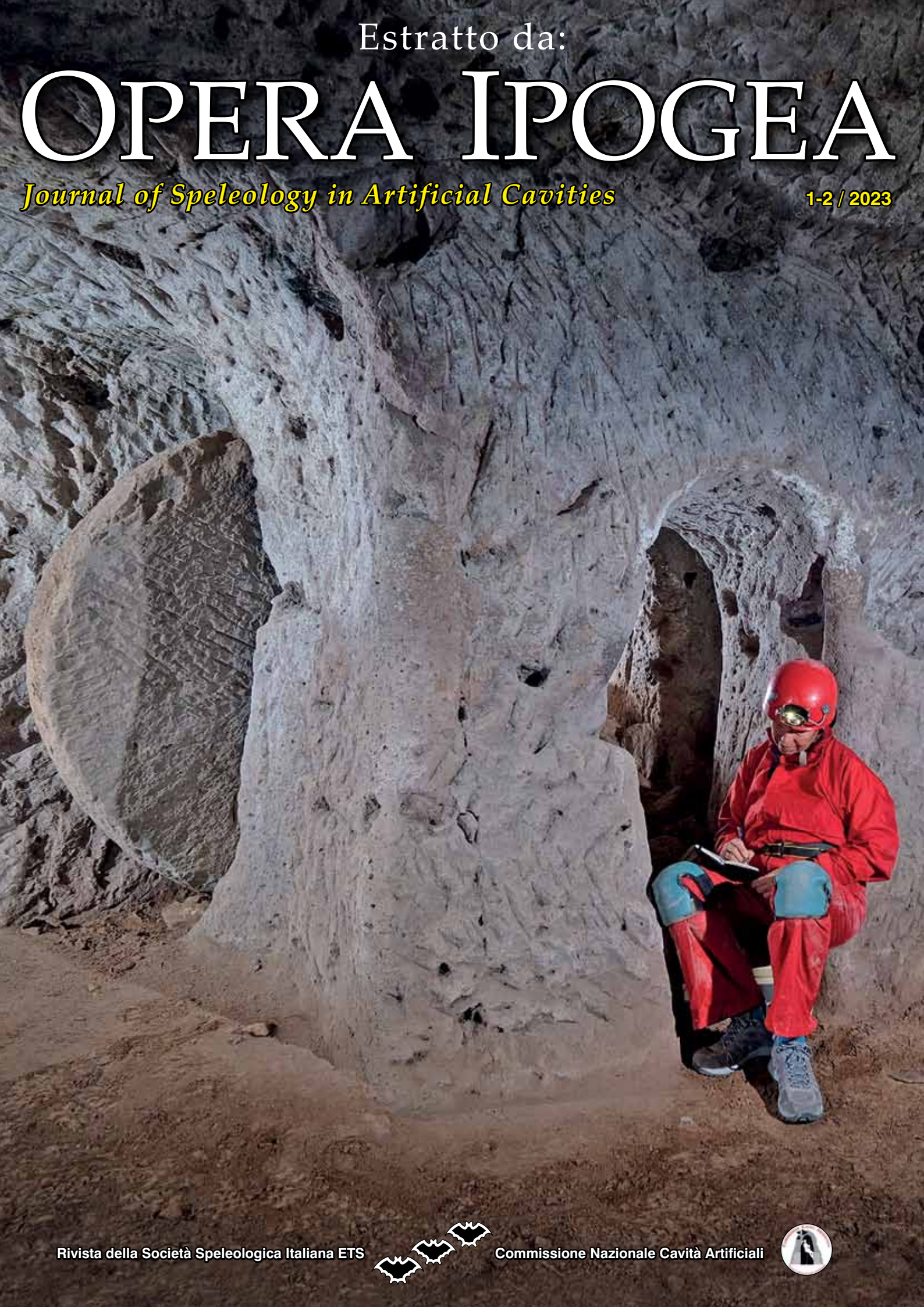


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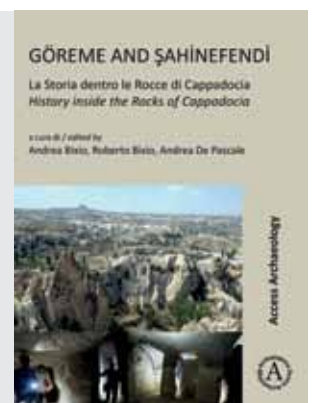
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Direttore Responsabile

Stefano Saj / sajstefano@gmail.com

Direttore Editoriale

Massimo Mancini / maxman@unimol.it

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Rifugio sotterraneo presso il villaggio rupestre di Dimitre (Kayseri, Turchia) (foto R. Straub)

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Grande ambiente scavato nella falesia del villaggio rupestre
di Dimitre (Kayseri, Turchia) (foto A. E. Keskin)

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Dimitre, a long linear rock-cut village (Kayseri - Turkey)

Dimitre, un esteso villaggio rupestre lineare (Kayseri - Turchia)

Ali Yamaç

Abstract

There are rock-cut villages in many different parts of the world; also in Turkey and, in particular, in Cappadocia they are widespread. Although many of these groups of dwellings, also called “cliff settlements” (“linear”, “terraced” or “wall villages”, according to their style), are abandoned today, some of them are still being used. As OBRUK Cave Research Group, we started to work for the “Kayseri Underground Structures Inventory Project” in January 2014. This project includes the research, survey, mapping, and documentation of all the underground structures in Kayseri territory. During this nine-year project, along with other underground structures, Dimitre Village, one of the longest linear cliff settlements in Turkey, abandoned only in 1966, was extensively explored and surveyed by us for the first time. In this article the conformation and modifications of the cavities on this complex, consisting of 229 dwellings and their rural facilities, 5 churches and 10 shelters, plausibly dating back to the 7th century or earlier, are discussed.

Keywords: Cappadocia, Kayseri, Dimitre, cliff settlements, artificial cavities.

Riassunto

I villaggi scavati nelle pareti di roccia sono presenti in ogni parte del mondo. Questi tipi di agglomerati risultano ampiamente diffusi anche su tutto il territorio della Turchia e, in particolare, della Cappadocia (Turchia), nel centro della provincia vulcanica anatolica. Vengono genericamente definiti “insediamenti di falesia” e, secondo la conformazione morfologica e la collocazione, sono identificati come “villaggi rupestri lineari”, “terrazzati” o “a parete” (o, molto spesso, “misti”). Sono costituiti da abitazioni, magazzini, stalle, opere idriche, piccionaie, ma anche chiese e opere di difesa, ricavate in rocce tenere, facili da lavorare e a inerzia termica. Sebbene siano per la maggior parte ormai abbandonati e in rovina, alcuni sono ancora oggi utilizzati.

