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West Afyonkarahisar (Turkey) Palaeolithic Survey 2022 Field Methods and First Results

Berkay DİNÇER, Serkan ŞAHİN, Göknur KARAHAN*

Abstract

Afyonkarahisar is located at the crossroads of almost all main roads in the north-south and east-west directions in the west of Anatolia. This important area has never been subject to Palaeolithic research. In 2022, two separate teams started Palaeolithic surveys in this province. The survey in the western districts was carried out at observation points located every 10 km in the field, thus aiming to identify Palaeolithic sites in Afyonkarahisar in an unbiased manner. In 2022, 28 of the 31 observation points in the western districts were visited and four major Palaeolithic sites dating to the Middle Palaeolithic period were uncovered.

Keywords: Palaeolithic, archaeological survey methodology, lithics, Afyonkarahisar, Şuhut, Sinanpaşa

Résumé

Afyonkarahisar est situé au carrefour de presque toutes les routes principales dans les directions nord-sud et est-ouest à l'ouest de l'Anatolie. Cette zone importante n'a jamais fait l'objet de recherches paléolithiques. En 2022, deux équipes distinctes ont commencé des prospections paléolithiques dans cette province. La prospection dans les districts de l'ouest a été réalisée à des points d'observation situés à chaque 10 km sur le terrain, visant ainsi à identifier les sites paléolithiques d'Afyonkarahisar de manière impartiale. En 2022, 28 des 31 points d'observation des districts ouest ont été visités et quatre sites paléolithiques majeurs datant au Paléolithique moyen ont été mis au jour.

Mots clés : Paléolithique, méthodologie de prospection archéologique, lithiques, Afyonkarahisar, Şuhut, Sinanpaşa

Introduction

Afyonkarahisar Province is located in the easternmost part of the Aegean Region in the Central Western Anatolia sub-region. The province is neighboured by Uşak and Denizli in the west, Kütahya and Eskişehir in the north, Konya in the east, Burdur and Isparta in the south. It is located at the crossroads of the Aegean, Mediterranean and Central Anatolian regions. Being an almost unavoidable route for all journeys in the north-south and east-west directions in this part

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of Anatolia, is the result of its location in the middle of Western Anatolia. Today, it is a requirement to pass through Afyonkarahisar province in every journey from Central Anatolia, Marmara, Mediterranean and Aegean Regions towards each other. Similarly, the main railway lines are also connected to each other in Afyonkarahisar. All these situations make Afyonkarahisar a very important crossroads in terms of transportation today. Its topography leads us to think that the region may have had a similar importance in the movements of human groups in the past, in the Palaeolithic. Afyonkarahisar province is of crucial importance for understanding the movements of Palaeolithic human groups in Anatolia.

Despite all this potential importance, no systematic research on Palaeolithic archaeology has been conducted in Afyonkarahisar province until today. Interestingly this neglected province had two Palaeolithic surveys at the moment. Our team and another team from Ankara University applied for permits to the Culture and Tourism Ministry unaware of each other for the 2022 season[1].

It is aimed to carry out the survey for six seasons. In its first year in 2022, it was planned to carry out fieldwork in the centre, Şuhut and Sinanpaşa districts. In the first three years of the study, it was planned to understand the general Palaeolithic potential in the western districts of the province, and in the last three years, more detailed research was planned to be carried out in areas identified as having high potential for Palaeolithic finds.

Previous Palaeolithic Research in and around Afyonkarahisar

The Palaeolithic research in Western Anatolia and especially in the Aegean Region has started in recent years. Although systematic Palaeolithic investigations have been carried out in Denizli, Burdur, Uşak, Kütahya and Eskişehir, the surrounding provinces of Afyonkarahisar, almost nothing was known about Palaeolithic archaeology in Afyonkarahisar until recently.

There is only one Palaeolithic stone artefact identified in Afyonkarahisar. This stone tool is an Acheulean bifacial hand-axe from the Menekşe Kayalar, 500 metres south of Demirli village, Ihsaniye district (Taşkıran & Taşkıran, 2011). This bifacial tool is much more typical than the other known Acheulean bifaces from Western Anatolia. It is not possible to comment further on this tool for the moment.

Turkey's only *Homo erectus* fossil was found at Kocabaş in Honaz district of Denizli province, the southwestern neighbour of Afyonkarahisar. This fossil is dated to more than 1 million years old (Aytek & Harvati, 2016). The remains of fossil humans are very rare in Turkey, and the lack of research plays an important role in this. After the identification of the *Homo erectus* fossil, the Denizli Province Prehistoric Surveys were initiated in Denizli in 2014 (Özçelik, Vialet, & Bulut, 2017). In addition, the Survey for the Identification of Neogene and Quaternary Period Fossil Beds in Denizli and Aydın provinces and districts was initiated (Aytek et al., 2020). Both surveys yielded a large number of Palaeolithic finds related to Pleistocene archaeology. In addition, a Palaeolithic survey was initiated in Burdur province in 2021 (Fındık, Mayda, Demirel, & Parmak, 2022).

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1 In the same time with our team, Assist. Prof. Dr Yavuz Aydın from Ankara University also applied for a Palaeolithic survey in Afyonkarahisar for the 2022 season. Upon our request, the permits were arranged so that the eastern and western districts of Afyonkarahisar province would be researched by separate teams. Our team has permit for Merkez (provincial centre district), Sinanpaşa, Şuhut, Hocalar, Sandıklı, Kızılören, Dinar, Evciler, Dazkırı and Başmakçı districts.

