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A Prehistoric Stone Axe Production Site in Turkish Thrace: Hamaylitarla

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ABSTRACT - *Hamaylitarla is a prehistoric, polished stone axe production site, situated on a low hill dominating the Aegean Sea and the straits of the Dardanelles. This site is also a settlement yielding early Neolithic ceramics. The researcher gives brief information on his preliminary observations on the mound and its situation according to the rock outcrops in the region. In this paper, the first results of the petrologic analysis of the metamorphic rocks are also presented.*

IZVLEČEK - *Hamaylitarla je prazgodovinsko najdišče, kjer so izdelovali glajene kamnite sekire. Leži na nizkem hribu, ki se dviga med Egejskim morjem in ožino Dardanel. Na najdišču je tudi naselbina z zgodnjeneolitsko keramiko. V članku na kratko podajamo preliminarne rezultate o najdišču in njegovem položaju glede na površinsko razprostranjenost metamorfnih kamnin v regiji. Predstavljamo tudi prve rezultate petroloških analiz omenjenih kamnin.*

KEY WORDS - *Thrace; prehistory; polished stone axe production; chaine-opératoire; axe blanks*

INTRODUCTION

As in other early agricultural societies in Europe, polished stone axes also played an important role in the development of Neolithic societies in eastern Thrace. Despite the fact that much work still remains to be done on this subject, following the recent discovery of three prehistoric stone axe production sites in Thrace, the author intends to give information on one of them which is called Hamaylitarla.

The existence of the preferred source of metamorphic rock outcrops on the mountainside of Ganos (Sarköy) overlooking the Marmara Sea, was quite sound for the grouping of the three prehistoric sites. A two-year archaeological-geological fieldwork project, which began in 1997, provided us information about the extent and limits of the quarry sites and metamorphic rock outcrops profitable for the production of stone axes. Situated at a strategic position like the Gelibolu Peninsula[1], the diffusion of stone axes from the three prehistoric production sites of Fener-karadutlar, Yartarla and Hamaylitarla (Buruneren) would not have been so difficult. In this paper, we intend to give information about the preliminary results of our surface surveys of the early Neolithic[2] site of Hamaylitarla and its environment.

Being one of the earliest Neolithic sites in this region, it is probable that Hamaylitarla will shead light on roughout manufacturing knowledge in the production of stone axes.

1 See Özdoğan (*1986*) for the first archeological field surveys and its results concerning this region.
2 For a detailed discussion of the relative chronology of the site of Hamaylitarla and the related sites in the same region, see Erdogu in this publication.

The locality and its regional context

The site of Hamaylitarla is situated 14 km West of Sarköy, a small town on the Marmara coast, near the town of Tekirdag. Before our first visit to the site in the spring of 1997, this place was only known as a flat mound, namely 'höyük', yielding ceramic finds[3]. The following year, after we had begun sourcing studies on the same area, we were able to locate outcrops of metamorphic rock. This led to sample collecting for a petrologic analysis on a 225 km² area.

It is worthwhile taking into consideration that the region is under close examination by specialists on tectonic bases with regard to seismic activity. Thus, we can say that the geological surveys that were slowed down in the last 20 years accelerated because of this fact. The Tekirdag depression within the Marmara Sea is an active strike-slip basin along the North Anatolian fault, which was the cause of the great "Izmit-Sakarya Earthquake", in 1999. The North Anatolian fault emerges again in southern Thrace, forming a 45 km long segment (the Ganos Fault) before re-entering the Aegean Sea in the Gulf of Saros. The region is affected by tectonic thrusts, which results in a displacement of 20 mm per year due to reduced Quaternary sedimentation (*Okay et al. 1999.129*). Thus, the raw material[4] of Hamaylitarla ground stones is a result of this fault. At present, the metamorphic rock outcrops can be observed on the slopes of Mount Ganos.

