

EXPLORING THE CAVES OF ARMENIA BY THE FIRST OFFICIAL U.S. CAVING EXPEDITION (2007-2013)¹



Charles Chavdarian¹, Smbat Davtyan², Samvel Shahinyan³*

¹AstraZeneca, Cambridge, United Kingdom

²Brusov State University, Yerevan, RA

³National University of Architecture and Construction of Armenia, Yerevan, RA

Abstract: *The first U.S. caving expedition to Armenia, the South Caucasus, by NSS cavers took place in August 2007. Subsequent expeditions took place in 2010, 2011, and 2013, with additional trips planned for the future. The goal is the exploration and photo-documentation of the caves of Armenia, and to increase awareness of its underground realms. Although, in the past, there had been a few known caving expeditions to Armenia, overall little information existed. In addition, Armenia's local caving community is small in number. As a result, this topic was studied and the first official US caving expedition to Armenia was organized in 2007. During the first expedition, four of Armenia's significant natural caves were explored in the province of Vayots Dzor: Mozrov Cave, Arjeri Cave (Cave of the Bears), Mageli Cave, and Karmir Cave (Red Cave). Man-made caves were also visited. Subsequent trips to Armenia in 2010, 2011, and 2013 included (1) further exploration of Mozrov, Arjeri, and Mageli caves, (2) a cave trip to the neighboring independent Armenian Republic of Nagorno-Karabagh to explore Azokh Cave, and (3) the exploration of several caves in the northeast Armenian provinces of Tavush and Lori. Natural caves consisting of limestone, conglomerate, and lava were explored during these expeditions. Also, a number of man-made caves were visited, some of which were used as churches in centuries past. This article summarizes the four expeditions and discusses both the natural and man-made caves of Armenia. I believe the article will be interesting to builders, gas pipelines and road engineers. In practice, it can be used by travel agencies and individual tourists, as well as by all lovers of underground monuments of nature and culture.*

Keywords: *expedition, survey, caves, cave plan, church, tourism, photo-documentation, cave map.*

Samvel Shahinyan*

E-mail: sshahinyan@nuaca.am

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Introduction

The present-day Republic of Armenia lies geographically in the South Caucasus, between the Black Sea and the Caspian Sea. The most ancient of the countries and nationalities of the Caucasus, the indigenous Armenian people have a legacy stretching back 3.000 years. Eastern Turkey, southern Georgia, western Azerbaijan, and a northern portion of Iran are all part of historical Armenia. The Republic of Armenia is a rugged, mountainous land, with an average elevation of approximately 1.500 meters, and a population of just over three million (due to Armenia's tumultuous and tragic history, there are presently more Armenians residing outside Armenia – the Diaspora). Armenia holds the distinction of being the first nation to declare Christianity as its state religion in 301 A.D. Ancient churches in Armenia (among the oldest in the world), many still standing and in use, pre-date those of Europe by centuries. Some of these churches were hewn out of rock, thus cave churches.

Prior to 2007, available information and literature on natural and man-made caves in Armenia was sparse. After researching this topic and contacting local Armenians in Armenia, first United States (NSS) caving

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expedition to Armenia was organized. The expedition was a success, as we explored and photo-documented four of Armenia's significant caves in the province of Vayots Dzor in south central Armenia. Participating in this first expedition were Steven Johnson, James Wilson, Greg Chavdarian, Seda Chavdarian, and Charles Chavdarian of the United States, and Vrezh Nazarian and Samvel Shahinyan of Armenia, who also acted as our guides (Fig.1).

