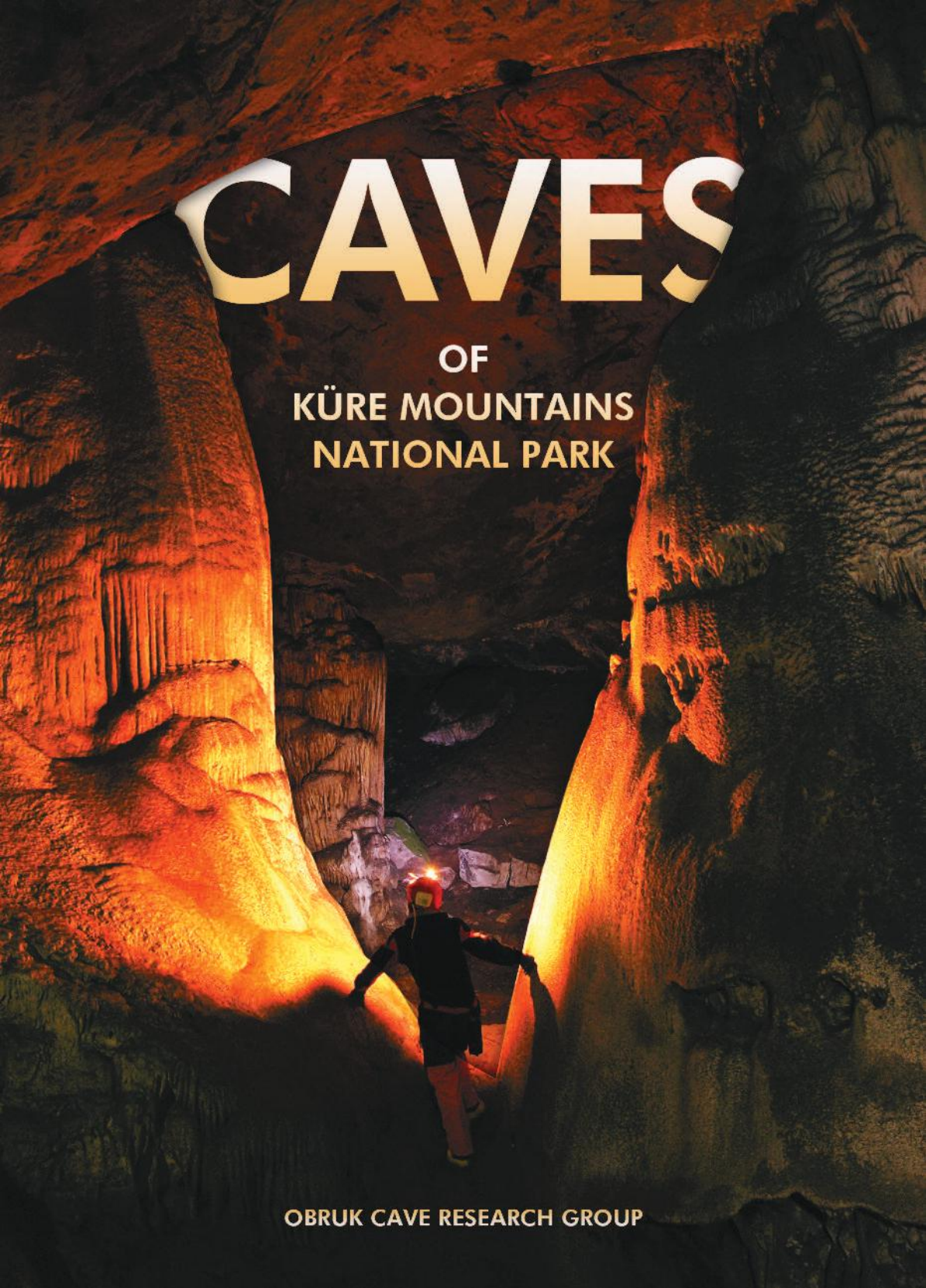

CAVES
OF
KÜRE MOUNTAINS
NATIONAL PARK
OBRUK CAVE RESEARCH GROUP

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Introduction

This book is performing a first in its style: With the generous help of Cave Protection Unit of General Directorate of National Parks, Ministry of Water Affairs and Forestry, cave inventory of a national park, which takes longer than two years, was prepared in Turkey for the first time. This study, in addition to the cave research in this area; was performed with the data obtained by many cavers over the past years as a result of their research in this area many years ago in the period Küre Mountains National Park did not exist yet.

Küre Mountains National Park, which is extending between Kastamonu and Bartın provinces and its vicinity, with 93 explored caves, is the second national park that hosts the most caves in the world after the Carlsbad Caverns National Park in USA and has a worldwide importance even only with this feature. This makes a "cave inventory book" a necessity.

While preparing this book we did not want to limit ourselves just to Küre Mountains National Park and its buffer zone. We've included in the book a few really impressive caves near this area that located in districts like Amasra and Cide.

Rughly one quarter of the total area of Türkiye is limestone. Just a very small fraction of tens of thousands of caves which possibly exist in this huge area of limestone was explored. In each of the countries like Slovenia, Greece or Switzerland with much smaller limestone areas compared to Türkiye, more than 8,000 caves that has been explored and inventoried. Whereas the number of caves so far documented in Türkiye is only around 2,500 and this figure gives us an idea of the magnitude of the work pending.

In particular, new scientific researches within its caves and having a fully comprehensive protection protocol, Küre Mountains National Park will

easily create a worldwide importance. On the other hand, a large number of caves in our country is under serious threat. Being opened to tourism in an unconscious way or illegal excavations, all these natural values of our country which have been destroyed in many different ways and can not be replace anymore. Lets not forget, this masterpieces of nature which exists for millions of years and can not be recovered once it is destroyed, also have a big importance of protection after been discovered.

Our wish is, that this small book will be a step for the recognition and for the protection of the caves. And we wish that the number of caves in this area will increase with new discoveries in the coming years.



II

Küre Mountains National Park

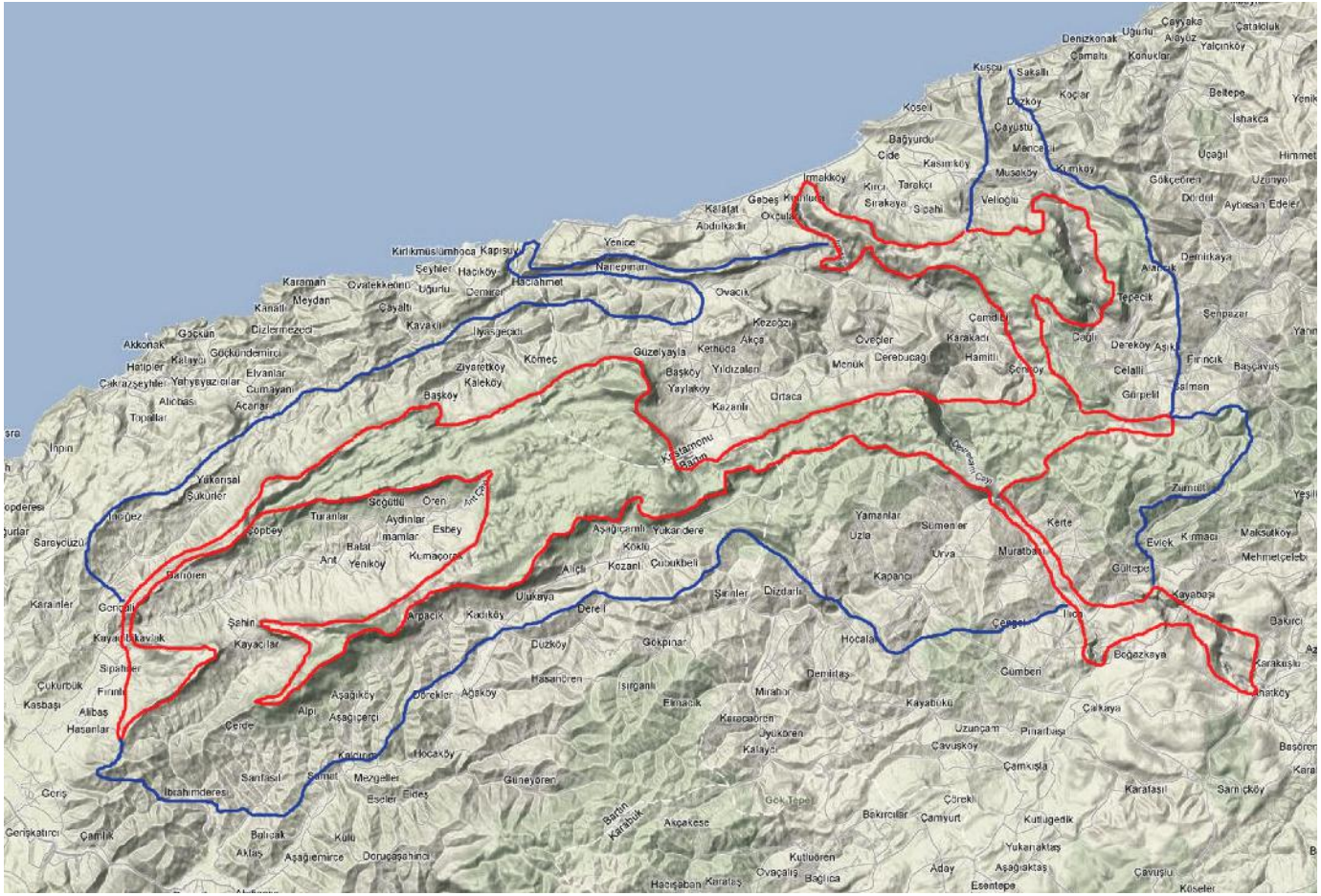
Rare canyons, caves, sinkholes, waterfalls, an extraordinary plant cover and its wildlife was discovered for the first time in the early 1980s by engineers from the region, who came there to prepare forest management plans. Park's preliminary works began in 1995. This work was included in the project titled ''National Parks and Protected Areas'' and United Nations Development Programme (UNDP) with FAO and Ministry of Forestry and National Parks General Directorate was carried out in the framework of cooperation.

Küre Mountains National Park is in Kastamonu and Bartın provinces. The surrounding districts of the national park is Azdavay, Pınarbaşı, Ulus, Kurucaşile, Amasra and Cide.

The national park is on a huge plateau. It extends in an east-west direction and it have a threshold attribute in physical and social sense for the close environment. That's why, there is almost no settlement on the area. Environment of the national park is defined as a buffer zone and and has been recognized as a regional planning area. National park has a total area of 370 km^2 and the buffer zone is 800 km^2.

Although there are roughly 50 villages in the buffer zone or neighborhood, due to migrate to big cities the total population living in this area is less than 10,000. Small towns like Azdavay, Pınarbaşı and Cide, although the buffer zone is located a bit far, have an organic relationship with national park .

In addition to the extraordinary geology, Küre Mountains National Park has a huge variety of flora and fauna. 40 of the 132 species of mammals of Anatolia and a total of 129 bird species from 38 families live in this national park. Many species of the park such as lynx, otter, deer and moose


Çayyaka
Çataklık
Denizkonak
Uğurlu
Alayüz
Yalçınköy
Çamaltı
Konuklar
Kuşçu
Saksalı
Düzköy
Koçlar
Beltepe
Köseli
İshakça
Çayüstü
Bağyurdu
Mancılar
Cide
Kasımköy
Kırmköy
Musaköy
Uçağıl
Himmet
Gökçeören
Uzunyol
Irmakköy
Kırıcı
Tarakçı
Sırakaya
Sıcahi
Velioğlu
Aydınsan
Edeler
Gebeş
Kayalıca
Kalafat
Abdülkadir
Demirtaş
Yenice
Kırklıkmüslümhoca
Kapısuyu
Seyhler
Hacıköy
Nalbeyiler
Hacıahmet
Karaman
Ovalekkeçiler
Uğurlu
Demircı
Meydan
Çayaltı
Kanallı
Ovacık
Tepecik
Şenpazer
Dizlerinezeci
Kavakıl
İlyasgeçidi
Kezözçı
Çemidlı
Akkonak
Göçkan
Akça
Karakacı
Çağlı
Dereköy
Aşık
Gökgündemirci
Kalaycı
Güzelyayla
Kethuca
Övecler
Derebucağı
Hamitli
Şenköy
Firincik
Başçavuş
Hatipler
Elvanlar
Ziyaretköy
Kömeç
Menuk
Celalli
Çakrazeyhler
Yahyayazıcılar
Cumayanı
Kaleköy
Başköy
Başköy
Yıldızaleri
Yaylakoy
Ortaca
Gürpelli
Alibaşı
Acarlar
Kazanlı
Tipellar
Kestanonu
Bahçı
Germencep
Yukarısal
Şükürler
Seçgütlü
Ören
Aydınlar
Turanlar
Şeppey
Batat
Eshey
mamlar
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Yeniköy
Kumaçorak
Yamanlar
Uzla
Sümenler
Kerte
Muratbaşı
Evicik
Kırmacı
Maksutköy
Mehmetçelebi
Gültepe
Kayabaşı
Bakırcı
Çengel
Hocalar
Beğazkoya
Karaköşkü
Çukurbük
Firinli
Kasbaşı
Alibaş
Hasanlar
Aşağıköy
Alpı
Aşağıçerci
Dörekler
Ağaköy
Hasancören
Işırganlı
Elmacık
Mirahor
Kayabükü
Çalkaya
Uzunçam
Pınarbaşı
Çavuşköy
Çamkışla
Karafasıl
Sarıcaköy
Başören
Kalaycı
Uyukören
Hocaköy
Güneyören
Sarıfasıl
Mezgeller
Esdeler
Eldeş
İbrahimderes
Çeriş
Çamlık
Bekircılar
Çamyurt
Kutlugedik
Yukarıaktaş
Aşağıaktaş
Çavuşlu
Esentepe
Köseler
Ovaçalış
Bağlıca
Karataş
Hacışaban
Kutluören
Aday
Çörekli
Gök Tepe
Akçakese
Bahçın
Karabük
Bolcak
Aklaş
Aşağıemirce
Dorucaşahıncı
Kulu
Yukarı Çay

are endangered. This national park is the shelter for them. Apart from the limited information about of birds and mammals of the area, fauna is not known enough. For example, related to reptiles and amphibians, reliable scientific data is lacking.

Biological and geological richness of Küre Mountains National Park is closely associated with each other. For example, the ecological system is, as discussed above, closely linked to karst geomorphology. National park's well protected karst ecosystem is rare at the global level and it is also very important for nature conservation.

According to floral geography Küre Mountains National Park is located at the Auxin part of the Euro-Siberian floristic region. The region's vegetation can be divided into three different groups:

- Western Black Sea temperate forests of beech and fir
- Pseudo-scrub formations
- Karst area of mixed forest

Küre Mountains National Park's core area, which is bounded with a series of cliffs and canyons, have a natural, old, mixed coniferous (beech, hornbeam, chestnut, maple, ash) and coniferous (endemic Uludağ fir, larch and pine) forests. The region shows a homogeneous forest property consisting of temperate deciduous and coniferous species generation-specific. Especially evergreen, deciduous trees and shrub species were dominant in the core area, vegetation structure clearly shows itselfs reflecting the dominance of the humid conditions. The lower part near the Black Sea coast includes Mediterranean elements and shrubs. The importance of the area, especially comes from the ecosystem and habitat diversity. The main ecosystem types; natural forest ecosystems, degraded forest ecosystems, traditional agriculture ecosystem and river ecosystem. Speaking of Küre Mountains one of the most important things that come to mind are high karst walls and giant canyon. The plateau which forms the core of the national park is like a terrace surrounded by hundreds of meters of karst wall overlooks around. Limited access to plateau provides protection to all kinds of wildlife.

The western part of Küre Mountains National Park, the merger karst terrain with humid atmospheric conditions, exhibit extremely unique forest compositions. Unfragmented old forest ecosystems on the steep slopes karst is quite in good condition. In particular, in the south of Cide karstic depression valleys has moist forests with specific trees and shrubs. Some of them; boxwood (*Buxus sempervirens*), kayacik (*Ostry carpinifolia*), rowan (*Sorbus aucuparia*), Turkish hazel (*Corylus colurna*), hornbeam (*Carpinus betulus*), elderberry (*Sambucus ebulus*), maple (*Acer platanoides*) and the holly (*Ilex aquifolium*).

Karstic depressions on the high plateau create damp areas with giant trees. These specimens, in addition to the trees listed above, includes examples such as Caucasian linden (*Tilia rubra*), ash (*Fraxinus angustifolia*), elm (*Ulmus glabra*) some having 35-40 m lengths.



II

Research History

In 1944 Prof. Cemal Arif Alagöz described the region in his work:

"More east of the Black Sea shores, about 4 km southeast of Cide passed before the Devrekani Stream or Kocaçay. Among white, hard shaped limestones, a V-shaped enormous strait attracts attention. A limestones homeland should be behind those straits, what you say? Actually if we look into a detailed map, we can see between Bartın and Cide north of Arıd, on the Kayaardı Plateau and on east of it in different sizes more than 15 holes and west of Kayaboğazı Subatı Stream. In this region passes and straits are not less: Kalem Strait, on the west Çeme Strait door of Arıd, Döşeme Pass... There are a part of names end with 'kaya' (means rock) : Kayaardı, Tahtalık Kayası, Kuşkaya, Sarıkaya, Yanıkkaya Hill, Kayabaşı, Hacetkayası, Kelkaya, Efendikayası, in the end Kayaboğazı and Kokurdan Plateau, does not leave suspicion to Bartın-Cide limestone areas presence. I made a trip in the region (1937). At the entry of Kocaçay Straits near the Cide takes place beneath marls, upside limestone. The strait dug into limestone; but does not continue. Mostly dark red (in the genre of dark red colored sandstone and konglomera that fills Arıd area) masses separetes the elevated limestone plateau in th south from straits limestones. With the layers starting from Lower Jurassic to Eocene this curved structure, shows a fish scaled structure (Shuppenstruktur) that even old layers hintered news. Its understood that Kocaçay Straits are among neokom limestones. Its normal that limestone areas are discontinuous that limestone appeared as narrow and broad lanes and is curved. Lebling says that presence of sediment lines parallel to curves and through those sediment lines a dolin sequence parallel to shore.

We have just entered Kocaçay Strait. Now let's go on our way. On the walls of the strait in a different altitudes, limestone holes that looks like in a sequence, present among green brushes. Because of the waters of the stream has spread

over the surface where the valley narrowed, man should perch the horse. It is seen that some limestone springs coming from foots of wall like rocks flow into stream fast. This lowest part of valley called by the locals Kocaçay. The name of the stream in the east of the Cide was Kısıkiçi. If we look into the structure of land, this gaps are cluse. It means here, instead of typical limestone homelands, there are cluses.

Major karst phenomenons of Cide happens south of Hondıras, on a cornered limestone period starting from Kayaboğazı to east of Bartın. 250 meters of 750 m high period is a magnificent vertical cornice to Derebucağı Village at its outskirts. Karst holes start at the upper side of cornice. It is also a forest that smells humidity caused by deciduouses like hornbeam, oak, ash, maple, elm. Floor is covered with undergrowths like nettle and bracken. In different depths, those different sized dolins vermiculated this elevated plateau like a colander and limestone rocks, covered with moss, in someplaces carved like hose, is parted on lapya sharp like knife. Some part of forest's trees are burst from the dolins like well. The foot that slips on collapsed, wet tree body, fungi and moss twists stucking sharp lapyas. The branch that you hold not to fall is either a hard and springy boxwood or a thorny berry; one slaps the other coils. In each step you slip, stagger and at the end you will be saved from this karst forest bruises on your face, clothes tipped, shoes very teared."

The first cave research of the area also belongs to Prof. Cemal Arif Alagöz, the writer of the report above. This precious geographer mentions about Ilgarini in his work published in 1944 with those words:

"Büyükin or Ilgarini that I learned its presence in Cide while going towards Sorkun Meadow is hidden in densely forest. I can only give a general thought about this cave that i checked because of the short time in the light of tinder we burned.

The mouth located in the southern side of Ilgarinii, if you go far like 20-25 meters after entered the methal which is 8-10 meters wide and 4-5 meters in height, there you can see a widely slit that has dropped to the ground in the right side of in arch form ceiling. This slot in the wall cavities illuminate a part of the cave. Here cave is divided into two: If to go straight ahead a little, there you can come across of made regular a tiny pool which has water in. And more

ahed, in the part where cave is expanding, there is observed a cluster of roughly istalaktit on ceiling. there is located a cascades travertine panels and columns that be produced from the combination of stalagmites. From this hall that we can call as 'Accent Hall' all places is goes by travertine slippery steps. On the right side, you must return after arriving at the end of the cave which has enter from a narrow door. Until here , height of Ilgarini requires not to be more than 100 - 150 meters. In return, in front of the place where ceiling be perforated, from a low methal, by leaning you can reach in the second part of cave. You have to go down about 15-20 meters from regular made steps, that said in Cide that there are 24 of them. Here is a spacious, high-ceilinged hall. In the middle of it there is a very small structure balance which is 3 X 3.5 meters in size, built of hewn stone quite carefully and said to be temples. Cave changing the direction in this part and descends more down in a direction parallel to the first section above. However, it encountering with an abyss, which has puddle inside, after a little moving from so slippery travertines. To recognize this part of the cave you will need rope, rope ladder and a strong light. The underground stream which initially came out from a large source, subsequently, under the reasons which explained Yarımburgaz, may descended down from the second part of the cave's narrow methall. From the pool and the tiny residual structure, can be estimated that 20-25 years ago this place may has been a shelter for here.There is a need for this cave to be visited in order for explorative, simple mapping and hydrographic research purposes. Among the folk it is said that the water that disappeared from here and the water that gathers in Sorkun platform enter a dimple and falls into Kocaçay which is opposite to Gömeren village in Cide, Hamitli".

Years passed, the members of Boğaziçi Univesity Cave Research Club (BÜMAK) who read Alagöz's book and interviewed with him, came to the area in 1982. Their purpose was to find the Ilgarini Cave and survey it. But nobody in the area heard of the place or ever been there. Finally they reach the cave after seven hours of walking with the help of a guide they found in Derebucak village. After the survey and mapping of Ilgarini is completed the caving activities in the area proceed faster. Between 1983 and 1993 members of BÜMAK found, explored and mapped 23 sinkholes around Topmeydanı- Sorkun. In 1990, British LUSS caving team came to the Küre Mountains National Park. The area is recommended to them by MTA attendant Nuri Güldalı, with whom they met during a research they were doing a year ago in Taurus Mountains. With a team of 8 members they

found some caves and explore them during their 20 day long research. The LUSS team measures and maps the Ilgarini Cave without knowing that it has been explored and mapped by BÜMAK ten years ago. In addition to that, they explore Kafatası Cave, Salyangoz Cave, Hamitli Cave and Önüne Cave. Because of the reason that they hadn't used the local names and they didn't have a detailed map in their reports, the precise location of these caves are unknown. The other cavers who are members of FACC that came to the area in 1992 are quiet unlucky. After spending most of their two week long research by exploring and measuring small caves like İnönü Cave, they find out Atak Cave four days before their trip ends. Even though they can't finish the exploration of the cave within this limited time, they accomplish a very successful job.



Photo by Prof. Cemal Arif Alagöz, 1944 Ilgarini Cave

IV

Regional Geology

One of the most beautiful views of Küre Mountains National Park is located 40 km east from Bartın. Here, just on the north of Söğütlü Village, Gürdek Rock rises into the sky like a white wall. This part of Küre Mountains National Park is where 130 - 150 million years ago (Upper Jurassic - Lower Cretaceous) molluscs were deposited on the seabed and slowly became limestone and where that limestone, in hundreds of meters thick, come out to the Earth in layers.

Limestone is one of the wonders of nature. It crashes to the bottom of the water after a tiny sea or freshwater molluscs death. Here, during a long time they are piled by millions. These molluscs with calcite mineral, which becomes sediments under pressure, slowly combine to a layer form. This layer thickens gradually over time. Now that tiny crustaceans has been destroyed and instead of it, has emerged a rock with their mineral. This process is so slow that it is not possible to observation. Limestone formed by the deposition of molluscs reaches a height of 1 m in 10,000-12,000 years. Most of the limestone which forms the Kure Mountains National Park is older than 130 million years. So, in other words, when the molluscs were accumulated to form those rocks, in the seas *Ichthyosaurs* and *Plesiosaurs* were swimming and the land *Camarasaurus, Apatosaurus, Diplodocus* and *Brachiosaurus* were walking. And while they were walking, they were hunted by *Ceratosaurus, Megalosaurus, Torvosaurus* and *Allosaurus*, meanwhile *Pterosaurs* was the master of the sky.

It is hard to believe, isn't it ? The biggest problem of geology, the concept of time in this science is too far for human imagination. Our vision is limited with our life cycle and we can only imagine with our own lives. And this is not geology, it would only be a very short history. With a very classic example; If the world since it existence, last 4 billion years



could squeezed into a single day, last 2 million years that our ancestors emerged would only be the last minute of this day. Geology is concerned with the remaining 23 hours and 59 minutes!

We do not feel that in our lives but, Earth is a living structure. To give an example; North Anatolian Fault is a right slip fault. The north of this fault block is slipping westward. We know that this tectonic movement is happening about 2.2 cm per year. After a 100 years of tension, as a result of an earthquake, discharge of this fault line will be 2.2 m. On the other hand, if you add all those 2.2 cm per year accumulations, you can not imagine where the northern part of Anatolia will be 100 million years later.

We always thought that those drawn on the maps continents and the land we live on were like this. Yes, millions of years have passed, we know. They tell us about the movements of continents, we understand it too. But to feel and to detect them all, in fact is actually not much possible. In other sense, we think that this structure exists on has always existed in this way. Like it or not, we feel that way. However, 130 million years ago the world was not in its present form. Even so it was so much different, if you have opportunity to see the other world 130 million years ago, you would think that it is another planet. Continents we live on are in constant motion since the existing world. The worse is that they come out beneath the sea to the earth then then they sank again, they collide with each other, separated and create new seas. This process is repeated continuously. Therefore, it is very difficult to explain the geology to the person who have no interest in the subject. You can't visualize it in your eyes and you can't imagine it. "Lower Cretaceous" old rocks mentioned by geologists, is currently under your feet but it may have come from afar as

5,000 km under your feet. It is difficult to grasp that today's India was in the Southern Hemisphere, adjacent to a piece of land south of Africa 90 million years ago. Then that it become an island and slowly travelled northward and collided with the Asian continent. This collision created todays Himalayas.

And what about Anatolia? Another unlucky aspect of this land is that, when lands as England, Siberia, West America or Scandinavia travelling from there to here as a single piece of landmass for millions of years, Anatolia was constantly divided, shattered, united, sank, has surfaced and sank again.

Now if you would like to go to more distant in time: When life starts on the Earth all continents was a single land mass called Pangea. It formed approximately 300 million years ago and then began to break apart after about 100 million years. After this division Gondwana name were given to the left in the southern hemisphere and in the Laurasia name were given to the northern continents.

255 million years ago (Early Triassic) on the world there were two great continents. The huge mass of water located between is called Paleotethys Ocean. Anatolia was as part of a North Gondwana in this period but, one part of it was at the bottom of this ocean. The heat from within the earth that results in an expansion of the crust, the fragmentation of the crust is called rifting. The part of Anatolia, which is on the surface was slowly falling apart as results of this rifting. According to the stratigraphic and sedimentological data, the north Gondwana rifting actually started earlier. However, rupture of Anatolian microcontinent from Africa began 190 million years ago (Late Triassic). The reason is that, a crustal thinning process to occur between the beginning of rifting and rupture.

200 million years ago (Jurassic Period) Laurasia and Gondwana plates, closed Paleotethys Ocean by approaching to each other. In that period, Anadolu which part of it was still in marine sediment, pushed from northwest to southeast as a result of tectonic movements. In this period south coast facies of Paleotethys Ocean was also surfaced. This shallow marine sediments can be seen today in North West and Central Anatolian regions.



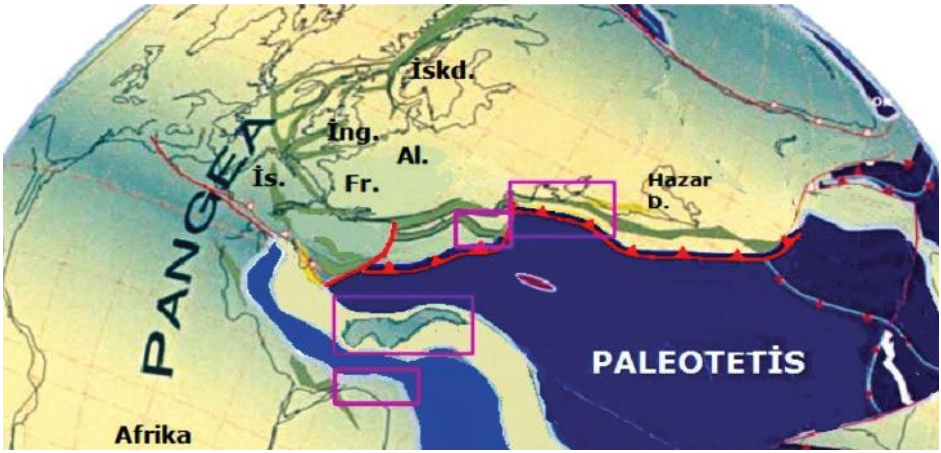
The generally accepted idea that in progress of collision with Laurasia and Gondwana continents or Paleotethys Ocean closure, a thin continental plate which separated from Gondwana in progress destruction of the Paleotethys is added to Laurasia. This tectonic theory, that considered to occur approximately 190 million years ago, seems applicable to his adjacent part of the Anatolia.

You probably wonder now how we are able to know things that happened millions of years ago. Just like in other branches of science, geology's development is also up to researches that continued for centuries, to failures, and correction of these failures. Geology's subbranches such as: geomorphology, petrology, stratigraphy deal with earth's formation, geological time and continental movement. Palaeontology, an indispensable factor of age-determination started to develop before 16th century. However, observation of fossils, which come from different kinds of layers, their classification and standardization gained momentum after 1840. Today this field of science turned into a profession worldwide and is classified in accordance with millions of fossil ages, kinds and their fractionation. So, today one can accurately find the age of a stone through the fossil that is found within the stone. Moreover, there are specific fossils that are used for age-determination. These fossils, which belong to a certain era, are called "trace fossils". For example when you find a *Beneckeia buchi* or *Encrinus liliformis* in a stone, you can easily say these fossils belong to Middle Triassic period, around 228-245 million years ago.

One of the methods that is used to dating is radioactive dating, which came a long way since the beginning of 20th century. Radioactivity to geologists is just like a sensitive clock. Radioactive atoms are no stable isotopes and in time they disintegrate and become stable. Each disintegrates in different rates, for example half of the Uranium 235 atoms in every 704 million years turns into Lead 207. In this way, radioactive atom types that are found within a stone are counted separately, thus giving us time of the disintegration process, meaning the age of the sample rock.

Now back to the Anatolian region. The land we currently live on separated slowly 190 million years ago, however Paleotethys Ocean was at the same time continuously closing. Around 150 million years ago from to-

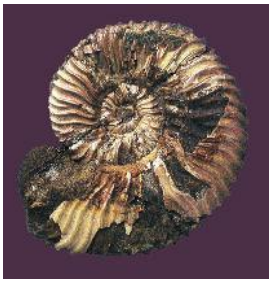
day, during Cretaceous, this ocean divided into 2 parts and inbetween the part called Sakarya Zone placed itself.



130-150 million years ago (Upper Jura- Lower Cretaceous) Anatolia microcontinent was perpetually sliding to north, almost where it is today. Appeared in this time gap, rocks that are sedimented and accumulated in marinal facies, formed Inaltı Formation which can be observed in wide regions around Kastamonu. Dated Upper Jura- Lower Cretaceous, this formation was a block of limestone.

Today's Karadeniz (Black Sea) was actually a small, closed sea that is left from Tethys Sea, which was formed at south of Paleotethys Ocean. This closed sea was divided into 2 parts (West and East Black Sea) by a mid-ocean ridge. Around 90-110 million years ago during Aptian and Cenomanian periods, this closed sea was becoming narrow at north/south directions due to faulting, laceration, block alternation and at the same time it was expanding at east/west. This continental movement also formed a magmatic arc at west of Black Sea. Along this arc that covers Anatolia's entire north coastline many volcanoes were active.

In this period Anatolia continues to surprise us along with the continent of Pontid. It was a known fact that rifting creates microcontinents, Anatolia was dividing into considerably little islands that can't even be called microcontinent, then through tectonic movements it was reuniting again. In a pe-





riod where England and Scandinavian slabs hold their integrity, Anatolia was perpetually fragmentizing, then reforming, then once again fragmentizing.

In geology, series of layers that are formed in the same period or group of rocks that carries the same characteristics and belong to the same period are called geological formation. At the north of Pınarbaşı, around Sümenler Village two formations can be observed together. Here you can walk through an amazingly beautiful forest. Everywhere is covered with trees that are hundred years old and you can't see rocks around here. Then, as you move on towards the north of Topmeydanı, you run into a limestone wall. Here ends the Ulus Formation, which you walked on before and begins another group of rocks, called İnaltı Formation. Both formations dated 120-100 million year gap, with microfossils such as *Ancyloceras sp., Deshayesites sp.* and *Chelonoceras sp.* Entire water that goes through Ulus Formation, sinks under İnalti Formation which is completely limestone.

This two formation met here 84 million years ago, Ulus Formation created some sort of subduction zone from south to north by going under İnaltı Formation. You can see this subduction zone at Küre Mountains National Park's entire south wall. In this case this zone actually sets the boundaries of this park. As Ulus Formation sinked under İnaltı Formation, it raised the other formation and made it a plateau. The steep walls of plateau did not allow any kind of settlement. So it was naturally preserved and became a home to the wild life. In other words, we owe to the geological events, for having this National Park.

Same system reaches out to west, up to Ulus. The road you take to west is

entirely on Ulus Formation. If you stop, you can observe magmatic, sedimentary and all kinds of other rocks. Here and there, schists, andesites, even basalt. However, north of this road has huge and massive blocks of limestone. This plateau to your north is completely a different formation; İnalti Formation. Road you take that is on Ulus Flysh, actually it is on top of İnalti limestones discordantly. Limestones that belong to İnaltı Formation surfaces from north to south in patches.

Millions of years passed after these two formations collide. As a result of continental movements Tethys Sea became pretty tiny, transformed into a sea. This sea will form Mediterranean Sea, Black Sea, the Caspian Sea and the Aral lakes in the future. Within that period the continent of Gondwana was splitted to many microcontinents. Kimmeria was a result of this split. It is pretty hard to believe but, today's Anatolia, Iraq even Tibet actually belonged to this continent 65 million years ago. A striking fossil which belongs to Late Cretaceous was found in 1999 by Cemal Tunoğlu from University of Hacettepe, at north of Devrekani, in the building site of Beyler Dam. This fossil belonged to a *Mosasaurus hoffmanii*. This was a huge creature who was about 17 meters long and lived in



Anatolia 65 million years ago



oceans at the period of dinosaurs. It holds a great value for it was the first fossil that was found in Anatolia which belongs to this certain period. Sadly only a fragment of this creature's skull was found. In a period where the first mammals appeared, the tectonic movement formed a large-scaled magmatism and orogeny on the land where today's Anatolia stands. Ascension of Balkanit, Pontide, Crimea, Caucasia are the results of this orogeny. The continuous collision of Eurasia and Africa plates and sliding of block of Anatolia to west are the reason of tectonic regime in the region. After a few million years, during Late Miocene the same tectonic movement was going to create today's North Anatolia Fault.

V

General Biospeleology

Cave Biospeleology is a science which began roughly 150 years ago. Even though first explorations were made at Anatolia during 1900s, they were carried out by foreigners and the systematic studies of cave biospeleology are at the very beginning in Turkey. We believe, we will get one step closer to understand the basics of nature and the number of these studies will increase thanks to projects like the one at Kure Mountains National Park.

Well, what are these living beings that are living deep down in the caves? Are the bats only living beings that live in the caves? In which aspects are these living beings important?

Firstly, let's start with categorization of the most common living beings. Living beings of the caves are examined in 3 groups: cave visitors, cave spirited, real living beings of the caves.

The group which we call "Cave Visitors" are identified as *Trogloxene* (for those who live in water: *Stygoxene*). These livings being are the creatures who are dependent to outside to survive and use the caves as shelters. For example: Bats, bears, mice, birds. These creatures live significant parts of their life in caves for various reasons like hibernation or to survive the night but they are dependent on the outside life. On that account they didn't deserve to be a real cave creature.

Cave Spirits (*Troglophiles* and *Stygophiles*) can live their nearly whole lifecycle in the caves apart from the Cave Visitors. They can be born, grow up, be nourished, breed and then die inside the cave. These creatures are the creatures that can find the habitat suitable for themselves in-outside the cave. Some examples for that type of species; some species of salamandridae, frogs and some bug species.

The biggest difference that separates the creature we call the real livings being of the caves (*Troglobites* and *Stygobites*) from the Cave Spirits is, they cannot adapt the habitat outside the cave. These living beings, whose life-cycles are in these caves for generations, evolved themselves in a way that they can adapt to the cave habitat. Due do scarcity of food, low heat and most importantly in a cave environment without sunlight, their eyes are got very small or disappeared. On the contrary their chemical receptors are got even stronger. There are species that develop receptors in order to understand the environment in mere darkness. Usually they don't have pigments in their body, ie. colourless. In the same time besides their high resistance to coldness and lack of nourishment, some species can control the act of breeding. For example a specie we call ghost fish can keep their eggs waiting in their mouth until they find proper circumstances.

Another characteristic feature of the real living beings of the caves is, they are usually special to the habitat they're living in. Prolly they entered and evolved in the cave galleries, which are started to form millions of years ago. The most up-to-date theory is these kind of places under thick vegetation cover caused these species to choose these places they can adapt and continued their evolution there.

It is good to familiarise these cave areas in order to understand the eco-system of the caves. The light loses its effect starting from the entrance of the cave. The reflected light creates a twilight zone. The place we call zone of transition starts after this. We live the mere darkness here for the first time. The cave environment is dependent on the outside until here. They are affected by season changes and weather conditions. Solely, when went further into the cave there are not effects in the areas which we call real cave zone. There are mere darkness. Heat and moisture are close to stable.

Here we can touch a little bit on the cave ecosystem. What are these creatures are nourished with when there isn't first step of the food pyramid.

The food can enter the cave in a couple ways. Firstly, if available, as good as organic substances can be carried into the cave through a stream or a brook or humic soil, plants, moss, animal waste or the animal itself can

enter the cave through subsidence of seasonal flooding. Pollen, leaves, bugs can be carried into the cave through winds as well. Apart from these, there can be a nourishment access, such as the food stuffs like bats, bears, gliridae carry with them and their fecal mater.

Speaking of nutritional value of fecal mater, it is good to touch on the subject of guano. Guano is the name usually given to the fecal matters of the bats and birds. Because of the phosphate and nitrate richness inside it, they have industrial usage and they can act as nourishment and shelters for the cave visitors and cave spirits.

Cave ecosystems are very fragile and delicate balanced established systems because they are devoid of sunlight. Specially the cave living beings are endemic to their environment, they cannot survive when they are moved to another places from their homes. What is essential for the protection of life in caves are not to leave caves under the dams, not to use as as a dump and natural sewage.

In addition to these, it must not be thought as the caves don't have an influence on the ecosystem outside. With the simplest example, when caves are ruined and the bats inside are expelled from the area, it prevents not only the scattering of the seeds of the plants, but also helps increasing in the number of some agricultural harmful insects and that affects us directly with the increase in agricultural pesticide.



VI

The Biospeleology of Küre Mountains National Park

Between the years of 2008 and 2010 from 21 caves in Küre Mountains National Park has been collected 156 living examples. A part of collected examples had similar features with creatures in nearby caves although some cave creatures were endemic to where they are. Preassesments about these examples are below as a list.

Through the researches till this time; except a few *Myotis myotis* in horizontal caves like Mantar, Atak, Medil 1 and Ilgarini, nearly in no cave an evident bat population had been seen. This situation is reported normal because of the area's varying high altitude between 700 m and 1000 m.

On the other hand, with a few skeleton and remnants of foods consumed through hibernation found in Atak and İntürbesi caves, mammals like *Felis sylvestris, Myoxus glis* and *Glis glis* has been found in the area.

Küre Mountains National Park has very high potential in the aspect of cave species. You can see the list of documented species in these caves in next pages. Against the common thought, that was the most suprising point in this area in this high altitude there was so many species.

In the caves of the area, especially the amount of spiders, isopodas and other insect species; beetles, snails, centipedes were very high. We have encountered amphipos in nearly every half active cave that has water inside. Although the amount in horizontal caves was high, this amount in vertical caves was low. Though at the entrance of verticals, there was so many spiders, the amount of other species was low or none. Acording to our observations, Çovurmatepe Cave System is the place with highest biological diversity. Additionaly, there was frogs and salamenders in the cave. Again we can think by the existence of bears near the cave, this system is used for hibernation and by other mammals.

Except Çovurmatepe, Mantar Cave is also hosting many species though its smallnes. Because it is a fossil cave, there was area inside suitable for hibernation. Again we have found hibernating dormouses in this cave. Furthermore; we have encountered remnants of dormouses and similars in many of the fossil caves. Also in Çovurmatepe System and Mantar Cave creatures that may be *troglobite* have been seen.

