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A New Epi-Paleolithic Site in the Northeast Mediterranean Region: Direkli Cave (Kahramanmaraş, Turkey)

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Introduction

Blade or laminar industries have a long history. Many assemblages from Europe, the Near East and Africa provide evidence for the production of blades and laminar flakes during the Middle Paleolithic/Middle Stone Age, and even the Later Lower Paleolithic[1]. But first dominant appearing of these technologies is about 40,000 B.P. and continues throughout the late Pleistocene and is a widespread phenomenon over much of the globe during the Early Holocene[2]. Although the beginning of systematic production of microliths in the eastern Mediterranean is seen in the Upper Paleolithic Ahmarian Industry, the origin and nature of microlithic industries in the region of the Anatolian Plateau is virtually unknown.

The best known laminar industries in Anatolia are from Öküzini Cave, in the province of Antalya, in the western Mediterranean Region and also Üçağızlı Cave in Hatay, (Fig. 1). Öküzini Cave industries are more different from the Zarzian Culture, which is recognized throughout the Zagros mountain range. However, Öküzini Cave blade and bladelet industries are mainly based on microlithic manufacture. The main microlithic types at Öküzini are backed bladelets, obliquely truncated backed bladelets, triangles, lunates and a few trapezes and there is no evidence for systematic use of the micro-burin technique. For these reasons, Öküzini microlithic industries (layers IV, III and II) are known to be roughly contemporary with the Natufian industries of the Levant[3]. Üçağızlı Cave, on the other hand, predates the Öküzini sequence and dates to the Initial Upper Paleolithic and Early Ahmarian[4].

Why are microliths such an important part of Epi-Paleolithic lithic industries? Following the Last Glacial Maximum (c. 22,000 BP) the physical environment of the Mediterranean Basin changed rapidly. The southern portions of the Taurus-Zagros arc, known as the "fertile crescent", are characterized by a complex fault system and tectonic activity. In this

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1 Bar-Yosef - Kuhn 1999, 323.

2 Neeley 2002.

3 Bar-Yosef 1998.

4 Kuhn 2002; Kuhn 2004.

perspective, the microlithic elements show up as a solution for foragers to survive in a complex and changing landscape. In addition, the use of microlithic technology was affected by some factors such as population mobility and availability of raw material.

If we would like to determine the differences between the microliths of the Late Upper Paleolithic and Epi-Paleolithic, we have to take the special features of retouch in each into consideration. The main difference between retouches on microliths is that it is simple and/or has a tendency to be backed. While the straight bladelets of the Upper Paleolithic are mostly simply retouched, the bladelets tools of the Epi-Paleolithic tend to be backed. In addition, retouch on Upper Paleolithic bladelets was usually partial, while in the Epi-Paleolithic the lateral edges of bladelets were retouched throughout to aid hafting. In addition, Epi-Paleolithic microliths are characterized by a high degree of standardization in both morphology and dimensions within the assemblage. These features allow Epi-Paleolithic assemblages to be distinguished from those of the Late Upper Paleolithic.

In 2006, on behalf of Gazi University, the author began a new project focusing on the Paleolithic of the Northeast Mediterranean region in Turkey (*The Prehistoric Survey and the Direkli Cave Excavations in Kahramanmaraş, Turkey*). As a part of this large project, the new excavations at Direkli Cave provide important new insights to the chronological problems of the Anatolian Upper and Epi-Paleolithic.

Geological Features of Direkli Cave

Direkli Cave is located in Miocene and Eocene deposits of Tekir, Hacıveliler, Kilisecik and Alacık Formations[5]. This area has been heavily affected by intensive tectonic activities resulting in half graben type basins in the northwest of Kahramanmaraş (Fig. 3)[6]. There are many caves in this graben[7]. Direkli Cave at an altitude of 1500 meters above sea level is one of the caves in the graben (Fig. 2).

The first exploration of Direkli Cave was carried out by Kökten[8] in 1959. After re-examination of various sites in the Tekir Formation region, Direkli Cave excavations began in 2007[9].

Excavations and Sedimentation

Early excavation had been carried out in the middle of the cave by Kökten[10]. Unfortunately, we don't have any archaeological materials or documents concerning Kökten's collection. However, he published an article describing the lithic remains related to the Aurignacian and including a microlithic component.

In 2007-2008 seasons, a total of some 40 m^2 was excavated in two areas at the east wall of the cave (Fig. 4). The geological stratum on the east profile (Fig. 5) has shown that entire surface of the area was covered with goat dung at a depth of approximately 10 cm.

5 Gül *et al.* 2005.

6 Gül *et al.* 2005.

7 see Kökten 1960.

8 Kökten 1960.

9 Erek 2009.

10 Kökten 1960.

Under this surface we found fine and coarse gravels. Within the upper layer we found the remains of metal arrowheads and a metal knife as well as some microlithic components indicating that this stratum is mixed.

The sequence of the Epi-Paleolithic occupation of the cave extended into the third substratum. The sediments of this layer are dark brown and include coarse of limestone collapsed from the roof of the cave.

A calcite-rich layer was observed at the bottom of the end stratum (Stratum IV). These deposits have apparently contributed to the preservation of the material.

Raw Materials

Excavations at Direkli Cave produced a wide assortment of findings. The classifications of these findings in respect of raw materials are as follows:

1. Stones
   a. Radiolarite
   b. Flint
   c. Obsidian
   d. Chert

   Related to chipped stone industries.

   e. Pebble.....*Related to manufacturing of axes.*
2. Animal Bones
3. Shells
   a. Marine shells
      -Dentalium
      -Nasarius gibbosula
   b. Terrestrial Shells
      -Euscorpiidae

Among the raw materials used in the chipped stone industries, flint and radiolarite dominate. Flint and chert are available locally near the cave, but radiolarite, or fine-grained flint, derives from as yet unknown and possibly nonlocal sources. The presence of obsidian also indicates the presence of long distance exchange networks at Direkli.

The results of typological observations on the obsidian blanks demonstrate that it derives from the Melendiz mountain sources in Cappadocia (Central Anatolia).

The presence of marine shell also indicates the presence of long distance exchange networks reaching the Gulf of Iskenderun in the southwest, a straight line distance of about 175 km from Direkli. Terrestrial shells representing the genus *Euscorpiidae* can still be found in the vicinity of the cave today.

Artifacts and Typology

The findings recovered from Direkli have been organized into five categories for analysis. These include the following:

1. Chipped stone products
2. Bone Tools

3. Ornaments
4. Pottery
5. Metal findings

Pottery and metal objects were represented by only a few samples. They derive primarily from the upper layers (0-2) and represent the Middle Ages (Fig. 5). The artifacts related to the Epi-Paleolithic period begin from layer three.

