

Contextualising Karaburun: a new area for Neolithic research in Anatolia

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ABSTRACT – Recent surveys led by Ege University in the Karaburun Peninsula discovered multiple pre-historic sites. This article introduces one of the Neolithic sites, Kömür Burnu, in this marginal zone of coastal western Anatolia. The site offered various advantages to early farmer-herders, including freshwater and basalt sources as well as proximity to agricultural lands, forested areas and marine resources. The material culture suggests that a local west Anatolian community lived here around 6200–6000 cal BC. P-XRF characterisation of obsidian pieces from Kömür Burnu revealed that they were acquired from two geographically distant sources (Melos-Adamas and Göllüdağ). These constitute the first evidence of the participation of Karaburun early farmer-herders in exchange networks of Neolithic Anatolia and the Aegean. Notably, the different technological features of these pieces fit well with the dual obsidian mobility model suggested by Marina Milić for the western Anatolian Neolithic.

KEY WORDS – Anatolia; Neolithic; Karaburun Peninsula; obsidian mobility; survey data

Kontekstualizirati Karaburun: novo območje raziskav neolitika v Anatoliji

IZVLEČEK – Univerza Ege je nedavno izvedla površinske preglede na polotoku Karaburun, ki se nahaja na obalnem predelu v zahodni Anatoliji, in odkrila številna nova prazgodovinska najdišča. V članku predstavljamo eno od neolitskih najdišč, in sicer najdišče Komur Burnu. Najdišče se nahaja na območju, ki je bilo ugodno za poselitev prvih poljedelcev in živinorejcev, saj ima dostop do sveže pitne vode, do naravnih surovin (bazalt) in do kmetijskih površin, gozda in morja. Materialna kultura kaže, da je bilo to območje poseljeno ok. 6200–6000 pr. n. št. Analiza P-XRF je pokazala, da so obsidiana iz najdišča Komur Burnu pridobivali iz dveh geografskih območij (Melos-Adamas in Golludag). To je prvi dokaz o tem, da so bili prvi poljedelci in živinorejci na polotoku Karaburun v času neolitika že vključeni v sistem menjav med Anatolijo in otoki v Egejskem morju. Predvsem je opazno, da lahko te najdbe na podlagi njihovih različnih tehnoloških značilnosti dobro umestimo v model dvojne mobilnosti obsidiana kot ga je predlagala Marina Milić za zahodno Anatolijo v času neolitika.

KLJUČNE BESEDE – Anatolija; neolitik; polotok Karaburun; mobilnost obsidiana; površinski preglede

Introduction

Neolithic research in western Anatolia accelerated after the mid-1990s. Previously known only through few survey projects conducted by David French (1965; 1969) and Recep Meriç (1993), new excavations, notably around the modern city of Izmir, en-

riched our knowledge of the first farmer-herders and their life ways from the early 7th to the mid 6th millennium BC (Çilingiroğlu et al. 2012; Sağlamtimur 2012; Derin 2012; Horejs 2012). Recognition of a locally developed Neolithic culture due to an increas-

ing number of published reports and publications led to the better identification and dating of survey materials from the region, contributing to an improved understanding of the distribution and character of Neolithic settlements (Çilingiroğlu 2012; Horejs 2017). One of the areas where Neolithic remains have been identified is the Karaburun Peninsula on the Aegean coast of western Turkey (Fig. 1).

In this paper, we aim to introduce and contextualise the Neolithic finds from the site of K m r Burnu, located on the northeast of the Karaburun Peninsula, in relation to known Neolithic sites in western Anatolia and the eastern Aegean.

Pre-Neolithic sequence: is there anybody out there?