This was followed by expeditions in 2010, 2011, and 2013. As a result, further exploration occurred not only in Vayots Dzor province, but also in the northern provinces of Tavush and Lori, and the eastern province of Syunik. In addition, we also traveled to the neighboring independent Armenian republic of Nagorno-Karabagh. Both natural and man-made caves



Fig. 1. *Members of the first U.S. caving expedition in 2007. James Wilson, Greg Chavdarian, Charles Chavdarian, Seda Chavdarian, and Steven Johnson (Left to Right) – Republic of Armenia. Photo by V. Nazaryan*

have been explored and are discussed in this paper. The following cavers participated in some or all of these subsequent trips: Lara Chavdarian and Charles Chavdarian of the United States, and Vrezh Nazaryan, Smbat Davtyan, Pegor Papazian, and Nyree Abrahamian of Armenia.

Materials and Methods

Vayots Dzor Province, Republic of Armenia

For the 2007 expedition, we maintained a base camp near the village of Mozrov, at an elevation of about 1.700 meters. For subsequent expeditions in Vayots Dzor province in 2010 and 2011, we stayed in bed and breakfast homes in the town of Yeghegnadzor, the provincial capital. We explored and photo-documented several caves.

Mozrov Cave: Mozrov Cave, primarily a limestone cave, was first discovered about 40 years ago [1] during road construction, when a collapse occurred resulting in the creation of a large entrance to the cave (which is also the only known entrance to the cave). The cave sits at an elevation of approximately 1.550 meters adjacent to a mountain road. Due to its accessible location, the cave is vulnerable to visitation by non-cavers and tourists and has sustained some damage. Over the course of the four expeditions, we have explored the cave five times, and have taken a number of photographs. There is substantial decoration in this cave – stalactites, stalagmites, columns, moon milk, flowstone, coral, popcorn, crystalline spars, soda straws, helictites, etc. The cave decoration is also noteworthy for its myriad of colors – red, caramel, yellow, and white. We were to soon find that Mozrov Cave is not unique in this regard. The cave has over 300 meters of known passage. The cave consists primarily of an undulating large and long main chamber, with a separate large chamber that can be entered through a low and difficult to find passage at the back of the main chamber [2]. This second chamber is noteworthy for its extensive multi-colored decoration (and has been aptly named as “Decoration Hall”).

Due to the ongoing damage that has been occurring within the cave, Mozrov Cave was recommended for tourism. As such, the cave would be gated and protected, and only controlled access would be allowed. Also, conservation of the cave would be instilled in the visitors. A management plan was created and provided to the foundation. To date, there has been no further action on this cave. It is our hope that Mozrov Cave will eventually be protected [3]. In 2010, at our request, our local Armenian caving colleagues, headed by Smbat Davtyan, returned and surveyed the cave and provided the first cave map of it (Figs. 2,3).

