PEFKAKIA – information on the site and the current project

Introduction

The five-year (2022-2026) archaeological project at the site of Mycenaean Pefkakia is a collaboration between the Ephorate of Antiquities of Magnesia and the Polish Archaeological Institute at Athens (PAIA), co-directed by Anthi Batziou (Ephorate of Antiquities of Magnesia) and Bartłomiej Lis (Polish Academy of Sciences). Its main aim is to assess the extent of habitation at Pefkakia during the various stages of the Late Bronze Age, and to provide a better understanding of the character of activities performed at various part of the site. This will eventually lead to a fuller comprehension of the role of Pefkakia in the local and regional settlement pattern. Another important aspect of the project is to investigate Pefkakia's role as a major harbour in the Aegean. So far, this has been evidenced by the presence of a large number and a variety of transport containers, but neither harbour facilities nor the exact coarse of ancient coastline has been verified.

In order to achieve these aims, the project involves an extensive geophysical survey combining three methods, geoarchaeological coring, as well as excavations at locations suggested by the non-invasive investigations. The project is funded through a National Science Centre (Poland) grant No. 2020/38/E/HS3/00512.

The site

The site of Pefkakia lies 1.5 km south of the modern city of Volos (Magnesia, Thessaly), on the opposite side of the Volos bay that constitutes part of a larger Pagasetic gulf. It consists of a tell site known as Magoula, and an extensive flat part south of it (Figure 1). Archaeological strata dating to the Late Bronze Age are usually overlain by extensive remains of the Hellenistic city of Demetrias, established on the vast area including Pefkakia in 294 BC by Demetrius Poliorcetes. Archaeological finds dated to the Mycenaean period became first known at the end of the 19th century, when illegal excavations on Magoula brought to light an unknown number of tombs from the early part of the Late Bronze Age. Finds from those graves were published in 1889 by P. Wolters (1889, 262–70). A. Arvanitopoulos (1912, 172–5), Greek archaeologists active in broader Thessaly, reports that the site had been excavated for many years and that he had found Mycenaean pottery, figurines and tombs. D. Theocharis (1957, 54–69) conducted a stratigraphic research on Magoula, where he uncovered successive archaeological layers dating from the end of the Neolithic to the LH IIIC Early periods. To the east of the stratigraphic trench, he also excavated a large building dated to the late Mycenaean period. D. Theocharis

continued to excavate at Pefkakia Magoula in cooperation with V. Milojčić and the German Archaeological Institute during the years 1967-1977 (1973; 1974). This work uncovered a sequence of strata spanning the entire Bronze Age and results, except for the Late Bronze Age, were published in a series of monographs.

In the period between 1986 and 1991, excavations conducted in the flat part south of Magoula proved for the first time the existence of a Mycenaean settlement in this area, underneath Hellenistic occupation levels associated with a large Hellenistic city of Demetrias (Batziou-Efstathiou 1992). From 2006, a new excavation project began under the auspices of the Ephorate of Antiquities of Magnesia, and directed by Dr. A. Batziou (Batziou-Efstathiou 2012; Batziou-Efstathiou 2015a; Batziou-Efstathiou 2015b). Work in 2016-2021 was carried out as a cooperation with the University of Thessaly and prof. I. Tournavitou. This excavation (marked as "Recent Excavations" on Fig. 1) revealed multi-room complexes dating to LH IIIA2-IIIB2/IIIC Early period (ca. 1400-1200 BC) with a variety of functions, including various types of craft activities. Pottery finds including a broad array of imports from the Greek Mainland but also as far as Crete and the Near East attest to the extent of commercial contacts of this important harbor. This research program, and resulting publications, provide an ideal ground for the new collaborative undertaking under the auspices of PAIA.

Results of the project (2022-2024)

Geophysical survey and geoarchaeological corings

Investigations with ground penetrating radar (GPR) that covered an extensive area of almost 6 ha (yellow areas on Fig. 1) revealed a clear layout of Hellenistic Demetrias, with a regular street network defining rectangular insulae of ca. 50 x 107 m dimensions (Figure 2). Outlines of four streets running N-S are marked by their side walls and two streets with perpendicular E-W orientation can be clearly seen on a time-slice representing a depth of ca. 65 cm. Many of the insulas show dense build-up with residential and probably also other structures.