The pre-Neolithic sequence of western Turkey is scarcely known. Notably, Late Pleistocene and Early Holocene forager remains from the region have been almost entirely lacking until very recently (Çilingiroğlu, Çakırlar 2013; Kozłowski, Kaczanowska 2014). The total absence of data from these periods is mainly the result of the low number of prehistoric studies, inefficient research methods and the inundation of the sites due to rise in sea levels during the Early Holocene. All of these factors contributed to the lack of representation of pre-Neolithic western Turkey in the literature. In contrast, the Final Pleistocene and Mesolithic periods are very well known on the mainland Greece and Aegean islands thanks to problem-oriented survey and excavation projects (Sampson et al. 2012; Efstratiou et al. 2014; Carter et al. 2014; 2016). However, the absence of pre-Neolithic forager sites in western Turkey makes any description of local forager material culture and their interpretation within the context of contemporary Aegean and Eastern Mediterranean cultures a complete guesswork. This research gap also led to an insufficient understanding of Neolithisation processes in western Anatolia, as it is crucial to identify Mesolithic elements in the Initial Neolithic assemblages in order to discuss any evidence of forager-farmer interactions (Çilingiroğlu, Çakırlar 2013; Çilingiroğlu 2017).

Luckily, new survey projects in western Turkey began to specifically target Late Pleistocene and Early Holocene sites in order to close this huge gap in our knowledge ( zbek 2009;  zbek, Erdođu 2014; Çilingirođlu et al. 2017; Atakuman 2018). The Karaburun Archaeological Survey Project (KASP) is one of these fieldwork projects, which, by adapting pedestrian and intensive survey strategies, led to the discovery of early prehistoric camp/activity sites along the current coastline of Karaburun Peninsula. These discoveries include multiple Paleolithic as well as Epipaleolithic (Late Pleistocene) and Mesolithic (Initial Holocene) open-air sites. Most notably, KASP identified two open-air sites that are tentatively dated to the Epipaleolithic and Mesolithic periods based on the typology and technology of lithics collected (Çilingirođlu et al. 2016; 2018a).

While it is still too early to make conclusive remarks about the nature of west Anatolian pre-Neolithic foragers, new data from Karaburun and other survey projects have already demonstrated that, similarly to the other Aegean regions, many forager groups lived in the area. Also, preliminary observations concerning chipped stone suggest that, at least technologically, western Anatolia is more closely related to the Aegean Epipaleolithic (Final Pleistocene, c. 10th millennium BC) and Mesolithic (Initial Holocene, 9–8th millennia BC) groups than other Anatolian and eastern Mediterranean chipped stone technologies (Çilingirođlu et al. 2016; 2018b). The planned detailed study of the chipped stone from these sites will hopefully provide the first insights into the techno-

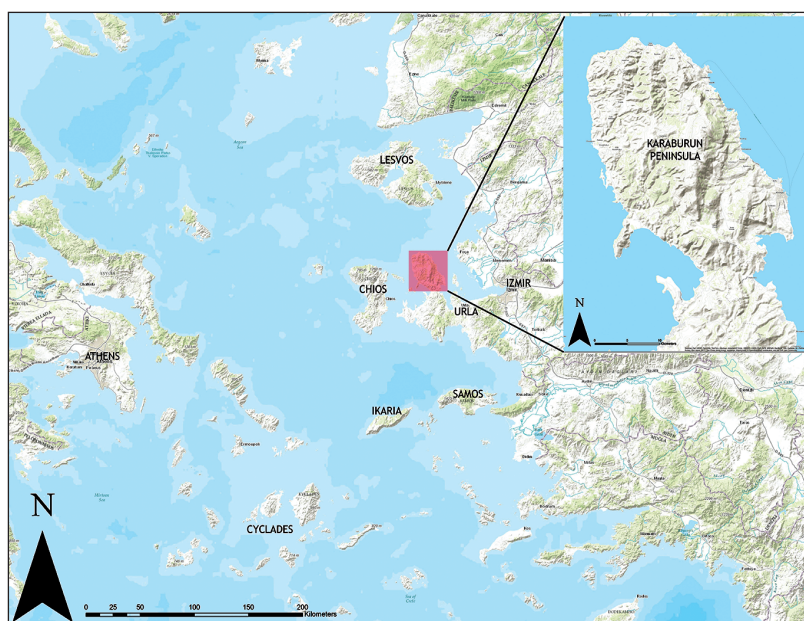


Fig. 1. Map of the Aegean and close-up view of the survey area (map by Ç. Çilingirođlu).

logical and cultural relations of Late Pleistocene and Early Holocene foragers within western Anatolia. Furthermore, such a study will afford us the first chance to compare Initial Neolithic lithic assemblages with pre-Neolithic assemblages in order to infer possible encounters and contacts between farmer-herder and forager groups in the Early Holocene.