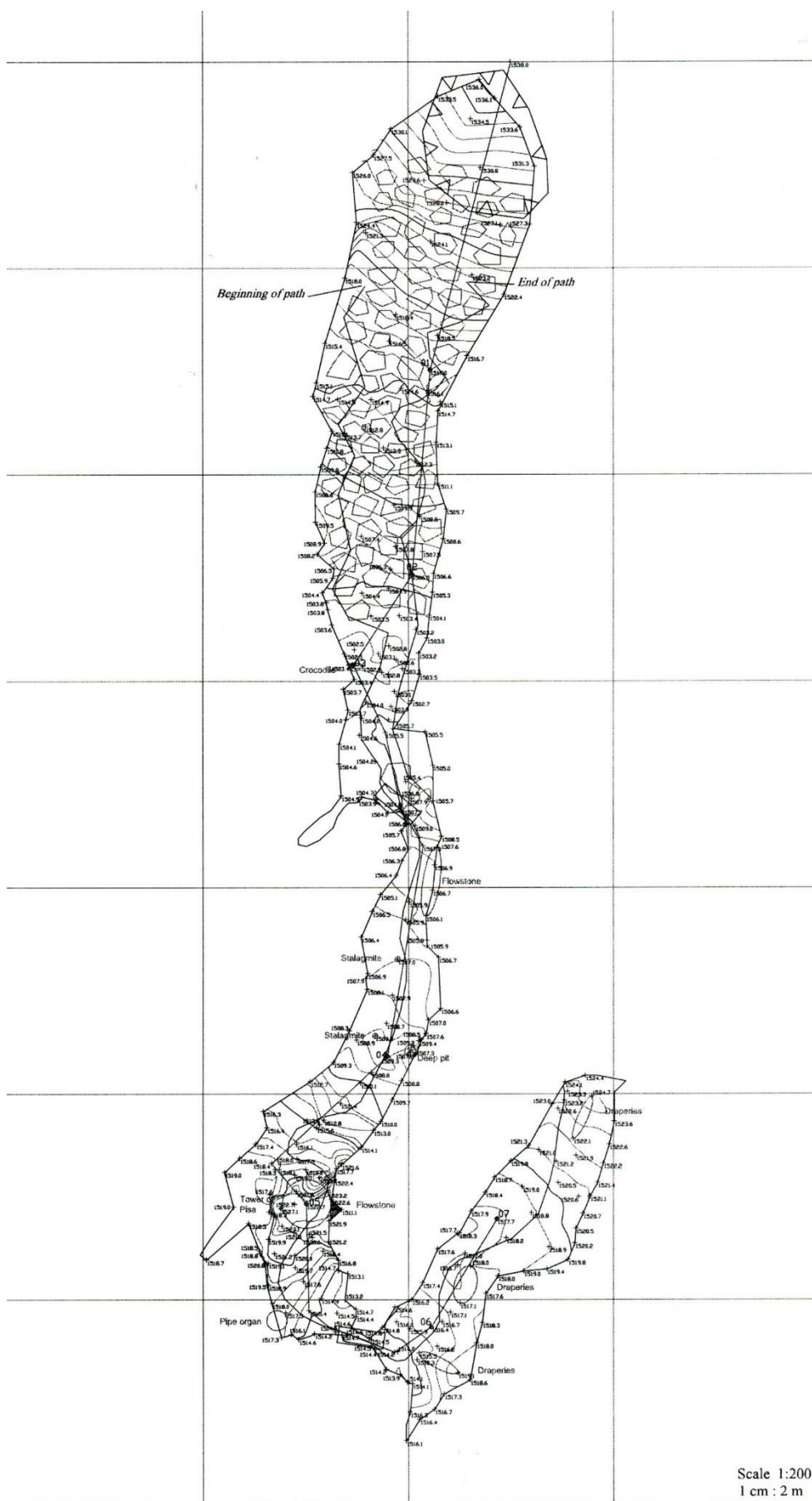


Fig. 2. Mozrov Cave Map – Survey 2010 – Smbat Davtyan

Arjeri Cave (Cave of the Bears): Arjeri Cave, at an elevation of nearly 1.700 meters, is Armenia's largest known cave, with currently about 4 kilometers (2.5 miles) of passage. Our only map was a rudimentary overview of the cave which was created by Russian cavers nearly 30 years ago [4]. The cave does require an updated and detailed cave survey and map. A total of four trips were made into this cave in 2007 and 2011. Arjeri Cave, a limestone cave, is the most highly decorated cave in Armenia, and one of the most highly decorated caves we have ever seen. To reach the only known cave entrance, one must leave their 4WD vehicle off-road, and at an elevation of 1.500 meters, and undertake the final steep hike to the cave. Just inside the Entrance Hall, explorers are immediately greeted with the sight of huge flowstone columns (Figs. 4,5,6). After passing through this first large chamber, one enters a slope requiring a steep belly crawl upward over slick flowstone. Along the way, this area is decorated with various formations. This leads into a large chamber known as Photographer's Hall, and the name is certainly appropriate as the room is rife with colorful formations – stalactites, stalagmites, columns, draperies, bacon, coral, and popcorn. The sheer quantity and density of the decoration in this large chamber is overwhelming. From here one continues on into Bear's Hall, which contains the bones of a bear [2]. This, in fact, is the reason for the name of the cave. On the way to Vayk Hall, there is a deep pit, which is estimated to be at least 18 meters deep. This pit has not been explored by us (and may possibly lead to more passage). On entering Vayk Hall, one is actually standing near the top of the hall.

