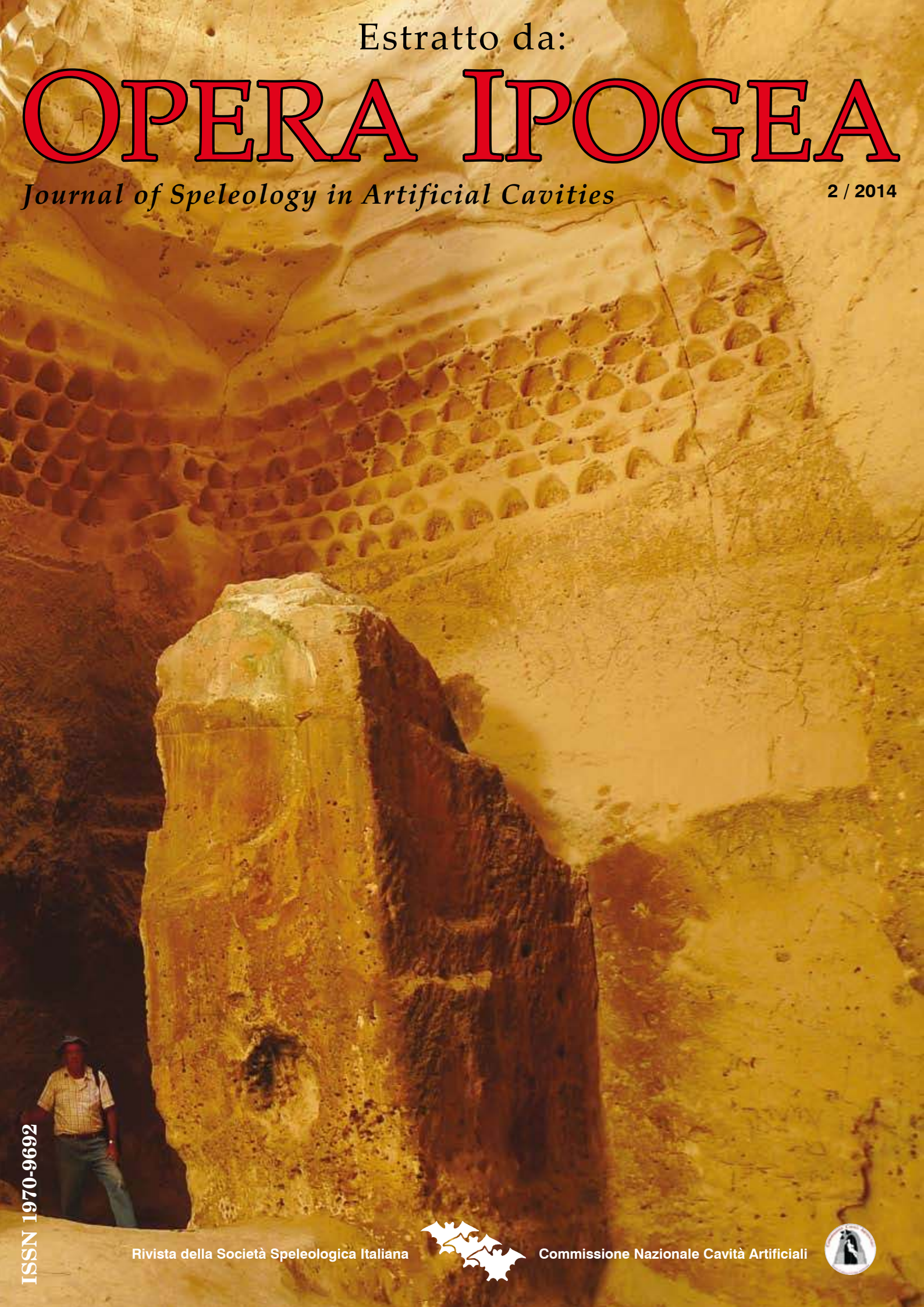
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St. Mercurius underground city of Saratli (Aksaray-Turkey)

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Abstract

The region of Cappadocia, located within the borders of four provinces today, has witnessed continuous settlement up to now. Tuffaceous rocks spewing out of the active volcanoes in the late Pliocene and Pleistocene period in the region were used for many different purposes such as houses, barns, churches, and caves carved out by locals. However, the most interesting of these underground dwellings are underground cities. There are about 200 underground cities that have been discovered in the region up to now. These underground cities, which were probably established for defensive purposes, were built as dwelling spaces connected to each other by the long halls protected by stone doors. There are two underground cities in Saratlı Village, in Aksaray near the provincial border. Kirkgöz Underground City has been opened to tourism and with a total 640 m² surface area, may be considered as a small dwelling. The St. Mercurius Underground City, which we have explored but is not yet opened to tourism, is located in the same village. It is a much larger and culturally very interesting structure with its church and an Alewi tomb inside.

Key words: Underground City, Cappadocia, Saint Mercurius Underground City.

