

Pyla–Koutsopetria Archaeological Project 2003–2005: Preliminary Results

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[Slide] The Pyla–Koutsopetria Archaeological Project (PKAP) is a diachronic, intensive archaeological investigation of a 70 ha. Late Roman site on the southern coast of Cyprus. The site of Pyla–Koutsopetria is located some 10 km east of modern Larnaka (ancient Kition) immediately to the west of the British base at Dhekelia. [Slide] The Cypriot Department of Antiquities conducted two limited rescue excavations at the site in the 1990s under the direction of Dr. Maria Hadjicosti, who is now the Curator of Ancient Monuments in Cyprus. These soundings uncovered parts of a well-appointed Early Christian basilica and were briefly published in several reports of the RDAC. [Slide] The exceptional density and spread of high-quality, Late Roman material in the fields surrounding the basilica recommended additional field work. With the full cooperation of the Department of Antiquities and the Cyprus Geological Survey, PKAP has now completed three field seasons (2003–2005) of a multi-year campaign. Our program of research has included an intensive large-site survey, a detailed geological study, and the analysis of finds excavated by Dr. Hadjicosti. [Slide] The overall aim of the project is to document the cultural and environmental features of this coastal site extending over an area of 30 hectares, and to establish the site's relationship with centers of Late Roman habitation both on Cyprus and elsewhere in the Mediterranean.

The site of Pyla–Koutsopetria is situated in a rich natural and cultural landscape. [Slide] The area known as Koutsopetria comprises a narrow coastal plain bounded to the north by an abrupt series of coastal ridges named Vigla, Mavrospillios, and Kokkinokremos. This stretch of coastline is traditionally associated with Pyla village situated 4 km inland which, true to its name, served as the Pyla or [quote] “gateway” to the fertile Mesoria plain. The preponderance of local antiquities indicates that this area was important throughout antiquity. In the Late Bronze Age, the area was particularly well-settled, with an important site at Pyla–Kokkinokremos as well as the smaller sites of Koukoupoukthia, Steno and Vergies. There is also local evidence for Classical and Hellenistic activities that includes the discovery of numerous lead sling pellets on the height of Vigla, and tombs of Classical date at Pyla Village and Ormidhia. [Slide] Late Roman finds are abundant at Koutsopetria, as in many places along the southeastern coast of the island. Material from the Medieval and post-medieval periods is more exceptional– although a poorly preserved wall and floor at Koutsopetria can tentatively be dated to the Venetian period and might explain the name Paliocastro which appears on some older maps of this area. In more recent times,

Koutsopetria occupied a local crossroads where the coastal roads toward Famagusta turn inland and meet the southern terminus of the route from Pyla and the Mesoria plain. [Slide] Today, this area is protected from development due to its location on the British base at Dhekelia and its designation as an archaeological site.

While today's paper will focus primarily on the results of our intensive survey in the area of Pyla–Koutsopetria, this work is only one of several ongoing research projects associated with this stretch of coastline. [Slide] Dr. Maria Hadjicosti is working to publish the architecture and finds from her salvage excavations of the 6th century basilica church, while Sarah Lepinski, a graduate student at Bryn Marw College, is studying the molded gypsum plaster and wall painting fragments recovered from an ancillary room of the church building. Professor Jay Noller has provided a comprehensive geological study of our area. He has focused on a lowlying area which occupies nearly 25 ha in the eastern part of Koutsopetria and represents an ancient embayment. In late summer 2005, Professor Noller took a series of core samples to determine the date and extent of the infilling of the embayment. We anticipate that all of these studies will contribute to our understanding of the cultural and environmental character of the vicinity of Koutsopetria.

Our archaeological fieldwork at Pyla–Koutsopetria began in 2003 with a reconnaissance survey that established that the size and density of the site were genuinely exceptional even in the artifact rich Mediterranean basin. [Slide] The dense scatter of artifacts spread over at least 30 hectares, which recommended an approach that balanced intensive documentation of the rich assemblage of artifacts with extensive coverage of a site that was as large, if not larger, than a small urban area. Moreover, the environmental conditions of the Pyla–Koutsopetria site, largely, flat, ploughed fields covered in the summer months with varying amounts of grain stubble, generally ensured that over 50% of the surface was visible. These particular environmental and pragmatic conditions prompted us to design a research program which featured intensive gridded surface collection at a resolution large enough to cover the entire area. [Slide]