The hall descends about 10 meters, and contains large, colorful columns, massive flowstone, and a myriad of formations. Overhead is voluminous white calcite coral – almost cloud-like in appearance. Continuing beyond Vayk Hall, there is a nearly 10 meter climbdown that can be negotiated with a handline.



Fig. 3. Mozrov Cave – Smbat Davtyan and Nyree Abrahamian in Decoration Hall - Republic of Armenia. Photo by C. Chavdarian



Fig. 4. Arjeri Cave Map – Russian Survey – app. 1985



Fig. 5. Arjeri Cave – Vrezh Nazaryan and Lara Chavdarian in Vayk Hall - Republic of Armenia.
Photo by C. Chavdarian



Fig. 6. Arjeri Cave – Lara Chavdarian in the Hall of Giants - Republic of Armenia.
Photo by C. Chavdarian

This then leads into a broad swath of massive columns, which we have appropriately labeled as the Hall of Giants. Continuing from this point leads one through a variety of colorful formations along the way, including nearly blood-red speleothems. Continuing on, the passage gradually slopes downward, and eventually leads to the “Lake” near the end of the cave’s known passage. On other trips into Arjeri Cave, we also explored some areas that were not present on the Russian map. There is much more exploration and detailed survey required of this cave, and it will surely extend the length of all known passages well beyond 4 kilometers.

Karmir (Red) Cave: In 2007, from our base camp, we did a very steep hike of over 400 meters up the mountainside to Karmir Cave, located at an elevation of over 2.100 meters (Fig.7). The hike took over two hours and required careful negotiating of brush, loose talus, and some exposure along the way. Reaching the entrance requires care due to the final short exposed climb. Nearby is another cave – called Kiklop Cave – but the final 30 meter climb to reach it has significant exposure and is also more challenging [4]. Time also prevented us from exploring this other cave. Karmir Cave has a large entrance chamber, allowing a group of cavers to congregate and also change in and out of caving attire. It is a conglomerate cave consisting of limestone and other mineralization, which provides the amazingly intense red color of much of the interior of the cave [5]. From the entrance chamber, there are several passages leading into the cave interior. The passages tend to intersect and loop back around. Well inside the cave we walked, crawled, climbed, and even traversed. The cave was wet and muddy, and permeated throughout with that remarkable red coloration. Although not highly decorated, there was some flowstone, stalactites, and red coralloids. We even observed some white (not red) moonmilk along the walls. There is also a 90 meter or so side passage in the cave, but neither our leader nor the rest of us could find it on this trip. The cave is well worth further exploration and is quite unique.



Fig. 7. Karmir (Red) Cave – Greg Chavdarian climbing in a red passage - Republic of Armenia.
Photo by C. Chavdarian