Nell’area di Kayseri, in antico *Caesarea*, capitale della grande provincia dell’Impero Romano di Cappadocia, poi “tema” dell’Impero Bizantino, vi sono diversi villaggi di questo tipo, distribuiti in almeno sei valli, tra loro vicine. L’insediamento rupestre di Dimitre ha la particolarità di estendersi tra due basse falesie orizzontali, nella parte superiore (1293 m s.l.m.) di una diramazione della profonda valle di Koramaz, su un fronte ininterrotto di rocce di 920 m, collocandosi, probabilmente, tra i più estesi villaggi rupestri lineari della Turchia.

Le indagini di questo complesso, completamente abbandonato nel 1966 a causa della minaccia di crolli, hanno consentito di documentare 229 abitazioni e loro servizi, 5 chiese bizantine e 10 rifugi, di piccole dimensioni ma dotati di porte-macina. Questi, verosimilmente, risalgono al periodo in cui i cristiani residenti nella ragione dovevano difendersi dalle razzie arabe, iniziate nel VII secolo d.C., mentre le tombe di epoca romana sulla sommità del plateau fanno pensare ad una datazione ancora anteriore. Inframezzati alle strutture scavate nella roccia e ad esse connessi vi erano diversi edifici costruiti in superficie. Dal 1500, secondo i registri ottomani, qui risiedevano 37 nuclei familiari, saliti a 119 nel 1831, tutti composti da genti musulmane. Dopo l’abbandono, le abitazioni in muratura furono pressochè demolite per recuperare le pietre reimpiegate per edificare il villaggio moderno sul tavolato opposto, lasciando a vista gli ingressi delle strutture sotterranee retrostanti che, peraltro, si presentano molto rimaneggiate dall’uso continuato nel corso quasi due millenni.

Il villaggio rupestre di Dimitre è stato per la prima volta esplorato e documentato sistematicamente dall’OBRUK Cave Research Group di Istanbul, nell’ambito del “Kayseri Underground Structures Inventory Project”, promosso nel 2014 dal Comune di Kayseri e dalla Fondazione ÇEKÜL, con l’intento di individuare e mappare tutte le strutture rupestri e sotterranee della provincia.

Parole chiave: Cappadocia, Kayseri, Dimitre, insediamento di falesia, cavità artificiali.

Introduction

Situated in the Central Anatolian Volcanic Province (CAVP), in the middle of the Anatolian Plateau in

Turkey, Kayseri and its vicinity (fig. 1) had tremendous volcanic activity, which started approximately 11 million years ago and continued until the Early Holocene (ca. 10,000 – 8,000 years ago), (Aydar et al.,

2012; Innocenti, Mazzuoli, Pasquarè, Radicati Di Brozolo, & Villari, 1975). Countless volcanoes deposited pyroclastic rocks of enormous thickness on the surface. In Cappadocia, of which Kayseri was the ancient capital, an area of approximately 20,000 km² is now covered by rocks of this origin.

It is not known when the tuffaceous rocks of the region were dug by man for the first time and the inhabitants began to use the subsoil as dwellings. Indeed, the continuous usage of the rock-hewn structures for thousands of years has made archaeological investigation difficult to undertake and interpret. The earliest dated rock-hewn structures encountered in Cappadocia are probably the Roman rock-cut tombs in Nevşehir / Mazıköy and south of Kayseri, especially Ayşepınar and Yeniköy (Durukan, 2012). Then, the variety of underground and rock-cut structures has increased incredibly from the times of Roman Empire to the Byzantine. The structures carved into the rocks are not limited to houses, barns, dovecotes, tombs, and churches: monasteries, aqueducts, cisterns, and even apiaries are housed in the tuff outcrops (Bixio A., Bixio R., De Pascale, 2023). Many of these rock-cut structures observed in different parts of Cappadocia, over the centuries have been abandoned and collapsed, others have been continuously used until recent time, often changing purpose, and only a few still retain their function today (R. Bixio, 2012; R. Bixio, Castellani & Succiarelli, 2002; Gilli & Yamaç, 2017).

The different natural formations of Cappadocia and the very numerous artificial cavities dug in these formations have drawn the attention of multiple travelers-scholars since 300 years ago, and have been subject to various research and scientific studies. These surveys started primarily for the frescoes and architectural elements of the countless rock-cut churches, and then have expanded to other rock-cut structures. Today, there are hundreds of scholarly works and studies ranging from underground shelters to hydraulic structures (Bixio R., De Pascale, 2022), dovecotes (Bixio A., Bixio R., De Pascale, Yamaç, 2023), and even rock-cut apiaries in the area (Bixio R., Bixio A., De Pascale, 2022).

Although these studies refer to a territory generically named Cappadocia, in reality nearly all have been performed only in the Nevşehir - Ürgüp - Göreme triangle, but this area represent only a small part (ca. 5,500 km²) of the ancient historical region.

In AD 371, it was the largest province of the Roman Empire, with a total area of 58,000 km² and its capital, as said, was Kayseri (Mitchell, 2018; Ramsay, 1890). This city was named “Mazaca” from the Hattians to Strabo, and it was changed to “Caesarea” in honor of Caesar Augustus in AD 14. After the 3rd century AD, it was the largest city of the Byzantine theme, in Central Anatolia. The name became Quaisarya by the Arabs, transformed into Kaysareya by the Seljuk Turks (late 11th century), then Kayseri in Ottoman times, and now is chief town of the homonymous Turkish district.

Despite being the capital of Cappadocia during ancient times, no comprehensive scientific research has been carried out so far in terms of the rock-cut architecture in Kayseri. To fill this deficiency, we, as OBRUK Cave Research Group, started to work for the “Kayseri Underground Structures Inventory Project” in January 2014. The project, carried out based on a triple protocol with the ÇEKÜL Foundation and Kayseri Metropolitan Municipality, includes the research, survey, and documentation of all the underground structures located in Kayseri Province. This project, covering the entire territory with an area of 17,500 km² and ongoing for nine years, has become very significant especially due to the findings in Koramaz Valley.

Koramaz Valley

There is a 700-800 m elevation difference between the plain where Kayseri is located, at 1054 m a.s.l., and the mountains 30 kilometers east of this plain; as a result, each creek flowing down these slopes has formed its valley by eroding the soft pyroclastic rocks. East of Kayseri, there are six different valleys; on their rock sides there are structures carved by the inhabitants dwelling in the area for hundreds, or even more, for thousands of years. The longest of these six valleys is Koramaz Valley. In this 16 km long stream course, there are, in total, seven different villages. From west to east, these are Büyük Bürüngüz, Üskübü (Subasi), Küçük Bürüngüz, Ağırnas, Dimitre,



Fig. 1 – Location map showing Kayseri and Dimitre Village (after Google Maps and Google Earth-elaboration A. Yamaç).

