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THE PALEOLITHIC OF TURKISH THRACE: SYNTHESIS AND RECENT RESULTS

DOĞU TRAKYA PALEOLİTİĞİ (TÜRKİYE): SENTEZ VE YENİ SONUÇLAR

Berkay DiNÇER,*
Ludovic SLIMAK**

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Trakya, birbirinden farklı pek çok coğrafi bölgenin arasındaki konumuyla, kültür tarihinin her dönemine ait önemli buluntu yerlerinin bulunduğu ve bu bağlamda konuyla ilgili pek çok sorunun yanıtını barındıran bir bölgedir. Fakat son 25 yılda bölgede yapılan araştırmalarda, bu Paleolitik Çağ'la ilgili buluntular sadece İstanbul Boğazı çevresinde açığa çıkarılmıştır. Trakya'nın geriye kalan kısımlarında yapılan araştırmalarda, bu döneme ait buluntu yerlerinin bulunamamış olması, Trakya'nın İstanbul Boğazı çevresinden farklı bir jeolojik yapıya sahip olduğu fikrini doğurmuştu. Bizim, Tekirdağ dolaylarında rastlantı sonucu ortaya çıkardığımız üç buluntu yeri (Yatak, Kuştepe ve Balıtepe), burada Paleolitik Çağ'a ait buluntu yerlerinin bulunabileceğini göstermenin yanı sıra, bu bölgenin Paleolitik Çağ açısından oldukça zengin olduğunu da ortaya koymuştur. Yörede tarım etkinlikleri yüzünden gerçekleşen hızlı tahribat, sistematik bir arkeolojik araştırmayı zorunlu kılmaktadır.

Tekirdağ Paleolitik buluntularının Yarımburgaz Mağarası ve Eskice Sırtı gibi buluntu yerleriyle benzerlikleri, bunların olasılıkla Orta Pleistosen'de üretilmiş olduklarını düşündürmektedir. İnsanın dünyaya yayılışıyla ilgili pek çok çalışmada, Trakya'nın ana yollardan birisi olarak gösterilmesine rağmen, bölgede Pleistosen başlarına tarihlenebilecek buluntuların henüz açığa çıkarılamamış olması ve Afrika kökenli Acheul kültürüne ait iki yüzeylilerin (elbaltaları) bölgede nadiren bulunmaları, insanın Eski Dünya'ya yayılımında bu bölgenin rolünün bir kez daha gözden geçirilmesi gerekliliğini ortaya koymaktadır.

*Fevzi Çakmak Caddesi 53, Bahçelievler, İstanbul, Türkiye, berkay@paleoberkay.cjb.net
**UMR6636, Maison Méditerranéenne des Sciences de l'Homme, ESEP, rue du Chateau de l'Horloge, BP 647, 1394 Aix-en-Provence Cedex 2, France, slimak@mmsh.univ-aix.fr

Thrace lies at the interface between Asia and Europe, as well as between the basins of the Mediterranean and the Black Seas. As a consequence of its position Thrace has great importance to understanding cultural histories and relations among these regions, and there should be many important settlements in Thrace dating to all periods of human history (M. Özdoğan 1982). Many scientists consider Thrace the most likely route for the human species to have reached the Balkans and Europe (K. D. Schick-N. Toth 1994, A. Darlas 1995), and nearly all maps showing early human migrations out of Africa have routes to Europe via Thrace (eg., O. Bar-Yosef- A. Belfer-Cohen 2001). However, because its archaeological cultures differed substantially from those of Anatolia and the Near East, archaeologists have had difficulties integrating Thrace into regional research programs. For that reason, Thrace probably is one of the least researched regions of Turkey, archaeologically speaking (M. Özdoğan 1999, B. Dinçer 2000). Given the lack of research it is not surprising that the region has not been considered important for human evolutionary studies (see M. Özdoğan 1983).

Until some decades ago large parts of Thrace were closed to archaeological research due to military restrictions. But surveys begun by M. Özdoğan, in the 1980s have proven the archaeological importance of this region. In these surveys some Paleolithic artifacts were found on both sides of the Bosphorus, but until the year 2000, no Paleolithic artifacts were found west of Terkos-Selimpaşa "boundary" (M. Özdoğan 1996 and C. Runnels-M. Özdoğan 2001). It had been assumed that the Bosphorus region and western Turkish Thrace did not present the same geological structure and all the Paleolithic sites had been destroyed by recent hydrological and geological activities caused by the changes in the sea-level during the Quaternary (M. Özdoğan 1989). In our point of view, the absence of Paleolithic sites was mainly the result of the lack of research in Turkish Thrace. Our discoveries in the province of Tekirdağ show that Paleolithic sites are still preserved and accessible in the region.