Analyses of the lithic assemblages from areas of the 2007 excavation indicate that the assemblage is both highly standardized and is dominated by bladelet production techniques. Bladelets were obtained from core reduction that is, on the whole, unidirectional (Fig. 10.4-5). But there is some evidence for bidirectional knapping of cores as well (Fig. 6: 7, 9:9-10, 10:2). The tool kits produced from bladelets is classified as follows:

1. Backed bladelets (Fig. 6)
2. Geometric Microliths (Fig. 7)
3. Dufour bladelets (Fig. 9:7-8)
4. End scrapers (Fig. 8:1-9, 11-12)
5. Borers (Fig. 9:4-6)
6. Points and/or Arrow heads (Fig. 9:9-11)

Backed Bladelets:

This group has secondary importance in all of the lithic assemblages from Direkli Cave. These pieces, called "curved backed bladelets"[11] have a curved lateral edge where they have a retouched backing (Fig. 6). Presumably they had been shaped by pressure flaking techniques. The other edge that is approximately parallel to the backed edge is generally unretouched, but few samples exhibit flat retouch on the opposite edge (Fig. 6:4-5). A sample of the backed bladelets has partial retouches on the right lateral edge (Fig. 9:1); these seem to be 'partially backed'.

Geometric Microliths:

Geometric microliths are quite significant for defining techno-typological development in Direkli Cave stratigraphy because they arise between the third and fifth levels. Geometric microliths are important for defining cultural changes that take place from Upper Paleolithic to PPN periods. A great many of the geometric microliths obtained from Direkli Cave are of different types. The majority of them are classified as lunates (Fig. 7: 1-11, 15-21, 24-25), while projected lunates comprise a secondary category (Fig. 7:12-14, 22, 26-27). Atypical triangles (Fig. 7:28) and trapezes (Fig. 7:23) are present but rare.

Dufour Bladelets:

This group is represented in all of the lithic assemblage by two samples (Fig. 9:7-8). The retouch feature of one of them is interesting for description of "Dufour" technique (Fig. 9:7) The concave lateral edges of these pieces were slightly inclined on both upper

[11] after Kartal 2002, 242.

and ventral surfaces. In this way, the lateral edge assumes the attitude of a ridge. The other sample is classic type Dufour Bladelet (Fig. 9:8).

End Scrapers:

End scrapers are observed in the Epi-Paleolithic period as well as geometric microliths. Generally, all of them are small and have a broad front (Fig. 8:1-3, 6-9). Parts of blades were preferred in the choice of blanks although the sample in Fig. 8:11 was made on bladelets. This group is classified into different types as follows:

1. End scraper on flake (Fig. 8:1)
2. Straight End Scraper (Fig. 8:2-3)
3. Thumbnail End Scraper (Fig. 8:7-9)
4. Atypical End Scraper (Fig. 8:4-6, 12)
5. End Scraper on bladelet (Fig. 8:11)

Borers:

Borers are represented by few samples in the Direkli Cave assemblage. These include three types:

1. Angle Borer (Fig. 9:4)
2. Oblique Borer (Fig. 9:5)
3. Axial Borer (Fig. 9:6)

The angle borer in figure 9:4 is only retouched by fine flaking on the left lateral edge of the ventral face, but the oblique borer in figure 9:5 is shaped both on the ventral and dorsal faces by fine retouch. However, the axial borer is made by fine retouches of both lateral edges on the distal part of a bladelet.

Points and/or Arrow Heads:

Points and/or arrowheads are not abundant in the Direkli Cave assemblages. They are represented by three types, but were found in the upper mixed layer. One of them resembles a Font-Yves point (Fig. 9:11). This type is generally found in Upper Paleolithic sequences in Europe and the Zagros[12]. The second projectile point probably belongs to a later period (Fig. 9:10), because it is not associated with Late Upper and Epi-Paleolithic assemblage in any other place. It is likely that it belongs to Pre-Pottery Neolithic period. The negative scars of the arrow head show that bidirectional knapping on the cores was used. Retouch is limited to the distal lateral edges of blade. The proximal end has prepared for hafting. The last specimen of an arrowhead is micro-sized and includes a shoulder on the right edge. The left side of the end is shaped with a small flaking that is similar to a notch, and the proximal end is truncated (Fig. 9:9).

Miscellaneous:

Blade blanks are rare; in particular, those manufactured from obsidian are extremely rare (Fig. 9:3). A complete flint blade is truncated on the distal end (Fig. 9:2) and a bulb of percussion removed from the ventral face. In addition, plunging flakes are low in

12 Otte *et al.* 2007, 87.

frequency. One of them shows the existence of the transverse knapping technique (Fig. 10:1). Side-scrapers are also rare but we have a unique sample that is shown in Fig. 10:3. This side scraper was made on a pebble. The dorsal face includes cortex, the natural surface.

In addition to chipped stone artifacts, worked bone was also obtained in the second or third layers (Fig. 10:6-7). One of them has a narrow perforation in the proximal end represented by a fragment from distal to medial. A pin was found with scratches on the proximal end. Both of the bone needles that were discovered are intensively polished.

In the Layer 5, a unique implement was obtained. This object, called a grooved axe, has a groove located along the long axis and was made on a pebble (Fig. 11:1).

Ornaments

The appearance of ornaments such as beads and pendants during the Paleolithic is the point of an important stage in the evolution of human behavior. If ornaments appeared much earlier in one small area and spread from there, it could be argued that their diffusion reflected the expansion of a particular (modern) human population. In the eastern Mediterranean Basin (The Levant), it has seemed, until recently, that ornaments became widespread only in the late Upper Paleolithic or early Epi-Paleolithic, 20,000 years ago. This fact was particularly puzzling in the context of recent arguments about modern human origins since the Levant is the only possible route of movement from North Africa into Western Asia[13].

The ornaments recovered from excavations at Direkli Cave is known to have been made from marine shell, primarilly *Nasarius gibbosula* but also dentalium, transported from the Gulf of İskenderun (Fig. 11:2-5). They are present in multiple levels (0, 1, 3, 4) and show the presence of important parallels between the Epi-Paleolithic of the Levant and of the Northeast Mediterranean region. In addition, some claws of *Escorbiidae* were also used for making beads.