Neolithic groups of the Karaburun Peninsula

Although the crucial stages of early farmer-forager encounters and the establishment of the first settlements by farmer-herders are still unknown in the Karaburun Peninsula, we were able to identify one Neolithic site which provided various clues on settlement size, location, material culture, ceramic technology, and exchange activities (Fig. 2). From 2015 to 2017, KASP conducted fieldwork at a Neolithic site on the northern coast of the Karaburun Peninsula which had been previously discovered by a non-systematic reconnaissance by colleagues from Dokuz Eylül University in Izmir (Uhri et al. 2010). Kömür Burnu is a multi-component prehistoric site with evidence of Paleolithic, Neolithic, Chalcolithic, Bronze Age and Roman occupations scattered over a landscape covering a total of 3.5ha (Fig. 3).

Neolithic occupation at the site was located on a slope facing south-southeast, covering approx. 0.9ha. Although the surface is densely covered with evergreen shrubs and other Mediterranean vegetation, the density and diversity of surface finds indicate permanent occupation. On the other hand, no architectural remains or evidence of thick deposits can be observed from the surface, which may indicate that the site does not contain long stratigraphic units. The archaeological material from the site, especially the fabric and morphology of the ceramics, suggest that the site was occupied during the later stages of the Neolithic sequence around 6200–6000 cal BC.

Our fieldwork at the site consisted of both random sampling and a systematic intensive survey. In order to examine the density, diversity and distribution of the Neolithic finds, as a pilot study, our team conducted an intensive survey of a limited area of 61m², which yielded 700+ archaeological finds from



Fig. 2. Site of Kömür Burnu from the East (photo by Ç. Çilingiroğlu).

78 dog leash units (Çilingiroğlu et al. *in press*). Most of the material at the site consists of ceramics and chipped stones. However polished axes, ground stone tools, stone bowl fragments and molluscs were also identified. Unfortunately, the animal bones at the site were very poorly preserved. Our survey recovered only one animal bone and various species of mollusc, which can only be tentatively dated to the Neolithic period; these include typical Aegean mollusc species, such as cardium (*Cerastoderma glaucum*), oysters (*Ostrea edulis*), *Murex* and *Glycymeris* types, which are all found locally.

Ceramic technology and relative dating

The pottery from the site has very distinctive qualities that compare well with assemblages from contemporary sites (Fig. 4). Although the preservation of the surface material is not optimal, fabrics and forms could be identified and classified in order to make comparisons for a relative dating.

The pottery (n = 40) has thin walls (mostly 4 to 7mm), medium- to poorly-fired examples with most-



Fig. 3. Different areas with archaeological finds from the Kömür Burnu site (map by Ç. Çilingiroğlu).

ly grey to dark grey pastes. Most sherds contain mineral (mica, sand, lime and small grit) and organic (chaff) inclusions in their fabric. The density of non-plastic inclusions is very high (20–30%), a distinctive characteristic of pottery from Kömür Burnu. Another typical feature is the high amount of porous surfaces, mainly due to the burning of chaff inclusions during the firing process. Outer surface colours range from red and reddish brown to brown. The distribution of colour on the outer surface is mainly even. The slip is preserved on many pieces, whereas the preservation of burnishing is very poor. Almost all pieces have matt surfaces, presumably due to the taphonomic conditions. All sherds have plain slipped and/or burnished surfaces; none bear decoration.