Riassunto

La città sotterranea di San Mercurio di Saratli (Aksaray-Turchia)

La regione della Cappadocia, oggi situata nei confini di quattro province turche, è stata la scena di un insediamento continuo dalla preistoria fino ad oggi. Le rocce tufacee eruttate dai vulcani attivi nella regione nel tardo Pliocene e Pleistocene, sono state scavate e utilizzate dalle popolazioni di questa regione per molti scopi diversi, come la costruzione di case, fienili, magazzini, chiese, moschee etc. Tuttavia, le più interessanti tra tutte queste strutture ipogee sono le cosiddette "città" sotterranee, delle quali ad oggi ne sono note circa 200. Questi insediamenti sotterranei probabilmente costruiti per scopi difensivi, contengono spazi adibiti a dimora collegati tra loro tramite lunghi corridoi e protetti da porte in pietra. Nel villaggio di Saratli, situato nella provincia di Aksaray ci sono due città sotterranee. Quella di Kirkgöz, che è stata aperta al pubblico, con i suoi 640 m² di superficie può essere considerata un piccolo insediamento . La città sotterranea di San Mercurio, che si trova nello stesso villaggio e che è l'oggetto della nostra ricerca, non è ancora aperta al turismo. È molto più estesa ed interessante da un punto di vista culturale, per la presenza al suo interno di una chiesa e della tomba di Alewi il vecchio.

Parole chiave: Città Sotterranea, Cappadocia, Città Sotterranea San Mercurio.

Introduction

The region of Cappadocia is located in central Anatolia, among the provinces of Nevşehir, Aksaray and Kayseri (fig. 1). This region of Anatolia is one of the main intersection points of tectonic plates and throughout the whole Late Pliocene and Pleistocene eras tectonic movements had triggered volcanism in the area. Over 40 volcanoes of all sizes have been detected in an area of 25.000 km² that spewed out millions of cubic meters of tuffaceous rock during that era.

In the hands of dwellers of Cappadocia this soft rock that was easy to dig became houses, barns, churches, monasteries and underground settlements. One of the most interesting cultural features of Cappadocia are those underground settlements. Even today there is no precise inventory of all the known underground cities of this region. The total number of those listed in

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two different inventories (Bixio, 2012; Ayhan, 2004) is about 180. Furthermore, maps are available for only 40 of these underground structures and some of them are only rough sketches (Gulyaz & Yenipinar, 2007; Yorukoglu et al., 1989).
Since Cappadocia was frequently under attack throughout the ages, the likely aim of building these underground dwellings was to provide temporary shelter for people during an emergency. The people who lived in this region carved the rocks under their villages, opened new tunnels and, in order to gain more security, carved new galleries going deep inside the rocks. Therefore as increasing corridors and galleries were clustered together, they constituted underground settlements. This process of carving underground cities went on for hundreds of years to create the forms we can see today.
There is a problem in dating of these underground cities. The earliest phases of human settlement around Cappadocia was documented in archaeological excavations such as Aşıklı Höyük or Musular which both date back to 8000 – 7000 BC (Özbaşaran & Duru, 2011; Astruc et al., 2008) and the settlements of the region during the following periods and especially during Hittite Period are clearly identified by various rock inscriptions and several archaeological excavations (For a detailed bibliography about Pre-Byzantine periods; Sozen, 1998).
However, without archaeological excavations, datable artefacts or historical references, it has not been possible to date those underground structures. Some historical sources like Xenophon's *Anabasis* (Brownson, 1998) have nothing related with these underground shelters and the few archaeological surveys (Faydali, 1993; Sevim et al., 2007; Kaptan & Yurttagül, 1996; Sahin, 1993a; Sahin, 1993b) are far from dating them. So, without any scientific or historical proof, all the efforts to date these structures are merely hypotheses.
As the OBRUK Cave Research Group, in addition to the Istanbul – Topkapi Palace and Hagia Sophia Underground Tunnels Project, we have conducted the Hasankeyf, Urfa-Halfeti and Gaziantep Underground Dwellings Project during the last four years (Azak, 2011; Yamac, 2013). After all those projects, upon the requests of directorates of Nevsehir and Aksaray museums we began surveying different underground settlements in Cappadocia beginning in October 2013. We surveyed or re-surveyed five underground settlements in the area; namely Derinkuyu, Mazikoy, Mazikoy 2, Tatlarin and St. Mercurius.
Undoubtedly, the most stunning of the five settlements that we surveyed was St. Mercurius Underground City. This underground settlement, located in Saratli Village within the borders of Aksaray provincial, consisted of three floors with a total area of 1.655 m^2. It is culturally and archaeologically interesting because it contains a church and an Alewi tomb that is still being visited.
Our report contains an analysis of the geological structure and architectural features of this interesting underground city. We also assessed its historical importance in addition to the possible reality of attributed myths about the site.