Conclusion

As a result of the new analyses of Direkli Cave material we can suggest that Direkli Cave provide archaeological data relevant to important questions concerning the late Upper Paleolithic and Epi-Paleolithic periods in Anatolia. The Anatolian Epi-Paleolithic was well known from Öküzini and Üçağızlı Caves. In the near future the Epi-Paleolithic material obtained from Direkli Cave will explain this period more clearly. Furthermore, Direkli Cave offers a new source of data to address the problem of microlithization in the Late Upper Paleolithic and Epi-Paleolithic periods. The general view from the artifacts at Direkli Cave indicates that the influence of material culture from the East Mediterranean (The Levant) extends towards Kahramanmaraş. However, there are significant differences between the two regions as well.

13 Kuhn *et al.* 2001, 7641

According to Belfer-Cohen and Goring-Morris[14] and Bar-Yosef[15], in the past, the definition of the Epi-Paleolithic was based primarily on the appearance of microliths as a major element of lithic assemblages. However, it is clear that it is not the appearance and the numbers of microliths but the backing and standardization of microliths distinguish "Upper Paleolithic" from "Epi-Paleolithic" mindsets. Although sporadic backed items appeared in the lithic repertoire of the early Upper Paleolithic, they became the dominant tool category in most Epi-Paleolithic industries and, as such, are their hallmark. As a result, differentiation between cultures of the Late Upper Paleolithic and Epi-Paleolithic/ Final Paleolithic periods could emphasize microlithic elements. The upper layers of Direkli Cave are characterized by a high degree of standardization in morphology and dimensions within the assemblage. This situation indicates that people in Epi-Paleolithic period took to agricultural activities gradually.

In spite of the great importance of the pre-agricultural period in Anatolia, not enough research has been carried out on the late Upper and Epi-Paleolithic periods. While sites of the PPN period are intensively investigated by scholars, with the exception of the three sites mentioned above (Karain, Öküzini and Üçağızlı Cave) the late and Epi-Paleolithic habitations in caves were not widely investigated in the twentieth century. As a result, the new excavations at Direkli represent an important chance for developing new perspectives on a crucial and poorly understood period in Anatolian prehistory. Future seasons of excavation at this important site will provide important new data on the nature of Late Paleolithic and Epi-Paleolithic adaptations in the Northeast Mediterranean region.

[14] Belfer-Cohen – Gorring-Moris 2002, 61, 63

[15] Bar-Yosef 1970.

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Öz

Kuzeydoğu Akdeniz Bölgesinde Yeni Bir Epipaleolitik Merkez: Direkli Mağarası, Kahramanmaraş

Yakın Doğu ve Kafkaslar arasında bir köprü görevi gören Anadolu Platosu, Afrika kökenli insanların yayılmasına da yardımcı olmuştur. 1900'lerin başlarından bugüne kadar geçen sürede Anadolu'da yapılan Prehistorya araştırmalarına genel olarak baktığımızda Alt Paleolitik ve Epipaleolitik arasında kültürel silsilelerin bulunduğu görülebilir. Genelde Alt Paleolitik kültürlere ait objeler yüzey bulguları arasında, Orta Paleolitik objeleri hem yüzeyde hem de mağara sedimantasyonlarında, Üst Paleolitik objeleri ise mağara sedimantasyonlarında ele geçmektedir. Paleolitik Çağ'ın sonu ile Neolitikleşme süreci arasındaki Epipaleolitik kültürlere, 1990'dan bu yana ulaşılmasına karşın belirsizlikler varlığını korumaktadır. En iyi bilinen sit Öküzini Mağarası'dır. Kazıları geniş çaplı sürdürülen ve buluntularıyla Epipaleolitik Dönemi tanımlayan Öküzini Mağarası, kendine özgü kültürel bir yapıyı işaret etmektedir. Anadolu ile Yakın Doğu arasında benzerlikler gösteren ikinci bir Epipaleolitik sit, Direkli Mağarası kazıları başlayıncaya kadar bilinmiyordu. Doğaldır ki, tıpatıp aynı kültürel yapıyı beklemek doğru değildir. Ancak, temel özellikler bakımından benzerlikler bulmak önemlidir. Direkli Mağarası buluntuları Yakın Doğu Epipaleolitik sitlerinde, özellikle de erken Natufiya kültürlerinde görülen temel benzer özelliklere sahip gibi görünüyor. Radyokarbon tarihleme testleri henüz sonuçlandırılmadı ancak genel malzemeler, yontma taş aletler ve hayvan kemikleri arasındaki genel dağılımı, Younger Dryas ile tarihlenebilen bir kültürel evreyi işaret ediyor.

Direkli Mağarası, Kahramanmaraş'ın 70 km kuzeybatısında, Höbek Dağı'nın eteğindeki kireçtaşı bir sırt üzerindedir. Kökten'in 1960 yılındaki ön raporunda ilk kez Aurignacian olarak değerlendirilen mikrolitik bileşenli bir kültür tanımlanmıştır, fakat yakın zamandaki incelemeler burayı, Levant bölgesindeki litik buluntu grupları ile benzerliklerine dayanarak Epipaleolitik olarak yeniden tanımlamaya olanak vermiştir. Direkli Mağarası'ndaki kazılar 2007 yılında bu makalenin yazarı tarafından başlatılmıştır. Yeni kazıların sonuçlarına göre mağara, mikrolitik üreten avcı-toplayıcılar tarafından iskân edilmişti. Anadolu'da iyi bilinen tek Epipaleolitik iskân Antalya Öküzini Mağarası'nda olup Levant bölgesinin kuzey sınırı olan Toros yayının kuzeyi daha az tanınmaktadır. Bu bağlamda Direkli Mağarası, az bilinen bu döneme tarihlenen mikrolitçe zengin birikimleriyle öne çıkmaktadır. Arkeolojik malzemenin analizine göre Direkli Mağarası endüstrileri, Levant bölgesi Epipaleolitik mikrolitlerine, daha doğudaki Zarzian geleneğininkinden daha fazla benzemektedir. Bu husus özelikle yarımay biçimli aletler ve sırtlı dilgiciklerin varlığı, üçgenler, trapezoidler vs. yokluğu ile de desteklenmektedir.

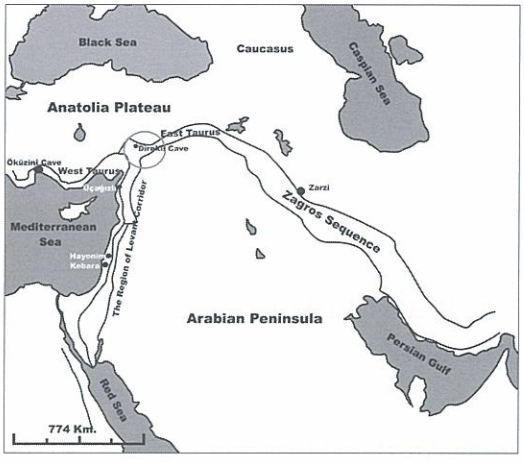


Fig. 1 The some Epi-Paleolithic/Natufian sites on the Taurus-Zagros and Levant Corridor.