By the summer 2004 we had prepared to employ a survey technique derived from methods typically referred to as “large site survey”. The best-known implementation of large site survey in the eastern Mediterranean comes from Greece where it has produced remarkable results for the Cambridge Boeotia Survey Project and the Nemea Valley Survey at the urban sites of Thespiiai, Ascra, and Phlious. It has also been used effectively at the village site of Kalavassos–Kopetra in Cyprus. Large site survey essentially utilizes a gridded collection technique similar to those developed for the intensive investigation of small high-density

artifact scatters (ranging from .1–1 ha) found in the course of intensive survey. Large site survey, however, uses this method on a much larger scale (10–100 ha) while attempting to preserve a high resolution of investigation. At Pyla–Koutsopetria, we investigated the site using a ratio of site size to unit size that was similar to the ratio typically employed at smaller sites. This led us to document the high–density artifact spread with a series of 40 x 40 m grid squares, units small enough to document fluctuations in artifact density over the site but large enough to allow us to cover systematically the entire surface of the site. [Slide] We decided to sample 20% of the surface of each unit by using 4 field walkers, spaced at 10 m intervals, looking 1 meter to each side and, counting every visible artifact in their transect. Our artifact collection technique, known as the Chronotype system, also dictated that fieldwalkers collect every unique kind of object in their swath, but ignore duplicate pieces. While our sampling strategy was inherently conservative in that it sought to limit the amount of material collected from the site itself, at the same time, it allowed a survey team of 5 people to cover close to 30 ha during the 2004 season and an additional 40 ha the following year. Moreover, it limited the amount of material brought back to the already overburdened storerooms of the Larnaka District Archaeological Museum. Thus, we managed to balance the practical realities of efficiency, storage, and manpower, against methodological intensity, and maintain a sampling and survey resolution that is consistent with other large site survey projects in the Mediterranean.

This method of approaching Pyla–Koutsopetria provided us with a significant quantity of “raw” data, but also some substantial interpretive challenges. Over the course of two field seasons we collected close to 10,000 artifacts and counted over 20,000 artifacts total. As our sample was 20% of the surface, we can estimate that there are well over 100,000 artifacts visible in the soil matrix of our site.[1] At this point in our field work, we have processed over half (n = 5,640) of the total artifacts collected accounting for all the material from two–thirds of the units.

The material produced from the site is overwhelmingly Late Roman in date. [Slide] If we exclude for our analysis the great amount of non–diagnostic or poorly diagnostic artifacts and only look at material that can be dated to specific narrow periods, then pottery from the 4th–7th centuries accounts for 88% of all analyzed artifacts. Other periods are proportionally represented in much smaller quantities. The broad Roman period accounts for 6%, Hellenistic–Early Roman 2%, and Archaic–Classical less than 1%. This relative imbalance is probably not an accurate reflection of lower proportional intensity of cultural activity at Pyla–Koutsopetria in the preceding periods, but is related to the massive Late Roman overburden and the relatively greater diagnostic character of Late Roman finewares, storage vessels (especially LR1 amphora), and

roof tile. If we look instead at the relative distribution of chronological components across the site, the Late Roman period is still abundant, appearing in 88% of the units read so far (n = 140 of 158), but earlier periods also appear very consistently: Roman pottery appears in 50% of units read (n = 80), Hellenistic–Early Roman 24% (n=38), and Archaic–Classical material in a more respectable 8% (n=12). Certainly these earlier periods will become more visible as we work to identify the coarsewares. On our current evidence, however, we can say that the area was first used intensively in the Iron Age, with the first significant phase dating to the Hellenistic–Early Roman period, and the Late Roman material representing a final development of the use of the area in antiquity.

Our “large site survey” employed a spatially consistent sampling size (40 x 40 m. units) and collection strategy (20% sample, Chronotype) across the entire area, which allows us to evaluate the overall density and size of the distribution of artifacts across the Pyla–Koutsopetria plain. Reconnaissance survey in 2003 had suggested that although artifacts were densest in the area immediately east of the excavated early Christian basilica, there were also several discrete areas of moderate densities far to the northeast below Kokkinokremos. [Slide] These densities bordered the low-lying sandier soils that we suspected represented an in-filled embayment and we concluded that the artifacts in this area may have been an extension of the site to the northeast. We therefore laid out a grid over the entire area where artifacts were present; when artifacts were discontinuous, as in the area of the embayment, we resorted to more robust methods (more about this soon). We were also obviously restricted by a series of manmade and natural impediments to field work: namely a golf course to the east, vacation apartments to the west, the sea to the south, and steep coastal bluff to the north. Our procedure in “large site” gridded survey, then, was determined by our desire to systematically document a broad but uneven artifactual carpet on the Pyla–Koutsopetria plain, and affected by natural and practical considerations. Systematically documenting artifacts in this manner allows us to analyze the density data in a variety of ways and to think reflectively about how archaeological projects typically define sites in the Mediterranean.