In recent years, finds that may be contemporary with the Kocabaş *Homo erectus* fossil were found in the old banks of the Gediz River. One stone artefact made of quartz was dated to 1.24-1.17 million years ago (Maddy et al., 2015). Numerous artefacts made of similar material were found at Bozyer in Salihli, Manisa (Roosevelt, Dinçer, Luke, & Çilingiroğlu, 2019). Another one of the oldest Palaeolithic sites in Anatolia with absolute dates is the Dursunlu site in the Tuzlukçu district of Konya province. In a lignite quarry here, approximately 10-12 metres below the present surface, stone artefacts were found along with animal remains from the Pleistocene period. These remains were dated to 0.78-0.99 million years ago by palaeomagnetism (Güleç et al., 2009).

One of the most important Palaeolithic studies carried out in Western Anatolia in recent years is the excavations conducted at Sürmecik, Banaz district, Uşak province (Taşkıran, Aydın, Özçelik, & Erbil, 2021). Sürmecik excavations have unearthed the richest collection of Middle Palaeolithic stone artefacts not only in Western Anatolia but also in Turkey. The excavations carried out in 2016-2017 yielded more than 83 thousand lithics. Accordingly, a wide variety of lithics representing the Middle Palaeolithic Period such as Mousterian of Acheulean tradition, classical Mousterian, Quina type Mousterian were identified (Söyler et al., 2019). Apart from this, there is no research on the Palaeolithic archaeology of Uşak. Sürmecik reveals that Uşak, like Afyonkarahisar, has a very high potential. Banaz district, where Sürmecik is located, is neighbouring Hocalar and Sinanpaşa districts of Afyonkarahisar.

In Eskişehir Province, north of Afyonkarahisar, hand axes and various other Palaeolithic lithics were found in studies published in the 1940s (Chaput, 1941). The first systematic investigations about the Palaeolithic archaeology in Eskişehir were carried out in the Kuzfındık Valley, where Levallois cores and chopper/chopping tools were found (Dinçer & Türkcan, 2011). Subsequently, a Levallois flake belonging to a cold period 148±20 millennia ago was found in the Avlamış Valley (Ocakoğlu, Dinçer, Akkiraz, Şahiner, & Brook, 2018). In recent years, more Palaeolithic sites have been found in Eskişehir Province (Kartal, 2020).

Kütahya Province, located to the northwest of Afyonkarahisar, is the province where Palaeolithic research has been systematically carried out for the longest time in the Aegean Region. Following the pioneering work of T. Efe in the 1990s (Efe, 1990; Dinçer, 2017), a large number of stone artefacts from the Middle Palaeolithic Period have been unearthed in the vicinity of the ancient city of Aizanoi (Dinçer, Türkcan, & Erikan, 2014), in the Kureyşler Dam basin (Dinçer, Kelpetin, Birol, & Aktaş, 2020), and most recently in the Seyitömer rescue excavations (Dinçer & Karahan, 2020).

To summarise, the only known Palaeolithic find from Afyonkarahisar was the Menekşe Kayalar Acheulean biface until 2022. Palaeolithic research in the neighbouring provinces is still in its infancy. Especially the finds from Denizli, Manisa and Konya represent the oldest Palaeolithic assemblages in Turkey. It can be said that these old finds are difficult to recognise and identify during surface surveys. Middle Palaeolithic finds are generally concentrated in Kütahya and Eskişehir. Afyonkarahisar province has great importance as it is located in the middle of all these regions, on a transit/communication route. For these reasons, Palaeolithic research was urgently needed in Afyonkarahisar.

Survey Methodology

Although it provides administrative convenience, the main difficulty of conducting research in areas as large as provinces and districts is that these units cover large areas and it is relatively difficult to develop a method for systematic research of these large areas (see Kantman, 1969; Dinçer, 2022). The western districts of Afyonkarahisar province were not known to us at all before the fieldwork of this survey project. It was necessary to develop a method to systematically investigate the whole region. The method developed had to ensure both a systematic examination of the field and an obtention of general knowledge about the entire research area. For this, the first three seasons of the survey are decided on this aim.

A systematic sampling strategy has been developed to identify potentially important areas for Palaeolithic archaeology. Once important areas for Palaeolithic archaeology have been identified, more detailed studies are planned to be carried out in the last three years of the research.

A systematic research method for surveys in Turkey was developed by P. Benedict (Benedict, 1980) which has not been used much by other researchers except M. Özdoğan and H. Taşkıran (see Özdoğan, 1986; Taşkıran & Kartal, 2004). According to this method, the latitudes and longitudes passing through Turkey were divided into 15-minute intervals, longitudes were divided into quadrilaterals from west to east with numbers from 1 to 76, and latitudes were divided into quadrilaterals with each side 15 degrees long, named with the letters of the alphabet starting from AA to ZZ. The grid created in this way enabled each region to have names such as H2, R61, etc., and the archaeological finds within these areas to be numbered as R61/3 according to the order of detection, and each site to have a unique code. This method allows for the understanding of the areas in which the sites identified in the survey are located and the systematic numbering of the identified finds. However, it is not a method for how the survey should be carried out.

The sampling method to be used during the Palaeolithic survey in the western districts of Afyonkarahisar was inspired by intensive survey methods. The *dog-leash* method is one of the research methods where systematic sampling is used to intensively examine a particular findspot. This method has been successfully applied in Palaeolithic studies in Turkey at Bozyer (Manisa) (Roosevelt, Dinçer, Luke, & Çilingiroğlu, 2019), Gürgürbaba (Van) (Baykara et al., 2018) and Kömürburnu (İzmir) (Çilingiroğlu et al., 2018). The basis of this method is to count and examine all archaeological material in an area of standard diameter determined by equally spaced observation points. The name of the method is "dog-leash", taking its name from the fact that a dog tied to a point can move in an area equal to the length of the rope it is tied to. Thus, it is aimed to understand the distribution of archaeological finds in the area.