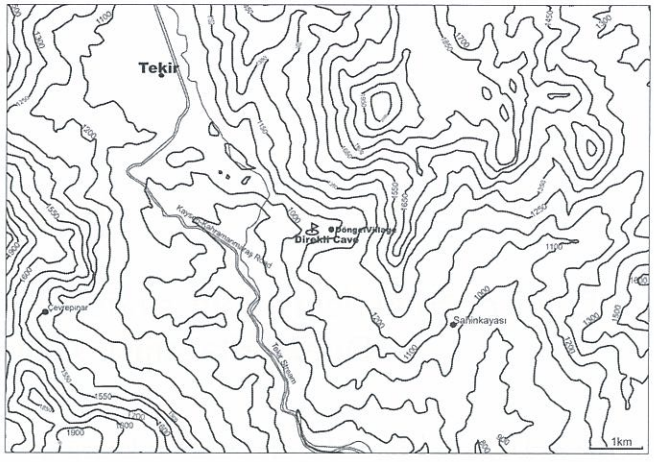
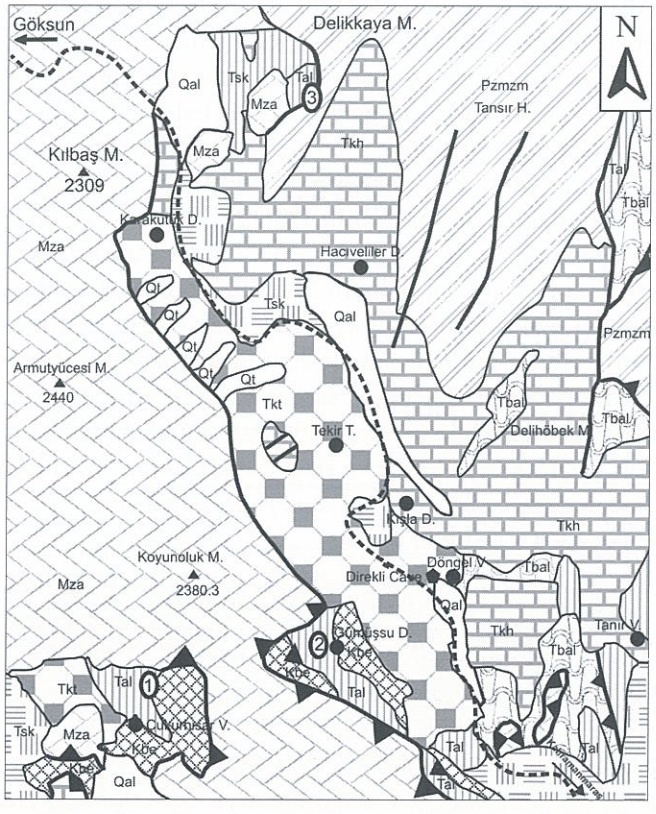


Fig. 2 Geomorphological map showing the location of Direkli Cave.



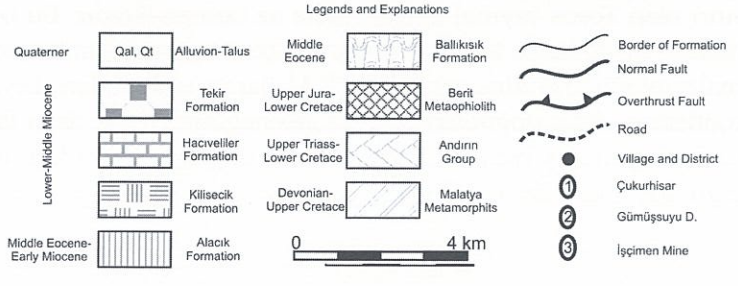


Fig. 3 Geological map of showing location of Direkli Cave within Tekir Formation (modified from Gül *et al.* 2005).

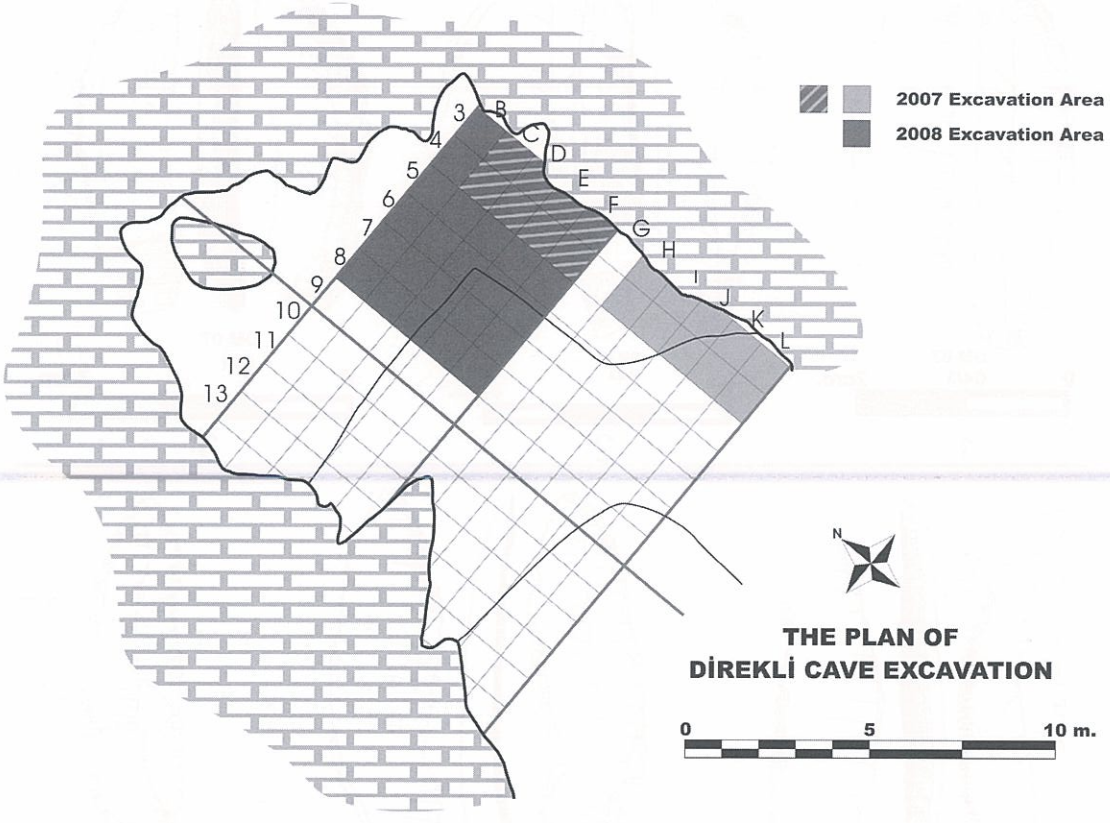


Fig. 4 Schematic floor plan of Direkli Cave. The excavation areas are in the 2007 and 2008.