Geology of Area

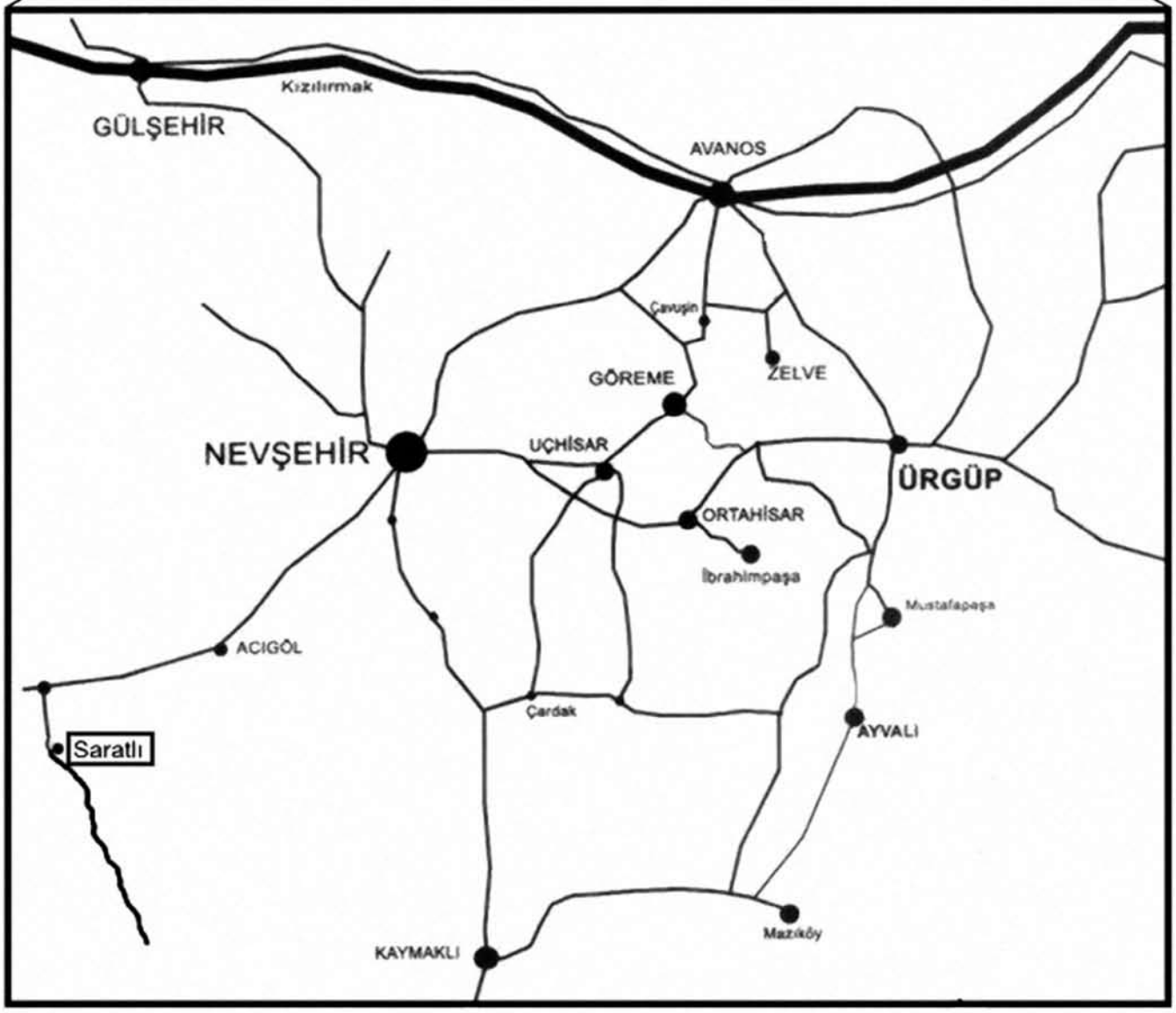
The Mid Anatolian Volcanic Province is one of the most important volcanic areas of Turkey. It continued through the converging of the Arabian and Eurasian plates in the Middle Miocene period, 16-11.6 million years ago and developed the post clash regimes after the Upper Miocene period. This continental clash brought shortening and thickening together with the north-south compression regime that is going on today in Eastern Anatolia. The thickness of the Eastern Anatolia Crust is about 45-50 km. At the end of the clash, the Anatolian block moved to the West through the two strike slip faults.
This movement that pulled apart the basin and reverse faults, is the basic reason of the inner deformation within the Anatolian block (Alici sen et al., 2004). A wide scale volcanism was formed in Anatolia from the Neogene to Quaternary periods was a result of the convergence of plate and continental clash. The mountains of Erciyes, Develi, Hasan, Melendiz, Keçiboyunduran and Göllü continued their activities from 2.5 million years till 10.000 years before today (Gormez et al., 2002). By all those eruptions various types of volcanic rocks were formed.
The rocks surfaced before 65.5 million years in the region are considered to be the basic rocks. The basic rocks comprised Paleozoic-Mesozoic aged metamorphic rocks. Over these rocks, Upper Cretaceous aged Mid Anatolia Ophiolits are overlapped and plutonic rocks cut all of these. The eosen period was characterised by marine limestones and this section is overlapped irregularly by the Oligo-Miocene aged continental clasts (Goncuoglu et al., 1991). The intensive types of continental volcanism that were launched in the Middle-Upper Miocene and continued during Quaternary Period, covered up all these sections (Aydin, 2009).
When the geology of Saratlı Village is examined, where St. Mercurius Underground City is located, it is observed that the basic rocks surfaced before Paleocene conformed the Mamasun Ophiolitic Melange. The melange of gabbro, pegmatite gabbro, diabase, chert and serpentinite wa probably placed tectonically over the Upper Cretaceous (Ayhan & Papak, 1988).
Due to the ongoing volcanism in Middle Anatolia, different levels are also observed in Kızılkaya Ignimbrites. The middle levels are light pink while the upper levels are white, light grey, whereas the middle parts have strong and the upper parts have weak source, of the Kızılkaya ignimbrites comprising pumice stones reaching coarseness of 30 cm in the low levels. Two different ignimbrite levels, with pink on the basement and white-beige over it, have been observed in the settlement of St. Mercurius Underground City (Beekman, 1966; fig. 2).

