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INITIAL OCCUPATION OF THE GELIBOLU PENINSULA AND THE GÖKÇEADA (IMBROZ) ISLAND IN THE PRE-NEOLITHIC AND EARLY NEOLITHIC

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Abstract

This article presents the results of recent surveys and excavations in the Turkish part of the North Aegean. The archaeological discoveries made on the island of Gökçeada (Imbroz) and on the adjacent Gallipoli Peninsula in the years since 1998 are shedding new light on the early prehistory of Turkish Thrace. For instance, the survey work at Üçdutlar on the Gallipoli Peninsula has recently produced reliable evidence that human groups frequented the site on a seasonal basis at several different times ranging from the Early Upper Paleolithic to the Epipalaeolithic. The early site called Eskino on Gökçeada has yielded chipped stone tools that date to the Middle Paleolithic and also the Epi-paleolithic. During the time of low sea level at the Last Glacial Maximum, the islands of Gökçeada, Samothrace, Limnos, Ayos Evstratious and Bozcaada were connected with one another and with the mainland as well. With the rapid rise in sea level between 20,000 and 7,000 years ago, all of these future islands began to form – at one time or another – and to separate from each other. The story of island formation is, of course, a complex and dynamic one. Major advances have been made in the last ten years but much work remains to be done on questions such as the rates of local tectonic activity on the respective islands. Thus, current knowledge of island formation at the head of the Aegean Sea is still at the first level of approximation. The excavations in progress at the site of Uğurlu on Gökçeada show that an early farming community had reached the island by around 6,500 cal BC. This settlement now plays a leading role in the study of the Neolithic transition in this part of the Mediterranean Sea as well as the circulation and exchange of material culture on the basis of voyaging in the Early Neolithic period.

Key words: Gökçeada (Imbroz), Gallipoli peninsula, Northeastern Aegean prehistory, prehistoric settlement patterns, Uğurlu, Üçdutlar, Epi-Palaeolithic, Neolithic, sea level change, Younger Dryas

INTRODUCTION

In the Mediterranean world, maritime prehistory is now a growing field of study together with research on human dispersals, the colonization of islands and exchange systems. In the Aegean region, the study of early seafaring traditionally focused on the question of the Neolithic colonization of islands (e.g., Cherry, 1990; Broodbank, 2006). Today the focus has widened to include voyaging in the time before the Neolithic period (Ammerman, 2010, 2011, 2013). For many years, it has been held that the Aegean Islands comprise important points of contact between the cultures of Anatolia and those of mainland Greece. For instance, the islands served as useful places of landfall for early voyagers, and they constituted accordingly an important part of the pathway for the spread of the Neolithic. Notwithstanding their apparent significance, the Aegean Islands and the west coast of Turkey somehow managed to remain outside of the main lines prehistoric investigation in Greece and Turkey for many years. Up until quite recently, they were still among the missing pieces in the puzzle for scholars studying the Neolithic transition in Europe. And this was even more so the case when it came to knowledge of what was happening on the Aegean Islands in the time before the Neolithic. In fact, it was only in the first decade of the present century that Greek archaeologists began to pay greater attention to the study of Epi-Plaolithic/Mesolithic sites on the Aegean Islands (Sampson, 2008; Sampson *et al.*, 2010; Efstratiou *et al.*, 2013 and 2014; see the contributions by Kaczanowska and Kozłowski, Sampson and Efstratiou in this issue). At the same time, new excavations at a number of Early Neolithic sites in the western part of the Turkey began to fill in the gaps there as well. In short, when it comes to the Early Neolithic period, we have recently witnessed major gains on many different fronts – architecture, subsistence, material culture, mortuary practices, ritual and social life – in Western Anatolia (see volumes 4 and 5 of The Neolithic in Turkey; Özdoğan *et al.*, 2012-2013). On the other hand, the southern part of Turkish Thrace is an area where little was known when it comes to the study of hunters and gatherers: Epi-palaeolithic sites going back to the time of the Younger Dryas were thought to be rare and hard to find. Selected parts of our area were surveyed in the 1980s, and it was at that time that several Neolithic mound sites first came to light on the Gallipoli Peninsula (Özdoğan, 1986:54, 57). Then, for the next two decades, attention turned away from fieldwork on the east coast of the Aegean Sea and the adjacent islands there. It was only in 1999 that the first field survey was begun by Harmankaya and Erdoğu (2001) on the island of Gökçeada, which led to the discovery of the mound site of Uğurlu. And next, in 2006, a more systematic approach was now taken to survey work on the Gallipoli Peninsula. This new cycle of work has turned out to be highly productive in both places – leading to the excavation of the Early Neolithic settlement of Uğurlu on the island (Erdoğu, 2013 and 2014) and the recent discovery of the pre-Neolithic site of Üçdutlar on the Peninsula (Özbek, 2012) and Eskino on the island. The main aim of our contribution to the proceedings of the Wenner Gren Workshop will be to offer an overview on what we have learned at these new sites.

THE GEOGRAPHICAL AND CLIMATOLOGICAL SETTING

If we go back to the time of the late Pleistocene, the environmental setting of our area was quite different than it is today. Major changes have taken place in terms of both geography and climate in the time between the Last Glacial Maximum (LGM), which is now dated to around 21,000 years ago (e.g., Lericolais *et al.*, 2011:46), and the boundary at the end of the Younger Dryas and the start of the Holocene, which is currently placed at ca. 9,600 cal BC on the basis of the deep ice cores made on Greenland (Alley, 2000; Rasmussen *et al.*, 2006). And environmental conditions then continued to evolution during the early part of the Holocene. For example, when sea level was 100 m lower at the time of the Older Dryas (ca. 17,000 to 16,000 years ago), the islands of Gökçeada, Bozcaada, Lemnos and Samothrace were all still connected with the mainland (Fig. 1). Only Ayios Evstratios had separated from the east coast of Turkey by this time (on the lower relief around this island, see Lykousis, 2009; for the older geological literature on the Aegean region, see Perissoratis and Conispoliatis, 2003). As we shall see in the next section, Gökçeada began to form as an island around 14,000 years ago, and its separation from the mainland involved a distance of only around 3 km at that time. By the time of the first occupation at Uğurlu on the island 8,500 years ago, when sea level stood approximately 18 to 12 m lower than it does today (see the bathymetry contour lines respective for 20 and 10 m in Fig. 2), the distance between Gökçeada and the mainland (at its closest point) was now on the order of 12 km. Finally, around 6,000 years ago, the geography of our area became fairly close to the one that we see today. In short, since the time of the LGM, the landscape of our area has witnessed a series of major changes. This chapter is not the place to attempt a long and comprehensive review of what is currently known about the nature of these changes (for previous literature on the question, see Özbek, 2012; on the study of the Dardanelles and the body of water known as the Marmara, see McHugh *et al.*, 2008). In keeping with the themes of island archaeology and early voyaging addressed at the Wenner Gren Workshop, the two main lines of environmental study that we plan to

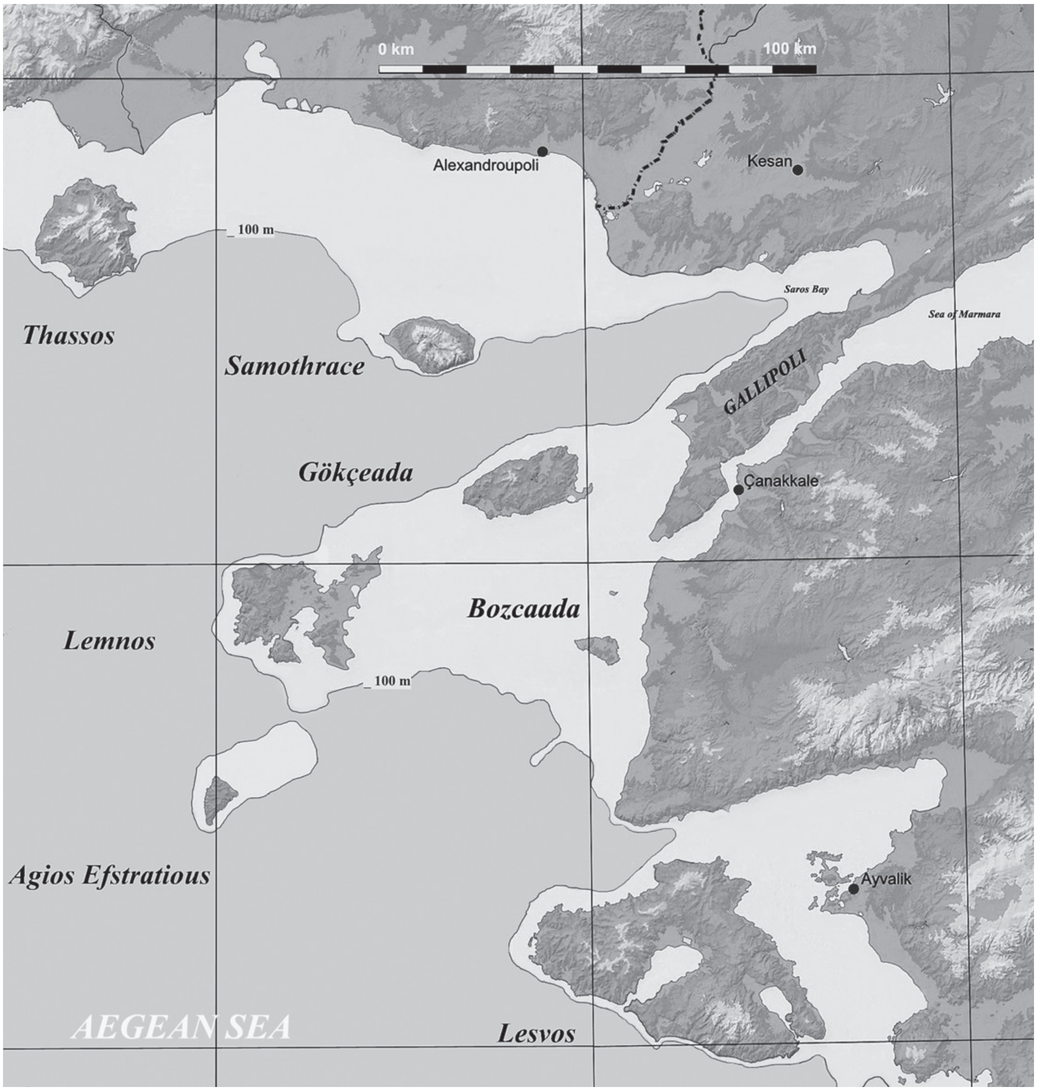


Fig. 1. Map showing the situation of the islands of Gökçeada, Bozcaada, Lemnos and Samothrace during Older Dryas when they were still connected to the mainland

focus on here will be bathymetry and the trends in sea-level rise during the late Pleistocene and early Holocene. They will be taken up and presented in the next section of this chapter.

By way of introduction, a few words should be said here about the basic framework of climate change as well (e.g., Perrot, 2002). There were, of course, cold conditions at the time of the Late Glacial Maximum, when glaciers covered much of Eastern Europe, and they continued to persist during the time of the Older Dryas (17,000 to 15,000 years ago) when the glaciers were beginning to melt and retreat. This was then followed by the somewhat warmer condition that obtained during the late glacial interstadial whose two phases are called the Bölling and the Alleröd (lasting approximately from 15,000 to 13,000 years ago), before another cold stadial, the Younger Dryas, returned for a span of about 1,200 years (that is, from ca. 12,800 to ca. 11,600