Another suprising cave ecosystem in the area has been encountered in the caves near Makaracı Village. It was suprising to see spider families between 20-25 cms, many diversed snail and beetle species, two differet amphipod living together in small ponds. It is needed to prepare projects by the experts of the topic to study ecological realitions between those species.

Efforts should be maked to protect those caves that has many differents species and study the ecosystems. We hope that experts will start to study needed researches in those caves and basic steps will be taken to protect caves that host endemic species. Küre Mountains National Park is one of the 20 most important forest areas of the world and it's underground beauties are also magnificent and various as much as itself. We hope that this nature asset will be preserved and studied with same dedication by next generations.



VII

Biospeleological List of Küre Mountains National Park



Cave	Classis	Ordo	Familia
Atak	Arhynchobdellida	Hirudinidae	
Atak	Chilopoda	Lithobiomorpha	
Atak	Insecta	Diptera	
Atak	Arachnida	Araneae	
Atak	Arachnida	Ixodida	Ixodoidea
Atak	Insecta	Coleoptera	
Atak	Insecta	Acari	
Atak	Arachnida	Opiliones	
Atak	Arachnida	Araneae	
Atak	Chilopoda	Lithobiomorpha	
Atak	Insecta	Orthoptera	
Atak	Insecta	Lepidoptera	
Atak	Mammalia	Chiroptera	
Atak	Mammalia	Rodentia	
Atak	Mammalia	Carnivora	
Buzluk	Insecta	Diptera	
Buzluk	Insecta	Diptera/larva	
Buzluk	Insecta	Diptera	Brachicera
Buzluk	Insecta	Diptera	Lymnobiidae
Buzluk	Mammalia	Chiroptera	Vespertilionidae
Çöpbey	Malacostraca	Isopoda	
Döngelyanı	Arachnida	Opilionida	

Cave	Classis	Ordo	Familia
Döngelyanı	Arachnida	Aranea	
Döngelyanı	Crustacea	Amphipoda	
Döngelyanı	Crustacea	Isopoda	
Döngelyanı	Insecta	Coleoptera	Staphylinidae
Döngelyanı	Insecta	Coleoptera	
Döngelyanı	Insecta	Coleoptera	Elateridae
Döngelyanı	Insecta	Ephemeroptera	
Döngelyanı	Insecta	Trichoptera/larva	
Döngelyanı	Insecta	Trichoptera	
Döngelyanı	Insecta	Diptera	Lymnobiidae
Döngelyanı	Insecta	Diptera	Chironomidae
Döngelyanı	Mollusca	Gastropoda	Zonitidae
Döngelyanı	Myriapoda	Diplopoda	Iuliformia
Döngelyanı	Vermes	Oligochaeta	
Ejder	Arachnida	Aranea	
Ejder	Arachnida	Pseudoscorpionida	
Ejder	Crustacea	Amphipoda	
Ejder	Crustacea	Isopoda	Onisicidea
Ejder	Insecta	Coleoptera	
Ejder	Insecta	Diptera	Chironomidae
Ejder	Insecta	Diptera	Culicidae
Ejder	Insecta	Diptera	Lymnobiidae
Ejder	Insecta	Thysanura	Machilidae
Ejder	Insecta	Trichoptera	Lymnephilidae
Ejder	Myriapoda	Chilopoda	
Ejder	Myriapoda	Diplopoda	
Eşek Çukuru D.	Amphibia	Caudata	Salamandridae
Eşek Çukuru D.	Amphibia	Anura	Ranidae
Eşek Çukuru D.	Amphibia	Urodela	Salamandridae
Eşek Çukuru D.	Arachnida	Aranea	
Eşek Çukuru D.	Arachnida	Opilionida	
Eşek Çukuru D.	Arachnida	Opilionida	
Eşek Çukuru D.	Crustacea	Decapoda	
Eşek Çukuru D.	Crustacea	Isopoda	
Eşek Çukuru D.	Crustacea	Isopoda	Onisicidea

Cave	Classis	Ordo	Familia
Eşek Çukuru D.	Crustacea	Amphipoda	Niphargidae
Eşek Çukuru D.	Crustacea	Isopoda	Onisicidea
Eşek Çukuru D.	Hirudinae		
Eşek Çukuru D.	In./Apterigota	Thysanura	Machilidae
Eşek Çukuru D.	Insecta	Coleoptera	
Eşek Çukuru D.	Insecta	Collembola	
Eşek Çukuru D.	Insecta	Collembola	
Eşek Çukuru D.	Insecta	Diptera	Lymnobiidae
Eşek Çukuru D.	Insecta	Diptera	Culicidae
Eşek Çukuru D.	Insecta	Diptera	Mycetophylidae
Eşek Çukuru D.	Insecta	Diptera	Chironomidae
Eşek Çukuru D.	Insecta	Diptera	Culicidae
Eşek Çukuru D.	Insecta	Diptera	Insecta
Eşek Çukuru D.	Insecta	Lepidoptera	Geometridae
Eşek Çukuru D.	Insecta	Trichoptera	Lymnephilidae
Eşekçukuru	Amphibia	Caudata	Salamadridae
Eşekçukuru	Arachnida	Hydracarina	
Eşekçukuru	Arachnida	Aranea	
Eşekçukuru	Crustacea	Amphipoda	Niphargidae
Eşekçukuru	Insecta	Collembola	
Eşekçukuru	Insecta	Diptera	Lymnobiidae
Eşekçukuru	Insecta	Diptera	Culicidae
Eşekçukuru	Insecta	Trichoptera	Lymnephilidae
Eşekçukuru	Myriapoda	Chilopoda	
Eşekçukuru	Myriapoda	Diplopoda	
Ilgarini	Arachnida	Pseudoscorpionda	
Ilgarini	Crustacea	Amphipoda	Niphargidae
Ilgarini	Crustacea	Isopoda	
Ilgarini	Crustacea	Isopoda	
Ilgarini	Insecta	Coleoptera	
Ilgarini	Insecta	Coleoptera	
Ilgarini	Insecta	Coleoptera	
Ilgarini	Insecta	Coleoptera	Carabidae
Ilgarini	Insecta	Diptera	Culicidae
Ilgarini	Insecta	Diptera	Lymnobiidae

Cave	Classis	Ordo	Familia
Ilgarini	Insecta	Diptera	Mycetophylidae
Ilgarini	Insecta	Trichoptera	Lymnephilidae
Ilgarini	Mammalia	Chiroptera	Vespertilionidae
Ilgarini	Mollusca	Gastropoda	Zonitidae
Ilgarini	Myriapoda	Chilopoda/Symphyla	
Ilgarini	Myriapoda	Diplopoda	
İntürbesi	Diplopoda	Julida	
İntürbesi	Insecta	Diplura	
İntürbesi	Insecta	Diptera	Sciaridae
İntürbesi	Mammalia	Rodentia	
Kapaklı	Crustacea	Amphipoda	Niphargidae
Kapaklı	Crustacea	Isopoda	Onisicidea
Kapaklı	Crustacea	Isopoda	Onisicidea
Kapaklı	Insecta	Diptera	Culicidae
Kapaklı	Insecta	Diptera	Lymnobiidae
Kapaklı	Insecta	Trichoptera	Lymnephilidae
Kapaklı	Mammalia	Soricidae	Crocidurinae
Kaval Cıngırı	Arachnida	Araneae	
Kocareis	Malacostraca	Isopoda	
Kokurdan	Malacostraca	Amphipoda	
Kurtyolu 1	Insecta	Diptera	
Kurtyolu 1	Arachnida	Pseudoscorpionida	
Kurtyolu 1	Malacostraca	Amphipoda	
Kurtyolu 1	Gastropoda		
Kurtyolu 1	Chilopoda		
Kurtyolu 1	Malacostraca	Isopoda	
Kurtyolu 1	Clitellata		
Kurtyolu 1	Insecta	Lepidoptera	
Kurtyolu 1	Insecta	Diptera	
Kurtyolu 1	Insecta	Coleoptera	
Kurtyolu 1	Arachnida	Araneae	
Kurtyolu 1	Insecta	Orthoptera	Grylloidea
Kurukafa	Arachnida	Aranea	
Kurukafa	Arachnida	Opilionida	
Kurukafa	Crustacea	Isopoda	

Cave	Classis	Ordo	Familia
Kurukafa	Insecta	Collembola	
Kurukafa	Insecta	Diptera	Lymnobiidae
Kurukafa	Insecta	Diptera	Lymnobiidae
Kurukafa	Insecta	Lepidoptera	Noctuidae
Kurukafa	Insecta	Trichoptera	
Kurukafa	Mollusca	Gastropoda	Zonitidae
Kurukafa	Myriapoda	Diplopoda	Iuliformia
Kurukafa	Vermes	Oligochaeta	
Kuşkayası	Chilopoda		
Kuşkayası	Insecta	Hymenoptera	
Kuşkayası	Malacostraca	Isopoda	
Kuşkayası 1	Arachnida	Pseudoscorpionida	
Mantar	Arachnida	Opilionida	
Mantar	Crustacea	Isopoda Onisicidea	
Mantar	Insecta	Collembola	
Mantar	Insecta	Diptera	Chironomidae
Mantar	Insecta	Diptera	Culicidae
Mantar	Insecta	Diptera	Lymnobiidae
Mantar	Insecta	Trichoptera	Lymnephilidae
Mantar	Mammalia	Chiroptera	Vespertilionidae
Mantar	Mollusca	Gastropoda	Zonitidae
Mantar	Mollusca	Gastropoda	Zonitidae
Mantar	Myriapoda	Chilopoda	
Mantar	Myriapoda	Diplopoda	
Medil 1	Arachnida	Araneae	
Medil 1	Malacostraca	Armadillidiidae	
Medil 2	Clitellata	Hirudinida	Hirudinidae
Sorkun	Arachnida	Hydracarina	
Sorkun	Crustacea	Amphipoda	Niphargidae
Sorkun	Crustacea	Cladocera	
Sorkun	Crustacea	Copepoda	
Sorkun	Crustacea	Decapoda	Astacidae
Sorkun	Crustacea	Ostracoda	
Sorkun	Insecta	Diptera	
Sorkun	Insecta	Diptera	Simuliidae

Cave	Classis	Ordo	Familia
Sorkun	Insecta	Diptera	Culicidae
Sorkun	Insecta	Diptera	Lymnobiidae
Sorkun	Insecta	Ephemeroptera	Leptophlebiidae
Sorkun	Insecta	Ephemeroptera	Heptageniidae
Sorkun	Insecta	Plecoptera	
Sorkun	Insecta	Trichoptera	Lymnephilidae
Sorkun	Mollusca	Bivalvia S	phaeriidae
Sorkun	Mollusca	Gastropoda	Zonitidae
Sorkun	Myriapoda	Diplopoda	
Şelale	Arachnida	Aranea	
Şelale	Arachnida	Opilionida	
Topmeydanı	Vermes	Nematoda	
Topmeydanı	Insecta	Diptera	Culicidae
Topmeydanı	Insecta	Diptera	Lymnobiidae
Topmeydanı	Insecta	Trichoptera	Lymnephilidae
Topmeydanı	Arachnida	Aranea	
Topmeydanı	Crustacea	Isopoda Asellota	
Topmeydanı	Crustacea	Ostracoda	
Topmeydanı	Insecta	Odonata	
Topmeydanı	Mollusca	Gastropoda	Zonitidae
Topmeydanı	Vermes	Oligochaeta	
Yukarı Döng.	Insecta	Diptera	Mycetophylidae
Yukarı Döng.	Insecta	Diptera	Lymnobiidae
Yukarı Döng.	Insecta	Trichoptera	
Yukarı Döng.	Mollusca	Gastropoda	Zonitidae



VIII

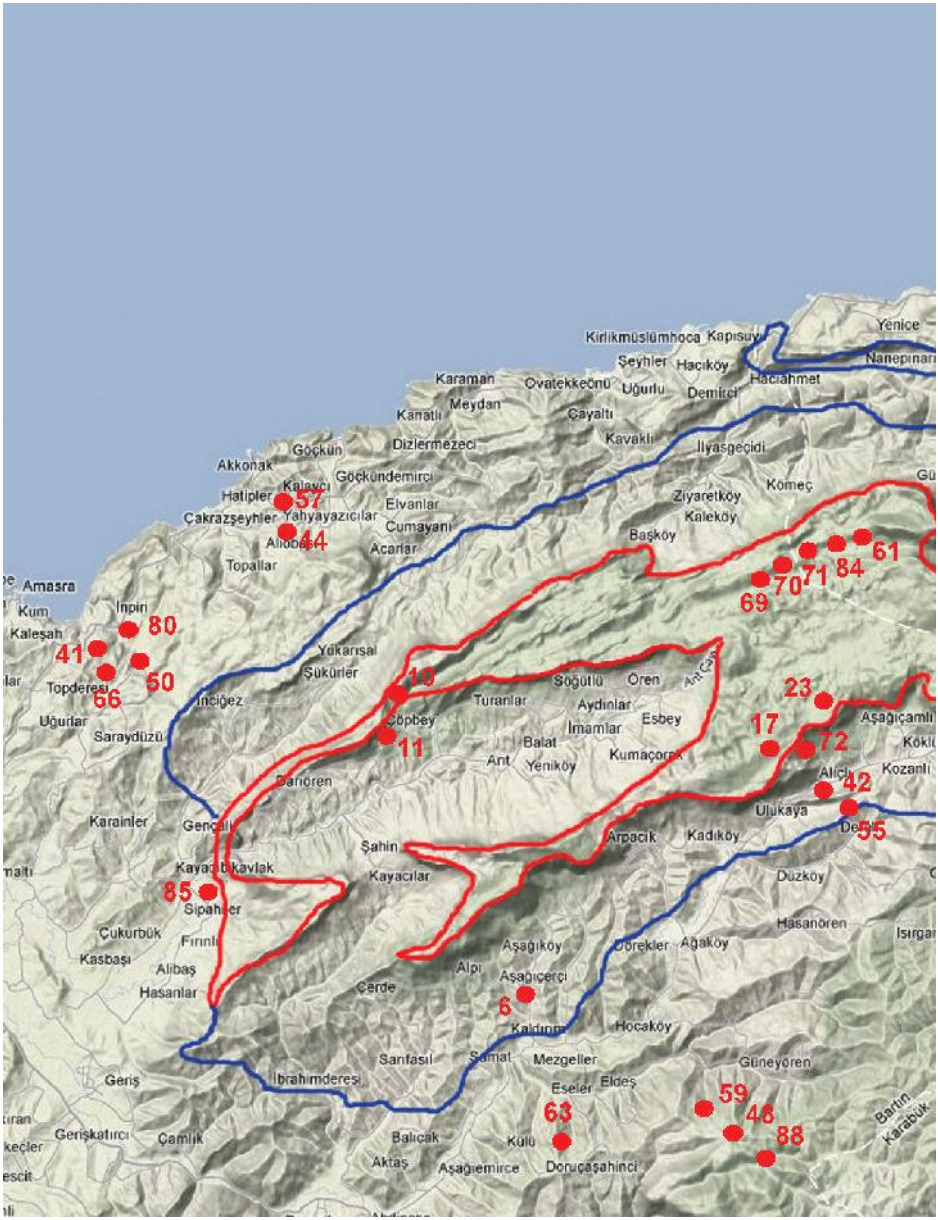
List of Caves at Küre Mountains National Park

This list includes the caves of this region which have been explored. We're not going to claim that this list covers all or most of the caves of Kure Mountains National Park, which is roughly 100 km^2 with its buffer zone. We believe that in the future, with new discoveries the number of caves in the region most likely will be multiplied.

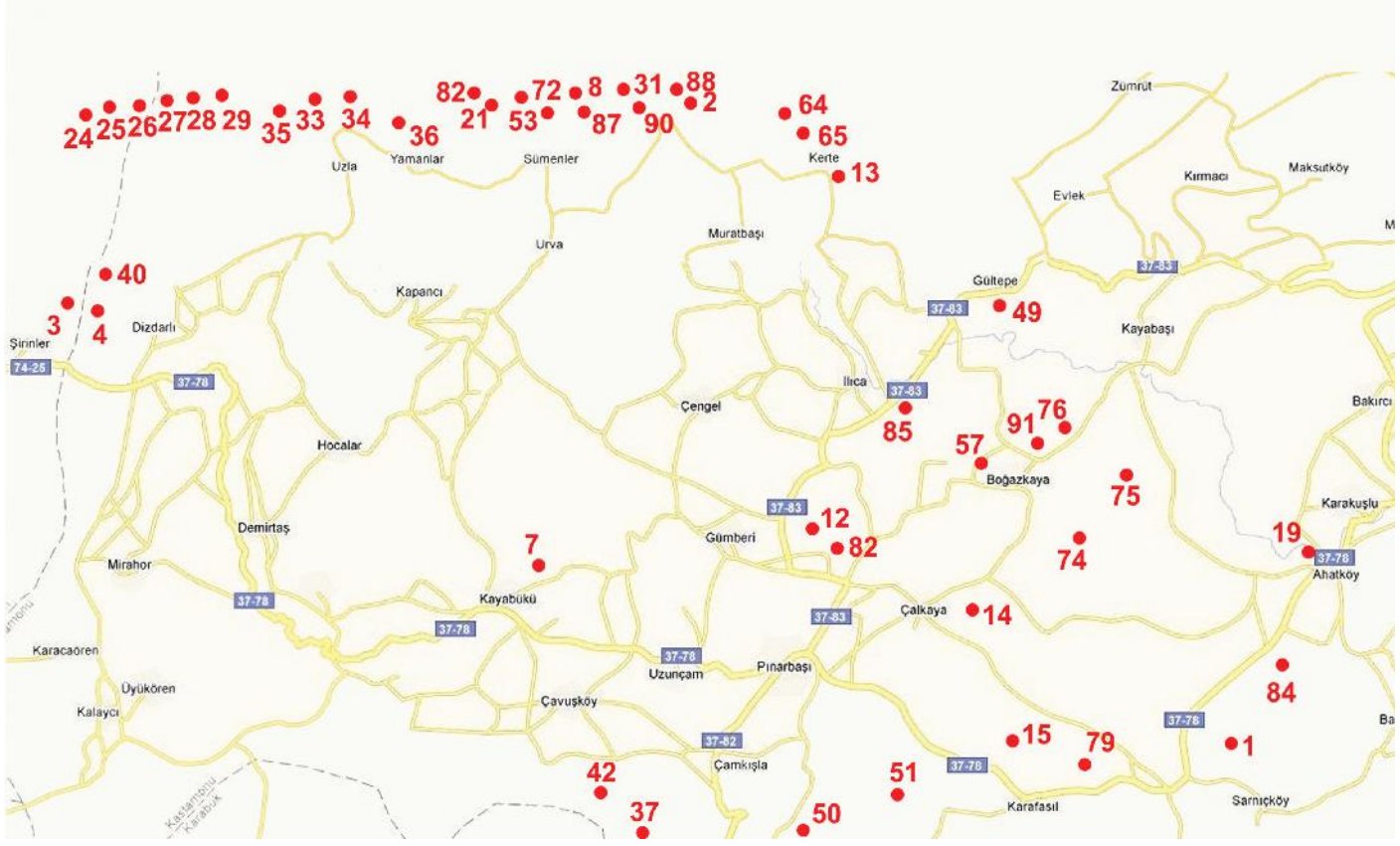
	CAVE	LOCATION
1	Ağzı Büyük Cave	Azdavay, Sarnıç Village
2	Alman Cave	Sümenler
3	Arpatarlası Hole	Dizdarlı, Zelle
4	Arpatarlası Pit	Dizdarlı, Zelle
5	Aşağı Baliönü Cave	Gideros
6	Aşağıçerçi Sinkhole	Aşağı Çerçi
7	Atak Cave	Çavuş
8	Ayakkabı Cave	Sümenler
9	Ayı Cave	Pınarbaşı
10	Ayıgölü Sinkhole	Çöpbey, Zoni Yaylası
11	Bacaksızın Cave	Arıt, Çöpbey
12	Balcak Cave	Ilıca, Esen
13	Ballıcı Cave	Cide
14	Buz Cave	Kerte
15	Buzluk Hole	Pınarbaşı, Çuhadar
16	Buzluk Cave	Karafasıl, Sarma Mah.
17	Büyükkaya Cave	Alıçlı Üstu, Büyükkaya
18	Cıngırlı Hole	Uluyayla
19	Çadırne Cave	Gideros
20	Çatak Ağzı Caves 1,2 & 3	Ahatkoy
21	Çengelkuyu Sinkhole	Pınarbaşı, Kerte

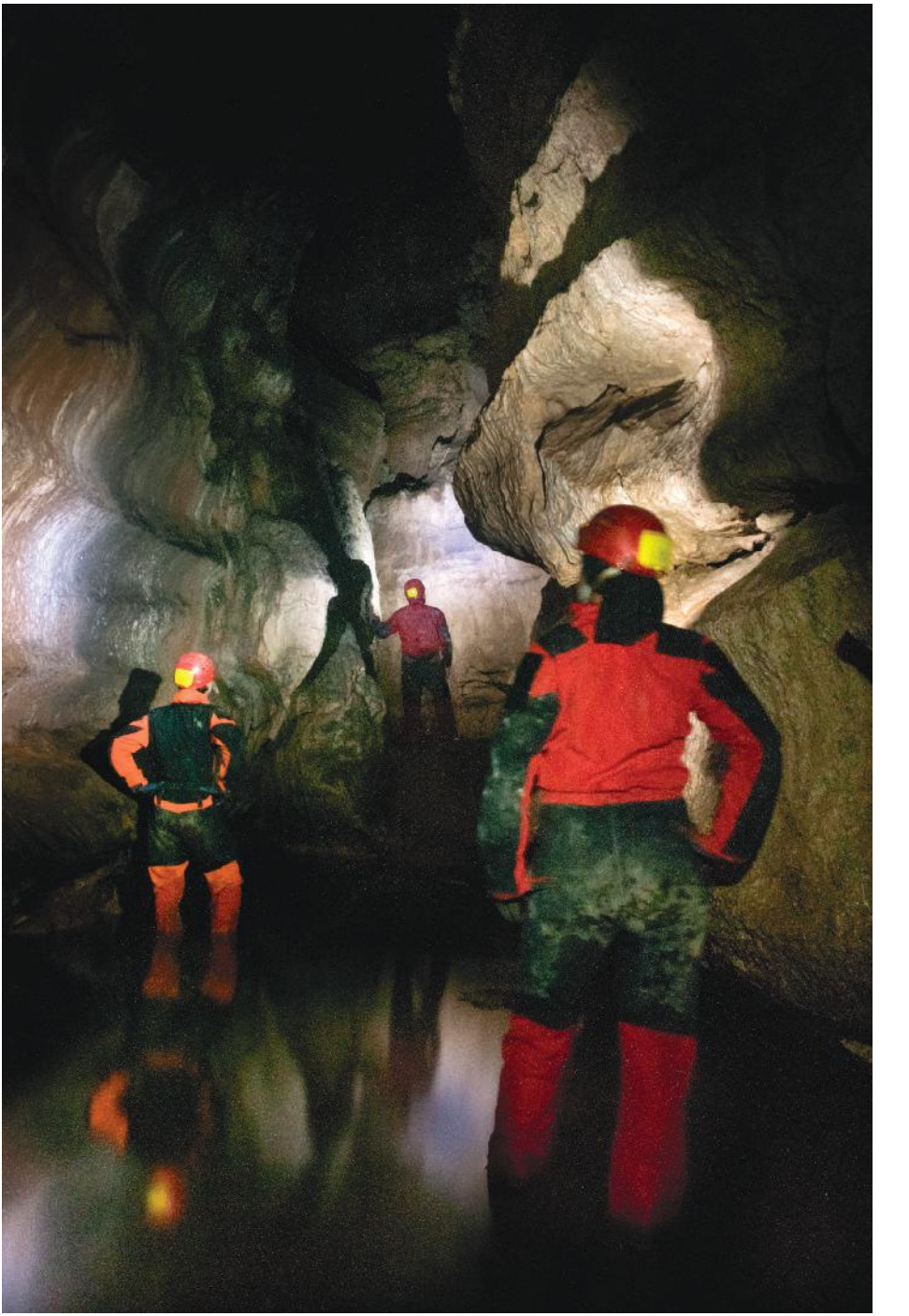
22	Çıkrıkkapı Doline	Sümenler
23	Çıngıraklı Doline	Ulus, Alıclı Village
24	Çıngırık Hole	Cide, Okçular Village
25	Çovurma Tepe Sinkhole	Uzla
26	Çovurma Tepe Cave 1	Uzla
27	Çovurma Tepe Cave 2	Uzla
28	Çovurma Tepe Cave 3	Uzla
29	Çovurma Tepe Cave 4	Uzla
30	Çovurma Tepe Cave 5	Uzla
31	Dağlı Kuylucu	Dağlı
32	Derebağ Cave	Cide, Derebaşı
33	Dikilitaş Cave	
34	Döngelyanı Sinkhole	Sümenler
35	Ejder Cave	Yamanlar
36	Eşek Çukuru Cave 1	Uzla
37	Eşek Çukuru Cave 2	Uzla
38	Eşek Çukuru Doline	Uzla
39	Gavurini	Between Çovurma - Sorkun
40	Gökdeli Cave	Pınarbaşı, Guvercinlik
41	Gökpınar Cave	Amasra, Makaracı Village
42	Gölcük Cave	Alıçlı
43	Gurbettepe Sinkhole	Dizdarlı, Zelle
44	Gürcüoluk Cave	Karakaçak - Ovacık
45	Gürlik Cave	Pınarbaşı
46	Hamam Cave	Gideros
47	Ilgarini	Yamanlar
48	İnağzı (Kırlangıç-Uluyayla) Cave	Ovacuma, Uluyayla
49	İğnedeliği Cave	Yamanlar
50	İnderesi Cave	Amasra, Makaracı Village
51	İnkumu Cave	İnkumu, Bartın
52	İnönü Hollow	Ilıca, Göktepe
53	İnönü Cave	Pınarbaşı, Güvercinlik
54	İntürbesi Cave	Pınarbaşı, Veray
55	Kadıharmanı Kokurdanı	Alıçlı
56	Kapaklı Kuylucu	Sümenler
57	Karakaçak Cave	Karakaçak Village
58	Karakış Cave	Pınarbaşı
59	Karlık Doline	Ovacuma, Uluyayla

60	Kaval Cıngırı	Boğazkaya, Ilıca
61	Kayaarkası Doline and Cave	Armutlu
62	Kayadibi Sinkhole	Valla
63	Kemikli Cave	Ulus, Doruca Village
64	Kılıçlı Cave	Cide, Camdibi Village
65	Kınakayası Cave	Ilıca, Esen
66	Kocareis	Amasra, Makaracı Village
67	Kokurdan 1	Kerte
68	Kokurdan 2	Kerte
69	Kurtyolu Doline	Armutlu
70	Kurtyolu 1 Doline	Armutlu
71	Kurtyolu 2 Cave	Armutlu
72	Kuşaklı Cave	Alıçlı Üstü, Büyükkaya
73	Kuşkayası 1	Göksu
74	Kuşkayası 2	Göksu
75	Küçük Çıkrıkkapı Kuylucu	Sümenler
76	Mantar Cave	Sümenler
77	Medil 1 Cave	Kurtgirmez, Mus
78	Medil 2 Cave	Kurtgirmez, Orencik
79	Mürsili Cave	Horma Canyon
80	Nalçak Moğarı	Bartın, Yukarıdere
81	Okçular Cave	Gideros
82	Perili Cave	Amasra, Makaracı Village
83	Sırt Sinkhole	Karanfil Village
84	Sinekli Cave	Armutlu
85	Sipahiler Cave	Bartın, Kayadibi
86	Sorkun Sinkhole	Sümenler
87	Subaşı Cave	
88	Subatık (Uluyayla) Sinkhole	Uluyayla
89	Suini Cave	Sarnıç
90	Şelale Cave	Ilıca
91	Şinasi Cave	Gideros
92	Topmeydanı Sinkhole	Sümenler
93	Uçakdibi Cave	Gideros
94	Ürkülük Sinkhole	Sümenler
95	Yukarı Baliönü Cave	Gideros
96	Yukarı Döngelyanı Kuylucu	Sümenler
97	Yumruçal Cave	Horma canyon


Kirlikmüslümhoca
Kapısuyu
Yenice
Şeyhler
Hacıköy
Hacıahmet
Karaman
Ovatekkeönü
Uğurlu
Demirci
Meydan
Kanatlı
Çayaltı
Kavaklı
İlyasgeçidi
Göçkün
Dizlermezeci
Akkonak
Kalaycı
Göçkündemirci
Hatipler
Elvanlar
Çakrazşeyhler
Yahyayazıcılar
Cumayanı
Alibeç
Acarlar
Topallar
Ziyaretköy
Kaleköy
Başköy
Amasra
İnpiri
Kum
Kaleşah
Yukarısal
Şükürler
Topderesi
İnciğez
Uğurlar
Saraydüzü
Çöpbey
Soğutlu
Ören
Turanlar
Aydınlar
Esbey
İmamlar
Balat
Arıt
Yeniköy
Kumaçorak
Pancoren
Karainler
Gençali
Şahin
Arpacık
Kadıköy
Ulukaya
Alıçlı
Kozanlı
Kayabükavlak
Kayacılar
Sipahiler
Düzköy
Çukurbük
Fırınlı
Kasbaşı
Alibaş
Hasanlar
Çerde
Aşağıköy
Alpi
Aşağıçerçi
Ağaköy
Hasanören
Hocaköy
Sanfasıl
Somat
Mezgeller
Güneyören
Geriş
İbrahimdereği
Eseler
Eldeş
Gerişkatırcı
Çamlık
Balıcak
Külü
Aktaş
Aşağıemirce
Doruçaşahinci
Bartın
Karabük
57
44
80
41
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Çayyaka
Çataloluk
Denizkonak
Uğurlu
Alayüz
Yalçınköy
Çamaltı
Konuklar
Kuşçu
Sakallı
Köseli
Düzköy
Koçlar
Beitepe
İshakça
Çayüstü
Bağyurdu
Cide
Kasımköy
Mencelli
Uçağıl
Himmetk
Irmakköy
Kırçı
Tarakçı
Musaköy
Kumköy
Gökçeören
Uzunyol
Gebeş
Kumluca
Sırakaya
Sipahi
Velioğlu
Dördül
Aybasan
Edeler
Kalafat
Okçular
Abdulkadir
Demirkaya
Alaçık
Ovacık
Tepecik
Çamdibi
Şenpazar
Kezağzı
Akça
Övecler
Karakadı
Dağlı
Dereköy
Aşıklı
Kethüda
Derebucağı
Hamitli
Şemköy
Fırıncık
Başçavuş
Menük
Başköy
Yıldızalan
Celalli
Yaylaköy
Ortaca
Gürpelit
Salman
Kazanlı
Kastamonu
Bardın
Devrekani Çayı
Zümrüt
Yeşilk
Yamanlar
Sümenler
Kerte
Uzla
Evlek
Kırmacı
Maksutköy
Urva
Muratbaşı
Mehmetçelebi
Çubukbeli
Kapancı
Gültepe
Şirinler
Dizdarlı
Kayabaşı
Çengel
Ilıca
Bakırcı
Gökpınar
Hocalar
Boğazkaya
Karakuşlu
Demirtaş
Gümberi
Mirahor
Elmacık
Kayabükü
Çalkaya
Karacaören
Üyükören
Uzunçam
Pınarbaşı
Kalaycı
Çavuşköy
Başören
Çamkışla
Karafasıl
Sarnıçköy
Çörekli
Gök Tepe
Akçakese
Bakırcılar
Çamyurt
Kutlugedik
Kutluören
Ovaçalış
Hacışaban
Karata
DETAILED MAP
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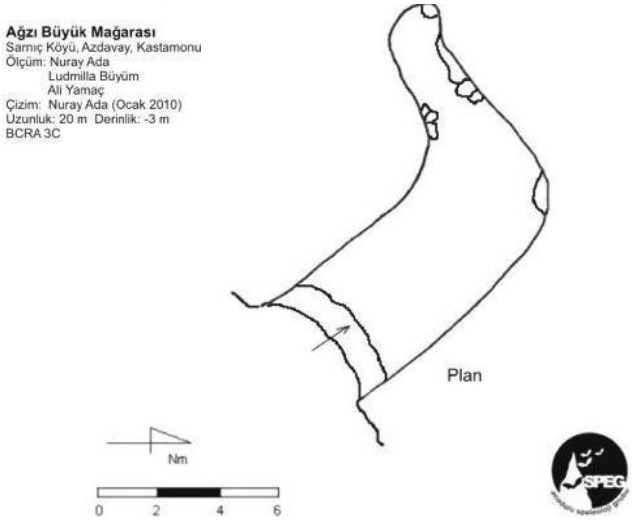

24 25 26 27 28 29 35 33 34 36 82 21 72 53 8 87 31 90 88 2 64 65 13
Zümrüt
Kırmacı
Maksutköy
Evlek
Kerte
Yamanlar
Sümenler
Uzla
Urva
Muratbaşı
40
3
4
Şirinler
Dizdarlı
Kapancı
74-25
37-78
Gültepe
37-83
49
Kayabaşı
37-33
İlıca
85
Çengel
91
76
57
Boğazkaya
75
Bakırcı
Karakuşlu
Hocalar
Demirtaş
Mirahor
7
Gümberi
12
82
74
19
37-78
Ahatköy
Kayabükü
37-78
Çalkaya
14
Karacaören
Üyükören
Kalaycı
Uzunçam
Pınarbaşı
84
Çavuşköy
15
79
1
37-82
Çamkışla
42
37
51
50
Karafasıl
Sarnıçköy



01

Ağzı Büyük Cave

The cave is located in the north flank of the hills of Sarnıç Village which is a part of Azdavay district. The area is highly decoreted by a dense forest and rugged terrain so it is really difficult to find the cave without a guide. The mouth of the cave ironically looks like its name. After the enterance, cave continues down 20 m. It is a small fossil cave and lack of cave decorations. ASPEG explored the mountain and made the map of it in 2010.





02

Alman Cave

The cave is in a forest on north part of Sümenler Village which is a province of Pınarbaşı district, on a point near to the Valla Canyon Wall. The cave is really difficult to find because there is a lot of box trees and the width of the enterance is only 3 m. Cave has only a 8 m descent. MAD explored the cave and published on May 2009 placed on 22th page of their journal.



03
Arpatarlası Hole

The cave is near to the Dizdarlı Village of Pınarbaşı. It is 500 m distance to south west from Gurbettepe Kuylucu. Arpatarlası Hole is a small fossil cave which has the length 11 m and depth 4 m and the Arpatarlası İni is on one of the the land which collects water in front of a huge limestone wall in the Küre National Park. It is explored by BÜMAK in 1998 and published in the journal of BÜMAK Delta 4 page 17. There is a small population of bats inside.

04
Arpatarlası Pit

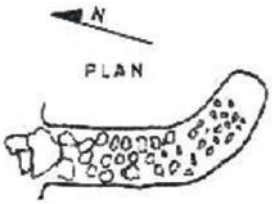
The cave is near to Dizdarlı Village of Pınarbaşı. Arpatarlası Pit is nearly 100 m far from Arpatarlası Hole and it is a 49 m long fossil cave. Explored by BÜMAK in 1988 and published in Delta Journal 4 page 17. In the cave there is a small colony of bats.

ARPATARLASI İNİ

ZELLE, DİZDARLI,
PINARBAŞI, KASTAMONU

Uzunluk: 11.5 m
Derinlik: -4 m

Ölçüm(4C):
M. Albukrek,
M. K. Baran,
M. Tosyalı
Temmuz 88





BÜMAK

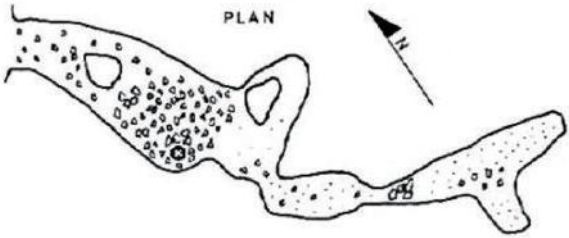
0 1 2 5m

ARPATARLASI KUYUSU

ZELLE, DİZDARLI, PINARBAŞI,
KASTAMONU

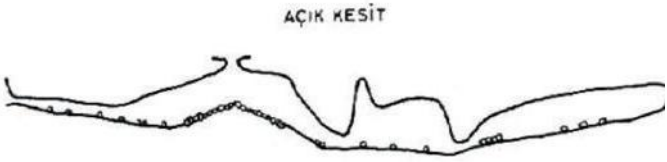
Uzunluk: 49 m

Ölçüm(4C): M. Albukrek,
M. K. Baran,
M. Tosyalı
Temmuz 88



BÜMAK

0 1 2 5m

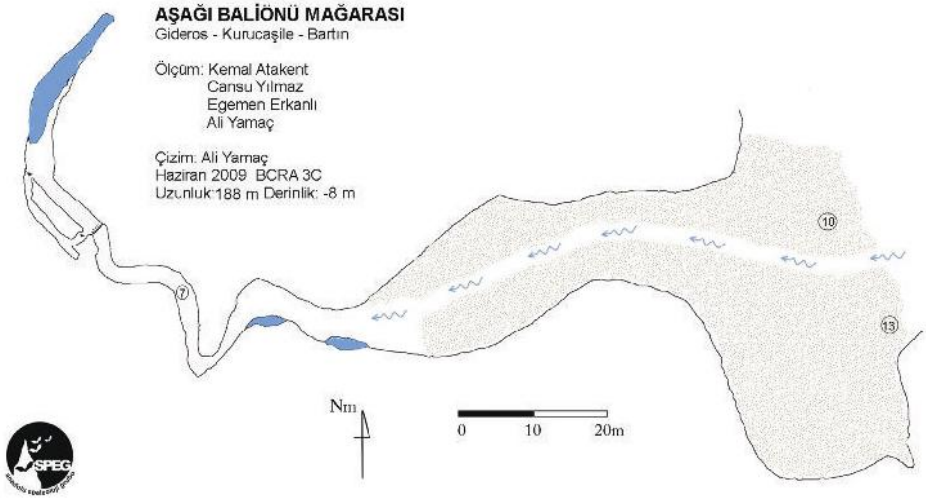


05



Aşağı Baliönü Cave

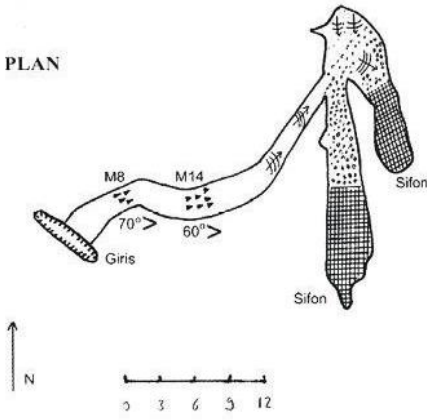
Aşağı Baliönü Cave is located at Bartın province, Kurucaşile district, south west of Gideros Village. Cave is hidden through a dense forest. When you pass the bushes, you see a wide mouth which is 38 m width. The cave enterance collects water from the plateau and forms a small spring in the mud created itself a new bed. After a short distance it is transformed into a normal form of a cave with a narrow passage and in a short distence it is ending with a siphon. It was found in 2009 and explored by ASPEG. In active and mud part of the cave there is an intensive biodiversity.

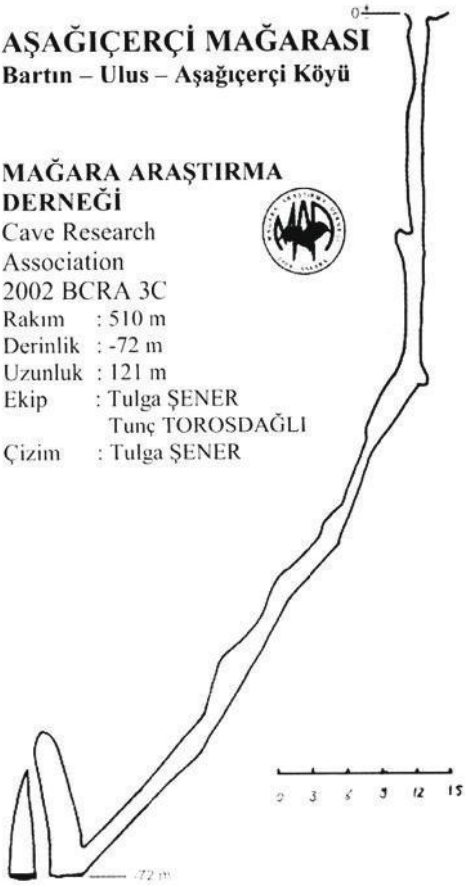


06

Aşağıçerçi Sinkhole

The cave is located in the village of Aşağıçerçi, Ulus District. The cave is on a hill which is behind a trout farm. Cave formed within the limestone, starts as a narrow crack in the 510 m altitude, the first 30 meters is vertical and later inclined, a series continues in short descent and ends with a small gallery. Water from the end of the gallery are turned out by the siphon. The cave explored by MAD and published in the association's newsletter number 13 and page 18. In the last part of the sloping where descent began, cavers observed a small white mice and 3-4 cm black hard-shelled insects.