Fig. 1 – Mappa con posizione di Kayseri e del villaggio di Dimitre (da Google Maps e Google Earth-elaborazione A. Yamaç).

Vekse, and Ispıdın. Both the interior and surroundings of these seven villages, located on the slopes of Koramaz Valley, are full of structures carved into the rocks. Though it is tough to date these structures due to their continuous usage, the experts have ascribed some of the rock-cut churches in the valley to the 9th and 11th centuries. On the other hand, it is a generally accepted assumption that the underground shelters in Koramaz Valley were dug between the 7th and 10th centuries by Christians living in the region as a protection against the Arab raids.

In addition, the experts examining the rock-cut structures near Ağırnas have stated that, though these structures have changed over time due to different usages, by taking into consideration the entrance decoration and interior architecture, at least 18 of the cavities in the valley have been dug as Roman chamber tombs and 16 as *columbarium* (Gilli, 2017; Yazlık, 2022). To sum up, it is possible to say that the background of all these structures carved in rocks in the Koramaz Valley dates back to at least 2000 years ago and probably to even earlier times (Yamaç, 2018). Recently accepted to the UNESCO World Heritage Site tentative list, new projects for restoring and protecting various structures and churches in this area have already begun.

Cliff Settlements

A cliff settlement is a village carved into the rock faces with all its structures, including houses, storage rooms, barns, cisterns, religious buildings, and defense shelters.

According to Italian “Commissione Nazionale Cavità Artificiali”, there are several types of “cliff rock-cut villages”, depending on the morphology on which the facilities have been carved: a “linear settlement” consists of a series of dwellings and their infrastructures carved into a long, and generally low crag, mostly in an single level; when the dwellings are dug on overlapping levels in high vertical walls, we will have a “wall settlement”; if the rock-cut structures are on misaligned levels, such as a series of rock steps, we will have a “terraced settlement”. Of course, this classification is schematic and the different types are often mixed in the same site (Bixio R., Galeazzi, 2009a; Bixio R., Galeazzi, 2009b, slide 88; (Bixio A., Bixio R., De Pascale, 2023).

Throughout history, in various regions of the world, people have dug all these structures into the rocks, and all these dwellings, dug side by side, have merged over time to form troglodyte villages (Kempe, 1988). Rather than constructing a structure on the surface, there are different reasons for preferring to live in an artificial cavity. The first and probably most important reason is that rock dwellings are easier to implement than surface structures (Öztürk, 2009). If the rock one is planning to dig is relatively soft and suitable for being carved, a few people working together can dig a small house in a short time, and it will cost much less than a house built on the surface. The other

advantage of a rock-cut dwelling is that it is easier to keep warmer during the winter and naturally cool during the summer.

Cliff settlements can be of different sizes. Along with the small settlements consisting of a few dwellings dug side by side and housing a small population, there are colossal troglodyte villages. In numerous different regions of the world, there are countless settlements, some of which have been abandoned and have become cultural heritage, and others are still inhabited. For example, today, in several regions, from France (Loire Valley) to Iran (Kandovan), or Italia (Massafra, Matera or Ginosa) to Greece (Santorini), or Spain (Saragossa), people continue to live in these types of cliff settlements, and often this style of troglodyte living has become a tourist attraction point.

There are cliff settlements in different regions of Turkey, such as Gödet in Central Anatolia, Ahlat and Ani in Eastern Anatolia, and Phrygia in West Anatolia. However, Cappadocia is different from all these other regions in Anatolia in certain respects. The first and most crucial difference is that, while there is a single settlement in one or two valleys in other regions, the number of cliff settlements in Cappadocia is extensive. In the provinces of Aksaray, Nevşehir, and Kayseri, there are more than 30 cliff settlements of all sizes. The soft pyroclastic rocks eroded by streams have formed various morphologies throughout Cappadocia (valleys, cliffs, isolated hills, badlands), where numerous troglodyte villages have been dug. The settlement of Çavuşin, for example, located between Göreme and Avanos, has over a hundred rock-cut structures and is an excellent evidence of a mixed “terraced and wall” settlement. This village, which was dug on overlapping levels on a 60 metres high slope and along the entire extension of the hill, was abandoned in the 1950s with the start of the rock collapses: afterward, the frontage of the hill collapsed completely. Zelve, where two different valleys intersect each other forming a triangle, has a rock-cut village, partly linear and partly on wall, with four churches, a mosque, and a total of 67 rock-cut structures. Until 1954, people lived in these rock-cut dwellings and, as happened in Çavuşin, the village was abandoned due to the rock collapses (Pekin, 2014).

Also on numerous other walls of the valleys, such as Meskendir, Kızılcukur, and Kılıçlar around Göreme, or Gesi and Değirmendere around Kayseri, there are countless rock-dwelled settlements, churches and shelters of all sizes, still not fully documented, but to which every year relevant new discoveries are added (Bixio A., Bixio R., De Pascale & Maifredi, 2018; Bixio R., 2012). In the province of Kayseri, apart from the most known cliff settlements such as Soğanlı, Erdemli, and Güzelöz, we have explored 11 different rock-cut settlements and completed surveys of some of them.

On the east of Kayseri, seven different valleys are eroded by the streams flowing down from the high hills, similar to those of western Cappadocia. Several cliff settlements can be found in the valleys of Avedik, Değirmendere, Gesi, and Koramaz, which are only a few kilometres apart. We have explored and surveyed



Fig. 2 – Satellite view of Dimitre Cliff Settlement (after Google Earth-elaboration A. Yamaç).

Fig. 2 – Vista satellitare dell'insediamento di falesia di Dimitre (da Google Earth-elaborazione A. Yamaç).

most of these relevant structures in the past few years, noting that the number of rock-cut dwellings differs a lot from valley to valley (OBRUK, 2017a, 2017b, 2017c, 2018, 2020). For example, there are 35 rock-cut structures in the cliff settlements of the Değirmende-

re Valley, while there are as many as 476 in four different cliff settlements of Koramaz Valley. Though two of these settlements have few dwellings, the other two troglodyte villages include not only dwellings, storage rooms, barns, or underground shelters but also Ro-



Fig. 4a – The northwestern part of the Dimitre Cliff Settlement. Between the entrances of the dwellings dug into the rock facing southwest, the remains of masonry houses are still visible (photo B. Langford).

Fig. 4a – La parte nordovest dell'insediamento di falesia di Dimitre. Inframezzati agli ingressi delle abitazioni scavate nella roccia che si affacciano a sudovest, sono tuttora visibili i resti delle case in muratura (foto B. Langford).



Fig. 3 – View of Koramaz Valley fork from one of the rock-cut dwellings of Dimitre (photo D. Albov).