Location and historically related structures: Saratli village and Kirkgoz underground city

Saratli Village is in the district of Gulagac, in the province of Aksaray, located on the 3rd kilometre of



Fig. 1 - Location map showing Saratlı Village (drawing: A. Yamac)
Fig. 1 - Ubicazione del Villaggio di Saratli (grafica: A.Yamac).



Aksaray-Nevşehir highway. Although the earliest settlement of the town is unknown, it is almost certain that it existed during Byzantium Period. The village has two underground cities and one of them (Kirkgoz) is open for tourists. Though it is far from the main tourism region of Cappadocia, an increasing number of domestic and foreign tourists visit Kirkgoz Underground City each year. There are 21 rooms in this settlement, which were used as a barn, a storage area, kitchen and living space with a total area of 640 m^2 extended over three floors. The chambers are mostly in the shape of unequal rectangles or circular ovals. Most of the mill stone doors are *in situ*. On the ground floor of the underground city, there is a water well with a depth of 8 meters.

When compared to the underground cities such as Derinkuyu, Kaymakli or Mazikoy, the total area of 640 m^2 of Kirkgoz Underground City is rather small. However, only eight of the 21 rooms within this structure are living spaces and the extremely large sizes of kitchens and storage areas are the signs of still unopened passages of this underground city. So the potential discovery of new settlements behind the clogged tunnel located in the first floor, and the possibility of new connection tunnels with St. Mercurius Underground City, which is only 800 m away, will not be a surprise.