Turkey had probably been populated since the earliest Paleolithic (G. Arsebük 1999). The site of Dmanisi in Georgia, dating to nearly 1.8 million years ago (V. P. Ljubin-G. Bosinski 1995), shows that hominids must at least have passed through Anatolia as they dispersed from Africa to southern Georgia (B. Dinçer 2001a and S. Kuhn 2002). However, the few Paleolithic sites yet known in Turkey do not as yet provide evidence for a hominid presence at such an early date. Concentrations of Paleolithic sites in Turkey (see: S. Harmankaya-O. Tanındı 1997) reflect areas of intensive archaeological research, not the actual concentrations of Paleolithic populations (G. Arsebük 1993). Most of Turkey has not yet been subject to modern and systematic research for Paleolithic sites (G. Arsebük 1995 and 1998a) and Turkish Thrace is the least researched region of Turkey.

In order to understand the Paleolithic prehistory of Turkish Thrace, it is crucial to understand the tectonic evolution of the region. The Anatolian peninsula and Thrace uplifted in the Pleistocene as a result of global tectonic movements (U. Esin 1992, 1994). As results of sea-level changes during the glacial and interglacial periods, the Marmara, the Aegean and the Black seas were connected or isolated from each other at different times. The sea-level changes had a very important role in the cultural history of Turkish Thrace (M. Özdoğan 1982). Recent researches in the strait of Dardanelles showed that prior to oxygen isotope stage 8, the Marmara Sea had never been isolated from the Aegean Sea because the sea floor of the strait was too deep (C. Yaltırak et al. 2002). After the Marmara Sea was disconnected from the Aegean however the land area of Thrace was greatly enlarged, particularly in the south (M. Özdoğan 1983).

THE LOWER PALEOLITHIC OF THE BOSPHORUS

Important Lower Paleolithic sites, all dating to

the Middle Pleistocene, in Thrace and the Balkans include Yarımburgaz (Turkey), Petralona (Greece), Gajtan (Albania) and Sandalja (Croatia) (A. Darlas 1995). All Lower Paleolithic sites in the Balkans belong to a relatively late part of the period (C. Runnels 2003). Until our recent discoveries in the Tekirdağ area, the only Lower Paleolithic remains from western Turkish Thrace were some "suspicious" Paleolithic finds from the vicinities of Kırklareli and Edirne provinces (M. Özdoğan 1996). The lack of research in the region is the main explanation for the lack of Paleolithic sites west of the Terkos-Selimpaşa "boundary". Even though the surveys done under the direction of M. Özdoğan were very intensive, some areas in Thrace were not covered (M. Özdoğan 2003 and C. Runnels-M. Özdoğan 2001).

The main periods of the Paleolithic are all represented on both sides of the Bosphorus (only the Later Upper Paleolithic is missing) (C. Runnels-M. Özdoğan 2001). The massive flake and chopper/chopping-tool industry of the Clatonian type found at Eskice Sırtı, probably represents the oldest occupation of the region, at least based on artifact typology. A few core tools found at Gümüşdere, on a high terrace of the Black Sea (M. Özdoğan 1985) and sites like Karababa and Davutpaşa (U. Esin 1994) constituted our base of knowledge about Lower Paleolithic in the region before the excavation of Yarımburgaz Cave.

Excavations at Yarımburgaz Cave added specific data to surface finds. The Yarımburgaz industry is more closely related to assemblages from the Middle Pleistocene of Eastern and Central Europe than to lower Paleolithic assemblages from Anatolia or the Near East (G. Arsebük 2003). The tools from Yarımburgaz seem primitive or expedient in their production, in that only what is needed is made (G. Arsebük-M. Özbaşaran 1995). The industry is characterized mainly by retouched flake tools: core tools are very few in number (S. Kuhn et al. 1996 and 1998). Specific raw materials were selected for specific types of tools and technological procedures (G. Arsebük-M. Özbaşaran 2000). There are no bifacial tools (handaxes) or evidence of Levallois debitage in Yarımburgaz (G. Arsebük 1998b). The distribution of bifacial (handaxe) Lower Paleolithic assemblages in northwestern Turkey is problematic but important. Bifacial industries are very well represented in the Near East, the Levant and southeastern Anatolia (I. Yalçınkaya et al. 1997) as well as in western Europe (H. Taşkıran 1998). Recent excavations at Kaletepe in central Anatolia have also brought to light a Lower Paleolithic industry with bifaces and cleavers (L. Slimak et al. 2005). In northwestern Anatolia and the Balkans, however, bifacial artifacts are very rare (A. Darlas 1995 and C. Runnels 2003). Some bifaces were found on the east side of the Bosphorus (A. J. Jelinek 1980 and M. Özdoğan 1986). But the Bosphorus did not constitute a permanent boundary to movement of human groups during the Pleistocene (B. Dinçer 2001b).