Fig. 3 – Confluenza con la Valle di Koramaz vista da una delle abitazioni rupestri di Dimitre (foto D. Albov).

man tombs, churches, and columbaria. Ağırnas Cliff Settlement is a substantial rock-cut village with 195 different rock-dwelled structures carved into three separate walls of Koramaz Valley. However, Dimitre Cliff Settlement is entirely different from all the other structures stated above.

Dimitre Cliff Settlement (Ka27)

Koramaz Valley reaches “Dimitre Cliff Settlement” three km downstream of Ağırnas Village in Melikga-

zi district (fig. 1). Its number is Ka27 in the “Kayseri province’s list” of the “Turkey Artificial Cavities Inventory” (Yamaç and Bixio, 2022).

The rock-cut dwellings of Dimitre are not located on the main line of the Koramaz Valley, but on the right bank of a branch extending upstream, to the southeast (fig.2). This is the point with the greatest difference in height that Koramaz Valley has along its route. At the fork of Dimitre (1240 m a.s.l on the bottom), the valley’s depth from the top of the plateau reaches 80 metres (fig. 3). Unlike the dwellings dug on three separate rocky walls of the valley in nearby Ağırnas, the entire ancient Dimitre Cliff Settlement has been dug in the walls of a long belt of low and irregular rocky outcrops, extending in a sort of almost uninterrupted line along the slope facing southwest, at 1293 m a.s.l., thus 53 m above the stream bed. Such belt is between two low crags that run parallel, almost horizontal, from northwest to southeast, the highest of which is the crowning of the tableland that extends to the northeast, at about 1320 m a.s.l., that is, 27 m in average above the rock-cut settlement, and right in front of the today’s masonry village of Dimitre, positioned on the opposite plateau. (figs. 2, 4a, 4b).

According to Ottoman Registration dated 1500, in Dimitre Village there were 37 households, living in rock-cut dwellings, which increased in the intervening three centuries, reaching 119 in the census of 1831 (Cömert, 2008; İnbaşı, 1993). Although according to the first Registration, the entire village was Muslim, even the village’s name shows that the residents were not Muslims before 1500. Its history may date back to much earlier centuries. Moreover, the presence of “millstone doors” in the tunnels inside the old rock-



Fig. 4b – The middle part of the Dimitre Cliff Settlement. The entire rock-cut village develops in a linear rock band just below the crag that crowns the plateau (photo B. Langford).

Fig. 4b – La parte centrale dell’insediamento di falesia di Dimitre. L’intero villaggio rupestre si sviluppa in una fascia di roccia lineare appena sotto la falesia che corona l’altipiano (foto B. Langford).



Fig. 5 – Northwest corner of the rock-cut settlement with the remains of stone masonry houses in the foreground (photo R. Straub).

Fig. 5 – Estremità nordovest dell'insediamento rupestre con i resti, in primo piano, delle case in muratura di pietra (foto R. Straub).

carved structures, that later turned into dwellings, proves that in origin they were built for defensive purposes. As observed in Cappadocia, Christians dug these underground structures to defend themselves against the Arab raids that started in the 7th century. The residents of Dimitre Village have continued to live in this cliff settlement until very recently. Over time, the original underground structures have been repeatedly modified, and even several stone masonry houses have been built over and between them. When the site became uninhabitable due to the rock collapses, in 1966 people moved to their current settlement, in the opposite plateau, on the top of the valley. During the village's relocation, the homeowners removed the stones from the abandoned masonry houses and used them to construct their new ones. As a result, the terraced slope looks like a ruin today (fig. 4a-b, fig. 5). On the other hand, there is a magnificent view behind these ruins: the disappearance of the stone houses built in surface has brought the entrances of the old rock-carved structures back into the daylight. It is impressive to see that all the houses of the ancient village were connected with structures carved into the rock. Our explorations in the region have also confirmed this fact. For example, during our surveys, while we were preparing to measure the tunnel behind a house where all the structures in front of and behind it were dismantled years ago, and the parts

that were not dismantled collapsed, an elderly resident, who came to visit us, said that this building was his aunt's house and that he spent his childhood there. On the back wall of this house, which his aunt used as her residence until 60 years ago, there were two tunnels carved into the rock, one 30 m long, where two large millstone doors were placed. This is one of the cases that an underground shelter dug for defense purposes centuries ago, when it was no longer needed was converted into a dwelling-storage room. As a result of a tradition of continuously living in rock-cut structures for centuries or even thousands of years, examples of which can be found almost everywhere in Koramaz Valley, we can see that such structures have undergone a constantly evolution in parallel with the residents' changing needs. Although we can partially recognize the last period of use of buildings by looking at the shape of the front door and the condition of the niches and feeding troughs inside, as we wrote above, the use spanning such a long time actually makes it difficult to distinguish between a dwelling, a warehouse, and a barn. The biggest problem created by this phenomenon is that it has become almost impossible to understand the original construction date of the rock-cut structures and their original intended use after so many years of constant change. Some of these structures lost their original functions by integrating with the stone houses built in front of them, which

no longer exist today. However, based on the underground shelters and Byzantine rock-cut churches, the Dimitre Cliff Settlement can be dated back to the seventh and eighth centuries at the earliest. But if, according to experts (*ibidem*, see above), it were confirmed that the tombs on the plateau above were also Roman (see below), the origin of the settlement could realistically be backdated.

The surveys

At the beginning of the survey work, a 920 m-long guideline was drawn on the path in front of the cliff. This corresponds to the polygonal extending from northwest to southeast represented in fig. 6. The settlement was then divided into six sectors (figs. 6a-b-c), and surveys were done by six separate teams (fig. 7). All surveys were connected to stations along the guideline.

During this survey, 229 rock-cut structures were explored, documented and mapped. As seen on the maps, the structures are denser in the northwest and south-

east parts of the slope (figs. 6a and 6c); however, they are less dense in the middle parts (fig. 6b). The dwellings in the densest sectors, especially in the northwest part, extend for three or even four floors over the entire height of the rock faces, and are interconnected with rock-cut stairs. In the segments where the rock texture is appropriate for digging, the relevant floors extend along the entire length, one on top of another. Nevertheless, the soft and fragile structure of the rock has caused collapses inside or at the entrance of numerous structures or has wholly blocked specific segments.

Although most of these 229 structures are dwellings, barns, and storage rooms, there are also five churches and 10 underground shelters. These five small rock-cut churches scattered throughout the cliff settlement are architecturally similar, all 6-7 metres long with a horseshoe apse. Three of these churches are located in the northwest, one in the middle, and the other one is on the southeast part of the crag (fig. 8).

