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Türk Eskiçağ Bilimleri Enstitüsü
İstiklal Cad. Merkez Han, No:181 Kat:2 34435 Beyoğlu-İSTANBUL
Tel: 0090-212-2920963
E-mail: colloquiumanatolicum@gmail.com - www.turkinst.org

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Bilim Kurulu / Consilium Scientiae

13 Nisan 1934 Bergama'nın güneybatısındaki antik sağlık ocağı Asklepieion'un tiyatrosunda Mustafa Kemal Atatürk ve beraberindekiler (Arkeoloji ve Sanat Yayınları arşivi).

SUNUŞ

Cumhuriyetimizin 100. yılında, *Colloquium Anatolicum*'un 22. sayısını yayınlamaktan kıvanç duymaktayız. 2023 yılının sadece ülkemiz için değil Dünya için türlü türlü zorluklar ile yaşanmış olmasına karşın, geleceğe umutla bakmaya devam etmekteyiz.

Dergimizin bu sayısındaki ilk beş yazı, Enstitümüzün 10 Mayıs 2022'de düzenlediği "Mağara Kazılarıyla Anadolu Prehistoryası" başlıklı çevrimiçi çalıştaya katılan meslektaşlarımıza aittir. Anadolu'nun değişik bölgelerinde farklı dönemlere ilişkin mağara kazı ve araştırmaların, ülkemizde özgün yöntemlere sahip yeni bir alanının gelişmesine katkı sağladığı açıkça görülür. Kuşkusuz arkeolojideki saha uygulamaları araştırma soruları, dönem ve buluntu yerlerinin yapısal özelliklerinin yanı sıra alanın coğrafi ve jeolojik özellikleri dolayısıyla da çeşitlilik gösterir. Ülkemizde arkeolojik bilgi üretiminin gelişimi için dönemsel ve bölgesel çeşitlilik kadar, bu durum da büyük önem taşır.

Türkiye'deki arkeoloji geleneği, Osmanlı İmparatorluğu'nun son dönemlerinde başlayan arazi çalışmaları ve gelişen müzecilik anlayışıyla yüz yılı aşkın bir süredir bilgi üreten, Cumhuriyet'in kuruluşu ve Mustafa Kemal Atatürk'ün çabalarıyla da bu üretimi evrensel değerler çerçevesinde sürdürme gayreti içinde olan bir geçmişe sahiptir. Ülkemizdeki arazi çalışmalarının başlangıcı ile Dünya'da arkeolojinin bilimsel bir disiplin olarak gelişimi esasında koşut bir süreç izler. Üniversitelerimizde 1930'lu yıllardan itibaren açılmaya başlayan arkeoloji, eskiçağ tarihi ve eskiçağ dilleri bölümlerinde, başlangıçta yurt dışında yetişen genç Türk araştırmacı ve ağırlıklı olarak Alman bilim insanları tarafından yetiştirilen kuşaklar, bugün ülke topraklarının genişliği ve tarihsel derinliği bakımdan hâlen yetersiz de olsa çok sayıda araştırma yapmakta ve ülkemizde bilimsel açıdan canlı bir ortam bulunmaktadır. Bütün bu süreç boyunca, arkeoloji ve tüm eskiçağ bilimleri belki de diğer hiçbir alanda olmadığı kadar uluslararası iş birlikleri ve ortak çalışmaların çeşitliliğiyle disiplinin evrensel çerçevesini korumayı başarmıştır.

Cumhuriyet'in ilk yıllarında olduğu gibi, ikinci yüzyılda da bilimin ulusal kimliklerden bağımsız, evrensel değerler ve bilimsel önceliklerle belirlenen bir çalışma ortamında sürdürülmesi temennisi ile...

