



Project Gallery

Lower and Middle Palaeolithic evidence from the North Aegean coastline of Çanakkale, Turkey

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The *Çanakkale-Balıkesir Coastline Palaeolithic Survey Project* covers the Çanakkale and Balıkesir coastlines of the Aegean. It aims to reveal Palaeolithic assemblages and their connection to the surrounding islands—primarily Lesbos. In 2021, four important findspots were detected on the Çanakkale coastline, and more than 500 lithics were uncovered, exhibiting the characteristics of large cutting tools, as well as pebble and prepared core technologies. These tools attest to the presence of hominins along the Çanakkale coastline during the Lower Palaeolithic.

Keywords: Aegean, Turkey, Çanakkale coastline, Lower Palaeolithic, Acheulean, lithics

Introduction

Turkey and the Aegean region have often been highlighted as a major hominin dispersal route during the Pleistocene. The presence of *Homo erectus* within this region as early as 1.2–1.6 Ma is attested by a skull and supporting lithic artefacts from Denizli (Lebatard *et al.* 2014; Maddy *et al.* 2015; Özçelik *et al.* 2016, 2017). The discovery of the open-air site of Sürmecik, which produced the largest Palaeolithic assemblage in Turkey, with 86 246 lithics, continues this line of evidence (Taşkıran *et al.* 2021). Most of these finds, however, are isolated and come from the interior of Central Aegean Turkey (Özbek & Erdoğan 2014; Özer *et al.* 2018; Erdoğan *et al.* 2021). Finds from the coastline are limited (Çilingiroğlu *et al.* 2018; Atakuman *et al.* 2019) and the northern Aegean of Turkey, in particular, has not been adequately researched.

The aim of our project is to determine the Palaeolithic occupation of Çanakkale and Balıkesir province and establish their relation to Lesbos, with which they would have been connected during this period. It is generally accepted that the Aegean islands constituted important land bridges between Anatolia and mainland Greece (Carter *et al.* 2019; Galanidou *et al.* 2016). Palaeogeographical reconstruction of Aegean Sea levels over the last 500 000 years demonstrates that many islands in the Eastern Aegean would have been connected to Anatolia. In this context, the ‘North Aegean Bridge’ has been proposed as a route for hominin dispersal (Sakellariou & Galanidou 2016; Carter *et al.* 2019). We believe, therefore, that there is a unique opportunity to study hominin dispersal along these routes. Evaluating

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the data from Lesbos, in combination with that from our research, will fill the gaps that exist in our understanding of the North Aegean Palaeolithic.

Methods

The project aims to investigate the coastline of Çanakkale, covering approximately 760km². In 2021, research focused on one section of the coastline. The areas to be targeted were determined through consideration of site patterning and geographical features. The mountainous structure of Çanakkale's southern coast has created a thin coastline, and valleys with permanent and seasonal streams in the inner regions. Its previously volcanic nature has also led to the emergence of various lithic resources, such as chert, serpentinite, andesite and basalt. Cave formations have also been observed due to the karstic structure in the east of the study area.

In order to determine the potential for Palaeolithic archaeology within the study area, we conducted an extensive fieldwalking survey. Survey consisted of team members (seven people) walking in parallel, spaced approximately 1–2m apart. Each area visited and showing common topographical properties was recorded as different 'survey units', along with information on the coordinates, topography, vegetation, soil type, geological features and surface visibility. Artefact density was determined for each survey unit, with low-density areas designated 'scattered findspots'. Survey areas and routes were recorded using a handheld Garmin GPSMAP 60 CSX device and plotted using Google Earth. Artefacts were assessed typologically with reference to previous studies (Bordes 1961; Debénath & Dibble 1994; Shea 2013).