Ten different underground shelters with their *in situ* millstone doors are spread to almost all sectors of the cliff settlement. The millstone doors and/or opera-

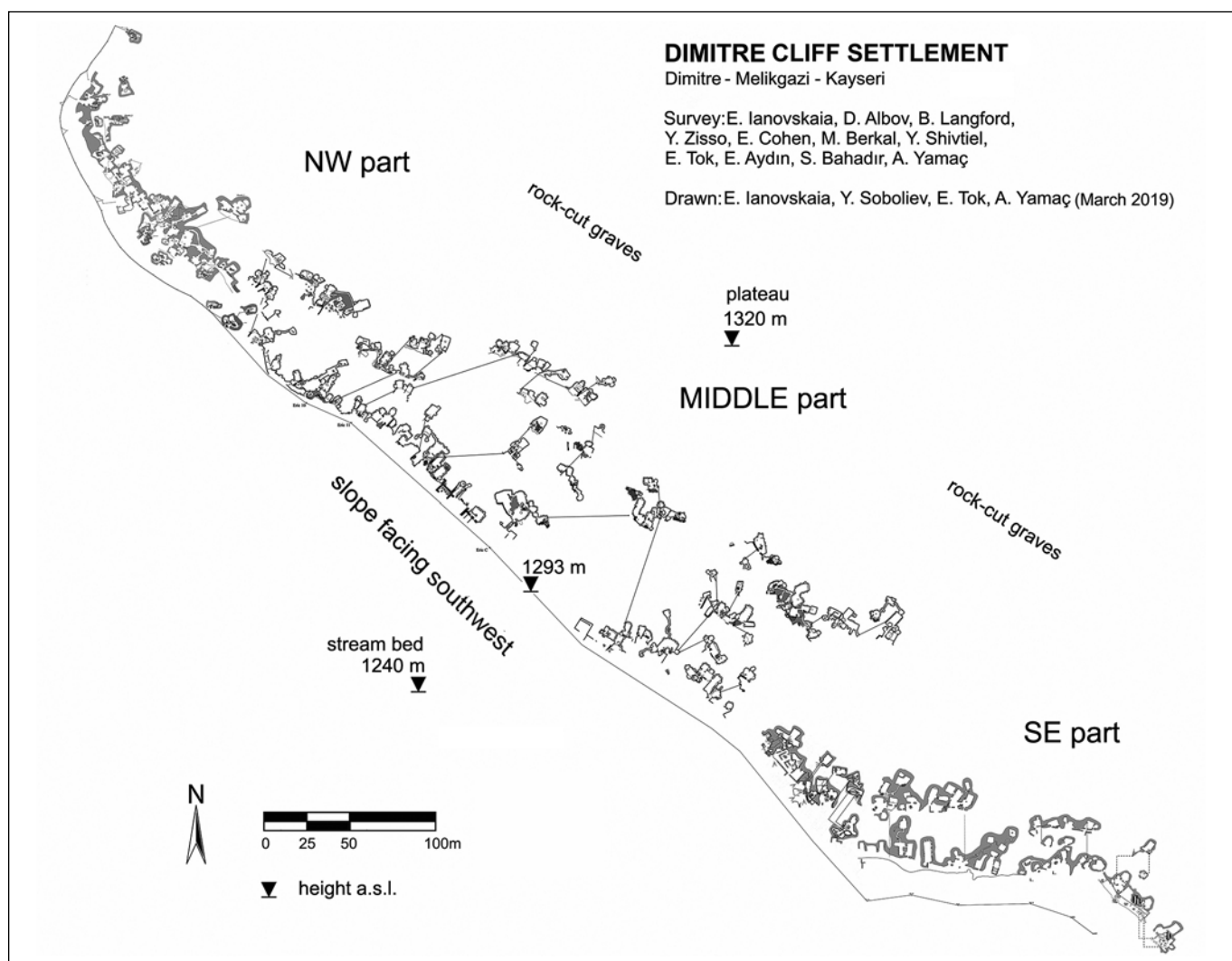


Fig. 6 – General plan of Dimitre Cliff Settlement (drawing E. Ianovskaia, Y. Soboliev, E. Tok & A. Yamaç).

Fig. 6 – Pianta generale dell'insediamento di falesia di Dimitri (grafica E. Ianovskaia, Y. Soboliev, E. Tok & A. Yamaç).