Apart from structures that can be associated with the Hellenistic activity, there is a number of structures revealed by anomalies that are located close to the current ground level and display a different orientation. Moreover, a structure made up of several rectangular rooms in southern-most part of Area 2 is clearly laid out on top of one of the streets of Hellenistic Demetrias. Such structures are clearly post-Hellenistic in date, and perhaps relate to the Roman phase of activity at the site, attested at a number of other nearby excavations.

Earlier, pre-Hellenistic structures on the site were revealed by GPR only in a limited extent, showing that the method has restricted penetration in local soil conditions at Pefkakia. Single linear anomalies are most frequent, rarely making up clearer structures that can be identified as buildings

Magnetometry survey revealed the same regular street grid in much of the covered area, however with little evidence for structures within the insulae. Importantly, at least two circular anomalies could be identified as possible kilns, due to their distinct characteristics.

Electrical resistivity survey conducted in the NW part of investigated area revealed a zone of higher resistivity that could correspond to a bedrock outcrop with its top located close to the surface, surrounded by deposits of distinctly lower resistivity.

Corings

The geoarchaeological corings at the site of Mycenaean Pefkakia were conducted in order a) to verify the stratigraphy of the site following the results of geophysical survey, and b) to obtain data for palaeogeographical reconstruction of the landscape during the Late Bronze Age.

The stratigraphical corings performed on the site were guided by the position of anomalies suggesting presence of pre-Hellenistic features. In all of the drillings the topmost layer contained Hellenistic artifacts, mostly tiles and pottery fragments with numerous charcoals within the sampled material. At some location (PEF_08; PEF_12; PEF_15 and PEF_20), underneath the Hellenistic deposits, cultural layers belonging to the Late Bronze and perhaps also Middle Bronze Ages, based on associated small pieces of pottery, were registered.

In terms of the palaeogeographical reconstruction, the first stratigraphical observations of the five vibra-coring profiles (Nos 1-4 and 7 on Fig. 1) as well as the two hand drill profiles (PEF_08 and PEF_20) suggest that the sea penetrated much further inland both with respect to current situation. Moreover, based on cores from locations PEF_07, 08 and 20, it is very likely that a at some point narrow stretch of sea water separated Magoula from the mainland. This episode is reflected by bluish-grey muds, abundant in mollusks shells. Within the sediments, numerous charcoals and pottery sherds, including examples dating to the Late Bronze Age, indicate that the transgression was accompanied by human activity. A marshy environment must have followed, which corresponds with the data brought by earlier geomorphological investigations.

Excavations in 2023

In 2023, two trenches in areas designated as B and C were opened (Fig 3). In area B, trench B01, a burial ground from late Hellenistic-Roman period was found, with a well-built tile grave containing an interment of two children, and two child burials in amphoras (one intact, and the other one disturbed). Despite significant depth reached, layers dating to Late Bronze Age have not been revealed. In area C, trench C01, remains of a multi-phase structure from the Mycenaean period (Fig. 3) were discovered, confirming our expectations based on the results of geophysical survey. During the research in trench C01, despite the limited space excavated (2x5 m), several phases were identified, covering large part of the Late Bronze Age and possibly going back to the Middle Bronze Age. This is a strong indication for the activity beyond the site of Pefkakia Magoula dating back to late MH/early LH period.

Excavations in 2024

During the 2024 season, excavation continued in both trenches opened in 2023 (B01 and C01), while a third trench (C02) was opened 2m to the north of trench C01 (Fig. 3). Trench **C01**, opened initially as 5 x 2 m test trench, was extended by 3 m to the west in 2024, to form a 5 x 5 m square. Several new walls were uncovered, some of which were continuations of walls exposed in 2023. They form a rectangular space that around 1200 BC was used for metallurgical activities, indicated by an ash pit and fragments of crucibles and clay moulds for casting bronze objects. Below this level, a floor was identified, partially made of plaster, with material dating to LH IIIA2 Early (Fig. 4), a phase that we associate with the beginning of expansion of the site.

Newly opened 5 x 5 m trench C02 (Fig. 3) provided evidence for a Hellenistic phase, non-existent in trench C01. It comprises a destruction deposit of broken tiles and small finds (e.g. loomweithgs), probably associated with a destroyed building of which only two blocks remain in situ. Below that deposit, two floors belonging to 14-13th century BC were identified (i.e. ca. 1000 years earlier), the upper one covering a very well-built drain stretching across entire trench (Fig. 3).