In the first three years of the Afyonkarahisar Palaeolithic Survey, the western districts of the province will be systematically surveyed by combining the two methods mentioned above. The areas of the province with high potential for the Palaeolithic will be investigated in more detail in the second three years of the project.

Thanks to the navigation and geographic information system applications on smart devices, geographical coordinates can be easily recorded and then presented in the desired format. Due to its compatibility with the metric system, observation points were created for the western districts of Afyonkarahisar for every 10 kilometres using the UTM coordinate system. Thus, the coordinates of 73 observation points in the study area. As in the Cartesian coordinate system,

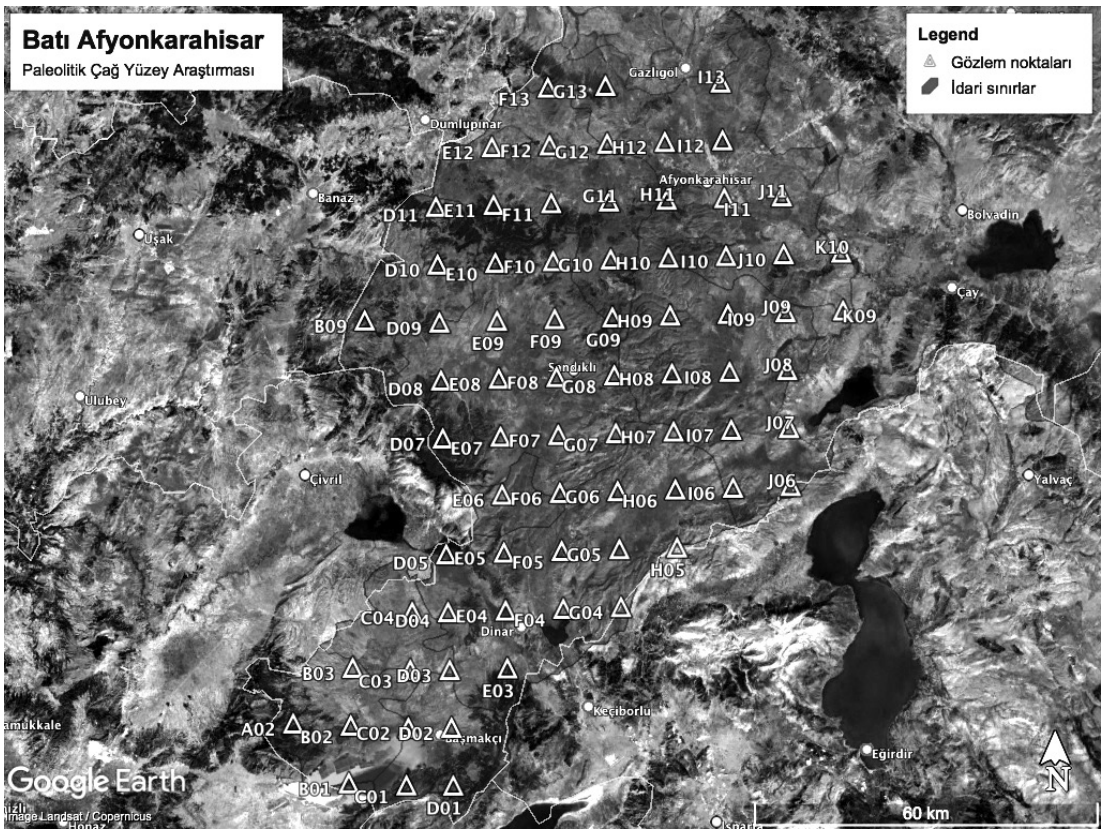


Fig. 1 Observation points systematically located at 10 km intervals in the western districts of Afyonkarahisar.

an area of approximately 7,000 square kilometres in the western districts of Afyonkarahisar province was systematically gridded by starting from the letters of the alphabet A from west to east with the starting point in the southwest, and by numbers increasing from south to north (Fig. 1).

Thus, a methodology on how to systematically investigate a large province has been obtained. Unlike the surveys of other periods, in Palaeolithic surveys, it is generally not possible to identify the sites from a distance, except for the types of finds that can be seen from a distance, such as caves. For this reason, Palaeolithic surveys rely on pedestrian survey methods. The method to be applied in the first years of the survey is to identify potential areas that will be important for Palaeolithic sites. The main reason for the establishment of 73 observation points is to apply the pedestrian survey methods for Palaeolithic archaeology at these points. Since it is not possible to survey the entire Afyonkarahisar province by walking, a sample selection is mandatory. A systematic sampling method was preferred with observation points located every 10 kilometres.

Before starting the survey, the characteristics of the observation points were determined from satellite imagery, 1/25,000 topographic maps and other accessible geographical information system databases. In this way, features like elevation and vegetation cover of the observation points could be determined.