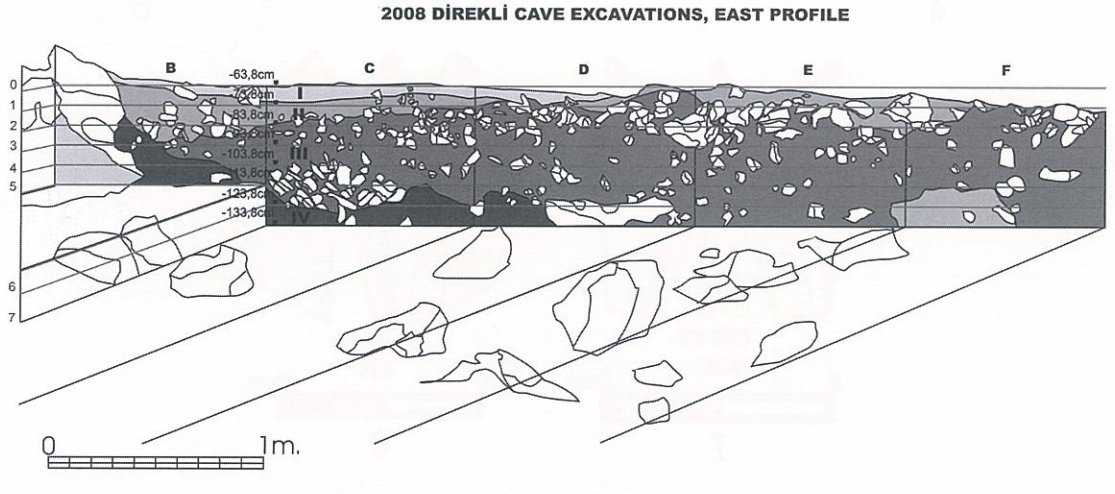


Fig. 5 Eastern Profile in north-south direction of Direkli Cave.

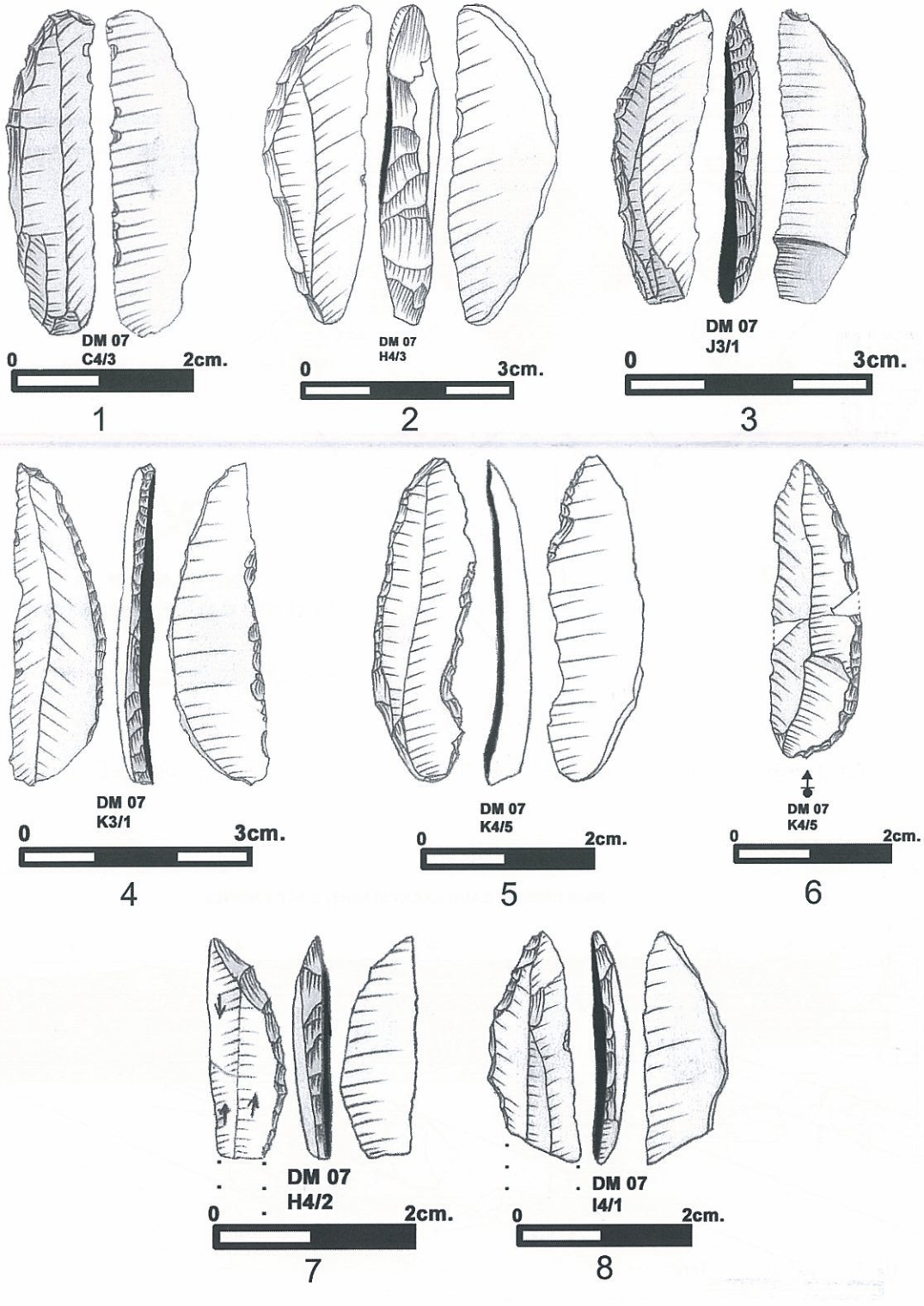


Fig. 6 Curved Backed Bladeletes.