New Palaeolithic finds from the coastline of Çanakkale

Systematic survey yielded three new open-air sites and one scattered find area (Figure 1). More than 500 Lower and Middle Palaeolithic artefacts produced from raw materials such as flint, chalcedony and quartz were obtained from these sites. Almost half (48 per cent) came from Yeşil Liman, a stony beach, with Palaeolithic materials detected among sea gravel and concentrated in a 1km² area (Figure 2). The recovered artefacts were generally rolled by wind and tidal processes, and most displayed a white patina. The most notable items were large cutting tools (LCTs), along with trihedral picks (e.g. Figure 3), pebble core tools, flake cores (including Levallois) and various retouched tools.

Another dense findspot was found in the Kirsedere Valley, 1km north of Yeşil Liman. Covering an area of 3km², it produced 30 per cent of the finds from the Çanakkale coastline, including a bifacial tool (Figure 4). This tool is a limande produced using greyish flint. Another tool from the Tuzla findspot (see below) is also made of greyish flint but is less rounded and can be classified as an amygdaloid (Figure 5). Both tools date typologically to the Middle Acheulean. A similar amygdaloid biface, produced from high-quality brown flint and dated to the Middle Acheulean, was found in the higher altitude area to the east, where agricultural activities currently take place.

An additional dense findspot was identified in Tuzla, in the west of the surveyed area (Figure 6). It covered 0.02km² and produced 20 per cent of the total finds recorded. The site is an area that has thermal springs, and the surface is covered with a thin salt layer. A single