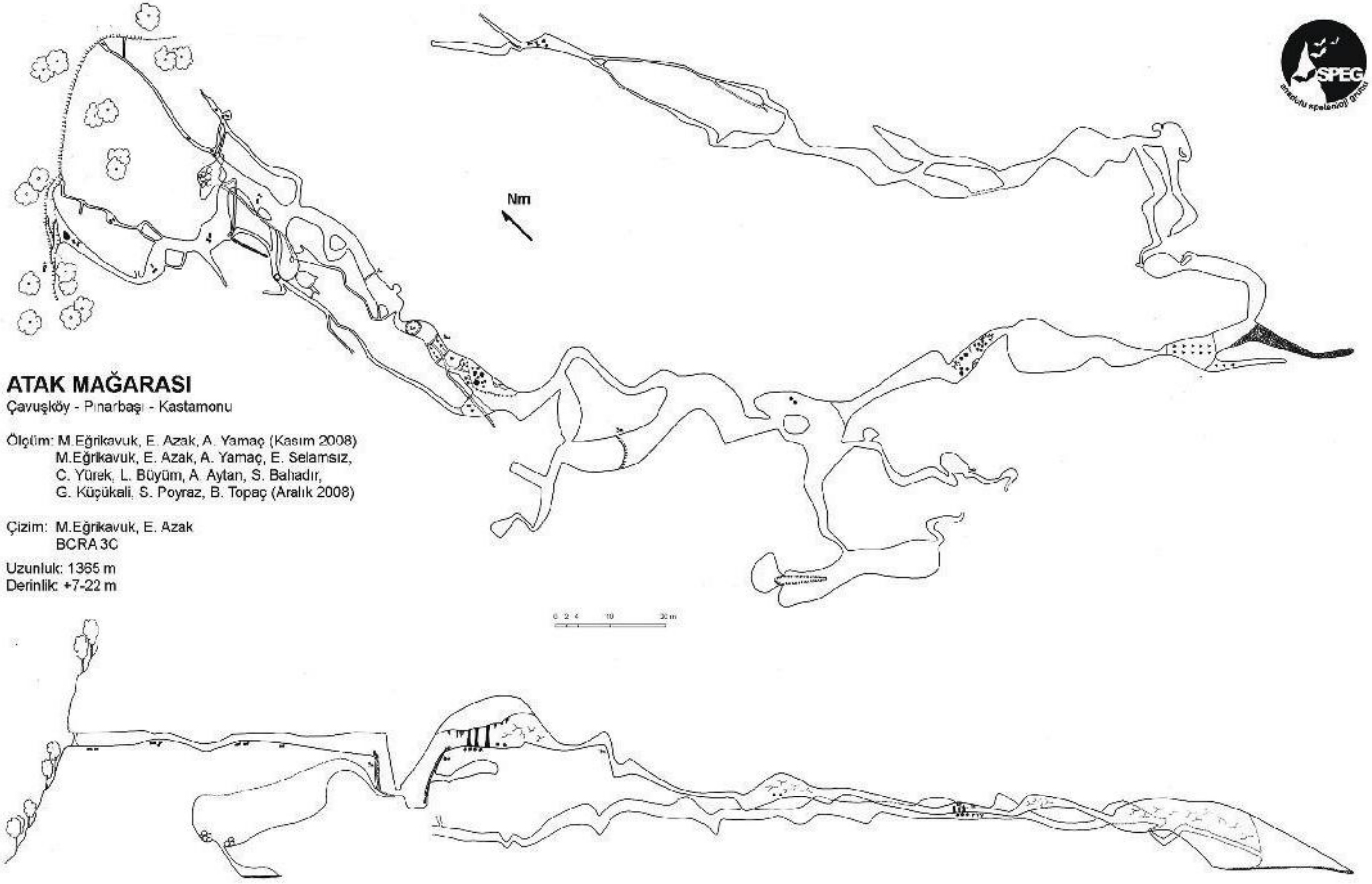




07

Atak Cave

The Cave is located in north of Pınarbaşı / Çavuş Village. When you follow the north path to the end, you can see the enterence 100 m ahead on the rock wall. Atak Cave, with 1365 meters long, is the longest cave in the region. Also it is the most important cave because of structural properties and archeological explorations. The caveis in a Upper Jurassic - Early Cretaceous melange limestone. It is developed horizontally. At first 300-400 meters of clastic limestone, cave is filled with collapsed braches and rock piles. Quite narrow passages reaching the canyon wall and at those points there are several different entrances to the cave. On the other hand, after a short descent the cave follows a single passage until the final section. The final section is almost at the same level with the flowing streams of outside and at this point, it is observed that there is leaking water from the outside. The cave's research was incomplete by the British FACC team whose arrived in the region first in 1992. Research was completed by ASPEG in 2008 and it was published in OBRUK no1, pp. 40-43. In the cave there is a very rich biodiversity; about 15 different species of insects, several hundred bats, hibernating *Dryomys nitedula* and mammals such as *Glis glis*. Also, skeleton of a wild cat (*Felis Silvestris*) were found. Parts of the cave entrance is not very rich in terms of formation but the forward part of the main gallery has some very beautiful formations and it urgently need to be taken under protection.



ATAK MAĞARASI

Çavuşköy - Pınarbaşı - Kastamonu

Ölçüm: M.Eğrikavuk, E. Azak, A. Yamaç (Kasım 2008)
M.Eğrikavuk, E. Azak, A. Yamaç, E. Selamsız,
C. Yürek, L. Büyüm, A. Aytan, S. Bahadır,
G. Küçükali, S. Poyraz, B. Topaç (Aralık 2008)

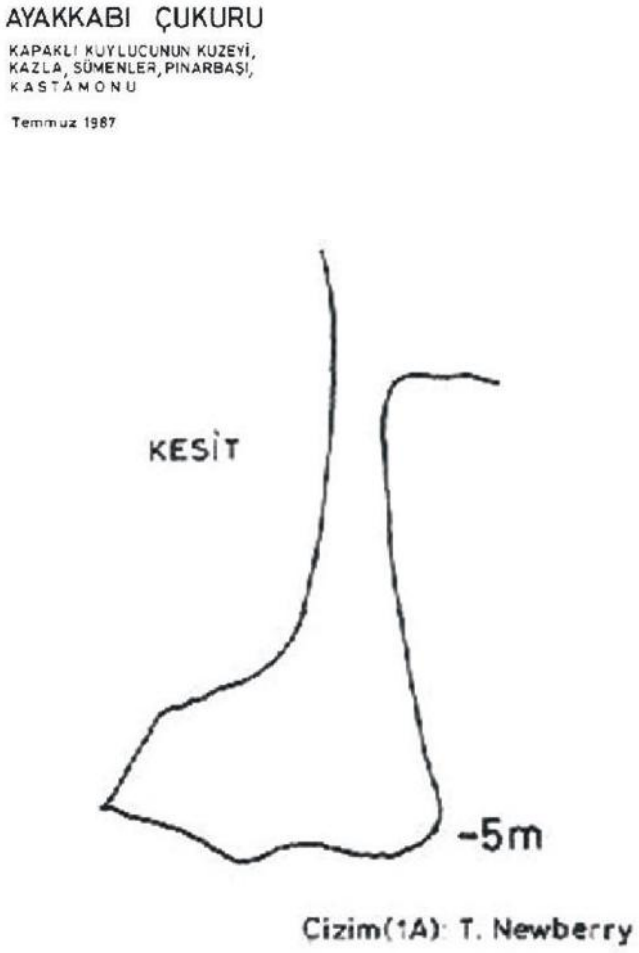
Çizim: M.Eğrikavuk, E. Azak
BCRA 3C

Uzunluk: 1365 m
Derinlik: +7-22 m

08

Ayakkabı Pit

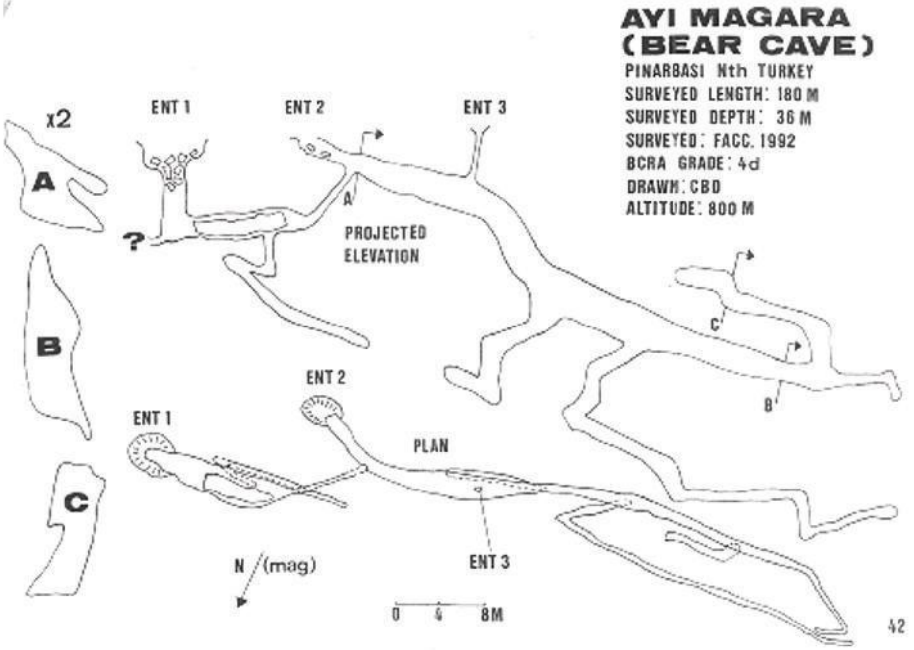
The cave is located in the Sümerler Village / Pınarbaşı. It is at the north side of Topmeydanı - Sorkun road, before reaching to the Kapaklı Cave. With 5 m depth, it is the smallest cave in the region and this name was given because of it looks like a shoe. It collects the water of a small area in the region. It was researched by BÜMAK and published in Delta 3 page 35. The report does not mention any findings in the cave.



09

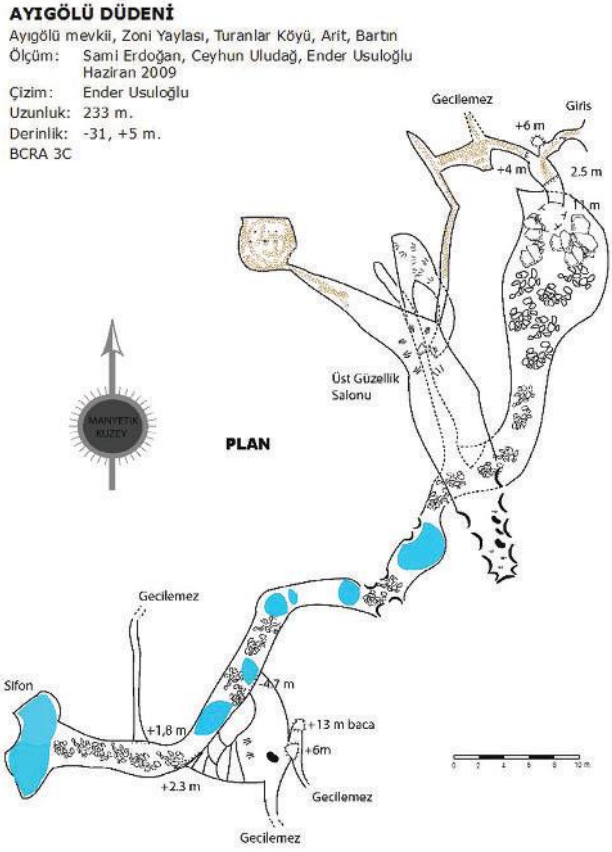
Ayı Cave

Ayı Cave, where with the names given by the English team Spear (Gökdeli) and Sıçan caves located, formed parallel to the edge of the limestone plateau. Cave has three separate entrances; first part consists of several levels and continues parallel to the edge of the limestone plateau. At the enterance, there are large rock blocks. Two passages were found around these blocks. When you crawl through one of this passeges, there is another enterance which is blocked by collapsed rocks. The other passege between the rock blocks at the first entry is reached to a gallery which is covered with mud. In this passage some beautiful decorations can be seen. Cave length and depth dimensions contained in the report is only for researched parts of it. Researchers reported that the cave is still continues. Measured section of the cave is 180 meters in length and -36 m in depth. The cave was explored and mapped by the British team FACC at 1992.

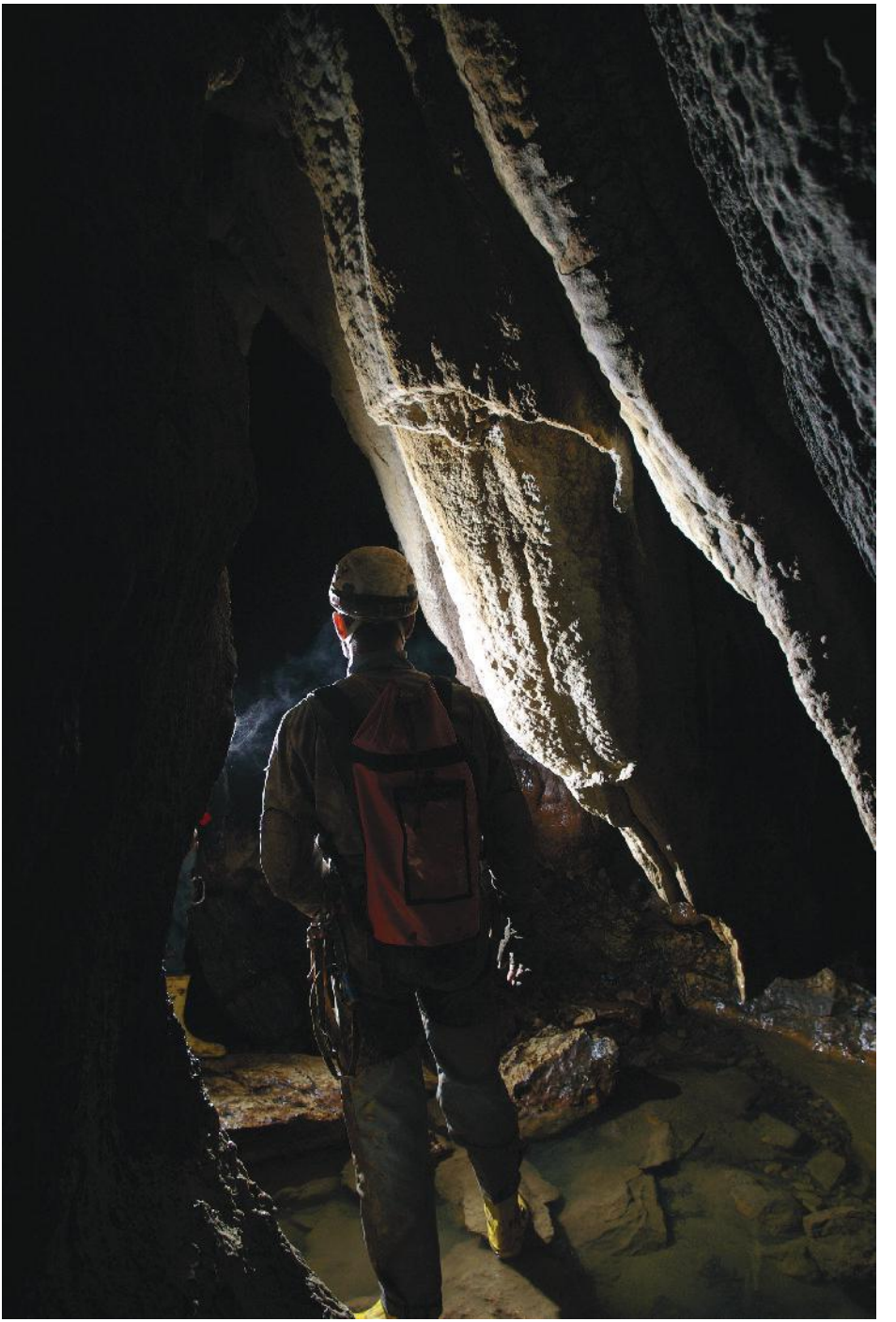


10

Ayıgölü Sinkhole



The village of Çöpbey is located in the north of Bartin province, Zoni Plateau Zone. Zoni is a limestone plateau, which is located in Küre Mountains National Park. In this plateu research's show that the water which sumps from the above areas are welling up from some low points of the plateu. We can say that a part of the karst aquifers is formed with this sinking water sinkholes at the top of the plateau. On the other hand, because of dense vegetation on the plateau, all sinkholes can not be explored. The sinkhole, which located in Zoni Plateau and where vegetation is relatively less, is one of those which were found. The sinkhole is -31 Meters depth and 233 meters in length. The water sinking into the cave is probably come out from Bacaksızın Bacağının Koptuğu Cave which is located near the village of Çöpbey. The cave was explored and mapped by ASPEG in 2009. It is lack of cave decorations and biological diversity.



11

Bacaksızın Bacağının Koptuğu Cave

This strange named cave is located in the plateau of Çöpbey Village at Bartın province ("The cave which is the no legged man's leg split off" is it's name). It's in the distance of 750 meters as the crow flies from Ayı Gölü and 54 m height difference. In the enterance of the cave there is a water pipe and concrete wall, for pumping water to the seplements arround. On the left of the enterance, there is a short, dry passage which is curling through inside. In rainy seasons, water increases to rise more than a human height after walking 15-20 meters. The cave was found and explored in 2009 by ASPEG and issued on OBRUK Magazine no 2.

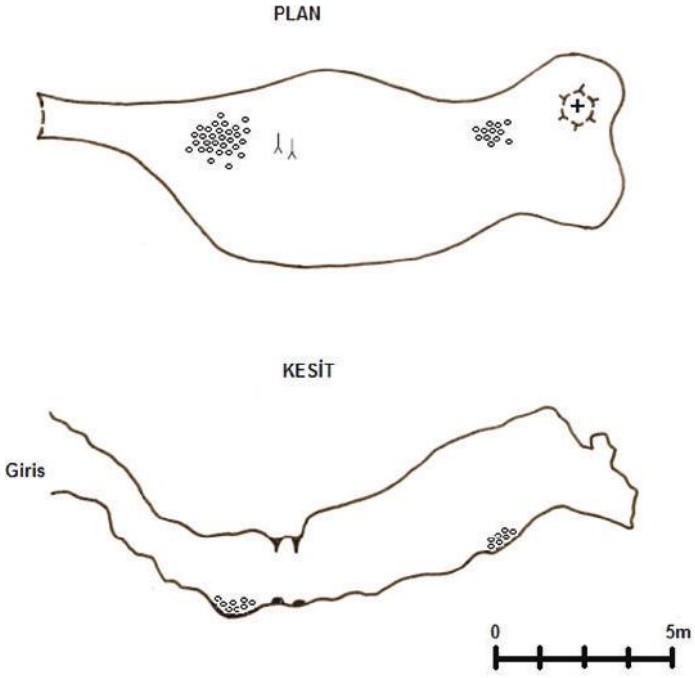
12 Balcak Cave

Cave is located in Esen district of Pınarbaşı Balcak is a horizontal and fossil cave which is developed within the wooded limestone pavemenst, 15 meters in length. The cave was explored by ASPEG and was published by OBRUK Magazine no 1, page 30. Except for a few stalactites, the cave is poor in formation.

BALCAK MAĞARASI U: 15m

Esen Mahallesi - Ilıca Köyü - Pınarbaşı – Kastamonu
Ölçüm: S. POYRAZ
S. BAHADIR
Çizim: S. POYRAZ

BCRA 3C



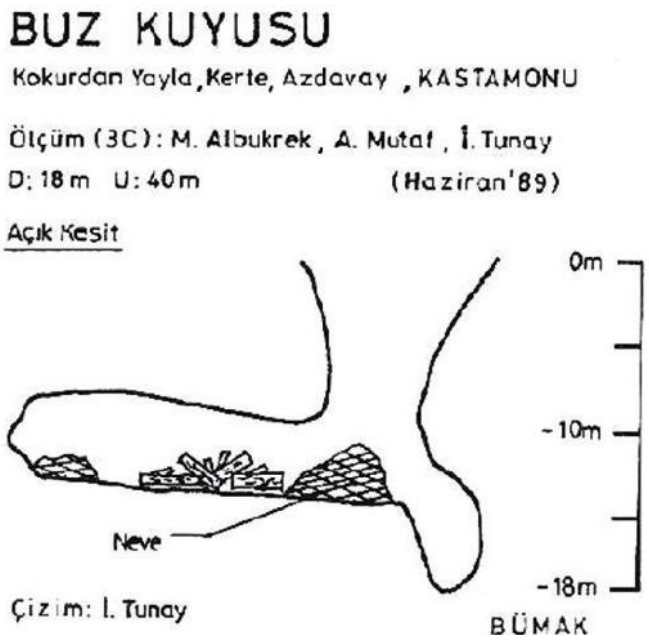
13 Ballıcı Cave

This is a wide cave in Abdülkadir Village of Cide, Kastamonu, It is on the fertile inland valley. It was documented during the archaeological survey carried out in 2010 by B. During and C. Glatz. The pottery found during the survey is dated as Chalcolithic and Early Bronze Age as well as Classic and later.

14

Buz Pit

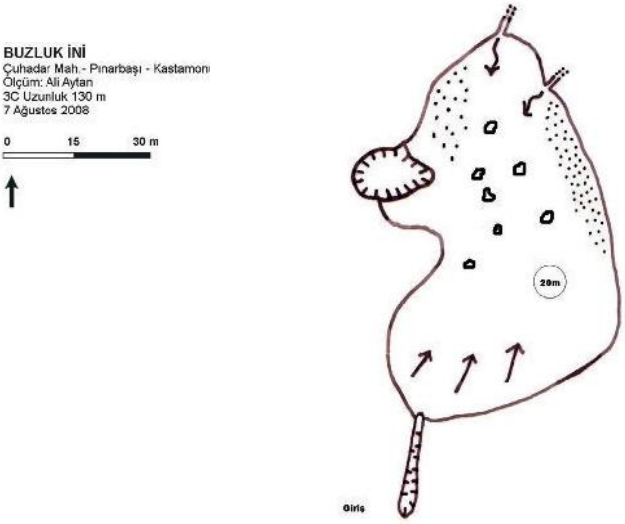
The cave is located up to 300 m from Kokurdan Highland Creek sinkholes clogged sink in the northwest close to the Kerte Village. Buz Pit is -18 m deep and 40 m in length fossil cave. This cave is quite cold because of the the ice presence in all seasons. It was researched by BÜ-MAK and published in Delta 4 page 42. The report does not mention any evidence in the cave.

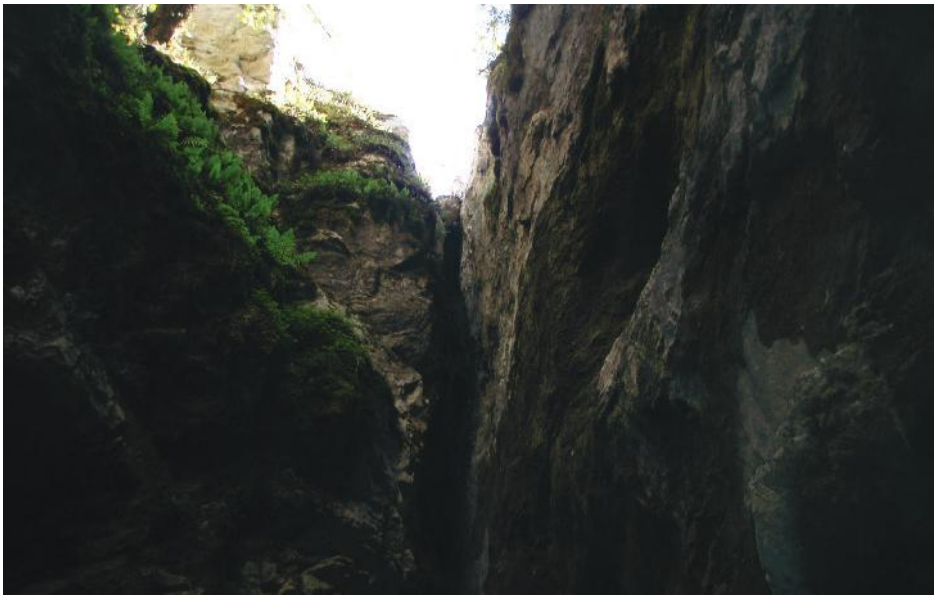


15

Buzluk Hole

It is located on the east Pınarbaşı / Çuhadar district slope. Its formed with the under connection of broken parts of a doline and quite a strange cave geologically. It has an attractive apperance with it's huge doline. It was explored by ASPEG in 2009 and printed in OBRUK no 1.





16 Buzluk Cave

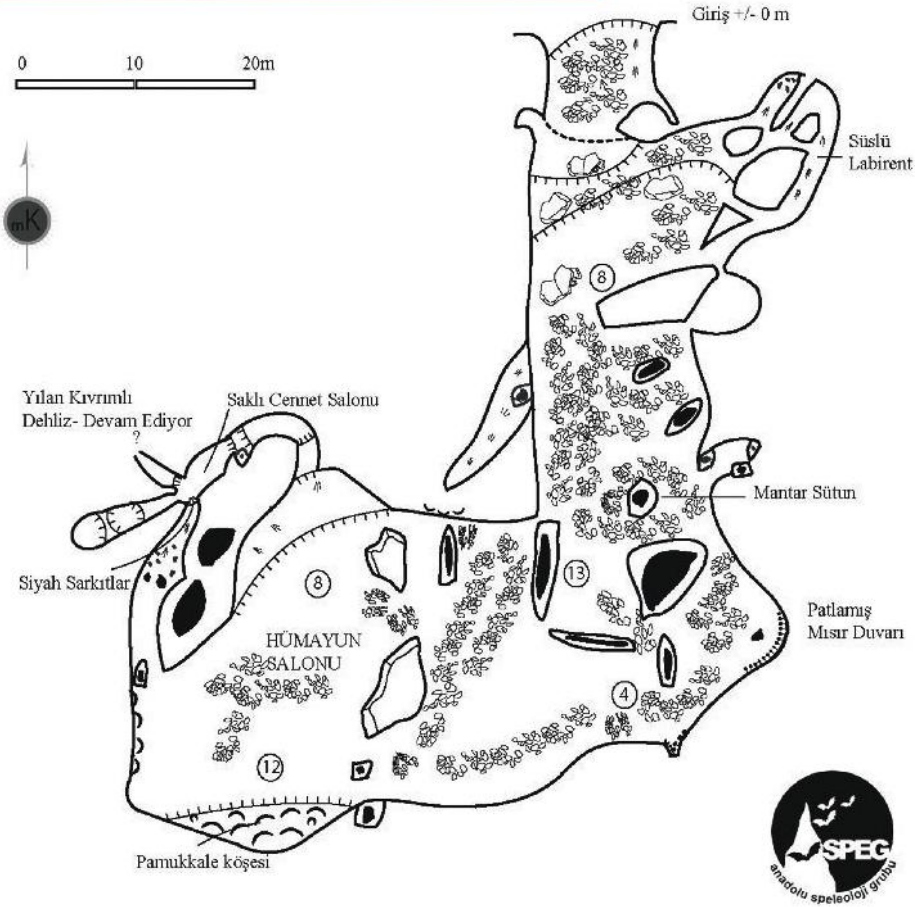
It is located half an hour away from Sarma district in Karafasıl Village, Pınarbaşı. It is one of the most interesting cave with it's ice features. In this region in the east and southeast of Pınarbaşı, vegetation covered limestone can be observed. Caves are mostly covered by woods. Because of a collapse in the enterance, some of the caves can be detected and most parts of this cave is exposed to sunlight. The most important feauture of this 483 m length magnificient cave is in middle of the spring, you can see ice stalactites and stalagmites. These ice stalactites and stalagmites are thought to be existed for a short period. It was explored by ASPEG in 2009 and issued in the first edition of OBRUK on page 42-43. Although the cave is short at biological diversity but as mentioned above, it is very rich in cave decorations.

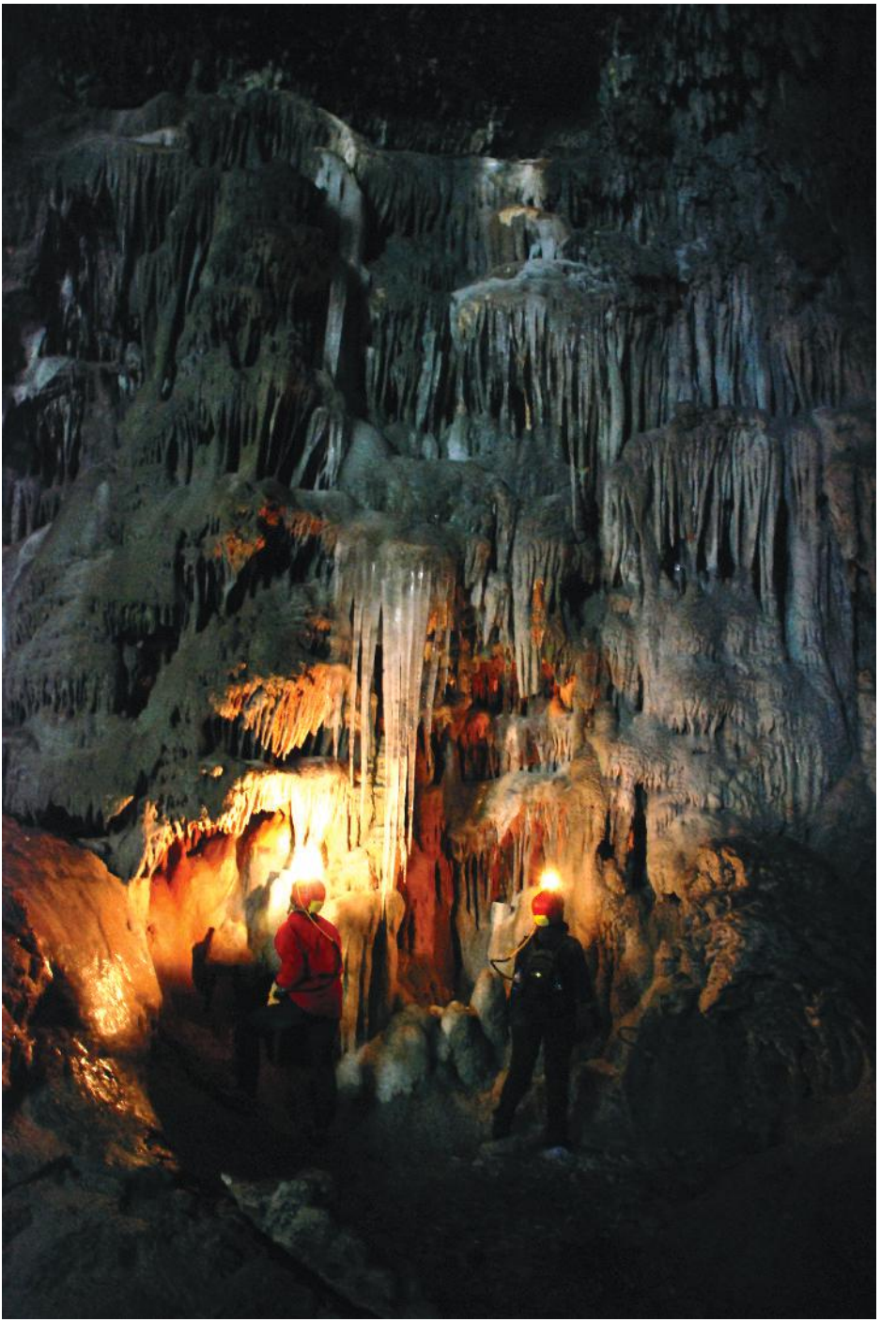


BUZLUK MAĞARASI

Sarma Mahallesi, Karafasıl köyü, Pınarbaşı, Kastamonu

Ölçüm ekibi:	Ali Aytan, Ali Usuloğlu, Ender Usuloğlu, Ali Yanaç
Ölçüm Tarihi:	08 Ağustos 2008
Ölçüm Derecesi:	3c
Uzunluk:	483 m
Derinlik:	-22 m
Çizen:	Ender Usuloğlu

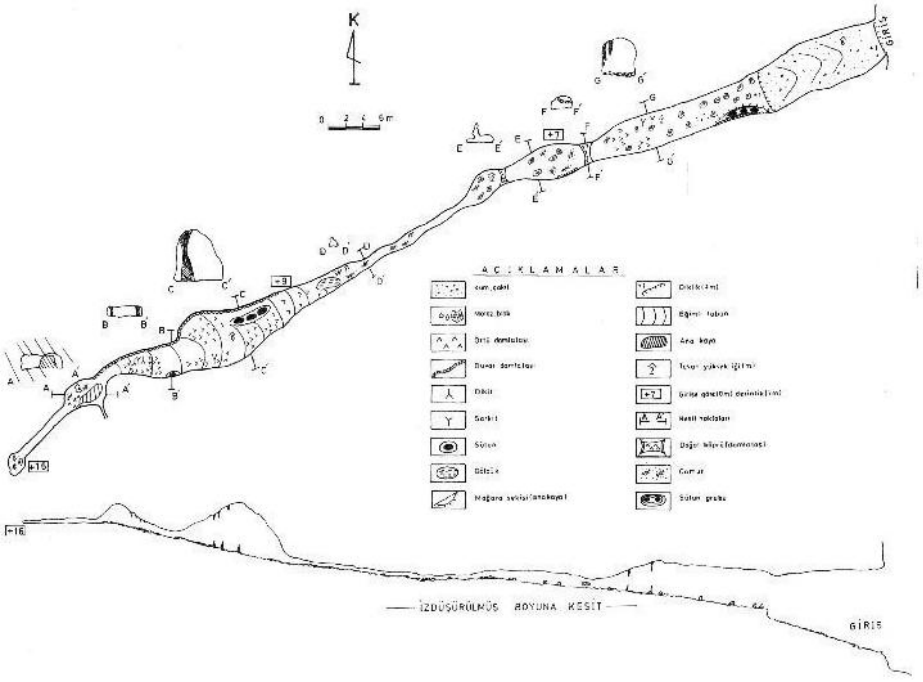




17

Büyük Kaya Cave

It is located over the rocky ridge of Kayadibi Village at Ulus province. It takes two hours on foot from the village. The cave which has a total 113m length is totally in fossil form. There is a 16 meters height difference between the enterence and the end. With its wide and huge entrance which can be seen from main road and it has only one gallery. Inside there are rich formations. It was explored in 2002 by MTA and issued in 2003 on the 10-11 pages in their report; Naturel Caves of Ulus-Bartın.



18

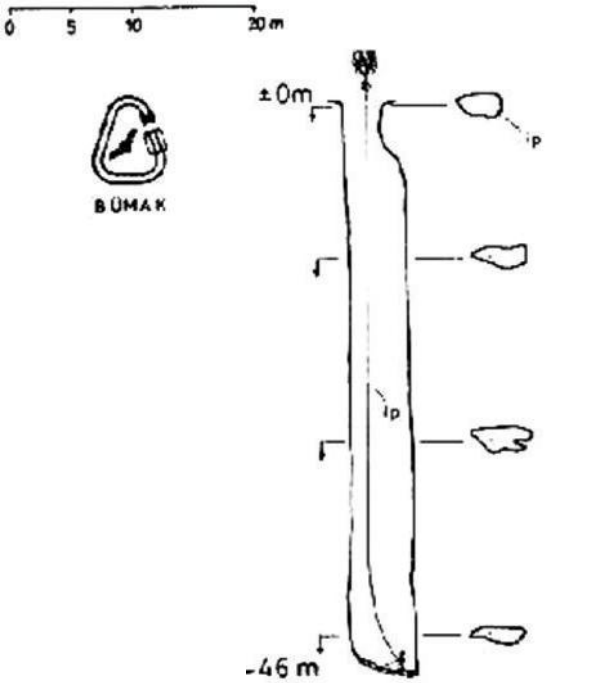
Cıngırlı Pit

It is on the tophill of Uluyayla, Çirkince and need to be guided to be found. It is a vertical and fossil cave with it's 46 m depth. Explored by BÜMAK and issued on the their magazine. There are no details in their report.

CINGIRLI KUYU

Uluyayla, Ovacuma
Safranbolu, ZONGULDAK

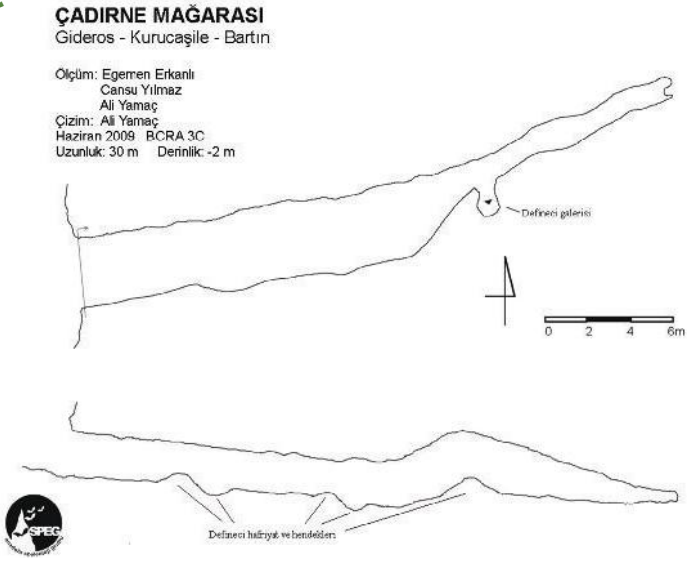
D= -46 m
Rakım ≈ 1130 m
ÖLÇÜM (2A): T.ALPER
Haziran 89



19

Çadırne Cave

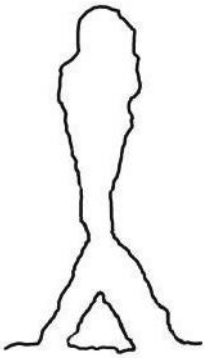
It is located in Bartın province, Kurucaşile district, Gideros Village and 20 meters away from the main road. Not much formation found in it and it is a small, flat cave possibly used as a cote for a long period. It is found and explored by ASPEG in 2009. Nothing found in the cave archeologically.



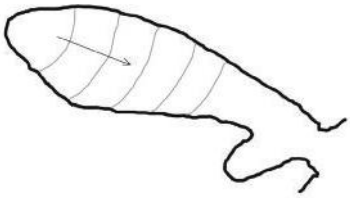
20

Çatak Ağzı Caves 1,2 & 3

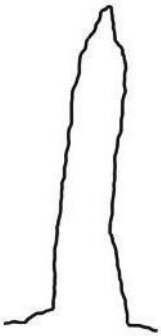
This small caves are in Pınarbaşı on Azdavay road, located in the North of the bridge on Ahatköy crossrood where Devrekani Stream reach the canyon. All of them are horizontal and formed by dissolution of limestone on the wall. Explored by ASPEG and nothing was found.