THE PALEOLITHIC OF TEKİRDAĞ PROVINCE

In 2000, one of the authors (BD) discovered by coincidence, the Paleolithic site called Yatak. Since that time the author has visited this site many times, and collected some surface material. The existence of this site showed that, contrary to prior ideas about destruction of Paleolithic sites in western Turkish Thrace, some Paleolithic sites might still be preserved and accessible in the region (B. Dinçer 2001c). In 2004, during one of the author's visits to Yatak, we located a second site with Paleolithic artifacts. The local name of that area is Kuştepe. In 2005, the third Paleolithic site, called Balıtepe, was located, again by chance, by the author (Fig. 1). The fact that the sites were found by chance and not through systematic survey demonstrates the potential richness of the region for the Paleolithic. A systematic survey would certainly result in the discovery of many more sites and a better understanding of their distribution.

All three of the sites are located on a high plateau on northern slopes of Ganos mountain, which extends over nearly 75 km from the west of Tekirdağ city to the east of Keşan. The area is characterized by higher elevations and different drainage patterns from the rest of Turkish Thrace, which could explain the preservation of Paleolithic sites in the region. Raw material, in the form of rounded river cobbles from ancient drainages, is plentiful in the province of Tekirdağ. Our interviews with the local people also point to the availability of raw materials in the Malkara district and the vicinity of Yatak and Kuştepe.

YATAK

Yatak is situated in the Karansılı village, nearly 30 kilometers west of the city center of Tekirdağ. The site is located nearly 350 meters southeast of the village, just 100 meters northeast of the road that goes to the village cemetery. The GPS coordinates of Yatak are 40°.58'N and 27°.11'E. The site is nearly 230 meters above sea-level (asl). (Fig. 2-3) Both unworked raw materials and artifacts are widespread in the area southeast of the village, but artifacts were concentrated in a field called Yatak by villagers, forming a cluster roughly nearly 60x75 meters in size. A pile of stones collected from that field by farmers provided the first evidence of Paleolithic artifacts (B. Dinçer 2001b). That stone pile grew each time we visited the Yatak site, and after five years the density of artifacts at the site is much lower than when it was first discovered. The stone pile which included some Paleolithic artifacts, was moved and used for construction in the village. This is a sad story of how Paleolithic sites are rapidly destroyed by agricultural activities (Fig. 5).

There are clear differences in the exploitation of different raw materials at Yatak. Chopping tools are exclusively made on quarzite whereas the assemblage of artifacts on quartz is essentially composed of choppers. Flakes were produced from quartz using discoid debitage and bipolar (hammer-on-anvil) technique: there is just a single core of quartzite. The bipolar cores are large, around 10 cm in maximum dimension, and could have been used to produce relatively large flakes. One of these cores also shows clear signs of percussion and was certainly used as a hammer. We note there are differences in the cutting edges of quartz choppers and quartzite chopping tools. The flaking of choppers from quartz generally produces abrupt or obtuse cutting edges. Quartzite pebble tools show more investment and sharper flaked edges that would be more useful in cutting activities. Some of the quartz choppers should probably be considered cores rather than tools: certainly, the distinction between cores and tools is less clear on this material. It is also possible that differences in edge morphology result from differences in the shapes of clasts of the different raw materials. The clearest tools on quartzite are made on flat pebbles, a morphology which is not represented in quartz. However, we do not know if the differences between quartz and quartzite are attributable to the morphological properties of raw materials or if they reflect choices in the selection of the pebbles for the production of tools.

Locally available flints are of poor quality. The scarce artifacts of flint resemble those in quartzite, in both the kinds of pebble tools manufactured and in the morphology of pebbles used. At the same time flint exploitation could present some similarities with quartz exploitation with respect to the presence of simple cores exploited by a variant of the discoïd method (L. Slimak 1998-1999 and 2003). There is no preparation of the striking platform in these flint discoïd cores. In this raw materials, the smooth, alluvial cortex probably presented a more homogeneous structure and so was more suitable for flaking activity (V. Mourre 1994). The single modified flint tool discovered is a roughly-shaped bifacial artifact preserving large areas of its natural surfaces. This tool was produced by using direct, hard-hammer percussion and cannot be considered as a true handaxe. In

2000, one of us (BD) found another possible bifacial artifact that has unfortunately been lost (B. Dinçer 2001b and 2001c). One flint flake from Yatak shows some alteration of its edge that could be the result of use (Table 1, Fig. 7).

KUŞTEPE

Kuştepe lies nearly 300 meters in the northwest of Karansılı village on a hill overlooking a small valley. The GPS coordinates of Kuştepe are 40°.58'N and 27.11E, and the site is situated at nearly 210 meters asl (Fig. 2, 4). Stone material, including both artifacts and unmodified cobbles are present at a higher density than at Yatak. For the most part artifacts from Kuştepe are manufactured on quartz. The industry is characterized by choppers on quartz and by some discoïd cores. The cores present the same characteristics as the Yatak cores, in that platforms are unprepared and flakes were struck directly from the cortical surface. One of the choppers is actually produced by thick, abrupt retouch on a large cortical flake. We also note the presence of an anvil-stone showing pronounced signs of battering resulting from heavy percussion. These signs of impact are confined to an area about two centimeters across on a flat pebble 10 centimeters in maximum length (Fig. 9). Flint and quartzite are poorly represented at Kuştepe; only a few choppers of these raw materials were present (Table 2, Fig. 8).