Continuation of work in trench B01 (Fig. 3) led to the full exposure and exploration of another child grave built of tiles. Below it, we uncovered a surface built of tiles and sherds belonging to the Hellenistic period. Sounding below that level exposed small part of a deposit very rich in high-quality tableware and some cooking pottery associated with the early Hellenistic period,

around the time of foundation of Demetrias. As in previous season, Late Bronze Age levels have not been reached and this remains the aim for the following season.

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Figure 1. Plan of the area under investigation, with marked areas surveyed by GPR (yellow polygons), locations of Vibra cores (red dots), and main areas excavated so far (red rectangles).

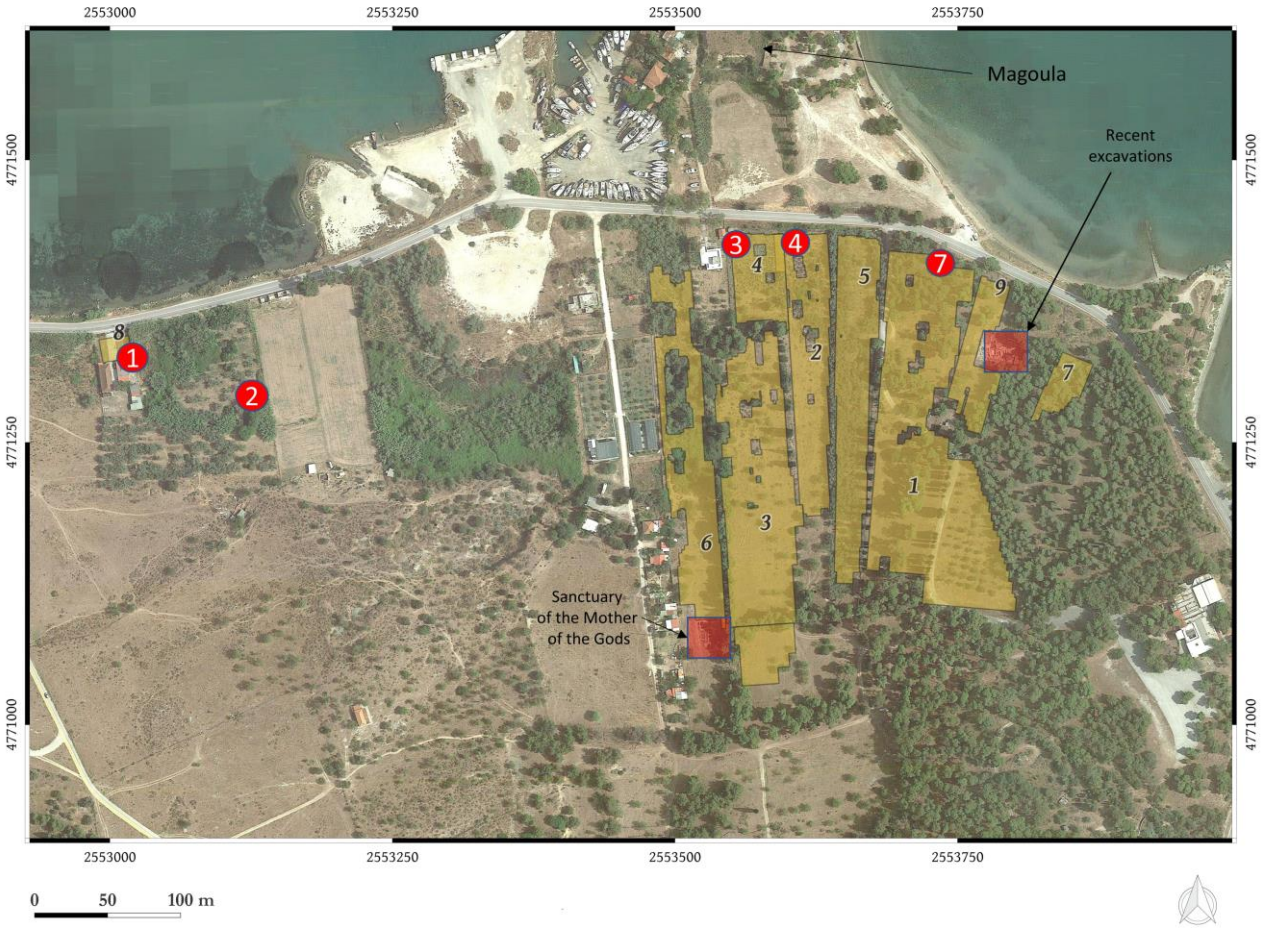

Figure 2. Results of geophysical prospection with GPR. Time-slice at a depth of 65 cm from areas 5 and 2 showing a single insula with four streets.