In 1998 and 1999, we aimed at locating the possible quarry sites in the region. At first, our intention was to find out what could fit the picture of a 'typical' ethnographic and archaeological model[5] of a raw material extraction site, as we are familiar with from New Guinea and Europe. However, it was rather interesting to realise that to find such localities was pointless given the plentiful occurrences of the raw material not very far from the site (Fig. 2). The raw materials near the sites were in the form of boulders sliding from the slopes of the hills of Sarikayalar. Thus, to put it briefly, only a kilometre from the site, one could easily reach the amount of rocks one needed. Nevertheless, the distance between the outcrops of metamorphic rocks and the site was about 5 km.

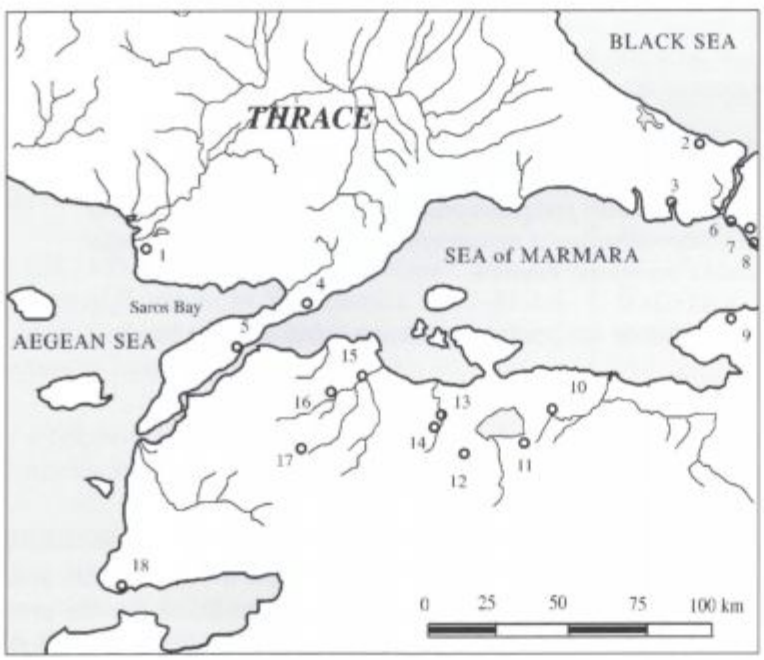

Fig. 1. Location of Hamaylitarla and the other important neolithic sites in the region: 1. Hoca Çeşme; 2. Agaçlı; 3. Yarımburgaz; 4. Hamaylitarla; 5. Kaynarca; 6. Fikirtepe; 7. İçerenköy; 8. Pendik; 9. Yalova-Göztepe; 10. Tepetarla; 11. Muslu Çeşme; 12. Üyücek; 13. Taraçcı; 14. Yılanlık; 15. Gavurtarla; 16. Anzavurtepe; 17. Çalca; 18. Coskuntepe.

DESCRIPTION OF THE ARTEFACTS

According to our laboratory analyses the material of the polished stone axes[6] was of a single type of rock: metabasite. The occurrence of the metamorphic outcrops on the slopes of Ganos Mountain was not abundant, despite some of the outcrops on a limited number of loci. On some

3 The site was already under protection by the local museum thanks to the efforts of M. Akif Isin, the director of this museum.

4 As this paper is not intended to discuss the petrologic analysis carried out on the samples obtained from the postulated quarry sites in the region, the author gives brief information on the matter. See Ozbek and Erol in press for the petrologic analysis.

5 See mainly Pétrequin and Pétrequin (*1993*) for a general assessment of ethnological studies in Indonesia and Pétrequin et al. (*1993*) for a brief history of the recovery of the Neolithic quartz mudstone axe quarries (Plancher-les-Mines) in France.

6 The term 'axe' is used here in a general sense, putting the axes and the adzes in one group: wood-working implements, whether they are used for tree felling or in carpentry in the settlements.