It is planned to reach the observation points by car (Fig. 2). Those that could not be reached by car were planned to be walked. The points such as steep cliffs, forested areas, cultivated fields,

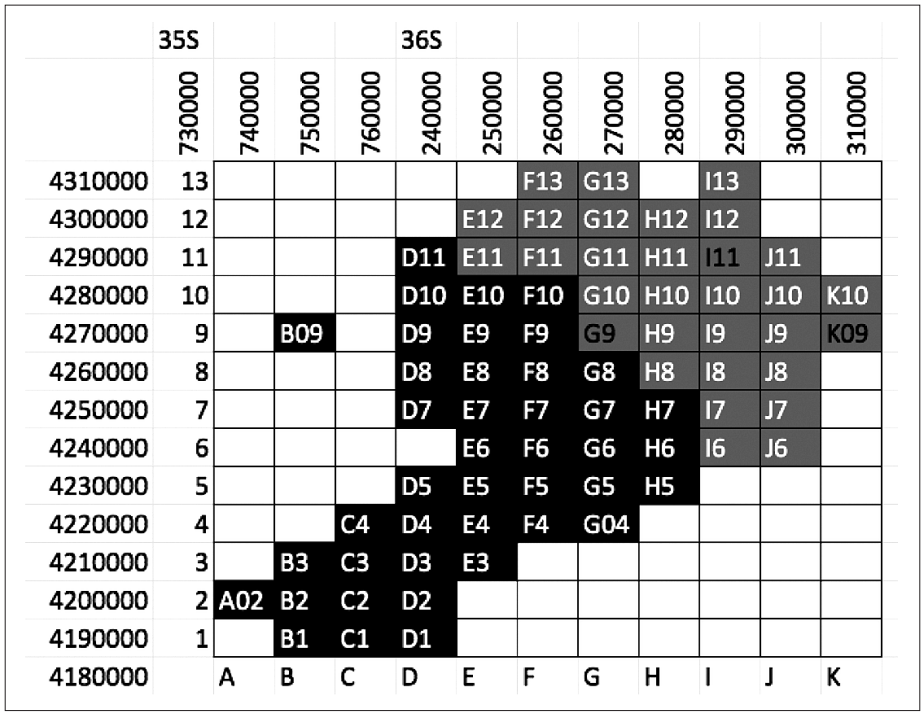


Fig. 2 Schematic distribution and nomenclature of the established observation points. The cells with red background indicate the points studied in the districts of Merkez, Şuhut and Sinanpaşa in 2022 (black letters indicate unvisited points).

lakes/ponds, etc., which were not considered to be archaeologically productive, were also visited briefly. Upon reaching the observation point, the survey team first recorded the geographical features of the point and then, using common pedestrian survey methods, surveyed a 1 km long line on foot. The direction of this line was determined by the topography and the team's assessment of the geomorphology of the site. Thus, in the first three years of the Palaeolithic Survey of West Afyonkarahisar, a total of 73 km would be covered on foot.

While trying to reach these points, the survey team will also have information about the province in general and will record the places with high Palaeolithic potential and worthy of research. These sites may be in the immediate vicinity of the observation points, or they may be far from the observation points. In the second and third years of the survey, intensive pedestrian survey methods will be applied in these areas. If a site is found to be worthy of intensive survey methods, appropriate methods will be applied.

We suggest that this methodology, which was designed for the Palaeolithic in the western districts of Afyonkarahisar, can serve as a methodological example for countries such as Turkey, whose cultural inventory has not yet been completed. In province-based surveys, it is usually not specified which points are to be surveyed and according to what criteria, and the locations of the surveys are published in such a way that they cannot be objectively evaluated by other researchers. In this respect, the Palaeolithic Survey of West Afyonkarahisar will be the first survey in which a method that can be applied for the preparation of a nationwide cultural inventory has been tried. The distance between the observation points has been set at 10 km for the first three years of the survey, in order to ensure the systematic survey of an area of more than 7,000 square kilometres, such as the western districts of Afyonkarahisar. For other research areas, it

will be possible to obtain systematic data with the desired precision and detail by reducing and increasing these distances.

During the survey, archaeological finds belonging to periods other than the Palaeolithic (e.g., Roman Period) were encountered and their location and general information were reported to the relevant museum and conservation board. No detailed study will be carried out on these finds. This paper aims to present the methodology and the first results from the fieldwork.

Observation Points Visited in 2022

The 2022 fieldwork has been carried out on the eastern part of the survey area; Afyonkarahisar Centre, Şuhut and Sinanpaşa districts. There is a total of 31 observation points in these three districts. Three of the observation points were not visited; K09 and G09 were not visited because there was no road to them, and I11 was not visited because it was located on the airport runway. All of the remaining points or the areas closest to these points were visited. The points were numbered from west to east every 10 kilometres from A to K and from south to north from 1 to 13. The points visited will be described here, starting with line K from east to west and line 06 from south to north.

This study describes only the results obtained in the field during the Palaeolithic Survey of West Afyonkarahisar in 2022. Detailed results of the lithics will not be included in this first report.

K10 (38° 38.892'N 30° 49.001'E) is located in the north of Değirmendere village of the central district, in an area of 3-4 m deep flat-bottomed pits used as a clay mine by a brick factory. After the upper clay soil was removed, the area continued to be used as a field. Afyonkarahisar-Konya motorway lies on the south. Very rare quartz fragments are found in the clay and light taupe-coloured fine-grained silt. Flint is not naturally found in the area, but two lithics of unknown period were found. One of them is a small core and the other is a flake. These probably come from the bottom of the alluvial deposits in the plain and were exposed due to the mining activities.

Point J06 (38° 17.148'N 30° 42.796'E) is located south of the district of Şuhut and the village of Oynağan. It is on the border of Afyonkarahisar-Isparta provinces. It is on a slope tilting towards the south. The land is composed of limestones; the soil deposits are thin or completely eroded in the higher parts. The soil is reddish-brown. Vegetation consists of sparse grasses and short shrubs. Surface visibility is high. No knappable stone raw material or any other archaeological finds were identified at J06. There are many caves in the close vicinity of point J06. Kocain, Kocain Altı Cave, Seferin, Devrent Cave were visited. Caves were also identified around Kılınçkaya village to the east of Oynağan, but these were not visited since the 2022 plan only included the exploration of the points and their immediate surroundings.