The morphology of the pottery is fairly simple and homogeneous, mainly consisting of medium-size bowls and jars with flat and disc bases (Fig. 5.1–16). Simple convex bowls, hole-mouth jars, jars with short necks and flat-based jars are among the most frequently identified vessel forms at Kömür Burnu. The diameters of bowls and jars, which range between 10–26cm, and the diameter of the bases, which range between 7–18cm, indicate that large vessels were not produced by the community, which was not unusual during this period (Çilingiroğlu 2012). In rare cases, single knobs are added, which is another well-known feature of west Anatolian Neolithic pottery.

The general technological and morphological characteristics described above closely match those of



Fig. 4. Neolithic pottery from Kömür Burnu (photo by B. Dinçer).

the Neolithic pottery known from other west Anatolian sites (Fig. 6). In particular, the presence of medium quality, mineral and organic tempered pottery with plain surfaces of red, reddish brown, and brown colours is typical of the central-west Anatolian Neolithic pottery traditions of the late 7th and early 6th millennium BC known from sites such as Ulucak, Yeşilova, Çukuriçi, Ege Gübre and Dedicik-Heybelitepe (Çilingiroğlu 2012; Derin 2012; Horejs 2012; Sağlamtimur 2012; Lichter et al. 2008). Closer to the Karaburun Peninsula, Neolithic ceramic assemblages from Urla province (such as Tepeüstü and Çakallar; Caymaz 2008) as well as Agio Gala Cave on the island of Chios (Hood 1981), only around 30km distance from Karaburun, are likewise technologically and typologically very similar. The absence of carinated or composite vessels is another indication of pre-6000 BC dating for this site (Çilingiroğlu 2012). The absence of decorated pieces also suggests a rather early date, as impressed pottery appears in the

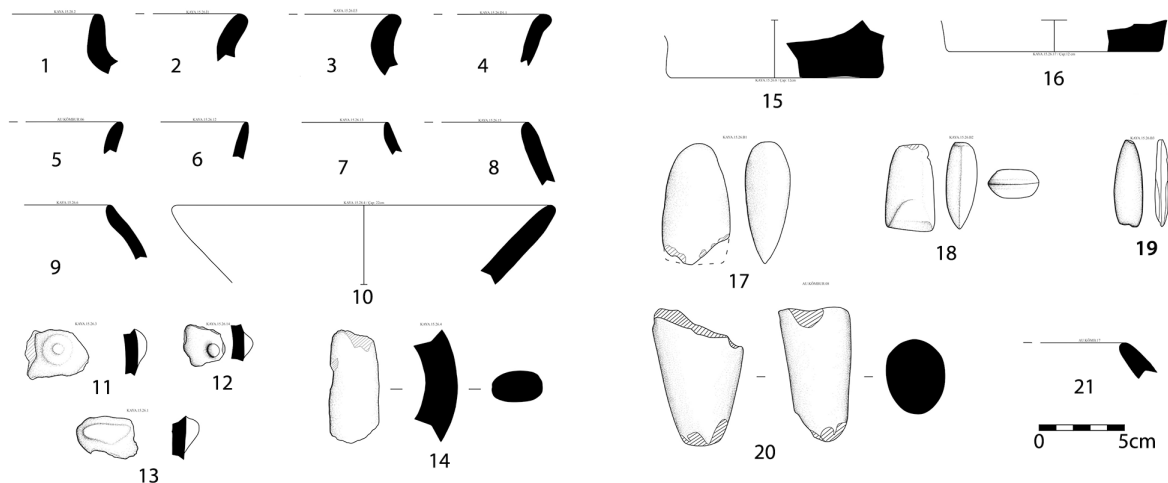


Fig. 5. Neolithic finds from Kömür Burnu. 1–16 pottery; 17–19 polished axes; 20 basalt pestle(?); 21 basalt stone bowl fragment (digital drawings by E. Sezgin, E. Dinçerler).

region only after 6000 BC (Çilingiroğlu 2016). On the other hand, it is somewhat surprising that vertically pierced tubular lugs and so-called 'Agio Gala lugs' (as seen in Hood 1981.Fig. 5, 6) are absent from the assemblage. It seems that this absence may be due to the small sample size. Yet another indication for relative dating is the use of chaff inclusions and the high content of red slipped wares (approx. 70%). These indicate that the site cannot be older than c. 6200–6100 cal BC, as these technological features appear in western Turkey towards the end of the 7th millennium BC (Çilingiroğlu 2012). In conclusion, we suggest that this site was occupied around 6200–6000 cal BC by a farmer-herder community of local origin with technological skills, preferences, storage and culinary traditions showing close similarities with contemporary Neolithic sites in the region.

