situated to the east of the village and northeast of a valley called Misokambos. We investigated the area surrounding the tomb intensively by field walking. The visibility is very high on the valley bottoms which often had recently been ploughed. Visibility on the slopes surrounding the

³¹ The survey methodology that was used is comparable to that described by Tartaron 2003, 23-45.

³² Dontas 1966, 325; Pelon 1976, 260; Kalligas 1993, 51; Souyoudzoglou-Haywood 1999, 121: site 60.

valley, however, was very low. Hardly any artefacts were discovered in the valley below the Keri tomb. Sherd densities were extremely low, with an average of 45 clicks per tract. No finds were collected, but preliminary dating in the field suggests that most pottery finds, if not all, should be dated to early modern or modern periods.

Similar patterns of very low sherd densities were encountered in the other valleys surrounding the town of Keri. An exception was the valley called Palaeo-Keri, where a concentration of finds were attested in the valley bottom. Among the finds were a conical loomweight³³ and a range of pottery tentatively dated to the Hellenistic-Roman periods (plate II). Remarkably, find densities on the surface drop very quickly immediately outside of the main concentration of finds, leaving only a minimal "halo" around the main site. For now, this site has been interpreted as a Hellenistic-Roman farmstead.

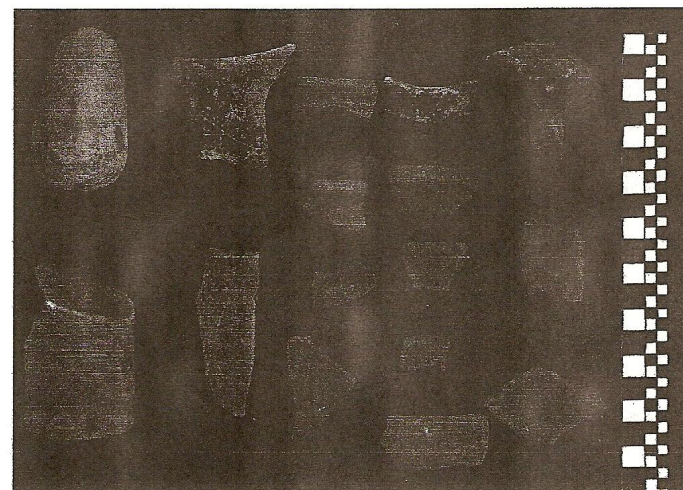


Plate II. Surface finds from Keri-Palaeo Keri

Keri Lake (Limni Keriou) is a swampy lake in which at various points black pitch rises to the surface. Herodotus (IV, 195) notes this natural phenomenon and mentions the methods by which the pitch is being recovered, probably to repair ships.³⁴ The geomorphologic research carried out in the lake included seven hand corings by an *Edelman borer* to a maximum depth of 4,60 m.³⁵

³³ The conical loomweight is of a type common during Hellenistic and Roman times, see Robinson 1930, 120 (type 8); Davidson 1952, 161 (profile XII, to be dated after 250 BC). The upper part of our loomweight does not have a suspension hole. It may be worn, perhaps through secondary use as a pounder.

³⁴ See Holland (1815, 18) for their use in early modern times to seal ships.

³⁵ Rink 2005, 24.

The most seaward coring contained peat in the upper first meter and from that depth onwards fine-grained sand mixed with fine-grained gravel. The westernmost coring, farthest away from the current coastline, contained peat with reed remains until the maximum depth. The five corings in between all showed alternations of clay and peat for the upper 1,5 m, followed by a layer of grained sand below which there was a clay layer with shells of *gastropode*, a marine snail species. This indicates that in the past the coastline was more inland, allowing for a suitable harbour.

The lake is surrounded by steep hills to the northeast and southwest. The site of Kastello (no. 19) is situated on a promontory in the northeast, bordering the lake and stretching into the sea. From this hill lithic artefacts and a wall of uncertain date have been reported.³⁶ However, at present no archaeological remains are to be seen, due to erosion and the construction of a large villa.