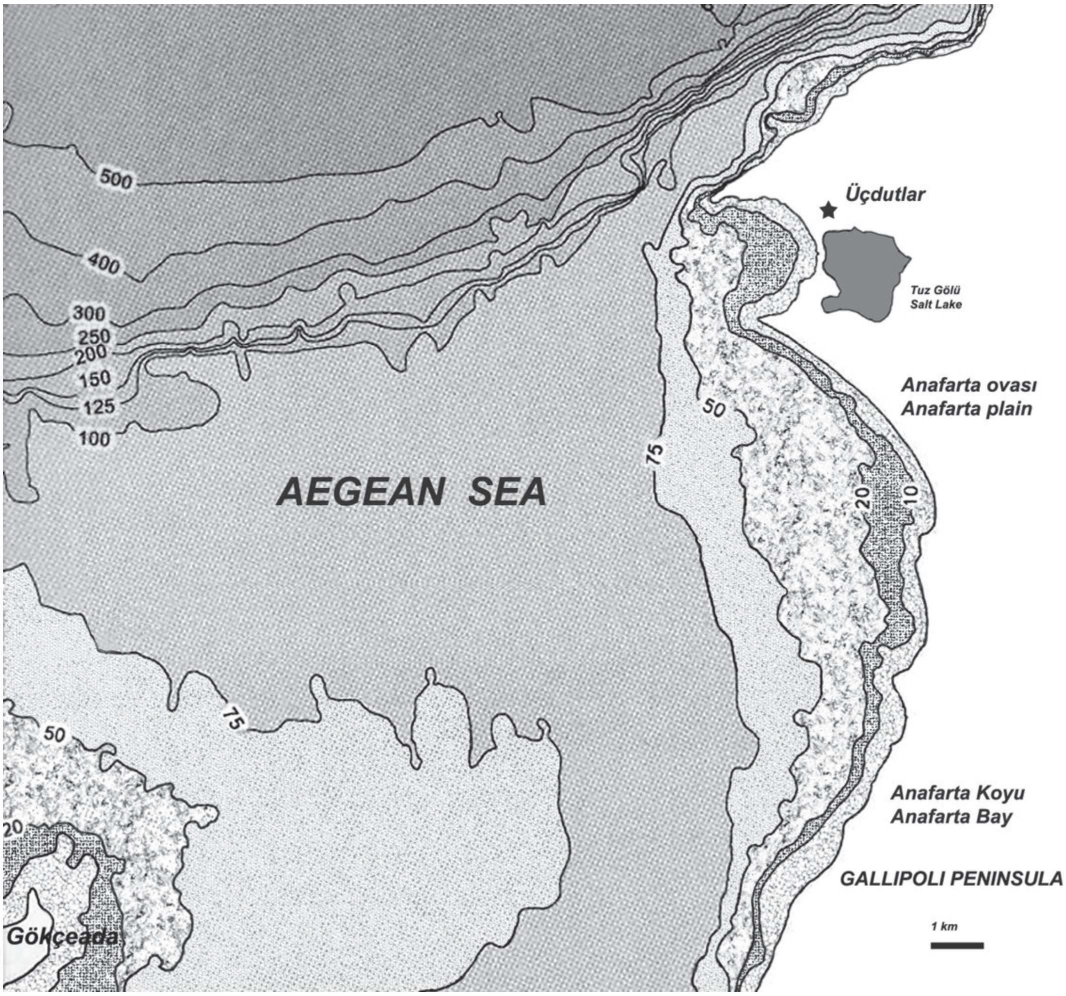


Fig. 2. An overview of the area north of Gökçeada. Today the distance between the island and the mainland is 25 km but during the first occupation of Ugurlu, this distance was about 12 km

years ago or ca. 10,800 to ca. 9,600 cal BC; for the work on making the deep cores in the Greenland ice sheet and on dating of this major event in the earth's climate history, see Alley, 2000; Rasmussen *et al.*, 2006). Next came the abrupt shift to the Holocene that brought warmer and wetter conditions to our area, and they have prevailed, for the most part, for the last 11,000 years. What is given here is simply a brief outline of the big picture of the earth's climate history as it is now well documented for the last 17,000 years by the deep cores drilled in Greenland ice sheet. In the Mediterranean world itself, the pattern of climate change is, of course, a more attenuated one than what is observed at the North Pole (on the evidence for climate change in the Levant, see Rosen, 2007; on short-term climate changes in the southern Aegean Sea over the last 48,000 years; Geraga *et al.*, 2005). Obviously, much more research on the topic of climate change – with a specific focus on the area of the Northern Aegean – remains to be done in the years to come. Indeed, earth scientists in many parts of the Mediterranean have just begun to scratch the surface of this important topic.

SEA LEVEL TRENDS AND ISLAND FORMATION IN THE CASE OF GÖKÇEADA

In the study of island archaeology in the Northern Aegean, there are three basic questions that we need to keep in mind. First, when did Gökçeada begin to separate from the mainland and become an island? Secondly, once the island began to form, how far was it across the sea to the mainland? And how did this distance then change over the course of time? Thirdly, how far from the shoreline was a given early site on Gökçeada at the time when it was frequented or occupied? In order to answer these questions, there are two main lines of evidence that we have to consider as mentioned before: the bathymetry of the area around the island and the curve for sea-level rise in this part of the Mediterranean. In the former case, charts are available that give a fairly good record of bathymetry for our present purposes (see Figures 1 through 4). When it comes to local trends in sea-level rise over the last 20,000 years, the best curve that is currently available is the one for the nearby Dardanelles put forward by Lambeck and co-authors (2007:fig. 4B). There is the good fortune here that the curve for the Dardanelles sill occurs at essentially the same latitude as the island of Gökçeada and the Gelibolu Peninsula (that is, just above 40° N latitude), which means that they once had essentially the same distance from the glaciers to the north. In fact, the three places – and the island of Lemnos as well – are all located within a distance of 120 km of one another. Lambeck's curve for the Dardanelles is actually a new local version of the sea-level curves that he has previously proposed for four other locations in the Mediterranean Sea (Lambeck *et al.*, 2007:fig. 3A-D; Lambeck and Purcell, 2005:fig. 9a-d; they are respectively the Carmel Coast of Israel, the Peloponnese in Greece, the Versilia Plain of Northern Italy and the Mediterranean Coast of France; note that they all have latitudes that are different than at the one for the sill of the Dardanelles at Cape Nara Burun). On the positive side, the four locations are considered to be comparatively stable in terms of tectonic activity (in recent geological time), and observed data points are available in all four locations so there is the opportunity to compare observed sea-level values with the ones predicted by Lambeck's model.

For the archaeologist, the theory of glacio-hydro-isostasy that stands behind Lambeck's model and also its mathematical formulation are matters of some complexity. They are reviewed in Lambeck and Purcell (2005:1970-1976). What is called for is some background in geophysics in order to comprehend the treatments of the respective factors contributing to sea level change as time unfolds. At the most basic level, it can be summarized in the following words (Lambeck and Purcell, 2005:1969): "A principal process contributing to sea-level change on glacial time scales is the exchange of water between the continental ice sheets and the oceans, upon which may be superimposed vertical land movements driven by active tectonic processes. The growth and decay of ice sheets change the ocean volume, deform the ocean basins and their margins, and modify the gravitational field, or geoid, of the planet. All three effects modify sea levels." Lambeck and his co-authors have been working on the question of sea-level change in the Mediterranean Sea for the last two decades. Their curves have become more refined over the years, and they now provide good first approximations for the four locations mentioned above as well as the Dardanelles.

There is a further complication that the archaeologist encounters in reading the articles and chapters on sea-level change in the Mediterranean that have come out in the last ten years. It comes to light if one looks more closely at the figures in the two articles by Lambeck and co-workers. Specifically, it concerns the representation of time. In the older article (e.g., Lambeck and Purcell, 2005:fig. 9), the time line of the curve (the horizontal axis) is given in uncalibrated years before the present (uncal BP). For many years, this was the conventional way for the earth scientist to cite 14C dates in publications on the Pleistocene. In contrast, the time axis is now given in calibrated years before present (cal BP) in the figures that appear in the second article (Lambeck *et al.*, 2007). Thus, there is a major shift in the treatment of time from one article to the next (on the important developments that were taking place just at this time in the calibration of radiocarbon date, see Bronk-Ramsey *et al.*, 2006). Unless one is aware of this shift, it is quite easy to misread what is being said in the literature. The move to an absolute chronology on Lambeck's part should be seen as a positive step. It brings his curves of relative sea-level in line with the history of earth's climate change as it is now documented by the deep cores in the Greenland ice sheet (that is, a record obtained by counting annual layers of ice for the last 17,000 years; on the high level of chronological resolution obtained in this way, see Rasmussen *et al.*, 2006). Moreover, the use of calibrated ages is consonant with archaeological practice today. In the chronological tables that appear at the end of each volume of The Neolithic in Turkey (Özdoğan *et al.*, 2011-2013), the age of a site is given now in terms of years cal BC. Accordingly, in this chapter, when we speak of a sea level at 14,000 years ago, this means 14,000 years cal BP. In turn, such a date would correspond with ca. 12,000 uncalibrated BP years (or with ca. 12,000 cal BC; for a chronological table that shows the relationships between these three ways of expressing time, see Davis, 2013:fig. 2).

If one compares the four curves for sea-level rise mentioned above (Lambeck *et al.*, 2007:fig. 2), three of them – those for the Pelopennese, the Versilia Plain and the Mediterranean Coast of France – are quite similar to one another over the last 15,000 years. The curve that differs the most from the other three is the one for the Carmel Coast, which is understandable given its southern location (close to 33 N latitude; for more on the Versilia Plain, see Lambeck *et al.*, 2004). When it comes to comparing the predicted values and the observed values at each of the four locations (Lambeck *et al.*, 2007:fig. 3), it is worth noting that most of the observed data points come from the last 10,000 years. What we see in all four curves is a modest degree of sea-level rise during the last 7,000 years (that is, a fairly flat curve showing only a few meters of rise) and then a steeper curve as we move back further in time. The predicted curve for the Dardanelles (Lambeck *et al.*, 2007:fig. 4B) has much the same basic shape as the curves for the Peloponenese, the Versilia Plain and the French Mediterranean Coast. At the time when the Dardanelles curve was first put forward, there were no observed data points in our area that could be used as a means of control for the flatter part of the curve (the last 7,000 years). More recently, cores made in the Alyki Lagoon on the east coast of Lemnos have produced the observations that are called for (Pavlopoulos *et al.*, 2013:fig. 10). Without going into the details of the Alyki study here, the data yield a curve for the time from ca. 7,000 years cal BP to the present day, which is in good agreement of with the values predicted by Lambeck's model. Thus, there is now empirical support for this part of the local curve for the Dardanelles. And this is good news for those of us who are trying to study island archaeology in the case of Gökçeada/Imbroz and Lemnos as well. One of the implications of the results published by Pavlopoulos and co-authors is that, in recent times, the east coast of Lemnos has been relatively stable in terms of tectonics (see also Vacchi, 2014:fig. 2B). Furthermore, a new geological study of the Marmara "lake" and the sill of the Dardanelles, which occurs at 82 m below sea level today, gives much the same time for the observed incursion of Mediterranean waters there (based on the appearance fauna and flora associated with the Mediterranean Sea) as the time predicted by Lambeck's model. They are respectively ca. 14,000 years cal BP (McHugh *et al.*, 2008:76, note that the authors are still using uncalibrated ages BP in their article) and the time between 15,000 and 13,700 years cal BP (Lambeck *et al.*, 2007:805).

Another control point to consider is provided by the Bosphorus sill (standing at 32 m below sea level today), where his curve predicts that the Mediterranean Sea reached this height there for the first time since the Late Glacial Maximum between 10,300 and 9,500 years cal BP (Lambeck *et al.*, 2007:fig. 4B). In the literature, there is, of course, active and on-going debate between scholars in Eastern Europe and those in the west on the question and the age of the Black Sea flood (e.g., Yanko-Hombach *et al.*, 2007; Ryan *et al.*, 2003; Martin *et al.*, 2007; Lericolais *et al.*, 2011; Martin and Yanko-Hombach, 2011). While most scholars today agree, in broad terms, on dating the incursion of Mediterranean waters in the Black Sea to the transition from the Pleistocene to the Holocene, the specific times put forward for this event range from ca. 10,900 years cal BP (Yanko-Hombach, 2007:150) to ca. 9,500 years cal BP (the modified flood hypothesis of Ryan and Pitman). While these two dates are fairly close to the time of the Mediterranean incursion predicted by Lambeck's model (that is, between 10,300 and 9,500 years cal BP), they differ by 1,400 years from one another. Further work in the region is in progress, and it should help to clarify the matter. If the question is resolved in favor of the position taken by Ryan and Pitman, then Lambeck's local curve for the Dardenelles will have three lines of evidence in its support: Alyki for its more recent part, the Dardenelles sill for its earlier part and the nearby Bosporus sill for its middle part.

In any event, the curve for the Dardanelles provides the best first approximation that we have to work with at the present time. At this point, it is of interest to outline the main sequence of developments in our area. Starting at the time of the LGM (around 21,000 years ago), sea level once stood in a position about 120 m lower than it does today. Figure 1 shows the configuration of the land when the sea had risen locally to a height of 100 m below its present level. This would correspond with an age of approximately 17,000 to 16,000 years ago. The future islands of Gökçeada and Lemnos, as mentioned before, were still attached to the mainland. Indeed, there were almost no islands at the head of the Northern Aegean for a hunter-gatherer at that time to go out to. In other words, the time when this part of the Aegean would become a "nursery" for early attempts at going to sea had yet to come. It is worth recalling at this point that, while lithics of Middle Palaeolithic age have been found on both Gökçeada and Lemnos, this does not necessarily mean that those living at the time had to go to sea in order to reach these places. There were times in the Middle Palaeolithic when sea level was equally low (that is, much like the situation shown in Fig. 1) and the two future islands could have been reached on foot. On the basis of Lambeck's local curve for the Dardenelles, it is possible to estimate the time when the island of Gökçeada began to separate from the mainland (using the 75 m contour lines for bathymetry in Fig. 2) to about 14,000 years ago: that is, ca. 12,000 cal BC. At that time, the distance between the mainland and the island (at its nearest point) was only about 3 km. In short, hunter-gatherers living on the mainland could easily reach the new island

