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Neolithic studies

Archaeological evidence for 9th and 8th millennia BC at Girmeler Cave near Tlos in SW Turkey

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ABSTRACT – *A mound settlement in front of the Girmeler Cave near the major Lycian city of Tlos in SW Turkey revealed evidence for occupation during the late 9th and 8th millennia BC. The ccupation is characterized by a structure with at least two layers of lime-plastered floor, hearths and bins and a wattle-and-daub superstructure, all pointing to a sedentary community engaged in intensive hunting and gathering. The trial trenches at Girmeler Cave also yielded evidence of an Early Pottery Neolithic period at the end of the 8th millennium BC. The remains of several buildings with terrazzo floors and wattle-and-daub superstructures were found. It is likely that the cave served as a sacred site in the Early Pottery Neolithic period. There was a hiatus between the late 9th/early 8th millennium BC and the Early Pottery Neolithic occupations at the site.*

IZVLEČEK – *Naselbina na gomili pred vhodom v jamo Girmeler v bližini pomembnega likijskega mesta Tlos v jugozahodni Turčiji razkriva dokaze o poselitvi v času poznega 9. in 8. tisočletja pr. n. št. Značilnost poselitve je struktura z vsaj dvema plastema z apnom prekritih tal, ognjišč, odpadnih jam in butane nadgradnje, kar kaže na sedentarno skupnost, ki se je ukvarjala z intenzivnim lovom in nabiralništvom. Testne sonde v jami Girmeler so prinesle dokaze o poselitvi v obdobju zgodnjega keramičnega neolitika ob koncu 8. tisočletja pr. n. št. Odkriti so bili ostanki več zgradb s teraco tlemi in butano nadgradnjo. Verjetno je, da je jama v zgodnjem keramičnem neolitiku služila kot svet kraj. Med poznim 9./zgodnjim 8. tisočletjem pr. n. št. in poselitvijo v zgodnjem keramičnem neolitiku je prepoznana prekinitev.*

KEY WORDS – *Anatolia; Pottery Neolithic; cave site; burials; rituals*

Introduction

Girmeler Cave, situated in the valley below the major ancient Lycian city of Tlos to the east of the modern town of Fethiye in Southwestern Turkey, presents archaeological evidence of one of the most poorly understood periods of the region, the 9th and 8th millennia BC (Fig. 1). The cave, located at the end of a promontory of limestone hill, is formed from two long galleries that are almost parallel (Fig. 2). Gallery I, about 100m long, is a narrow cave. Gallery II, 150m in length and larger than Gallery I, has two entrances opposite one another and contains stalactites and stalagmites. There is a natural hot thermal spring close to the site, which might have been one of the reasons that led to the selection of this locality for occupation from as early as the late 9th millennium BC to the Byzantine period.

Girmeler Cave was first recognised as an archaeological site by Fethiye Archaeology Museum in the 1980s, when a mound type settlement at the cave mouth was bulldozed away illegally to establish thermal installations (*Köktürk 2000*). This mound

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once stood in front of the cave that was continuously occupied from almost as early as the late 9th millennium BC to the Byzantine period. Because nearly 6m of the top layers of the mound were destroyed, only the lowest layers containing evidence of occupation for the late 9th/early 8th millennium calBC remained. Small portions from the edges of the mound were also preserved in the mouths of Gallery I and II which provides a limited picture of the stratigraphy of the site. This paper introduces data derived from four trial trenches opened in the lowest layers of the mound in front of the cave and in the preserved parts of the mound in the mouth of Gallery I. David French (*2008*) introduced some of the finds that remained after the destruction of the mound.