In the hills surrounding Keri lake four new sites have been discovered (B05-3-B05-6). A very thin scatter of worn sherds characterized each of them. These were generally distributed over a relatively large area, suggesting that they may have moved from elsewhere. Small selections of these sherds have been collected, but they are difficult to date, due to their fragmentary nature. The high proportion of sherds of hand-made coarse ware, with large inclusions, reddish in colour albeit sometimes with a black core, may indicate that these sites are of prehistoric date.³⁷

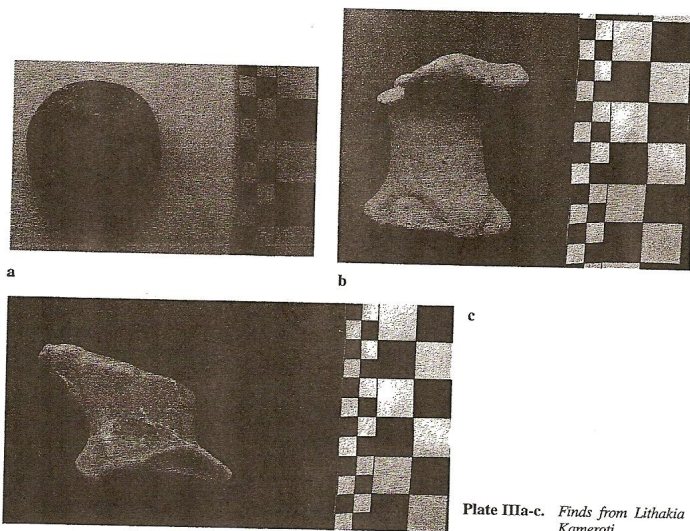


Plate IIIa-c. Finds from Lithakia Kameroti

³⁶ Zapfe 1937, 158-163; Kourtesi-Phillipaki 1993, 34.

³⁷ This pottery may best be compared to the prehistoric coarse wares that occur in north-western Greece, see Heurtley 1934-1935, 34-36; Wardle 1977, 181-189; Tartaron 2004, 71-77. However, further study of this material is necessary and the chronology of this type of pottery in Zakynthos is unclear.

To the north-east of Keri lake, situated on the ridge separating the low-lying fields of Lithakia and the coast, a concentration of finds was attested on the slopes and the top of the hill at Kameroti. The slopes of Kameroti hill are covered with fairly recent bulldozed terraces on which olive trees grow. A small sample of diagnostic finds was collected, among which were finds of Mycenaean date, including at least two kylix stems (plate IIIa-c). In addition, a Mycenaean steatite button or *conulus* was found. Similar objects are known from Mycenaean tombs in Kephallonia,³⁸ suggesting that at Kameroti a grave dating to this period has been destroyed. However, among the finds from the site are several that have been dated to the Archaic and Classical periods, which indicates a more complex chronology.

The area to the south and southeast of the town of Lithakia constitutes a transitional zone from the western foothills to the central plain of Zakynthos. The fields are large and intensively cultivated with olives and vines, providing for good visibility. Low hills stand out in the relatively flat landscape. Find densities were extremely low within this area, with an average of 43 clicks per tract. In addition, all finds were very small and worn, apart from those clearly dating to (early) modern times.