BALITEPE

Balıtepe lies in the village of Çavuşköy, nearly 6 kilometers east of Malkara and nearly 50 kilometres west of Tekirdağ. The site is located about 450 meters east-southeast of the village and nearly 150 meters south of the modern Tekirdağ-Malkara motorway. The GPS coordinates of Balıtepe are 40°.52'N and 26°.58'E, and the site is situated at about 200 meters asl (Fig. 1, 6). The artifacts from Balıtepe are manufactured primarily on quartzites. Manufacture was mainly directed at chopper production. It is particularly interesting to note that most of the quartzites employed at Balıtepe are morphologically and mineralogically similar to the quartzites of Yatak. Nonetheless we did not find any indication of chopping tools in any site other than Yatak. Like Yatak however, bipolar (hammer-on-anvil) debitage on quartz pebbles is present at Balıtepe. In fact, one of the choppers has a truncation by bipolar percussion opposed to the chopper-edge (Table 3, Fig. 10).

THE AGE OF THE INDUSTRIES

Yarımburgaz Cave provides the only archaeometric dates for the Paleolithic in Turkish Thrace, and even then the age of that site is not very secure. Based on the small mammal fauna found in the same layer as human occupation, cycle III, the Yarımburgaz assemblage can be assigned to a cold period in the middle of the Middle Pleistocene (W. Santel-W Von Koenigswald 1998). Electron Spin Resonance (ESR) dates of several *Ursus deningeri* teeth associated with the Paleolithic horizon average 200-220±20-30 ka, assuming linear uptake, 270-390±40-60 ka, if recent uptake is assumed: the recent uptake model correlates better with the microfauna (G. Arsebük-M. Özbaşaran 1999). This Tayacian-like Lower Paleolithic assemblage can thus be assigned to oxygen isotope stage 7 or 8 (G. Arsebük 2003). At this point we note that the Yarımburgaz assemblage, with its predominance of retouched flake tools, could fit comfortably within either the Middle Paleolithic or the Lower Paleolithic (S. Kuhn 2003). It is very difficult to estimate the ages of other Lower Paleolithic industries in Turkish Thrace and the surrounding areas because of the small number of sites, relatively small samples, and because most are surface finds. Eskice Sırtı and Göksu finds can probably be assigned to a period earlier than Yarımburgaz (C. Runnels-M. Özdoğan 2001). The bifacial artifacts from Göksu, on the east side of the Bosphorus (A.J. Jelinek 1980), have been assigned to the Riss glacial or Riss-Würm interglacial (oxygen isotope stages 6 or 5) (U. Esin 1992). The bifacial artifact of Kokkinopolis in Greece is estimated to date

from 250-300 kya, whereas the Gajtan finds in Albania have assigned to the to Holstein interglacial (A. Darlas 1995). It has been suggested that bifacial assemblages in the region should be assigned to different cultural contexts and different time spans (probably later) than the core-chopper assemblages (G. Arsebük 1998b).

The finds from the province of Tekirdağ reported here are clearly Lower Paleolithic in character, and could in fact reflect a long span of time. Based on techno-typological features alone, the core-chopper industries in quartz and quartzite could be among the most ancient archaeological occurrences in the region. If we compare the sites near Tekirdağ with the Yarımburgaz and Eskice Sırtı assemblages, we can hypothesize that the Tekirdağ sites were occupied in the first half of the Middle Pleistocene. The few bifacial artifacts, which are not typical Acheulean handaxes, could date from a period after the Yarımburgaz occupation. Needless to say it is very difficult to draw firm conclusions about dates based only on the typology of artifacts, but until geological or radiometric age estimates are unavailable we have no other recourse.

CONCLUSIONS

All three sites in the province of Tekirdağ were found by coincidence, without systematic survey. The accidental discovery of these sites shows that systematic survey is likely to reveal many more Paleolithic sites in the western part of Turkish Thrace. Given that modern agricultural activities are also destroying Paleolithic sites, a systematic survey is urgently needed. The existence of these sites also shows that we should re-evaluate previous theories about the geological history of the region with respect to the preservation of Paleolithic sites. The assemblages from all three sites are dominated by choppers: chopping tools are numerous only at the Yatak locality. We do not believe that this is a result of our sampling strategy. Instead, it may represent functional or chronological differences between the sites. It is also interesting to report that we have documented few pieces that can be dated to periods other than the Lower Paleolithic. These include what are probably Epi-Paleolithic or Neolithic artifacts from the village of Karansılı. Archaeological and physical anthropological evidence indicates at least three waves of migration out of Africa between 1.8 and 0.7 Ma (O. Bar-Yosef-A. Belfer-Cohen 2001). However, in our view the earliest Paleolithic industries in Turkish Thrace do not predate the Middle Pleistocene, given the limited evidence currently available. Even though Thrace has been considered a main route for the western dispersal of hominid species, our finds appear to show a relatively late date for the arrival of the Lower Paleolithic in the region. Oldowan or Mode 1 industries may have reached Turkish Thrace very late. Whereas typical Acheulean assemblages appeared both in western Europe and the Near East before 500,000 years ago, Lower Paleolithic industries with bifaces are extremely rare and atypical in eastern Europe, including Turkish Thrace, which may also point to a late arrival of the Acheulean culture in the region. In other words, rather than being a conduit for repeated movements of hominid populations, one could reasonably argue that the region was comparatively isolated from human movements in the early Pleistocene. Given the limited knowledge of early Paleolithic occupations in Turkish Thrace, however, further systematic research in the region is needed to provide more secure answers to important questions about human dispersals out of Africa and the colonization of Europe.

