

Proposal for excavation of a Mycenaean cemetery at Ayia Sotira, Koutsomadi, deme of Nemea, Korinthia
Co-Principal Investigators: Asst. Prof Robert Angus K. Smith (Brock University), Evangelia Pappi (4th Ephoreia of Prehistoric and Classical Antiquities, Nauplion), Prof. James C. Wright (Bryn Mawr College)

Project Rationale

This project proposes to excavate a Mycenaean chamber tomb cemetery located in the field of P. Tombras on the hillside of Ayia Sotira, outside the village of Koutsomadi in the township of Nemea, Greece (Fig. 1). We are very concerned about the safety of these tombs: several of the tombs in this cemetery have been looted in the past and there is continuing danger of further looting.

We intend to excavate two partially robbed Mycenaean chamber tombs and one undisturbed tomb, and to prospect for the location of the remaining tombs in the field we are expropriating. In 2002, when the looting of this cemetery became known to the authorities, Pappi, acting in her capacity as the archaeologist at the 4th Ephoreia responsible for this region, excavated the tomb that had just been opened. The finds date its use from LH IIIA2-B. It was then that the initial survey of the field was made. In 2004, after funds had been raised to purchase the field, expropriation was begun by Dr. Mantis, Ephor of the 37th Ephoreia of Prehistoric and Classical Antiquities at Corinth. This proceeding should be completed before our planned season of excavation. We anticipate three seasons of work necessary to explore thoroughly the remains in the field.

This project is an extension of work conducted by the team of Compton, Dabney, Karkanas, Pappi, Triantaphyllou, and Wright in 2002-03 excavating a robbed LH IIIA2 tomb at Barnavos and prospecting the area around it for other tombs (Fig. 2). Barnavos lies about 1 km south of Ayia Sotira (Fig. 1), which had been identified by Dabney as a potential cemetery of the LH settlement at Tsoungiza, which lies about 1 km SE of Ayia Sotira.

Research goals

Our immediate goal is to begin excavation of two other disturbed tombs and to search for undiscovered ones in the field. We then will excavate all the tombs systematically. We believe these tombs are those of the inhabitants of the nearby settlement on Tsoungiza hill, excavated between 1981 and 1986 by the Nemea Valley Archaeological Project under the direction of Wright. Therefore we are particularly interested in a systematic recovery and analysis of the human skeletal remains in order to make an assessment of the social make-up of the tombs (age, sex, and potential relationship), and the diet, health and occupational activities of the occupants. Comparison of such information with the evidence from Tsoungiza of living activities as recorded in habitation structures, artifacts, and food remains will provide an unprecedented picture of life in a Mycenaean settlement. We have already excavated one other tomb at the nearby site of Barnavos, which, although it had been robbed, provided evidence for its date (LH IIIA2), number of burials (between 4 and 6 persons) and contents. The existence of two places of burial, plausibly of inhabitants of Tsoungiza, gives us the opportunity to study mortuary practices of this community. Additionally, because of the proximity of Tsoungiza and these places of burial to the much larger cemetery to the west at Aidonia and its unexcavated settlement, we think the evidence from our excavation of these tombs will enable us to assess the relationship between Mycenaean settlements in these two adjacent valleys. Likewise, evidence from the cemetery will be helpful for understanding better the nature of the relationship of the valleys in upland Corinthia to the palace of Mycenae, which during this time certainly controlled this territory.

Methods

Prospecting and Excavation

We wish to explore the field first using non-destructive ground-penetrating radar to test if this geophysical procedure can identify tombs below the ground surface. We will then excavate 50cm strip trenches set parallel at 4 m intervals in order to find the *dromoi* of undiscovered tombs. Excavation will then take place using a 1 x 1 m grid recording system to locate remains within their stratigraphic context. Our grid is that of the Greek Geographic Service adjusted to Universal Transverse Mercator (UTM) coordinates. Overlay drawing frames of 1 x 1 m. with 0.1 x 0.1 m. guidelines will be used in excavation for photography and drawing. Photography is by digital camera. Recording of all locations are done with a Sokkia Set 30 total station and transferred to ArcView™ mapping software, which also integrates all databases, photographs, and object drawings. All removed soil will be dry-sieved except soil taken for water flotation.