Saygılarımızla,
Editörler Kurulu

İçindekiler

Recent Studies at Bilecik Gedikkaya Cave in Northwestern Turkey*

Bilecik Gedikkaya Mağarası'nda Son Çalışmalar - Kuzeybatı Türkiye

Deniz SARI**

DOI: 10.58488/collan.1333449

Keywords: *Western Anatolia, Middle Sakarya Valley, Gedikkaya Cave, Neolithic, Chalcolithic*

Gedikkaya Cave in northwestern Türkiye was occupied in several distinct periods. The Epipalaeolithic and Neolithic occupations coincide with 'cultural breaks' in which human populations appear to have been mobile for reasons that are still not fully understood, but which may have been associated with climatic events such those as following the Last Glacial Maximum (LGM) and the 8.2-kiloyear event. The cave may have served as a temporary or variable-term shelter for transient populations in these times. Finds from the Chalcolithic include evidence for household industry and mining activity, suggesting somewhat more settled populations or perhaps transhumance. In this article, the Neolithic and Chalcolithic settlements of Gedikkaya Cave are introduced.

Anahtar Kelimeler: Batı Anadolu, Orta Sakarya Havzası, Gedikkaya Mağarası, Neolitik, Kalkolitik

Türkiye'nin kuzeybatısında yer alan Gedikkaya Mağarası birkaç farklı dönemde iskân edilmiştir. Epipaleolitik ve Neolitik dolgular, insan hareketliliğinin, tam olarak anlaşılamayan nedenlerle yoğunlaştığı, ancak Son Buzul Maksimum (LGM) ve 8,2 ka gibi iklimsel olaylarla ilişkili olabilecek 'kültürel kırılmalar' ile çakışmaktadır. Mağara, barınmak amacıyla bu dönemlerde geçici ya da değişen zamanlarda kullanılmış olabilir. Kalkolitik Dönem'e tarihlenen buluntular, besin üretimine ve madencilik faaliyetlerine dair kanıtlar içermekte olup, bu nedenle daha yerleşik nüfuslara veya belki de yaylacılığa işaret etmektedir. Bu makalede, Gedikkaya Mağarası'nın Neolitik ve Kalkolitik dönemlere ilişkin bulguları tanıtılmaktadır.

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** Deniz SARI, Bilecik Şeyh Edebali Üniversitesi, İnsan ve Toplum Bilimleri Fakültesi, Arkeoloji Bölümü, Bilecik, Türkiye, deniz.sari@bilecik.edu.tr, ORCID: 0000-0002-2779-0757

Introduction

Gedikkaya Cave is located approximately one kilometre south-southeast of the town of İnhisar, in Bilecik Province, northwestern Türkiye. The district in which it lies is at the intersection between the Marmara, Aegean, and Black Sea zones, and was a buffer zone at the boundary between Bithynia and Phrygia in Antiquity. The cave is approximately 350 m above sea level on the northern slope of the rocky hill called İnkaya, which dominates the Sakarya (Sangarius) River valley (Fig. 1), and is located about 180 m from the river. On the slopes in front of the cave are the remains of a Hellenistic site, including a necropolis (Fig. 4a). About 500 m to its north are the remains of mediaeval structures. The cave was formed in Upper Jurassic and Lower Cretaceous limestone beds (Nazik *et al.* 2001: 57). In total, it is approximately 180 m in length, and its entrance, which faces north, is 6 m wide and 3.5 m high. The ceiling in the main gallery is between 15 and 20 m high and up to 30 m wide, and its floor is littered with collapsed stones, some of which exceed 10 m in length and appear to cover Palaeolithic material. This part of the cave is currently a habitat for bats. A natural funnel, which is largely blocked, provides some light and ventilation for the main cave. Close by are the entrances to two further caves, which contain numerous stalactites and stalagmites.

Figure 1. *The location of Gedikkaya Cave*

Exploration for phosphorite mining was undertaken in the cave in 1960, under the direction of Karl Heinz Rupprecht in the name of the General Directorate of Mineral Research and Exploration of Türkiye (MTA) (Rupprecht 1960). In 2001, a team headed by Lütfi Nazik visited the cave, again on behalf of the MTA, this time within the scope of the Central Sakarya Basin Natural Caves project (Nazik *et al.* 2001). However, the presence of archaeological material in Gedikkaya Cave was first observed and reported during the 2017 season of the Bilecik Province Archaeological Survey on the 'Documentation of Cultural Heritage in Bilecik Province and its Districts' (Sarı 2019: 444–446). Significant destruction was detected in and around the cave, due to illegal excavation. The 1960 report of the MTA observed that the fill in the entrance corridor was at least 50 cm thicker than it is today (Rupprecht 1960: 5), and it appears that layers probably belonging to the Late Chalcolithic have been lost.