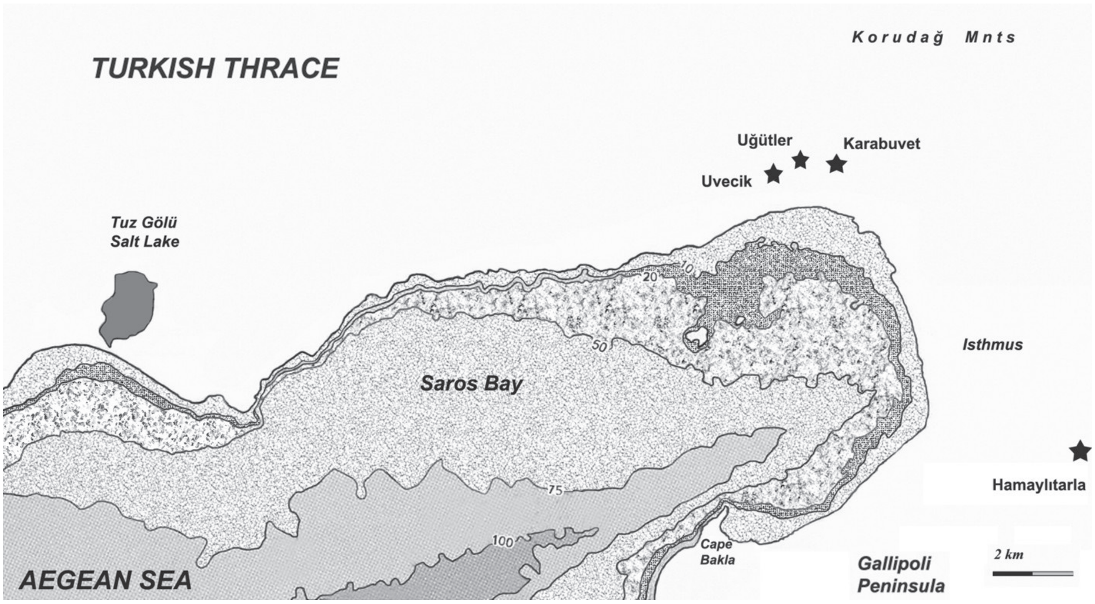


Fig. 3. Map showing newly discovered prehistoric settlements at the north eastern end of the Aegean Sea: the Saros Bay. The bathymetrical features indicate that the shore line was a couple of kms away from these sites during the Neolithic period

by crossing narrow coastal waters. It is perhaps worth adding here that the site of Üçdutlar on the Gallipoli Peninsula would have once stood at a distance of 2 to 3 km from the shoreline of the Saros Bay at about the same time (see Figs. 2 and 3; tectonics are more of an issue here than in the case of Lemmnos, since one is close to the North Anatolain Trough; Vacchi *et al.*, 2014:fig. 1). Then over time, the distance between Gökçeada and the mainland gradually increased as sea level continued to rise at the end of the Pleistocene. In contrast, Gökçeada and Lemnos were still connected with each other 14,000 years ago. In effect, they formed one large island at that time. The initial step in their separation can be worked out on the basis the 50 m contour lines for bathymetry shown in Fig. 4. When the level of the sea stood below this depth, Lemnos was linked with Gökçeada by a narrow isthmus. When sea level rose above this elevation, there was the submergence of the isthmus. On the basis of the Dardanelles curve, the time when this began to take place was between 13,000 and 12,000 years ago (that is, during the course of the 11th millennium cal BC). Here it is worth adding that the chipped stone assemblage recovered at the open-air site of Ouriakos on Lemnos is attributed to this time. The campsite has also produced a radiocarbon date that falls in the second half of this millennium (Efstratiou *et al.*, 2013 and 2014). And Ouriakos, at that time, would have been located at a distance of about 2 km from the shoreline on the east coast of Lemnos. As the two islands began to form, the distance between them was still a rather modest one 12,000 years ago. In other words, going to sea for those who camped at Ouriakos may have involved only short trips in coastal water (see Ammerman, 2013:29). In order

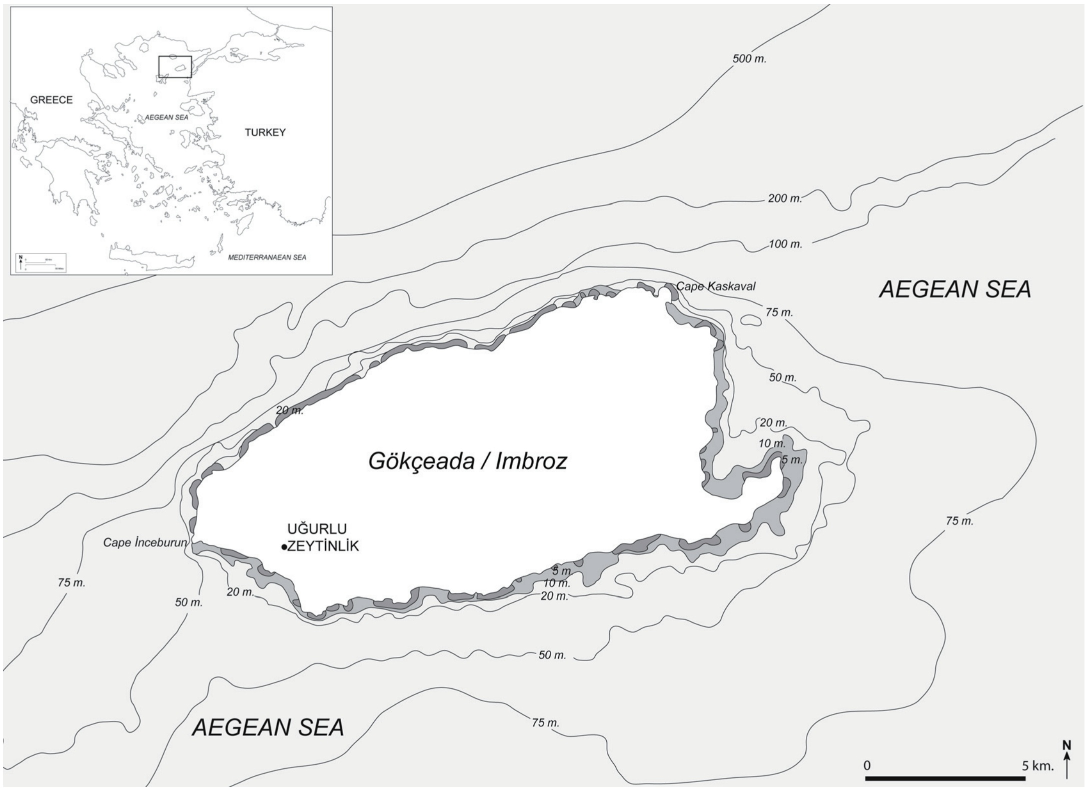


Fig. 4. Bathymetric map of Gökçeada showing the location of Uğurlu. The bathymetry is adapted and simplified from the unpublished Turkish Navy data, Admiralty charts and Google Earth data. Below sea level, the bathymetric contours are with different intervals beginning from 5 meters

to obtain a more refined picture of the formation of the two islands, what is needed is the mapping of the bathymetry of the area between Gökçeada and Lemnos in greater detail.

By 8,500 years ago, the time of the initial occupation of Uğurlu, the distance between Gökçeada and the mainland, as mentioned before, had now increased to around 12 km. The sea level in our area to attribute to this time (ca. 6,500 cal BC) is in the range of 18 m to 12 m below sea level today. This means that there was a distance of about 2 km between Uğurlu and the shoreline on the west side of Gökçeada at that time (see Fig. 4). If the archaeologist is interested in exploring the place where voyagers landed their boats on the island when they went out to visit the early Neolithic settlement, the fieldwork will have to be done in a submerged context: that is, at depths ranging between 12 and 18 m below sea level today and at distances of less than 1 km from the present shoreline. In short, such an investigation is entirely feasible in terms of the methods of submerged prehistory that are commonly in use today (Benjamin *et al.*, 2011; Ammerman *et al.,* 2011).

PRE-NEOLITHIC SITES IN THE NORTHEASTERN AEGEAN

Up until quite recently, there was a shortage of sites dating to the Epi-paleolithic and Palaeolithic periods in this part of the Aegean. It was for years an area where comparatively little interest was taken in the investigation of those who lived by means of hunting and gathering. In the 1980s, the pioneering surveys carried out in the 1980s by Özdoğan (1986, 1997) brought to light a number of Neolithic, Chalcolithic and Bronze Age sites on the Gallipoli Peninsula. There was also the brief mention of two candidates for pre-Neolithic sites: Değirmenlik and Ören. The former was located on the coast of the Marmara, and the latter came to light at a distance of about 5 km from the Aegean coast. Both of the sites were considered to be Epi-paleolithic in age but the chipped stone artifacts themselves were not published. Then, in the late 1990s, the fieldwork shifted to the island of Gökçeada where Harmankaya and Erdoğu (2001) carried out a survey that produced results of major interest. It led to the discovery of several Neolithic sites, including Uğurlu, and to the recognition of several lithic scatters that appeared to go back to the Middle Palaeolithic (among them was the site of Eskino; its age has been confirmed by more recent visits to the site). There is also the possibility that some of the lithics seen on the landscape might date to the Upper Palaeolithic – a preliminary interpretation that calls for further study. There was also the discovery of an outcrop of high-quality chalcedony on the island, which was exploited in prehistoric times.

In the first decade of the present century, attention returned to the Gallipoli Peninsula where Özbek (2009a) began a new cycle of survey work. The fieldwork was conducted in the years from 2006 through 2011. One of the aims of the survey was to find the sources of various lithic materials that were exploited by those living on the Peninsula in prehistoric times and that, in some cases, also reached the early sites recently found on the adjacent island of Gökçeada. A good example here concerns the source of the polished stone axes made of nephrite, which are found at Neolithic sites on the Peninsula and also Uğurlu on Gökçeada. The source of the neprite has been traced to the western outcrops of the Ganos Mountain on the Gallipoli Peninsula. A workshop where the axes were produced has been found near the source (Özbek, 2000; Özbek and Erol, 2001; Özbek, 2009b). Another aim of the survey was to locate the missing pre-Neolithic sites on the Gallipoli Peninsula. As a first step in this direction, an attempt was made in 2006 to revisit the sites of Değirmenlik and Ören, which Özdoğan (1986, 1997), as mentioned above, had found some 20 years before. Unfortunately, not even a single piece of chipped stone was found at either site (Özbek, 2012). In all likelihood, the two sites had been destroyed either by highway construction or else by new agricultural practices on the landscape in recent years. Furthermore, the survey work that we carried out on the Peninsula in the years between 2006 and 2010 did not lead to the clear identification of a site dating to the Epi-palaeolithic period. This was, of course, a matter of considerable frustration for us. Thus, there remain a scarcity of good evidence for Epi-palaeolithic sites on the Gallipoli Peninsula and on the island of Gökçeada even as late as 2010.

The turning point came in June of 2011, when the two authors of this chapter made a visit to the excavation at Ouriakos, an Epi-palaeolithic site located on the east coast of the nearby island of Lemnos (Efstratiou *et al.*, 2013; this issue). This now gave us a new clue on where to look for pre-Neolithic sites on the landscape in the northeastern Aegean. It will be recalled that Albert Ammerman had inadvertently discovered Ouriakos in July of 2006, when he was doing fieldwork on the environmental context of the Sanctuary of the Great Gods on the island of Samothrace (Fig. 1). He had gone over to the adjacent island of Lemnos to compare the setting of the Sanctuary of the Great Gods there with the one on Samothrace. In the summer of 2008, Nikos Efstratiou made the first small trial excavation at Ourkiakos (on the results of the five excavation seasons, which produced an exceptionally large number of chipped stone tools as well as a 14C date that goes back to the 11th millennium cal BC, see Efstratiou in this issue). Over the next few years, the work on the east coast of Lemnos also led to the identification of scatters of lithics that date to the Upper Palaeolithic (more specifically the Epi-Gravettian) and to the Middle Palaeolithic. In light of what we learned on Lemnos, we now took a new approach to the Gallipoli survey and concentrated on covering a 500 m wide band along the coast in the autumn of 2011. Fieldwork at Saros Bay soon led to the discovery of the site called Üçdutlar (Figs 5 and 6; Özbek, 2012). The surface collections made at Üçdutlar, an open-air site covering an area of ca. 2.25 hectares, yielded close a thousand pieces of chipped stone. To our surprise, in contrast with the other prehistoric sites previously found by our fieldwork on the Gallipoli Peninsula, not a single piece of prehistoric pottery was observed on the site's surface. One of the first observations that we made at the site was that many of its lithics were microlithic in size. Taking a closer look at the lithic material, it was possible to see that while many of chipped stone tools had a single function there were also some with patterns of retouch indicating multiple functions. At the same time, we were able to collect a fair number of marine shells in different places on the surface of the

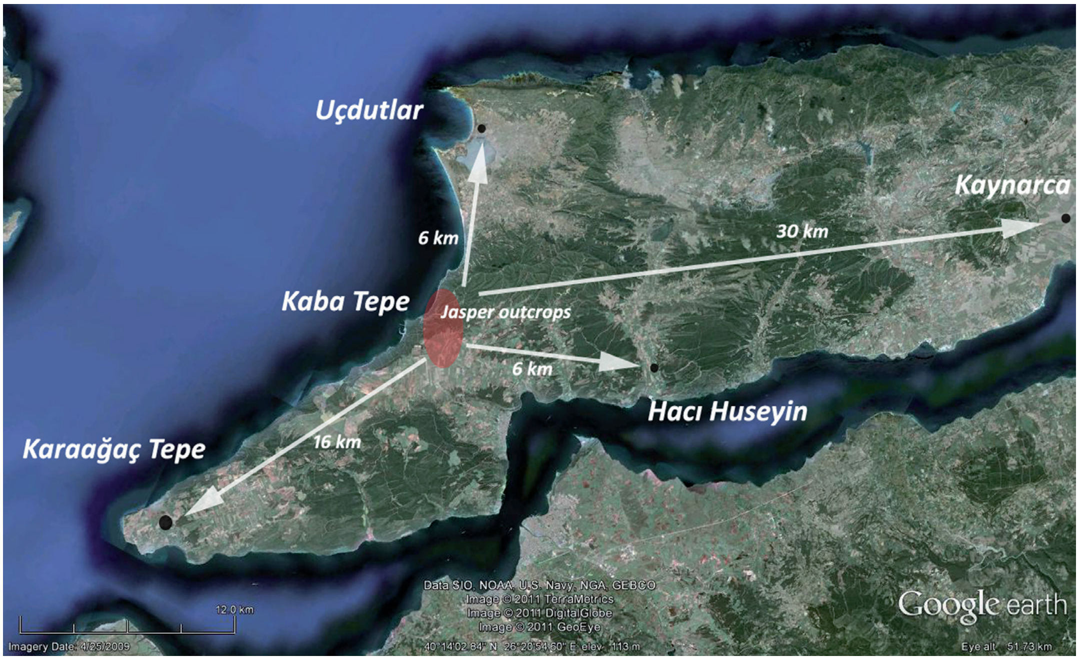


Fig. 5. Satellite view showing the location of Kaba Tepe raw material sources and its distances to different prehistoric sites on the peninsula: Karaagaç Tepe, Hacı Hüseyin, Kaynarca and Üçdutlar. (Özbek 2012, fig.10)

Fig. 6. Satellite view showing the location of prehistoric sites from Neolithic to Chalcolithic periods on the Gallipoli peninsula: The prehistoric sites Üçdutlar, Hacıhüseyin, Pırnal, Yeniçeşme, Karabüvet, Üvecik, and Keltepe are discovered during the latest prehistoric surveys

site (Özbek, 2012). In short, the new approach to survey coverage now produced the pre-Neolithic site that we had been trying to find in the area for many years.