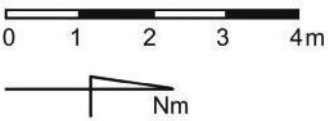
Çatak Ağzı Mağarası 1
Uzunluk: 7,5 m



Çatak Ağzı Mağarası 2
Uzunluk: 4,5 m
Derinlik: +1m



Çatak Ağzı Mağarası 3
Uzunluk: 4 m



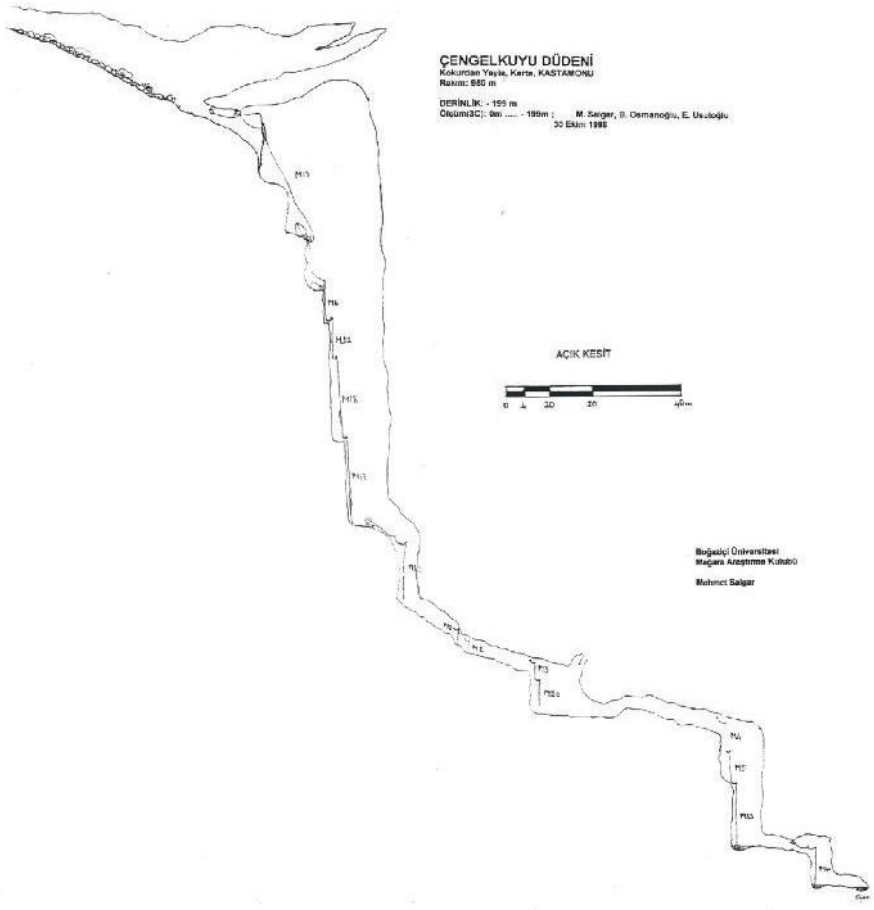
ÇATAK AĞZI MAĞARALARI 1, 2 ve 3

Çatak Kanyonu ağzı, Ahatköy, Azdavay, Kastamonu
Çatak Ağzı 1 ölçüm: Özgür Özel
Çatak Ağzı 2 ölçüm: Nuray Ada
Çatak Ağzı 3 ölçüm: Özgür Özel
Tüm çizimler: Nuray Ada (Aralık 2009)
Tüm ölçümler: BCRA 2A

21

Çengelkuyu Sinkhole

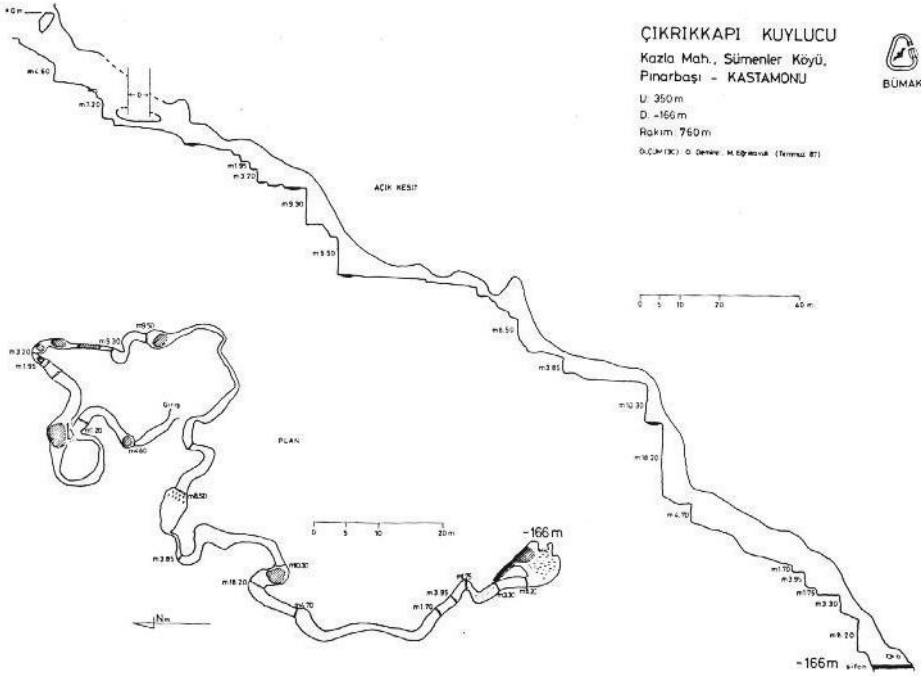
The sinkhole is located 4 km North of Kerte Village plateau. Except the 200 meter vertical depth and a siphone at the end, no information was given in the report. This is one of the deepest caves of Küre Mountains National Park. It should be widely explored and reported at the future. It is explored by BÜMAK and issued on the 29th page of Delta 3.



22

Çıkrıkkapı Sinkhole

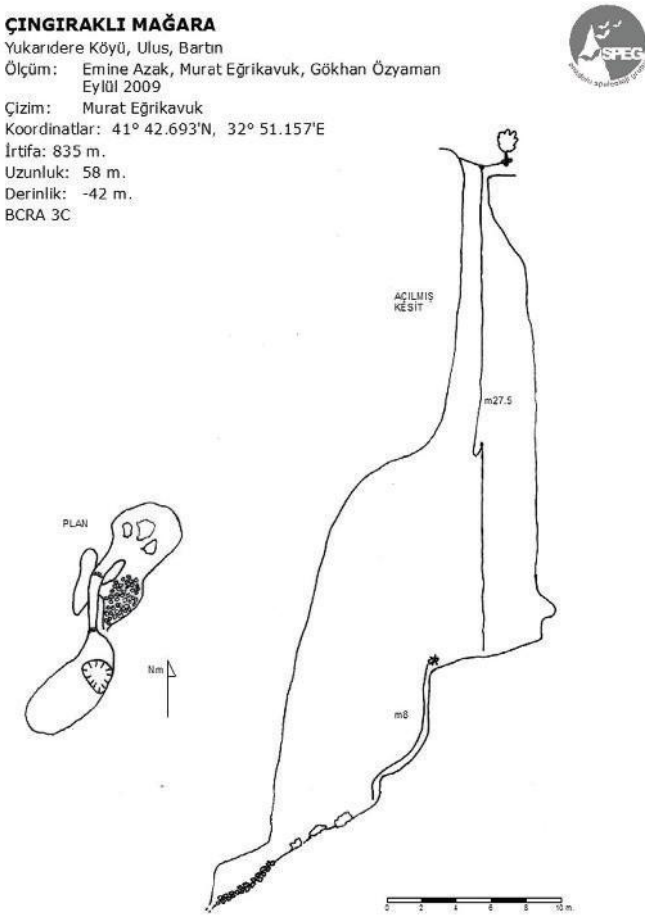
It is located in the north of Sümenler Village, Pınarbaşı province, between Sorkun and Kapaklı Sinkholes. It is formed at the point where a quite small basin draining the water stream met with the limestone mass. It is an active doline with -166 Meters deep and 350 meters in length. It ends with a siphone which is clogged with mud. The cave was explored by BUMAK and was published in Delta 3 on page 29.



23

Çıngıraklı Sinkhole

The cave is in Bartın province, Ulus district. Located on the north slope of Alıçlı Village and the distance is about a 2 hour by walk from the village. Sinkhole was researched by ASPEG in 2009.



24

Çıngırık Sinkhole

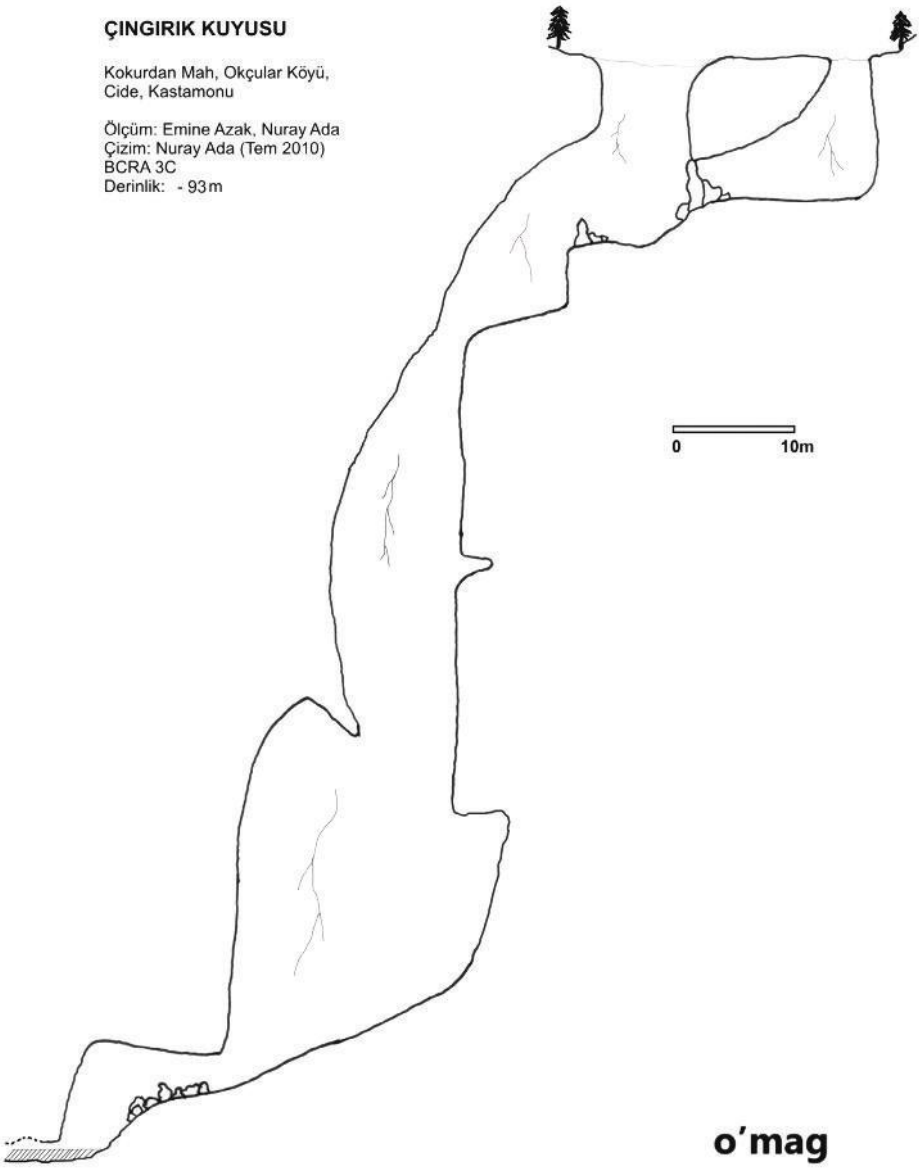
The cave is 200 meters before from the Kokurdan district which located in the south of Okçular Village, Cide. It is located at the bottom of the limestone wall on the east. In front, there are remains of a water mill that unused in now Cıngırık Kuyusu is an active button that gathers the waters of a wide basin. The entrance of the cave, in mass of cretaceous limestone and 12 m in diameter and 15 m in depth, is quite large and magnificent. After the first hall there is available inclined gallery and 6 m small landing. After that cave is quite muddy and slippery, it continues with two landings which one only landing in 50 m and at the reached point there is available a huge hall with a ceiling height of 25 m. The water here is disappearing by the siphon. The fault fracture that takes place in the cave has such an proper inclination that even in the deepest point light of the mouth can be seen and despite its 93 m depth, Cıngırık Kuyusu is only 150 m in height above the sea level. The cave was found and has been investigated by O'MAG in 2010.



ÇINGIRIK KUYUSU

Kokurdan Mah, Okçular Köyü,
Cide, Kastamonu

Ölçüm: Emine Azak, Nuray Ada
Çizim: Nuray Ada (Tem 2010)
BCRA 3C
Derinlik: - 93 m



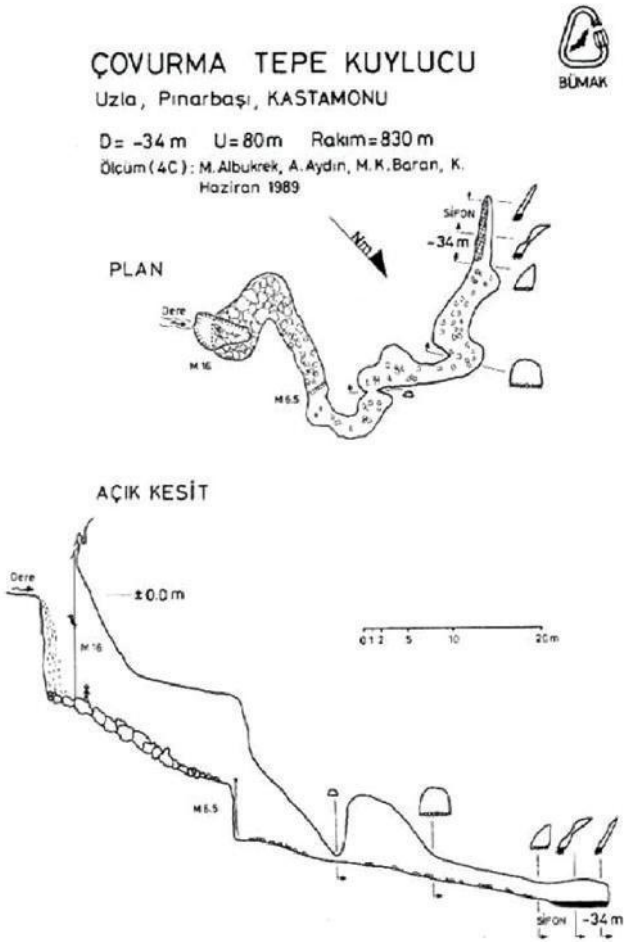
o'mag

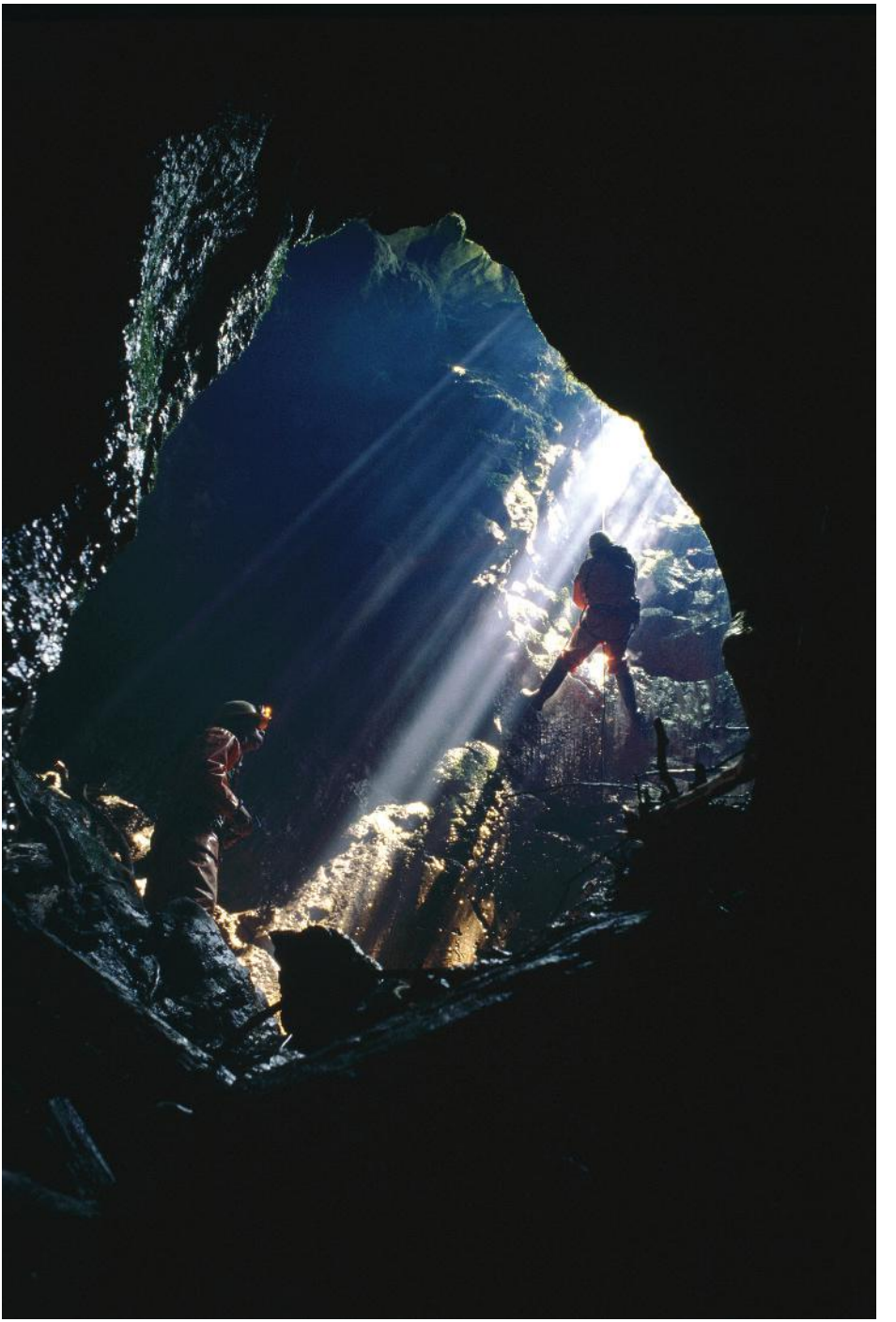


25

Çovurma Tepe Sinkhole

Located in the northwest of Uzla that connected to Pınarbaşı, at the western end these limestones and at the bottom of same named hill. Even in July it is sunk into not-drying river basin at the end of this doline. With 80 meters in length and -34 meters in depth, this doline ending with a siphon.The cave was explored by BUMAK in 1989 and has been published in Delta 4 page 18. The report does not mention any evidence in the cave.

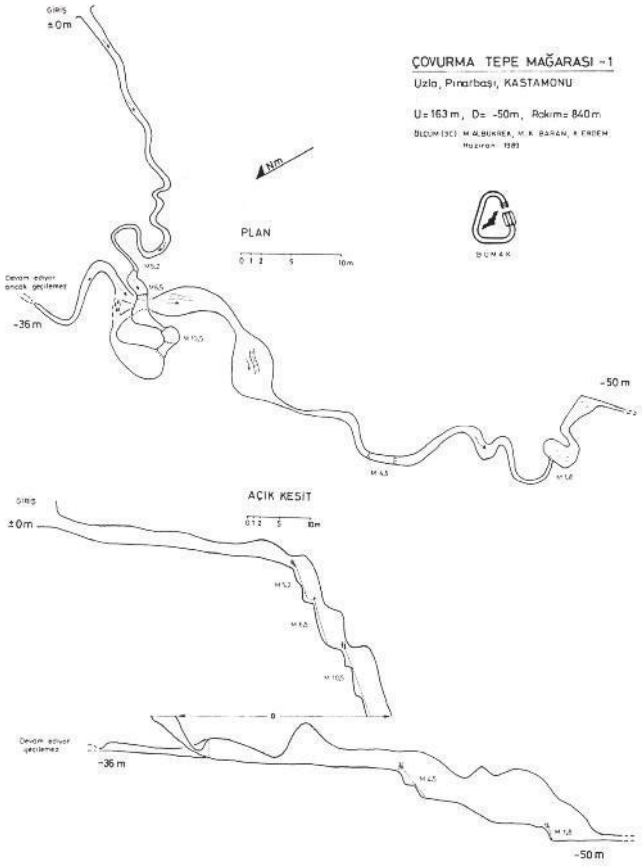




26

Çovurma Tepe Cave 1

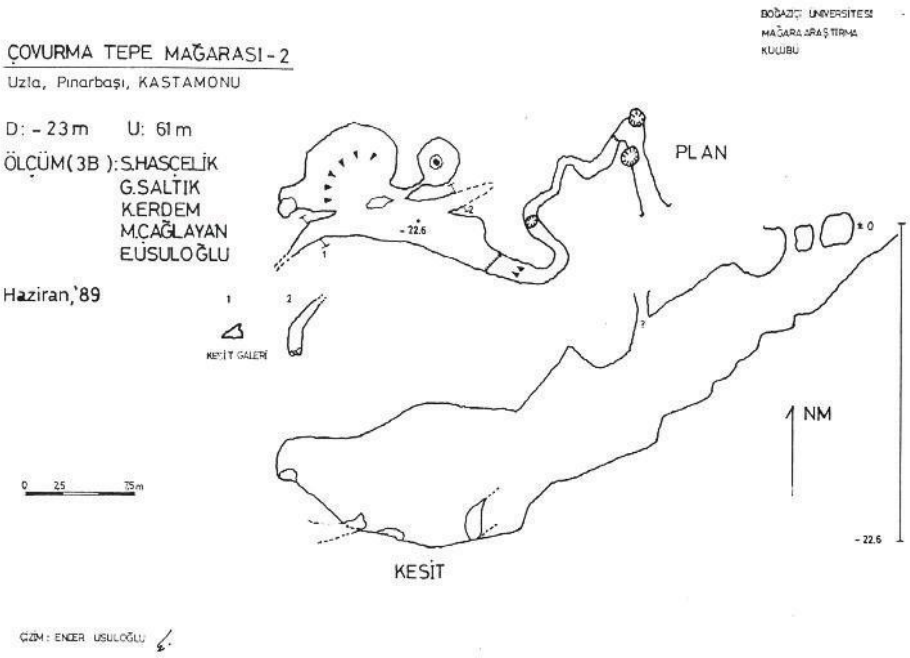
The northwest Uzla that connected to Pınarbaşı,Kastamonu, in front of this limestone blogs at the northwestern and at the bottom of same named hill, small water beds sank in to the five small cave. Çovurma Tepe Cave 1 is the one on westward side. After -50 m of depth, this active with 163 m in length doline becomes narrows and impassable to pass. Also, in -34 m from the side arm ,that connected to the main gallery, comes clear water. There is a possibility that this unpassable narrow branch can be connected to Çovura Tepe Cave 2. The cave was explored by BUMAK in 1989 and has been published in Delta 4 page 18.



27

Çovurma Tepe Cave 2

The Cave located in the above mentioned area, in the east side of Çovurma Tepe Cave 1 and at the end of a small creek. This 61 m length and -23 m in depth active doline opens into a very large hall after narrow and meandering gallery. There is a possibility that this unpassable narrow branch can be connected to Çovurma Tepe Cave 1. The cave was explored by BUMAK in 1989 and has been published in Delta 4 page 18. The report does not mention any evidence or formations in the cave.



28

3 The cave is located in the above mentioned area, at the end of a small creek bed. The cave is quit narrow and active doline with 14 meters in length. The cave was explored by BUMAK in 1989 and has been published in Delta 4 page 22. The report does not mention any biological findings or formations the cave.

29

4 The cave is located in the above mentioned area, at the end of a small creek bed. The cave is quit narrow doline with 5 meters in length. The cave was explored by BUMAK in 1989 and has been published in Delta 4 page 22. The report does not mention any biological findings or formations the cave.

30

Çovurma Tepe Cave 3,4 & 5

5 The cave is located in the above mentioned area, at the end of a small creek bed. This with double entry cave consists from a living room that approximately 5 meters in width. The cave was explored by BUMAK in 1989 and has been published in Delta 4, page 22. The report does not mention any biological findings or formations the cave.

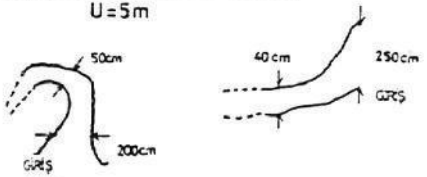
ÖLÇÜM (1A): O.Demirel
B.Genç
E.Usuloğlu

Uzla, Pınarbaşı, KASTAMONU
Haziran, '89

BÜMAK

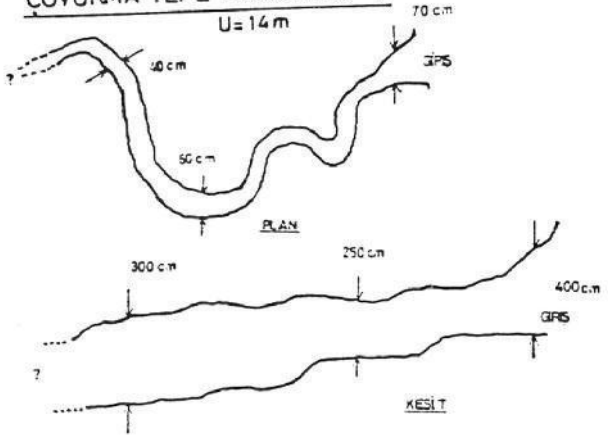
ÇOVURMA TEPE MAĞARASI - 3

U = 5m



ÇOVURMA TEPE MAĞARASI - 4

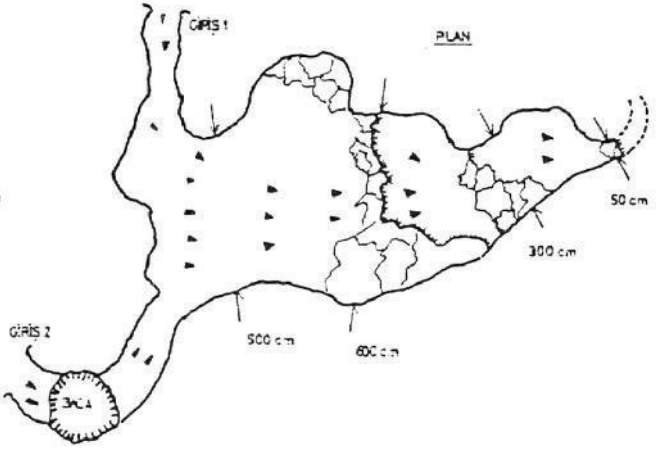
U = 14m



ÇİZEN: ENDER USULOĞLU

ÇOVURMA TEPE MAĞARASI - 5

U = 25 m

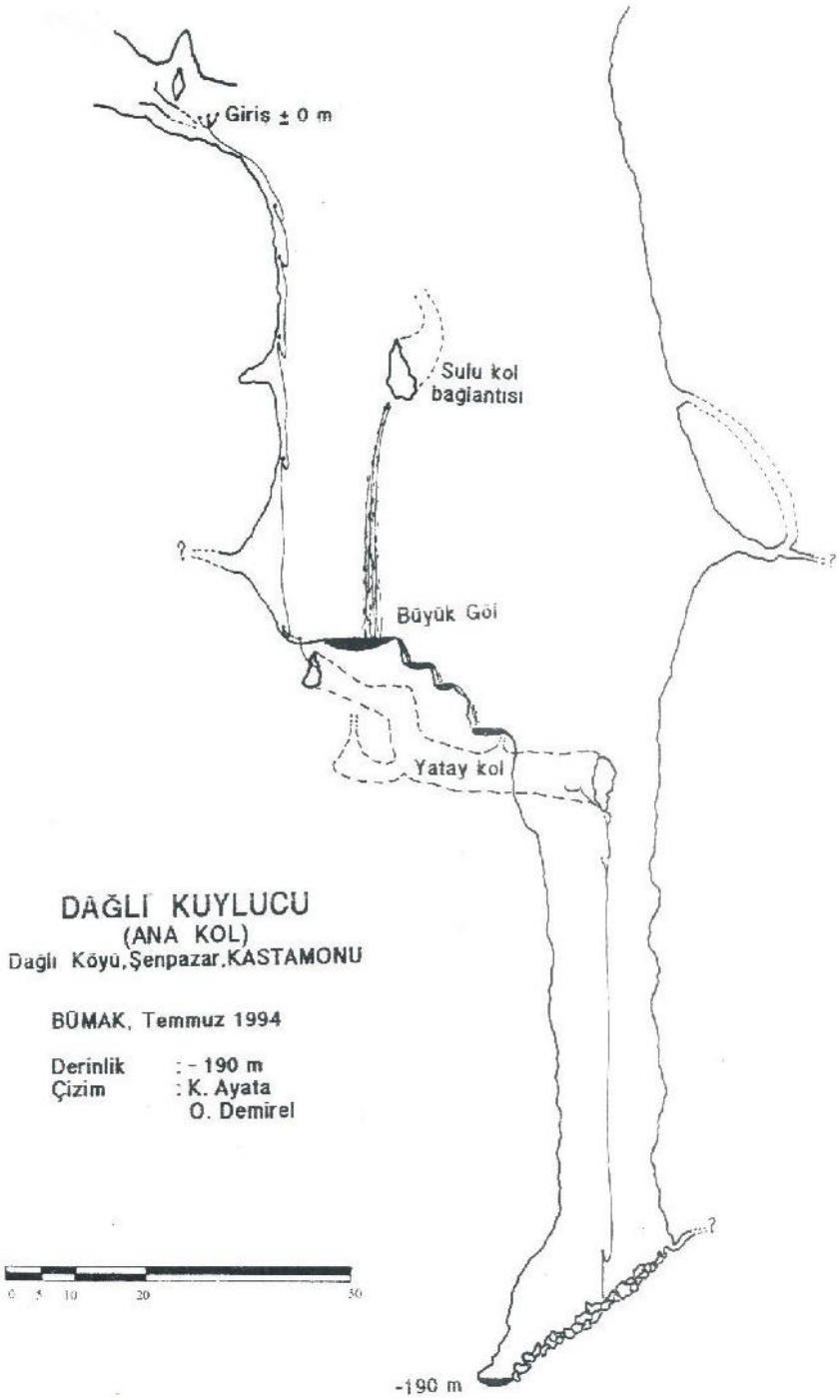


31

Dağlı Sinkhole

The cave, 3 km far from Dağlı Village which located between Şenpazar and cıde ın the forest.the road pass ınfront of the cave after you turn from main road which goes to Hamitli Village.Dağlı Sinkhole, which is in vast forest and a huge entrance, is one of the most beautiful cave which is -190 m depth. The waterfall which falls from Sulu Kol fed from an all time active river. Main enterance goes down 80 meters. Water which comes from Sulu Kol turns to a waterfall and on - 50 meters joins to main shaft and pours to the lake on -80 meters. After this lake main shaft descents with small lakes and 20 meters down connects to a fossil arm which comes from the lake above. The cave continues as a single shaft from this point and 90 meters down ends on -190 meters deep. At the point where the waterfall starts, at the other face of the wall, another semi dry, muddy hole which is called Cık Deliği Branch descents down to -279 meters. That branch shaft must be a doline and possibly was active previously and became fossil after tectonic movements became fossil. From the other side of the wall, today's main shaft became active. The cave was explored by BÜMAK between 1993 -1995 and publicated in DELTA 7 page 27-32. Dağlı Sinkhole is totaly an active doline, and there is no biological findings inside.





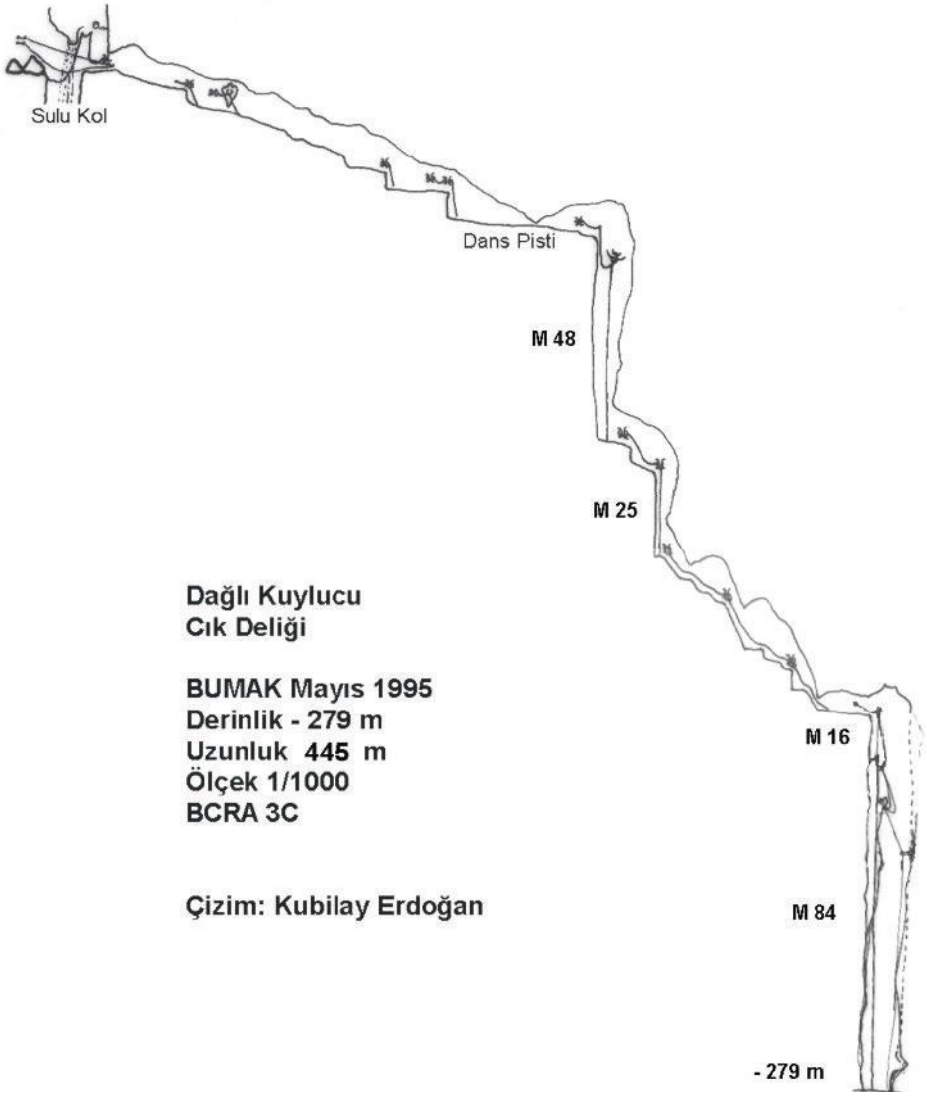
DAĞLI KUYLUCU
(ANA KOL)

Dağlı Köyü,Şenpazar,KASTAMONU

BÜMAK, Temmuz 1994

Derinlik : - 190 m
Çizim : K. Ayata
O. Demirel

0 5 10 20 50



PLAN



DAĞLI KUYLUCU
CIK DELİĞİ

BUMAK Mayıs 1995
Derinlik - 279 m
Uzunluk 445 m

Çizim: K. Erdoğan



32

Derebağ Köyü Cave

It is a large cave with an entrance located on the steep slope behind Derebag Village in Cide, Kastamonu. It was discovered during an archaeological survey conducted by Şerifoğlu and his team in 2011. Stones collapsed from the ceiling were found along the cave. There is a deposit that yielded potsherds belonging to Chalcolithic, Early Bronze Age, Early 2nd millennium BC and Byzantine periods under the rocks. The cave yielded potsherds that could be compared with the ones found in Okçular İni and Kiliçli Cave in terms of forms. On the contrary of the potsherds recovered from other caves, potsherds found in Derebag Köyü Cave are plant tempered. Some material might belong to Middle Chalcolithic. Although some handmade sherds seem to belong to Chalcolithic at first glance, it would be more feasible to date these sherds to Early IA based on the ware group and surface treatment.

33 Dikilitaş Cave

This Cave, which was explored by English team by LUSS during 1990 is on the pathway from Ilgarini Cave towards Derebucağı and 200 meters far from Ilgarini Cave. According to their report, it is not very easy to find this cave in a dense forest but, it has a giant 10x30 meters entrance. After the entrance, which was semi clogged by falling stones, there is a main chamber with several different galleries from this chamber. In a gallery there were human skeletons.

34

Döngelyanı Sinkhole

The cave is located about 500 m on the east of Topmeydanı which is in Sümenler Village of Pınarbaşı. Although a small basin emptying his water, in the rainy season, inclined gallery at the entrance of Döngelyanı Kuylucu that has high flow rate, falls at first to 50 m and then to 41 m. The cave, after this shafts, continues with short descents and at ends at -195 m in a silt clogged siphon. The total length, from the recent research including the side branch was measured as 530 m. Explored in 1985 by BUMAK and published in Delta 2 on pages 10-11. During the research made by ASPEG in 2009 several amphipode species were found in the cave and results was indicated in OBRUK 1 on page 29.

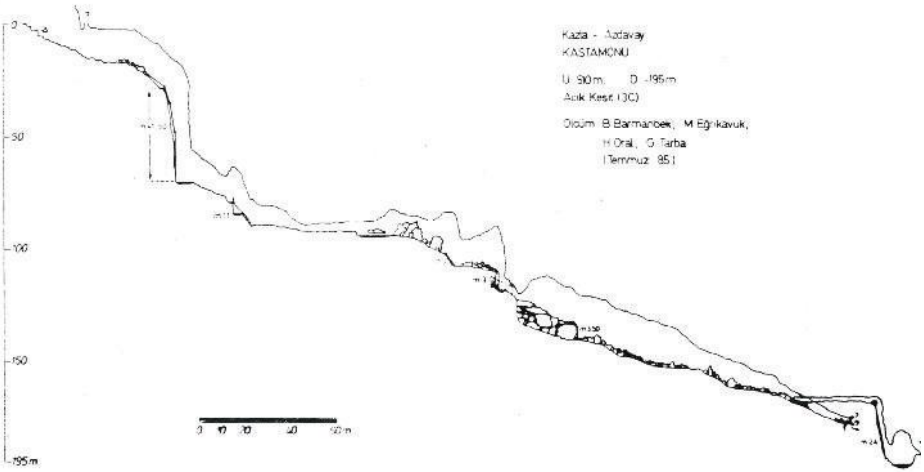
BÜMAK

DÖNGELYANI KUYLUCU

Kazla - Azdavay
KASTAMONU

U: 510 m. D: -195 m.
Açık Kesit (3C)

Ölçüm: B. Barmanbek, M. Eğrikavuk,
H. Oral, G. Tarba
(Temmuz '85)



Çizen: M. Altun

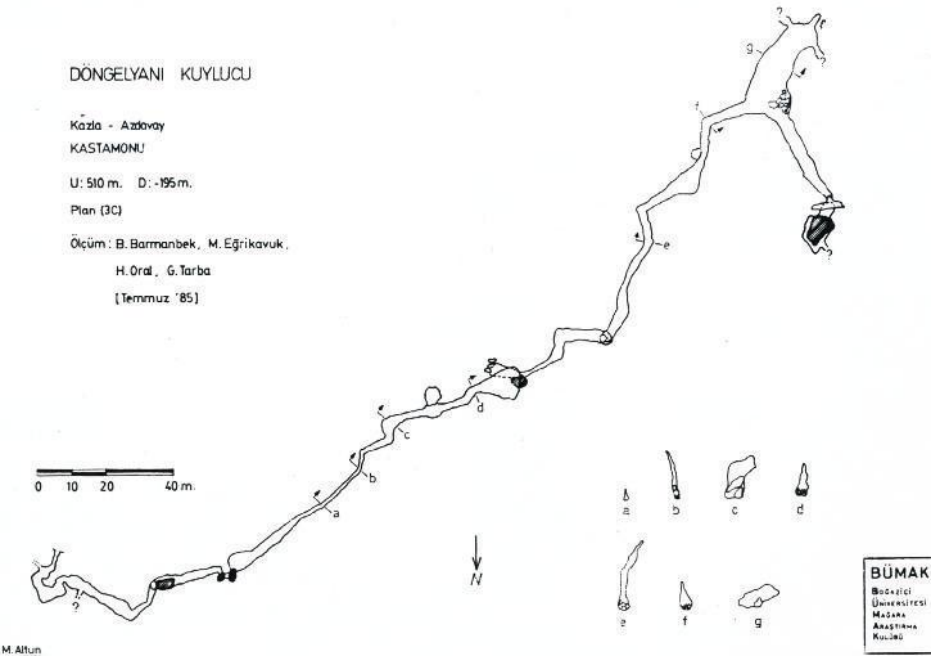
DÖNGELYANI KUYLUCU

Kazla - Azdavay
KASTAMONU

U: 510 m. D: -195 m.