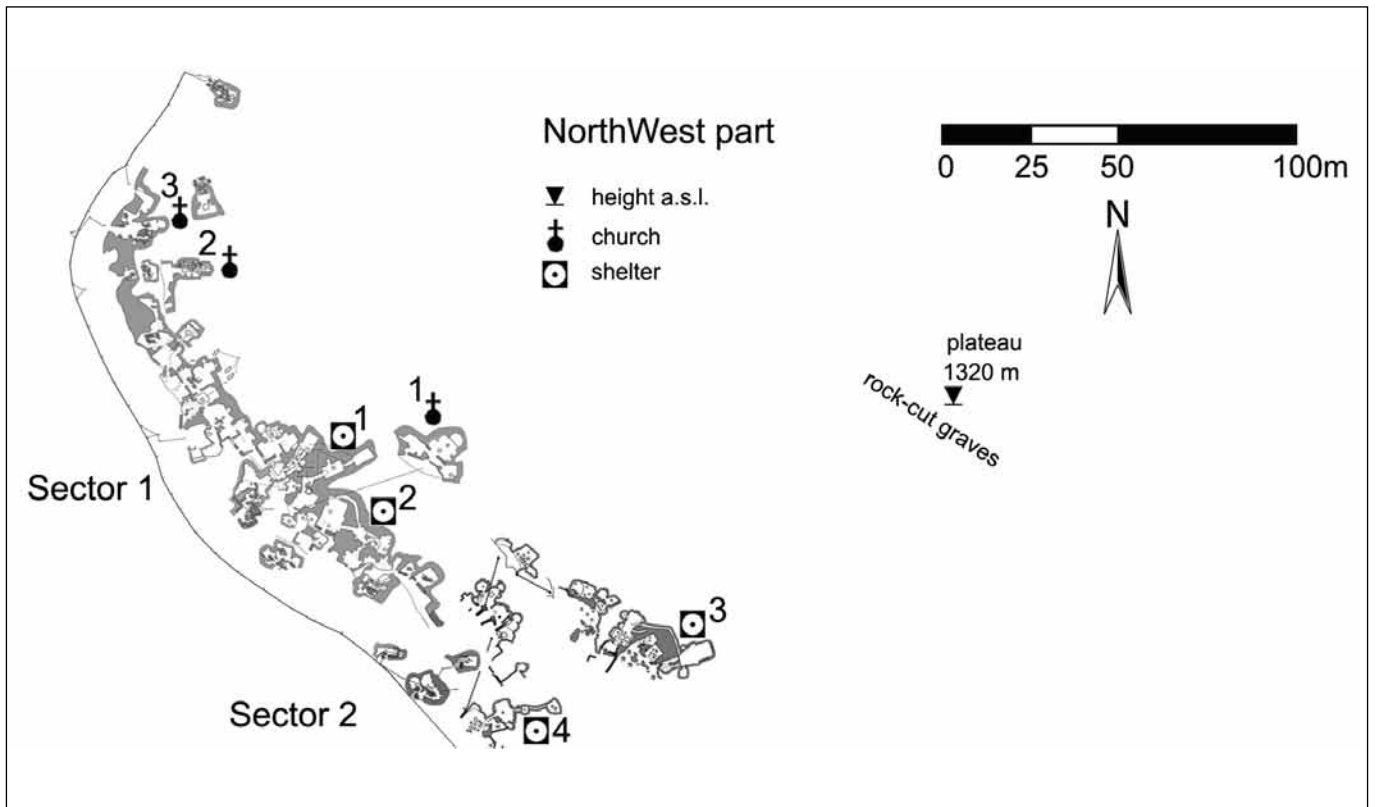


Fig. 6a – Plan of NorthWest part (drawing E. Ianovskaia, Y. Soboliev, E.Tok & A. Yamaç).
Fig. 6a – Pianta dell'area Nord Ovest (grafica E. Ianovskaia, Y. Soboliev, E.Tok & A. Yamaç).

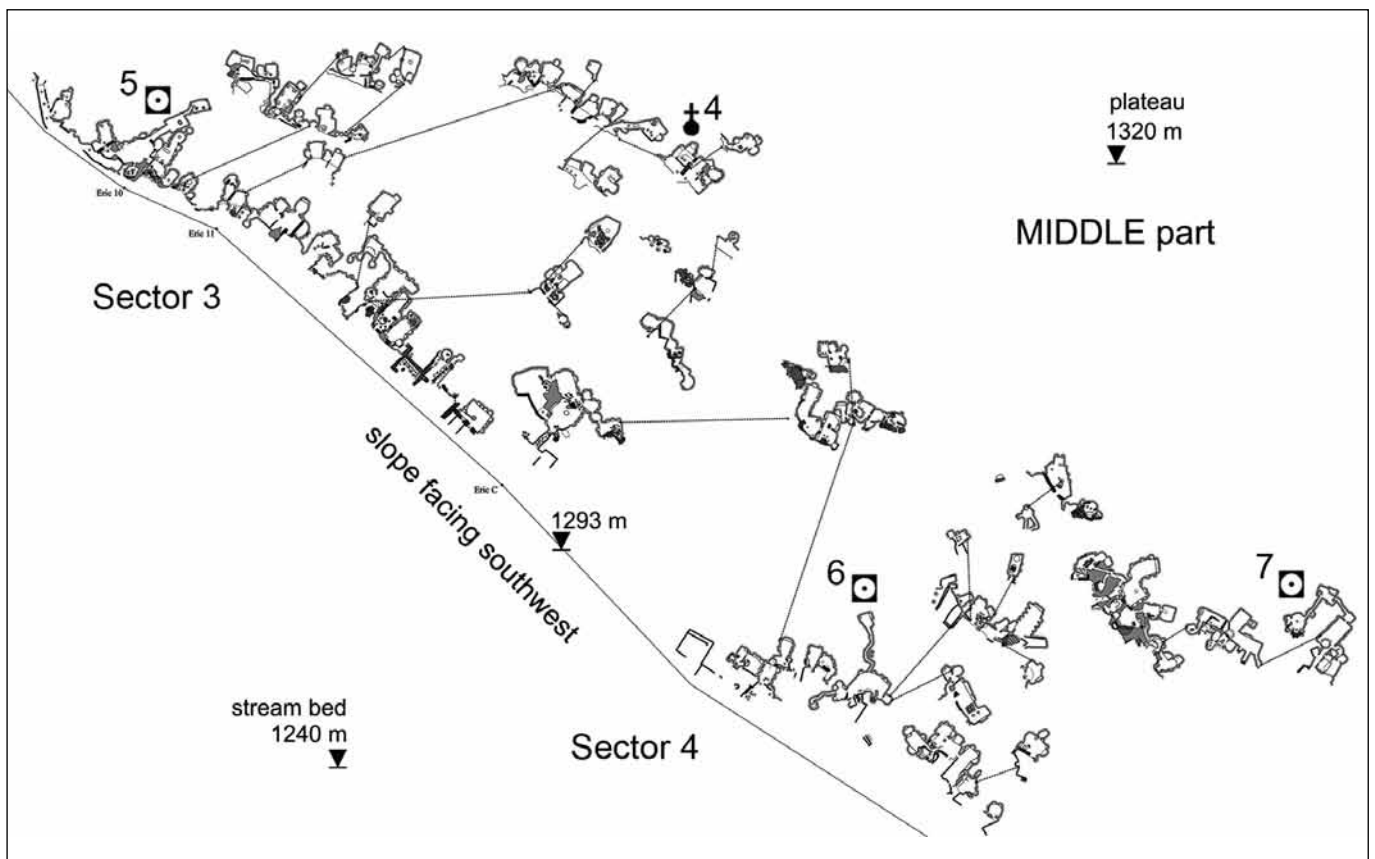


Fig. 6b – Plan of middle part (drawing E. Ianovskaia, Y. Soboliev, E.Tok & A. Yamaç).
Fig. 6b – Pianta dell'area centrale (grafica E. Ianovskaia, Y. Soboliev, E.Tok & A. Yamaç).