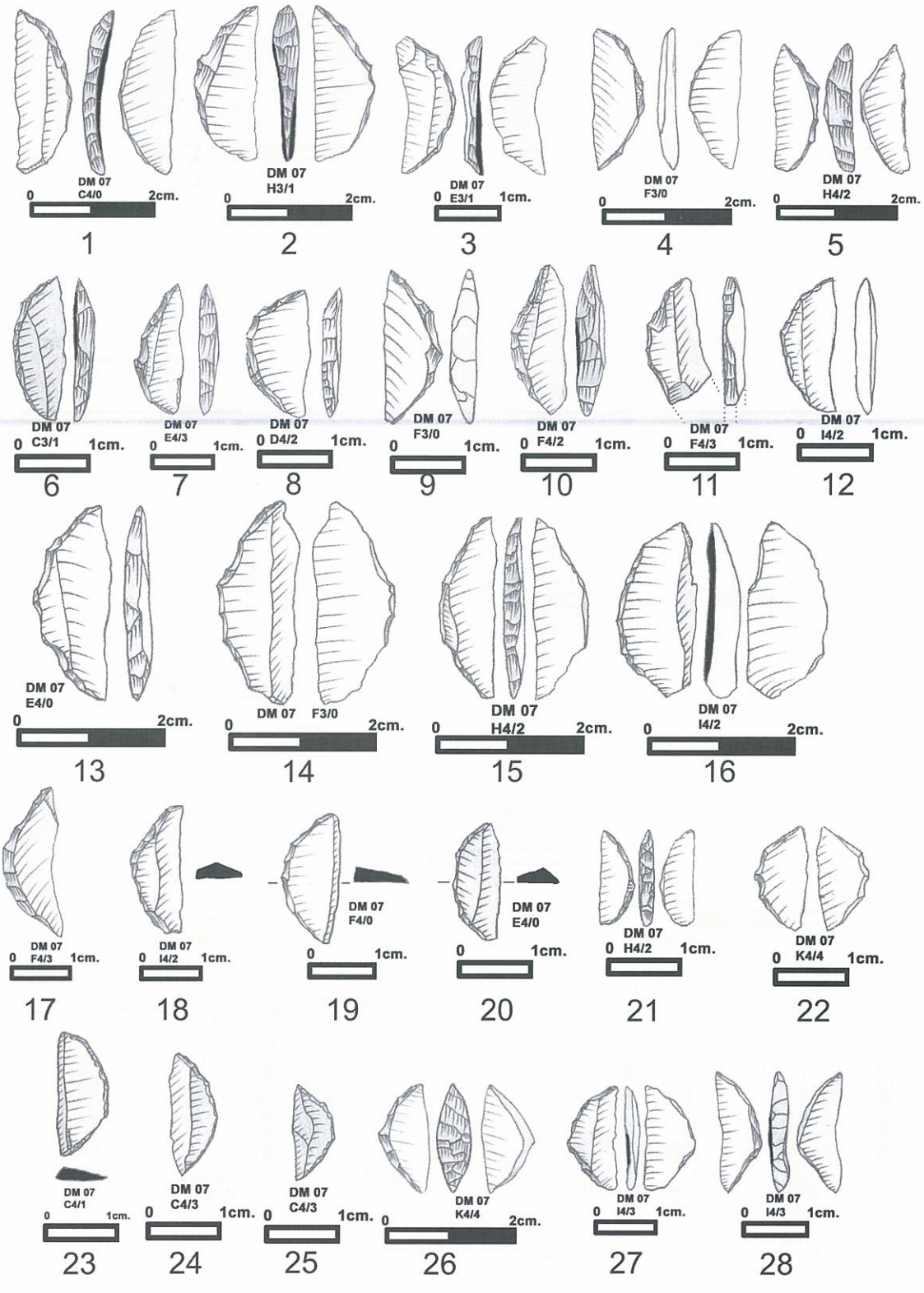


Fig. 7 Geometric Microliths.