Kocain is a cave located at an altitude of 1131 m with its mouth facing west (Fig. 3). The cross-section of the cave is triangular. It measures approximately 20 x 20 m in dimensions. Although the floor of the cave is sloping towards the mouth, the soil fills are preserved. Although no archaeological finds were observed inside the cave, in front of the mouth of the cave, sherds of daily use ceramics with abundant small stone content, not well fired, probably belonging to the Eastern Roman period, were found. These are not very numerous and dense. The Cave under Kocain (Kocain Altı) is quite small, approximately 3 x 3 m in size. There is a very dense accumulation of microfaunal bones. These accumulations are probably related to the owl species that



Fig. 3
Kocain.

use the cave today. Another cave in the region is Seferin. It is a very small cave (about 5 x 5 m) located in the mining area. Its mouth faces south and it is at an altitude of 1135 m. The soil fill in Seferin is about 2 m thick, dark grey in colour with a layer of animal dung on top. Only one sherd of wheel-made pottery was found here; the period to which it belongs could not be determined. Devrent Cave is a very small cave located on the northern slope of a deep canyon southwest of Oynağan. No archaeological finds were found here.

J07 (38° 22.551'N 30° 42.626'E) is located north of Demirbel village of Şuhut. This point is on a slope sloping towards south and east to the Karamık Swamp (see van Zeist, Woldring, & Stapert, 1975). There is limestone bedrock. The soil deposits are in patches and are red and brown in colour. Vegetation is very sparse grasses, surface visibility is high. No archaeological finds were encountered.

J08 (38° 27.954'N 30° 42.455'E) is located on the high hills east of the Karahalli village of Şuhut (Fig. 4). It is an area with surfaces that may have been preserved since the Pleistocene. There are also Miocene-Pliocene aged mud flows which may contain fossils. Although some of the sections opened during the construction of the road were examined, no palaeontological or paleoanthropological remains were encountered.

J09 (38° 33.357'N 30° 42.284'E) lies to the north of the Isali village of Şuhut (Fig. 4). The area where the point is located is upstream of the stream passing through the Isali village. The valley formed by this stream is sometimes deep (60-90 m). There are dense trees and shrubs in the stream bed and some of the surrounding areas are recently ploughed agricultural lands. Limestone, volcanic rocks and quartz are present. In addition, orange/brown coloured flint with not very good flaking properties is also present in the primary geological situation. There are at least three old terraces on the slopes of the stream. Since the western side is steeper, only one of the old terraces is preserved here. Fairy chimney formations were also observed on this side. Lithics were found scattered on the first terrace east of the stream. It could not be determined to which period they belong. In the agricultural lands on the eastern side of the stream, there is an area where ceramics dating from the Hellenistic period to the Ottoman period are found very sparsely.[2]

[2] The first observations on the ceramics were made by Cemil Dumanlıoğlu, an expert from Afyonkarahisar Museum, who participated in our study as the Ministry representative.

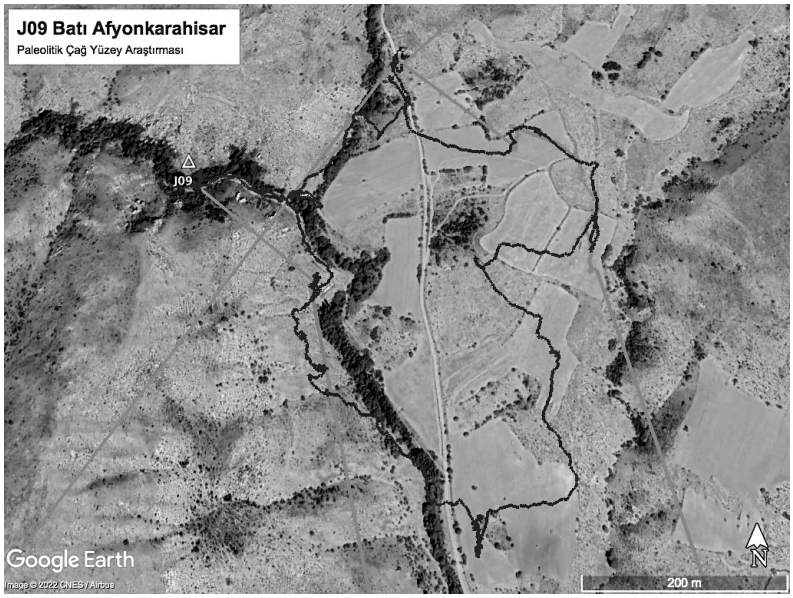


Fig. 4
Areas surveyed around point J09.



Fig. 5
Karst formations around Karaadilli, 1, 3: cave, 2: doline.

J10 (38° 38.760'N 30° 42.111'E) lies to the west of the Işıklar village of the central district of Afyonkarahisar. It is an area consisting of hills of relatively similar altitudes (about 1150 m) cut by dry stream beds sloping north-northwest. Quartz and schist rocks are found in small pieces. The soil is brown. Trees are located in dry stream beds; it is generally a meadow area. Surface visibility is high. One pink-coloured flake of unknown period was found in this area.

J11 (38° 44.163'N 30° 41.938'E) is in the plain southeast of Çavdarlı village of the central district. It is used as agricultural land. No archaeological finds were identified. There are high steep hills containing beige/white-coloured probable Miocene sediments just north of the point. There are hard layers resistant to erosion on the upper parts of these hills.