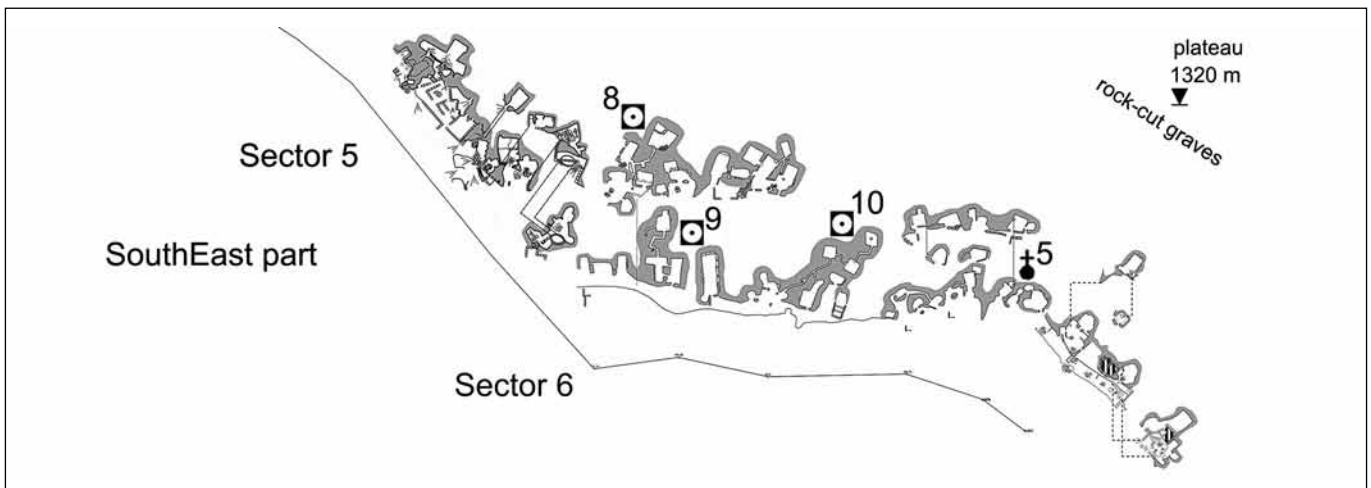


Fig. 6c – Plan of SouthEast part (drawing E. Ianovskaia, Y. Soboliev, E. Tok & A. Yamaç).

Fig. 6c – Pianta dell'area Sud Est (grafica E. Ianovskaia, Y. Soboliev, E. Tok & A. Yamaç).



Fig. 7 – Team holding final briefing before starting to work (photo R. Straub).

Fig. 7 – Riunione finale della squadra prima di iniziare il lavoro (foto R. Straub).

tion rooms in the tunnels and shelters explored are incomparably smaller than in the underground cities of Büyük Bürüngüz or Ağırnas Villages. Most of the shelters have one or at most two rooms; the most significant of those we explored is a three-room structure with a tunnel of 55 meters in total, located on the southeast side of the cliff settlement (No.10 in fig. 6c and fig. 9). Another reason why the defense shelters in Dimitre Cliff Settlement are fewer in number and smaller compared to the other villages is that the residents of this site have lived in these dwellings until recently and, probably, constantly changed and adapted the structures to today's conditions, concealing the original shapes. However, relatively narrow tunnels connecting specific structures confirm that they were constructed as defense places but lost their functions over time.

As opposed to the nearby Ağırnas Cliff Settlement

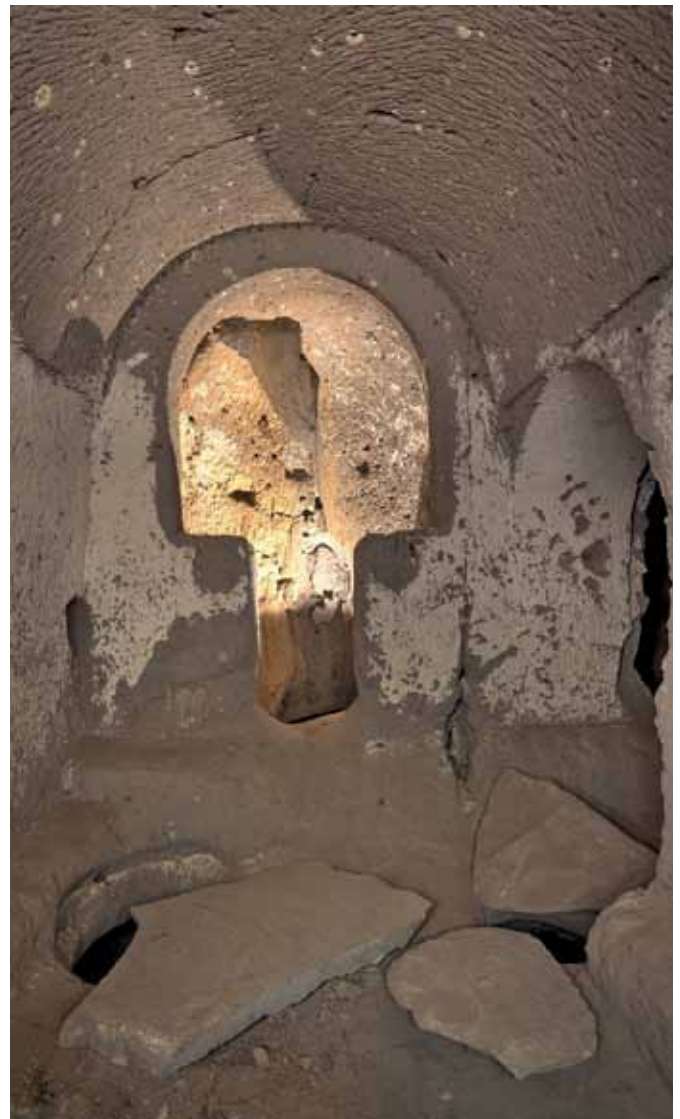


Fig. 8 – A small Byzantine rock-cut church in the northwest sector (photo D. Albov).

Fig. 8 – Piccola chiesa rupestre bizantina localizzata nel settore Nord Ovest (foto D. Albov).



Fig. 9 – An underground shelter in southeast sector. On the left a millstone-door in its housing is visible (photo R. Straub).

Fig. 9 – Rifugio sotterraneo localizzato nel settore Sud Est. A sinistra è visibile una porta-macina nel suo alloggiamento (foto R. Straub)

(fig. 1), there are not many dovecotes in Dimitre. On the other hand, dozens of graves are carved into the rocky plateau above the right valley slope. The

number of these rock-cut graves, belonging to the Roman or Byzantine periods, is much more than those in different parts of the Koramaz Valley.

Conclusion

With its 229 rock-cut structures, distributed along a continuous rocky front of 920 m, it is apparent that the ancient rock-cut Dimitre Village is one of the biggest cliff settlement village ever explored in Turkey to date. The presence of 5 churches and 10 different underground shelters, although small in size compared to other complexes that are located in the same area or in other provinces that correspond to historical Cappadocia, confirms both the religious fervour and the need for security common to all the peoples who for centuries have populated this region.

The site is also a significant example of the interaction between rock-cut dwellings and houses built outside, although now both uninhabited and in ruins, and the continuous transformations over the centuries, even if not always clearly interpretable, produced both by man and by natural events, until the final abandonment occurred only in relatively recent times, in 1966, which accelerated the process of crumbling.

This and other thousand-year-old cliff settlements in the Kayseri province and the entire region, which are slowly disappearing daily due to new rock collapses and illegal excavations, are in urgent need of protection and restoration.



Fig. 10 – A large rock-cut chamber, of unusual height, with unknown function, probably for Community rural use (photo A. E. Keskin).

Fig. 10 – Una grande camera scavata nella roccia, di altezza inusuale, con funzione sconosciuta, probabilmente ad uso rurale comunitario (photo A. E. Keskin).