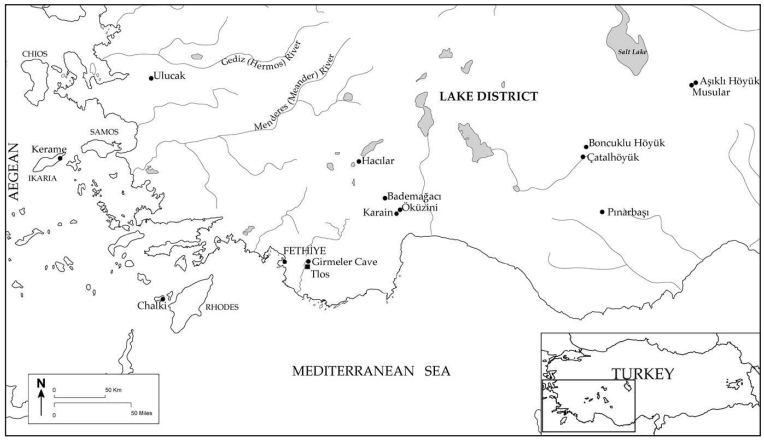


Fig. 1. Map locating Girmeler Cave and other major sites mentioned in the text.

The archaeological investigations represented by four trial trenches and surveys were conducted between 2011 and 2013 by a team representing the Tlos Excavation Project under the auspices of the Turkish General Directorate of Antiquities and Museums. Because Tlos is among the major sites mentioned in the 2nd millennium BC Hittite texts such as *Tlawa*, the pre-Classical past of the city and its territory attracted a great attention among Lycian specialists (*Korkut 2013*). It was during the exploration of the pre-Classical sequences at Tlos and its territory that the site came to our attention and was included in the research programme.

The late 9th/early 8th millennium BC occupation: a sedentary community?

Two trial trenches (A and C) in the lowest layers of the mound revealed archaeological evidence of late 9th/early 8th millennium calBC structures and related features. In Trench A, this occupation is about 7.6m below the original surface level of the mound, suggesting the intensity and longevity of the settlement. Part of a structure with a lime-plastered floor was discovered in Trench A in 2013 (Fig. 4). The plastered floor with small stones has evidently been renewed at least twice. Two postholes gouged into the plaster floor were also noted. The structure appears to have had superstructures of wattle and daub. This structure also has a number of features, including two circular sunken mud plastered basins and a rectangular pit. These features show the long-term and regular use/reuse of the structure. The finds include an oval basin filled with ash, and burnt and fire-cracked stones. The basin might have been used for cooking facilities. Two circular hearths of the earlier phase were found beneath this oval plastered basin. Close to the hearths of the early phase are two shallow rectangular features with roughly oval corners, both filled with ash. At least two more hearths were also found in the early phase, but their exact connection with the structure is obscure. When the structure was abandoned, further pits for burned lime and various sizes of hearth were placed over its remains. Three AMS radiocarbon dates (Wk-37966: 8906±37 BP; Wk-37967: 8876±33 BP; Wk-35608: 8868±25 BP) obtained from samples taken from these deposits in Trench A fall between *c*. 8200–7900 calBC.

In order to reach virgin soil, the southeast corner of Trench A was deepened, but the sounding yielded a line of stones and clay lumps with a dense concentration of animal bones and chipped stone implements in red palaeosols. Red paleosols were also discovered just below the surface in Trench C in front of Gallery II. Less than half a metre of the deposit was excavated in Trench C because a rock fall sealed the trench. A burial leaning against the cave wall was found in Trench C (Fig. 5). The burial revealed a flexed articulated adult on his/her left side in a contracted position. Three flint artefacts were found *in situ* around the skull.

In Trenches A and C, flint was the raw material for the manufacture of chipped stone tools (Fig. 6). No obsidian was found. Because it was collected from a variety of mixed sources, flint is often very variable in character; in this case, red-brown is the most common. A flake-based technology can be observed in the chipped stone industry of the Girmeler



Fig. 2. Aerial view of Girmeler Cave from the south showing the mouths of Gallery I (left) and Gallery II (right). A mound once stood in the front of the cave.

Cave. Tools are rare, but flakes are numerous; they were made from small flint blocks by direct percussion technique with the help of a hard expedient tool. Cores often have multiple platforms with a limited amount of flakes taken from each. Blade cores are rare. All were bidirectional blade cores, and only a few traces of core preparation are present. Most of the blanks were used directly, without retouch. Tools include end and circular scrapers on flakes, perforators, blade, and bladelets. A sickle blade with parallel lateral edges is unique. It must be mentioned that no microliths were found in the four trial trenches at the site.