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REFERENCES

ARSEBÜK, G.,

1993 "Yarımburgaz, a Lower Paleolithic Cave Site Near İstanbul", *Between the Rivers and Over the Mountains*, (Eds.) M. FRANGIPANE, H. HAUPTMANN, M. LIVERANI, D. MATTHIAE, M.MELLINK, Roma, Gruppo Editoriale Internazionale, 23-36.

1995 'İnsan', 'İnsanlık' ve 'Prehistorya' (Öznel Bir Deneme)", *Halet Çambel İçin Prehistorya Yazıları*, İstanbul, Graphis Yayınları, 11-26.

1998a "A Review of the Current Status of Pleistocene Archaeology in Turkey", *Light on Top of the Black Hill*, Eds.) G. ARSEBÜK, M. MELLINK, W. SCHIRMER, İstanbul, Ege Yayınları, 71-76.

1998b "Yarımburgaz Mağarası, Pleistosen Arkeolojisi ile İlgili Son Çalışmalara 1997 Gözüyle Özet Bir Bakış", *TÜBA-AR* 1, 9-25.

1999 "İnsanın Evrim Süreci ve En Eski Kültürleri", *TÜBA-AR* 2, 31-49.

2003 "Plio-Pleistosen'de Olası Yaşam Biçimleri ve Ülkemizde Paleolitik Çağlar: Bir Deneme", *Colloquium Anatolicum* 2, 111-126.

ARSEBÜK, G., M. ÖZBAŞARAN,

1995 İstanbul'un En Eski Yerleşim Yeri: Yarımburgaz Mağaraları", *Focus* 2, 78-82.

1999 "Pleistocene Archaeology at the Cave of Yarımburgaz in Eastern Thrace/Turkey: Preliminary Results", *The Palaeolithic Archaeology of Greece and Adjacent Areas*, (Eds.) G. N. BAILEY, E. ADAM, E. PANAGOPOULOU, C. PERLES, K. ZACHOS, Athens, British School of Archaeology, 59-72.

2000 "Yarımburgaz Mağarası (1988-1990 Yılları) Pleistosen Arkeolojisi Çalışmaları", *Türkiye Arkeolojisi ve İstanbul Üniversitesi*, (Ed.) O. BELLİ, Ankara, İÜ Rektörlük Yayınları, 5-8.

BAR-YOSEF, O., A. BELFER-COHEN, 2001

"From Africa to Eurasia - Early Dispersals", *Quaternatary International* 75, 19-28.

DARLAS, A., 1995

"The Earliest Occupation of Europe: The Balkans", *The Earliest Occupation of Europe*, (Eds.) W. ROEBROEKS, T. VON KOLFSCHOTEN, Leiden, University of Leiden Press, 51-59.

DİNÇER, B.,

2000 "Türkiye Prehistoryasının İki İlgilenilmemiş Alanı" *Çapa-Mala* 2, 6-8.

2001a "Yatak (Karaısıllı) Paleolitik Çağ Buluntuları", http://paleoberkay.cjb.net 15.09.2001, http://paleoberkay.atspace.com/turkce/yatak3.html.

2001b "Tekirdağ'da Yeni Bir Paleolitik Çağ Buluntu Yeri: Yatak", *Çapa/Mala* 3, 14-17.

2001c "Trakya'da Yeni Bulunan Paleolitik Çağ Buluntu Yeri: Yatak", *Bilim ve Ütopya* 81, 72-77.

ESİN, U.

1992 "İstanbul'un En Eski Buluntu Yerleri ve Kültürleri", *S. Eyice Armağanı İstanbul Yazıları*, İstanbul, TTK Yayınları, 55-71.

1994 "Yazı Öncesi Çağlar", *Dünden Bugüne İstanbul Ansiklopedisi* C/7, 450-455.

HARMANKAYA, S., O. TANINDI, 1997

Türkiye Arkeolojik Yerleşmeleri Cilt 1, İstanbul, Ege Yayınları.