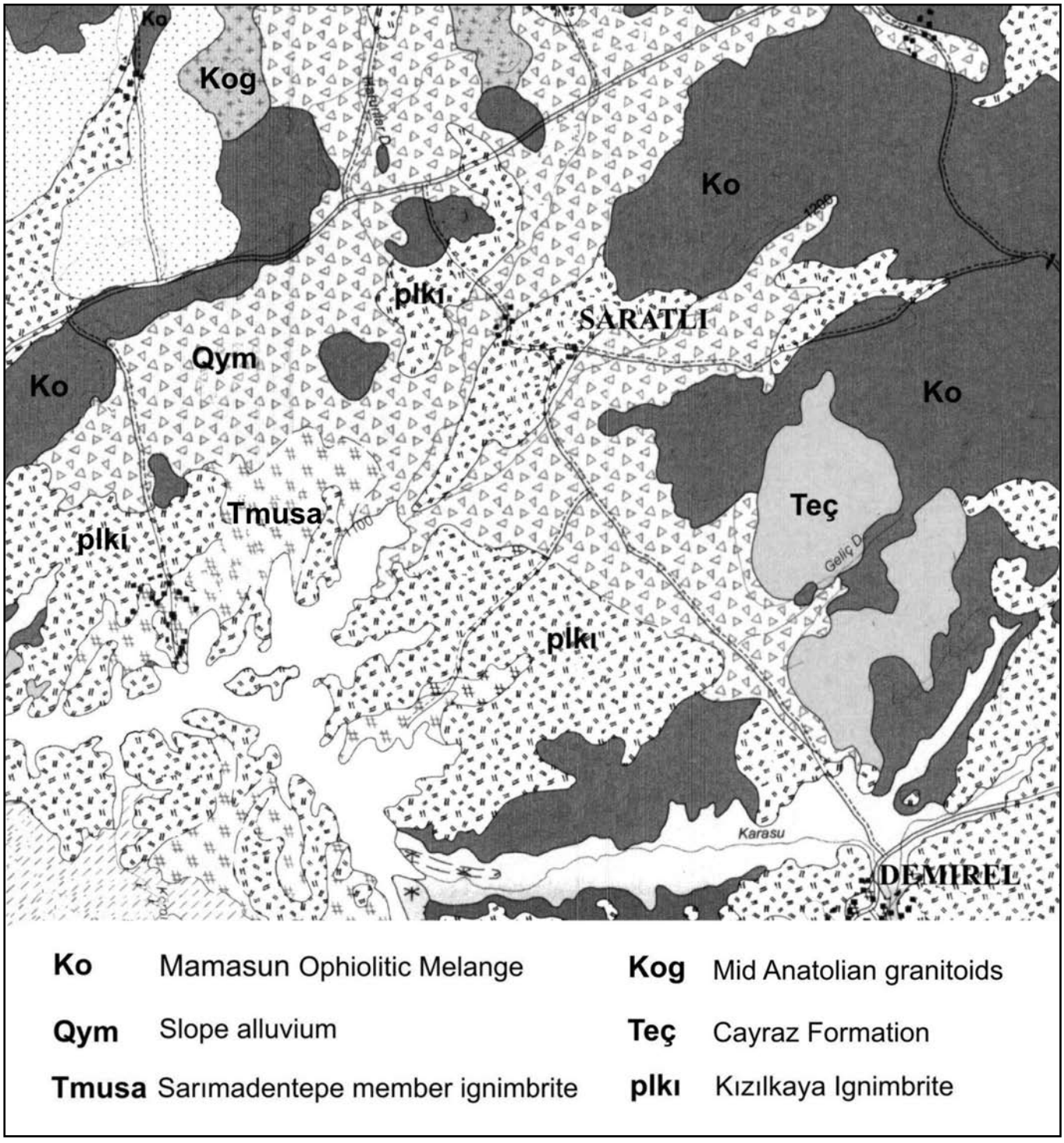


Fig. 2 - Geological map of Saratlı Village area (detail from Atabey, 1989).
Fig. 2 - Schema geologico dell'area del Villaggio di Saratli (dettaglio da Atabey, 1989).

St. Mercurius Underground City

Life of Saint Mercurius

Although there are churches built in honor of Saint Mercurius in many places around the world from Cairo to Sydney, the place of birth, the life and the death of that saint remain unclear. Though it is certain that he was born in Cappadocia, his place of birth is identified as *Eskentos* in some sources (De le haye, 1909; Binon, 1937), but a city with that name does not appear either in antique sources or in the church lists. The name *Eskentos* probably arises from the different or poorly written version of *Scandos* which was the antique name of Nevşehir (Ramsay, 1890).

Saint Mercurius is supposed to have lived during 224-250. It is not a coincidence there were many accounts of martyrdom such as Saint Mercurius in Cappadocia in this period, where the Eastern Roman Empire was struggling against Christianity. Caesera of Cappadocia is accepted as the cradle of Christianity in the region. Furthermore, in the century before the First Council of Nicaea and the time of Saint Basileus of Cappadocia, all of the stories about Saint Mercurius reflect a hazy period without reliable records and thus appear to be largely mythical.

The most important myth is that he fought heroically beside the Roman Emperor Decius in a war against the Goths and was rewarded by the Emperor after the war. But when Mercurius refused to take part in sacrifices to the pagan gods during the persecution launched by Emperor Decius, he was allegedly sent to Caesarea and beheaded.

His grave is unknown and his Arabic name *Ebu Seyfeyn*, means "The holder of two swords", referring to a second sword said to be given to him by the Archangel Michael (Binon, 1937).

Architecture of St. Mercurius Underground City

St. Mercurius Underground City is in the centre of Saratlı Village and carved into a rocky slope extending to the north. It extends to three floors and the structure has four different known entrances. In the outer surface there are settlements of stone masonry, some of which are rather old and all of the entrance tunnels are within these structures (figs. 3 and 4).

This is a common feature in Cappadocia for hiding underground cities and for sheltering easily during an emergency.

As it can be seen within the plan of 1. and 2. floors at fig. 5; at the bottom level, the main entrance facing the main road begins with a tunnel in the back wall of an inn from Seljuk Period (14. Century).

The ceilings of all those surface buildings are barrel vault roofs (figs. 6 and 7) and possibly those buildings are the ruins of 14. – 15. century structures with later alterations.

Within those medieval buildings, the entrance floor of the underground city continues in three different directions by tunnels accessed through doors that are protected by mill stones.

Four separate tunnels extending towards east and west are protected by the five different mill stones within a 50 meters area and the mill stone door of furthest east tunnel is still closed (fig. 8).

The rooms, which are quite irregular in this section, become more rectangular as one follows the west tunnel. In the middle part of that tunnel there is a spot where the ceiling has collapsed. This tunnel, extending to the north and providing connection to the second floor, is connected to large rooms which appear to have been used as a kitchen and storage area. The tunnels that continue beyond two of these rooms are clogged.

There is a tomb that the local people make a vow and known as Develi Dam in the eastern part of the same floor. The tomb, having a separate entrance and regularly visited by the locals of Saratlı Village, belongs to an Alewi senior (fig. 9).

It's a very unusual practice to have a Muslim tomb inside an underground city and the locals don't have any idea about the date of the burial.



Fig. 3 - Entrance to the second floor of St. Mercurius Underground City. Surface buildings of this part of the village are mostly medieval structures (photo: A.Yamac).

Fig. 3 - Accesso al secondo livello della Città Sotterranea di San Mercurio. Gli edifici in superficie di questa parte del paese sono per lo più strutture medievali (foto: A. Yamac).



Fig. 4 - Entrance to the third floor of St. Mercurius Underground City. The building on top of this entrance is from Seljuk Period (photo: A. Yamac).