Preliminary Study of the Lithic Material at Üçdutlar

The chipped stone pieces recovered at Üçdutlar are made mainly from two different raw materials: (1) white-milky chalcedony pebbles and (2) multi-colored jasper pebbles. The chipped stone pieces in the former case are of considerable interest since we have not previously seen this white-milky chalcedony during the survey work on the Gallipoli Peninsula. While the white chalcedony is fine-grained and homogenous, it, no doubt, occurred in the form of pebbles and small cobbles, and this, in turn, placed clear limits on the size of the chipped stone tools that could be produced from this raw material. Systematic reconnaissance work over the last three years has shown that the closest geological source of the chalcedony pebbles occurs near Kabatepe: that is, 6 to 7 km to the southeast of the site (Fig. 5; Özbek, 2012). As far as preliminary observations are concerned, what one is dealing with is, for the most part, a flake-based reduction technology. In terms of typology, the material can be classified as sidescrapers, endscrapers, denticulated and notched tools, nosed-carinated pieces (endscrapers), retouched pieces, truncations, pieces with abrupt retouch, multiple tools, tool fragments, splintered pieces and cores (Figs. 7-12) (Özbek, 2012).

On the basis of what we learned about technology and typology, it is possible to recognize four different periods or lithic traditions at Üçdutlar: (1) the Middle Paleolithic, (2) the early Upper Paleolithic (namely Aurignacian), (3) the Epi-paleolithic and (4) the Neolithic. A fair number of the tools can be attributed to the so-called Denticulate Mousterian – one of the lithic traditions of the Middle Palaeolithic. There are also some tools of small size that may belong to what is sometimes called an a-typical Mousterian. Part of the reason for their small size of the tools may be connected with the size and poor quality of the jasper pebbles. So far no lithics in the Levallois tradition have come to light at the site. What is striking in the case of the Middle

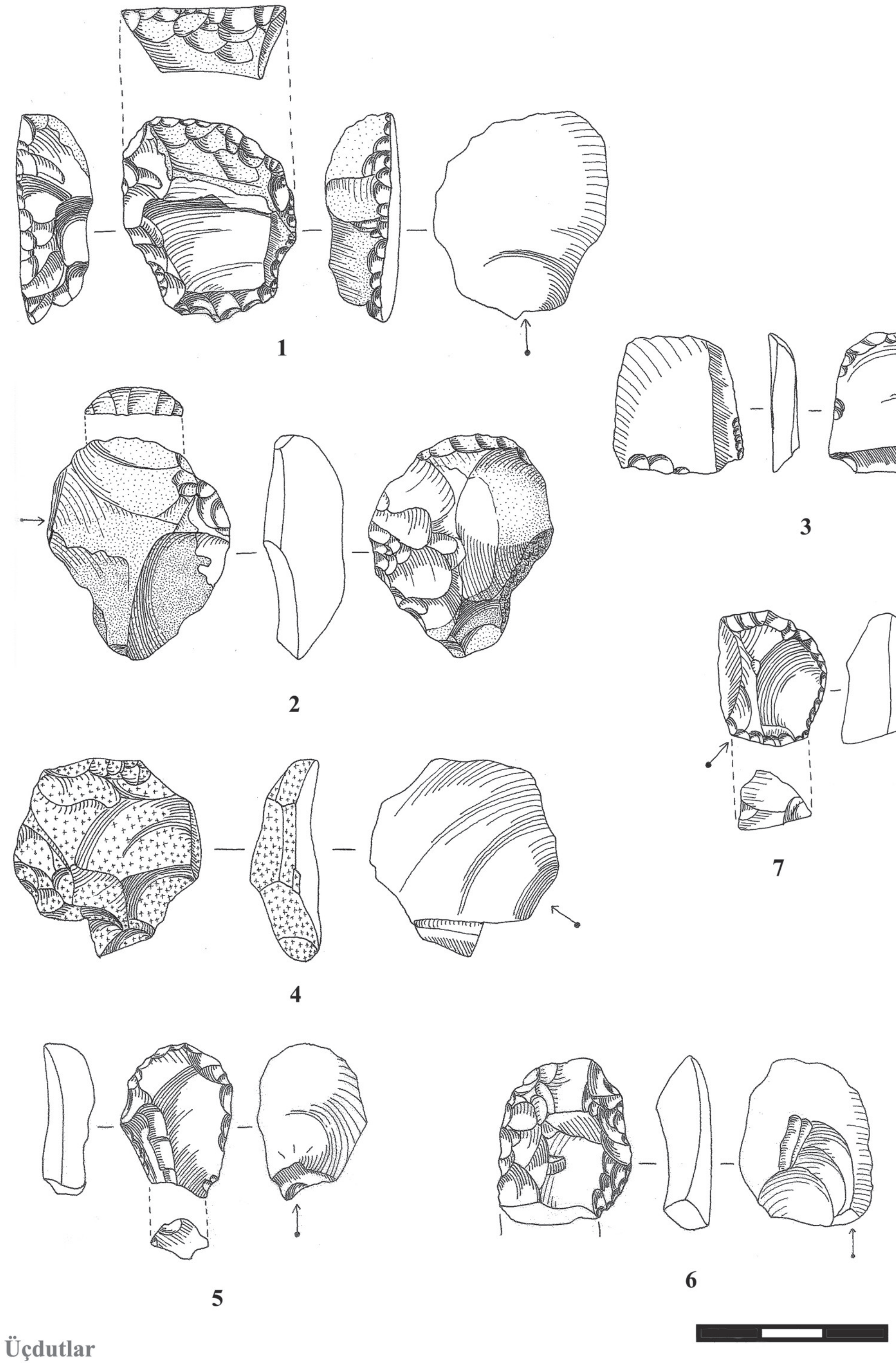


Fig. 7. Chipped stone tools from Üçdutlar: double end-scrapers (1-3, 6,7), end-scrapers (4,5) (Drawings: Kerem Demir)

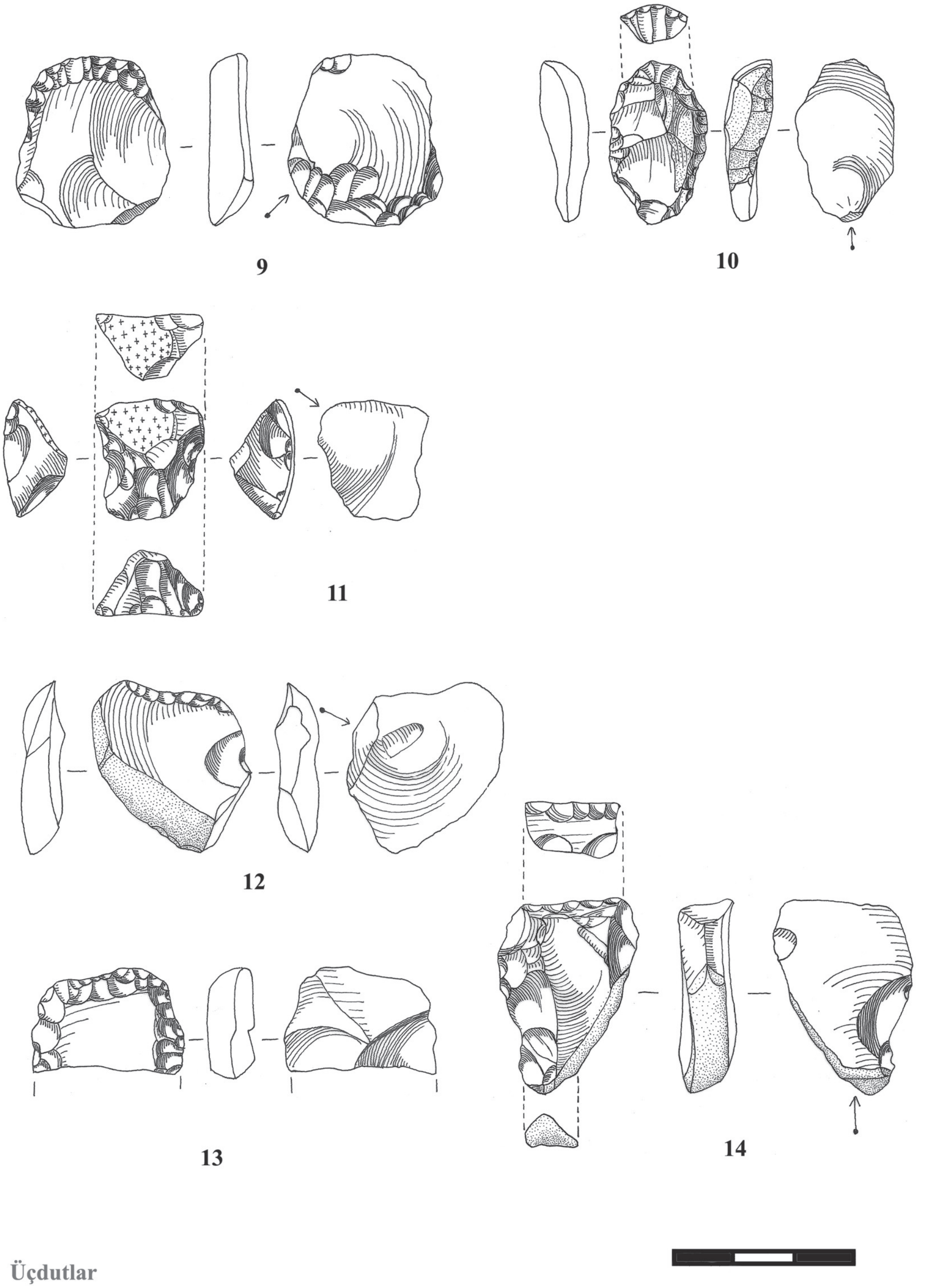


Fig. 8. Chipped stone tools from Üçdutlar: end-scraper (9), end-scrapers with lateral retouches (10,11,13,14), retouched flake (12) (Drawings: Kerem Demir)