JELINEK, A. J., 1980

"İstanbul Boğazı'nın Doğu Yakasındaki Vadilerden Paleolitik Buluntular", *Güneydoğu Anadolu Tarihöncesi Araştırmaları*, (Eds.) H. ÇAMBEL, R. J. BRAIDWOOD, İstanbul, Edebiyat Fakültesi, 309-315.

KUHN, S.,

2002 "Paleolithic Archaeology in Turkey", *Evolutionary Anthropology* 11, 198-210.

2003 "Flexibility and Variation in the Lower Paleolithic: A View from Yarımburgaz Cave", *Archaeological Essays in Honour of Homo amatus: Güven Arsebük*, (Eds.) M. ÖZBAŞARAN, O.TANINDI, A. BORATAV, İstanbul, Ege Yayınları, 149-157.

KUHN, S., G. ARSEBÜK, F. C. HOWELL, 1996

"The Middle Pleistocene Lithic Assemblage from Yarımburgaz Cave, Turkey", *Paléorient* 22/1, 31-48.

KUHN, S., M. C. STINER, F. C. HOWELL, 1998

"Middle Pleistocene Hominids and Bears at Yarımburgaz Cave (Thrace, Turkey)", *Préhistoire d'Anatolie, Genèse de deux mondes*, (Ed.) M. OTTE, Liège, Eraul, 579-598.

LJUBIN, V. P., G. BOSINSKI 1995,

"The Earliest Occupation of the Caucasus Region", *The Earliest Occupation of Europe*, (Eds.) W. ROEBROEKS, T. VON KOLFSCHOTEN, Leiden, University of Leiden Press, 207-253.

ÖZDOĞAN, M.,

1982 "Doğu Marmara ve Trakya Araştırmaları", *Türk Arkeoloji Dergisi* 26/1, 37-49.

1983 "Trakya'da Tarihöncesi Araştırmaların Bugünkü Durumu ve Bazı Sorunlar", *Güneydoğu Avrupa Araştırmaları Dergisi*, 10/11: 21-58.

1985 "1983 Yılı Trakya ve Doğu Marmara Araştırmaları", *Araştırma Sonuçları Toplantısı* II (1984), 221-232.

1986 "1984 Yılı Trakya ve Doğu Marmara Araştırmaları", *Araştırma Sonuçları Toplantısı* III (1985), 409-420.

1989 "1987 Edirne ve Balıkesir İlleri Yüzey Araştırması", *Araştırma Sonuçları Toplantısı* VI (1988), 571-590.

1996 "Tarihöncesi Dönemde Trakya. Araştırma Projesinin 16. Yılında Genel Bir Değerlendirme", *Anadolu Araştırmaları* XIV, 329-360.

1999 "Anadolu'dan Avrupa'ya Açılan Kapı Trakya", *Arkeoloji ve Sanat* 90/ 2-28.

2003 "Paleolitik Çağ, İstanbul ve Yarımburgaz Mağarası. 16 Yıl Sonra Yarımburgaz'ın Düşündürdükleri", *Archaeological Essays in Honour of Homo amatus: Güven Arsebük*, (Eds.) M. ÖZBAŞARAN, O. TANINDI, A. BORATAV, İstanbul, Ege Yayınları, 179-183.

MOURRE, V., 1994
Les industries en quartz au Paléolithique moyen. Approche technologique de séries du sud-ouest de la France, Paris, Université Paris X - Nanterre, Mémoire de Maîtrise.

RUNNELS, C., 2003
"The Lower Paleolithic of Greece and NW Turkey", *Archaeological Essays in Honour of Homo amatus Güven Arsebük*, (Eds.) M. ÖZBAŞARAN, O. TANINDI, A. BORATAV, İstanbul, Ege Yayınları: 195-202.

RUNNELS, C., M. ÖZDOĞAN, 2001
"The Palaeolithic of the Bosphorus Region, NW Turkey", *Journal of Field Archaeology* 28/1-2, 69-92.

SANTEL, W., W. VON KOENIGSWALD, 1998
"Preliminary Report on the Middle Pleistocene Small Mamal Fauna from Yarımburgaz Cave in Turkish Thrace", *Eiszeitalter und Gegenwart* 48, 162-169.

SCHICK, K. D., N. TOTH, 1994
Making Silent Stones Speak, New York, Simon and Schuster.

SLIMAK, L.,
1998-1999 "La variabilité des débitages discoïdes au Paléolithique moyen : diversité des méthodes et unite d'un concept. L'exemple des gisements de la Baume Néron (Soyons, Ardeche) et du Champ Grand (Saint-Maurice-sur-Loire, Loire)", *Préhistoire Anthropologie Méditerranéennes* 7-8: 75-88
2003 "Les débitages Discoïdes mousteriens : évaluation d'un concept technologique", *Discoïd Lithic Technology, Advences and Implications*, (Ed.) M. PESERANI, Oxford, BAR International Series, 33-65.