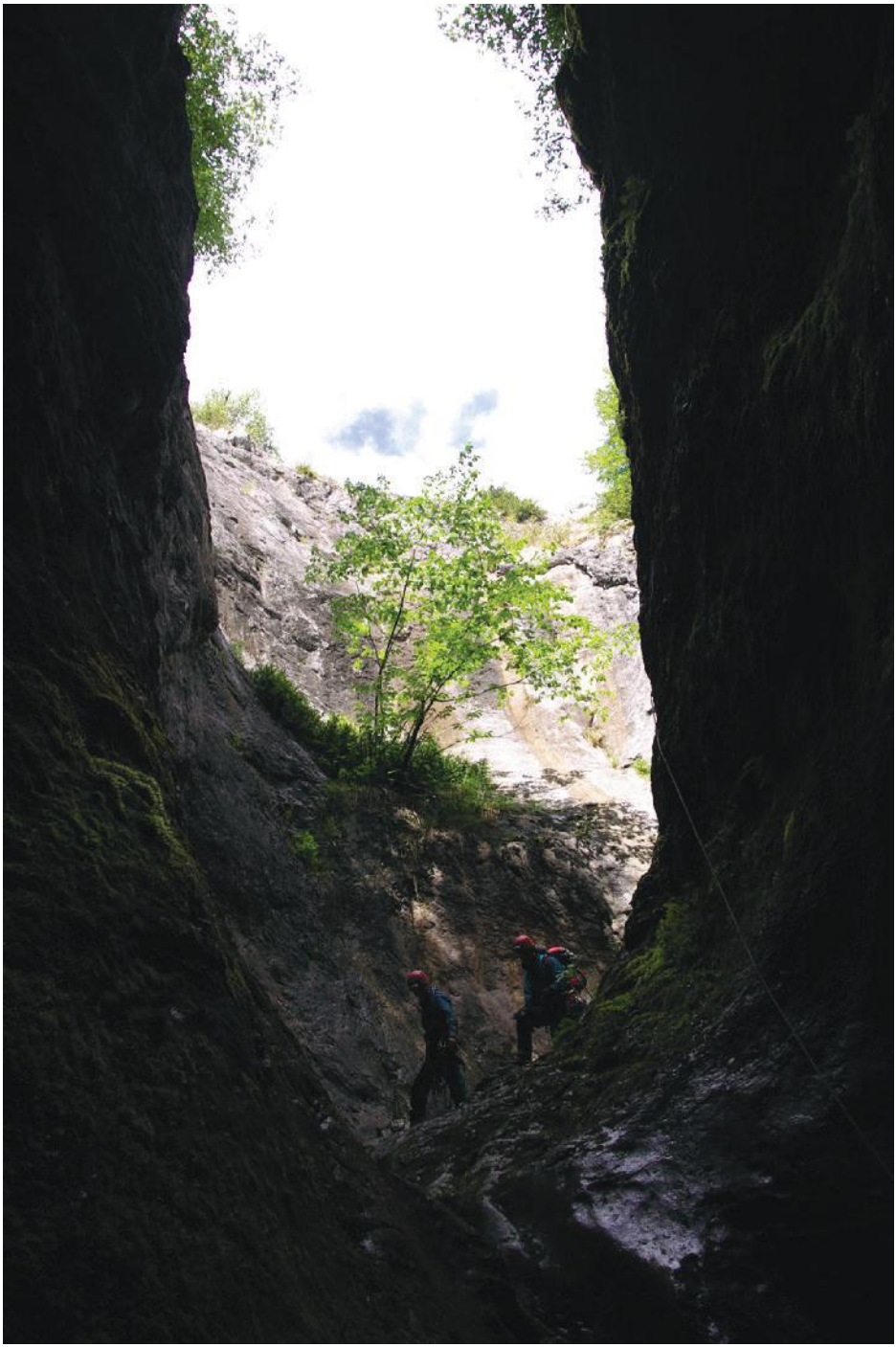
Plan (3C)

Ölçüm: B. Barmanbek, M. Eğrikavuk,
H. Oral, G. Tarba
(Temmuz '85)



BÜMAK

M. Altun

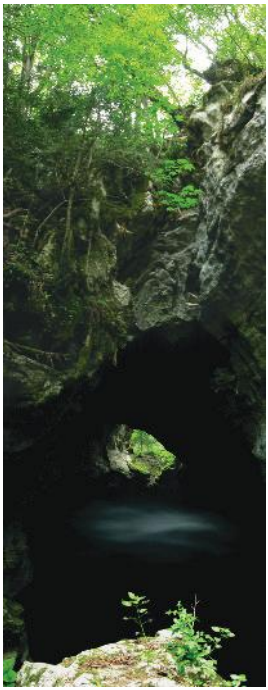


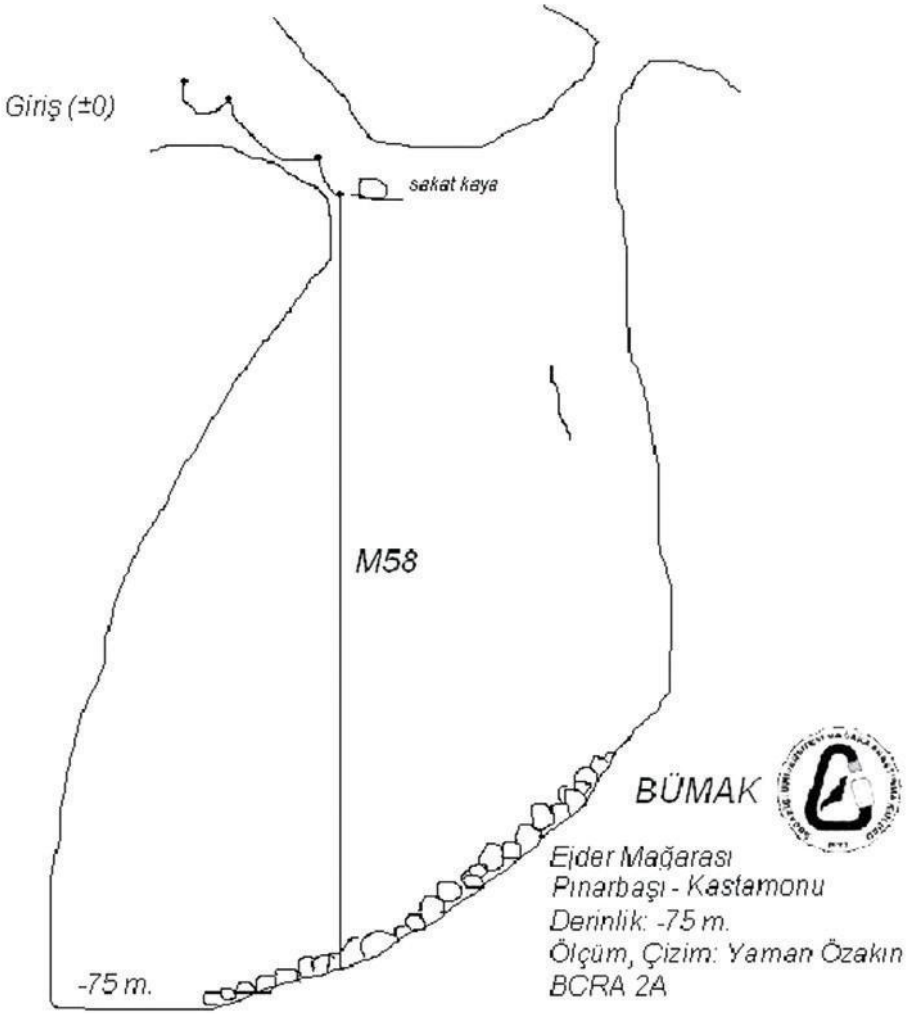
Döngelyanı Sinkhole

35

Ejder Cave

The cave located on the path in the forest to Ilgarini Cave that located in Yamanlar Village connected to Pınarbaşı. The cave can be found only with a guide. This cave covering all of rocky hill descents -60 m down with two very big entrances. After this descent it continues with inclined cliff and reaches to -80 m deep. Because of the temperature difference that coming from floor, from time to time there is mist formed at the entrance of the cave. The cave is one of the most important caves in region by its size and visual beauty. Most likely, it has water entrance during rainy periods, especially from the higher mouth. This cave, also known as "İsputluk Kuylucu" in the region, had been explored separately by MAD and BÜMAK and was published in Delta 7 on page 36 by short notes. Many small species were found in the cave by ASPEG and results was published in OBRUK 1 on page 29. This cave have a high biodiversity and includes endemic species of the Diplopoda, Chilopoda, Pseudoscorpionida groups.




Giriş (±0)
sakat kaya
M58
-75 m.
BÜMAK
Eider Mağarası
Pınarbaşı - Kastamonu
Derinlik: -75 m.
Ölçüm, Çizim: Yaman Özakın
BCRA 2A

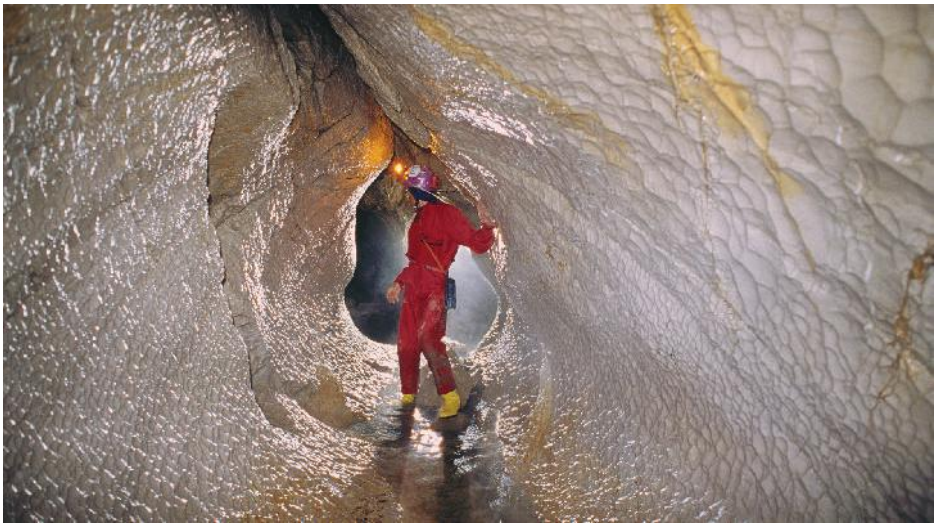


36

Eşekçukuru Cave 1

The cave located in the west of Sorkun Basin which located in the north of Yamanlar Village in Pınarbasi. Although Eşekçukuru basin is very large, the creek that collects the water from the basin is sunk into small cracks in limestone. Eşekçukuru Cave 1 has a wide mouth but, it is only 10 m long. The water that enters the cave is get lost from through the cracks between dragged driftwood. Cave was explored by BUMAK in 1988 and has been published in Delta 4 on page 22. The cave has a rich biodiversity with endemic Amphipoda species.

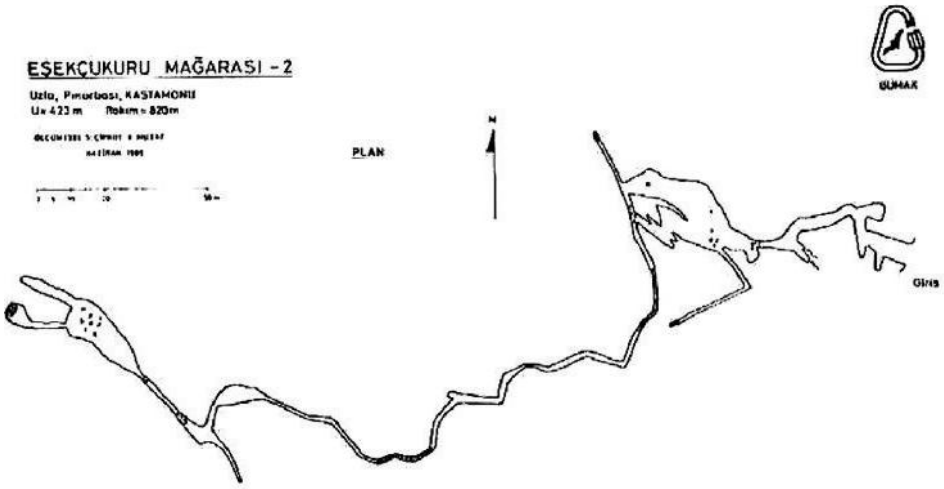




37

Eşekçukuru Cave 2

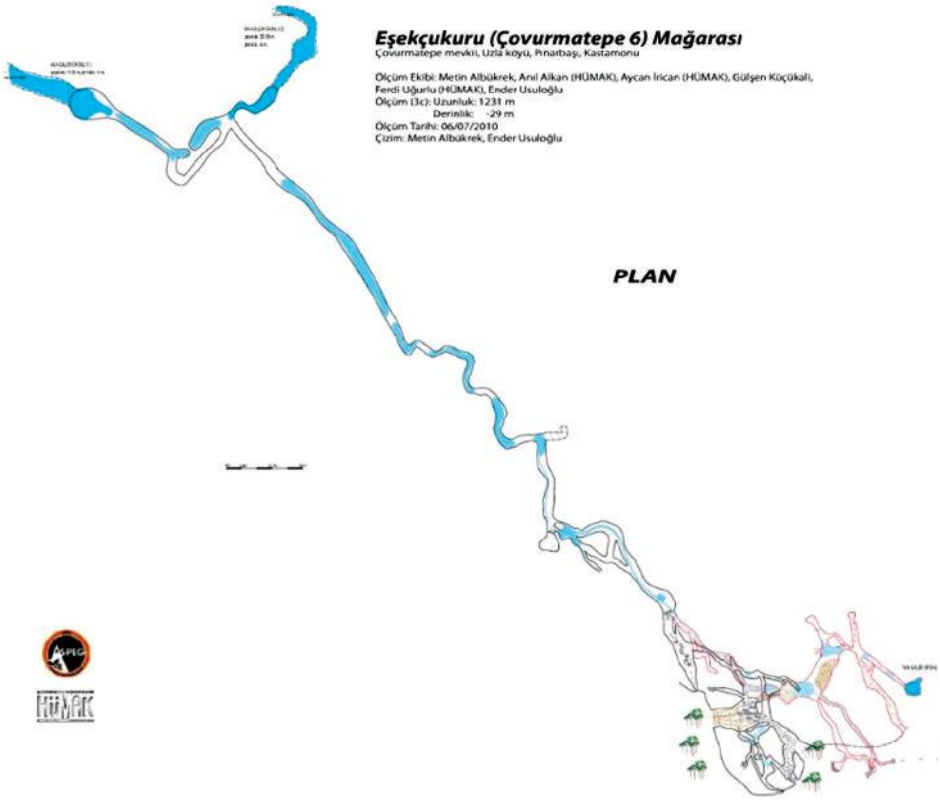
The cave located in the northwest basin of Eşekçukuru Cave 1. This cave is one from the few caves that has a horizontal character in this area. The cave can be entered from fossil mouth. The creek that collects the region's water after a short distance revealed in the cave, after going under to the clay doline. The Eşekçukuru Cave 2 is completely horizontal and 423 m in length. Has been explored by BUMAK in 1988 and was published in Delta 4 on page 23. Many small species were found in the cave during the research of ASPEG and sampling results was published in OBRUK 1 on page 29.



38

Eşekçukuru Sinkhole

The Cave is located very close to Eşekçukuru 1 Cave in the north. Eşekçukuru Sinkhole has got 6 different mouths and this active cave fed itself by sinking waters from Eşekçukuru 1. The cave was found in 2009 and has been explored in 2010 by ASPEG.



39

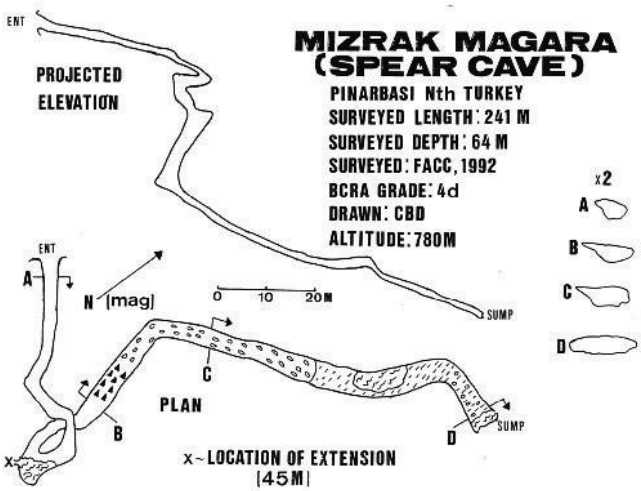
Gavurini Sinkhole

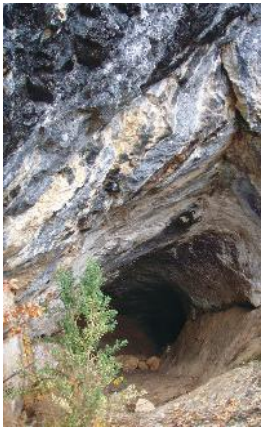
The cave is located on the north of the road between Çovurma Tepe and Sorkun, and can be easily determined. Gavuruni is a small doline which continued about 15 meters and after it is blocked. Discovered by BUMAK but unreported and are not mapped.There is no finding in this cave.

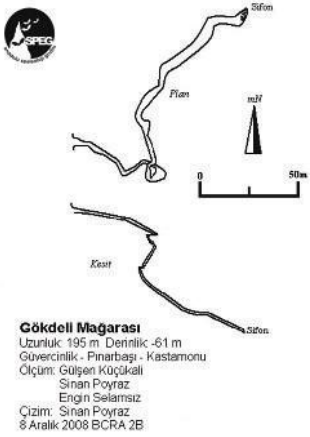
40

Gökdeli (Mızrak) Cave

The cave is near to Güvercinlik Village which is near to Pınarbaşı. Near Pınarbaşı inside the large limestone melanges there are a lot of caves. That cave is one of them and has a total lenght of 195 meters. Gökdeli Cave, which is on the border of limestone and confining zones, is an active doline. There is a siphon by the end of the cave. Gökdeli Cave was explored and surveyed by the name “Mızrak Cave” in 1992 by FACC. In their report they did not mention any findings in the cave.



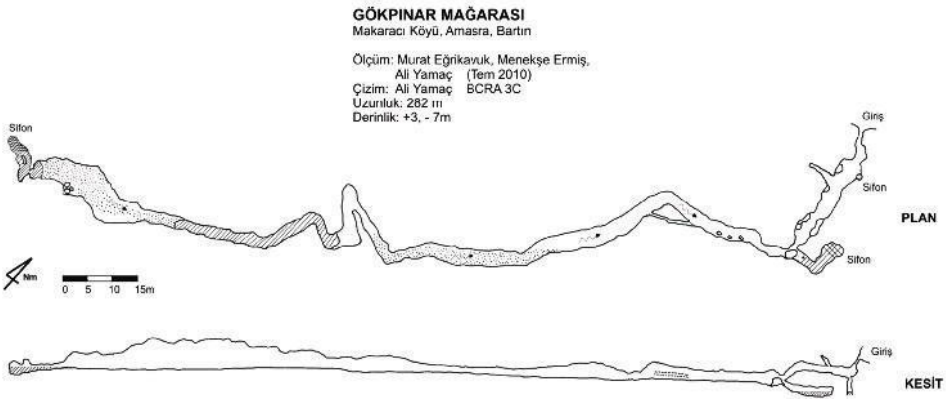




41

Gökpınar Cave

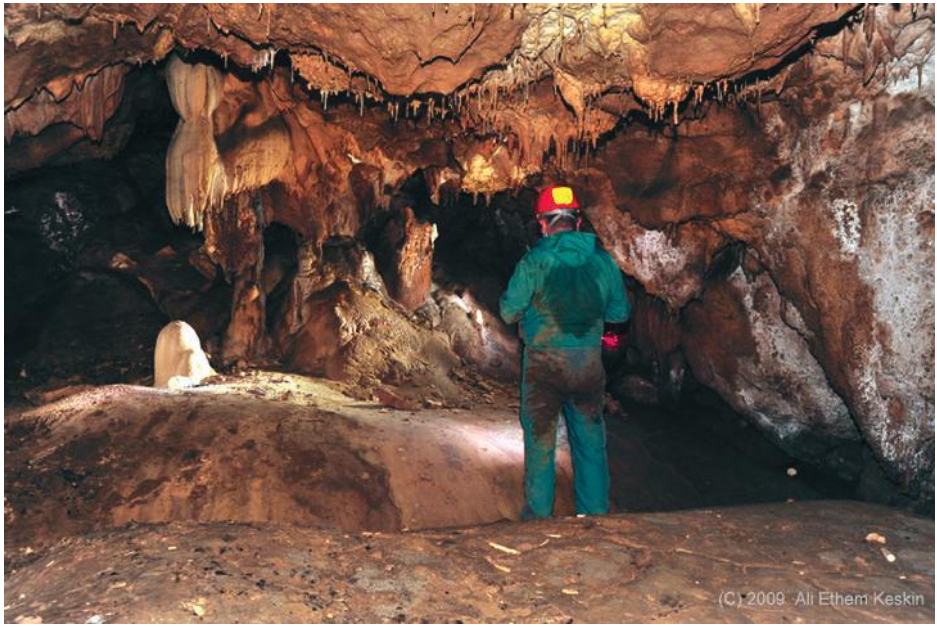
The cave is located in Makaracı Village of Amasra, in a fruit garden. To go inside to the cave you have to pass down from a hole which descents 5-6 meters down, which is in front of a limestone wall. Within the first glance it looks like a fossil cave and after 10 meter of the cave its becoming active. Inside the cave there is a small creek with a continuoues water flow. In the enterance there are a lot of spiders. The cave which is found in 2009 is surveyed by O'MAG in 2010.



42

Gölcük Cave

This cave is located on the east side of the Alıçlı Köyü, 500 meters away from the road, and completely covered with vegetation. The entrance is not easy to find and it's accessible through a steep, curved path. The cave is about 28 meters in diameter and it only consists of a chamber of which ground is covered with clay and mud. 2 paths that is located on the west and east side of the chamber are inaccessible. The cave was searched by ASPEG in year 2008. It is home to little variety of bugs, and it is not rich by means of formation.



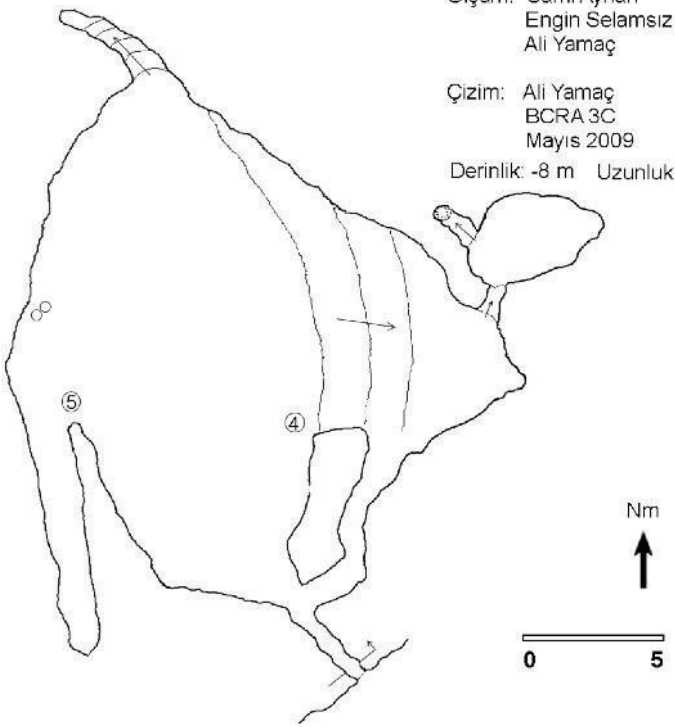
GÖLCÜK MAĞARASI

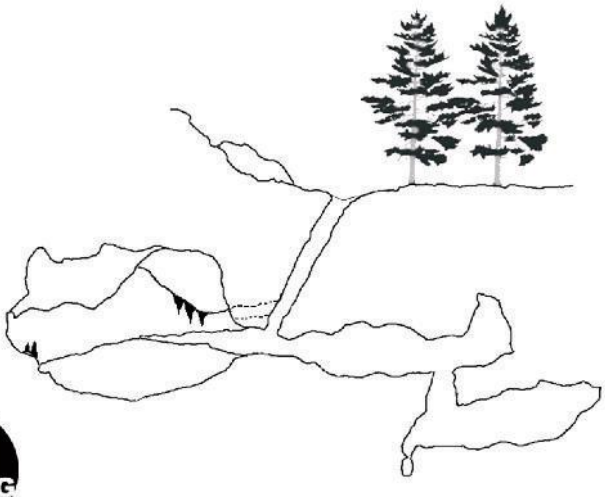
Alıçlı Köyü - Ulus - Bartın

Ölçüm: Sami Ayhan
Engin Selamsız
Ali Yamaç

Çizim: Ali Yamaç
BCRA 3C
Mayıs 2009

Derinlik: -8 m Uzunluk: 28 m



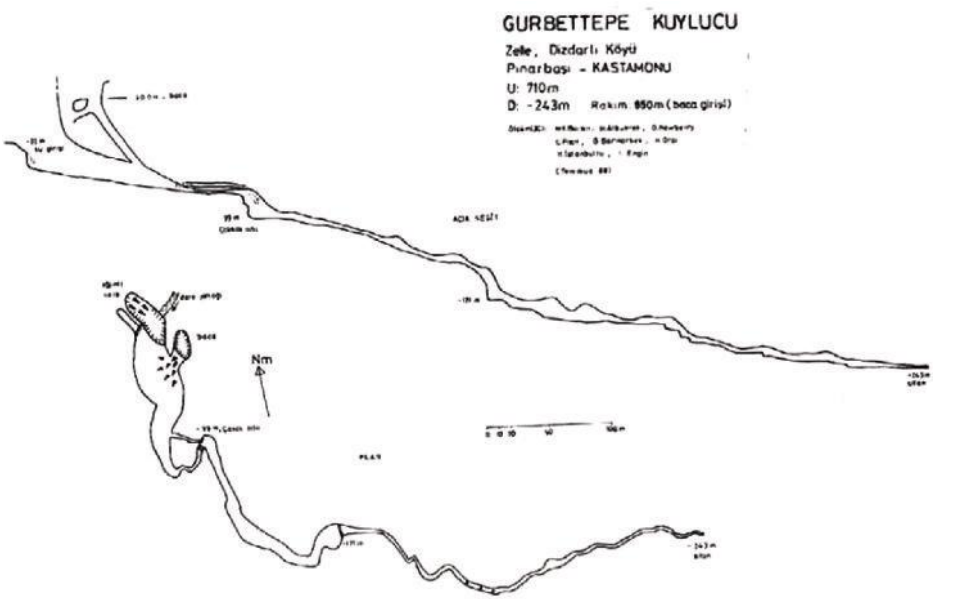


SPEG
anadolu speleoloji grubu

43

Gurbettepe Sinkhole

Located between 2 villages, Dizdarlı and Zelle, it is is one of the most beautiful and fascinating caves in the region. It's entrance with its enormous size bedazzles the visitors. The tunnel that goes down about 100 meters from the entrance actually enchants this cave's beauty. This was probably the main entrance that once the river actually sunk. Around the upper entrance of the tunnel, some fossil caves are present. Light that shines through statuesque entrance and the funnel fills into wide entrance chamber, fades away as one goes deeper. At the end of the chamber one can access a narrow tunnel. Before entering the tunnel, one can observe on the right side a 1.5 m thick clay layer.This layer shows us this cave is not capable of absorbing the water in heavy rainy days. In times like this the entrance chamber turns into a little lake and this explains how the huge logs are able to move towards the tunnel. After passing the tunnel filled with water, you can reach to a path, where it can be descented, with the help of the equipments. By descenting one can reach Çakıllı Oda (chamber) which is accessible from the main entrance chamber via another path. Round shaped, the size of watermelons rocks are present in Çakıllı Oda. As one progress in this equipment required cave, its easy to observe that is filled with many small pools. 710 meters in length, this cave ends with a culvert of which depth is about -243 meters and 7 meters in length. It was surveyed by BÜMAK in 1988 and was published on Delta 4, pg. 15.


GURBETTEPE KUYLUCU
Zelle, Dizdarlı Köyü
Pınarbaşı - KASTAMONU
U: 710m
D: -243m
Nm



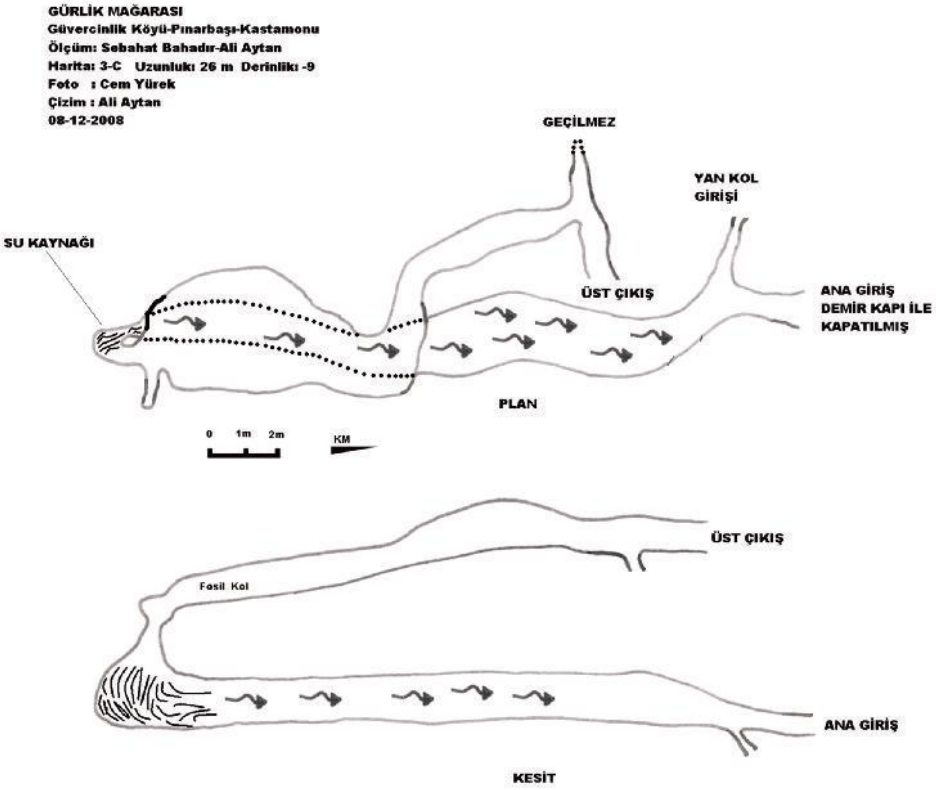
44

Gürcüoluk Cave

Opened to tourism, Gürcüoluk Cave is about 32 km away from Bartın and located on one of Amasra's villages Karakaçak, in Ovacık district. Following the Çakraz-Bozköy bend, heading to the road goes to south, cave is located on 3-4 kms ahead of Konuklar district of Karakaçak. The cave is on about 10 kms southeast of Amasra, situated on Gölleryazı district, which is on a wide karstic plateau and about 2 kms away from Makaracı Village, where on near of a ridge that divides two huge dolines. Gürcüoluk Cave, after its triangle shaped entrance, consists of a chamber, which is 2-3 meters tall 3-4 meters wide and about 4-5 meters long, surrounded by 15-20 similar chambers. All the chambers are filled with stalagmites and stalactites. As it is possible access from one of these chambers to upper chambers, it is also possible to reach the surface by using passages of which size are big enough for a person. Total length of 169 meters, compared to its entrance deepest point being -5 meters Gürcüoluk Cave, is a fossil cave that is formed horizontaly. Cave only consist of one main gallery, however stalactites divide the cave into many chambers. 2-2.5 meters wide and 1-7 meters high, inside of the cavern is coated with incredibly beautiful stalagmites, stalactites and columns. Also on caves ground, especially on the east entrance drift, a thick, melted and acculamated soil is present. This soil is mostly fossilized.Even though this cave grows no more, it's embodiment still goes on. Not only this cave is home to many beautiful stalactites, but also it's ease to access, wonderful nature makes this cave a popular one. Scientific research on this cave has not been done yet and due to this reason, no discoveries have yet been made.

45 Gürlik Cave

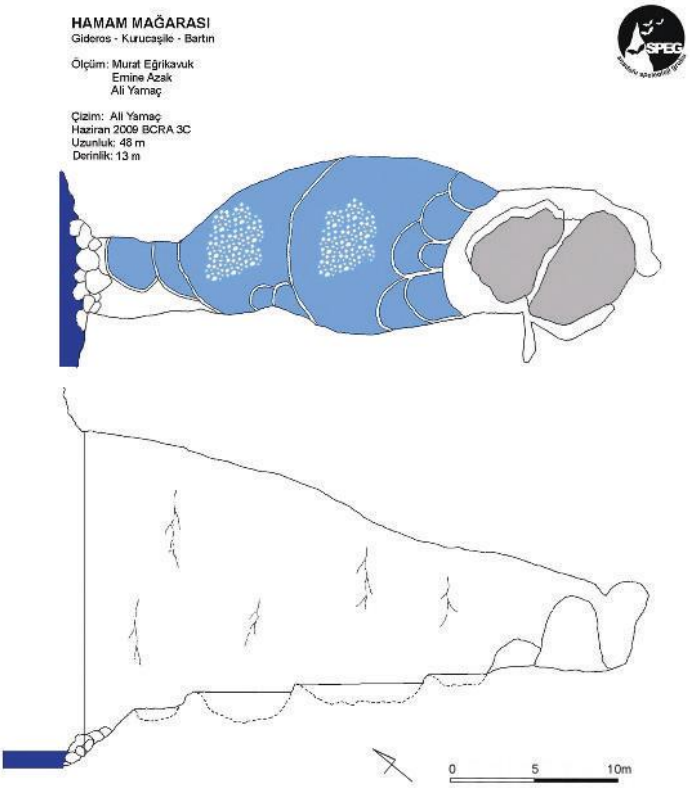
This cave is located near Güvercinlik Village of Pınarbaşı. Cave is about 26 meters long and used by villagers for it's source of fresh water. Villagers even built a door to it's entrance. Cave has got 2 entrance, 8 meters away from each other. While upper side is fully fossilized, bottom and entrance are active water outlets. Fossilized in time, this 12 meters drift is connected to water source. Found and researched by ASPEG in 2009, cave was published on OBRUK no.1 pg. 30.



46

Hamam Cave

1,5 kms away from Gideros Bay, which is bound to Bartın, Kuruçaşile, this cave is accessable only from the sea. It's entrance is on a vertical wall,facing sea. It's name comes from enormous freshwater travertine pools, which are present inside of the cavern. Only 2.5 meters above the sea, and with no accessibility from land, this cave's fresh water makes it quite special. Formed inside 20 meters cliffed shore, one can observe an interesting geologic fact. Cave actually has a front side formed of limestone, while chambers that are located at back side are formed of conglomerate. Despite it's being little, this cave is amazingly beautiful. It is registered by Bartın Community of Protection. It was researched by ASPEG in 2009 and mapped.



47

Ilgarini Cave

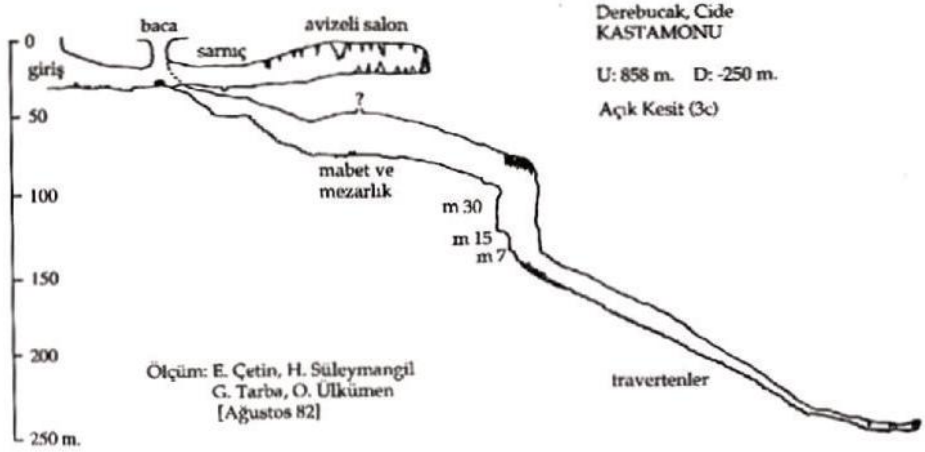
After travelling to Sümenler Village,Pınarbaşı, one reaches to cave by going north, 4 hours of walk through the forest. It is hard to find this cave without a guide. One of the most famous one, Ilgarini is formed as 2 parts, fossil horizontal, and active vertical. 400 meters long horizontal part is divided by a funnel and under this funnel begins the vertical part. The wide arm that is located at the horizontal part is ornated with stalagmites and stalactites There are 3 equipment required descending points which are accessible after going through a curved arm and cemetery ruins. After -150 meter point one can observe attention-grabbing travertines. Ilgarini was found by Professor Cemal Arif Alagöz and was published in "Türkiye Karst Olayları" pg 12-13. Then the cave was researched and mapped by BÜMAK in 1982 and published in Delta 1 pg 5-6. In this map the cave is 858 meters long and -250 meters deep. In that year -250 meters made this cave Turkey's 4th deepest cave.In 1990 the English team Leicester University Speleogical Society (LUSS) visited this cave and mapped it again. In this map however cave' s length is 1131 meters and it's depth is -240 meters. At it's entrance, one can observe house ruins and water cisterns presumably belongs to Rome and Byzantine era. At the first part of the vertical part, there is a stone path that is formed of 24 spirals. There are human skeletons and wall ruins, which are believed to belong to the Byzantine era. According to BÜMAK, there is a chamber, which is also believed to belong to Byzantine era and consists of a church and cemetery that is accessible through a path. For long years this cave is dug and damaged by treasure hunters. According to an article named Archaebotanical and Dendroarchaeological Studies in Ilgarini, which was written by Ü. Akkemik, B.Aytuğ and S. Güzel and was published in 2004, it was found that cemeteries was build around MS 977, after analyzing rings of the oak trees which were taken from the cemetery. On the other hand ASPEG, in 2009 found out that the cave is home to huge variety of biologic life, such as endemic species from Pseudoscorpionida and Amphipoda group.

ILGARİNİ MAĞARASI

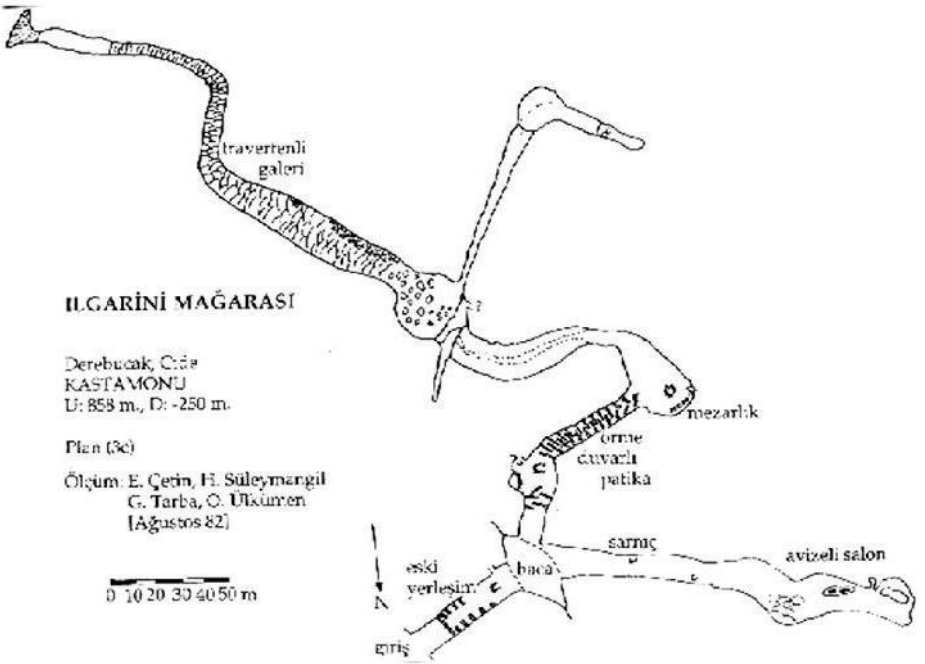
Derebucak, Cide
KASTAMONU

U: 858 m. D: -250 m.

Açık Kesit (3c)



Ölçüm: E. Çetin, H. Süleymangil
G. Tarba, O. Ülkümen
[Ağustos 82]



ILGARİNİ MAĞARASI

Derebucak, Cide
KASTAMONU
U: 858 m., D: -250 m.

Plan (3c)

Ölçüm: E. Çetin, H. Süleymangil
G. Tarba, O. Ülkümen
[Ağustos 82]



48

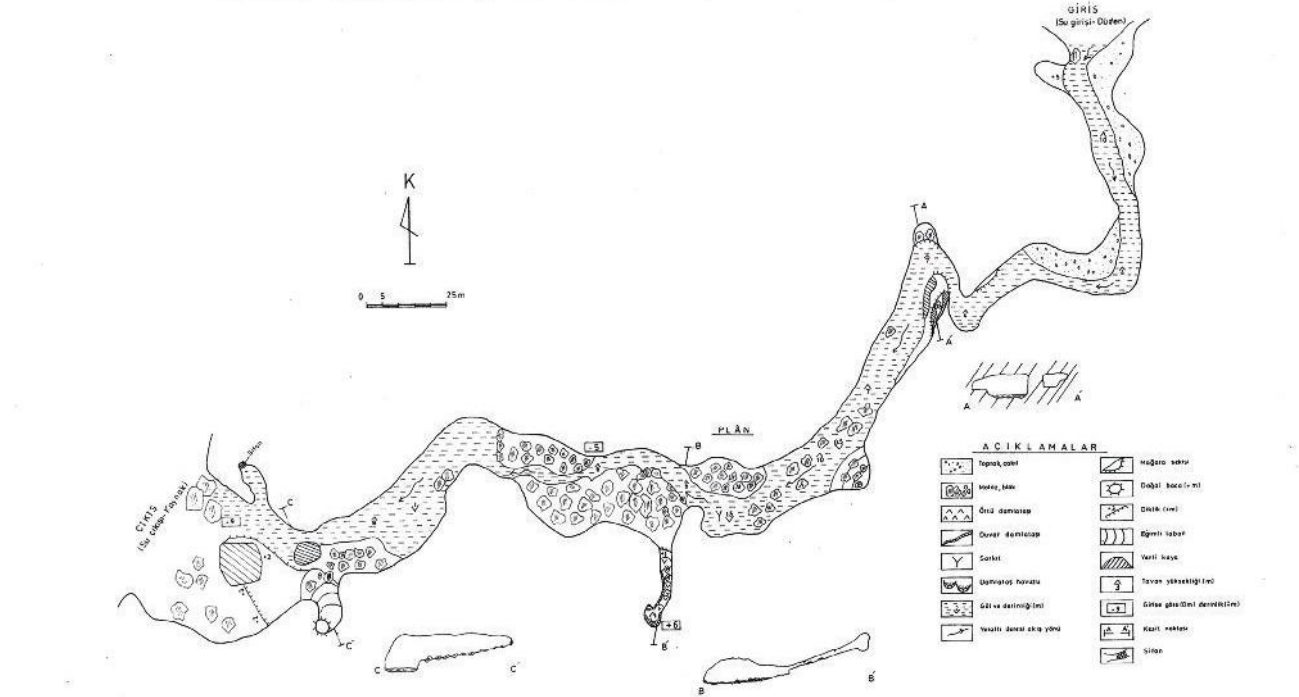
İnağzı (Kırlangıç) (Uluyayla) Cave



This cave is located in Safranbolu, Ovacuma Bucağı, Uluyayla. As one can understand it from it's name, it gathers the water of Uluyayla, which is pretty huge. It is a horizontal and traverse cave. It's mouth size about 20-25 meters high, and 10-15 meters wide. Some little lakes, which are about 40-50 meters deep, exist in the cave. River that goes through the cave leaves the cave after 450 meters, and sinks into Uluyayla doline. This cave was researched and mapped by BÜMAK as Uluyayla Cave, however later on was named İnağzı(Kırlangıç) by MTA and remapped in 2002. According the reports there are no findings in this cave.