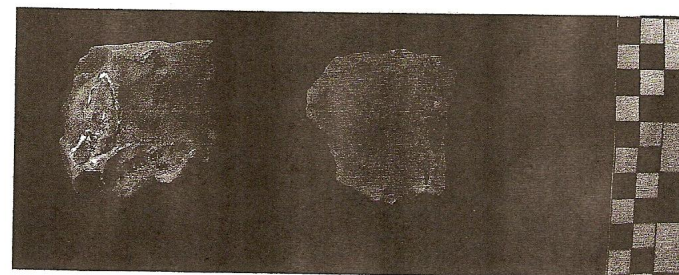


Plate IV. Two possible blades from Mouzaki Brouma

To the east of Lithakia the site of Mouzaki-Brouma (site no. 21) is situated.³⁹ This site is situated at the western border of the alluvial plain in a field nowadays cultivated with olives. A concentration of lithic objects have been attested here. A very small selection of 48 of these stones was collected and studied by our specialist V. Tourloukis. The sample consisted of flakes (12), blades (2) (plate IV), cores (4), debitage products (13), unidentified pieces (4) and retouched tools (13). Among the latter were scrapers, knives, points and a possible composite tool. Even though distinctive attributes are lacking, a Middle Palaeolithic Age is tentatively suggested for most of the sampled objects.

³⁸ Souyoudzoglou-Haywood 1999, 85. Steatite *conuli* are also found in settlements and may have had a variety of uses. See Carrington Smith (1992, 685-686) for a discussion. Our *conulus* corresponds to her type 12.

³⁹ Professor K. Kotsakis first drew my attention to this site. I thank S. Visvardis for taking us there.

It is of interest that the artefacts at Mouzaki Brouma have been found in soil, which is described by our geo-morphologist as “loamy, with a grey colour and calcareous stones”. In archaeological research a correlation is often found between red-coloured soils of Pleistocene fill and Palaeolithic finds.⁴⁰ At the various “red beds” on Zakynthos, Palaeolithic finds have not been attested during the survey of 2005. The relation between red beds and the occurrence of Palaeolithic material is based on the Vita-Finzi model,⁴¹ and appears to be empirical rather than fundamental. Considering the abundance of lithic finds on Zakynthos,⁴² it will be possible to further investigate their relations with different types of soils in the coming years.

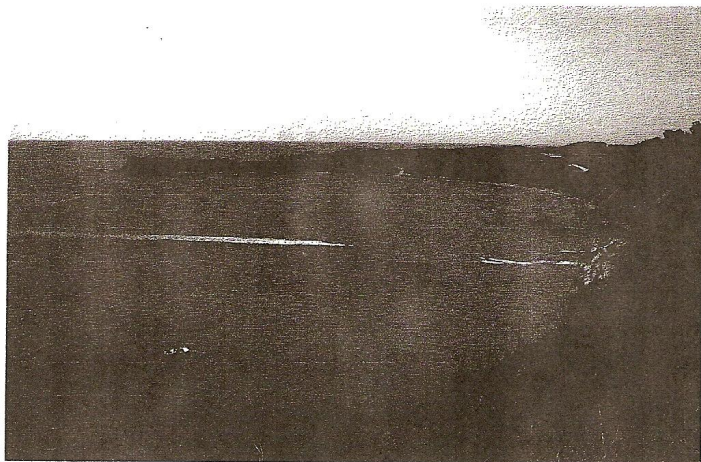


Plate V. Cape Kalogeras from the NW

Vasilikos-Kalogeras

The site of Vasilikos-Kalogeras (site no. 06) is situated in the southeast of the island, near Porta Roma. The elevated peninsula of Vasilikos consists for a large part of Miocene sandstones.⁴³ Kalogeras is situated on a small cape that stretches into the sea (plate V). The cape itself is heavily overgrown with brushes. It is subject to strong erosion, with large boulders having fallen into the sea below. The northern headland consists of a few small, ploughed fields. In the southern part of the headland houses are currently being built, due to which large sections have been exposed. We have surveyed the cape and its headland, as well as the bottom of the cape along the sea.

⁴⁰ Van Andel 1998; Runnels *et al.* 2003.

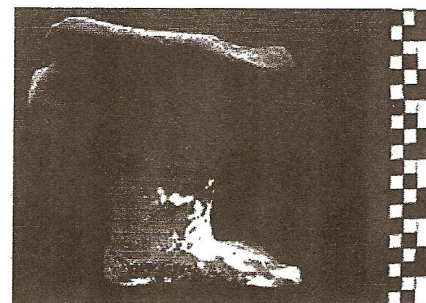
⁴¹ Vita-Finzi 1969.