The preliminary analysis of animal bones from Trenches A and C indicates that *Sus scrofa* (wild boar), *Cervus elaphus* (red deer), *Dama dama* (European fallow deer), *Caracal caracal* (caracal), and *Lepus europaeus* (European hare) were the most common species represented, indicating that hunting was part of the subsistence strategy of settlers at the site. Fish and birds were also consumed. Caprines and aurochs were not detected at all among the available animal bone assemblage. In addition, two perforated and burned *Nassarius* shell beads were found in the habitation debris of the structure in Trench A. One small stone with a polished groove which could be identified as a shaft straightener was also found in the habitation debris. A total of 19 worked bones have also been identified among the habitation debris in Trenches A and C (Fig. 7); three are pendants made from the bones of *Lepus europaeus*, each with a hole for suspension, while 13 are awls pointed either at one end or both ends. The remaining three worked bones are tips of bevel-ended tools. The habitation debris in Trench A also revealed grind stones, mainly large querns bearing extensive abrasive use wear on their ventral surfaces.

The late 9th/early 8th millennium calBC occupation at Girmeler Cave was characterised by a total absence of pottery. The structure with at least two layers of lime-plastered floor, wattle and daub superstructures, and floor furnishing in Trench A points to a sedentary community. However, it is unclear whether sedentism could be viewed as an extension of radiating mobility or as a generically distinct way of life. The site is contemporary with well-known 9th millennium calBC Central Anatolian sites such as Aşıklı, Pınarbaşı and Boncuklu. This period in Central Anatolia is characterised by sedentary communities engaging in intensive hunting and gathering. Oval structures with mud-brick walls and a central hearth existed at both Aşıklı and Boncuklu (*Özbaşaran 2012; Baird* et al. *2012*). The architectural tradition at Pınarbaşı is different, as the site is characterised

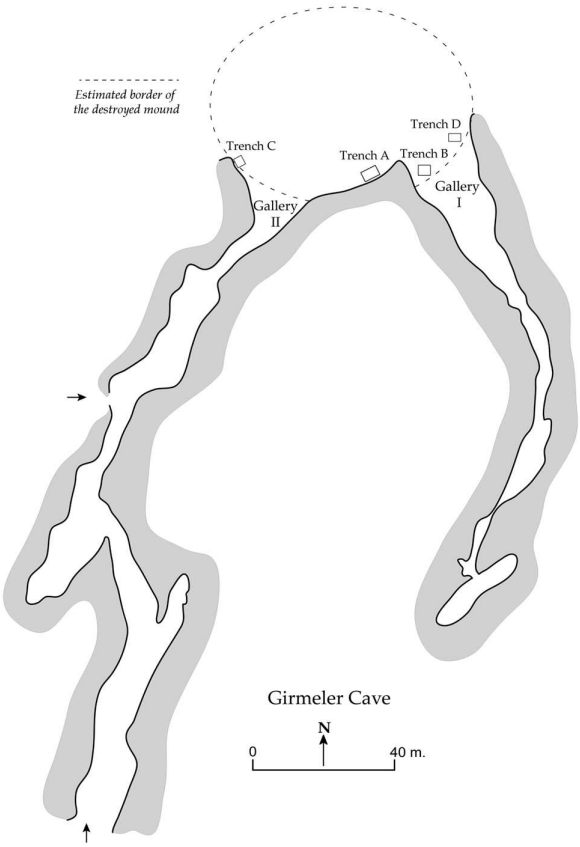


Fig. 3. Map of Girmeler Cave showing trial trenches.

by sunken curvilinear buildings with wattle and daub superstructures (*Baird 2012*). Human remains have been discovered beneath the floors of Aşıklı and Boncuklu, but not at Pınarbaşı. The structure in Trench A at Girmeler Cave may be associated with the curvilinear, wattle and daub architectural tradition of Pınarbaşı, with the difference being the lime-plastered floor.



Fig. 4. Trench A with the remains of a late 9th/early 8th millennium BC structure with a lime-plastered floor and related features such as hearths, bins, basins, and postholes.