I06 (38° 17.011'N 30° 35.941'E) is located in a hilly area with an altitude of approximately 1210 m, overlooking a canyon that forms a gorge on the Karaadilli-Dinar motorway. This area is quite steep. There are cliffs and possible rock shelters on the opposite hill to the north of the road. There are small broken limestone fragments and the sediments are light reddish brown. Although this is a strategically obligatory topographic route for east-west terrestrial animal movements, no archaeological material was encountered.

A cave system (Fig. 5) was identified about 2.5 km northeast of I06, just southwest of Karaadilli, south of Konya-Denizli motorway. The cave closest to the plain level was visited. There is a cultural deposit on the floor of this cave, and a porcelain sherd, which probably belongs to the Ottoman period, was found. To the west of this cave, a doline was encountered at the same level. The wall of this doline in the direction of the slope was broken and it contains stone rubble and fill. There are remains of a wall of unknown period on these fills. No archaeological material was encountered in the doline, but it may be thought that the doline may have accumulated fills, which may also be archaeological, for a long time. This doline and other karst formations in the vicinity should be further investigated.

I07 (38° 22.414'N 30° 35.763'E) lies on the slopes south of the plain, southeast of Kulak village of Şuhut. There is a deep canyon to the east of the point. It is on the old terrace on the slopes, which contains pebbles such as flint that could have been used by Palaeolithic people. Volcanic rocks such as basalt and limestones are also present, although less rounded. Surface visibility was moderate as the area was used for agricultural activities. A small number of flakes and cores made from the available raw material were found. However, it could not be determined to which period they belong. On top of the hill to the east of I07, there are remains of a defence structure probably belonging to the Late Antique period.

I08 (38° 27.817'N 30° 35.583'E) lies northeast of the Anayurt village of Şuhut. No archaeological finds were found here, although modern settlement and associated rubbish and debris were found.

I09 (38° 33.219'N 30° 35.403'E) is located about 4 km northeast of the Şuhut district centre. It is a flat plain used for agricultural purposes. It has light brown soil. No archaeological material was encountered.

I10 (38° 38.621'N 30° 35.222'E) is located east of the Belkaracaören village of the central district (Fig. 6). Approximately 1 km south of this point is a flint source (Nazaroff, Baysal & Çiftçi, 2013) which was previously analysed and published as Şuhut flint. The GPS coordinate indicated in the publication was also visited by our team. No archaeological finds were encountered at this flint source. I10 is located on a hill surrounded by shallow eroded valleys. The top of this hill descends towards the north with a slight slope in front. Limestone is common and basalt and flint are rare. There are sparse woods and bushes. The plains on the slopes are used as agricultural land. Surface visibility is high, especially in newly ploughed fields. Other areas are partly covered with meadows.

There is a flint source in I10; these are yellow-orange coloured and brown-patinated raw materials. The brown ones are generally porous, while the yellowish ones are more homogeneous. Palaeolithic stone artefacts made of these raw materials were found especially in the fields on the western slopes of the hill. Palaeolithic finds decrease above the hill. Palaeolithic finds were generally scattered in the valleys around the hill. According to the first observations made in the field, the Palaeolithic stone finds in this area belong to the Middle Palaeolithic period.

I11 could not be visited because it is located in the airport area. I12 (38° 49.426'N 30° 34.858'E) is located in the alluvial agricultural lands cultivated with corn and beet to the south of Beyyazı village of the central district. Light brown soil is present. The surface visibility is low. No archaeological material was encountered.

I13 (38° 54.828'N 30° 34.675'E) is located north of Burhaniye village of the central district (Fig. 7). It is a relatively flat area slightly sloping towards north. There is a stream bed in the north.



Fig. 6 Palaeolithic findspot at point I10.



Fig. 7 General view of point I13 and walking tracks (left).

Due to the topographical characteristics of the terrain and its utilisation, this is one of the few places where the described method of survey could be fully applied. The walking track of the team is in the shape of a large butterfly. The majority of the land is ploughed agricultural land. Therefore, surface visibility is high. Red-brown soils are present. Quartz, quartzite river gravel and sparse basalts are found intensively. Lithics belonging to the Middle Palaeolithic period were made from these raw materials.

H08 (38° 27.672'N 30° 28.712'E) lies west of the Ilyasli village of Şuhut in the valley of a stream flowing towards the settlement. There are two old terraces in the southern part of this valley, but since the northern part is steeper, the traces of old terraces have been erased here. There are volcanic rocks such as andesite. Due to the terrain and the trees and shrubs in the stream bed, the site was not explored by walking. Surface visibility is low. No archaeological material was encountered.

H09 (38° 33.074'N 30° 28.524'E) is located on the ridge between Akyuva and Koçyatağı villages of Şuhut. There are İnonu creeks in the south and Başarap creeks in the north. The valleys of both are deep and no areas with old terraces were observed. There are rocky areas resistant to erosion on the slopes in both directions. Rocks such as andesite, trachy-basalts, mudstone, quartz and opal-like rocks are present. The land is slightly grassy and the surface visibility is very high. A grey, unpatinated, primary flint source was identified on the southern slopes. There are many flaked finds in this area. Although it was not possible to attribute these finds

to any period. The geomorphology of the area suggests that they belong to the post-Palaeolithic period. The distribution of the lithics is limited to 20-30 m around the raw material source.

H10 (38° 38.476'N 30° 28.334'E) is located in the south of the central district, within the Başkomutan National Park; there is no settlement nearby. It is on the slope of a valley between high mountain ranges. There are possible trachytes associated with a very old volcanism. The general structure of the area is resistant to erosion. There are cultivated fields and meadows. Surface visibility is moderate and low. No archaeological finds were encountered.