İNAĞZI (KIRLANGIÇ) MAĞARASI (BARTIN - Ulus)

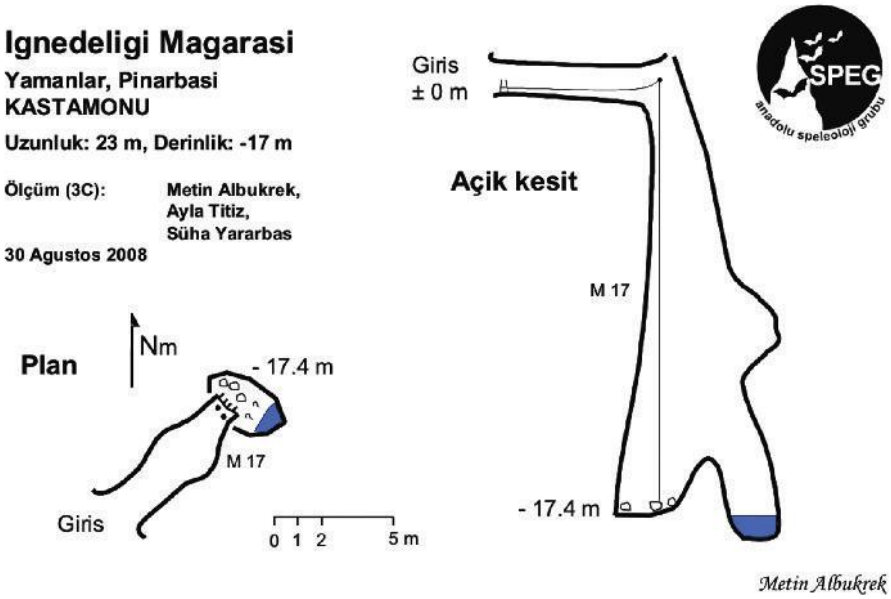


AÇILMIŞ BOYUNA KESİT



49 İğnedeliği Cave

Located at north of Yamanlar Village, Pınarbaşı and pretty close to Ilgarini Cave, about 600 meters away. It was found by LUSS in 1990 and named Salyangoz Cave. Covered with vegetation, this cave is an active, little doline that is a -17 meters shaft. It was found and researched by ASPEG in 2008, and was published at OBRUK 1, pg 30. No discoveries were made.

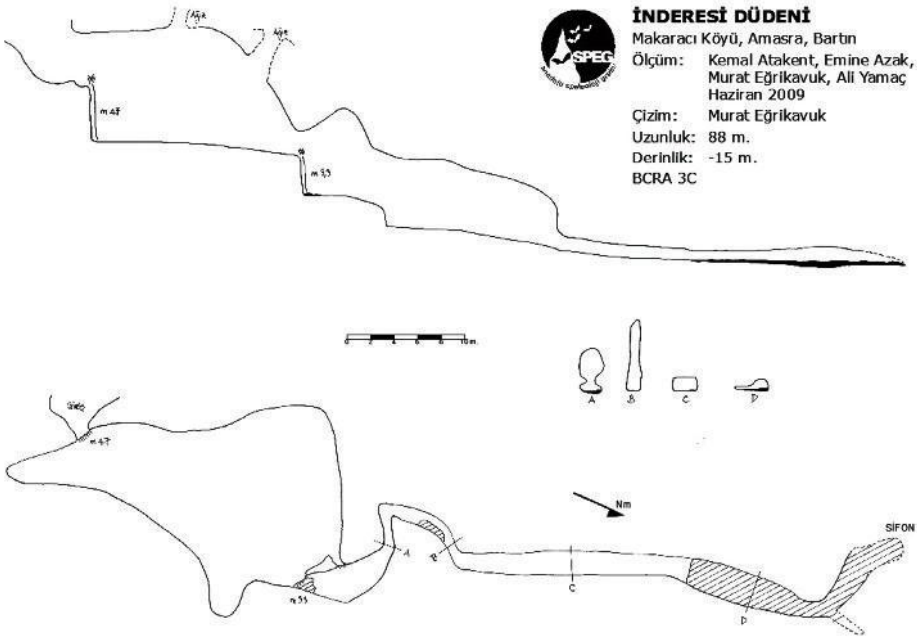


Metin Albukrek



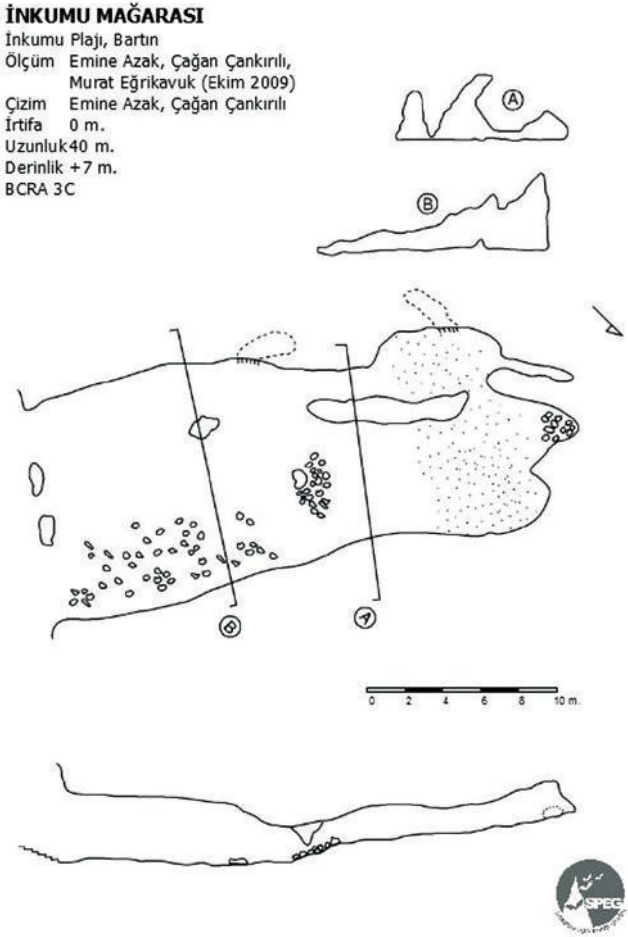
50 İnderesi Cave

It is located at 2 kms south of Makaracı Village, Amasra. this region is completely limestone covered with shallow earth, water goes down deep through wide mouths. First 5 meters descent of İnderesi Doline leads to a pretty huge chamber. At this 26 meters long chamber's high ceiling there are 5 other mouths are present. After the waterbed passes the chamber thoroughly, it reaches a relatively narrow crack and then from this crack to a 3.5 meters descent. Doline comes to an end at a culvert, after this second descent, following a tiny passage. This cave was researched and mapped by ASPEG in 2009. A new species of Amphioda, having named from OBRUK; *Gammarus obruki sp.* found here.



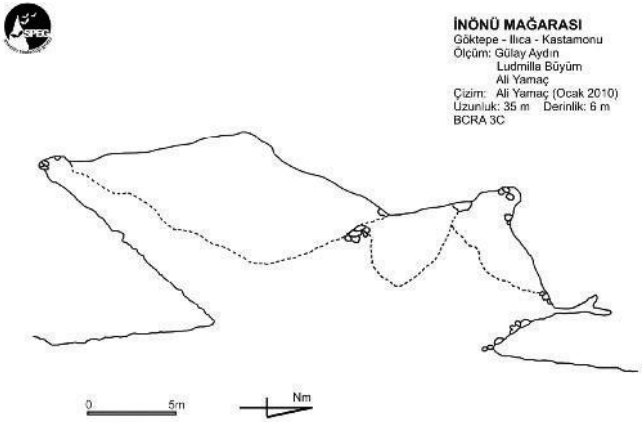
51 İnkumu Cave

This cave is located near the military station of Bartın, in a boulder. Entirely fossil, cave is pretty wide. It was illuminated by the city hall before but after seeing it doesn't attract many visitors all the installments were removed. It was researched and mapped by ASPEG in 2009. Besides a few bats, no discoveries were made.



52 İnönü Hollow

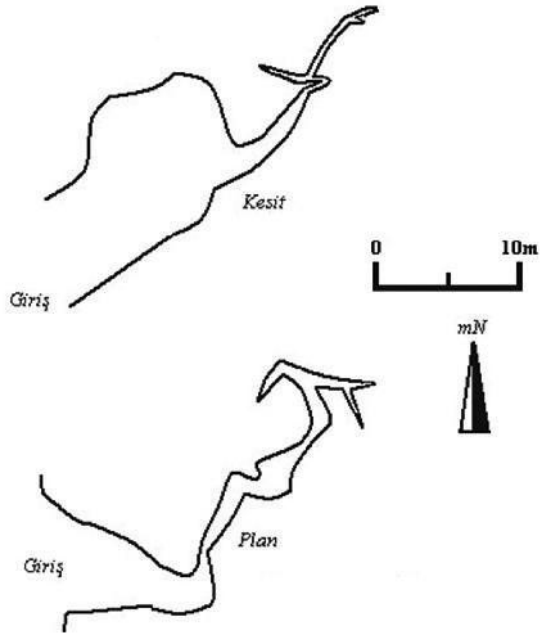
Located in Pınarbaşı, 1 km east of Ilıca, in Göktepe district which also known as Afet Evleri, on the ridge that is behind of the last house. Resembles a hollow rather than a cave, this hollow is on a curvy, limestone slope. Almost all being the entrance, İnönü Kovuğu is 35 meters tall and 6-7 meters wide.It was researched by ASPEG in 2009. No discoveries were made.





53 İnönü Cave

The cave is connected to Pınarbaşı near Güvercinlik village. This small cave was founded and researched by ASPEG, published in OBRUKs Magazine number 1 page 30.



İnönü Mağarası
Uzunluk: 49 m Derinlik: +21 m
Güvercinlik - Pınarbaşı - Kastamonu
Ölçüm: Gülşen Küçükali
Sinan Poyraz
Engin Selamsız
Çizim: Sinan Poyraz
10 Aralık 2008 BCRA 2B

54 İntürbesi Cave

Located in Pınarbaşı, Veray, next to mountain's slope it is only an hour of walk from the village. Having pretty wide and mesmerizing formations, İntürbesi is mostly fossil and horizontal. One can observe many marks left by treasure hunters in the cave. Huge part of the cave is a one single big drift of which height is mostly more than 10 meters and which goes down in curvy paths. This drift is quite impressive thanks to its travertines and its giant columns.One can access after about 8 meters of equipment required descent to a second chamber which seems on the verge of collapse. Both overcast drifts that are present at the end of each room become narrow as one progresses and finally ends, impassable. In main drift despite the thought which suggests there might be more to the drift at the right front, upper grade, no climbing was made. This cave was researched by ASPEG in 2009 and published on OBRUK 2.

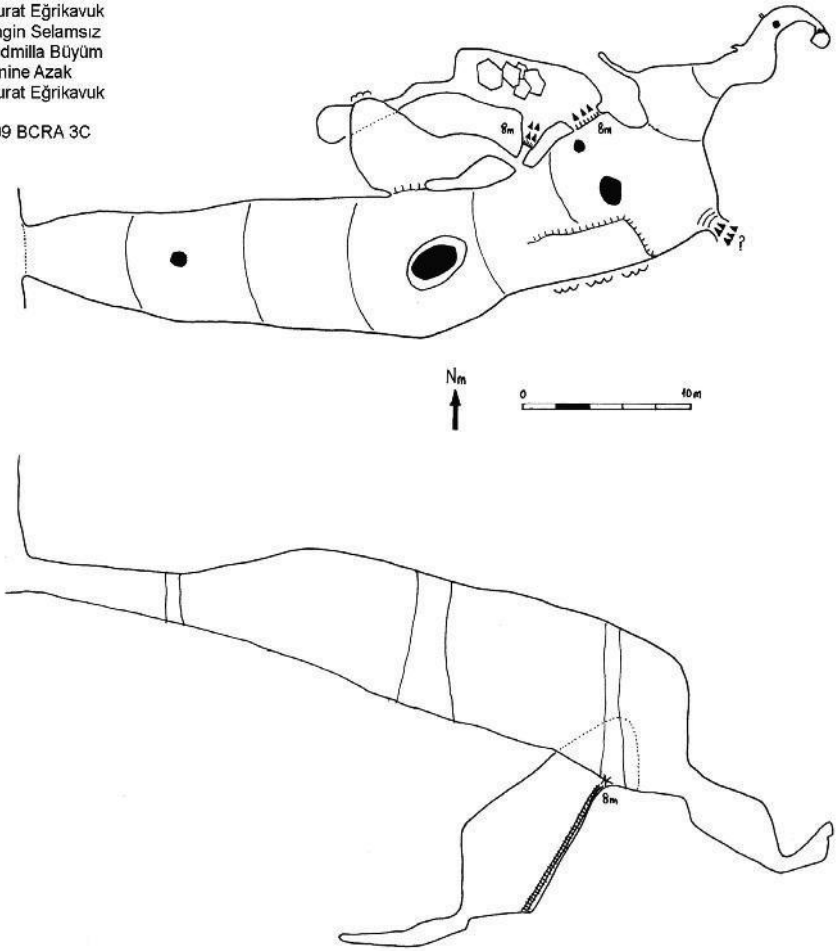


İNTÜRBESİ MAĞARASI

Veray - Pınarbaşı - Kastamonu

Ölçüm: Emine Azak
Murat Eğrikavuk
Engin Selamsız
Ludmilla Büyüm
Çizim: Emine Azak
Murat Eğrikavuk

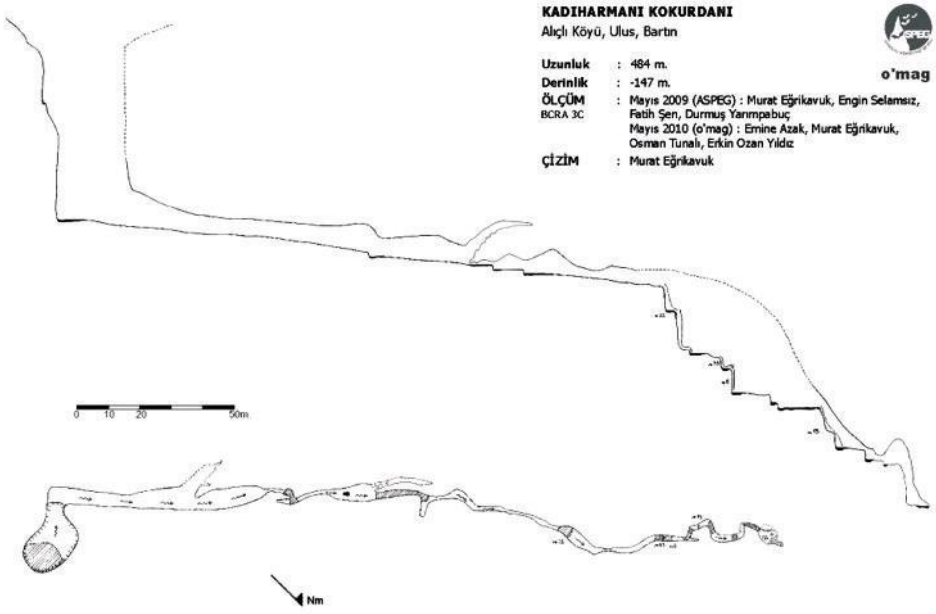
Nisan 2009 BCRA 3C



55

Kadıharmanı Sinkhole

This cave is located in Düzköy plateau which is bound to Ulus. Although this cave collects only a tiny amount of water from a basin, it has a mouth of enormous size. Starts with a mouth that is 25 meters in diameters and -65 meters continues through a drift that is long and flat, this cave finds an end at a culvert which is 484 meters long and -147 meters deep. The was researched and measured by OMAG in year 2010. Despite its being an active doline, its home to a rich variety of life. In it's vadose zone you can observe stalagmites and stalactites were formed.



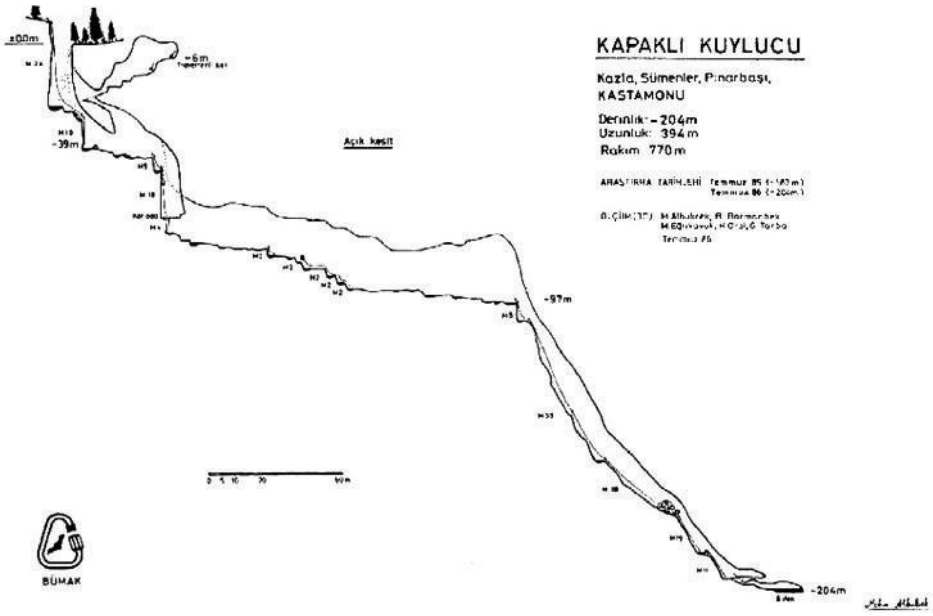


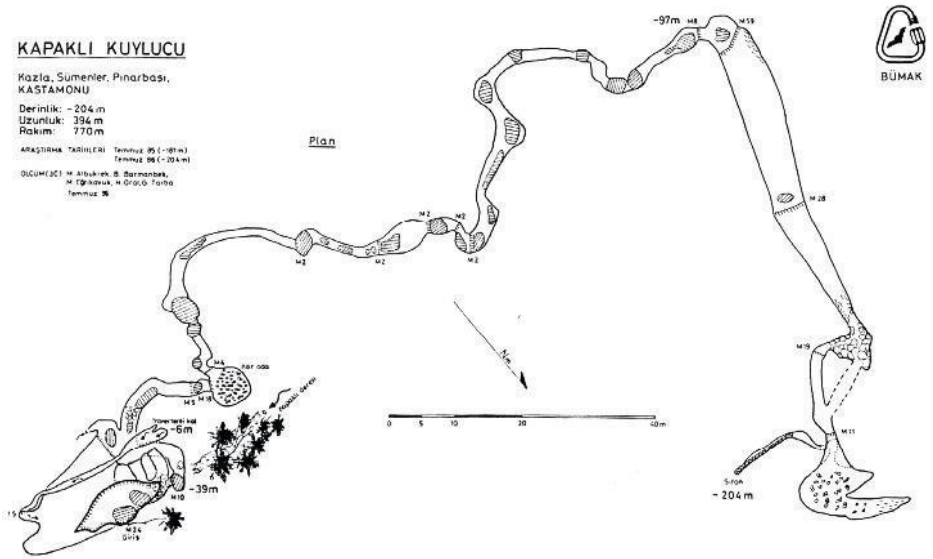
56

Kapaklı Sinkhole

Located on 400 meters to northwest from Pınarbaşı,Sümenler Village, Topmeydanı. It is 394 meters long and -204 meters deep, one of the many dolines that aligns on the collision point of limestone mass and impermeable layer and on this line, where water goes down, one of the many dolines which has the highest flow rate. Kapaklı river infiltrates ground before it reaches the cave. This water most probably reaches the cave after Travertine Branch, which can be observed after the first 24 meters of descent. Cave continues with a descent that follows each other on wide and high passages and comes to an end at a culvert. This cave was researched by BÜMAK in 1985-86 and published on Delta 3, pg.31. During BÜMAK's first research in 1985 a *Triturus vittatus* and *Hyla arborea* were found in a lake which is located -100 meters deep in the cave. Also during the researches done by ASPEG in 2009, many tiny species were identified in the cave and the results were published at OBRUK 1, pg.29.




KAPAKLI KUYLUCU
Kazla, Sümenler, Pınarbaşı,
KASTAMONU
Derinlik: -204m
Uzunluk: 394 m
Rakım 770 m
Açık kesit
-97m
-204m
BÜMAK

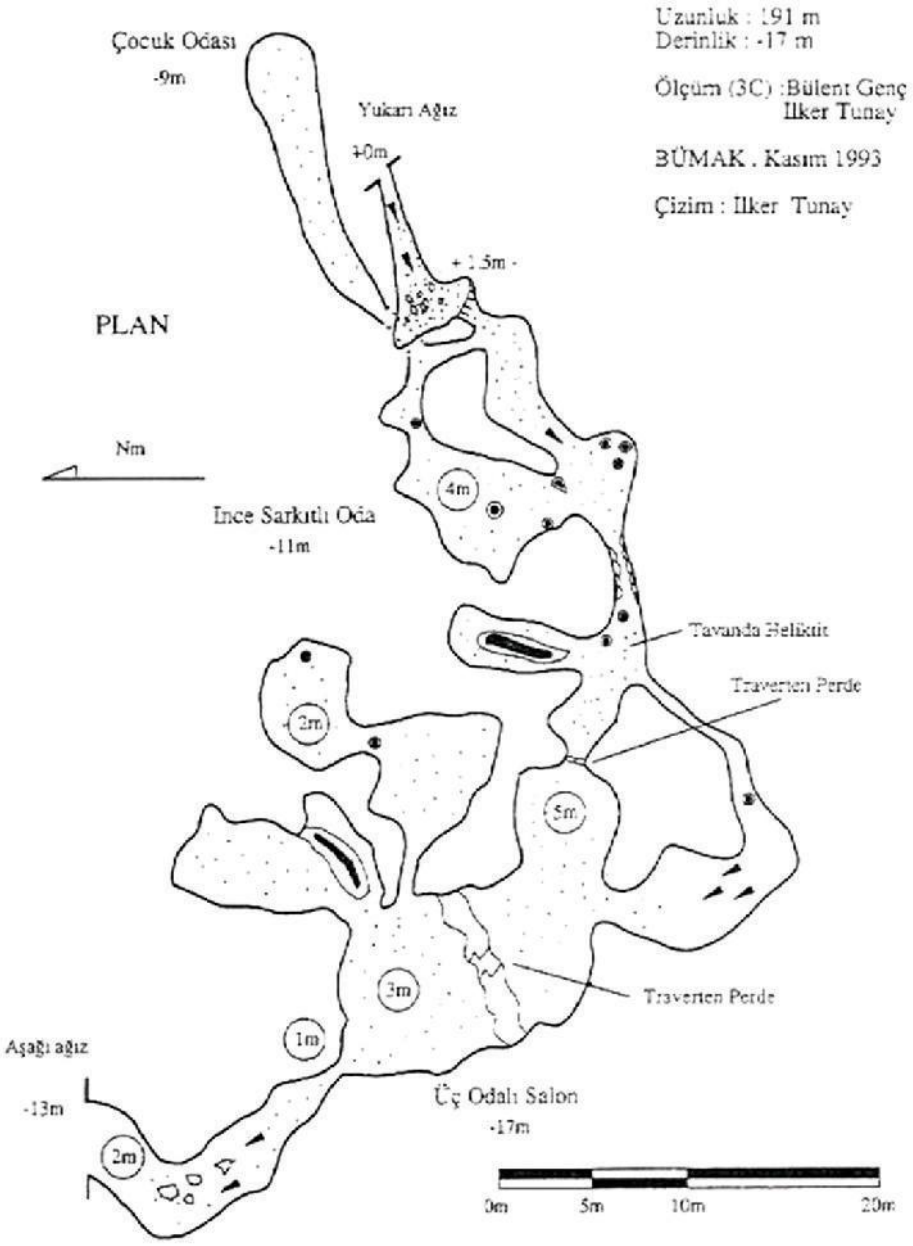

KAPAKLI KUYLUCU
Kazla, Sümenler, Pınarbaşı,
KASTAMONU
Derinlik: -204 m
Uzunluk: 394 m
Rakım: 770 m
Plan
-97m
-6m
-39m
-204m
BÜMAK

57 Karakaçak Cave

This cave is located on Amasra-Çakraz route. To reach here, one turns right to Karakaçak Village, 14 kms before arriving to Çakraz. After an hour on the road, it is possible to reach the cave following the right side of path, going 200 meters. However in order to find the cave, a guide is needed. One enters the cave through a steep 20 meters of corridor. This corridor leads to a chamber in which some stalagmites are present. One can observe marks and holes left by treasure hunters in this chamber.At the opposite of the chamber one can progress to rest of the cave through a narrow and low hole. Ascending with a slight inclination, cave goes on with narrow passages and reaches the second mouth. It a fossil cave with the length of 191 meters. This cave was researched and mapped by BÜMAK and ZOMMAK in year 1993. No discoveries in the report.

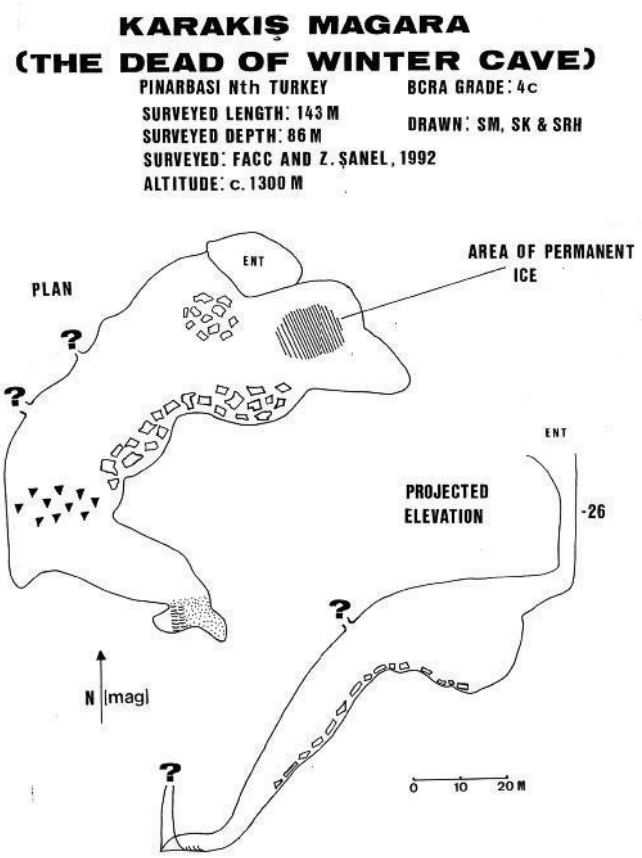
Karakaçak Mağarası

Karakaçak Köyü, Amasra, BARTIN



58 Karakış Cave

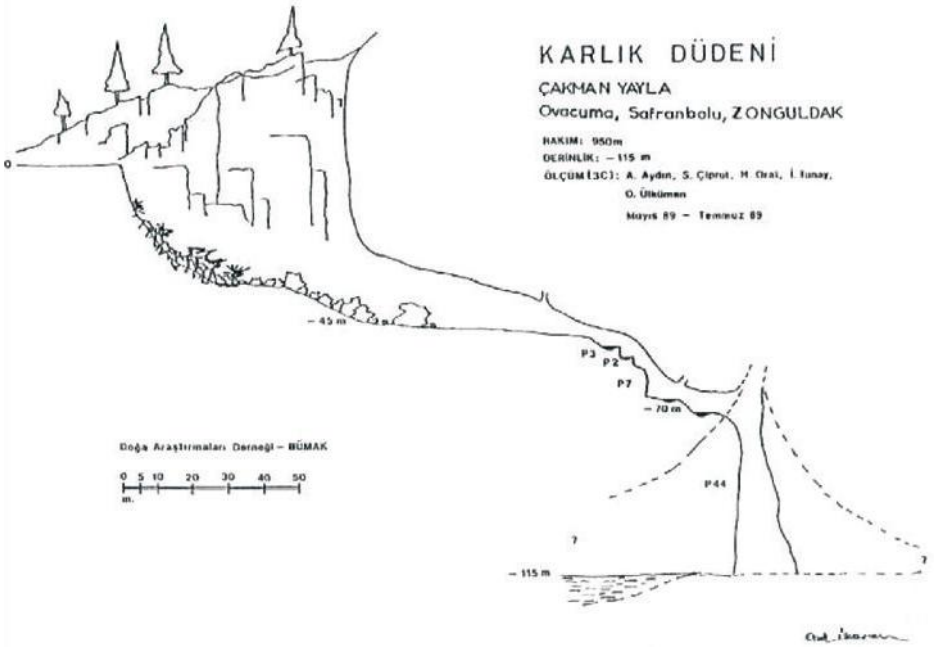
According to the report, this cave is located around Pınarbaşı, however due to the lack of info in the report, it's exact location is currently unknown. It was found by FACC in 1992. According to report, this cave was found after a long and tiresome walk in a dense forest. It starts with a 26 meters of descent. After this descent one reaches a chamber which is 99 meters long and 39 meters wide. Stated as a very cold cave, it is also very rich by means of formation.



59

Karlık Sinkhole

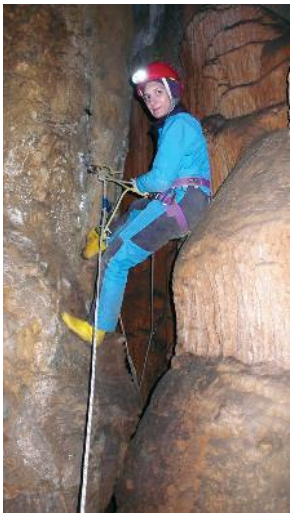
This sinkhole is located at 2 km south of Safranbolu, Ovacuma Bucağı, Uluyayla. Karlık River, which gathers the water of Karlık Plateu, which is located at south of Uluyayla Plateu, sinks into a sinkhole that is impossible to enter. However during flood times, this river flows to west, entering Karlık Sinkhole.It is easy to assume this sinkhole is going to be fossil.It is located at near a depression that has pretty steep corners and 50 meters deep. Layer of snow and ice mass situationed near the depression's bottom and entrance do not melt even in May. This cave was surveyed and mapped by BÜMAK in 1989. BÜMAK speculates its depth around -170 meters. Its mapped part is -115 meters. It is an active sinkhole.

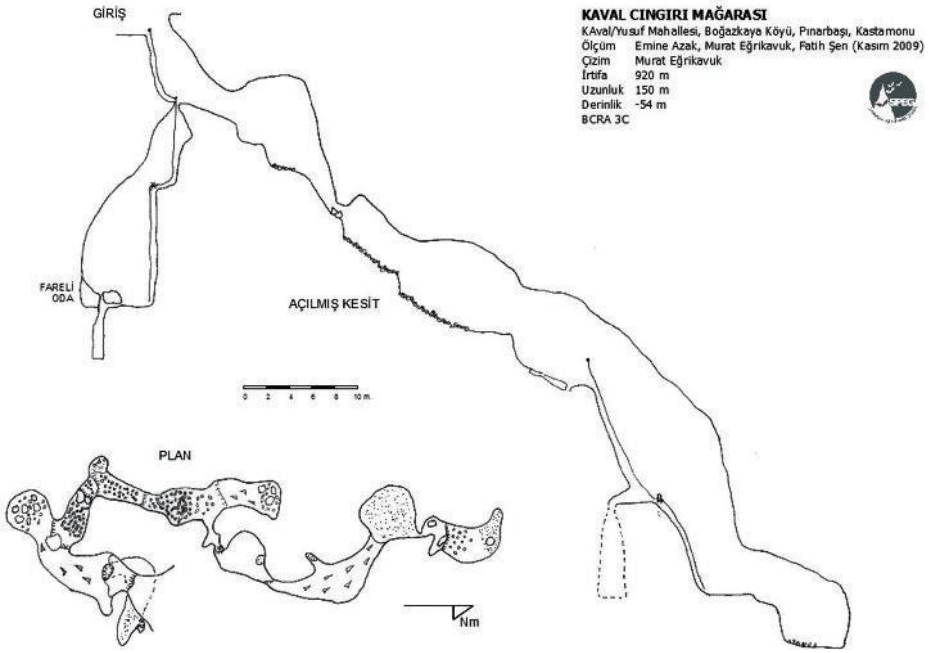


60

Kaval Cıngırı Sinkhole

It is located around Pınarbaşı, Ilıca, Boğazkaya District. This cave is an old sinkhole and became fossilized throughout time. Kaval Cıngırı, at the different arms, has 54 meters of depth and 150 meters of length. It was researched by ASPEG in 2009. A mouse species, which lives in the cave and wasn't fully identified, was found.

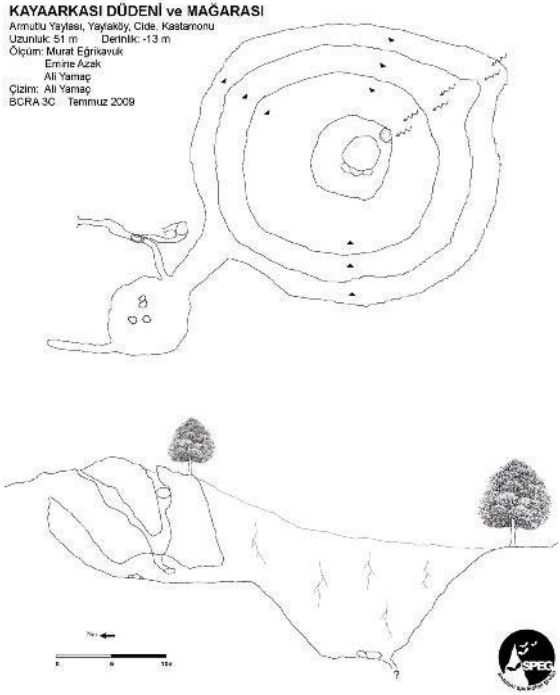




61

Kayaarkası Sinkhole & Cave

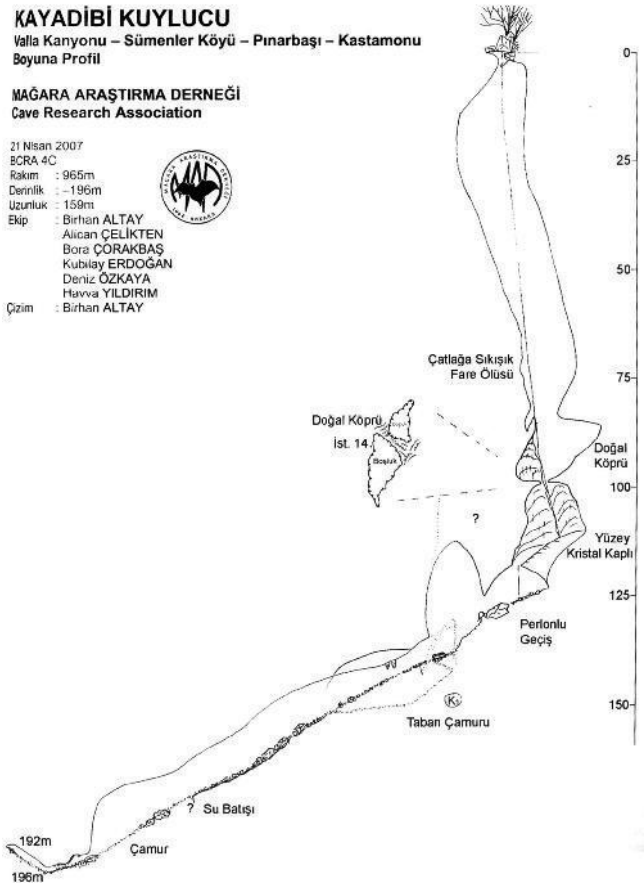
Cave and sinkhole, west side of Yaylaköy, which located on the east side of Armutlu plateau in Küre Mountains National Park, in a dense forest cover, is the point where a small creek sink. In this region, we not recommend you to do any trip unless you are with a guide who knows the area. The aforementioned small stream, about 30 meters in diameter and 10 m in depth, formed as bowl-shaped and it sinks into the clogged bottom of sinkhole. In seasons of rainfall, it is certain that the pit sinkhole all became a lake. Because there are large logs which prevents other ways to come the fossil cave, which is located in the opposite slope of sinkhole. This cave, which are all fossil and is formed by erosion, having two separate connections to surface. Was found in 2008 by ASPEG, mapped by measuring the following year.



62

Kayadibi Sinkhole

Located near Valla Canyon in Pınarbaşı / Sümenler village. This cave is an active button and located in dense forest cover. After a vertical landing about 120 m it continues with a slope and ends at -196 meters. It was surveyed by MAD in 2007 and was published in the association's newsletter No 14 in the pages 119-123.

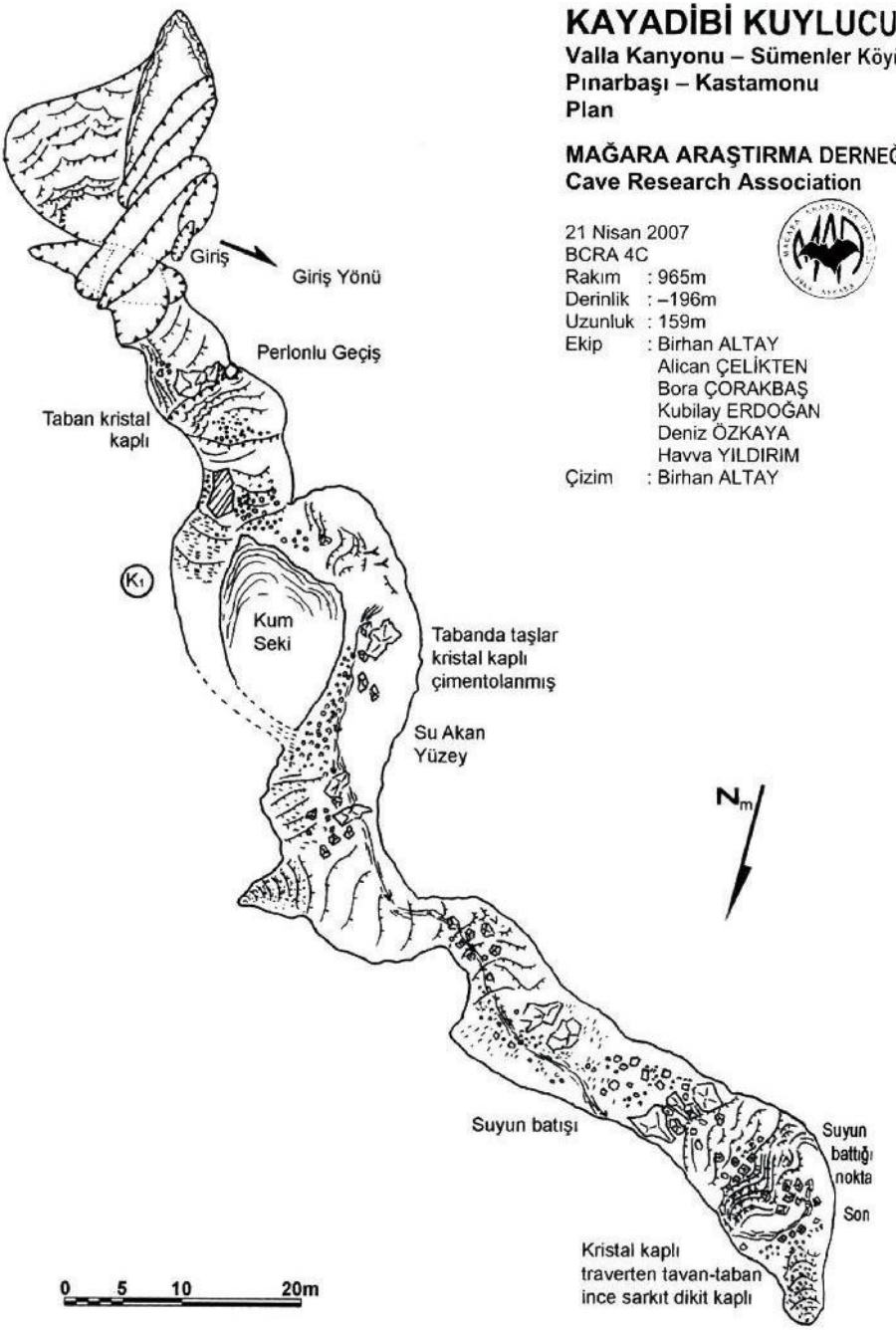


KAYADİBİ KUYLUCU

Valla Kanyonu – Sümenler Köyü
Pınarbaşı – Kastamonu
Plan

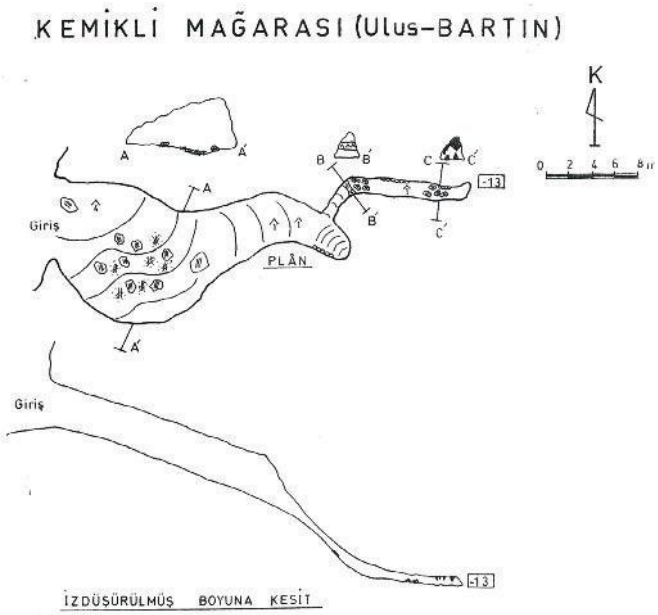
MAĞARA ARAŞTIRMA DERNEĞİ
Cave Research Association

21 Nisan 2007
BCRA 4C
Rakım : 965m
Derinlik : –196m
Uzunluk : 159m
Ekip : Birhan ALTAY
Alican ÇELİKTEN
Bora ÇORAKBAŞ
Kubilay ERDOĞAN
Deniz ÖZKAYA
Havva YILDIRIM
Çizim : Birhan ALTAY



63 Kemikli Cave

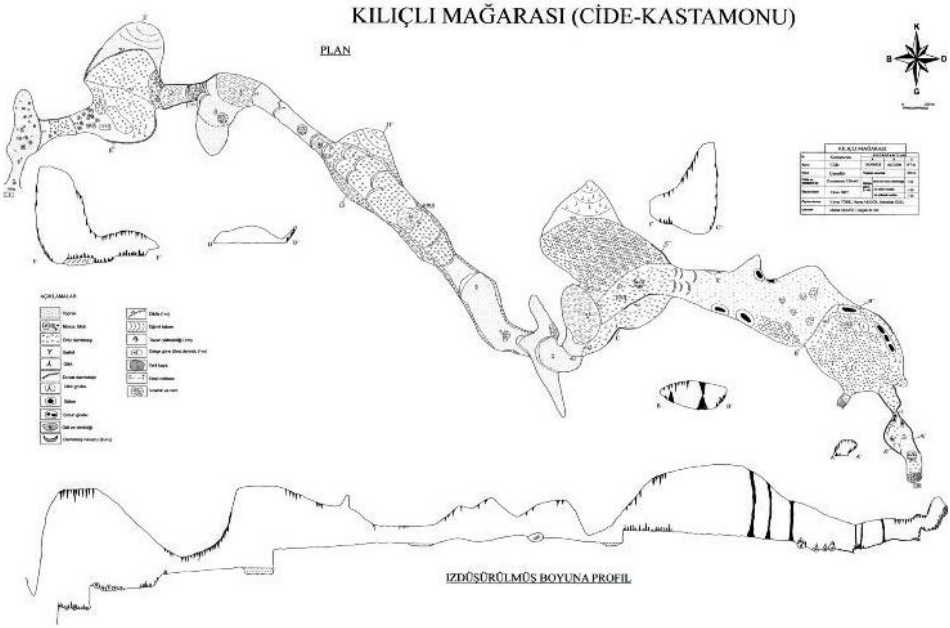
The cave is located in the southeast of the village which is directly connected to the Ulus. Kemikli Cave has a length of 41 m and 13 m depth. During rainy periods it becomes completely active resurge cave. Water in the final section of the cave, disappears by infiltrate from the mud clogged siphon. It was surveyed in 2003 by MTA and was published in their report. In the report there are nothing about any findings on the cave.