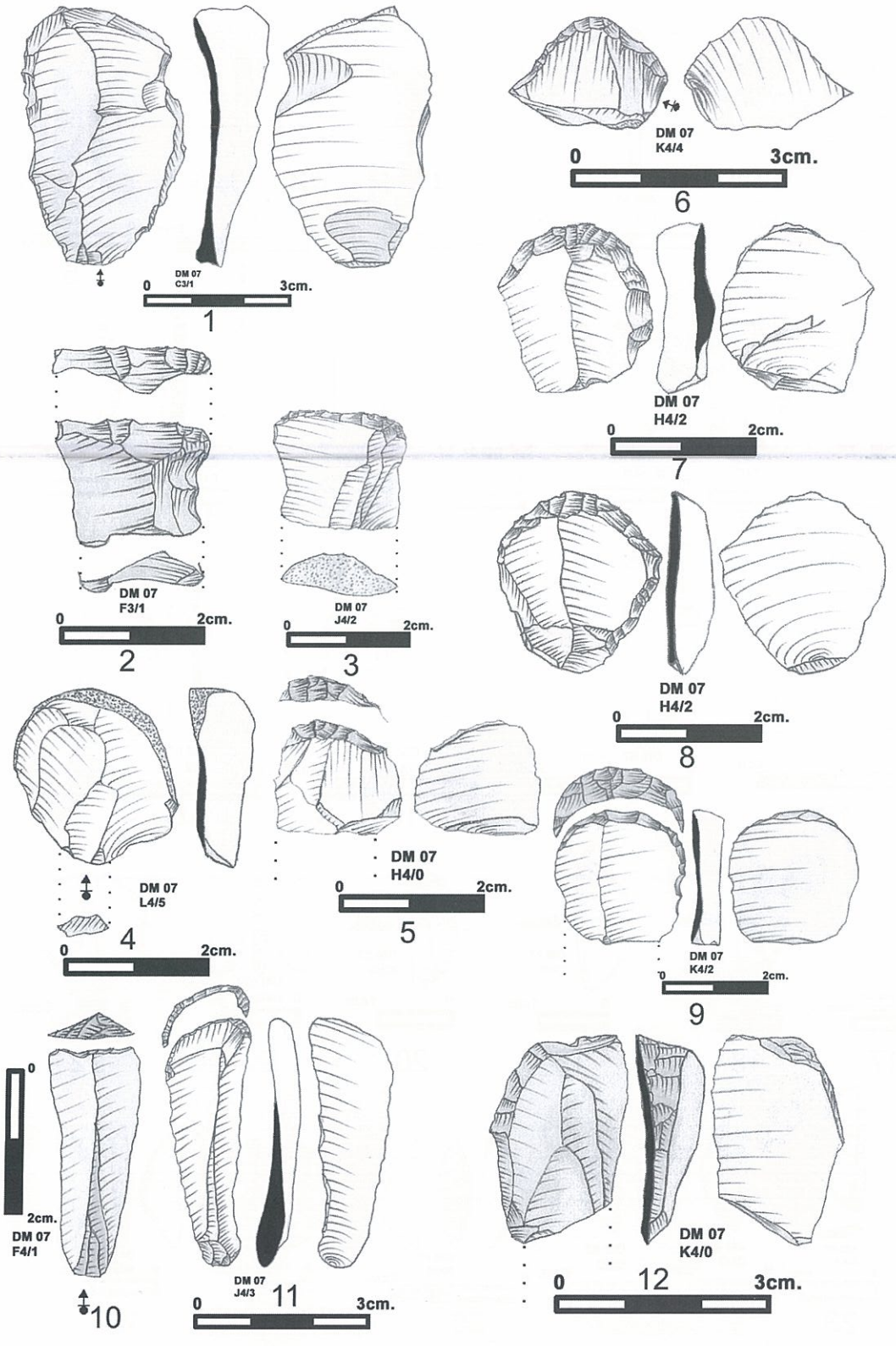


Fig. 8 1-9, 11-12: End scrapers, 10: Concave Truncated Bladelets.

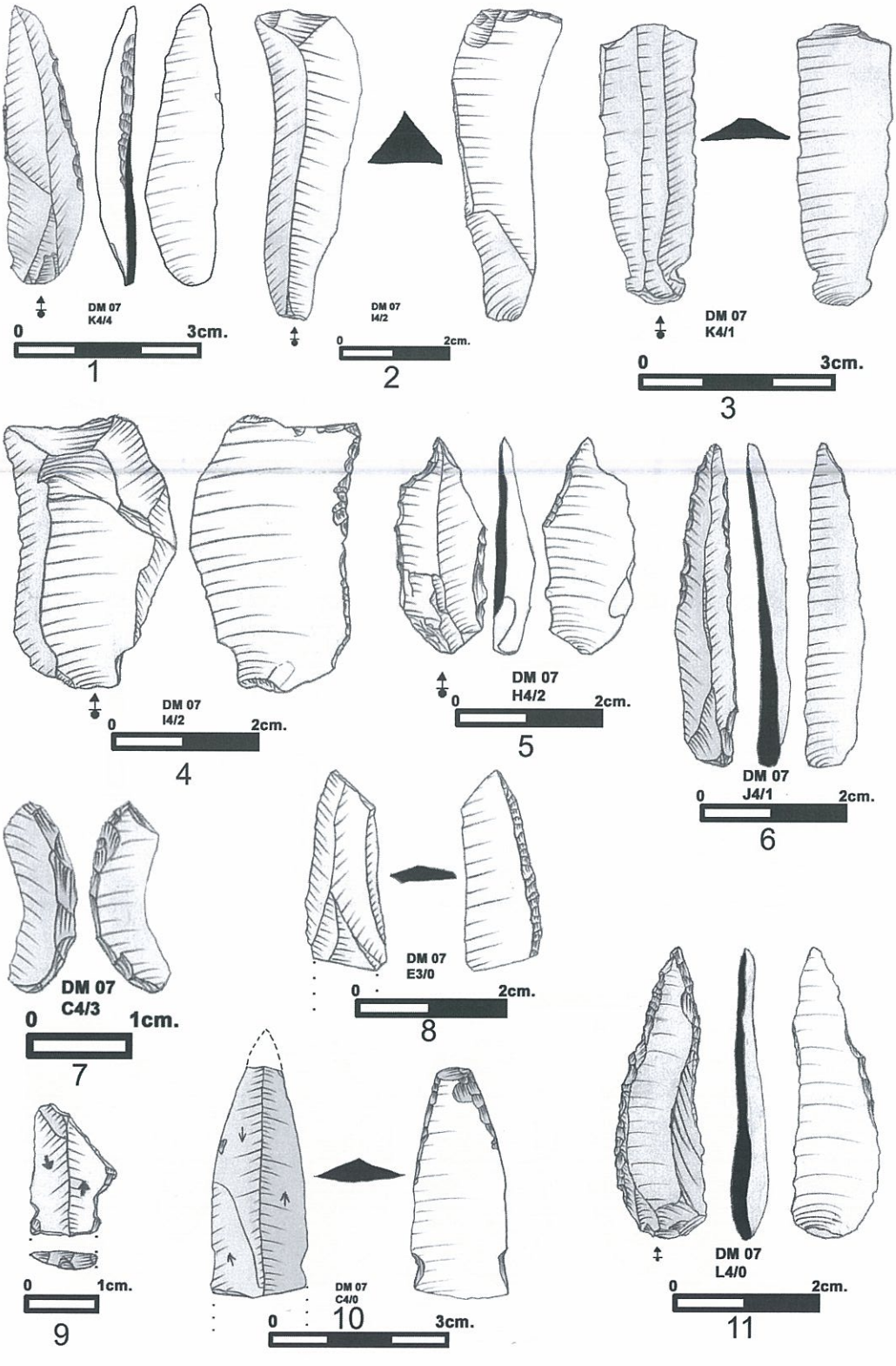


Fig. 9 1-Partially retouched bladelet; 2-Straight Truncated Bladelet; 2-Obsidian Blade; 4-5-6: Borers; 7-8-Dufour bladelets; 9-Micro hafted point 10-Arrow head; 11-Font-Yves Point?