Subsistence in Central Anatolia in the 9th millennium calBC depended on hunting mainly cattle, boar, deer, sheep and goat, and gathering plants for food. Cattle, sheep, and goat are totally absent from Girmeler Cave. Differences in archaeological assemblages of faunal remains might be explained by differences in the strategies of 9th millennium calBC communities. The chipped stone assemblages of Central Anatolian sites were dominated by obsidian and characterised by microliths. The chipped stone assemblage at Girmeler Cave is different from that of the Central Anatolian assemblages. Microliths are totally absent; flake-based technology is dominant. All these differences may show a different form of sedentism in Southwestern Anatolia.

Some dates from layer Ib1 at the Öküzini Cave fall into the end of 9th millennium calBC, *i.e.* contemporary with Girmeler Cave. Layer Ib1 of the Öküzini Cave is described as a mixture of microlithic industries with Neolithic elements, and may be assigned to the Aceramic Neolithic Period (*Albrecht* et al. *1992*). Despite the more or less contemporary dates, there are no identical similarities between the assemblages of the two caves.

The end of the early phase of the Aegean Mesolithic also dates around the end of the 9th millennium calBC. The available evidence from the semi-permanent settlements at Maroulas on Kythnos in the Cyclades and Kerame I on Ikaria in the Dodecanese both show that the lithic industry of this period consisted of flake-based technology. Denticulated-notched forms, end-scrapers, perforators and arched backed pieces were the most frequent chipped stone tools at these two sites (*Sampson* et al. *2012*). A small scale excavation at Kerame I yielded no architectural structures except hearths and several stone rings, while the remains of more than 30 stone circular dwellings were found at Maroulas (*Sampson* et al. *2010*). The structures consist of small stones placed in an upright position on the periphery and flat slabs on the floor. Burials were recovered beneath the floors of the circular dwellings or between them. In the Aegean, the west trench in the Cyclopes Cave on Youra was dated to the middle of the 9th millennium calBC. The lithic industry here is also characterised by a flake technology in which flaked tools, end-scrapers, retouched flakes and notched tools dominate (*Sampson* et al. *2008; Kaczanowska, Kozłowski 2008*). Surface finds from Chalki in the Dodecanese also suggest a similar chipped stone industry within the Aegean Mesolithic tradition, but the presence of microblade technology and a more numerous group of geometric and parageometric inserts makes this industry different. The chipped stone industry at Girmeler Cave bears general similarities with the Aegean Mesolithic, although tools such as blades with parallel lateral edges also find parallels in Neolithic contexts.

The late 8th millennium BC occupation: an Early Pottery Neolithic sacred site?

Archaeological evidence for Early Pottery Neolithic at Girmeler Cave was mainly recovered from part of the mound that remained after destruction at the mouth of Gallery I. The profile of the mound at the mouth of Gallery I measures 20m in length and about 1–1.5m in height. In the 2012 and 2013 seasons, two small trial trenches (B and D) were opened in this area to obtain a picture of the stratigraphy over the late 9th/early 8th millennium BC occupational debris. In front of Gallery I, a number of superimposed terrazzo floors were exposed in the section, along with parts of a building with a terrazzo floor



Fig.5. Trench C with a late 9th/early 8th millennium BC burial in contracted position.

overlying them (Fig. 8). The examination of the surviving parts of the standing walls suggests that this building was made of wattle-and-daub. The wall was plastered on the inside and outside with fine layers of lime. The terrazzo floor of this building was made with lime and small stones with thickness varying from 9cm to 12cm. A number of lumps of clay with impressions of split planks and twigs were found among the structural debris over the terrazzo floors (Fig. 9).

The other terrazzo floors of underlying buildings were cleaned in the 1x3m sized Trench D, which was opened to reach the bedrock. A total of nine superimposed layers of terrazzo floors and eight layers of burned debris were revealed. The first terrazzo building was formed directly on the stony virgin soil. It seems that when the building fell into disuse, it was deliberately burned and another built directly on top. The building was probably burned ritually and regularly in order to mark the end of the 'life' of the structure. Almost all burned debris contained scattered seeds, probably wheat, some of which stuck to the lime floors, apparently as part of a closing ritual. The last terrazzo building was destroyed by a natural disaster. Very large rocks fell onto the building from the ceiling of the cave. Other terrazzo floors and burned debris in the profile of the mound indicate that at least three additional terrazzo buildings once lay at the mouth of Gallery I.