64

Kılıçlı Cave

Çamdibi village of Cide county is near Evliyaharman Kayalığı. The area consists of Upper Jurassic - Lower Cretaceous limestones. Kılıçlı Cave is formed in those limestones and has an average ceiling height of 8 meters and entrance with two-stage traverten hall. The Kılıçlı Cave is a semi-active cave. 300 meters in length and depending on rainfall, all of which developed horizontally with the flow of groundwater. It was explored in 2008 by MTA and was published with the name "Kılıçlı Cave Research Report" by K. Törk. In this cave, which is adorned with pretty good formations, no fauna was founded.



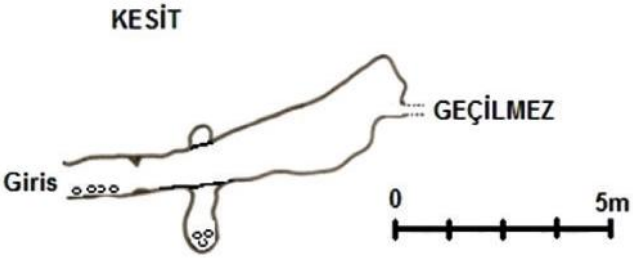
65 Kınakayası Cave

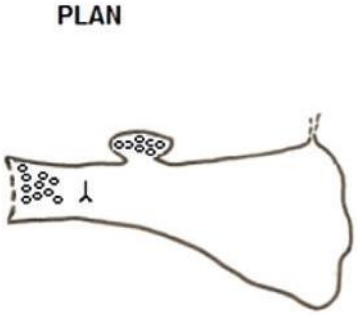
This 8m long small and fossil cave is located in Ilıca of Pınarbaşı. This cave, without any of formation, was found in 2009 and has been surveyed by ASPEG.

KINAKAYASI MAĞARASI U: 8m

Esen Mahallesi – Ilıca Köyü - Pınarbaşı – Kastamonu
Ölçüm: S. POYRAZ
S. BAHADIR
Çizim: S. POYRAZ

BCRA 3C

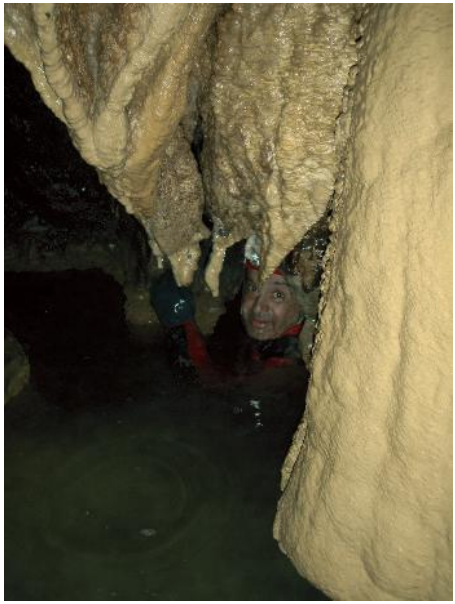




66

Kocareis Cave

This Cave located in Makaracı Village of Amasra. The cave is reached after climbing a steep slope. Kocareis is entered from the water output. Also this cave have quite large galleries and hosting a large spectrum of fauna. There is a strong water output, when it rains a lot. The village get some of their water from this cave. Especially in the deeper parts of the cave, a lot of formation is available. It is said that the last part siphon stream comes from the sinkhole behind the hill where the cave is located. This cave founded in 2009 was researched by OMAG in 2010. İn the cave, there are Gastropods, Isopods, Arachnida, Amphipoda and bats. In some parts there are thick guano deposits. Many species of the cave were sampled. In visible places were found 2 adults and 1 puppy bats. But by looking on the traces of guano in place we can say that a small colony of bats may live inside.





KOCAREİS (KOCAREZ) MAĞARASI

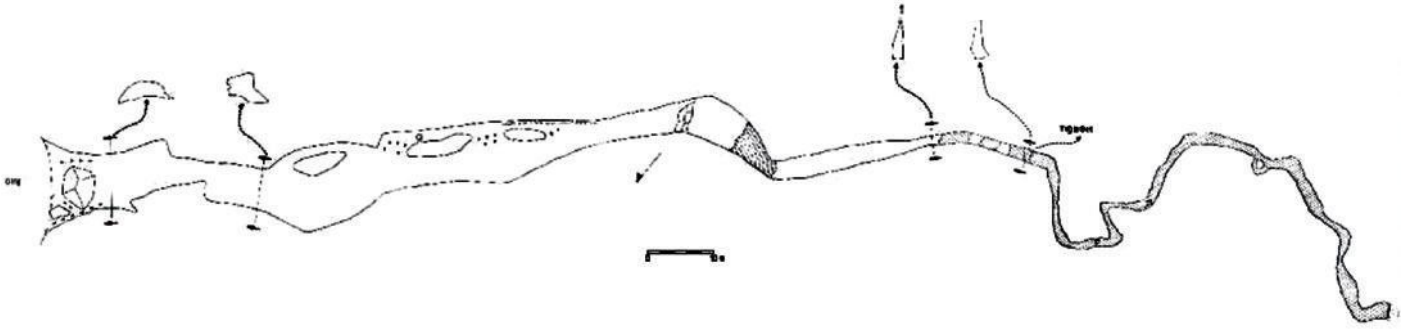
Abbas Mahallesi, Makaracı Köyü, Amasra, Bartın

Ölçüm: Emine Azak, Murat Eğrikavuk (ASPEG) - Ekim 2009
Emine Azak, Murat Eğrikavuk, Menekşe Ermış, Alı Yamaç (**o'mag**) - Temmuz 2010

Çizim: Emine Azak, Murat Eğrikavuk

Uzunluk: 321 m.

BCRA 3C



67

Kokurdan I Sinkhole

The cave located to Korkudan plateau which is in the South of Kerte village and connected to Ilıca. All those sinkholes in which water sinks called “Kokurdan” by the people of the region. This small sinkhole with 11 meters depth located in covered limestone formation. The cave was researched by ASPEG in 2009 and was published by OBRUK no 1, on page 30.

68

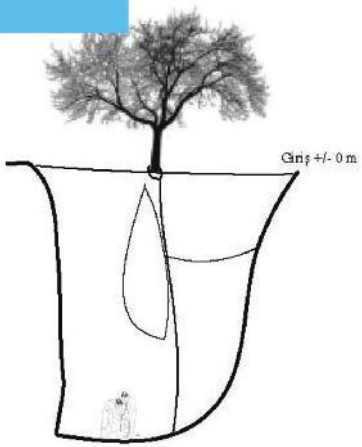
Kokurdan II Sinkhole

The Cave located far about 300m from previous Kokurdan which is in the south of Kerte Village of Ilıca/Pınarbaşı. This second sinkhole has a depth of 16 meters depth. Compared to the first one, most important difference is that there is quite a large amount of ice in this sinkhole even in summer times. The cave was researched by ASPEG in 2009 and was published in OBRUK no 1, page 30.

Kokurdan 1

Kokurdan Yayla, Kerte köyü, Pınarbaşı, Kastamonu

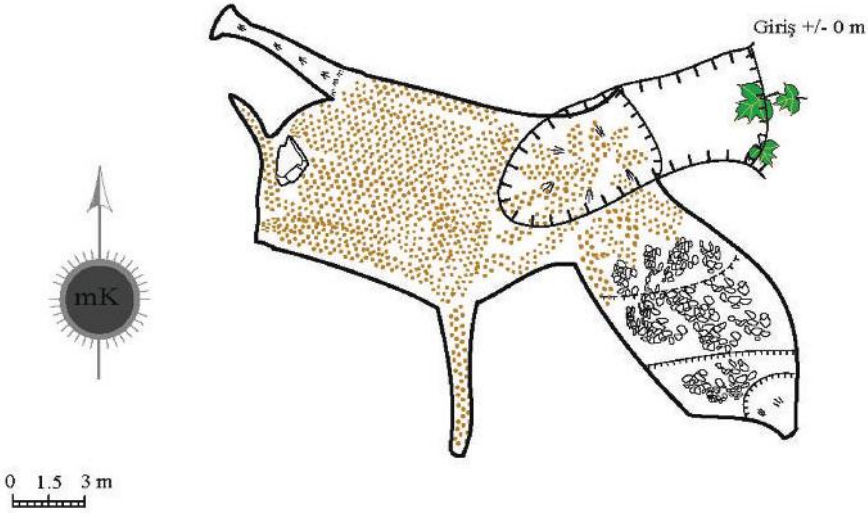
Ölçüm ekibi:	Ali Aytan, Ender Usuloğlu
Ölçüm Tarihi:	09 Ağustos 2008
Ölçüm Derecesi:	3c
Uzunluk:	11 m
Derinlik:	-11 m
Çizim:	Ender Usuloğlu



Kokurdan 2 (Buzluk Mağarası)

Kokurdan Yayla, Kerte köyü, Pınarbaşı, Kastamonu

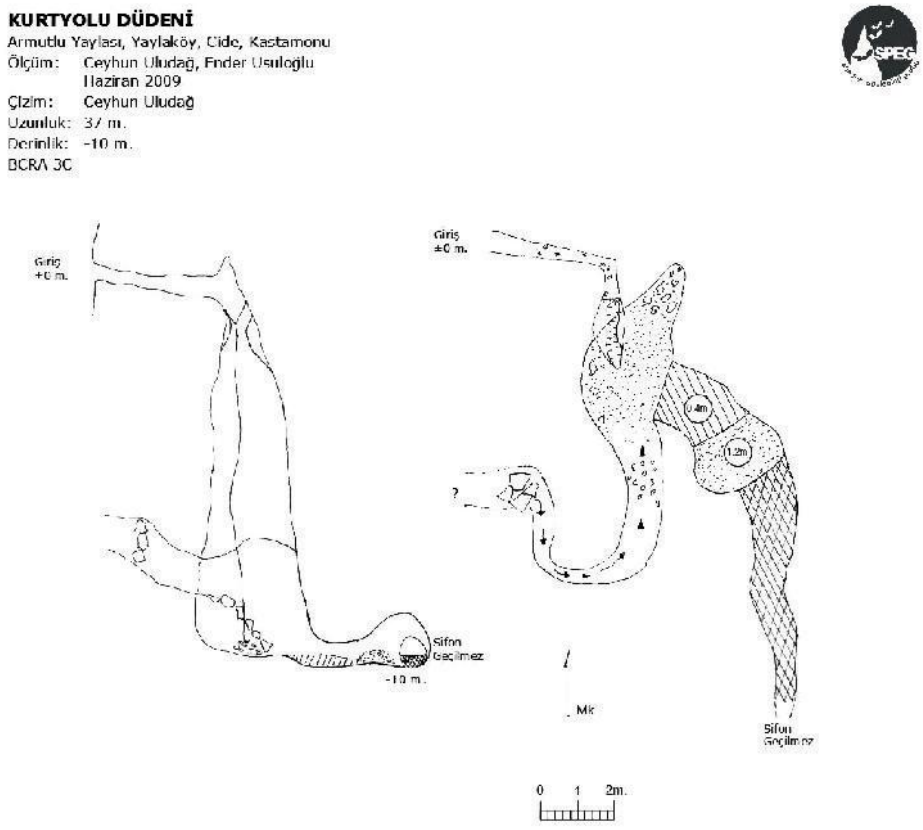
Ölçüm ekibi:	Ali Aytan, Ender Usuloğlu
Ölçüm Tarihi:	09 Ağustos 2008
Ölçüm Derecesi:	3c
Uzunluk:	80 m
Derinlik:	-16 m
Çizim:	Ender Usuloğlu



69

Kurtyolu Sinkhole

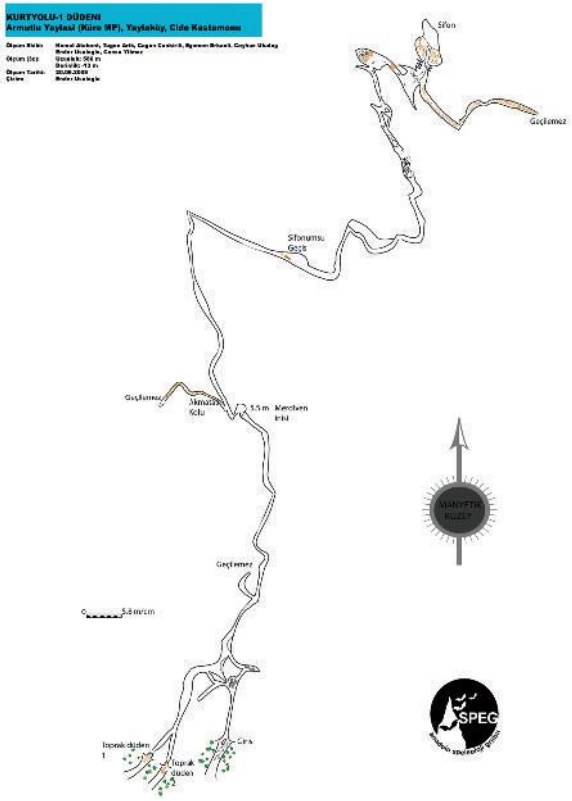
Doline is located 100 m in the northeast of Kurtyol 1 Sinkhole. The entrance to the cave is a narrow crack. In a few meters pack ahead of this horizontal input, about 8 meters at the end of a landing even if it reached to the small hall from another branch which still have a lot of presents of the water, it is not possible to move from this very narrow tributaries. In the main gallery narrow distance between water level and the ceiling after a while it reset itself and transform into the siphon. The cave was found in 2008 by ASPEG.



70

Kurtyolu I Sinkhole

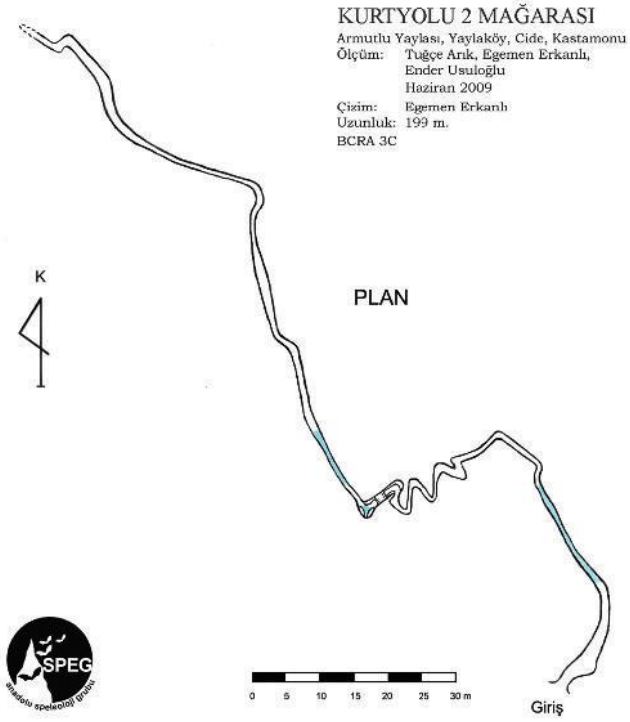
Cave located in the west of Yaylaköy, in Armutlu plateau which located in the east of Küre Mountains National Park and at the point where a small stream is sinking. In this area, we strongly advice that, no trips must be planned without a guide. This cave with a lenght of 586 m collects the water of a very large area. After long, narrow and tiresome gallery the water sinks to a siphone which is not dived yet. Cave was explored by ASPEG in 2008.



71

Kurtyolu II Cave

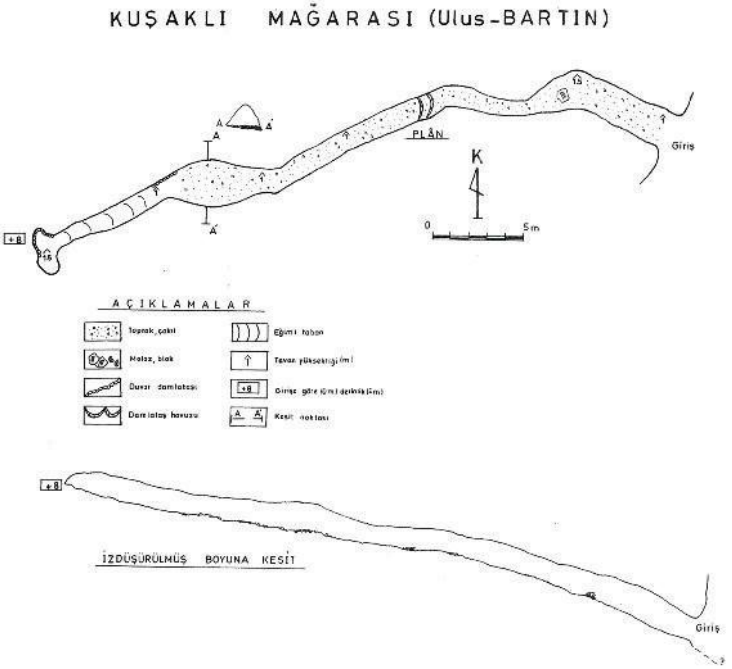
Located 100 m north of the Kurtyolu 1 Sinkhole, at the point where the other small streams sank to the ground. The cave in the same area gathers the waters of the different basins with a single passage which becomes unpassable at 199 meters. Was found in 2008 by ASPEG and mapped by measuring the following year. A small number of isopods and spiders were observed at the mouth of the cave.



72

Kuşaklı Cave

The cave is located on the back of Kayadibi Village of Ulus. The cave is about a half-hour by walk distance to this village. This cave formed in the Cratecous limestone, with a large entrance and 38 meters in length, is all fossil and horizontal, apart from mud puddles which created by the leaking water during the rainy season. It was surveyed in 2003 by MTA and published in rapor named "The Caves of Bartın District".



73

Kuşkayası I Cave

To find this cave, located on the cliffs known as the Kuşkayası which is about 2 km in east of Yukarıdere Villages neighborhood Göksun that connected to Bartın-Ulus, you need a very good description or, preferably, need guidance from the village. With about 40 cm diameter hole and a sloping began descent this cave, by it formation and the structural characteristic, perhaps one of the most interesting cave in this region. Basically, even tought this cave has formed in the fault fracture as a vertical doline, it has different structures in three different elevations. Most likely, in one of period when this Kuskayasi 1 Cave was active sinkhole, it fossilized being abandoned as a result of tectonic movements. After the narrow entrance, with a 10 meters descent you reach a large hall. Two different landing located on the western end of this hall are reaching the same point. At this level where there are two small lakes and that we can call the second gallery, with a third descent you'll reach to a third gallery. Kuşkayası 1 Cave has a total length of 155 meters and 43 meters depth. The cave was explored and mapped in 2009 by ASPEG. Although there are not traces of a fauna; stalactites, stalagmites, and in terms of cave formations of Kuskayasi 1 Cave is very impressive. It is impossible to see a wall without formation or floor without stalagmite. We've been extremely careful to not damage any formation and we request the same care from visitors after us.



KUŞKAYASI 1 MAĞARASI

Göksu Mahallesi, Yukarıdere Köyü, Ulus, Bartın

ÖLÇÜM : Mayıs 2009 - Kemal Atakent, Emine Azak, Sebahat Bahadır, Erkin Ozan Yıldız
Eylül 2009 - Kemal Atakent, Simge Duga Sinan Poyraz, Erkin Ozan Yıldız

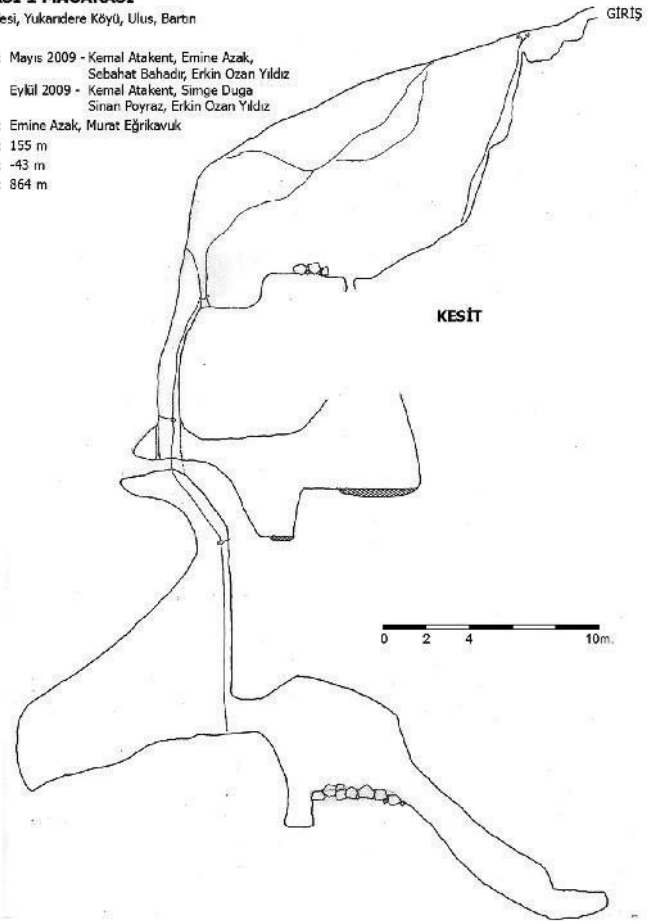
ÇİZİM : Emine Azak, Murat Eğrikavuk

UZUNLUK : 155 m

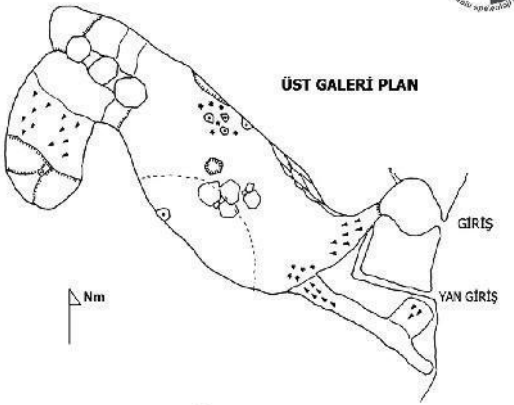
DERİNLİK : -43 m

İRTİFA : 864 m

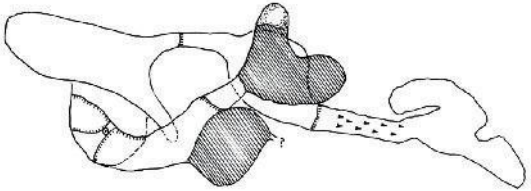
BCRA 2B



KESİT



ÜST GALERİ PLAN

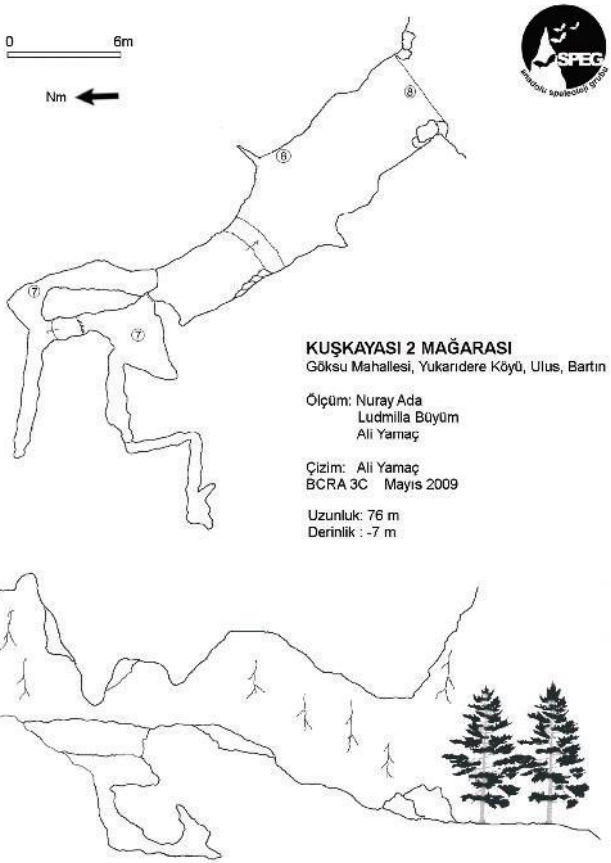


ORTA VE ALT GALERİLER PLAN

74

Kuşkayası II Cave

This cave located in the cliffs known as the Kuşkayası which is about 2 km in the east of the Yukarıdere Village of Bartın-Ulus. This cave have a big mouth that can be easily seen from the road. This cave located in the same limestone wall as Kuşkayası 1 Cave, about 200 meters in the west of the previous one. With a quite big mouth and following a large passage, the cave ends with two branches. The total length of the cave is 76 m, west branch descents down to -7 meters deep. The cave was explored and mapped in 2009 by ASPEG. A small population of bats were living in the cave.

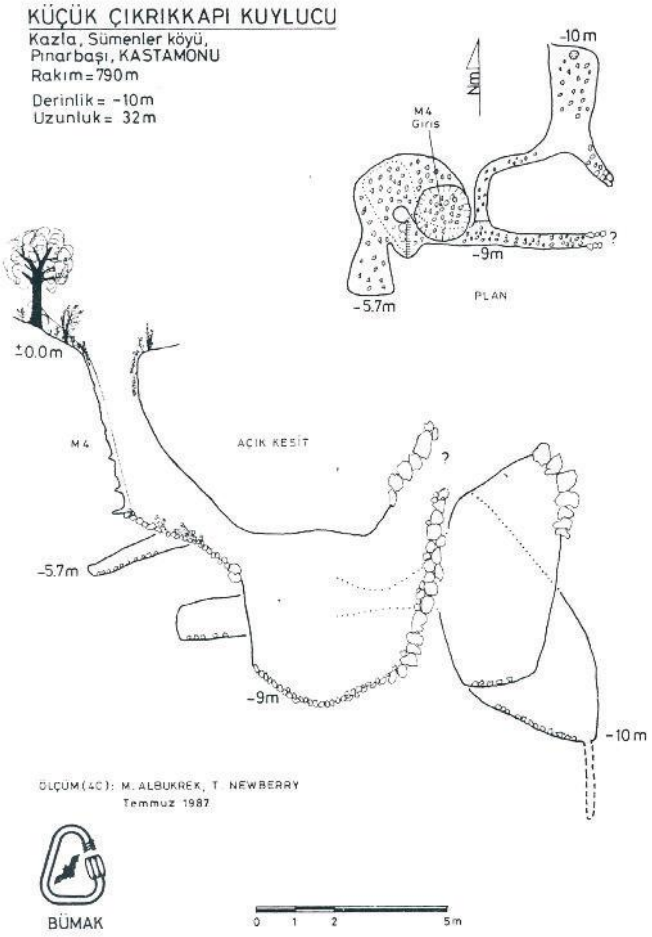




75

Küçük Çıkrıkkapı Sinkhole

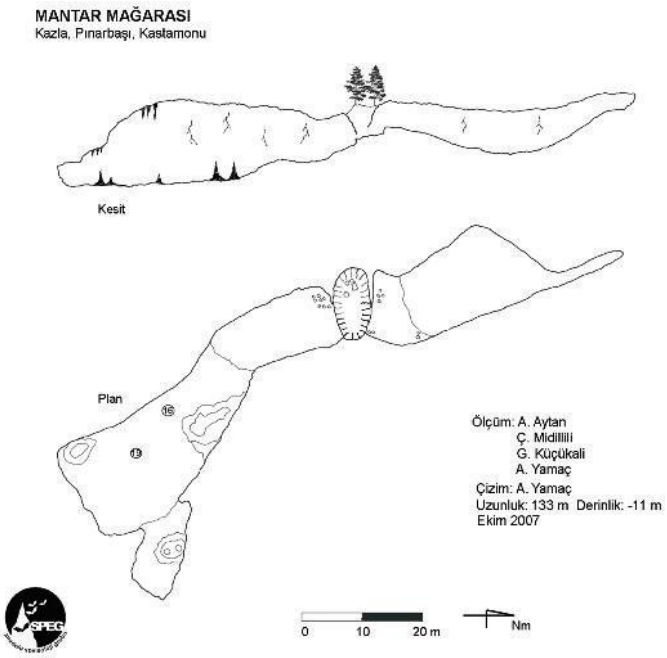
Located between Sorkun and Kapaklı which is located Sümenler Village of Pınarbaşı. The cave is a small active sinkhole, continuing with different branches to a total of 32 meters length and depth of -10 meters. This cave was surveyed by BUMAK in 1987 and published in Delta 3 page 31. Did not reveal any findings.



Metin Albukrek

76 Mantar Cave

The cave located in a half-hour walking distance on path from Topmeydanı to the Ejder and Ilgarini caves, at Sümenler Village of Pınarbaşı. This fossil cave advanced in a limestone with the top of dense vegetation and with two chambers on each sides of a collapsed doline. Although there are no formations in the north chamber, the south hall is full of stalagmites and stalactites. With very impressive formations, height reaches 16-17 meters in this chamber. The total length of the cave is 133 meters. It was surveyed by ASPEG in 2007 and was published in OBRUK 1 on page 28. In 2009, during the biological studies carried out by ASPEG a rich diversity of life in this cave has been found. The cave has a rich biodiversity and the endemic species of the group *Chilpoda* and *Diplopoda*.



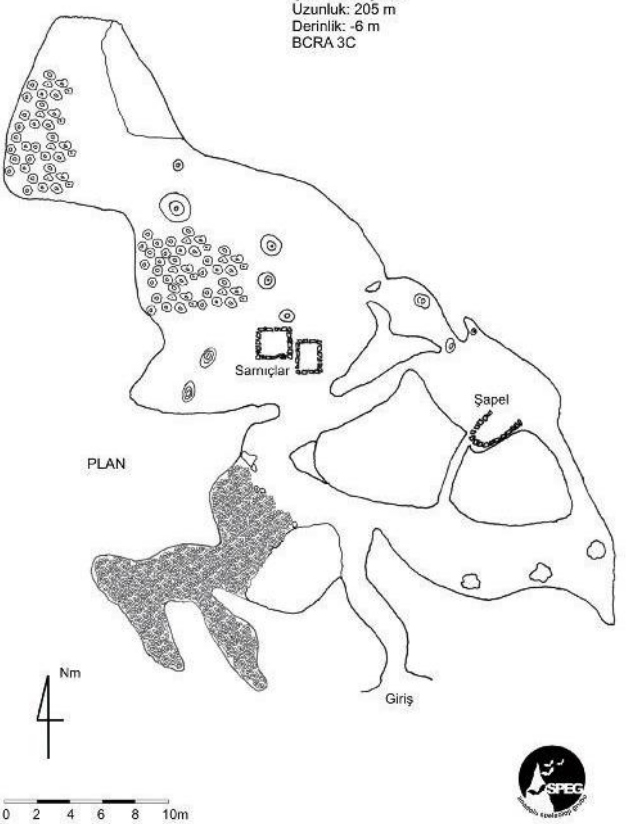
77

Medil I Cave

The cave is located in the south of Ahat Village. Medil 1 is reached about a half hour walk from the village. In this cave, which is basically gently sloping, there is a destroyed church and two cisterns. Cave is severely destroyed by treasure hunters. With a forest of columns and stalactites that are located in the lower hall at the end of the cave, this 205 meters long cave is quite interesting. This cave that was found in 1982 by BÜMAK but did not surveyed, explored by ASPEG in 2009. It is obvious from a church located in and plenty of the sherds as well as the ruins of cisterns; just like Ilgarini, Medil 1 Cave had been widely inhabited in the past.



MEDİL 1 MAĞARASI
Mus Mahallesi, Ahatköy, Azdavay, Kastamonu
Ölçüm: Nuray Ada, Ludmilla Büyüm, Murat Şahin, Ali Yamaç (Kasım 2009)
Çizim: Nuray Ada
Uzunluk: 205 m
Derinlik: -6 m
BCRA 3C

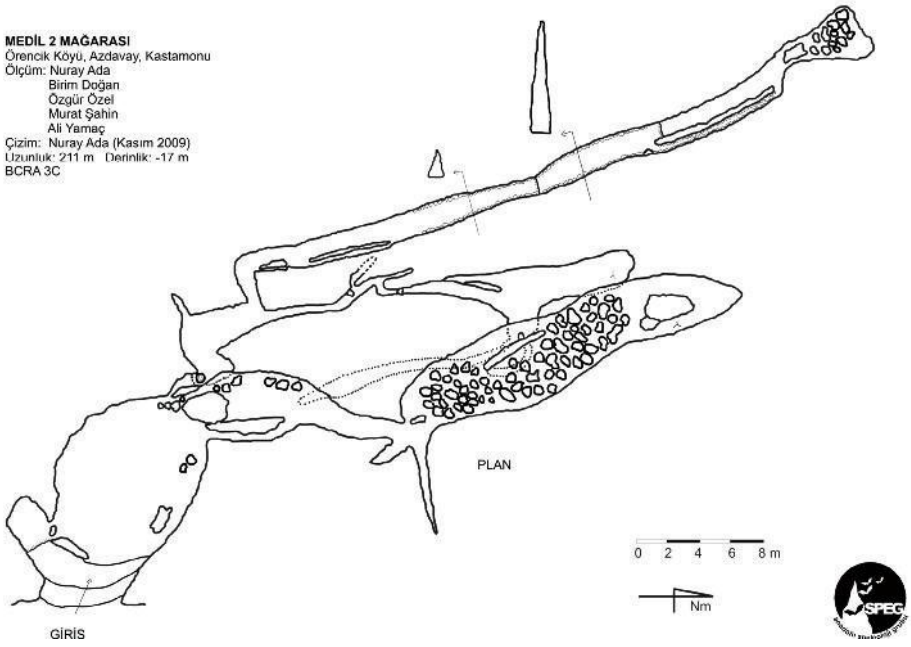




78

Medil II Cave

The cave is about in 1.5-2 hours of walking distance from the Öğrencik Village to Çatak Canyon. The cave, which is in Kurtgirmez Forest with a dense vegetation, can not be found without a guide. The entrance of cave starts with collapse and continues with one very narrow and other is awide, two branches that are continuing from the large entrance chamber. This two branches connected to each other by intersecting the bottom and upper gallery. Medil 2 Cave; which formed in a fault fracture, with a total of 211 meters in length, has very bumpy passages. There are very beautiful but small formations in this narrow galleries. This cave, found but not surveyed by BUMAK in 1982 surveyed by ASPEG in 2009. Except plenty spiders of the same species nothing was found.

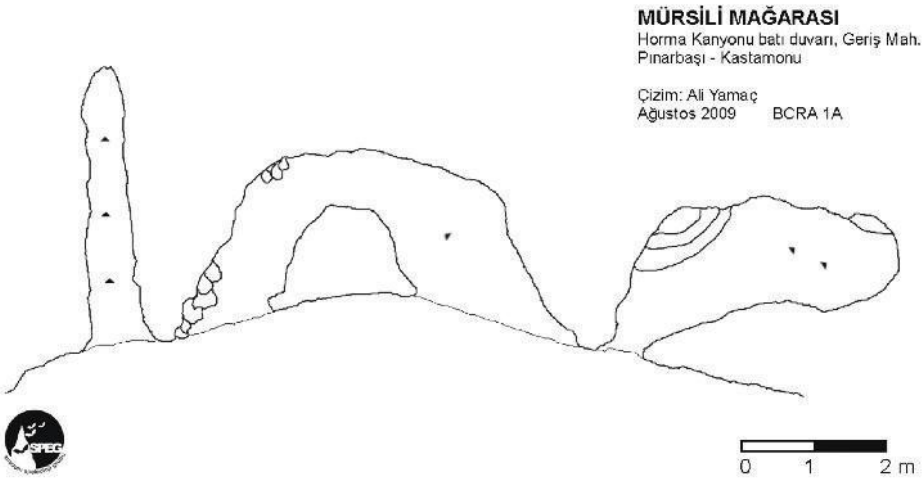




79

Mürsili Cave

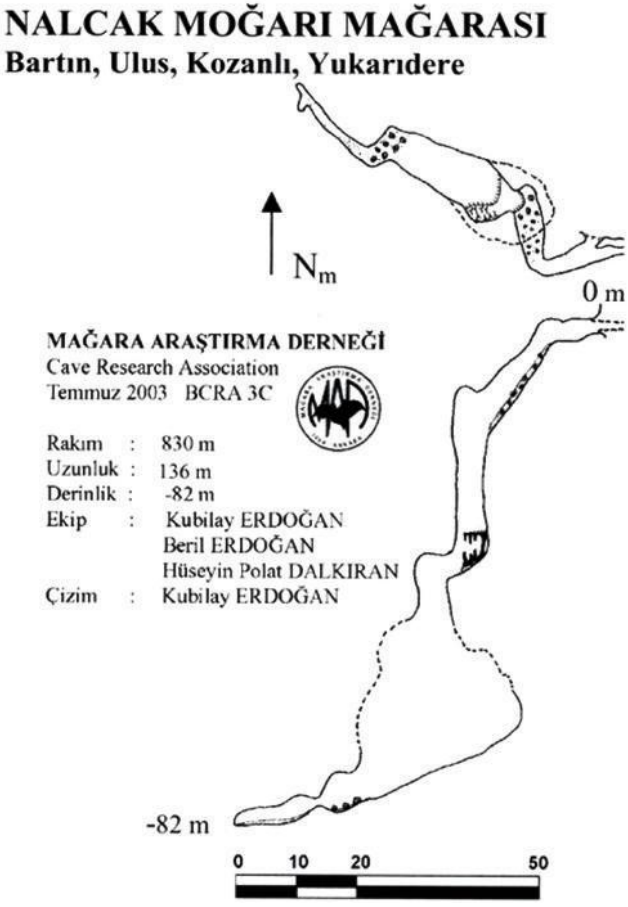
This cave is located on the upper western wall of Horma Canyon in Geris quarter of Pınarbaşı. This cave formed on the western wall of Horma Canyon's limestone block ranked alongside with many large and small caves. It was surveyed by ASPEG in 2008 and was published in OBRUK no 1, page 28. In the eastern chamber there were few bats hybernating.