SLIMAK, L., N. BALKAN-ATLI, D. BINDER, B. DİNÇER, 2005
"Installations Paléolithiques en Cappadoce. Etat des connaissances de cinq années de recherché sur les premiers peuplements humains en Anatolie centrale", *Anatolia Antiqua* XIII, 287-294.

TAŞKIRAN, H., 1998
"The Distribution of Bifaces in Anatolia", Préhistoire d'Anatolie, *Genèse de deux mondes*, (Ed.) M. OTTE, Liège, Eraul, 569-577.

YALÇINKAYA, I., M. OTTE, H. TAŞKIRAN,
B. KÖSEM, K. CEYLAN, 1997
"1985-1995 Karain Kazıları Işığında Anadolu Paleolitiğinin Önemi", *Kazı Sonuçları Toplantısı* XVIII (1996), 1-9.

YALTIRAK, C., M. SAKINÇ, A. E. AKSU,
R. N. HISCOTT, B .GALLEB, U. B. ULGEN, 2002
"Late Pleistocene Uplift History Along the Southwestern Marmara Sea Determined from Raised Coastal Deposits and Global Sea-Level Variations", *Marine Geology* 190, 283-305.

TABLE 1: Lithic industry of Yatak

YATAK

	Quartz	Quartzite	Flint	Sandstone	*Total by nature*	*Representation*
Softly modified pebble	5	18	3		*26*	*17.33*
Chopper	21	20	2		*43*	*28.67*
Chopper fragment	1	3			*4*	*2.67*
Chopping-tool	3	7	3		*13*	*8.67*
Chopping-tool fragment		1	1		*2*	*1.33*
Bifacial artefact			1		*1*	*0.67*
Core		6	2		*8*	*5.33*
Core fragment			3		*3*	*2.00*
Polyedric core		1			*1*	*0.67*
Discoïd core	5	1			*6*	*4.00*
Partial discoïd	2				*2*	*1.33*
Anvil core	5				*5*	*3.33*
Flake	5	14	12	1	*32*	*21.33*
Flake fragment	1		1		*2*	*1.33*
Retouched flake		2			*2*	*1.33*
Total by raw material	*48*	*73*	*28*	*1*	*150*	*100*

Note: 1 flint flake with probably mousterian faceted butt

TABLE 2: Lithic industry of Kuştepe

KUŞTEPE

	Quartz	Quartzite	Flint	Andesite	*Total by nature*	*Representation*
Softly modified pebble	6	5	3		*14*	*17.72*
Chopper	17	13	4		*34*	*43.04*
Chopper on flake	1				*1*	*1.27*
Chopper fragment	2				*2*	*2.53*
Chopping-tool		1	1		*2*	*2.53*
Anvil	1				*1*	*1.27*
Core	3	1	2		*6*	*7.59*
Core on anvil	1				*1*	*1.27*
Discoïd core	3				*3*	*3.80*
Partial discoïd core	1				*1*	*1.27*
Flake	3	5	3	1	*12*	*15.19*
Retouched Flake	1		1		*2*	*2.53*
Total by raw material	*39*	*25*	*14*	1	*79*	*100*

Note: 1 chopper on anvil

TABLE 3: Lithic industry of Balıtepe

BALITEPE

	Quartz	Quartzite	Flint	Sandstone	*Total by nature*	*Representation*
Softly modified pebble	2	5			*7*	*7.14*
Chopper	4	38	2		*44*	*44.90*
Altern chopper	1	2			*3*	*3.06*
Chopper fragment		2			*2*	*2.04*
Core			4		*4*	*4.08*
Biseau core		1			*1*	*1.02*
Discoïd core		1			*1*	*1.02*
Anvil core	2	1			*3*	*3.06*
Flake	7	13	10		*30*	*30.61*
Flake fragment		1			*1*	*1.02*
Retouched flake fragment			1	1	*2*	*2.04*
Total by raw material	*16*	*64*	*17*	*1*	*98*	*100*

Note: 1 chopper altern on flake

Fig. 1: Map showing the locations of the sites.

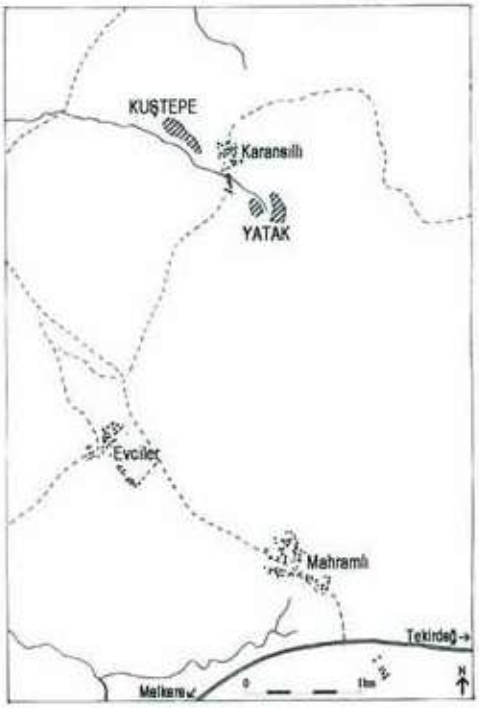

Fig. 2: Map showing the locations of Yatak and Kustepe in Karansılı village.