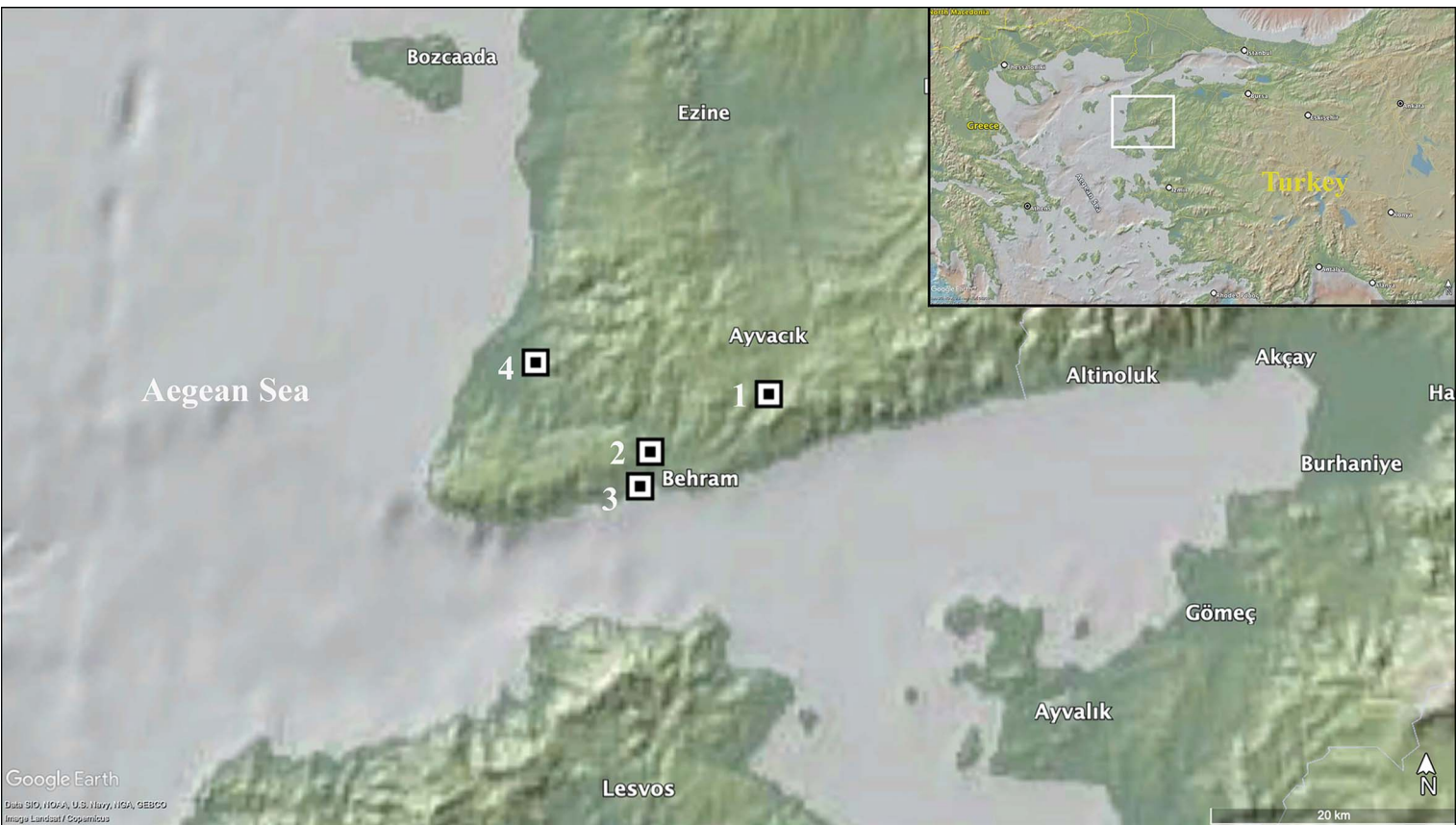


Figure 1. Map of the research area: 1) Gemedere; 2) Kirsedere; 3) Yeşil Liman; 4) Tuzla (figure by H. Bulut; © Çanakkale-Balıkesir Survey Archive).



Figure 2. Pedestrian survey of the beach at Yeşil Liman (photograph by H. Bulut; © Çanakkale-Balıkesir Survey Archive).



Figure 3. Trihedral pick from the beach at Yeşil Liman (photograph by H. Bulut; © Çanakkale-Balıkesir Survey Archive).

bifacial tool was recorded (Figure 5). This is made of a yellowish volcanic rock and retains cortex across most of one surface, while the other is more intensively flaked; its rough, crude form suggests that it is Lower Acheulean. Several pebble core tools and Levallois



Figure 4. Bifacial tool/handaxe from Kirsedere Valley (photograph by H. Bulut; © Çanakkale-Balıkesir Survey Archive).



Figure 5. Bifacial tool/handaxe from Tuzla (photograph by H. Bulut; © Çanakkale-Balıkesir Survey Archive).



Figure 6. Pedestrian survey of the Tuzla findspot (photograph by H. Bulut; © Çanakkale-Balıkesir Survey Archive).

cores were also recovered, along with denticulated and retouched tools that were mostly produced from large flake blanks.

The scattered findspot at Gemedere Stream produced only one Levallois core, two chopping tools and a single tested core, together comprising 2 per cent of the surveyed finds. All the lithics were exposed via a steep section, which was formed by the removal of soil that was used in modern dam construction. Although no flaked pieces were found at the top of this section, raw materials of various sizes were observed.

Discussion and conclusion

Our results demonstrate hominin occupation along the Çanakkale coastline as early as the Lower Palaeolithic. Except for the few atypical examples from Tekirdağ (Dinçer & Slimak 2007), the bifacial tools recovered compare to the most typical and well-known examples from north-western Anatolia. These bifacial tools are accompanied by other large cutting tools, pebble core tools and evidence for the Levallois technique. Although Lower Palaeolithic artefacts dominate, Middle Palaeolithic finds were recovered in smaller quantities.

The lithic assemblages from the Çanakkale coastline echo others from the Aegean Palaeolithic (Özbek & Erdoğu 2014; Özer *et al.* 2018; Sampson *et al.* 2018; Erdoğu *et al.* 2021), although they are techno-typologically older. The most obvious similarity is to the assemblage from Rodafnidia on Lesbos, especially considering its geographical proximity. Here, the lithic assemblage is characterised by large cutting tools, including bifaces, and prepared core technology (Galanidou *et al.* 2016). This assemblage dates to the Late Acheulean,

between 476 and 164 ka BP. The investigations along the Çanakkale coastline provide further data emphasising the importance of Lesbos as a potential dispersal route between Anatolia and Greece. Given the rich concentrations of Palaeolithic artefacts, the survey area will undoubtedly provide more data in the coming years.

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