Salvage excavations were begun in 2019 on behalf of the Republic of Türkiye Ministry of Culture and Tourism, directed by the author under the auspices of the Bilecik Museum (Sarı *et al.* 2022, Sarı *et al.* 2023). They were carried out with the support of the Ministry, Bilecik Şeyh Edebali University, and the İnhisar Municipality.

The Stratigraphy

The cave was occupied during at least four distinct periods, ranging from the Epipalaeolithic to the Chalcolithic. A few items from the Hellenistic period show that residents from the nearby settlement occasionally visited the cave. According to calibrated radiocarbon dating results (Fig. 2), the oldest cultural layer belongs to the Epipalaeolithic period dating from the 15th and 14th millennia BC (14,495–14,121 calBC; 13,309–13,023 calBC at 2σ probability), and the most recent to the first half of the 5th millennium BC (4616–4456 calBC at 2σ probability) representing the Chalcolithic period. One of the analysed animal bone samples returned a date of 48,000 BP, suggesting that the cave was used well before the Epipalaeolithic, though it is unclear whether this sample can be attributed to a cultural layer. Radiocarbon dates have been found that suggest occupation during the 8th millennium BC, but no associated stratigraphic layers for this period have been found: 8th millennium material was mixed into higher layers via disturbance of the cave sediments. Accordingly, only three periods of occupation can be confidently identified.

The Neolithic Period (Layer 2)

Clay fill from the Epipalaeolithic, situated in front of the so-called 'platform', formed from limestone blocks that fell from the ceiling, was cut as a pit during the Neolithic period to a depth of 60 to 70 cm and a width of around 4 m (Fig. 4b). Two straight rows of stones were built into this pit, and a partition wall made of loaf-shaped clay blocks was placed between them.

Tübitak Lab. No.	Excavation Code	Material	Date BP	Cal BC (2σ)	Median Date BC	Level/Phase	Period		Climatic events
2178	E11.13/7	Carbon	5711,31	4616-4456	4536	IA	Middle	Chalcolithic	
2179	E11.7/5	Carbon	5817,29	4729-4584	4656				
2177	CD8.41B	Animal Bone	6054,31	5041-4879	4960	IB	Early/Middle		
2609	CD8.41/2A	Human Bone	6287, 27	5316-5212	5263		Early		
HIATUS									
2176	CD8.40	Animal Bone	7023,33	5990-5831	5910	2A	Late	Neolithic	8.2 ka Phase B (6300-6000 BC)
2180	D7.9	Carbon	7339,32	6246-6077	6159				
HIATUS							Early		8.2 ka Phase A (6600-6300 BC)
2365	GMK'19.41	Human Bone	7666,35	6591-6442	6499	2B1			
2366	GMK'19.42	Human Bone	7675,34	6593-6451	6508				
HIATUS							Initial		
1789	D7.1/1	Carbon	8129,35	7187-7046	7120	2B2			
HIATUS							Aceramic		
1790	D8.25	Carbon	8336,36	7520-7319	7409	2C			
1788	CD6.2/2	Carbon	8750,37	7946-7641	7780				
HIATUS									*Younger Dryas* (10900-9700 BC)
									Bolling-Allerod (12700-10700 BC)
2175	D7.8	Animal Bone	12677,43	13309-13023	13166	3	Epipalaeolithic	Palaeolithic	
1791	D9.8/1	Animal Bone	13493,49	14495-14121	14318				
?									*Late Glacial Maximum* /LGM (24500-18000 BC)
2174	D6.32	Animal Bone	50948,783	>48618	48000		Middle/Early Upper ?		