⁴² Kourtesi-Phillipaki 1993.

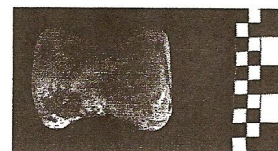
⁴³ Rink 2005, 10



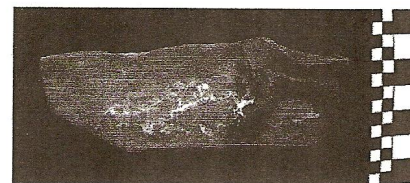
a



b



c



d

Plate VIa-d. Selections of pottery from Kalogeras

The quantity and quality of archaeological artefacts at Kalogeras clearly indicates the importance of this site. The tracts, which were relatively small, had an average of 214 clicks. Considering that visibility on the Cape is very bad in some areas, the number of finds is very high by Zakynthos standards. Limited selections of finds were collected. Preliminary study shows the presence of prehistoric pottery, in particular on the cape itself (plate Via-d). In addition, Archaic and Classical finds have been made, especially in the area of the headland now destroyed by the villas that are being built in the southern part of the site.

Sylvia Benton, together with H. Lorimer, excavated parts of two houses at Kalogeras in 1933.⁴⁴ The exact location of their excavations is not known, but is logical to assume it is near the place where Benton had picked up the neck of a Mycenaean stirrup jar during an earlier visit.⁴⁵ The area is now overgrown with thick brush and the rock has been cut into in order to make a pathway. Nevertheless, a large depression that may have been created by the excavations is visible. We cleared away the vegetation in the vicinity and discovered two parallel walls that crossed the peninsula. The pottery associated with these walls appears to be of prehistoric date (plate Via-d). Several other walls are visible among the bushes, some of which have partly eroded off the cape.

Kalogeras clearly is an important multiperiod site that is threatened both by erosion and building activities. The sections on the cape itself that are exposed by erosion show a soil deposit of not more than 40 cm. The sections exposed near the houses on the headland, however, show a deposit of more than 1,5 meter. Further surface research and limited stratigraphical excavation can be fruitful to assess the nature of the site in different periods.

Concluding remarks

The pilot survey of 2005 has confirmed that the archaeological situation on Zakynthos is very difficult. Several major problems are:

1. Archaeological remains are very much destroyed. This is true for sites that appear only as a thin scatter of finds without a clear centre. It is also true for the finds themselves which are mostly small, worn and usually undiagnostic.
2. Off-site find densities are very low and the significance of individual finds is unclear.
3. Seismic activities, erosion and agricultural practices have had an unknown effect on the archaeological remains.
4. Extensive vegetation growth on slopes and hills in the last decades provides for very limited visibility in many parts of the island.
5. Intensive building has probably destroyed many sites and is still threatening others.

The result of the survey in 2005, among which are at least eight new sites, also shows that an integrated and interdisciplinary research project will be able to shed more light on the archaeology of the island.

⁴⁴ A very brief report on these excavations was given in *Archäologische Anzeiger* 49 (1934), 161.

⁴⁵ Benton 1931-1932, 215.