H11 (38° 43.878'N 30° 28.144'E) is located on the hills west of the village of Küçükkalecik, southwest of the city centre. There are shallow and slightly eroded valleys in places. It is a volcanic land, andesites and basalts are found. There are dyke formations. Since there are cultivated lands and fruit trees, the surface visibility is medium. One flake of unknown period and one threshing sledge flake were found.

H12 (38° 49.279'N 30° 27.953'E) is located in the lowland area north of Sadıkbey village and west of Ismail village, north of the Afyonkarahisar centre. According to the excavation sections made for wells, there is at least 8 m of alluvium. It is used as agricultural land. There are light brown silt and sand. There are very sparse grey flint fragments of 2-4 cm in length. These are slightly rounded. Surface visibility is high in ploughed areas. A few flakes of unidentified period were observed. It is possible that they are related to the nearby mound.

No accessible road was found to reach G09. G10 (38° 38.324'N 30° 21.447'E) is southeast of Serban village of Sinanpasa district, on the flat plain area at the foot of the mountain. There is light grey soil. They are ploughed fields. There are willow and poplar trees in the nearby canal. Surface visibility is high. No archaeological material was encountered.

G11 (38° 43.725'N 30° 21.248'E) is located east of Kılıçarslan village of Sinanpaşa district. It is on a flat, alluvial plain. No archaeological material was found in the ploughed fields.



Fig. 8 Findspot G12 and Middle Palaeolithic Levallois core (upper right corner).

G12 (38° 49.126'N 30° 21.048'E) lies northeast of the Balmahmut village of the central district and southwest of the Köprülü village (Fig. 8). It is on the southern slope of a large ridge. It is a meadow with high surface visibility. At least one old terrace of the stream in the valley was identified on this slope. There are dense limestones on this terrace. Sources of yellow and brown patinated primary flints are found on the terrace. The raw material size is at most 50 cm in diameter and at most 10-15 cm thick in veins. Numerous knapped flints were made from them, distributed over a large area. The material found on the slope is not heavily abraded and rounded. There are cores, flakes and retouched tools belonging to the Middle Palaeolithic period. The unprocessed natural raw materials decrease as one goes upwards and the archaeological material decreases accordingly. The Middle Palaeolithic site is mainly on the slope.

G13 (38° 54.527'N 30° 20.848'E) is located in a forested area about 5 km south of Anıtkaya village in the central district. Because of the dense vegetation, the open area about 1.5 km north of the point was quickly explored. There is a plain in the north of this high ridge which descends towards the north. Metamorphic rocks and quartz are found in broken pieces of a maximum of 15 cm in length. The soil is red and brown. One quartz chopper was found in the open area on the lower level. At a lower level, one brown flint flake was found on the erosion-resistant hill overlooking the plain. Although it is not yet known to which period they belong, it is possible to say that this region may have a high potential for Palaeolithic.

F11 (38° 43.565'N 30° 14.353'E) lies to the south of the Kırka village of Sinanpaşa district, west of the Değirmendere stream. There are many volcanic-origin pebbles in the stream bed. Their size varies between 3 and 20 cm. Brown soil and alluvial deposits are present. It is used as agricultural land.

F12 (38° 48.966'N 30° 14.145'E) is on the slope of the hill northeast of the Akdeğirmen village of Sinanpasa district. It is on a slope that descends in southwest-west direction and reaches a flat plain. It has the same geological and geomorphological characteristics as G12. The upper part of the hill is flat. There are limestones here. There are dry stream beds on the southern slopes. At least one old terrace was identified. There are sparse grasses and the surface visibility is high. There is no flint raw material here. A few flakes made of brown flint were found; their period cannot be determined.

F13 (38° 54.367'N 30° 13.935'E) is located on a relatively flat summit in a high mountainous area about 3 km south of the Olucak village of the central district. There are at least seven small (about 50-150 m in size) lake basins that are now dry. As the terrain is flat, these lakes are collecting water only from their own slope limits, presumably only by snow water. There are fine-grained deposits on the lake basins and these deposits are light reddish-brown in colour. There are exposed limestone cliffs on the northern slope of the ridge forming the summit. These are about 20-30 metres high. There are fragmented limestone blocks. There is a mixed vegetation including grassland, open forest and individual trees; the surface visibility is high. A flint flake was found in this area, it was not possible to attribute this find to any period. There are deposits belonging to the Emet Formation around Olucak and it can be said that these areas may have an important Palaeolithic potential.

E11 (38° 43.399'N 30° 7.459'E) is located in a mountainous area covered with forest to the south of Çobanözü village of Sinanpaşa district. There is a deep and still flowing stream in the north of the site in the Çobanözü area. The road conditions did not allow to reach the exact observation point, so the open area about 500 m northwest of the point was examined. There



Fig. 9
Middle Palaeolithic
Levallois core from E12.

are partially rounded metamorphic rocks in the area which is an agricultural land located in the forest. Surface visibility is very low. No archaeological finds were identified.

E12 (38° 48.799'N 30° 7.242'E) is located northeast of Karacaören village of Sinanpaşa district. It is a hill located in a natural gorge, overlooking the Afyon-Uşak-İzmir highway route from above and overlooking both this route and the plain to the south. This hill descends in steps towards the east; these are old fluvial terraces. There are ploughed fields and meadows. Surface visibility is generally quite high. Limestone and limestone cliffs are present. There is abundant primary source of white patinated flint. A large number of Middle Palaeolithic lithics (Fig. 9) were made using this source. Palaeolithic finds are found all over the site, including the hilly area, especially on the eastern slopes. This is a very important Palaeolithic findspot both for its location and the quality of the flint source. The route in question was probably used for east-west movements since the Middle Palaeolithic, and the availability of high-quality flint raw material at this point is also an advantage.