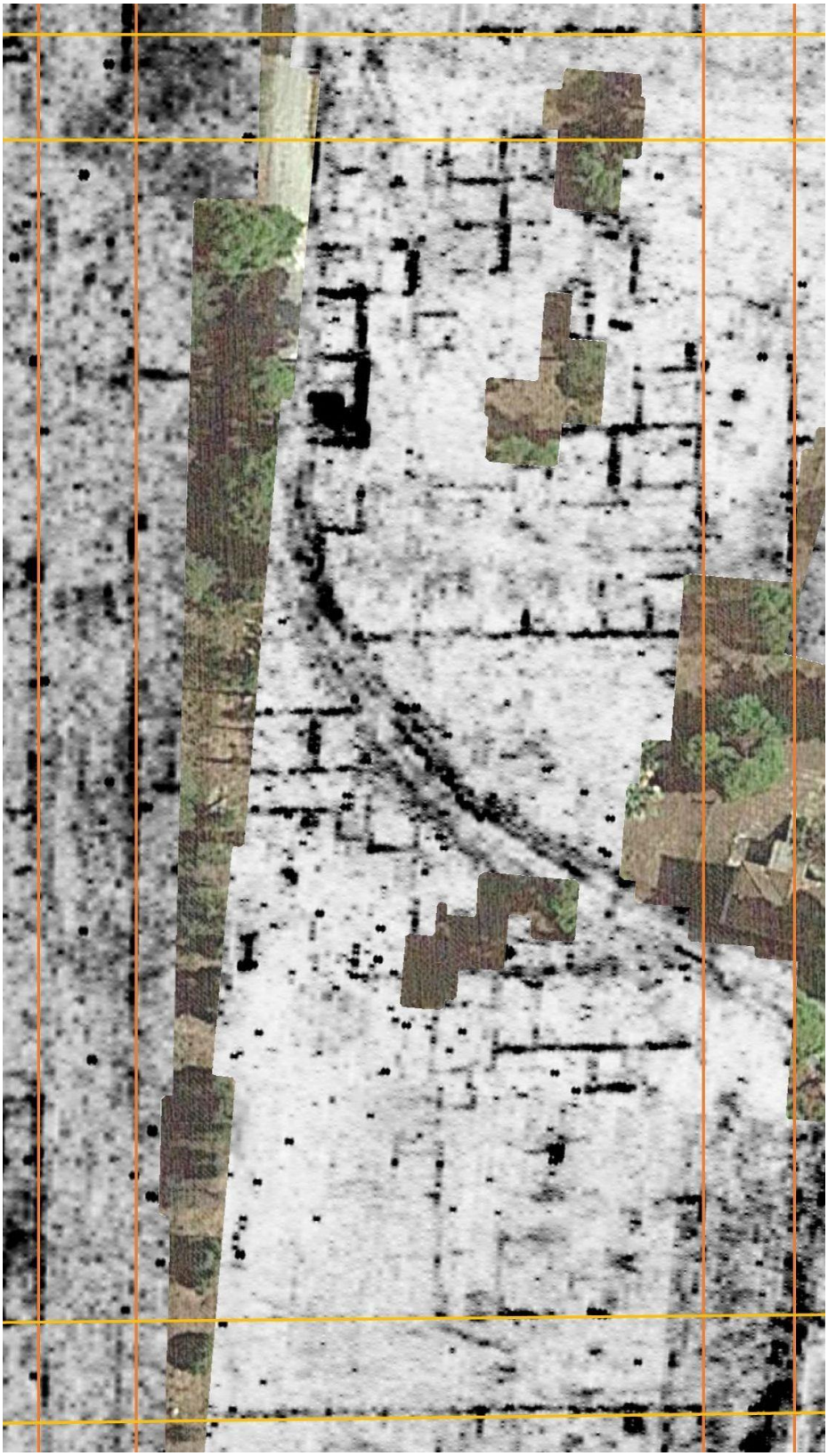

Figure 3. View of the site with areas A, B, C, and trenches excavated in 2023 and 2024

Figure 4. Near-complete low-footed LH IIIA2 Early kylix and juglet from trench C01.