Fig. 3: View of Yatak from southwest.

Fig. 4: View of Kustepe from northwest.

Fig. 5: Stone cluster of collected stones from Yatak, in 2001.

Fig. 6: View of Baltepe from southwest.

Fig. 7: Stone tools from Yatak; chopper (top right), bifacial artifact (top left), chopping tools (bottom right, left and middle).

Fig. 8: Stone tools from Kuştepe; chopping tool (top left), choppers (top right and bottom left) and a chopper on anvil (bottom right).

Fig. 9: Anvil-stone from Kuştepe showing pronounced signs of battering resulting from heavy percussion.

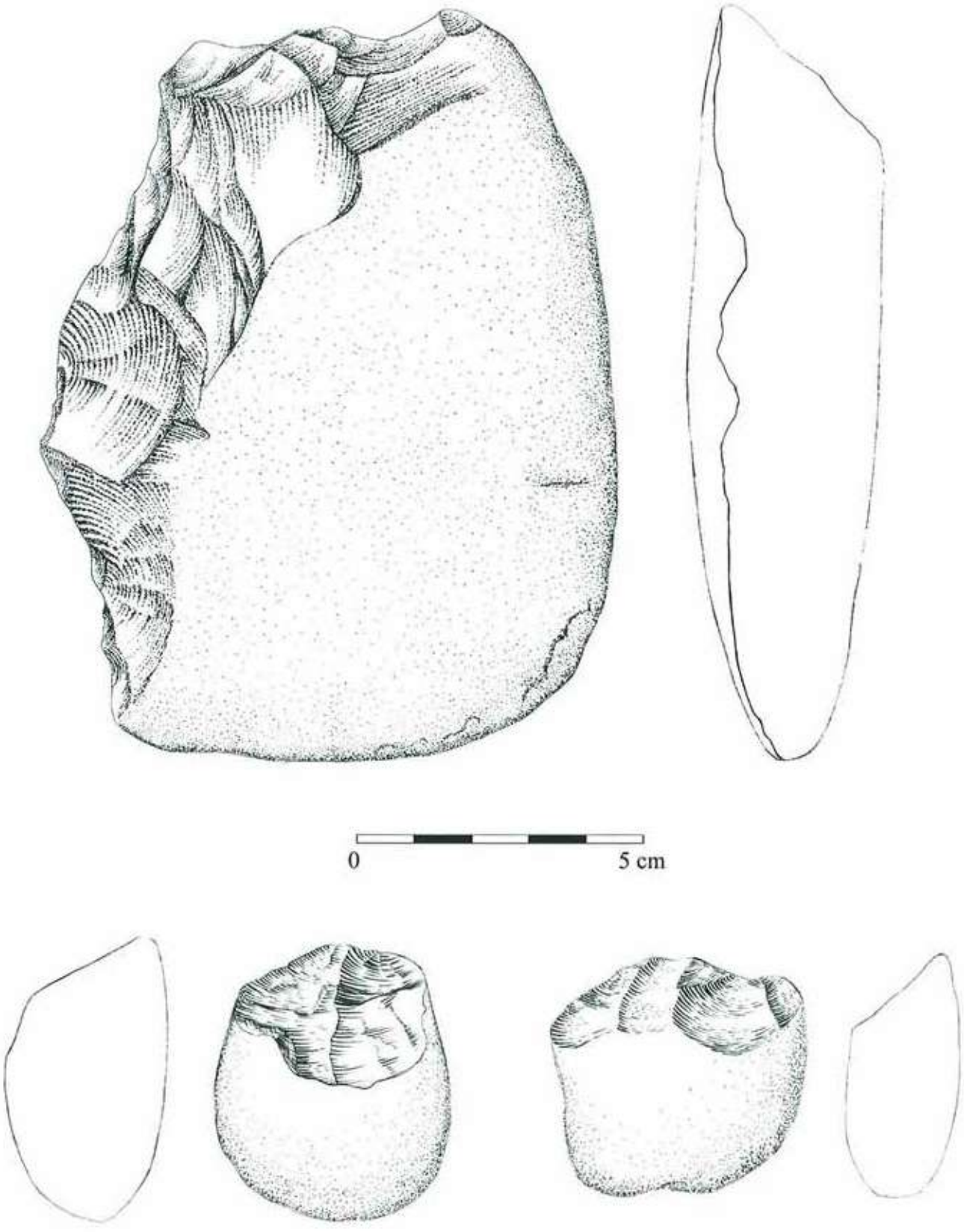

Fig. 10: Stone tools from Baltepe; chopper (top) and two "micro" choppers (bottom).