Results

During the 2022 Western Afyonkarahisar Palaeolithic Survey, a total of 28 observation points in the districts of Merkez, Şuhut and Sinanpaşa were visited (Fig. 10). Since all of these observation points were placed every 10 km in the UTM coordinate system in order to avoid any prejudice, it was aimed to examine the terrain from an objective point of view without any prejudice. This research has demonstrated the validity of a systematic survey sampling strategy that has not been applied before in large areas.

During this survey, four major Palaeolithic sites were identified, all dating to the Middle Palaeolithic period. These are located at I10, I13, G12 and E12. Apart from these, lithics and other types of archaeological finds were encountered in many other areas mentioned above. It is possible to say that this method will be a valid and objective inventory method for the archaeological inventory of the western districts of Afyonkarahisar.

For example, alluvial areas in plains such as K10 are not suitable for Palaeolithic surveys. Since Palaeolithic deposits may have been buried in these areas, it is generally considered a waste of time. Although the period to which they may belong cannot be determined, the lithics found in

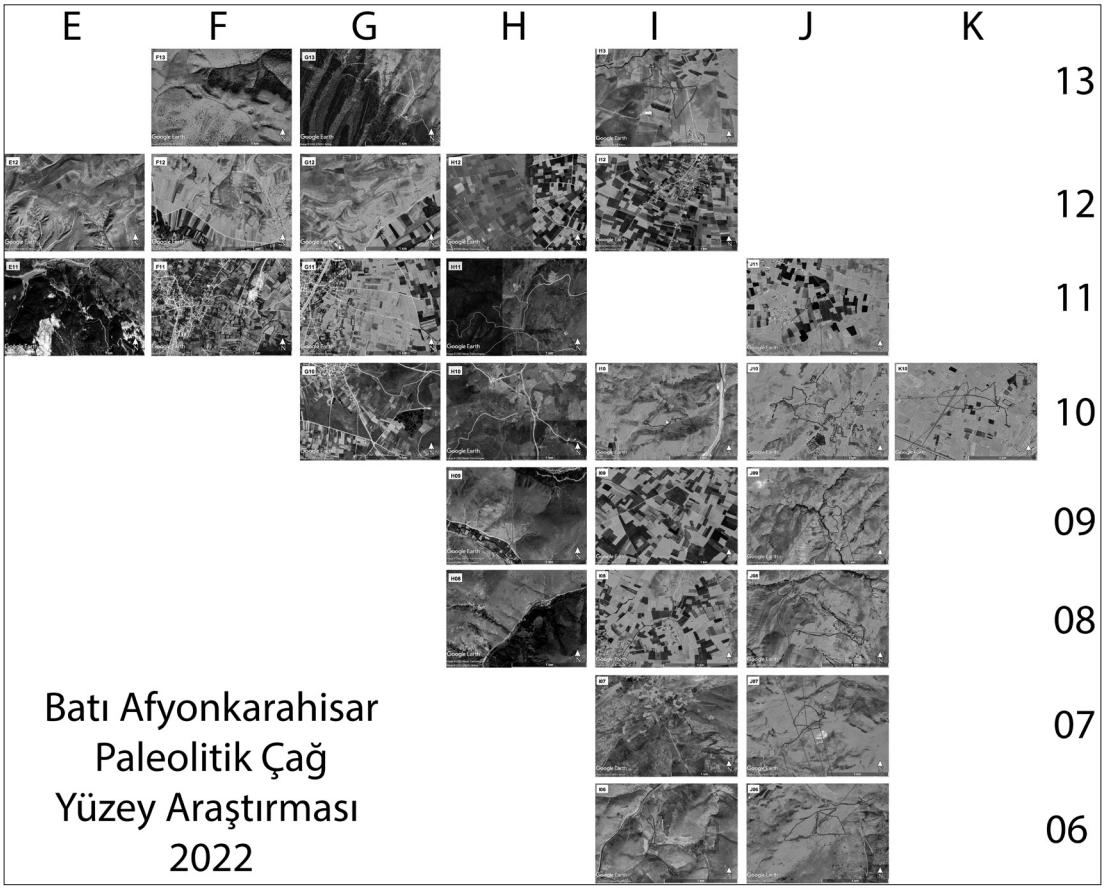


Fig. 10 GPS records taken at the visited points.

K10 would not have been detected at all if the systematic sampling method had not been applied to the survey. This shows that the method can be used as a valid method for Palaeolithic archaeology.

The caves and rock shelters identified in the vicinity of Kılınçkaya, Oynağan and Karaadilli in the south of Şuhut district may be of great importance in understanding Palaeolithic human behaviour in the region. Although no archaeological finds from the Palaeolithic periods have been identified in any of these caves yet, it should be noted that none of them have been investigated in detail, since the research in 2022 was only aimed at understanding the general nature of the region. At least two of the caves in this region, Kocain and Seferin, have preserved fills. Although it is possible to say that Palaeolithic finds are not visible here just by looking at the surfaces of these fills, it is not possible to say that there are no Palaeolithic finds in the lower layers and strata without excavation.

In the first year of the research, only three districts were surveyed. Accordingly, it is possible to make a general comment for these three districts. It was observed that there are caves in the south of Şuhut district and rich flint resources in the north of Sinanpaşa and Merkez districts. Flint was also encountered in places such as I10 in the centre of the north-south axis of the survey. The flint resources in the north and centre of the research area are petrographically different from each other. This difference can easily be a guide for the appropriate evaluation of Palaeolithic finds that may be encountered in cave fills in the future in terms of human

behaviour. The 2022 survey not only revealed many Palaeolithic finds and provided information about the Palaeolithic potential of the region but also tested the validity of the methodology.

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