Figure 2. *The chronology and stratigraphy of Gedikkaya*

A second Neolithic context was unearthed in a large niche where the cave widens to the west (Fig. 4c; 5). The large niche may also have been used as a room for ritual purposes. The filling covering the entrance had petrified due to the calcinating effects of groundwater and has become indistinguishable from the stone of the cave wall. Thus, the room was not noticed during the first two seasons of excavation, only being discovered in 2021 during a sounding in trench D8, situated in front of the entrance.

The room measures approximately 3 × 2 m and its ceiling is about 10 m high. Its entrance faces south (Fig. 5). Radiocarbon analysis of animal bones (5990–5831 BC and 5041–4879 BC) and human bones (6593-6451 BC; 6591-6542 BC and 5316-5212 BC) found within suggest at least four phases of occupation. A few finds dating to the Hellenistic period were found in the upper layer, the most significant being a terracotta fragment representing Aphrodite and Eros (Fig. 9m). These were most likely thrown through the natural hole on the east wall after the room went out of use, began to fill with sediment, and the entrance was closed.

Among the finds from the Neolithic within the room were human and animal mandibles, at least two human skulls, ochre balls, anthropomorphic and zoomorphic figurines, flint blades, numerous hammer stones (some of which showed signs of having been burnt), and a copper needle. A pile of stones comprising at least five layers was found at