Pottery is the most common artefact found in this period. The bottom layer yielded pottery typical of Bademağacı Early Neolithic I /9–8. The very oldest pottery at Girmeler Cave is rare, consisting mainly of coarse, grit-tempered grey to black clay, with a reddish-brown surface colour. In the upper layers, red and black-slipped, fine-burnished pottery begin to appear. No decoration is seen on the pottery. Medium to large deep bowls with rounded sides predominate the assemblage. The eastern-most surface of Gallery I and the entrance to Gallery II (*French 2008*) yielded Late Neolithic/Early Chalcolithic white-on-red and red-on-buff painted pottery, similar to those of the Lake District region.

The chipped stone tools recovered from the Early Neolithic occupation were made from flint, although two obsidian tools of probably Melian origin were also identified. The chipped stone technology differs from that of the late 9th/early 8th millennium BC occupation. Typical artefact assemblages include large blades. Grind stone tools, especially large saddle querns and pestles, also existed. A full-grooved stone fishnet sinker was also discovered.

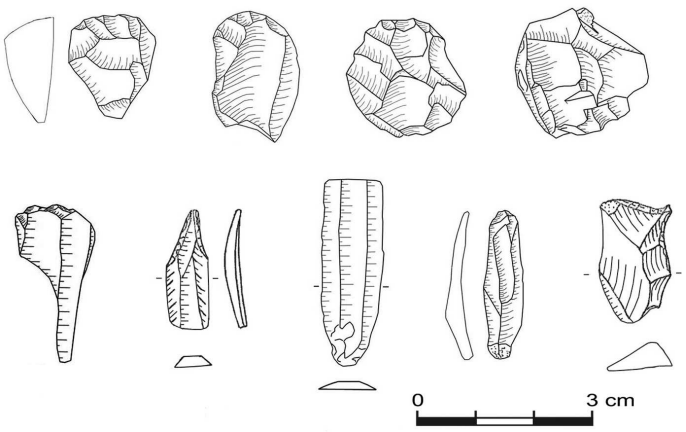


Fig. 6. Late 9th/early 8th millennium BC flint artefacts from Trenches A and C.

As mentioned above, the remains of the mound at the mouth of Gallery I are formed of buildings with terrazzo floors. Terrazzo floors were constructed of burnt lime and crushed limestone and were polished. The embedded crushed limestone gives these terrazzo floors a slightly mottled appearance. The earliest known lime plaster pyrotechnology dates to *c.* 12 000 calBC in the Levant, although floors made of lime

plaster are not recorded in the Middle East until *c*. 9000 calBC (*Kingery* et al. *1988*). Buildings with terrazzo floors are generally associated with special buildings in the Aceramic period of Southeastern Turkey (*e.g.*, Göbeklitepe, Çayönü, and Nevali Çori), and also from Aceramic Central Anatolia (*c*. 8500–6600 calBC). Both Terrazzo Building T at Aşıklı Höyük and Terrazzo Building A at Musular have been interpreted as special buildings where ritual activities might have taken place (*Duru, Özbasaran 2005.26*). Buildings with terrazzo floors also existed around 7000 calBC at Early Neolithic settlements in the Lake District, including Hacılar and Bademağacı (*Duru 2012*). Special buildings marked by their red-coloured lime plastered floors were also found in Ulucak, Western Anatolia, *c*. 7000 calBC (*Çilingiroğlu* et al. *2012*). It is possible that the buildings with terrazzo floors at Girmeler Cave might have been more or less contemporary with those of the Lake District. A single radiocarbon date (KIA-44211) recovered from this area in the trial trenches of 2011 provided a date around 7460–7070 calBC (*Becks, Polat-Becks 2013. 166*).