All soil from burials will be processed through a water flotation device to recover palaeobotanical and micro-faunal remains.

Using micromorphological examination of strata in the *dromos* of the tomb, we were very successful identifying episodes of ancient reopening the chamber tomb at Barnavos. Therefore we will take sections of the strata filling each *dromos* and have them examined microscopically.

In instances where we think it may be possible to recover the ancient ground surface outside and around the tomb, we will undertake appropriate methods, such as phytolith recovery and analysis, to recover any evidence of mortuary ritual (such as offerings of food, flowers, etc.) to commemorate the dead.

Physical Anthropology

Although many ancient cemeteries have been excavated in the Aegean, few burial assemblages have received physical anthropological study at the time of excavation. In our view the methods employed for a cemetery excavation should be determined by the interest in recovering the skeletal remains and associated organic residues and artifacts. This means in situ recording and analysis and subsequent laboratory study oriented to understanding the dynamics of ancient demography, health, diet, social relations, and mortuary practices.

Normally chamber tombs have multiple burials representing several generations of the burying group. The excavation of the tombs at Ayia Sotira offers the prospect of the recognition of family and kin groups. In the excavation of each tomb the project will utilize a variety of resources for isolating individual burials, for distinguishing multiple burials and remnants of earlier ones swept aside, and for distinguishing the stratigraphic episodes of other activities that took place within the tomb. For the skeletal material special considerations come into play for recording, namely the depth of the cranial and postcranial skeleton, the contextual location within the architecture of the chamber tomb, orientation of the skeleton, facing of the skull, accurate position of the skeleton (contracted, supine, extended or other) and placement of upper and lower extremities, as well as the placement of the associated artifacts.

We will focus on accurate estimation of the minimum number of individuals (MNI) present in the bone assemblages. This is not merely a matter of counting skulls. The commingling and disturbance of skeletons after deposition by succeeding burials and mortuary practices sufficiently disturbs the remains that for estimation of MNI one must consider only skeletal elements from one side according to standard anatomical units for disarticulated assemblages.

Study of the skeletal material will develop demographic profiles through macroscopic examination and through analyses, including DNA sampling. These are age, sex, mortality, and survivorship. We wish to test whether the burying groups are families and/or kin groups, whether non-kin were included in such groups, whether there was exclusion by age, sex, or status. Our approach is macroscopic examination of non-metric traits and statistical analysis of them combined with a rigorous, systematic in situ sampling of the bone material for DNA analysis.

Both macroscopic and microscopic investigations of human skeletal remains provide significant information about health, diet and oral status. This research will focus on two broad categories: (1) bone lesions associated with mechanical load and occupational activities repeatedly exercised on the skeleto-muscular system, and (2) pathological conditions associated with the physiological stress and episodes of stress that affected the individual during lifetime. Additionally we can record the scoring of the insertion areas of the muscles on the long bones, which aids in the identification of general patterns of physical activities practiced by individuals. Another important aspect relating to diet and health is the recognition of stature. Measurements of the postcranial skeleton may contribute to the estimation of stature depending on bone completeness and also provide useful growth patterns to compare with estimated age categories. Stature is often associated with status since it is related to diet and health.

Site Preservation and Conservation.

The field will be properly fenced. Test trenches will be back-filled at the end of the season. Tombs will be back-filled if their preservation poses danger of collapse. Intact structures will be roofed over and drainage channels will be made to divert water away from them. We will consult with the 37th Ephoreia at Corinth regarding need for conservation of the site and its remains.

Museum Conservation and Storage

Preliminary analysis will be in the workrooms of the Nemea Museum. Here all artifacts will be recorded, conserved, drawn, photographed, and stored following a system devised for the Nemea Valley Archaeological Project and according to the protocol of the 37th Ephoreia. Bone material will be cleaned and taped. Materials for further analysis, for example for X-ray examination or C14 dating, will be prepared.