Our survey clearly indicated one central area of exceptional density indicated on this map as Zone 1. It is clear that Zone 1 includes the immediate vicinity of the excavated basilica and extends for close to 500 m to the east. The borders of Zone 1 are marked by declining densities, visually evident in this map by a K–Means or Jenks analysis which shows “natural breaks” in statistical arrays. Zone 1 was clearly the highest density from our site producing overall densities in excess of 6,000 artifacts per hectare for an area of 11 ha, which is well above the typical

density threshold of 3,000–5,000 artifacts / hectare for defining sites in the Eastern Mediterranean.[2] Moreover, this area produced a large quantity of architectural material including partially exposed walls, carefully prepared gypsum blocks, and cut stone. [Slide] [Slide] Several fragments of agricultural processing equipment also derived from Zone 1. Of particular note is a Hadjisavvas type I (B) olive press weight and a part of small crusher stone both of which are consistent with a Late Roman date. [Slide] [Slide] Perhaps a traditional survey would have designated this high density area a “site” and the surrounding lower (although by no means low) density units “off-site.”

Despite the statistically significant drop off in density, PKAP continued, however, to extend our grid squares to the north and east in large part because reconnaissance survey had suggested higher artifact densities in the fields at the base of Kokkinokremos with its Bronze Age fortification. As we extended our grid to the north we were able to identify not a single high density area, but rather several isolated high density areas, stretching loosely along the base of the Mavrospilos and Kokkinokremos ridgeline. [Slide] These areas may be combined to form Zone 2, an area of approximately 7 ha, with an overall artifact density of approximately 2,000 artifacts per ha. While this area does not have densities nearly as high as Zone 1, it is clearly distinct from its surrounding units, as this figure demonstrates. In fact, we suspect that the division between Zone 1 and Zone 2 is not cultural, but rather geomorphological, as soils eroded from the base of Vigla were deposited to the east and north of Zone 1. It is also possible that the installation of a water treatment plant affected the soils of the area between zones.

In traditional site based surveys it is likely that the “site” of Pyla–Koutsopetria would be limited to the 11 ha of Zone 1. The densities of Zone 2, while still modest, are slightly lower than typical for ‘sites’ in the Mediterranean basin, where density figures of 3,000–5,000 artifacts / ha are common. At Pyla–Koutsopetria, however, there is every indication that this material is culturally continuous with material collected from Zone 1. A useful way to demonstrate this is by comparing the types of artifacts present in both zones.[3] The majority of datable artifacts from both areas are Late Roman in date with only trace amounts of pottery from earlier and later periods, suggesting that both Zones were part of the same settlement in Late Antiquity. Moreover, the types of artifacts present in both Zones are fundamentally similar. Approximately 30% of the material from both Zones are amphora sherds, 10% of the assemblage is represented by fineware, and medium coarsewares (typically household, small scale storage and table wares) account for another 10%. The remaining pottery from both areas are coarse and cooking wares. Zone 2 produced slightly more coarse ware (46%) than Zone 1 (36%), whereas Zone 1 produced more cooking wares (8% to 4%).

Rooftiles were far more prevalent in Zone 1 as was construction material more generally. [Slide] The remarkable similarity in the numbers from both Zones suggests similar activities took place in both areas, although it is always possible that Zone 2 material represents an earlier or later phase in the use of the area.

The only part of Koutsopetria that we did not survey in a standard grid was an area identified by our geomorphologist as an infilled embayment. We did sample this area at 20%, but employed much larger units in order to improve our efficiency; thus our intensity remains constant, but the resolution available for later analysis declined. Our geomorphologist's predictions for this area and our own reconnaissance work were rewarded in that this area produced almost no artifacts. Once the core samples are analyzed and dated we will have greater command over the chronology of the infilling of this area. The lack of Late Roman material in these units, however, suggests that at least the top layer of soil was deposited after the Late Roman period. The presence of several paliocoastlines, one of which was associated with a light scatter of Ottoman material suggests that some amount of infilling occurred within the historical period. The functional value of this stretch of coastline would seem to be confirmed by the presence of a fortification in this area, the Paliocastro, perhaps of Venetian date.

At this stage of our research, any conclusions we offer can only be tentative. Nevertheless, it is tempting to see this impressive distribution of material extending for over 1 km along the coast as the remains of a substantial harbor town. The presence of considerable quantities of LR1 amphora, imported finewares, and agricultural processing facilities, all would support this interpretation.

[1] And this is likely a very conservative estimate. We conducted experiments in the course of the 2004 and 2005 field seasons that compared our standard collection method (20% simple transect walking) with more intensive collection strategies like 'hoovering' / 'vacuuming' where all artifacts are collected through very close inspection of the surface (i.e., looking on hands and knees). Our experiments showed that very intensive visual inspection like hoovering tended to produce artifact densities 2–3 times greater than our normal fieldwalking procedures, despite the fact that our hoovering circles covered only 5% of the unit while normal pedestrian survey covered 20% of the unit. Hence, we can conclude that 100,000 artifacts is a very conservative estimate of the amount of pottery actually visible in the soil matrix.

[2] For instance, Alcock, Cherry, and Davis have pointed out (1994: 138) that 3,000–5,000 artifacts per hectare walked is typical for defining sites.

[3] As noted above, processing is currently incomplete, but we have read the majority of pottery and systematically read material across the entire site, and therefore allows the analysis conducted here.