Fig. 4 - Accesso al terzo livello della Città Sotterranea di San Mercurio. L'edificio in cima a questa entrata risale al periodo selgiuchide (foto: A. Yamac).

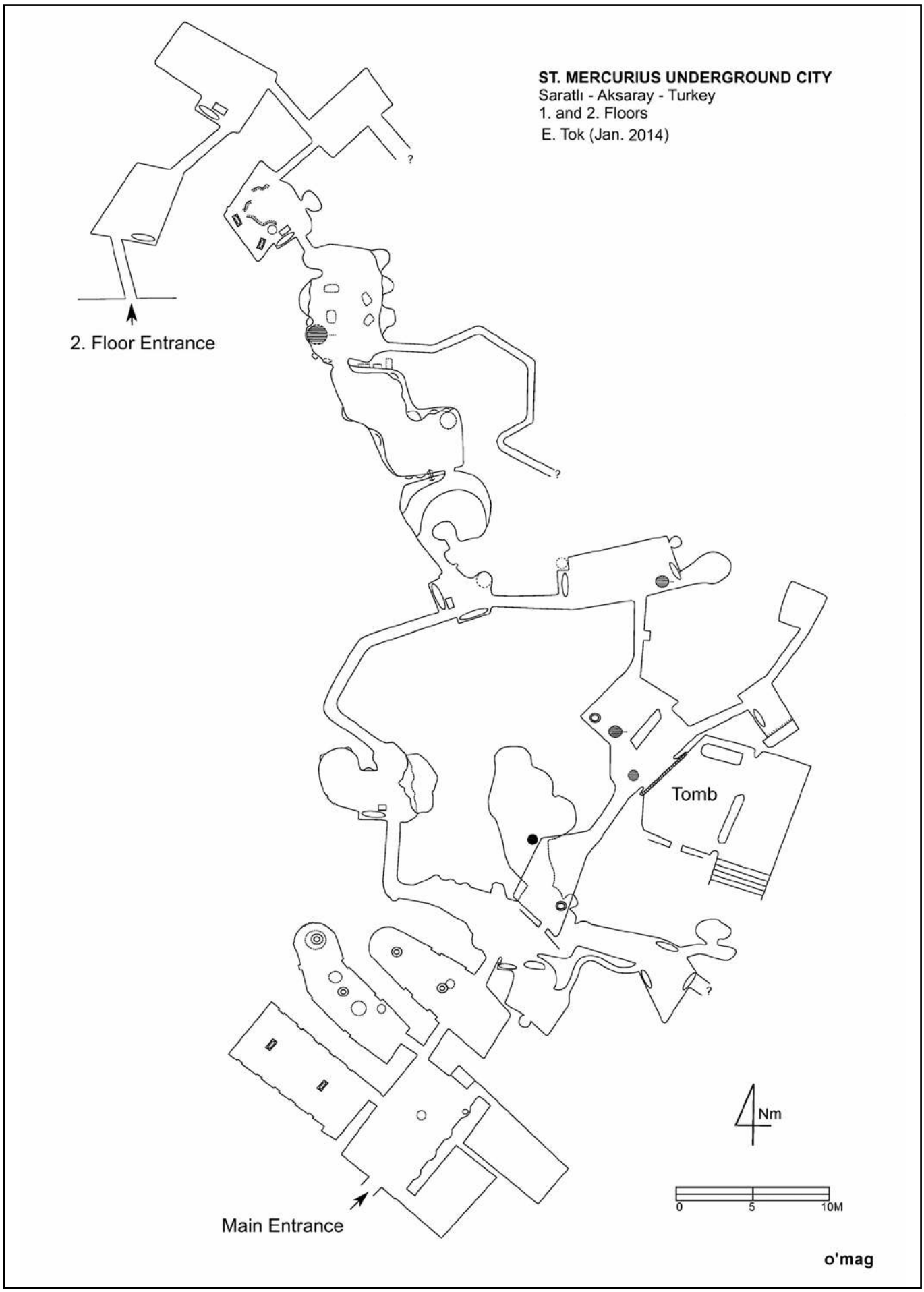


Fig. 5 - Map of 1th and 2th floors of St. Mercurius Underground City (drawing: E. Tok).
Fig. 5 - Mappa del 1° e del 2° livello della Città Sotterranea di San Mercurio (grafica: E. Tok).

Third floor is nearly a flat surface, different than the sloppy floors below and carved in an east-west direction (fig. 10).
There is a door of the underground church located in the eastern end of the upper floor that opens outwards. So it is obvious that the church must be used beyond the times of defence. All the galleries extending to the west of the church have mill stone doors and this architectural design supports this theory.
The most important structure of St. Mercurius Underground City is this church on the third floor. 20 graves, most of which belong to children, were found in the basement of the church during the excavations by Aksaray Museum, whose report has not yet been published (figs. 11 and 12).
There is also a woman and man buried together in a grave. Another specific grave with a headless skeleton is attributed to St. Mercurius. In-church graves are a common tradition in Cappadocia.
Several graves in various churches can also be seen in Goreme Open Air Museum, which were mostly dated to 11 - 13th centuries.
Whereas the other churches in the underground cities are rather small, the church of St. Mercurius Underground City is rather large and the roof is supported with two columns.