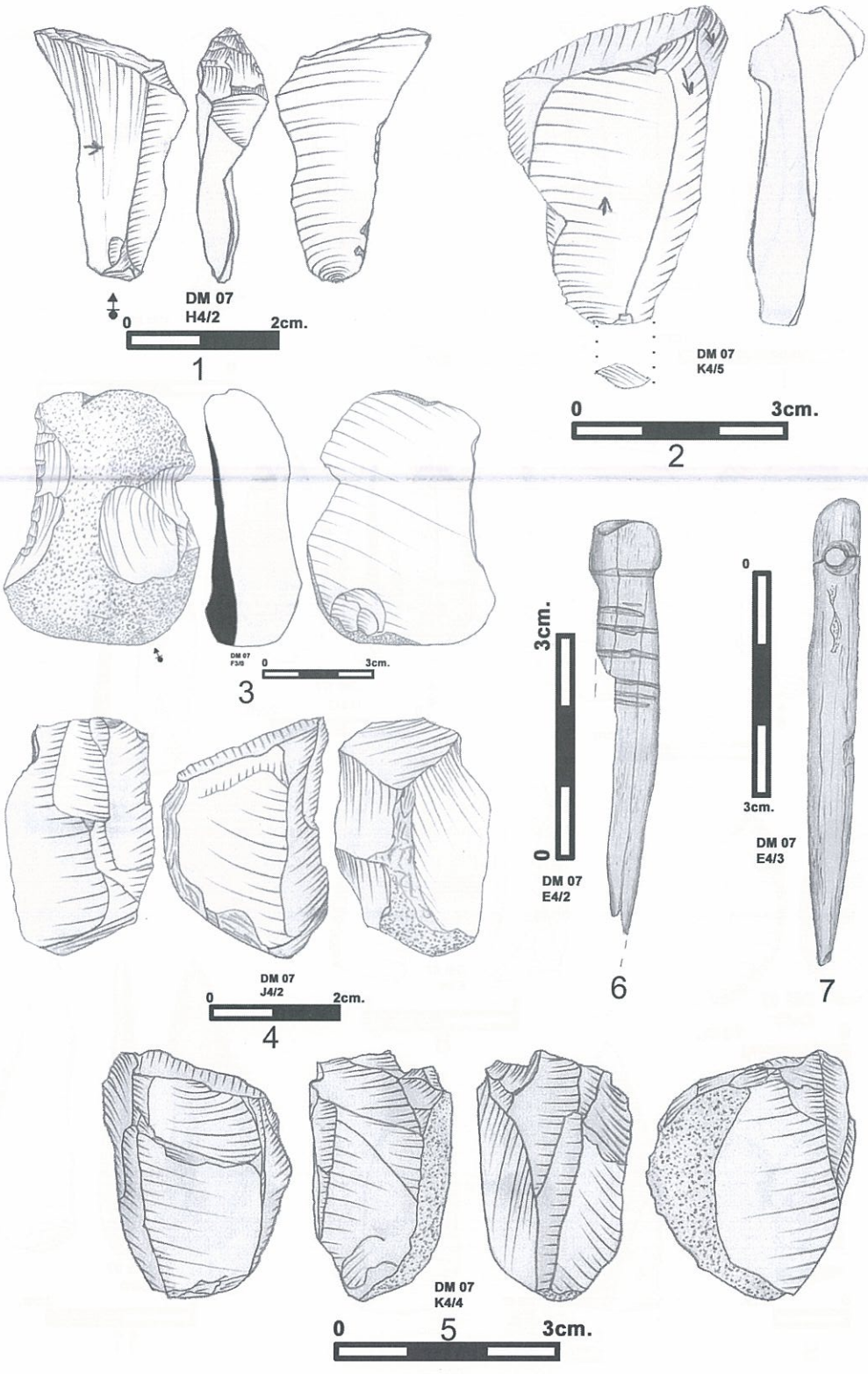


Fig. 10 1-2-Plunged or overshoted flakes; 3-Side Scraper on pebbel; 4-5-cores; 6-Pin; 7-Needle.

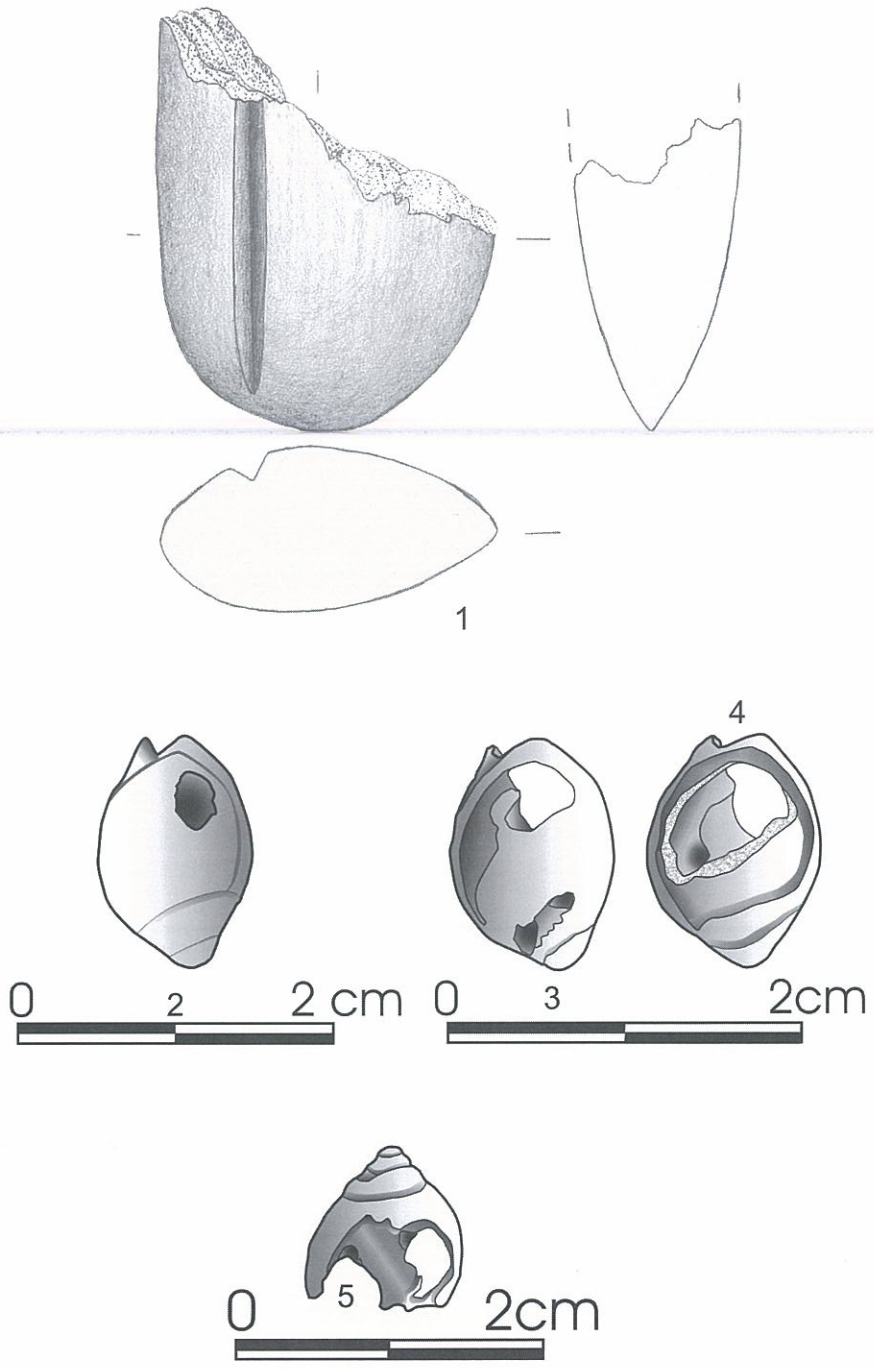


Fig. 11 1-Grooved Axe; 2-5-Beads *(Nasarius Gibbosula)*.