Storage will be in the basement storeroom which we prepared in 2002. It is a dry area outfitted with excellent lighting and high quality museum shelving. Finds are stored in rugged plastic bins. Bins and shelves are labeled for easy identification of contents.

A complete inventory of all items and their location will be made according to the protocol of the Ministry of Culture and copies of all records will be kept in the records room of the Nemea Museum.

Schedule

Although we have been given permission by the CAIA only for the 2006 season, we expect to request permission to continue this work to its completion, which we estimate will require two seasons of additional excavation in 2007 and 2008. For 2006 our requested schedule is as follows:

Geophysical Prospecting, 22-27 May
Excavation, 29 May-8 July
Study and clean up, 10-22 July.

Program for 2007

- Finish any remaining work from 2006.
- Open new tombs as discovered in 2006.

Program for 2008

- Finish any remaining work from 2007.
- Open remaining new tombs.
- Backfill as indicated.
- Prepare site for presentation as indicated and secure it.

Personnel:

The directorial staff consists of **Robert Angus Smith**, of Brock University, who has many years experience excavating and studying the ceramics from LM III chamber tombs at Mochlos, Crete; **Evangelia Pappi**, epimeletria of the Δ' Ephoreia of Prehistoric and Classical Antiquities, who was a co-director of the excavation of the tomb at Barnavos and who salvaged the robbed tomb in this field at Aya Sotira and has many years experience excavating and studying tombs in this area; **James C. Wright**, Bryn Mawr College, who directed the excavations at Tsoungiza and was co-director of the excavation of the tomb at Barnavos; **Mary K. Dabney**, Bryn Mawr College, who was co-director of the excavations at Tsoungiza and co-director of the excavation of the tomb at Barnavos; **Sevi Triantaphyllou**, Sheffield University, who was co-director of the excavation of the tomb at Barnavos and is responsible for all the recovery and analysis of human skeletal remains.

Geoffrey Compton, Bryn Mawr College, manages survey using the Total Station and data management using ArcView™ mapping software. **Panayiotis Karkanis**, Ephoreia of Palaeontology and Speleology supervises micromorphology of stratigraphic sections and advises on soils. **Donald Barber**, Department of Geology, Bryn Mawr College, conducts geophysical prospecting. **Georgia Kotzamani**, Aristotle University of Thessaloniki, and **Alexandra Livarda**, University of Leicester, UK, are managing palaeobotanical sampling and analysis. **Pinka Taratori**, Δ' Ephoreia of Prehistoric and Classical Antiquities, is the conservator.

Supervisors: **Dr. Dimitri Nakassis**, University of Texas at Austin; **Eleni Milka**, doctoral candidate at the University of Groningen; and **Jessica Miller**, MPhil candidate at Oxford University.