Zakynthos Survey 2005 – Site catalogue⁴⁶

- | | |
|---|---|
| <p>01 Bochali - Kastro
Type: Settl, Fu, Surface; Period: LBA, Class, Hell, Rom, Ven, Mod
Benton 1931-1932, 217-218; Vokotopoulos 1970; AD 1972, 494; Hope Simpson & Dickinson 1979, 192; Kalligas 1993, 53-55; Mylona 1993, 125-126; Souyoudzoglou 1999, 121: site 54; Mylona 2003.</p> <p>02 Zakynthos town - Santa Maria
Type: Fu; Period: Rom
Holland 1815, 17; Kalogeropoulos 1940; Zoīs 1953, 49</p> <p>03 Zakynthos town – Ayia Anna
Type: Settl; Period: Hell
<i>ArchRep</i> 1996-1997, 47-48</p> <p>04 Zakynthos town – corner of Od. Mantzarou and Od. Therianou
Type: Settl; Period: Hell, Rom
AD 122-3, <i>Arch Rep</i> 1997-1998, 51</p> <p>05 Zakynthos harbour – La Thérèse
Type: shipwreck; Period: Mod
<i>Eleutherios typos</i> 27/11/2002, 32; <i>ArchRep</i> 1999-2000, 51; <i>ArchRep</i> 2001-2002, 47; <i>ArchRep</i> 2002-2003, 38</p> <p>06 Vasilikos – Kalogeras
Type: Settl, Surface; Period: BA, Arch, Class
Riemann 1879, 11; Benton 1931-1932, 213-214; AA 49 (1934), 161-2; <i>JHS</i> 54 (1934), 192; Taylour 1958, 21, 187; Kalligas 1993, 51; Souyoudzoglou-Haywood 1999, 121</p> <p>07 Vasilikos - Ayios Nikolaos
Type: Surface; Period: Pal-Neol, BA
Kourtesi-Philipaki 1993, site B-G1</p> | <p>08 Vasilikos
Type: Fu, Surface; Period: Pal-Neol, BA, Geom?, Rom
Benton 1931-1932, 215-217; Sordinas 1970, 126; Souyoudzoglou-Haywood 1999, 121: site 56</p> <p>09 Gerakas
Type: Surface; Period: Pal-Neol
Benton 1932, 213; Sordinas 1970, 126; Kourtesi-Philipaki 1993, 39: site B-G2; Souyoudzoglou 1999, 121: site 57</p> <p>10 Kalamaki
Type: Surface; Period: Neol-EBA
Sordinas 1970, 127; Kourtesi-Philipaki 1993, 35; Souyoudzoglou-Haywood 1999, 121: site 58</p> <p>11 Ayios Sostis-Arkadiani
Type: Surface; Period: Neol
Sordinas 1970, 127; Kourtesi-Philipaki 1993, 35; Souyoudzoglou-Haywood 1999, 121: site 59</p> <p>12 Keri
Type: Fu; Period: LBA
AD 21 (1966), 325; AAA 2 (1972), 65; AD 28 (1973)A, 212, 113-114; <i>Kerk Chron</i> 15 (1970), 127; Pelon 1976, 260; Kalligas 1993, 51; Souyoudzoglou-Haywood 1999, 121: site 60</p> <p>13 Alikanas – Akroteri
Type: Settl, Fu; Period: LBA
Benton 1931-1932, 218-219; <i>JHS</i> 54 (1932), 192, AA 49 (1934), 161-162; Sordinas 1970, 128; Kourtesi-Philipaki 1993, 35; Souyoudzoglou-Haywood 1999, 121: site 61</p> <p>14 Katastari
Type: Settl; Period: LBA
Benton 1931-1932, 218-219</p> |
|---|---|

⁴⁶ Sites indicated by an ordinary number have been identified during bibliographic research. Sites indicated by a number preceded by A05 have been discovered during our reconnaissance survey, usually on information by local inhabitants. Sites indicated with a number preceded by B05 have been discovered during the intensive survey. Sites indicated with a number preceded by C05 are ruined buildings, usually churches, that may or may not have (much) older origins.

Abbreviations used:

At Type: Settl = settlement remains; Fu = graves; Surface = surface finds attested

At Period: Pal = Palaeolithic, Neol = Neolithic, BA = Bronze Age, MBA = Middle Bronze Age; LBA = Late Bronze Age, Geom = Geometric; Arch = Archaic, Class = Classical, Hell = Hellenistic; Rom = Roman, Byz = Byzantine + Frankish, Ven = Venetian, Mod = early modern and modern.