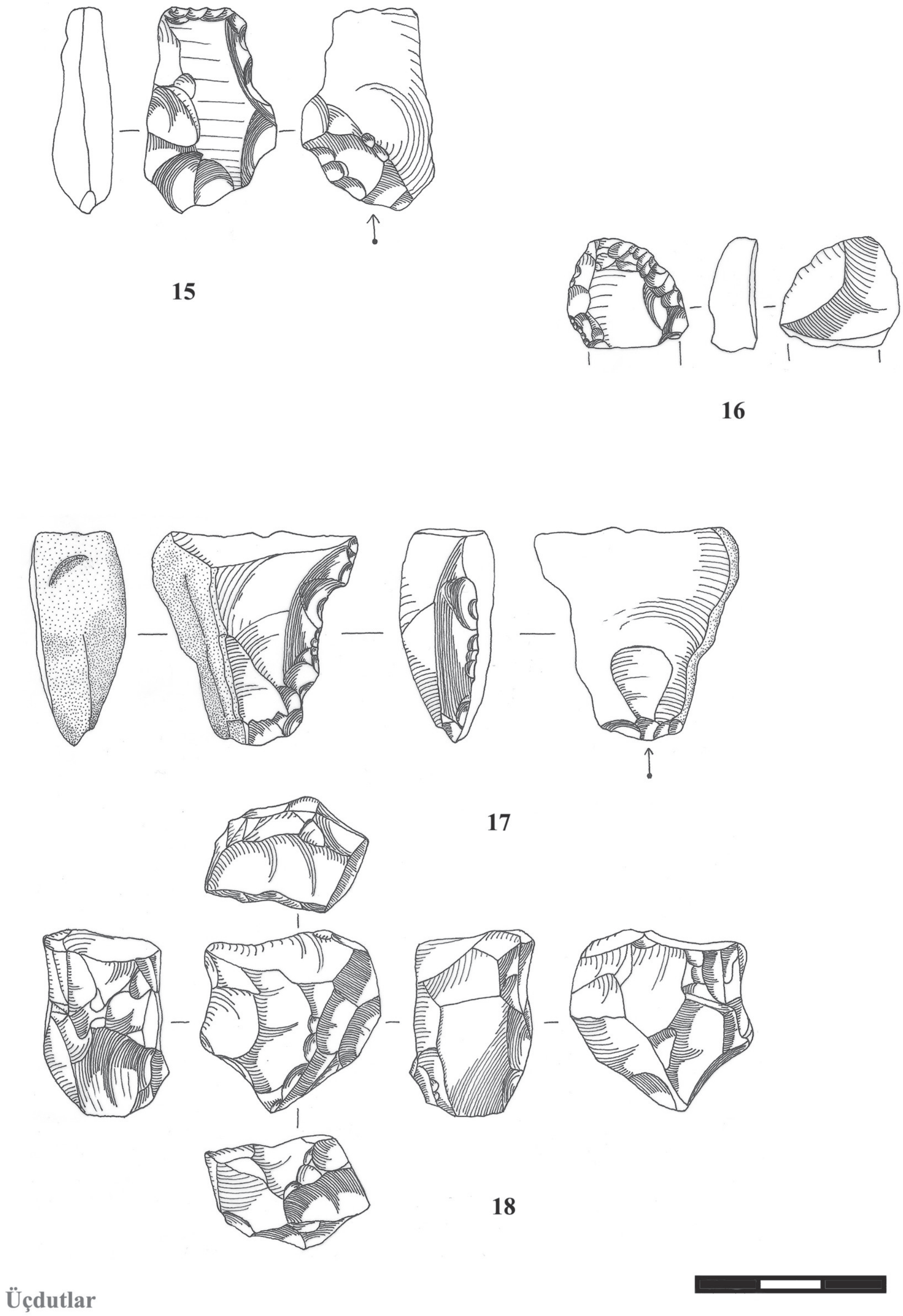
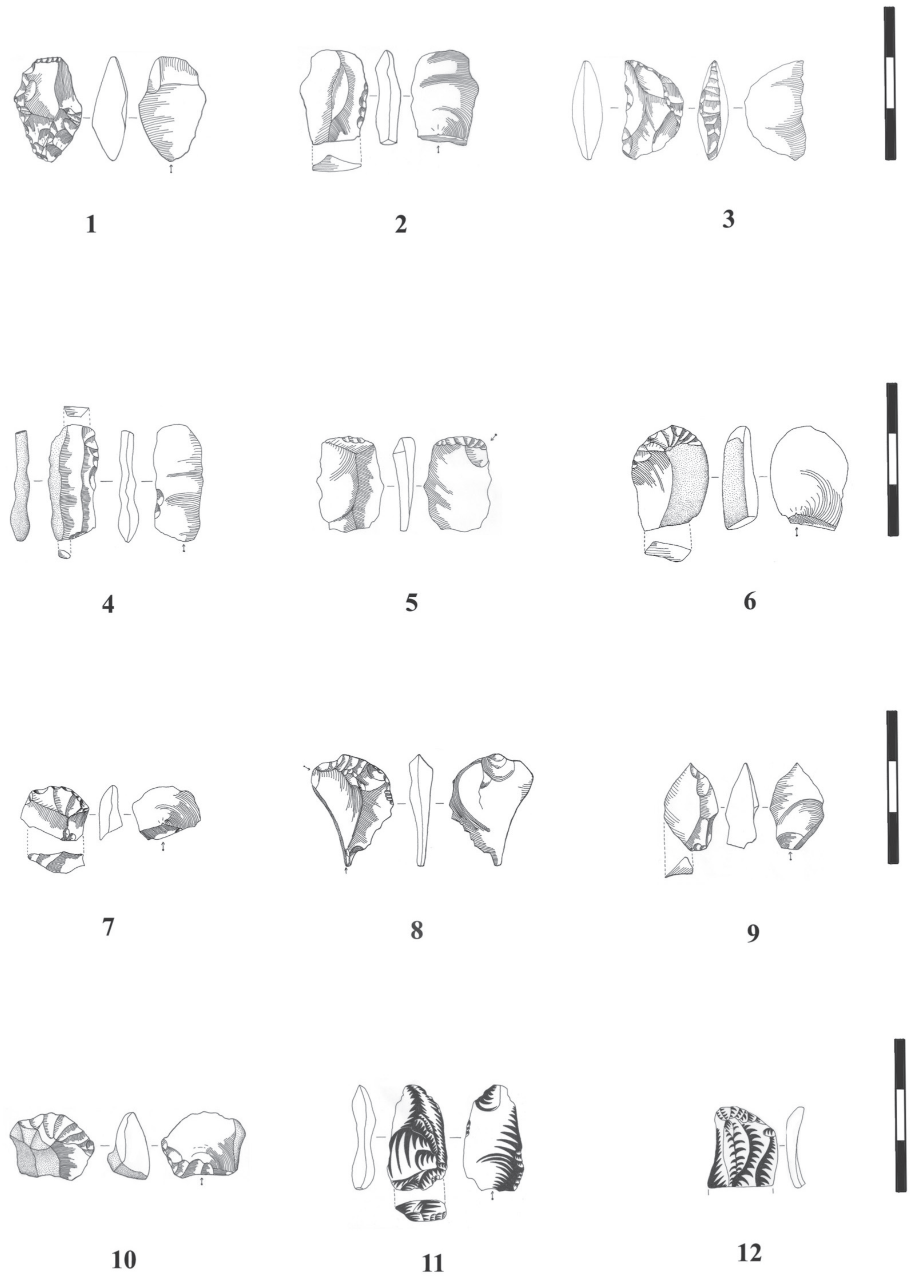


Fig. 9. Chipped stone tools from Üçdutlar: convergent and lateral side-scrapers (15,17), round end-scraper (16), core (18) (Drawings: Kerem Demir)



Üçdutlar

Fig. 10. Chipped stone tools from Üçdutlar: microlithic end-scrapers (1,2, 6-8, 10,12), microlithic lunate (3), retouched bladelets (4,5), micro-truncation (11), splinter (9) (Drawings: Kerem Demir)

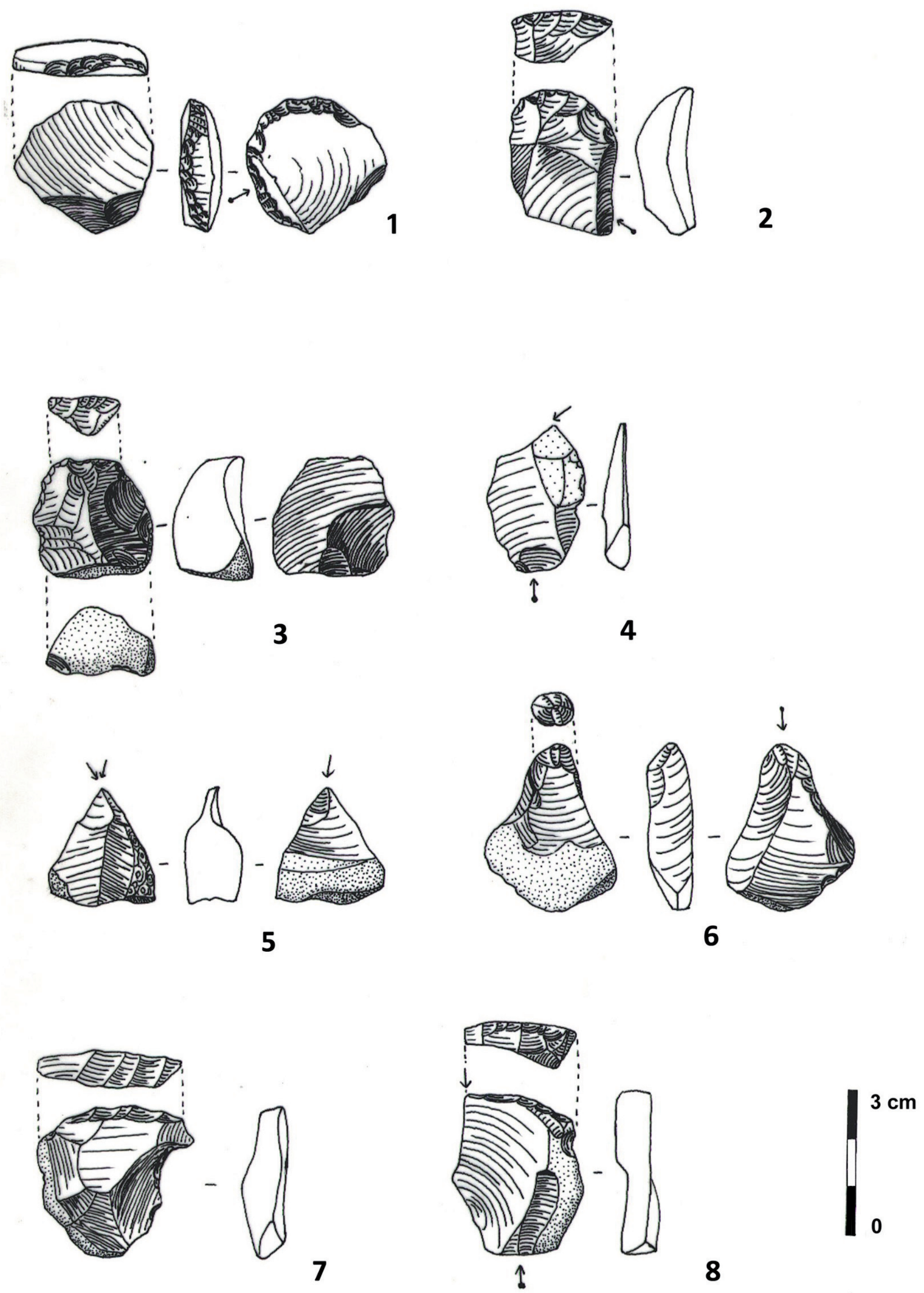


Fig. 11. Chipped stone tools from Üçdutlar: end scrapers on flake (1-3), burins (4, 5), nosed end scrapers or grattoir a museau (6), truncated pieces (7, 8) (Özbek, 2012, fig 12)

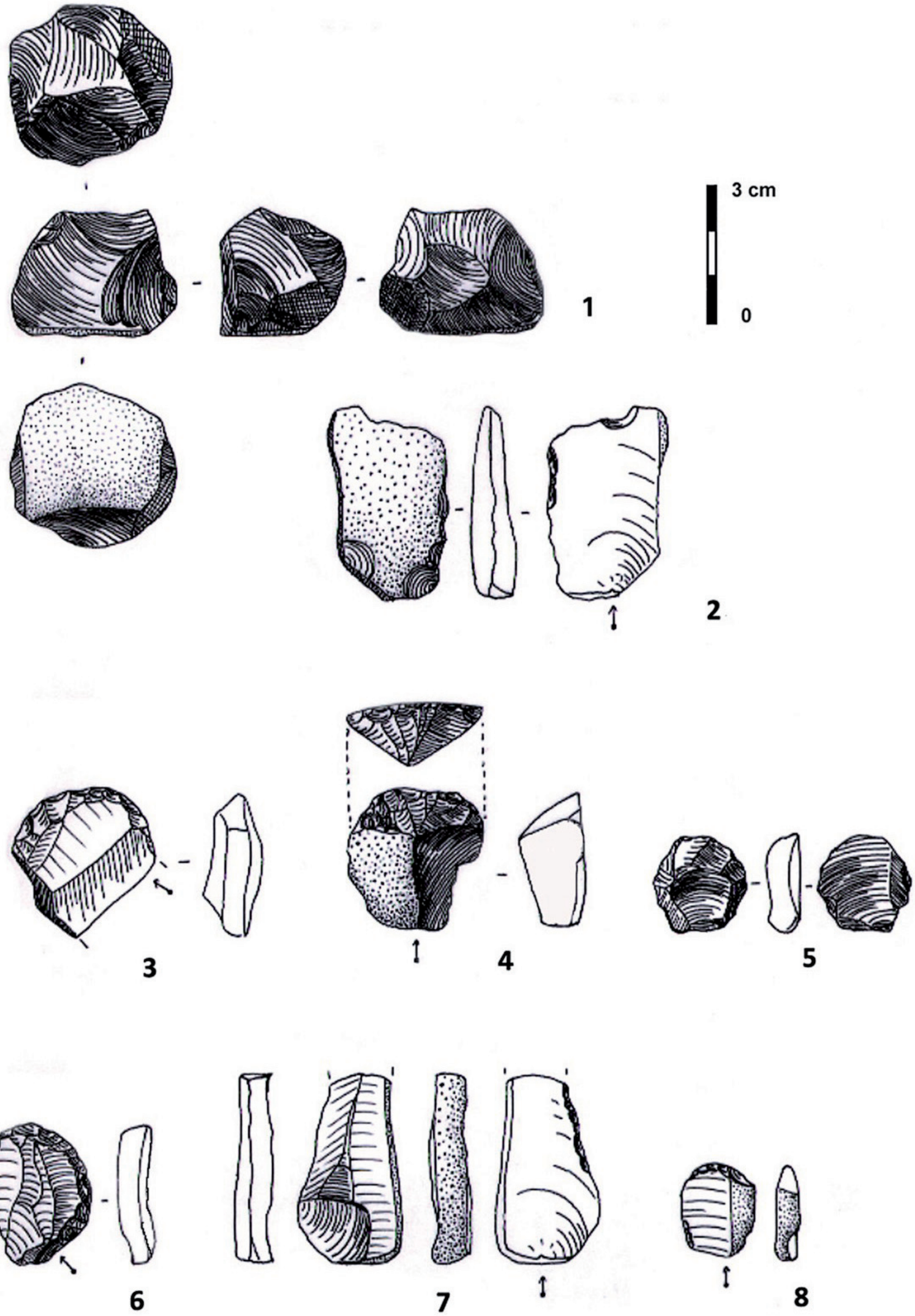


Fig. 12. Chipped stone tools from Üçdutlar: core (1), retouched flake (2), end scrapers on flakes (3–5, 8), side scrapers (6,7) (Özbek, 2012, fig 13)

Palaeolithic material recovered at Üçdutlar is the limited number of flakes that have any real size (macro flakes).