Kömür Burnu community and long-distance networks

The chipped stone artefacts from the site are produced on brown and light brown coloured chert, possibly acquired from local sources, which remain unidentified so far. The blanks identified are mainly flakes with very few retouched pieces. Only one blade with typical silica gloss is known from the assemblage. The near absence of cores from the site may indicate that production took place off-site, and that the end products were brought to the settlement (Çilingiroğlu et al. *in press*).

Some interesting insights are provided by three obsidian pieces that were discovered during our intensive survey (Fig. 7). P-XRF analysis run by Rana Özbal found that two of these originate from Göllüdağ and one from the Adamas source on Melos¹. The presence of Göllüdağ and Melian obsidians at Karaburun is an interesting discovery, as the involvement of Karaburun Neolithic communities in regional and supra-regional networks has not been recorded before. These comprise the first tangible evidence that Karaburun communities were actively involved in two different networks.

Previous studies in the region by Marina Milić showed that at many 7–6th millen-

nia sites, Melian and Central Anatolian obsidians co-existed (Milić 2014; 2016). Also, it is a general pattern for Melian obsidian, as the closest source to west Anatolia, to make up the majority of obsidian assemblages whereas Central Anatolian pieces occur only in very limited numbers. Characterisation studies show that Melian obsidian was distributed over a wide area in the eastern Aegean, including the northern Aegean, as finds from the Neolithic site at Coşkuntepe in the Troas readily demonstrated (Perlès et al. 2011). Kömür Burnu finds concur well with this pattern, and the co-occurrence of Melian and Göllüdağ obsidians demonstrate the active involvement of Karaburun communities in regional maritime networks, as well as supra-regional overland networks, despite their somewhat marginal location.

In our opinion, what is more interesting about these finds is the differing technologies and morphologies of these obsidians originating from different sources. The Melian piece from Kömür Burnu is a medial part of a possibly pressure-flaked blade (weight 0.2g).



Fig. 6. Sites mentioned in the text (map by Ç. Çilingiroğlu).

¹ The analysis was conducted with Bruker Tracer IV p-XRF. I would like to thank my colleague Dr. Rana Özbal for her help.

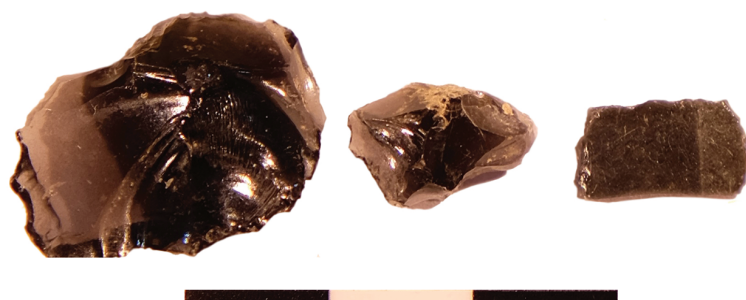


Fig. 7. Obsidian pieces from Kömür Burnu. Left and center: flakes on Göllüdağ obsidian; right: medial blade fragment on Melian obsidian (photo by G. Arcan).