- 15 Planos
Type: Fu; Period: LBA
Ta Nea 1/06/1974; Kalligas 1993, 51; Souyoud-zougoulou-Haywood 1999, 122: site 63
- 16 Kambi-Vigla
Type: Fu; Period: LBA
Aggalopoulou 1972; 1973; Souyoudzougoulou-Haywood 1999, 122: site 64
- 17 Mariais - Mnimata tou Photeinou
Type: Fu; Period: Class-Hell
Benton 1931-1932, 219; *AD* 1998, 264; *ArchRep* 2002-2003, 38
- 18 Lithakia Strouza plot
Type: Fu; Period: Class-Hell
AD 1998, 264; *ArchRep* 2001-2002, 38
- 19 Limi Keriou – Kastello
Type: Surface; Chronology: Neol
Zapfe 1937, 158-163; Kourtesi-Philippaki 1993, 34
- 20 Kiliomenos – Aghios Nikolaos
Type: Surface; Period: Pal-Neol
Kourtesi-Philippaki 1993, 39
- 21 Mouzaki - Brouma
Type: Surface; Period: Pal-Neol
Kourtesi-Philippaki 1993, 39: site M1
- 22 Melinado – Aghios Dimitrios
Type: Settl; Period: Hell-Rom, Byz?, Ven, Mod
Ansted 1863, 435; *BCH* 82 (1958), chron 727; Kalligas 1993, 62
- 23 Machairado-Palaiokastro
Type: Settl, Surface; Period: EBA, Byz, Mod
Sordinas 1970, 128; Kourestis-Philippaki 1993, 35; *ArchRep* 1996-1997, 48.
- 24 Vouyiatio – Phratzi
Type: Fu; Period: Class-Hell
AD 35 (1980), 172; *ArchRep* 1988-1989, 62
- 25 Ambelos
Type: Surface; Period: Byz? Ven, Mod.
Mentioned on 1891 map
- A05-1 Machairado – Kakoligani
Type: Surface; Period: Class-Hell?, Ven?
- A05-2 Pano Maries Gouliamou
Type: Fu; Period: ?
- A05-3 Pano Maries – Ayios Charalambas
Type: Surface; Period: Rom?, Byz? Ven, Mod
- A05-4 Argassi – Ratzoulis
Type: Surface; Period: Class-Rom, Ven, Mod
- B05-2 Keri – Palaio Keri
Type: Surface; Period: Hell-Rom
- B05-3 Limni Keriou
Type: Surface; Period: BA?, Class-Hell, Rom
- B05-4 Limni Keriou
Type: Surface; Period: BA?, Class-Hell
- B05-5 Limni Keriou
Type: Surface; Period: BA?, Hell-Rom
- B05-6 Limni Keriou – Kornos
Type: Surface; Period: BA?
- B05-7 Lithakia Kameroti
Type: Surface; Period: MBA, LBA, Arch, Class-Hell
- B05-8 Lithakia – Aghios Nikolaos
Type: Surface; Period: Byz?, Ven, Mod
- C05-1 Ayios Nikolaos Megalomatis
Type: Settl; Period: Byz
Vokotopoulos 1970, 159-161; Lazari 1986, 42-45: entries 30-31; Mylona 1998, 23
- C05-2 Lagopodo Aghios Nikolaos-Spilou
Type: Settl; Period: Byz
Vokotopoulos 1970
- C05-3 Pastra
Type: Settl; Period: Byz
AD 41, chr. 48; *ArchRep* 1992-1993, 30
- C05-4 Panayia Skopiotissa
Type: Settl; Period: Byz?
- C05-5 Ayios Andreas
Type: Settl; Period: Byz?
- C05-6 Mouzaki Panayia
Type: Settl; Period: Mod
- C05-7 Vougiato – Aghios Andreas
Type: Settl; Period: Ven, Mod
- C05-8 Ano Apelati – Ayios Ioannis
Type: Settl; Period: Byz?, Ven, Mod

Dr G.J. van Wijngaarden
Netherlands Institute in Athens
Makri 11
117 42 Athens
Greece
g.van.wijngaarden@nia.gr