Fig. 6 - Second room of the west side from the main entrance (photo: A. Yamac).
Fig. 6 - Seconda camera sul lato ovest rispetto all'ingresso principale (foto: A. Yamac).



Fig. 7 - Surveying second room of the main entrance of west side (photo: A. Yamac).
Fig. 7 - Fase di rilievo della seconda sala sul lato ovest rispetto all'ingresso principale (foto: A. Yamac).



Fig. 8 - Middle chamber on the first floor with a closed mill stone door on the left side of photo. This door closes the eastern tunnel which is still unexplored (photo: A. Yamac).
Fig. 8 - Camera centrale al primo piano con una porta macina di pietra sulla sinistra della foto. Questa porta chiude il tunnel orientale ancora inesplorato (foto: A. Yamac).



Fig. 9 - Alewi senior's tomb with young prayers. This underground tomb has a separate entrance (photo: A. Yamac).
Fig. 9 - Giovani in preghiera presso la tomba di Alewi il vecchio. Questa tomba sotterranea ha un ingresso separato (foto: A. Yamac).

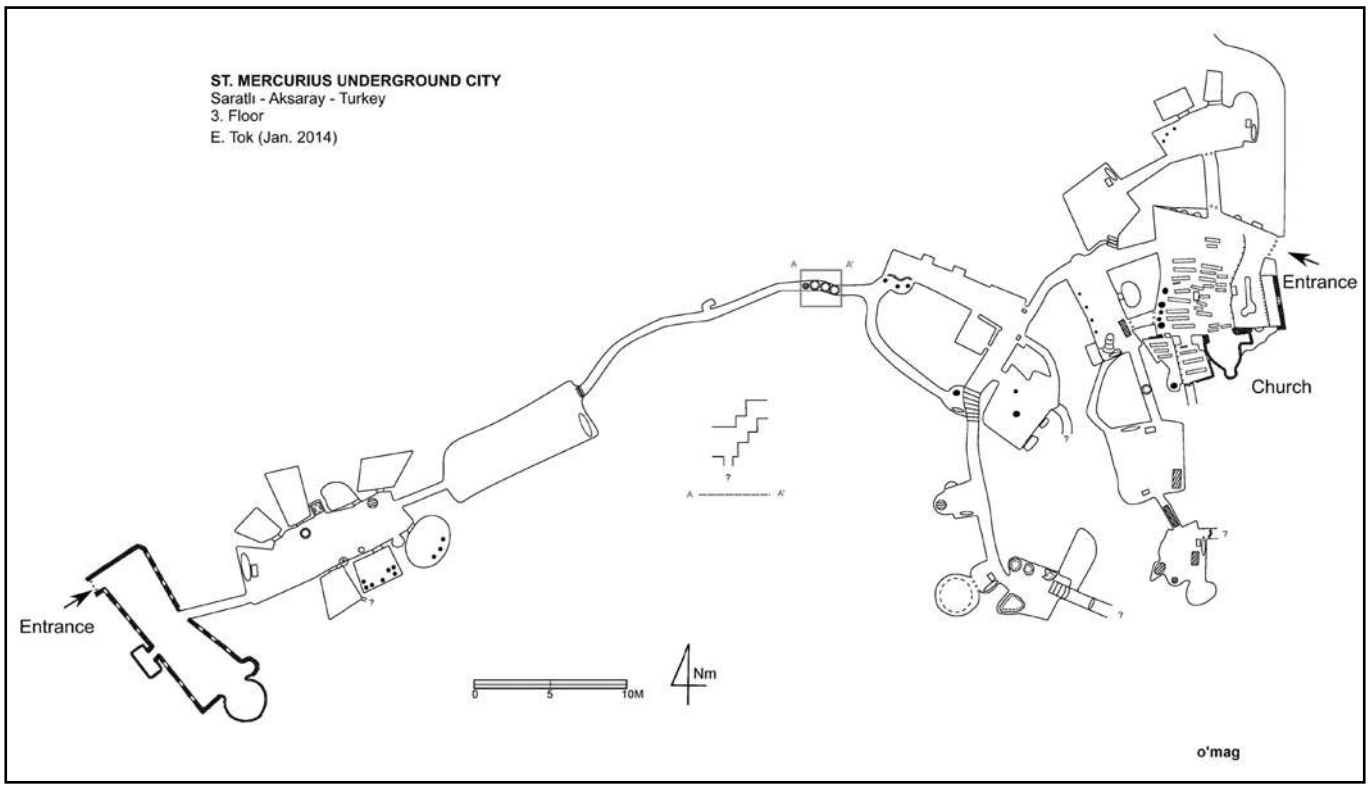


Fig. 10 - Map of 3. Floor of St. Mercurius Underground City (drawing E. Tok).
Fig. 10 - Pianta del 3° livello della Città Sotterranea di San Mercurio (grafica: E. Tok).