With regard to the lithics attributed to the Upper Palaeolithic, the most numerous tools are endscrapers. The raw material used for making them commonly comes from the local sources of jasper pebbles. Burins and truncated pieces were also recovered at the site. In addition, there are several cores of small size (2 to 4 cm long), indicating economy and possibly reuse in the exploitation of the raw materials. For all of the periods recognized at Üçdutlar, the nature of the raw material (as mentioned before, chalcedony and jasper in the form of pebbles and small cobbles) seems to have conditioned the size of the end-products. Some of the cores appear to have been transformed into naviform endscrapers, which typically present acute retouch. Burins and truncations are represented at the site as well. Since the number of lithics attributed to a given type or lithic class in any one of the four periods is often quite small, there is the need to increase the sample size of the lithic material at Üçdutlar by repeating the collection of the site's surface. This will lead to gains in new knowledge when it comes to the definition of the chipped stone traditions associated with the respective periods. Among the entire set of lithics collected at the site so far, there are, for example, only 6 bladelets and 2 blade fragments. All of these pieces belong, no doubt, to the more recent periods. Among the many microlithic pieces found at Üçdutlar, there are many nosed endscrapers (unguiform) – one of the hallmarks of the Epipalaeolithic tradition in the Eastern Mediterranean. According to Perlès (personal communication), the flake-based lithic traditions that are observed at Üçdutlar do not have affinities with what is seen in the Upper Palaeolithic and Mesolithic layers at the Franchthi Cave (Perlès, 1987, 2003). Nor does there appear to be any connection with the Mesolithic assemblages recovered at the Cave of the Cyclops on the island of Youra (Sampson, 2008) and at the site of Maroulas on the island of Kythnos (Sampson *et al.*, 2010). For our present purposes, what is of not less interest is the lack of clear connections between the Epipalaeolithic assemblage recovered at Ouriakos on Lemnos and the lithic materials represented at Üçdutlar.

THE EARLY NEOLITHIC SITE OF UĞURLU

As shown in Figure 4, the site is located on the western side of the island of Gökçeada (Imbroz), which has a maximum length of about 30 km. An overview on the investigations at Uğurlu, which includes many figures in color, has been published (Erdoğu, 2013; for a preliminary report on the first two excavation seasons, see also Erdoğu, 2011 and 2014). Uğurlu is a low mound that covers an area of approximately 6 hectares and that rests at the base of the gentle slope at the eastern foot of Mount Isa (Doğanlı). A paved road from Uğurlu to Dereköy cuts through the mound today. A long trench dug for an irrigation project has also damaged parts of the site. The solid geology of the rugged island is composed mostly of volcanic rocks. The western part of Gökçeada is generally less steep, and it has the best agricultural land. As mentioned in a previous section on sea level tends, the mound site was located at a distance of ca. 2 km from the island's closest shoreline at the time of its initial occupation about 8,500 years ago. During the course of excavation over the four years (2011-2014), five main cultural phases have been identified at the site (designated I-V, counting from top). In all, the work at Uğurlu has produced at least 9 layers of occupation so far. The oldest two phases (IV and V) date to the early Neolithic period. Phase III is marked by the appearance of dark burnished ware – representing the so-called process of Vinçaization. The succeeding phase (II) has brought to light at least two occupational layers of Western Anatolian culture known as Kumtepe Ia - Beşik Sivritepe (Takaoğlu, 2006).

Early Neolithic Occupation: Phase V

So far two possible layers of occupation have been recognized during the settlement's oldest phase. The early layer of Phase V is documented in sounding trenches. While no architectural structures except scattered stones in clusters were found in this early layer, dense concentrations of animal bones were recovered. The bones of sheep, goat, pig and cattle – all of them apparently in domesticated forms – have been identified. In addition to chipped stone tools made of flint, there was the recovery of a few obsidian blades (made by means of a pressure technique) and bone spatulas in this layer. A single AMS radiocarbon determination (Wk-29173: 7618±36 BP) from the early layer of Phase V has yielded a calibrated age of 6,566-6,518 cal BC (2σ).

A single-roomed building with stone foundation and measure ca. 5 m on each side has been excavated in the upper layer of Phase V. Its western and eastern walls have a thickness of ca 1.00 m, while its northern and southern walls are thinner (ca. 0.60 m). A massive buttress attached to the exterior of the southern wall. The northern wall, which has survived to a height of about 1.00 m, has a fireplace on its inner side. A large oven was found just outside the building (Fig. 13). The architecture is typical of a small-scale household – limited space for social interaction and no dedicated storage installations. Two sherds of considerable interest were found there in situ: one with a human motif in relief and the other with a tubular lug with animal head in relief. The head in bone of an Acrolithic figurine is unique; the nose was shown in relief, while eyes are in red paint.

Pottery is, of course, the most common artifact recovered at Uğurlu. The vast majority of Phase V ceramics are red slipped and burnished. Black burnished sherds were recovered in small quantities. All of vessels are handmade and have thin walls. Common shapes are those of deep bowls with "S" profiles, hole-mouth vessels and straight-sided shallow dishes. Bases are either flat or else they include a low pedestal. Vertically placed tube-like lugs, knob-like perforated tubular lugs and small crescent-shaped lugs are characteristic (Fig. 14). A sherd that presents a human face is unique. Parallels with Uğurlu pottery are found at sites in Western Anatolian. At the same time, several forms of pottery from the earliest phase at Uğurlu show close parallels with Hoca Çeşme (IV-III) in Turkish Thrace as well as Aktopraklık and the basal layers of Menteşe in the Marmara area (Bertram and Karul, 2005:fig.1-3;

Fig. 13. Uğurlu: Plan of The Neolithic Building 2

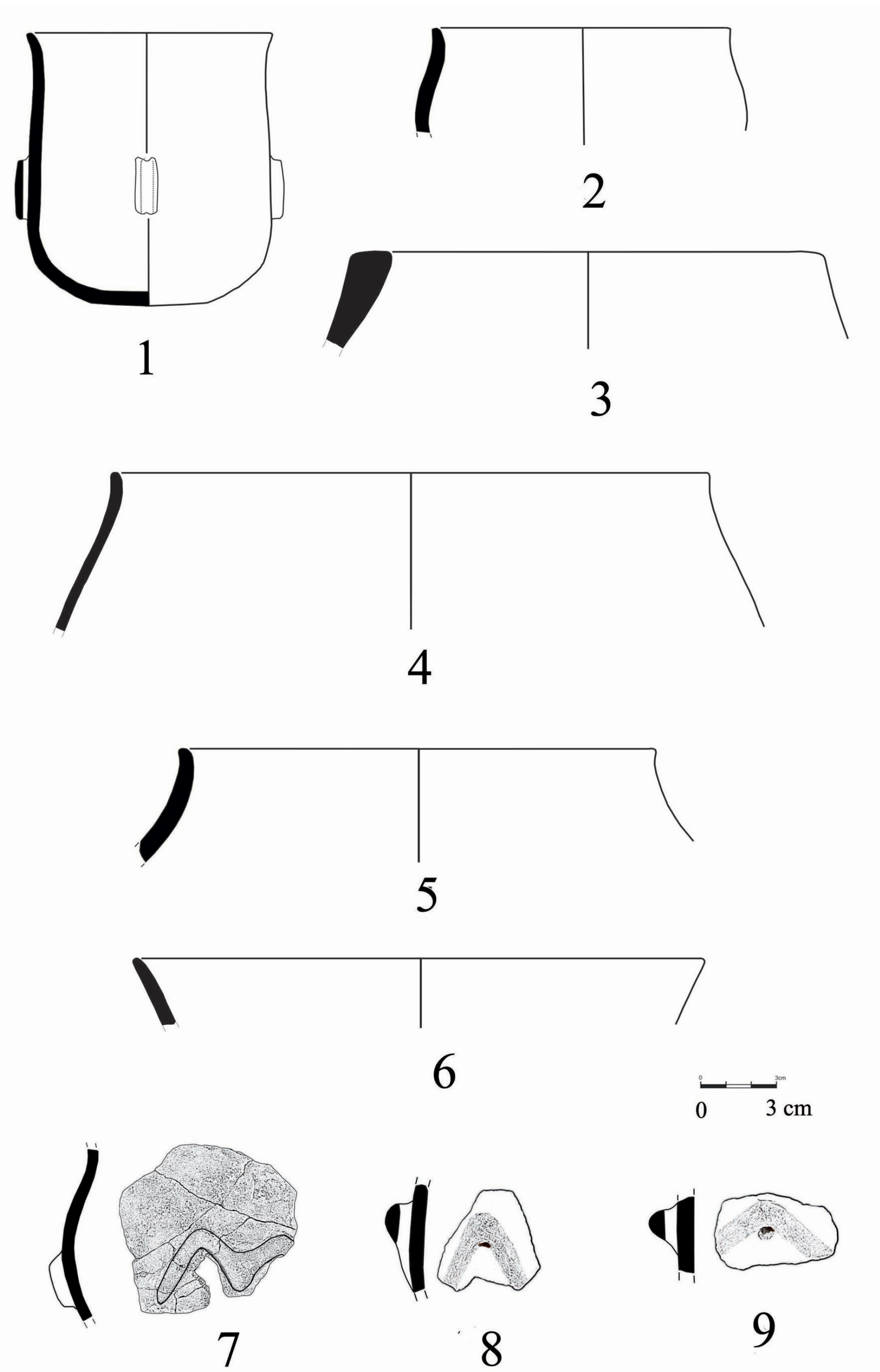


Fig. 14. Uğurlu: selected pottery forms of Phase V

Karul and Avcı, 2011:fig. 11-12; Roodenberg *et al.*, 2003:fig. 13:1-4, fig. 16:1-6). Characterization studies indicate that the early ceramics were made of local sources of clay. Interestingly, the pottery from Uğurlu show no evidence for the use of organic temper – a practice unknown at other Early Neolithic sites in Western and Northwestern Anatolia.

Early Neolithic Occupation: Phase IV

By this time, the settlement has grown in size, and it now covers an area of some 6 hectares. The deposit as a whole for phase IV is on average about 2.5 m thick. At least four layers of occupation have been recognized for this phase of the Early Neolithic, which has been investigated, for the most part, by means of sounding trenches on the west and east sides of the site. Although no complete building plan has yet been exposed for phase IV, because of the limited scale of the excavations, it appears that the orientations of the buildings and their sizes have now changed. The building plans that have come to light so far suggest functional differentiation between structures or else variation in household composition. Again the buildings take the form of a single room with a rectangular plan. One of them has produced a large storage vessel and a box-like pit filled with worked bones. A circular hearth was found inside another one. The carbonized botanical remains recovered from this phase include Einkorn wheat (*Triticum monococcum*), six-rowed barley (*Hordeum vulgare*) and naked barley (*Hordeum vulgare* var *nudum*) and *pea* (*Pisum sativum L.*). Large quantities of shells (*Patella* and *Mytiliades* in particular) and fish bones indicate that the consumption of marine resources was part of the diet at Uğurlu (Erdoğu 2014). Two AMS radiocarbon dates are available for phase IV (Wk-29175: 6982±42 & Wk-29174: 6996±36); they fall in the span of time between ca. 5980-5750 cal BC (2σ).