On the other hand, the Göllüdağ examples are from two flakes (weight 2.01g and 0.43g), the heavier one displaying irregular retouch. Milić, who has worked on the differential character of exchange networks in Anatolian Neolithic, proposed that there were two different motivations and organisations behind the distribution of Melian and Central Anatolian obsidians. She suggests that the technological character of Melian obsidian in the eastern Aegean suggests a regular and highly organised exchange network that supplied communities with a highly demanded raw material in standard forms. It has been confirmed by the latest studies at Çukuriçi that Melian obsidian arrived in west Anatolia as prepared cores or as end products in the form of pressure-flaked blades with a high degree of standardisation (Milić, Horejs 2017). On the other hand, Central Anatolian obsidians are not only very rare in the assemblages, but also appear in the form of flakes and irregular pieces. Milić's (2016) interpretation is that demand for Central Anatolian obsidian was not economically motivated; instead, the shiny and translucent appearance of Göllüdağ obsidian (originating in this case from more than 800km away) had a symbolic and exotic value, as indicated by their tiny dimensions and irregular shapes, which could have had no economic/functional significance. The three pieces of obsidian we discovered at Kömür Burnu support the proposed dual model of obsidian mobility in western Anatolia during the Neolithic and present additional data for construing the differential nature of Neolithic networks.

Kömür Burnu as a production site during the Neolithic?

One of the features that make Kömür Burnu extraordinary is the presence of a basalt source at the site. Our fieldwork confirmed that this source was heavily exploited during the Lower Paleolithic (Çilingiroğlu et al. 2016; *in press*). However, various finds dis-

covered at the site seem to indicate that basalt continued to be exploited by the Neolithic group for the production of grindstones and stone bowls (Fig. 5.18–21). In fact, the presence of this source may even be one of the reasons why this place was first settled by farmer-herders. In addition, Karaburun also has a source of green serpentine which may have been directly acquired to produce polished axes such as the one demonstrated in Figure 5.17. During our work, we

found polished axes, grinding instruments, pestles and stone bowl fragments that could have been produced from these locally available raw materials. Although at this moment, we have no confirmation from chemical analyses; our macroscopic observations suggest the long-term continuity of basalt production at the site. Thus, we can only speculate that the group that settled here may have developed as some sort of a production locale for basalt and serpentine objects that were valued and in demand from neighbouring communities. These may even have been exchanged in return for obsidian that arrived to the site from long distances. This suggestion can act as a working hypothesis for future work at the site.

Conclusion

In this article, we aimed to present and discuss new data on Neolithic finds from the Karaburun Peninsula in order to contextualise these new finds in Aegean and Anatolian Neolithic studies. The random sampling and intensive survey strategies conducted at the site of Kömür Burnu produced the first data about early farmer-herder groups in this part of coastal west Turkey. Located on a south-oriented slope, the site possibly offered several advantages for a Neolithic community. The proximity of fresh water, the presence of basalt, availability of marine resources, as well as agricultural lands and timber must have played a significant role in the choice of this specific location. It is also highly likely that proximity to a natural cove may have made the site accessible by water, connecting the community to other Aegean and west Anatolian groups. The material culture from the site, especially the pottery, indicates a date around 6200–6000 cal BC. More importantly, technologically and typologically the ceramics produced by the community are very similar to ceramics found at contemporary sites. There is no indication that this site was founded by a group fo-

reign to the region. Other finds from Kömür Burnu, such as the basalt and serpentine objects, may indicate that the group took advantage of local raw material sources and produced various objects, perhaps exchanging them with other extra-local raw materials such as the obsidian.

The poor preservation of faunal remains and absence of botanical remains impede any understanding of Neolithic subsistence patterns. The presence of molluscs may indicate the exploitation of marine resources during the Neolithic as a coastal settlement, but it is difficult to date these remains precisely.

The obsidians from the site shed much valuable light on the involvement of the Kömür Burnu community in regional and long-distance exchange networks, as these originated from Melian (Aegean) and Göllüdağ (Central Anatolian) sources. This comprises the first evidence of the participation of Karaburun groups in Neolithic maritime and land exchange networks. The technological and morphological features of these samples confirm the dual mode of obsidian mobility in Neolithic Anatolia (Milić 2016).

Melian obsidian, which was valued economically, was brought to the site as prepared cores and/or pressure blades. Central Anatolian obsidian, on the other hand, had a symbolic value, as a shiny, translucent stone from distant lands, as it arrived in the region in extremely low quantities and as small irregular flakes.

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