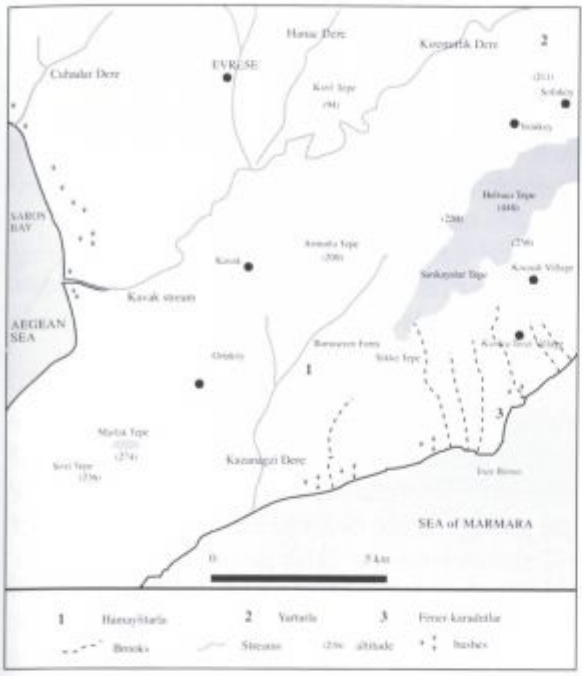

Fig. 2. Location of the production sites in Gelibolu peninsula.

parts of these inclination surfaces, one could easily notice the presence of metabasites as boulders, some weighing 1 kilogram and some 100 kilograms.

The Hamaylitarla production site seems to cover an area of 400 m^2, while the mound seems to spread over a 120 x 120 m field. We collected many roughouts, flakes, hammers and blocks from the locality, and following our laboratory analyses, we saw that they were of the same material.

As the mechanical properties of the stone played a big role in the production technique, what we observed was the intense practice of knapping and pecking. According to our experimental studies, we can say that with this raw material it is very difficult to orient any of the edges of an axe model. As the rock itself had no orientation in either the macro or micro (mineralogical) basis, it was also impossible to expect to obtain roughout blades right after the flaking process. The makers of these roughout axes also had no chance to saw the material. On the contrary, it is sound to say that pecking would take less time than sawing this rock.

One can say at first glance that the forms of the roughouts (Figs. 3, 4) reflect a close resemblance to the Lower Paleolithic quartz hand axes in general.

Axe roughouts

Their weights vary from 400 grams to 1000 grams. Most of them are waste material, as they were probably broken during the production stage (Fig. 3). If we take into account their mean sizes, we can estimate that they were planned to be 20–25 centimeters when finished. Most of them should be regarded as roughouts of big adzes, rather than symmetrical axes. Their cutting edges were left untouched after being flaked, and never pecked.

Hammers

Their weights vary from 150 grams to 800 grams. They are usually broken axe roughouts, transferred to hammers after they were broken. We did not see any of the sphere shaped hammers we came across at the other sites.

Flakes

The flakes are 50 to 200 gram pieces, and very difficult to notice during the collecting of the material (Fig. 3.5, Fig. 4.1). The quantity of flakes collected on this mound is also too small to make a statistical analysis.

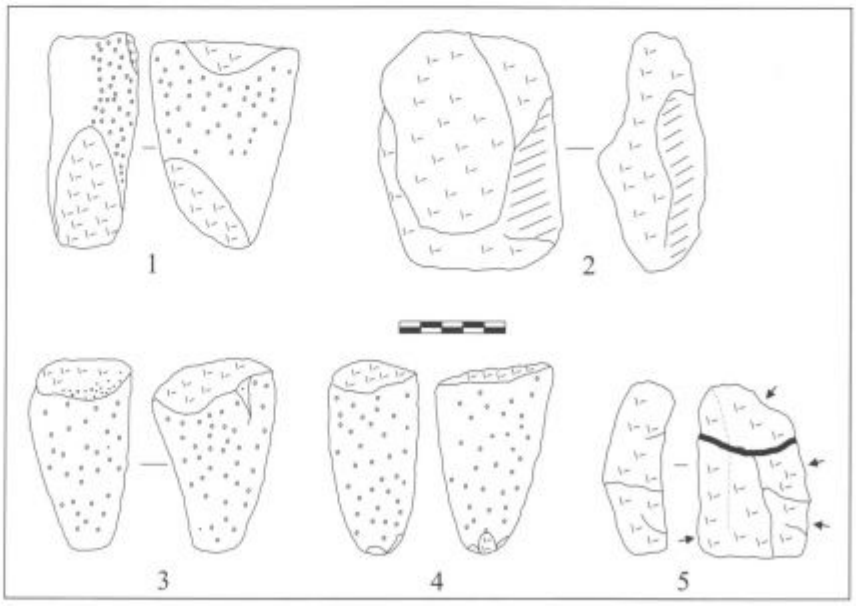

Fig. 3. The roughout manufacture of Hamaylitarla mound. Axe roughouts are broken during the production stage (No. 1, 3, 4). There are also a limited number of flakes (No. 5).