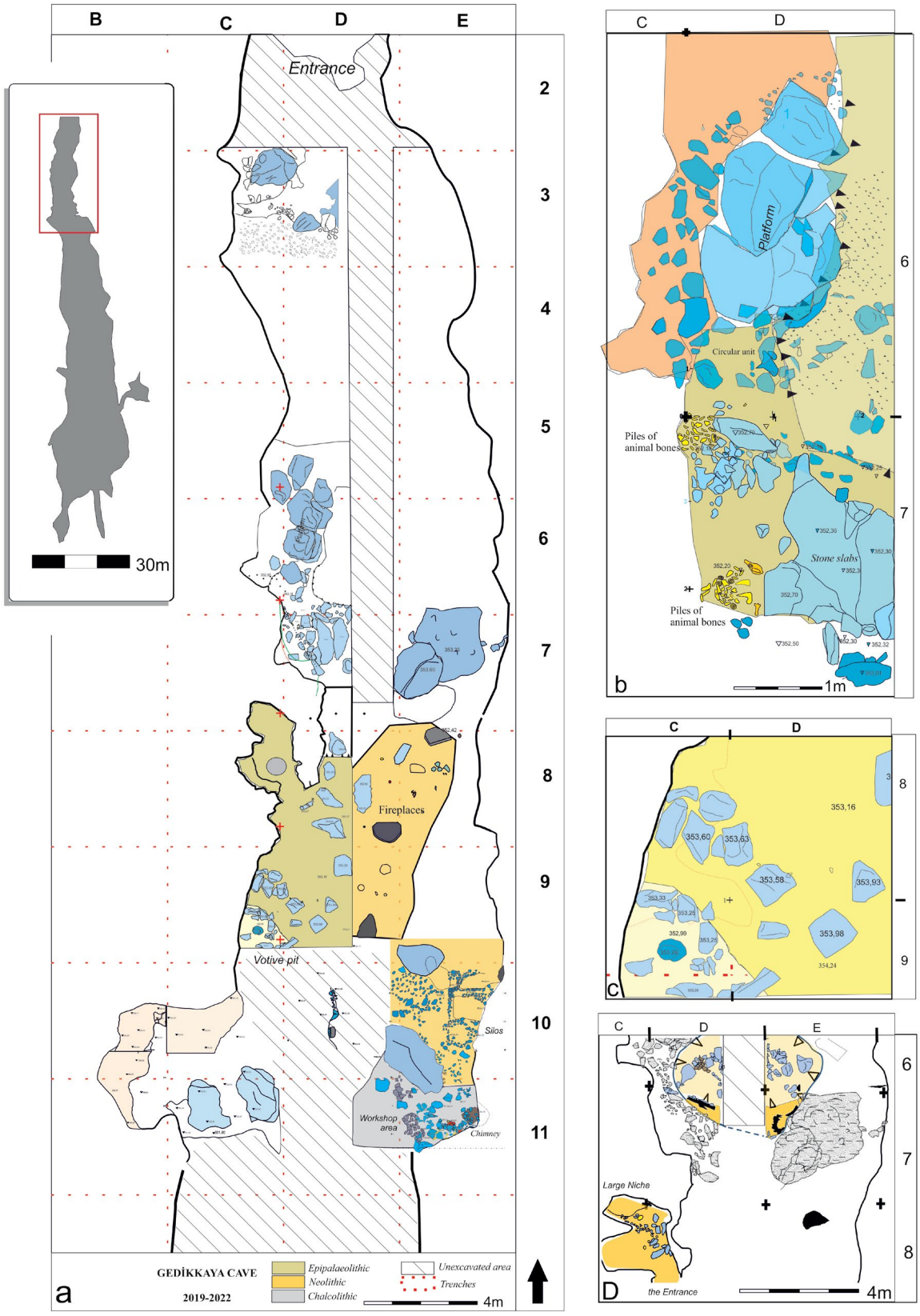

Figure 3. *Plans of excavated areas at Gedikkaya*

Figure 4. a. *The Cave from the north,* **b.** *Cut clay fill,* **c.** *The main entrance corridor and the entrance of the large niche from the South (arrow)* **d.** *Silos belonging to the Chalcolithic Period*

the back of the room. Under each layer were bones and on top of the pile was a human skull. Two figurines showing the eye sockets and mouth of a human head were found here, their features made with a pointed tool (Fig. 6a-b).

In a small niche on the western wall of the room was a mixed pile of human and animal bones, including a human skull fragment placed on a bed of seeds from a plant of the genus *Celtis* and the bones of small animals[1].

Initial assessments suggest that the remains of at least six or seven individuals were left in this room. Some of the seventy fragments so far examined bear traces of butchery, and some show signs of having been boiled. One of the skulls of an adult shows wounds caused by both a blunt and a sharp object that would likely have proved fatal. The absolute dating of the human bones with cut marks from two samples gave the results 6591-6442 and 6593-6451 calBC at 2σ probability (Fig. 2). Preliminary analysis suggests that this is evidence of possible cannibalism[2]. It is likely that aDNA analysis being conducted on one set of remains (Human G) will reveal more data. This case may have been related to a time of famine, though studies are ongoing and the damage may have been caused during a ritual.

[1] The analysis are still being undertaken by Yılmaz Selim Erdal at the Skeletal Biology Laboratory of Hacettepe University.

[2] Personal communication with Yılmaz Selim Erdal in November 2023.