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Nine years ago, Prof. Osman Özsoy, Kayseri Coordinator of ÇEKÜL Foundation, created the “Kayseri Underground Structures Inventory Project” from nothing and transformed it into a project of worldwide importance with his dedicated attitude and extraordinary efforts. So, it is an absolute pleasure to express our sincere gratitude to him again.

Bibliography

- Aydar E., Schmitt A., Çubukçu H., Akın L., Ersoy O., Şen E., Atıcı, G., 2012, *Correlation of ignimbrites in the central Anatolian volcanic province using zircon and plagioclase ages and zircon compositions*, Journal of Volcanology and Geothermal Research, 213-214, pp. 83-97.
- Bixio A., Bixio R., De Pascale A., 2023, *General overview: classification of the settlements (Inquadramento generale: tipologia degli insediamenti)*, in *Göreme and Şahinefendi. History inside the Rocks of Cappadocia (La storia dentro le Rocce di Cappadocia)*, in Access Archaeology, Archaeopress Publishing Ltd., Oxford (English/italiano, pp. 31-102),
- Bixio A., Bixio R., De Pascale A., Maifredi A., 2018, *Kılıçlar Kalesi: una fortezza “lineare” a Göreme (Cappadocia, Turchia)*, Opera Ipogea, 2/2018, Società Speleologica Italiana, Bologna, pp. 109-126.
- Bixio A., Bixio R., De Pascale A., Yamaç A., 2023, *Rock-cut dovescotes in Cappadocia: elements in comparison*, in Saj S., Galeazzi C., Betti M., Faccini F., Madonia P. (editors), proceedings of the IV International Congress in Artificial Cavities “Hypogea 2023”, Genoa, September 29-October 1 2023, supplement to issue Opera Ipogea 1-2/2023, Società Speleologica Italiana, Bologna, pp. 349-358.
- Bixio R., (ed), 2012, *Cappadocia: Records of the underground sites*, British Archaeological Reports-BAR, International Series 2413, Archaeopress, Oxford.
- Bixio R., Castellani V., Succhiarelli C., (eds), 2002, *Cappadocia, le città sotterranee*, Istituto Poligrafico e Zecca dello Stato, Roma.
- Bixio R., Bixio A., De Pascale A., 2022, *Ancient Rock-Cut Apiaries in the Mediterranean Area: Some Case-Studies*, in Wallace-Hare D. (ed.), *New Approaches to the Archaeology of Beekeeping*, Archaeopress, Oxford, pp. 146-158.
- Bixio R., De Pascale A., 2022, *Rifugi sotterranei e sistemi idraulici a Göreme (Cappadocia, Turchia)*, in journal Agri Centuriati 19-22, Fabrizio Serra Editore, Pisa, pp. 69-83.
- Bixio R., Galeazzi C., (eds), 2009a, *Le cavit  artificiali 1: categorie e tipologie*, <http://document.speleo.it/ProgettoPowerPointRisorseDidatticheperlaSpeleologiaeilCarsismo43>, Società Speleologica Italiana, Bologna.
- Bixio R., Galeazzi C., (eds), 2009b, *Le cavit  artificiali 3: ambiti della ricerca*. <http://document.speleo.it/ProgettoPowerPointRisorseDidatticheperlaSpeleologiaeilCarsismo43>, Società Speleologica Italiana, Bologna.
- C mert H., 2008, *Koramaz Vadisi*, Ađırnas Belediyesi, Kayseri.
- Durukan M., 2012, *Kappadokia'da, Argaios Dađı  evresinde Hellenistik-Roma D nemi Mezarları ve  l  K lt  (Grabur und Totenkult In Der Hellenistisch-R mischen Zeit In Der Umgebung Des Argaios In Kapadokien)*, Arkeoloji ve Sanat Yayınları, İstanbul.
- Gilli E., 2017, *From columbaria to dovescotes: two thousand years of use of cave dwellings in Ađırnas (Kayseri, Turkey)*, proceedings International Congress of Speleology in Artificial Cavities ‘Hypogea 2017’, Cappadocia, Turkey, pp. 446-453.
- Gilli E., Yamaç A., 2017, *More than four thousands years of underground solutions in Cappadocia (Turkey)*, Paper presented at the Congress International AFTES 2017 - Cappadocia 5, Paris.
- Inbaşı M., 1993, *16. Y zyıl Bařlarında Kayseri*, Kayseri.
- Innocenti F., Mazzuoli R., Pasquar  G., Radicati Di Brozolo F., Villari L., 1975, *The Neogene calcaikine volcanism of Central Anatolia: geochronological data on Kayseri - Nigde area*, Geology Magazine, 112.
- Kempe D., 1988, *Living Underground*, London.
- Mitchell S., 2018, *Cappadocia*, in Nicholson O., (Ed.), *The Oxford Dictionary of Late Antiquity*, Oxford University Press, p. 279.
- OBRUK, 2017a, *Kayseri Yeraltı Yapıları Envanteri*, (Vol. 1), Kayseri Municipality.
- OBRUK, 2017b, *Kayseri Yeraltı Yapıları Envanteri*, (Vol. 2), Kayseri Municipality.
- OBRUK, 2017c, *Kayseri Yeraltı Yapıları Envanteri*, (Vol. 3), Kayseri Municipality.
- OBRUK, 2018, *Kayseri Yeraltı Yapıları Envanteri*, (Vol. 4), Kayseri Municipality.
- OBRUK, 2020, *Kayseri Yeraltı Yapıları Envanteri*, (Vol. 5), Kayseri Municipality.
-  zt rk F., 2009, *Rock carving in Cappadocia from past to present*, Arkeoloji ve Sanat Yayınları, İstanbul.
- Pekin F., 2014, *Kapadokya Kayalardaki Őirsellik*, İletişim Yayıncılık, İstanbul.
- Ramsay W., 1890, *The Historical Geography of Asia Minor*, John Murray, London.
- Yamaç A., 2018, *Cliff Dwellings of Koramaz Valley (Kayseri - Turkey)*, proceedings 4th MESS (Middle-East Speleology Symposium), Antalya, October 2018, Sp leo-Club du Liban, Beirut, pp. 26-30.
- Yamaç A., Bixio R., 2022, *Kayseri province (Turkey): 2022 update of the inventory of artificial cavities*, Opera Ipogea 2-2022, Società Speleologica Italiana, Bologna, pp. 63-76.
- Yazlık B., 2022, *Columbarium Tombs of the Koramaz Valley*, Speleology and Speleology (International Scientific Journal), 1/2022, Federal State Budgetary Educational Institution of Higher Education Naberezhnye Chelny State Pedagogical University, pp. 126-140.