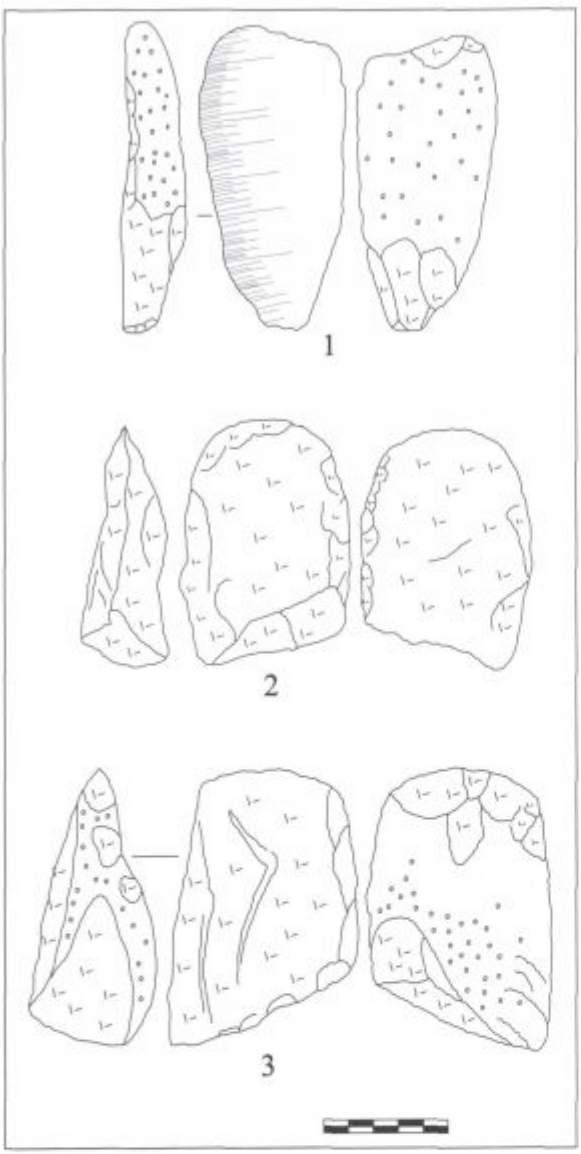

Fig. 4. The roughout manufacture of Hamaylitarla mound. Broken axe roughouts during production (No. 2, 3). Some of the flakes were knapped (No. 1).

CONCLUSION

The dating of our material is one of the most important problems in this study. As we could not open test trenches or start an excavation on the site due to the lack of an excavation team and sponsor problems, we can not discuss the material in a stratigraphic context for the moment. However, in the near future, we await a multinational excavation on the site.

We would like to express the fact that it is unwise to expect great help from typology in 'axe studies'. As is evident from the many studies held in different parts of the world with many different cultural contexts[7], the forms of axes do not change much with time. However, it is interesting to note that the finished axe material of the neighbouring excavated Neolithic site of Hoca Çeşme bears a close resemblance to the Hamaylitarla material, according to petrological analysis. The 20–25 cm (1242 gr.) long forms unearthed from this prehistoric mound generally fit the planned models of the Hamaylitarla roughouts in weight and in shape.

We expect that it will be possible to make a broader study of the region in the future. In addition, we will have more information about the paleogeography and geology of the Gelibolu Peninsula. This project will also increase our databases on the Neolithic settlements in the area.

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7 It is worth mentioning the studies by Buret (*1983*) of the Neolithic sites of Switzerland, and Moundrea-Agrafioti on the Neolithic sites of Greece (*1981*).

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