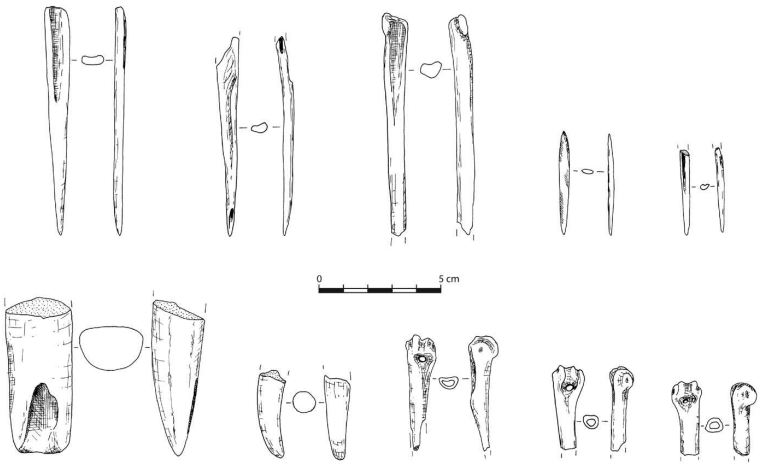


Fig. 7. Late 9th/early 8th millennium BC bone objects from Trenches A and C: (a-e) awls, (f) part of a bevel-ended tool, (g) tip of a round-ended tool, (h-j) fragments of pendants with holes for suspension.

The terrazzo buildings identified at the mouth of Gallery I at Girmeler Cave might have also been used for ritual and ceremonial purposes. Caves are not only physical geographic landmarks, but also part of the very structure of the spirit world. They are the dwellings of deities, a place where one can pass from one cosmic zone to another (*Duerr 1985*). Caves may also symbolise the dead and the underworld, the womb, childbearing and new life. Although usually portrayed as terrifying, dangerous or unpredictable places, caves appear in many myths as sources of growth, life and rebirth. They were probably sacred meeting centres in the Neolithic Period.



Fig. 8. Trench D and the remains of buildings with terrazzo floors representing early pottery Neolithic at the preserved edge of the mound at the mouth of Gallery I.

Concluding remarks

Girmeler Cave is one of the first extant early sedentary sites with a subsistence based mainly on intensive hunting and gathering in SW Turkey. The differences between the archaeological assemblages of faunal remains and the chipped stone tool production at Girmeler Cave and other sites of this period, such as in the Lake District, Central Anatolia, and the Aegean islands, show that sedentism developed along quite different paths in SW Turkey. The Early Pottery Neolithic period at Girmeler Cave, on the other hand, is characterised by buildings with terrazzo floors at the entrance to Gallery I, indicating that these buildings might have had sacred functions. The Early Pottery Neolithic culture identified at Girmeler Cave more or less shared the same cultural tradition to which the cultures of the Lakes District also belonged in this period. Whether a hiatus occurred between the late 9th/early 8th millennium BC occupation dating between 8200 and 7900 calBC and Early Pottery Neolithic occupation dating around late 8th millenni-



Fig. 9. Lumps of clay with impressions of split planks and twigs found in occupational debris just above the terrazzo floors.

um BC is difficult to estimate with certainty due to the extensive destruction at the site and the nature of the topography, which slopes down from east to west. However, the horizontal association of sections of four trial trenches indicates that the late 9th/early 8th millennium calBC occupation unearthed at Trench A constitutes the lowest layer. Although remains representing Early Pottery Neolithic occupation are absent above Trench A because they were moved away during the destruction of the mound, a deposit of some 0.80m thick grey-brown silt overlying the late 9th/early 8th millennium calBC occupation is observable here. It is also clear from Trench D that the Early Pottery Neolithic occupation rested on bedrock, as the ground level in this part is higher than in the western part. This indicates that not all parts at the front of the cave were used in the late 9th/early 8th millennium calBC. The differences in the material assemblages of the late 9th/early 8th millennium calBC and Early Pottery Neolithic occupations also confirm that a hiatus existed between these two periods. Therefore, the new data from Girmeler Cave sheds some light on aspects of culture and subsistence at two different, crucial cultural stages of SW Turkey, which has long been considered void of human occupation during the Neolithic and pre-Neolithic periods.

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