80

Nalçak Moğarı Sinkhole

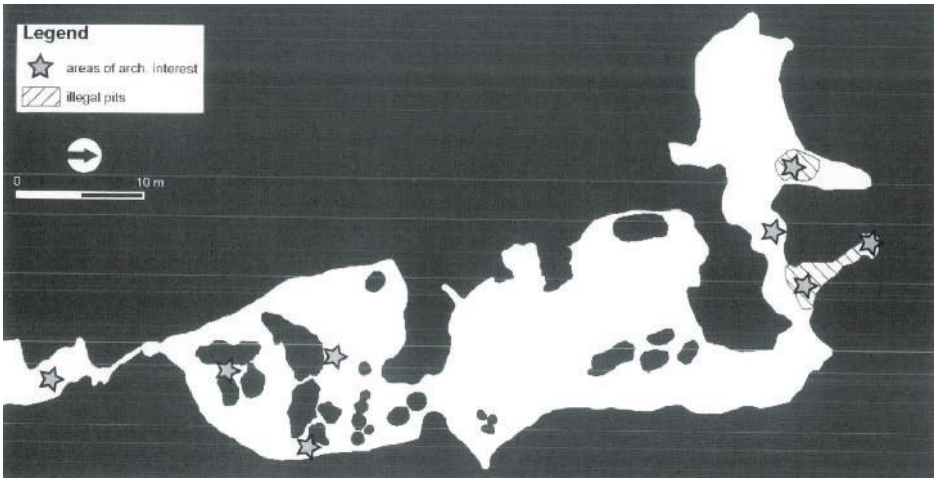
The cave located on a hillside on the left of the road from Yukarıdere Village to Kerpiçli district of Ulus. The cave is a vertical developed active sinkhole and has a long steep descent that followed by a sloping descent. This cave, 136 meters in length and -82 m depth, explored by MAD and was published in their bulletin no 13, page 19.



81

Okçular Cave

This cave is in Okçular Village of Cide and inside a significant rock bulge overlooking the sea over Cide Coastline. It was documented during the survey carried out in 2010 by B. During and C. Glatz. Chalcolithic and Early Bronze Age potteries as well as post-Classic Period potteries are encountered in the cave. These findings are gathered from an accumulation near illicit excavations. This is the most important finding location for proto- and pre-historic Cide unearthed to date.

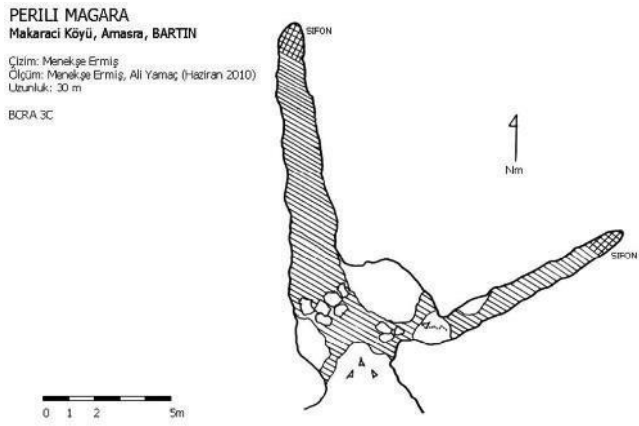


82

Perili Cave

The cave is on the road side towards Makaracı Village of Bartin / Amasra. Cave begins with a small entrance in the middle of two siphons, where the water flows for 30 meters. Water comes from a very tight siphon and sinks to another siphon with a lake. More interestingly, entrance of the cave is another stream, so Perili Cave is the joint point of two different streams. The survey of the cave is realized by OMAG during 2010 and several different species had been found.

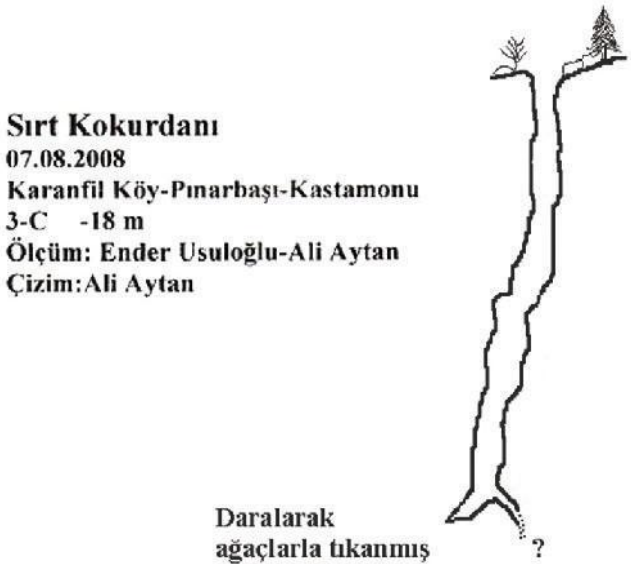




83

Sırt
Sinkhole

This vertical occurring active button located in the road from Karanfil Village to Buzluk Cave in Pınarbaşı county in Kastamonu. Was found and researched by ASPEG in 2008. Was published in Obruk's number 1 magazine on page 30. None of alive creature was founded in the cave.

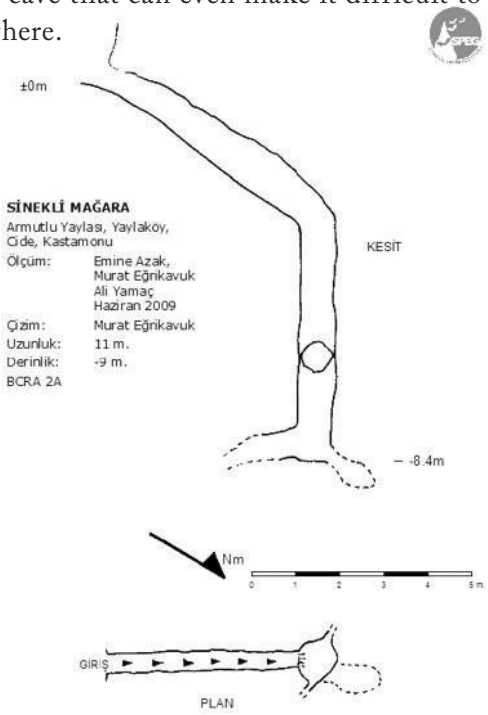


84

Sinekli Cave

This vertical occurring active button located in the road from Karanfil Village to Buzluk Cave in Pınarbaşı county in Kastamonu. Was found and researched by ASPEG in 2008. Was published in Obruk's number 1 magazine on page 30. None of alive creature was founded in the cave. This small cave located in 1 km to the east from Armutlu plateau which is located in Küre Mountains National Park, in the west of Yaylaköy, in a dense forest cover at the point where a small stream of bytes. In this area, we are not recommend to have any trip without a guide that knowing the place of the cave. This cave with rather narrow and a sloping entrance, separeting into two arms about 9 meters below and ending by occluding. The Cave was found and explored by ASPEG in 2009 and was published at OBRUKs 1 number on page 30. There are a lot of flies in this cave that can even make it difficult to breathe in there.

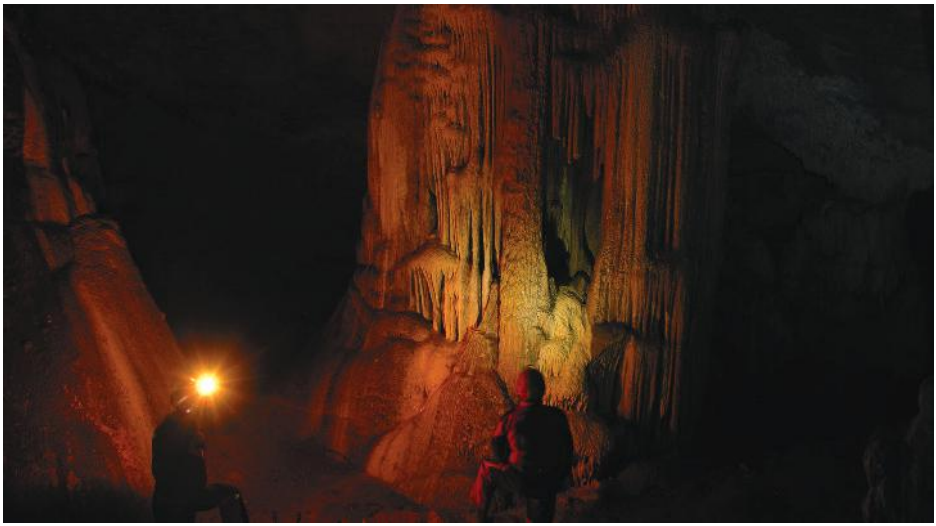




85

Sipahiler Cave

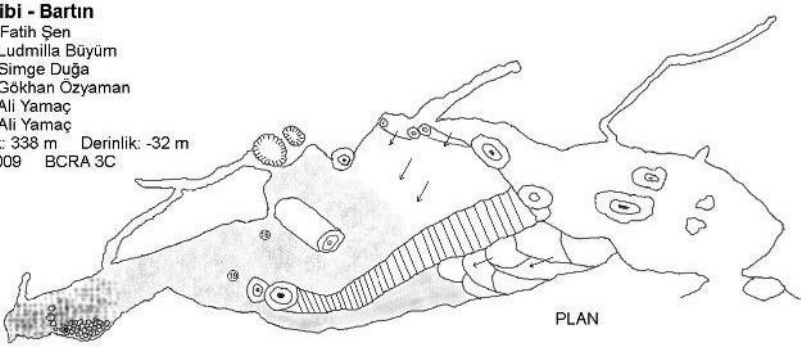
The cave is 100 meters away from trout farm that located 2 km from the Kayadibi village in Bartın. This cave that located under a heavy plant and covered limestone, has might not expect glory in it small entrance. In three separate elevation differance that located in hall was formed stalagmites in incredible size.The two stalagmites that located on the bottom at the entrance of the hall is about five meters in diameter and overturned the stalagmite that located on the lower level is close to 10 meters in length. In this lower level passage that in the very steep slopes and the lower hall all covered with mud. In the lower hall of this ,in the 338 meters in length cave have approximately 20 meters of ceiling height. In this part, not only stalagmites, there are also quite rich formations on the walls. The cave was explored and mapped in 2009 by ASPEG. With extremely impressive formation and very close location to the settlement, this cave urgently needs to be taken under protection. This cave have rich biodiversity and endemic species of Orthoptera group.

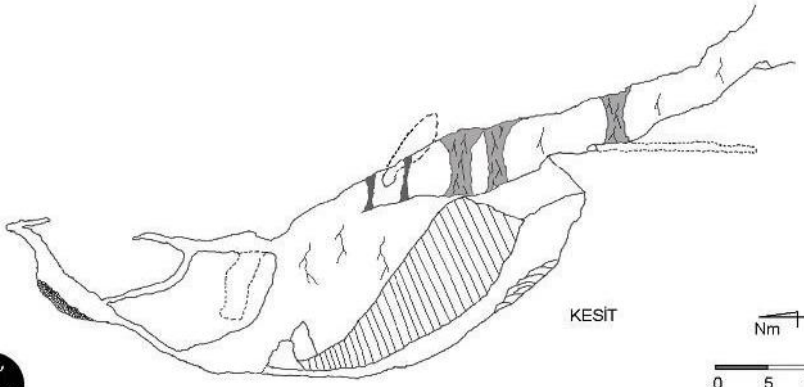


SİPAHİLER MAĞARASI

Kayadibi - Bartın

Ölçüm: Fatih Şen
Ludmilla Büyüm
Simge Duğa
Gökhan Özyaman
Ali Yamaç
Çizim: Ali Yamaç
Uzunluk: 338 m Derinlik: -32 m
Ekim 2009 BCRA 3C







86

Sorkun Sinkhole

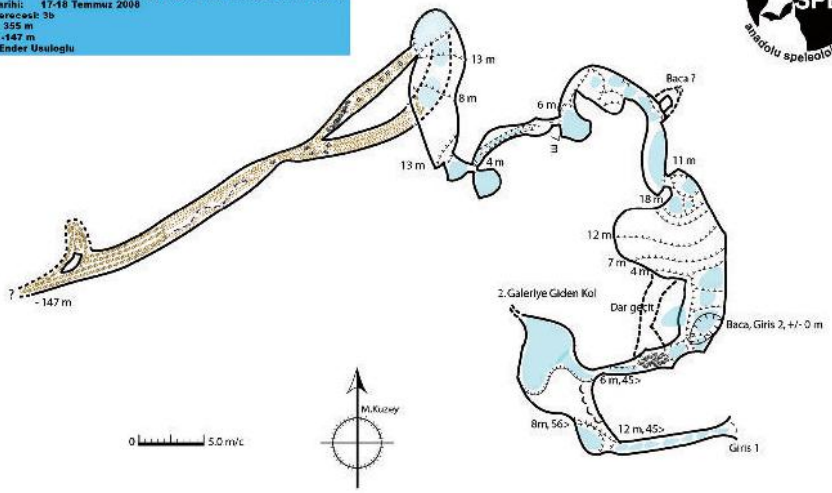
Sorkun Sinkhole, which is located in village of Sümenler and plateau of Sorkun and gather all the water of a big water basin, is the highest flow rated doline of the area and it is formed along the each other cutting cracks in the south border of the limestone line, which is located in this water basin. It is calculated on 23rd April 1988 that 1200lt of water enter to this mostly winter-summer active cave. This amount was higher than the total amount of dolines in this area. It is possible that the water source, which is located in the west wall of the Valla Canyon and also called Sorkun Spring, is among the water, which enter this cave. Even though the total measured depth of the cave, which ends with a siphon originated behind a lake, is 200 meters. There is a possibility that it goes even deeper. Sorkun doline is dredged by BÜMAK in 1983 and published in Delta pg.6. There was no findings mentioned in the report. On the other hand, regardless of the fact that it is an active cave, rich species diversity was discovered in this cave during the biological studyings carried out by ASPEG.

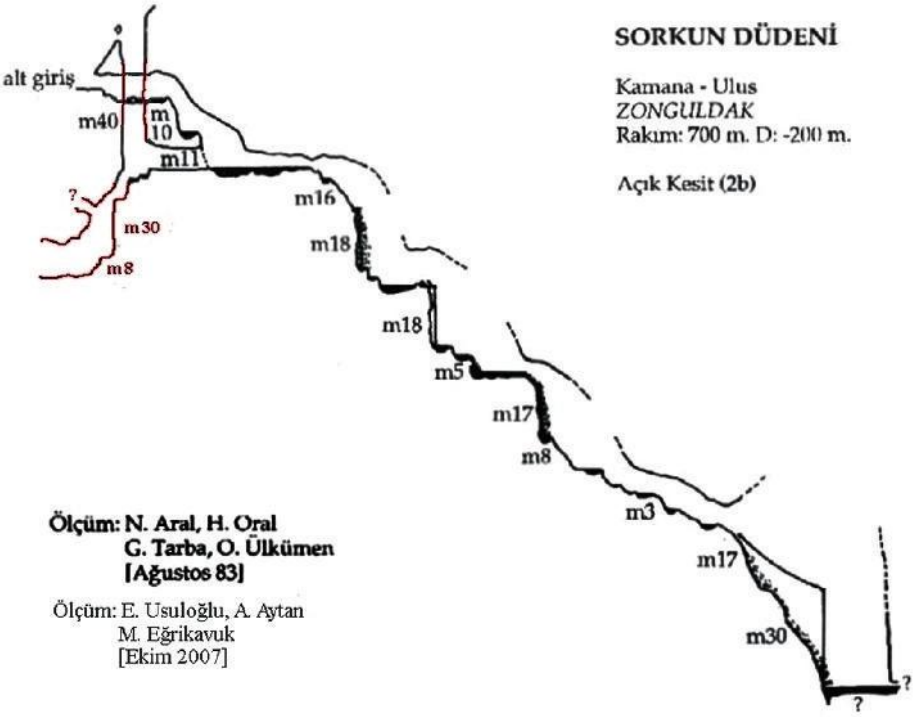


SORKUN KUYLUCU

Sorkun yaylasi, Yamanlar, Pinarbasi, Kastamonu

Ölçüm ekibi: Murat Egrikavuk, Simge Buga, Ender Usuloglu, Hande Ceylan
Ölçüm Tarihi: 17-18 Temmuz 2008
Ölçüm Derecesi: 5b
Uzunluk: 355 m
Derinlik: -147 m
Çizen: Ender Usuloglu





SORKUN DÜDENİ

Kamana - Ulus
ZONGULDAK
Rakım: 700 m. D: -200 m.

Açık Kesit (2b)

Ölçüm: N. Aral, H. Oral
G. Tarba, O. Ülkümen
[Ağustos 83]

Ölçüm: E. Usuloğlu, A. Aytan
M. Eğrikavuk
[Ekim 2007]

87

Subaşı Cave

The cave is near to Cide. It is comperatively small, active cave with few branches. After the main entrance with water flowing out, a small, muddy gallery continues with an average of 80 - 100 cm witdh. The cave is explored by BÜ-MAK in 1988 but not surveyed.

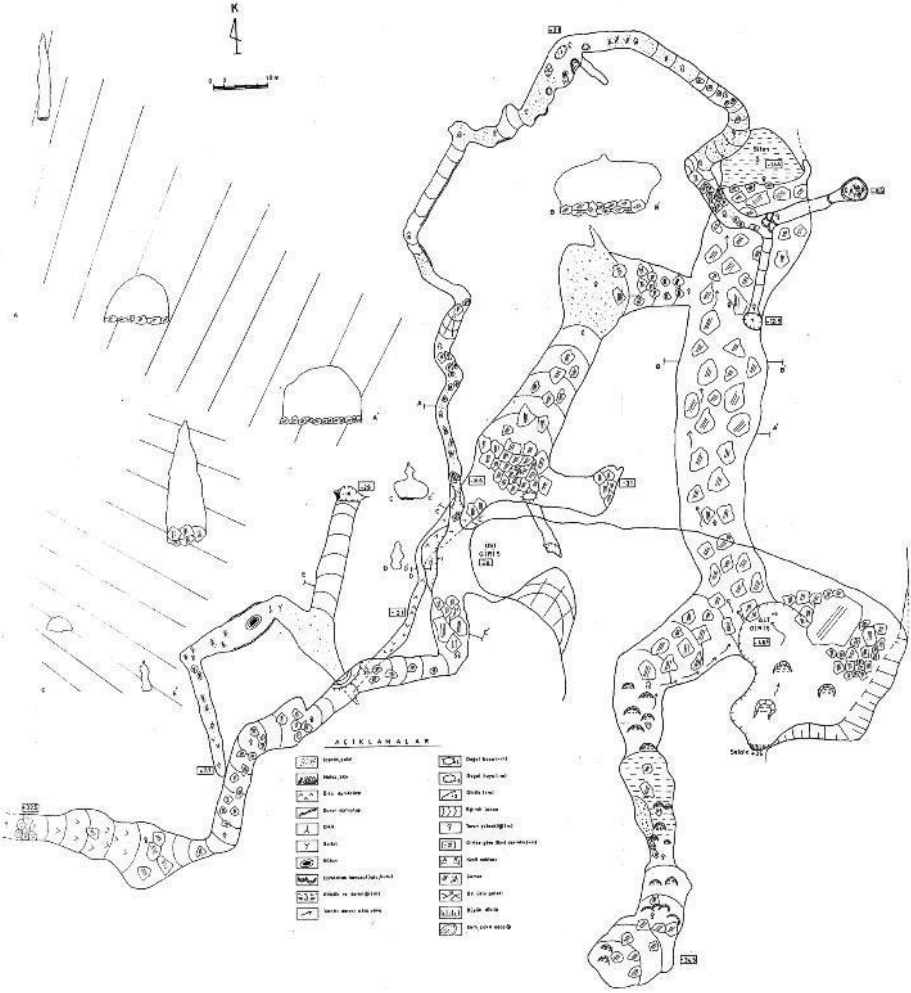
88

Subatık (Uluyayla) Sinkhole

Doline is located in Uluyayla, which is subdistrict of Safranbolu/Ovacuma. It is possible to reach to the cave following the stream almost an hour on foot. The continuously flowing Uluyayla Stream enters to the Subatık Sinkhole, which is located at the bottom of a blind valley after traversing the Uluyayla Cave. There are fossil galleries at the upper parts of the cave. While it is hard to reach to the active gallery of the cave from the stream bed, it is easier to climb over the cliff at the left side of the bed and to enter the main gallery. Very thick logs are stucked at both siphons that are seen on the map, hence it is really dangerous to dive. The cave is explored and surveyed by BÜMAK in 1988 and afterwards it is surveyed once again under the name of Subatık by MTA in 2002. It impossible to believe but, those maps belong to the same cave.



SUBATIK MAĞARASI (Ulus - BARTIN)



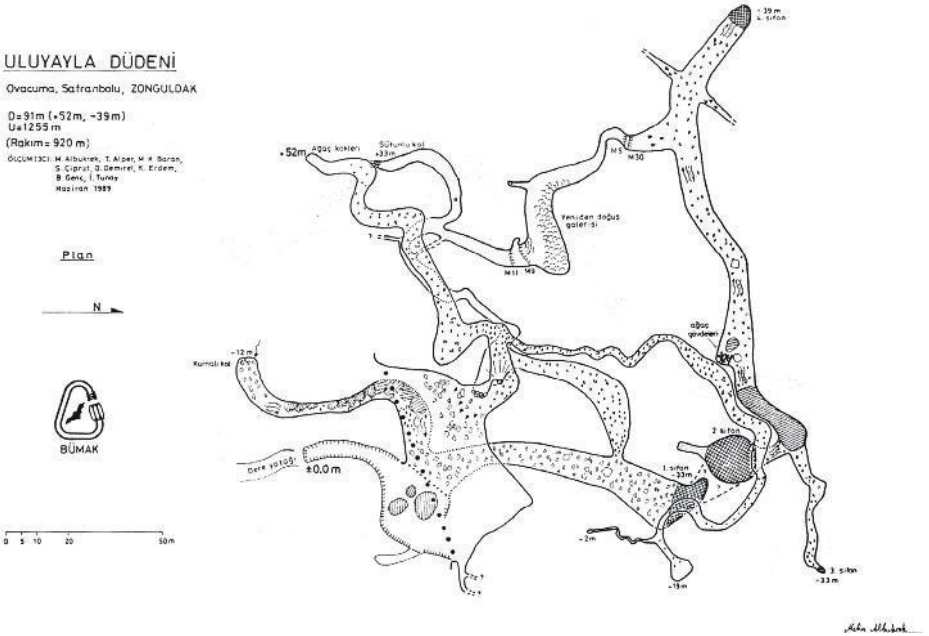
ULUYAYLA DÜDENİ

Ovacuma, Safranbolu, ZONGULDAK

D=91m (+52m, -39m)
U=1255 m
(Rakım=920 m)

ÖLÇÜMLER: M. Albukrek, T. Alper, M. K. Baran, S. Çiprut, O. Demirel, K. Erdem, B. Genç, İ. Tunay
Haziran 1989

Plan



ULUYAYLA DÜDENİ

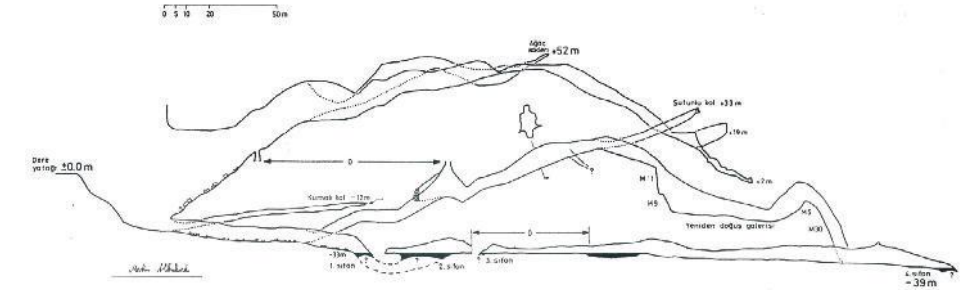
Ovacuma, Safranbolu, ZONGULDAK

D=91m (+52m, -39m)
U=1255 m
(Rakım=920 m)

ÖLÇÜMLER: M. Albukrek, T. Alper, M. K. Baran, S. Çiprut, O. Demirel, K. Erdem, B. Genç, İ. Tunay
Haziran 1989

BÜMAK

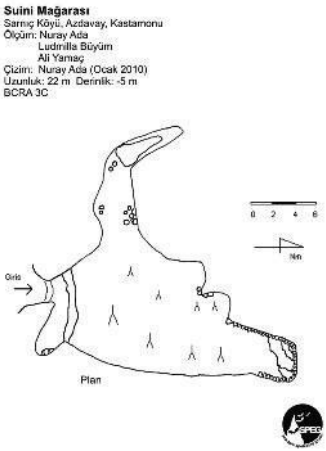
Açık kesit



89

Suini Cave

The cave is sited in the dense forest slope of the north ridge of the village of Sarnıç of Pınarbaşı. It views Azdavay road. It is impossible to find the cave entrance without a guide. Suini is consist of following a small entrance with a single gallery which has almost 20m diameter. There are limited number of stalagmites and stalactites in this high ceiling gallery. On the other hand, travertine, which covers the north wall from the one end to the other, in this cave, whose ceiling drains water, has a spectacular beauty. It was surveyed by ASPEG in 2010.

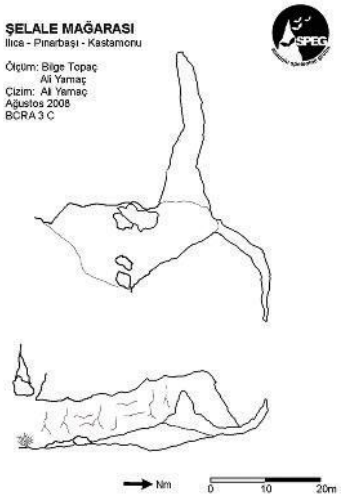




90

Şelale Cave

Cave is sited at the south ridge of the walking-track, which reaches to the top of the Horma Canyon falls. Fossil cave divides into 2 sections after a wide entrance stands 60m long. There are new mouths of the cave due to collapse at the mouth of the cave, which is fully consist of fossils and has no water. It was found and explored by ASPEG in 2009 and then it was published in OBRUK no.1 on page 30. It didn't show sign of life besides few spiders belong to the same species at the northeast arm.



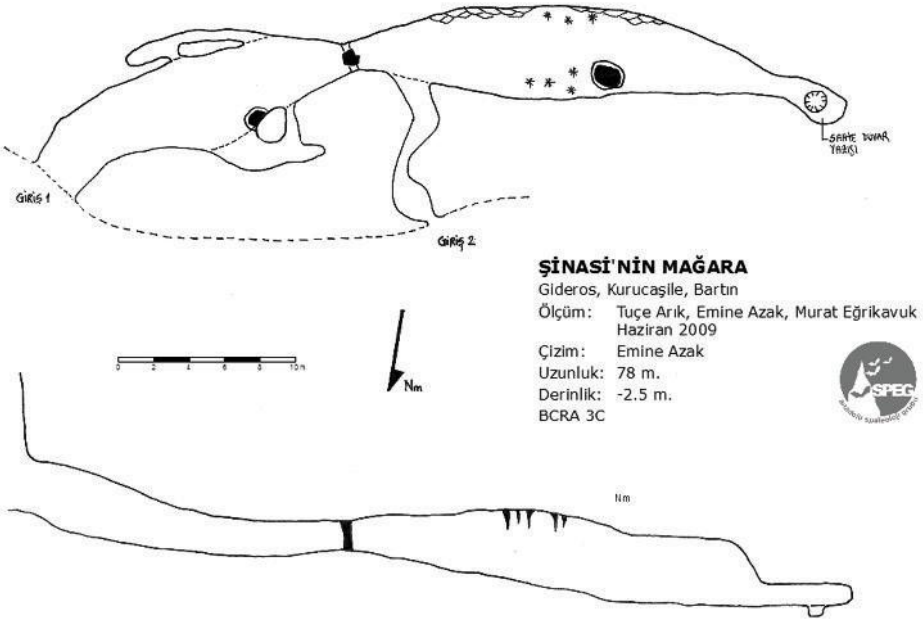


91

Şinasi Cave

The cave is located in a thick forest cover in village of Gideros Bay up from 20m from main road of Kurucaşile/Bartın. It was understood that 2 caves were connected which are located on this ridge. It was sighted intense ravages of treasure hunters in this cave, which was searched and surveyed by ASPEG in 2009.

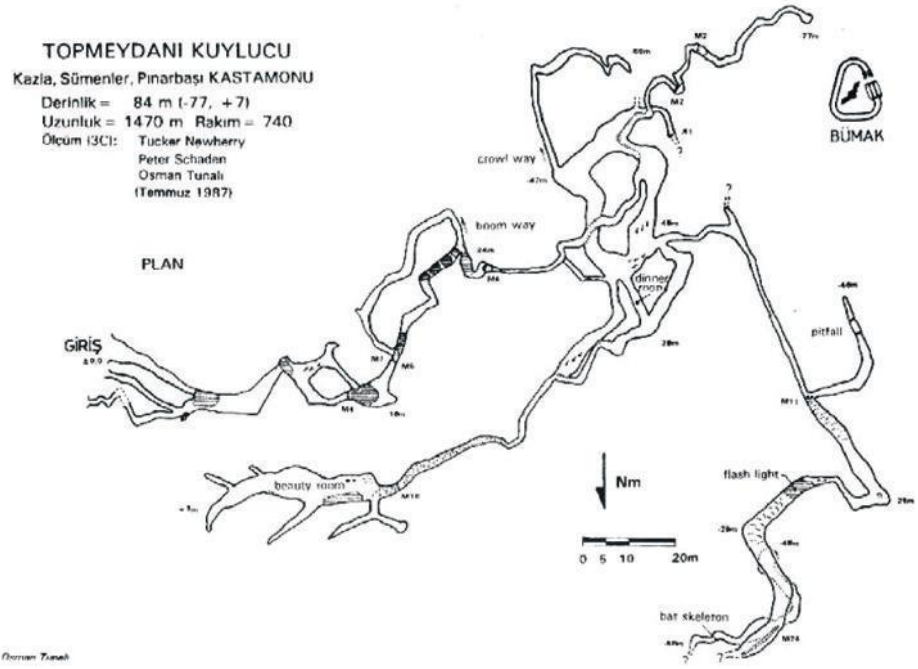




92

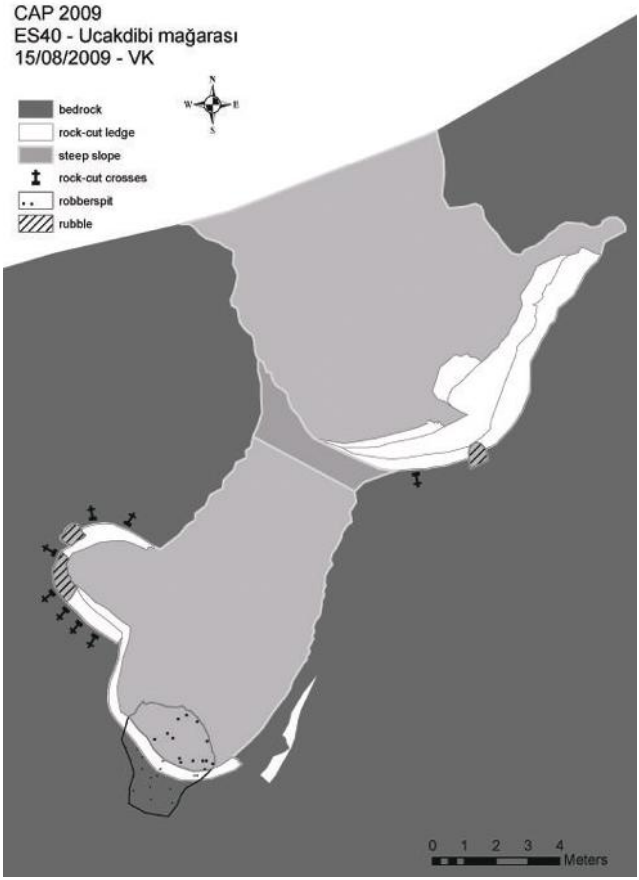
Topmeydanı Sinkhole

It is located 2 km north of the village of Sümenler, Pınarbaşı, at Topmeydanı area. The cave is an old doline at it fossilised. The stream which was obvious that it was sinking here is now going to underground from a soil doline. Even though it connects to the Topmeydanı Sinkhole at some point, there are no active water flow observed. On the other hand, drained water make ponds in patches in rainy seasons. The large part of the cave is consisted of fossil galleries. One of these galleries makes a turning rise through the mouth of the cave and covered with beautiful formations. With 77 m deep and 1470 m length, Topmeydan Sinkhole is the longest cave of Küre Mountains National Park yet found. The cave is searched by BÜMAK between 1984-87 and published in Delta no.3. pg. 35-37. Rich diversity was discovered in biological studying carried out by ASPEG in 2009.



93 Uçakdibi Cave

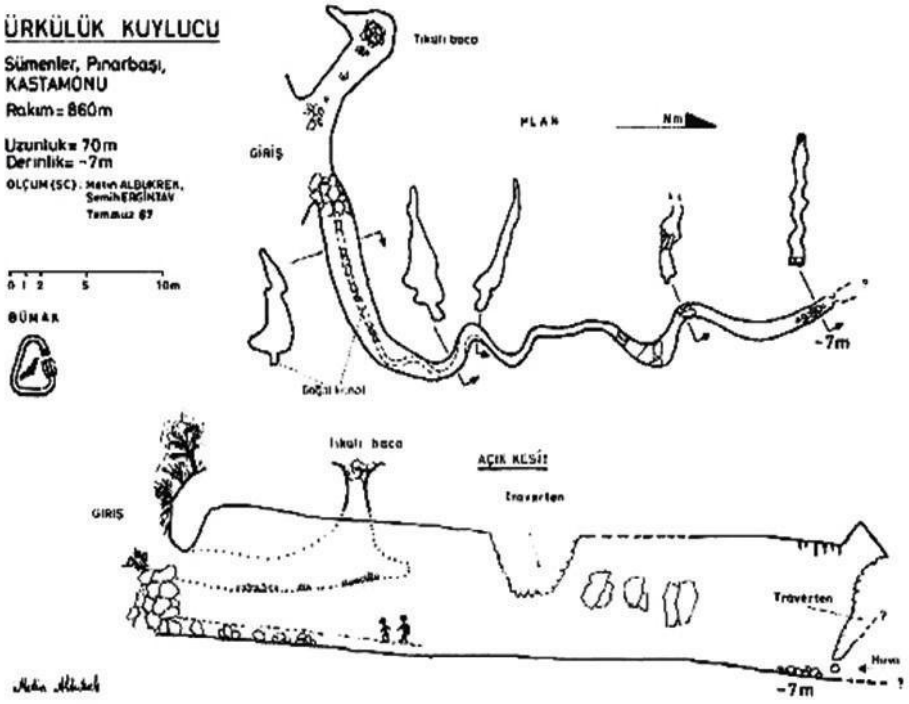
Uçakdibi Cave is located at Cide and explored during the archaeological survey carried out in 2010 by B. During and C. Glatz. There are crosses incised or hewn into the rock. Uçakdibi Cave is an elaborate, a large complex with artificially created ledges.



94

Ürkülük Sinkhole

It is located in the village of Sümenler, Pınarbaşı, near Hacetkayası. It cannot be easily distinguished because of the big rocks at the entrance and the entrance of the cave is pretty narrow even though the very high ceiling. It is mostly horizontal with a really less inclination and it gets narrowed and cannot be get through after 70 m because of the big rocks on the ground. The cave was search by BÜMAK in 1987 and published in Delta no. 3, pg. 39.

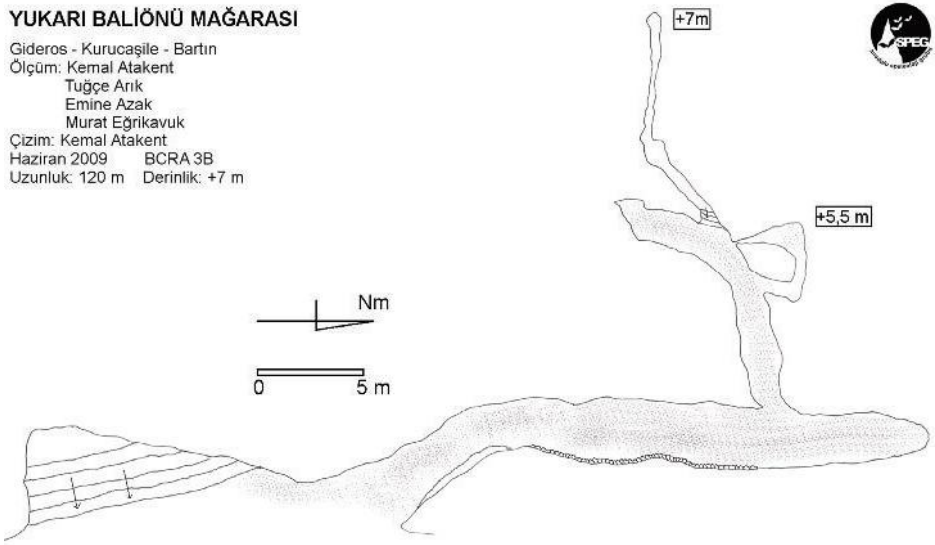


95

Yukarı Baliönü Cave

It is located in the village of Gideros, Amasya, 50m north of the Aşağı Baliönü Cave, within the same limestone formation. It has a magnificent entrance, starts with a high ceiling and wide gallery and then turns into 2 sections and ends insuperable. It was surveyed and reported in detail by MTA in 2002.

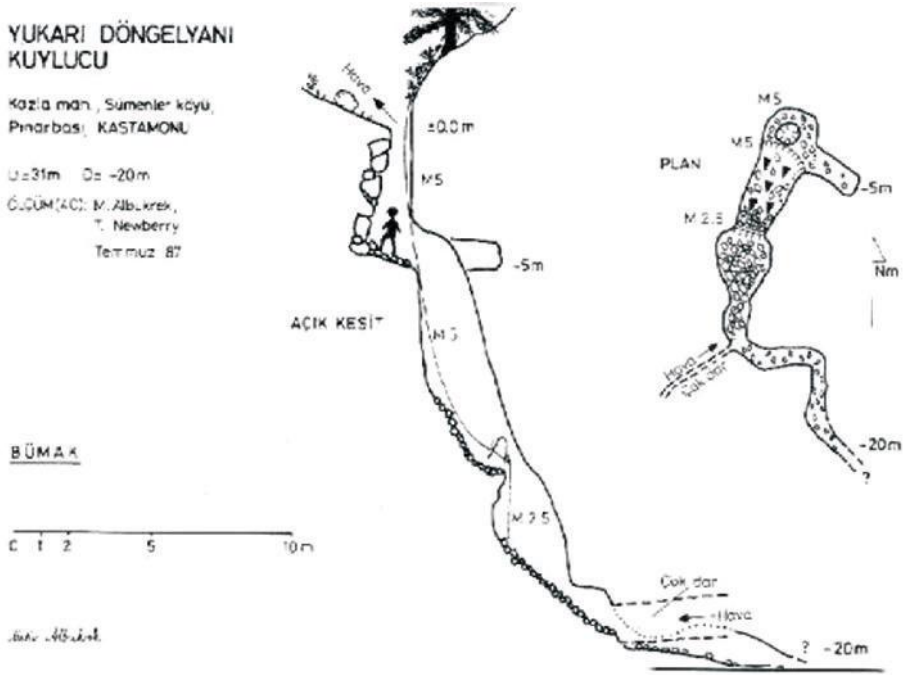




96

Yukarı Döngelyanı Sinkhole

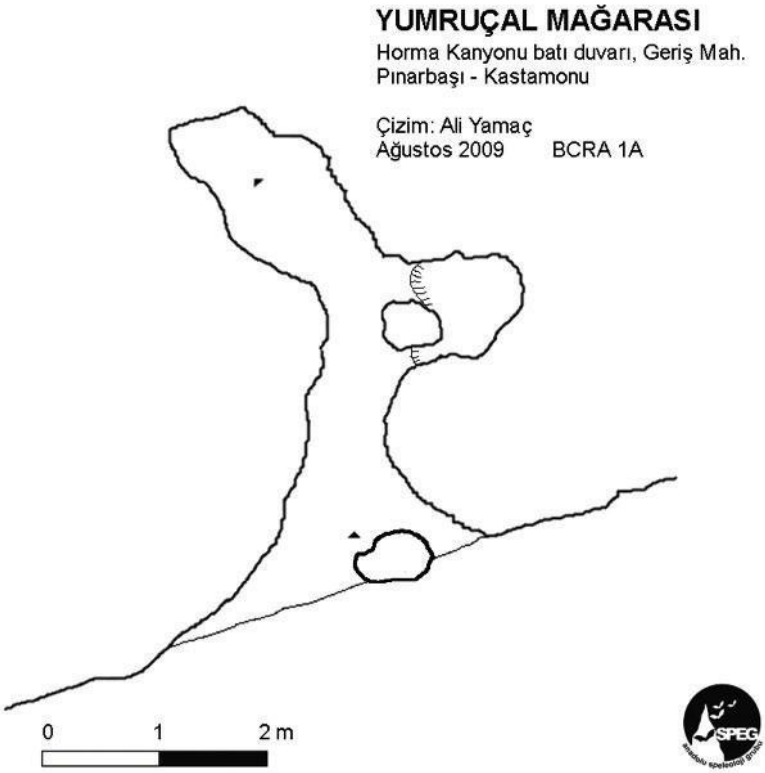
It can be visited when followed the path of Topmeydanı to the east which is at the north of the village of Sümenler in Pınarbaşı. It is located in 200m east of Döngelyanı Kuylucu. It lost the sinkhole feature because of the other small dolines in the basin. It gets stucked after a 20m gradual downhill. It was searched by BÜMAK and published in Delta 3, pg 38-39. Lots of amphipods were discovered after several searches carried out by ASPEG in 2009 and the sampling results were stated in OBRUK 1, pg.29.



97

Yumruçal Cave

The cave is connected to Pınarbaşı in the east of Geriş Neighbourhood and located in rock wall near Horma Canyon. It is small and most of it is fossil. It is the largest cave between the lots of small holes in the western wall of Horma Canyon. It has a 7 meter length. It was search by ASPEG in 2008 and published in OBRUK 1, pg. 28.





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