When we think about the two side walls as an *"aisle"*, the long platform in front of the north wall of the church may be accepted as a kind of *"stacidia"*[1]. This is not a common architectural feature in Cappadocian rock dwelled churches. Furthermore, there are cross signs carved into the walls in the church. The cross carved in a small niche near to the sanctuary is a type encountered in many places in Cappadocia. This cross, known as *"Cross pattee"* had been widely used between 7th and 13th centuries in this region (fig. 13).
The small room next to the sanctuary, with seven graves on the floor can be viewed as a kind of *"preparation room"*. All of these architectural characteristics are typical for Eastern Orthodox churches.
Though it is really difficult to date the church without any solid evidence and without the results of C14 tests for the skeletons, it can roughly be estimated that the existing structure cannot be dated earlier than 7. century.
Three of the four different galleries on the third floor are still closed; one of them is clogged by debris and the other two still have closed mill stone doors (fig. 14).
The west end of this floor reaches to a stone masonry with a barrel vault roof building and extracted out from here.
In the larger of two chambers on this floor which are about 10x4 m and connected with long galleries, there are eight different settlements or storage rooms.
It is very interesting to observe that that the other large, 48 m^2 chamber is completely empty.



Fig. 11 - Church and some of the excavated graves on the third floor (www.gifanimasyon.com).
Fig. 11 - Chiesa e alcune tombe scavate al terzo piano (www.gifanimasyon.com).

[1] *"Stacidia"* is a technical name for Eastern Orthodox churches, especially used for the sitting places on the walls of Nave.

The purpose of use of these large and empty underground chambers encountered in some of the underground cities in Cappadocia is still unclear.



Fig. 12 - Grave no. 11 of the church with in situ skeleton (www.gifanimasyon.com).
Fig. 12 - Tomba n. 11 della chiesa con scheletro in situ (www.gifanimasyon.com).

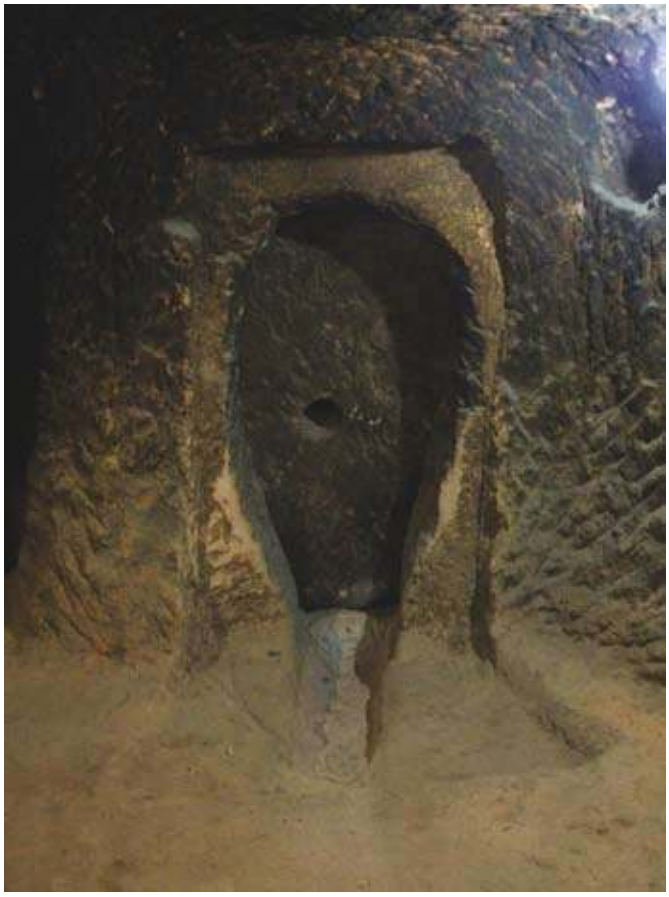


Fig. 14 - Closed mill stone door of the east tunnel of third floor (photo: A. Yamac).
Fig. 14 - Porta macina di pietra del tunnel est del terzo livello (foto: A. Yamac).



Fig. 13 - Cross pateé; left, St. Mercurius Underground City church, right Gumusler Monastry, Nigde (photo: A. Yamac).
Fig. 13 - Croce di Malta; a sinistra, quella della chiesa della Città Sotterranea di San Mercurio, a destra quella del Monastero Gumusler, Nigde (foto: A. Yamac).

Conclusion

Although the name of this underground city is Saint Mercurius, there is no known relationship documented or evidence of this structure or church with the Saint.
During the excavations in the church, a skeleton found in a grave without a skull is very far from constituting evidence to connect the church and the whole underground city with Saint Mercurius.
Moreover, with the architectural design and the cross figures on the walls, it is obvious that this church was built after 7th century.
On the other hand, St. Mercurius Underground City, extended to three floors, is one of the most authentic, cultural, historical, archaeological and religious structures in Cappadocia together with an antique church and the still visited Alewi tomb inside.
A future opening of the eight clogged tunnels could be important both for discovering the actual size of the St. Mercurius Underground City and its relationship with the Kirkgoz Underground City.

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