X. Arapogianni
7th Ephorate of Prehistoric and Classical Archaeology,
Museum of Ancient Olympia
270 65 Olympia.
Greece

R. Rink
Department of Physical Geography
Utrecht University
Utrecht
The Netherlands
roelrink@gmail.com

V. Tourloukis
Leiden University
Faculty of Archaeology
Leiden
The Netherlands
vag-tourloukis@yahoo.com

Acknowledgements

The fieldwork at Zakynthos has been carried out with permission of the Greek Ministry of Culture. The Zakynthos 2005 team would like to thank X. Arapogianni (7th Ephorate of Prehistoric and Classical Studies at Olympia) for the pleasant cooperation. We would also like to thank Zoe Mylona, Ephor of the 20th Ephorate of Byzantine Archaeology, for her support and advise. Nikos Komi, also of the 20th Ephorate of Prehistoric and Classical Antiquities, was helpful in many different ways. Various inhabitants of Zakynthos were willing to show us their island, notably S. Visvardis and D. Iatras. The project benefited greatly from the kind hospitality of Denia and Kostas Liveris. Hans Middelkoop deserves thanks for his advice in the field of geomorphology. The project has been made possible with a grant of the UTOPIA foundation.

References

- Agallopoulou, P.I. 1972. Ανασκαφή Μυκηναϊκών Ταφών παρά το Καμπί δυτικής Ζακύνθου. *AAA* 5: 63-66.
- Agallopoulou, P.I. 1973. Μυκηναϊκώ Νεκροταφείων παρά το Καμπί Ζακύνθου. *ΑΔ* 28 Α, 198-214.
- Ansted, D. 1863. *The Ionian islands in the year 1863*. London.
- Benton, S. 1931-1932. The Ionian islands, *ABSA* 32, 213-247.
- Blackman, D. 1996-1997. Archaeology in Greece. *ArchRep*, 1-125.
- Blackman, D. 1997-1998. Archaeology in Greece. *ArchRep*, 1-128.
- Carrington Smith, J. 1992. Spinning and weaving equipment. In: W.A. MacDonald, N. Wilkie (eds.), *Excavations at Nichoria in southwest Greece II: the Bronze Age occupation*, 674-711. Minneapolis.
- Davidson, G.R. 1952. *Corinth XII: the minor objects*. Princeton.
- Downum, C.E. & G.B. Brown 1998. The reliability of surface artifact assemblages as predictors of subsurface remains. In: A.P. Sullivan III (ed.), *Surface archaeology*, 111-123. Albuquerque.
- Dontas, G. 1966. Ζάκυνθος, *ΑΔ* 21B2 325.
- Duermeijer, C.E., W. Krijgsman, C.G. Langereis, J.E. Meulenkaamp, M.V. Triantaphyllou, W.J. Zachariasse 1999. A Late pleistocene clockwise rotation phase of Zakynthos (Greece) and implications for the evolution of the western Aegean arc. *Earth and planetary science letters* 173, 315-331.
- Grassetto da Lonigo, F. 1886. *Viaggio di Francesco da Lonigo: lunghe le coste dalmate, greco-venete ed italiane nell'anno MDXI e seguente*. Venezia.
- Heurtley, W.A. 1934-1935. Excavations in Ithaka II. *ABSA* 35, 1-44.
- Holland, H. 1815. *Travels in the Ionian islands, Albania, Thessaly, Macedonia etc. during the years 1812 and 1813*. London.
- Hope Simpson, R. O.T.P.K. Dickinson 1979. *Studies in Mediterranean Archaeology*, 52: A gazetteer of Aegean civilisation in the Bronze Age I: the mainland and islands, *SIMA* 52, Göteborg.
- Kalligas P.G. 1993. Οίκηση στην αρχαία Ζάκυνθο. In: *Οι Οικισμοί της Ζακύνθου από την αρχαιότητα μέχρι σήμερα*, 45-73. Zakynthos.
- Kalogeropoulos, D.P. 1940: *Ο τάφος του Κικέρωνα*, Athens.
- Kourtési-Phillipaki, G. 1993. Η Πρωτοϊστορική κατίκηση της Ζακύνθου. In: *Οι Οικισμοί της Ζακύνθου από την αρχαιότητα μέχρι σήμερα*, 33-43. Zakynthos.
- Lazari, M. 1986. *Byzantine and Post-Byzantine Art*. Athens.
- Lymouris, A. 2001. *Οι σεισμοί στη Ζάκυνθο*. Athens.
- Mylona, Z. 1993. Ανασκαφικές έρευνες στον οικισμό του Φρουρίου, In: *Οι Οικισμοί της Ζακύνθου από την αρχαιότητα μέχρι σήμερα*, 120-128. Zakynthos.
- Mylona, Z. 1998. *The Zakynthos Museum*. Athens.
- Mylona, Z. 2003. Το κάστρο της Ζακύνθου. Athens.
- Palaima, T.G. 1991. Maritime matters in the Linear B tablets. In: Laffineur, R., L. Basch (eds), *Thalassa. L'égée préhistorique et la mer*, 273-309. Aegeum 3. Liège.
- Pelon, O. 1976. *Tholoi, tumuli et cercles funéraires. Recherches sur les monuments funéraires à plan circulaire*. Paris.