The pottery found in phase IV, which now reaches a higher standard in terms of technology, demonstrates a new degree of ingenuity and creativity at Uğurlu. For the most part, it consists of handmade, lustrously burnished, thin-walled, red-slipped black wares. Coarse wares occur only in small numbers. A jet-black surface color now predominates. Different tones of red and pink are produced by slips applied on the exterior surface and below the rim on the interior. The slips, which can vary considerably in their thickness, give rise to the mottled look of a vessel's surface. Deep bowls with "S" shaped profiles and beaded rims are common. Sometimes the profile is slightly carinated. Deep bowls that have flaring sides, bowls with internally thickened rims, hole-mouth jars and tall-necked jars are common as well (Fig. 15). Vertically placed lugs (usually tubular in shape and perforated) are regularly seen in phase IV. Bases are either flat or else take the form of a simple ring. Four-footed vessels are now found at Uğurlu. Pedestals (with cut outs), boxes and lids are present in this phase as well. But decoration is rare in phase IV. The main technique is impresso. One of the few other decorative motifs in use combines incised lines with dot impressions. The impressed cross and the "T" motif are special cases, which appear only on pedestals. Phase IV has produced just three small pieces of painted pottery. One white-on-red painted sherd is identical in terms of its fabric and design with the pottery of Karanovo I. Two red-on-black sherds would appear to be local products. It is perhaps worth adding here that while the vessel forms observed in phase IV do not have exact parallels in the Anatolian repertoire of shapes, the pottery at Uğurlu do share, in a broader sense, similarities in their profiles. At the same time, the new ceramic types that arrive on the scene at Uğurlu in phase IV are similar to those of contemporary cultures elsewhere in the Aegean.

Exchange Networks and Uğurlu

Based on our knowledge of the raw materials that do not occur naturally on Gökçeada, there is good evidence at Uğurlu for the long-distance circulation and exchange of artifacts. The exchange networks that brought them to the island are best documented by the study of obsidian (more on this below; for the literature on the study of Melian obsidian in northwestern Turkey, see Perlès *et al.*, 2011) and flint from the Balkans. In addition, there is the example of more local exchange provided by the ground stone axes made of nephrite (from outcrops at the foot of Ganos Mountain as mentioned before), which are found

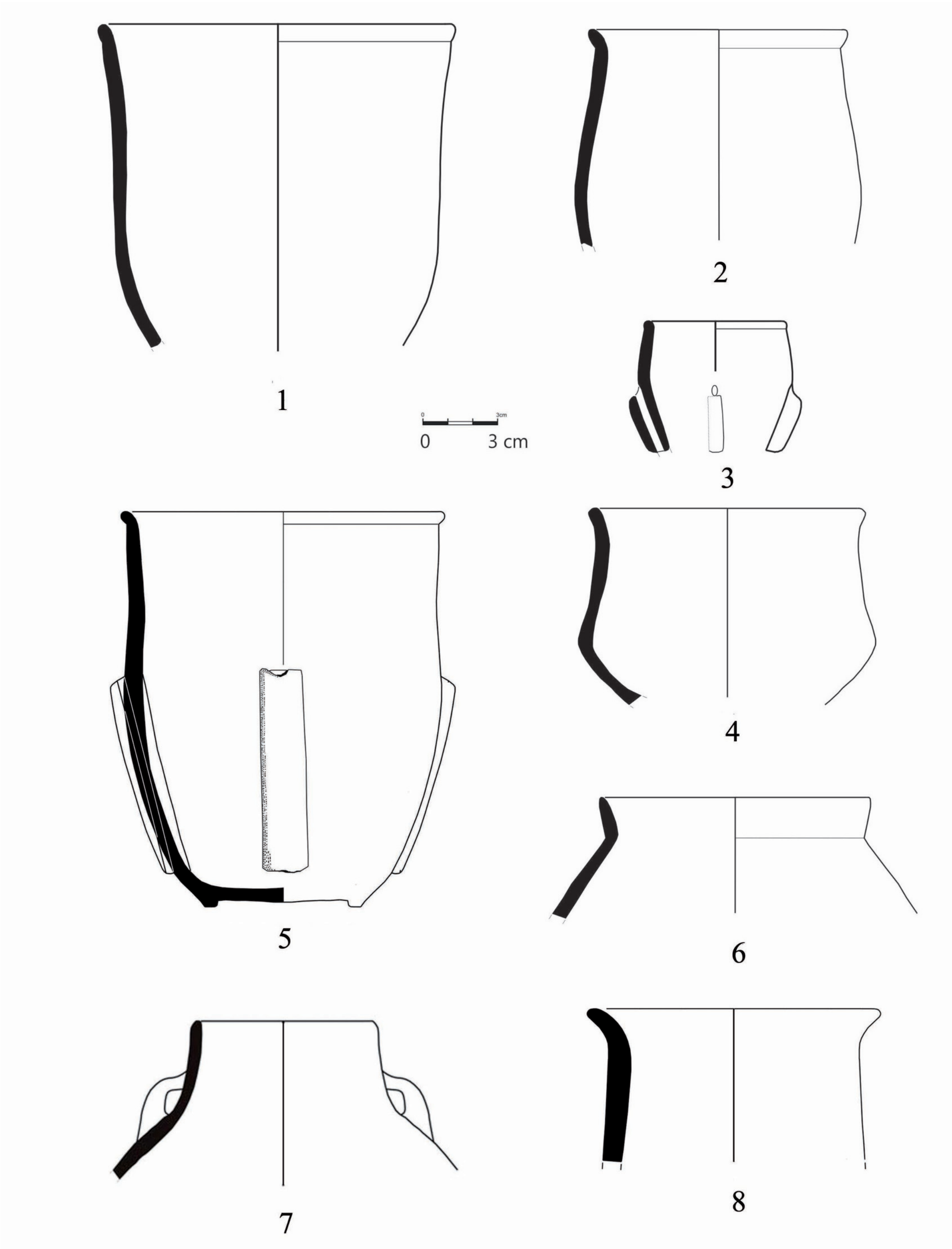


Fig. 15. Uğurlu: selected pottery forms ofPhase IV

in both phases V and IV at the site. Objects made of marble – a raw material that does not occur naturally on Gökçeada – are present only in phase IV, and their sources in the case of the artifacts recovered at Uğurlu have yet to be worked out. From the start of the occupation of Uğurlu, both flint and obsidian were used for making chipped stone tools. The knapping of chert and flint was, of course, much more commonly done. In fact, worked pieces of them comprise 99 per cent of the lithic materials recovered in both phase V and phase IV. There are, as mentioned before, good local sources of chert on the island, and they were commonly exploited for this purpose. In phase IV, one of the more distinctive artifacts was the flint macro blade – sometimes called the "Karanovo macro blade" (Gurova, 2008). A total of 25 of them have come to light at the site so far. Phase IV has also produced a core and several flakes in the same raw material: the so-called "Balkan flint" (Fig. 16; the source of this honey-colored flint occurs on the east side of the Rhodope Mountains). The main focus of attention here – in line with the theme of how early voyaging began in the Eastern Mediterranean explored at the Wenner Gren Workshop – will be on phase V at Uğurlu. Once the 6th millennium cal BC is reached, voyaging in the Aegean basin has been

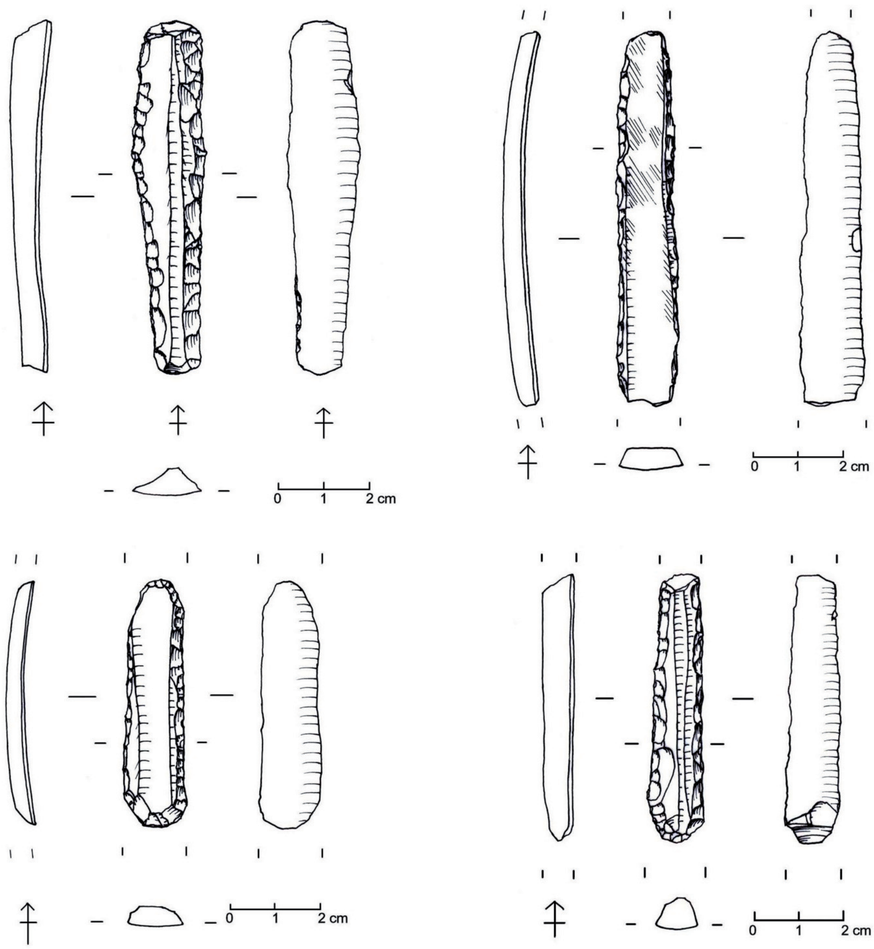


Fig. 16. Uğurlu: macro blades from Balkan Flint

taking place for several thousand years and obsidian from the island of Melos is commonly recovered at Neolithic sites in the region.

Turning now to the obsidian found at Uğurlu, there are, through the third excavation season (2013), 35 pieces from phase V and 23 pieces from phase IV They demonstrate that obsidian was definitely present at the site during the Early Neolithic period. In short, it was an exotic and prized material that made its way there in comparatively small numbers. Uğurlu was located at a fair distance from the few sources of workable volcanic glass in the Mediterranean world, and what we observe at the site is what is happening in the "tail" of the obsidian exchange network in operation at the time. In any given year, only a few pieces of obsidian managed to reach the island by means of voyaging. We had the opportunity to bring out to Gökçeada portable equipment that can do the chemical characterization of obsidian by means of X-Ray Florescence. As expected, the vast majority of the pieces analyzed (around 90 %) come from the island of Melos. The work also produced an unexpected result of considerable interest. Previously, obsidian artifacts from the sources of Göllü Dağ and Nenezi Dağ in Central Anatolia were not documented at a Neolithic site in the Aegean area. Now it was possible to learn that four of the obsidian artifacts in phase V and two of them in phase IV came from the source called east Göllü Dağ (a transparent obsidian with some black lines). At Uğurlu, all of the obsidian from this source takes the form of a finished blade produced by the pressure technique. In addition, an obsidian artifact that comes from the source of Nenezi Dağ in Central Anatolia has been found in phase IV. It is a bullet core (Fig. 17); in terms of morphology, cores of this kind have been found in northwest Anatolia so far only at the site of Aktopraklık (personal communication, Marina Milic). Accordingly, this artifact represents an exceptional find in the west as well. In effect, a whole new chapter is the study of the circulation and exchange of obsidian is beginning to unfold in the Aegean. Already in the Early Neolithic period, obsidian artifacts were moving – either in one long step or else in a series of shorter ones – over longer distances than previously thought. It will be recalled that obsidian from Göllü Dağ was already making its way to the Early Neolithic site of Shillourokambos on the island of Cyprus in the middle part of the 9th millennium cal BC (Briois and Guilaine, 2013; on the workshop called Kaletepe located near this obsidian source,

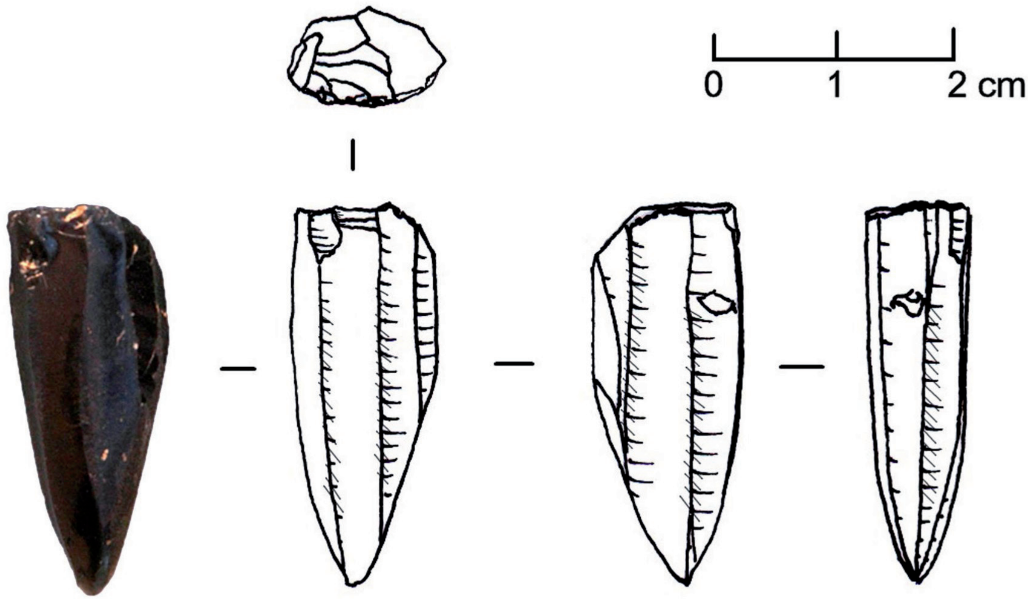


Fig. 17. Uğurlu: an obsidian bullet core from Phase IV

see Balkan-Atli and Binder, 2012). Thus, the production of obsidian blades in connection with Göllü Dağ already had a long history – more than 1,500 years – prior to the time when blades from this source made their first appearance at Uğurlu. In the previous literature on the circulation of obsidian between the respective basins in the Mediterranean Sea (Ammerman, 2010:83-86), it was previously thought that obsidian occurring in the Cyprus basin did not make its way to the Aegean basin and vice versa. And likewise the obsidian that occurs in the Aegean basin (from the sources on Melos and Giali) did not find its way to the Tyrrhenian basin and again the other way round as well. Now Uğurlu offers an important example showing that there is at least one exception to this basic pattern. As more work is done at Uğurlu in the years to come, there is a good chance that the obsidian story will become an even richer one.