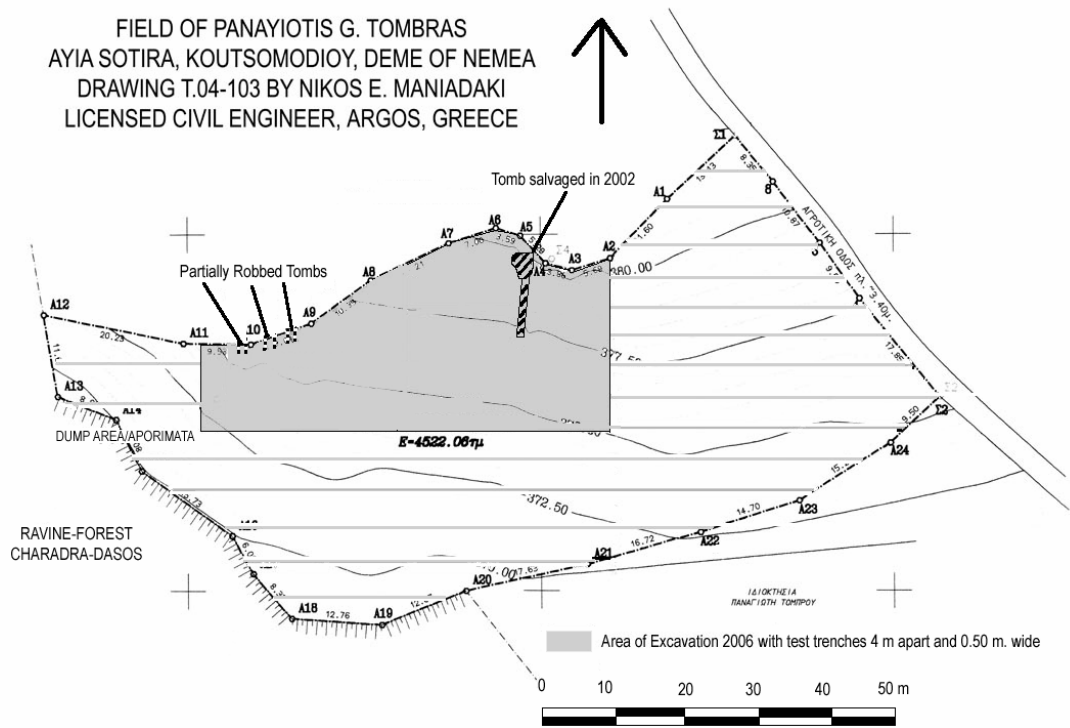


Figure 1. Plan of field of Panayiotis Tombras, adapted from survey by N. Maniadakis.

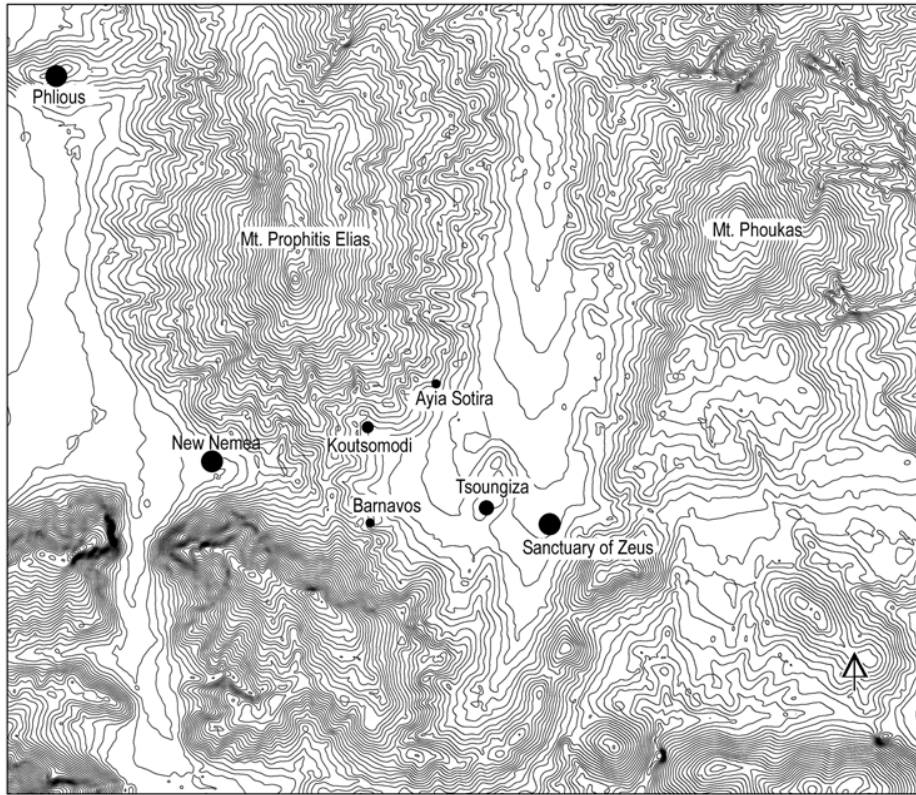


Figure 2. Map showing location of Ayia Sotira cemetery, chamber tomb at Barnavos, settlement on Tsoungiza hill, Sanctuary of Zeus, and villages of Ancient Nemea and Koutsomadi.