- Riemann, O 1879. *Récherches Archéologiques sur les Iles Ioniennes*. Paris.
- Rink, R.W. 2005. *Geomorphological development of Zakynthos during Late Pleistocene-Holocene, Greece*. Master's thesis Utrecht University.
- Saint Sauveur, A.G. 1802. *Voyage historique, littéraire et pittoresque dans les îles et possessions ci-devant venitienne du Levant*. Paris.
- Schmidt, B. 1899. *Die Insel Zakynthos*. Stuttgart.
- Sordinas, A. 1970. Λιθινά εργαλεία από την προϊστορική Ζακύνθο. *Κερκυραϊκά Χρόνια* 15, 122-130.
- Sorel, D. 1993. Τα γεωλογικά στάδια του σχηματισμού της νήσοθ Ζακύνθου. In: *Οι Οικισμοί της Ζακύνθου από την αρχαιότητα μέχρι σήμερα*, 17-21. Zakynthos.
- Souyoudzoglou-Haywood, Ch. 1999. *The Ionian islands in the Bronze Age and Early Iron Age. 3000-800 BC*. Liverpool.
- Tartaron, Th.F. 2003. The archaeological survey: sampling strategies and field methods, In: J. Wiseman, J. & K. Zachos (eds.), *Landscape Archaeology in southern Epirus, Greece I*, 23-45. Hesperia Suppl. 32. Athens.
- Tartaron, Th.F. 2004. *Bronze Age landscape and society in southern Epirus, Greece*. BAR international series, Oxford.
- Taylor, W. 1958. *Mycenaean pottery in Italy and adjacent areas*. Cambridge.
- Van Andel, T.H. 1998. Paleosoils, red sediments and the Old Stone Age in Greece. *Geoarchaeology* 13-4, 361-390.
- Vita-Finzi, C. 1969. *The Mediterranean valleys: geological changes in historical times*. London.
- Vokotopoulos, P.L. 1970. Η Βυζαντινή τέχνη στα Επτάνησα. *Κερκυραϊκά Χρόνια* 15, 149-180.
- Wardle, K.A. 1977. Cultural groups of the Late Bronze and Early Iron Age in North-West Greece. *Godisnjak* 15, 153-199.
- Wilson, M. 1930. Loom weights. In: Robinson, D.M., *Excavations at Olynthos II: architecture and sculpture: houses and other buildings*, 118-128. Baltimore.
- Zapfe, H. 1937. Spuren Neolithischer Besiedlung auf Zante. *Wiener Praehistorischer Zeitschrift* 24, 158-163.
- Zoïs, L. 1955. Ιστορία της Ζακύνθου. Athens.