DISCUSSION

To start with, it is important to keep in mind that the sites of Uğurlu and Üçdutlar have made their appearance in the archaeological literature only in the last few years. If one goes back to 1998, fieldwork had yet to begin at either of them. Thus, it is fair to say, on one hand, that research on the early prehistory of southern tip of Turkish Thrace has come a long way in the current century. On the other hand, in both cases, what we are dealing with is work in progress. In other words, much remains to be done at the two sites, and it is premature to attempt to draw final conclusions at the present time. The plan, in this closing section, is to focus on the time between 13,000 and 6,000 cal BC – again in line with the themes of the Wenner Gren Workshop – and to consider briefly some of the work still needs to be done at Uğurlu and Üçdutlar and some aspects of the early seafaring or voyaging in our part of the Mediterranean world.

As mentioned before, there were no islands of any real size in the northeastern Aegean – with the exception of Ayios Evstratios – if one goes back to 15,000 cal BC (when sea level was some 100 m lower than today). While there may have been groups of hunters and gatherers in our area who engaged in certain forms of coastal foraging at that time (this is, of course, a matter that calls for further study), there would have been rather limited scope for voyaging at a time when the future islands of Gökçeada, Bozcaada, Lemnos and Samothrace were still attached to the mainland. Again, it is worth underscoring here the recent character of the gains in new knowledge with regard to island formation in our area. Prior to 2004, the benchmark articles by Lambeck and co-authors had yet to make their appearance in the literature. And the question of when Gökçeada began to form as an island was still, for the most, up in the air. In contrast, we now have a basic framework to work with in the case of Gökçeada and Lemnos as well. While the dates mentioned above for the formation of the respective islands (around 12,000 cal BC for the separation of Gökçeada from the mainland and the 11th millennium cal BC for the separation of Lemnos from Gökçeada) should be seen as first approximations, they now provide a point of departure for the study of island archaeology in the northeastern Aegean. A related point to highlight here is that the distances between the emerging island of Gökçeada and the mainland and between Gökçeada and the new island of Lemnos islands were both still quite short ones. Thus, in our area, going to sea in the time before 10,000 cal BC would have involved comparatively short trips in coastal waters and not longer ones over the open sea of the kind called for in voyaging to an offshore island such as Cyprus. And if we look out to the future and the state of knowledge that will obtain in say 2030, it is reasonable to expect that further gains will be made in research on the formation of islands in the Northern Aegean in the years to come. In particular, one of the things to add to the current picture will be a better knowledge of tectonic activity on the respective islands. Here the work recently done at Alyki on the east coast of Lemnos, which shows a modest degree of such activity over the last 7,000 years (Pavlopoulos *et al.*, 2013), offers a good example to follow.

By 6,500 cal BC and the advent of occupation at Uğurlu, almost all of the islands at the head of the Aegean Sea had now formed. The distances between the respective islands and the adjacent mainland and also the distances between the islands themselves were finally beginning to approach those that we see on a map today. The main point to underscore here is that active dynamics were still taking place on the landscape during the comparatively short span of time between 12,000 and 6,500 cal BC. To put it another way, over this span of 5,500 years, there were on-going changes in the configuration of the land and the seascape. Indeed, it is not always easy for the archaeologist today to envision and comprehend fully the dynamics that were taking place at the head of the Aegean during this important span of time. Often sea level was still rising at a rate of 1 m per century in those years. Then things began to settle down in the years after 6,500 cal BC. Since that time, the geography of our area has looked much like it does today. In terms of going to sea, the northeastern part of the Aegean Sea would have been an attractive and promising place to be in the Early Neolithic period. Gökçeada, Lemnos and Samothrace are islands of fair size today: all three of them would have been slightly larger in the Neolithic period. In addition, they were located in reasonably close proximity to one another: in short, there was inter-visibility between them. Since the three islands had different geologies and each one offered different natural resources to exploit, there were good reasons to make a visit to a nearby island.

By 6,000 cal BC and the start of phase IV at Uğurlu, the distance between the mainland and Gökçeada and the mainland had increased to around 15 km. During the summer months when conditions were favorable for voyaging, trips that involved comparatively short crossings in a small boat could be made without much difficulty – both between neighboring islands and to or from the mainland. Even in Early Neolithic times, when sea level had risen substantially from where it once stood during the Younger Dryas, much of the time voyaging on a given local trip would have been spent in coastal waters and not out on the open sea. Of course, the voyager had to have a good sense of the winds and currents in order to make successful crossings from Gökçeada to Lemnos or to the mainland. Such local knowledge was acquired by means of practical experience and handed down from one generation to the next. It is perhaps worth adding here that some caution is called for in taking the winds and the currents that obtain today and projecting them back on the remote past. While scholars may have some ideas about prevailing winds at the broader level (Broodbank, 2013), little is still known about the local weather systems in various parts of the Mediterranean over the arc of time between 12,000 and 6,000 cal BC (some earth scientists have even begun to view these years as a time of "repeated ocean-atmosphere reorganizations" in our area; Martin and Yanko-Mombach, 2011). For purposes of navigation, what has always remained more or less the same in the region are its major landmarks. The dominant one to the west is Mount Athos, which reaches an elevation of 2,033 m. On a good day, it can be seen from Uğurlu at a distance of 116 km. In the Neolithic period, it was the landmark that was used for voyaging from Gökçeada and Lemnos to islands such as Youra and Agios Petros in the Northern Sporades (Sampson, 2008; Efstratiou, 1985) and from there then on to the Greek mainland. And to the north of Gökçeada and Lemnos, there was another prominent landmark: the mountain peak of Fengari (at 1,600 m in elevation) on the island of Samothrace. In short, without citing other examples here, the Northern Aegean was well endowed with good landmarks for the early voyager.

For many years, little was known about pre-Neolithic sites in our part of Aegean Thrace. The situation has now changed with the recent discovery of Üçdutlar, an open-air site that has produced chipped stone artifacts that go back to three different times before the Neolithic period, as well as a few lithics that apparently date to the Neolithic itself. One of the implications of all this is that Üçdutlar, which occurs in a slightly elevated position on the coastal landscape, was definitely an attractive place for hunters and gatherers. From time to time, those who led this way of life kept coming back to the site. The results of the preliminary classification of the lithics collected from the site's surface have been presented in a previous section of this article. The next step in the study of the material will involved a more detailed analysis of the technology and the typology associated with respective lithic traditions, which have been identified at Üçdutlar. One of the challenges that we now have to face is that of sorting out, in a consistent and systematic way, which pieces actually belong to any one of the three pre-Neolithic traditions. Toward this end, it will be useful to work with a large sample of lithics. For instance, when it comes to the study of the pieces that are attributed to the Epipalaeolithic, blades and backed pieces are still quite few in number. Accordingly, it would be a good idea to repeat the collection of the lithics on the surface of the site. Fortunately, Üçdutlar has a soil that is good for agriculture, and the site is regularly plowed from one year to the next. In this way, it should be possible to recover another thousand pieces of chipped stone at the site. In doing the next round of fieldwork, it will be of interest to learn more about the patterns of spatial distribution of the chipped stone artifacts associated with each of the four different times at Üçdutlar. Finally, it would be a good idea to carbon date a few of the marine shells recovered at the site in order to find out when they were exploited. This is clearly a question of major interest when it comes to working out how far back in time we can trace coastal foraging on the Gallipoli Peninsula.

The excavations at Uğurlu began in 2010, and they have moved forward at a steady pace since then. It will be recalled that, even as late as the opening years of the present century, it was still an open question whether Early Neolithic sites were present on the islands of the Eastern Aegean (for references in the previous literature on this question, see Erdoğu, 2003, 2013:1). As a result of the recent fieldwork conducted at Uğurlu, such doubts have now been put to rest. Indeed, as we have learned from other projects on the beginnings of island archaeology initiated elsewhere in the Mediterranean in recent years, what was lacking on the island of Gökçeada was not a settlement of Early Neolithic age but the requisite fieldwork to find sites such as Uğurlu. The excavation at the settlement, which has been taken down to the nature soil, shows that the earliest occupation at the site goes back to around 6,500 cal BC or the time of the Neolithic transition in this part of the Mediterranean world. What is recovered in the lowest archaeological levels at Uğurlu is the full Neolithic package, including pottery and obsidian. In terms of the site's subsistence economy, there is good evidence for the cultivation of cereals and also animal husbandry (sheep, goats, cattle and pigs). This holds for both phases of the Early Neolithic at Uğurlu. While subsistence is based primarily on a combination of domesticated cereals and animals, there is also some evidence for the consumption of shellfish. In other words, at least some of the people who lived at Uğurlu spent some of their time (perhaps only seasonally) collecting marine resources on the coastline.

In terms of architecture, the remains of a small rectangular building whose walls rest on stone foundations are documented in the case of phase V. In the more recent phase (IV) of the Early Neolithic, the architecture, as mentioned before, shows change in terms of the orientation of buildings and also their sizes. In other words, the architecture at the site now appears to be more developed. It is, however, worth adding a note of caution here: only a small fraction of the large settlement has been excavated so far. Before firm conclusions can be drawn in this regard, there is the need for more fieldwork and patience. At the current stage of research, the important thing to bear in mind is that the architectural elements that have come to light fit in with the traditions that are found at other mound sites of the same age in Western Anatolia. Pottery is, of course, the most abundant line of material culture found in those contexts at the site that date to the Early Neolithic period. This is not the place to repeat what was said about the pottery in a previous section. At the level of the big picture, what we are dealing with in phase V are ceramics that are made in an Anatolian tradition. While the oldest pottery found at the site does have some local features, it does not depart all that much from the range of the variation observed among the ceramic vessels that occur at contemporary mound sites in other parts of Western Anatolia. Thus, on the basis of the pottery, the architectural remains and the subsistence economy, the material culture found in phase V is interpreted as having reached Gökçeada from adjacent areas of northwestern Anatolia. In turn, it is reasonable to think that the agro-pastoralists who first settled at the site were newcomers who crossed over to the island in small boats from the mainland. In contrast, moving forward in time to phase IV, there are multiple lines of evidence pointing to change in the material culture at Uğurlu – a shift towards a more Aegean orientation in the opening centuries of the 6th millennium cal BC.

In closing, a few words need to be said about the significance of Uğurlu for the study of early voyaging. Of course, voyaging and voyagers clearly played a major role in moving the Neolithic package out to the island of Gökçeada. In phase V, the obsidian from Melos as well as the ground stone axes made of nephrite provide good evidence for voyaging that was taking place on a more or less regular basis during the second half of the 7th millennium cal BC. Then, there is evidence in phase IV for further growth in the exchange system. Now blades produced from Balkan flint and vases and other small objects made of marble are added to what was previously reaching the site in phase V. To put it in another way, Uğurlu, as a consequence voyaging, had a network of connections with a wider world in phase IV.

In the case of obsidian, it is worth drawing attention to two points of particular interest. On the face of things, they may appear to be somewhat at odds with one another. First, the quantities of obsidian making their way from the island of Melos to Uğurlu were actually quite small. As mentioned before, this seems to hold not only for phase V but also for phase IV. Thus, over the course of the Early Neolithic period, there appears to have been no increase in the amount of obsidian reaching the site. In short, the obsidian blades recovered at Uğurlu should be seen as rare and special artifacts associated with prestige. They were not used on a daily basis as part of everyday life. One of the implications here is that it is possible to see Uğurlu – at least with regard to obsidian – as one of the nodes in the "tail" of the obsidian exchange system in operation in the Northern Aegean. Secondly, there is now good evidence at Uğurlu for a few blades of obsidian from the source of Göllü Dağ in Central Anatolia. They were produced by means of an advanced technology (the pressure technique), and they reached the site in finished form. What has come to light at Uğurlu is rather unexpected. This is the first time that obsidian from such a distant source has been found in the Aegean basin, and it raises questions of considerable interest. How did the blades circulate over such a long distance between Cappadocia and the southern tip of Aegean Thrace? What were the steps – by land and by sea – that, in combination, made it possible for the blades produced by a workshop at or near Göllü Dağ to travel all of the way to the island of Gökçeada? It will take time and further work to answer these questions. In the meantime, what we do know is that Uğurlu is now opening a new chapter in the study of the long-distance circulation and exchange of obsidian (and perhaps other materials as well) in the Mediterranean world.

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