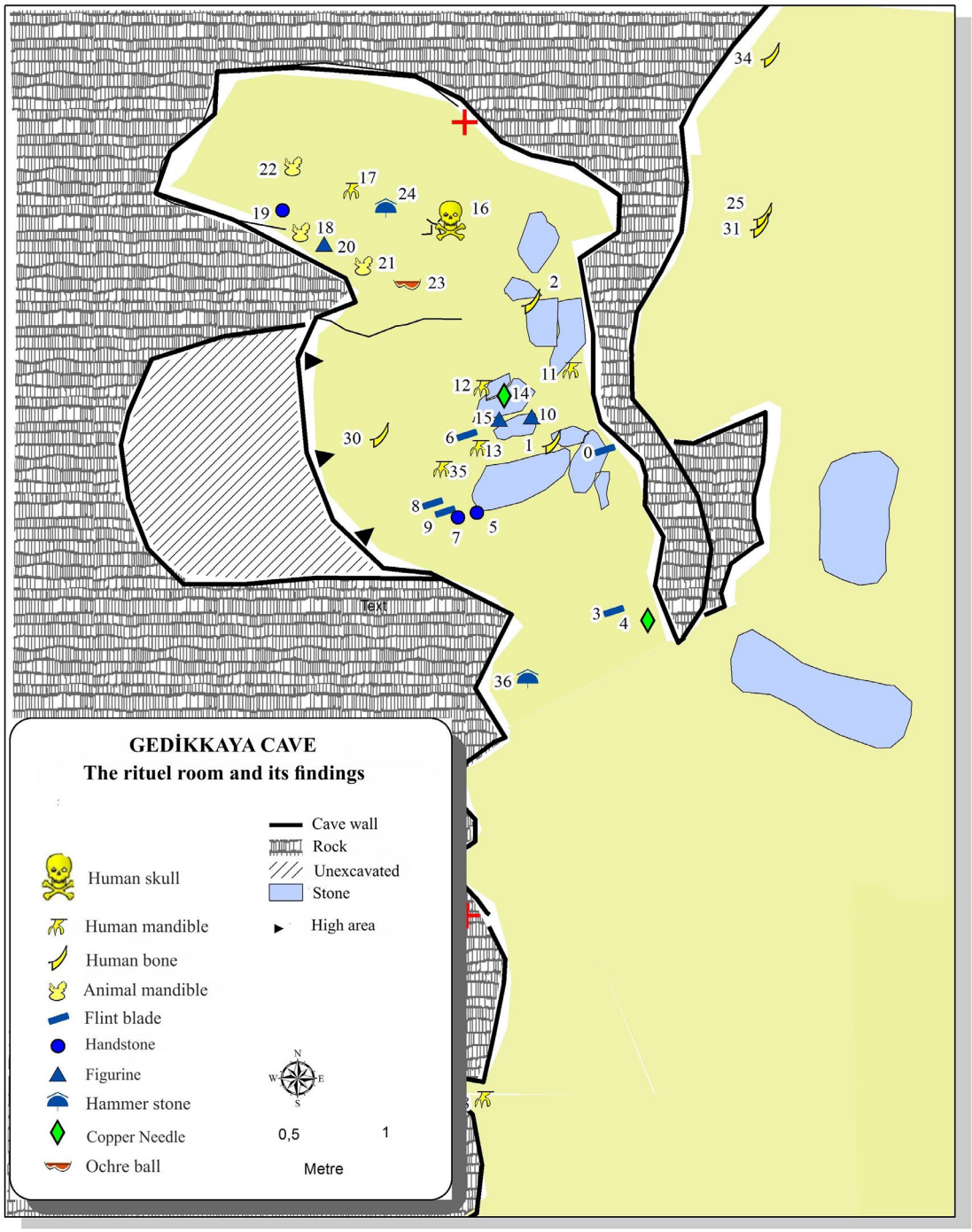

Figure 5. *The large niche or 'ritual' room on the west wall*

Figure 6. *Figurines from the rituel room*

The Chalcolithic Period (Layer 1)

Most of the architectural features in Gedikkaya Cave belong to the Chalcolithic Period. The earliest layer, Phase IB, is represented by hearths associated with living units and oval-shaped silos formed from small stones (Fig. 4d). The small size of the silos probably reflects use by one or, at most, a few families. They were found around 25 m from the cave entrance, in an area where daylight fades into semi-darkness and then darkness. There fireplaces are approximately 2 m apart (Fig. 3a). A natural chimney in the wall around 40 m from the cave entrance, where the main gallery begins, would have provided ventilation.

A workshop area was situated below this chimney. A row of stones built between the cave wall and a limestone block that had fallen from the ceiling probably served to isolate the workshop area from the main gallery. A small hearth was unearthed just beneath the chimney along with many objects found *in situ*, including bones, bone tools, grinding stones, blades, potsherds, metal needles, amulets, spindle whorls (Fig. 9a), red and yellow

ochre balls, and a basalt grinding stone with ochre powder still on it (Fig. 9e) that was apparently used to pound red pigments. Numerous animal bones were found along the northern wall of the workshop area: the bases of walls throughout the cave were used for refuse disposal. Continuing archaeozoological studies[3] suggest that a significant proportion of the sheep and goats in Gedikkaya in this period died in late spring and summer, according to analyses of aging based on epiphyseal fusion and tooth wear. It is thus possible that the cave was occupied during the spring and summer times during the Chalcolithic.

The Pottery

Perhaps surprisingly, the pottery groups found in the Neolithic layers contain features from both the Fikirtepe and Pre-Fikirtepe Neolithic cultures characteristic of northwestern Anatolia. Among the finds are ceramics that can be associated with cultures of the Balkans, the Caucasus, the Mediterranean basin, and southeastern Anatolia. The earliest known pottery from the cave was found only in small quantities, in contexts dated to around 7100 BC. It has a light brown surface, homogeneous paste with white grit inclusions, a sandy texture, a low degree of firing, and a very fragile structure (Fig. 7).

Figure 7. *The earliest pottery from Phase 2B2*

Dark-faced wares are predominated in Late Neolithic (Phaes 2A) and Early Chalcolithic (Phase IB) layers; Most were red and black-burnished. In Phase 2A, although bright red and thin-walled types were less common, and black-topped styles were encountered (Fig. 8.a: 1–2). Decorations include impressed (Fig. 8a: 3–8), incised and relief bands (Fig. 8.a: 21–26). Micaceous, coarse, uncoated wares were also found, with incisions (Fig. 8a: 11-14) and worm- or knob-like relief decorations (Fig. 8a: 9–10, 15–16, 19–20) that

[3] Archaeozoological studies are still being undertaken Can Yümni Gündem from Batman University.

Figure 8. *The Neolithic and Early Chalcolithic Pottery from Gedikkaya*

are characteristic of forms which appeared in the late 7t^{h} and early 6th millenniums BC (Phase 2A; around 6200-5800 BC) and continued in Phese IB (around 5500-5000 BC).

That said, most the pottery recovered in the cave was white painted (Fig. 8b). Pottery with white paint on brown and black surfaces was created over a long period; it appears sparsely in Phase 2A (Late Neolithic) and becomes common from the Phase IB (Early Chalcolithic). Afterwards, white painting is mostly seen on black surfaces, and occasionally on rolled-rim bowls.

Small Finds

The small finds in the cave, most of which were recovered from Phase IB, were diverse, and include blades, scrapers, flat axes, spindle whorls, pierced ceramics, awls, needles, peelers, marble vessels, and grinding stones made from a variety of raw materials. The

b

finds attest to numerous household industries, including weaving, woodworking, and leatherwork (Figure 9a–i). Early Chalcolithic mining is demonstrated by the presence of copper needles, a malachite ingot, and a malachite bead (Fig. 9c). A clay head (Fig. 9k) and the upper body of a marble 'Killia' figurine (Fig. 9a) suggest interactions with the Aegean world, especially the Cyclades.

Conclusions

The sparse Neolithic finds seem to indicate short-term occupation of Gedikkaya cave in a period that coincides with the so-called '8.2-kiloyear event', in which global cooling peaked. Many sites in western Asia were abandoned around this time (Weninger *et al.* 2014: 13–14), as some communities became mobile in order to escape the severe environmental conditions associated with the climatic event. Gedikkaya Cave would have been a suitable,

Figure 9. *Selected small finds from Gedikkaya Cave*

if perhaps temporary, stopping point.

Industries such as weaving, woodworking, animal husbandry, and mining in the Chalcolithic Period suggest that the environment was more stable than it was in the Late Neolithic. It is possible that the cave was used as a highland (Turkish *yayla*) retreat from the hot and dry summers typical of the Mediterranean microclimate that followed the 8.2-kiloyear event.

The periods in which Gedikkaya Cave was inhabited coincide with 'cultural breaks' – with circumstances not associated with nearby cultural entities – for reasons that are not fully determined but which seem to be largely associated with climatic events. Settlement activity in the cave seems to be related to interregional or semi-annual human mobility, in which the cave was a place of shelter, security, and accommodation for transient populations. Gedikkaya (and similar locations) may have been a conduit by which newcomers from distant lands merged with local groups, inexorably leading to the emergence of new cultural identities.

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