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Mageli Cave: Mageli Cave [4] is located along a gorge near the town of Areni, in Armenia’s wine country (Figs. 8,9,10). It sits at an elevation of nearly 1.100 meters and has over 2 km (1.3 miles) of passages. Mageli Cave is a classic example of a conglomerate cave, as it is a mixture of limestone and other minerals [6]. There is a map for the cave, but it is basically an overview, not a detailed representation of the cave. During our expeditions, this cave was explored on two different occasions – in 2007 and 2010. After entering the cave by crawling on hands and knees through the borehole entrance, one can resume walking through parts of the cave. Immediately, on entering the cave, the conglomerate nature of it is obvious, as the walls of the cave resemble coarse, pebbled or gravelly concrete. Some flowstone is observed, but, for the most part, the cave is devoid of decoration (and this is primarily due to the conglomerate composition of the cave). Not far inside the entrance, there exists a bat colony. Fortunately, because of the various passages, one can avoid passing near the bats. Exploring further into the cave, there are tall, narrow passages, boreholes, and a steep, slippery climb down to a lower level (handline recommended). Well-inside the cave there is also a 3-meter long belly-crawl squeeze with an incredibly intense, cold wind blowing through it (similar to a venturi). We negotiated this squeeze and then ended up in a chamber that allowed us to stand. However, in examining the chamber, we were unable to locate any sizable opening or passage related to the heavy wind. After passing back out of the squeeze the way we came, and gradually working our way towards the cave entrance by a different route, we encountered long, booming passages and came upon an impressive, massive conglomerate block hanging down from above, one of the signature features of the cave. After exploring additional side passages, we exited the cave. In a subsequent trip to this cave in 2010, we entered through the main entrance and then proceeded to negotiate our way through passages, including boreholes, to the upper level of the cave (above the entrance). As we worked our way along this level, we encountered a 12 meter pit (but with no vertical gear, we did not drop the pit for further exploration). However, by passing through another nearby passage, the pit can be avoided, and one can, actually, exit the cave onto a narrow ledge above the main entrance (thus, an upper entrance). On this ledge, one has a spectacular view of the gorge below. A more detailed survey and subsequent map of this cave is certainly warranted.

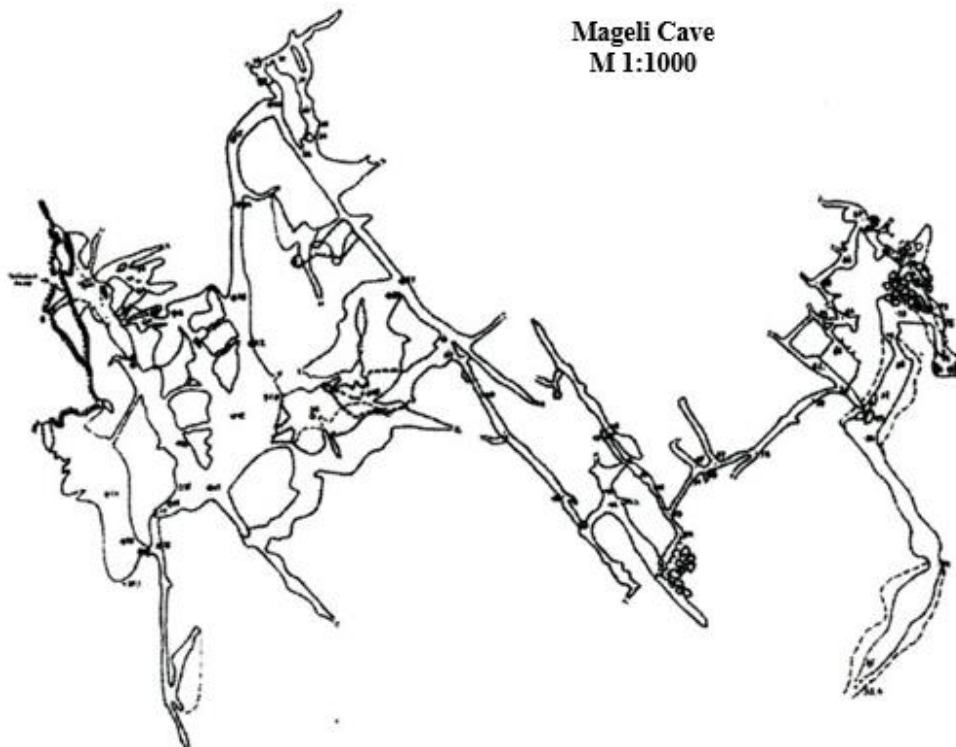


Fig. 8. *Mageli Cave Map – Survey – Smbat Davtyan*



Fig. 9. *Mageli Cave – Smbat Davtyan and Nyree Abrahamian in borehole passages - Republic of Armenia. Photo by C. Chavdarian*

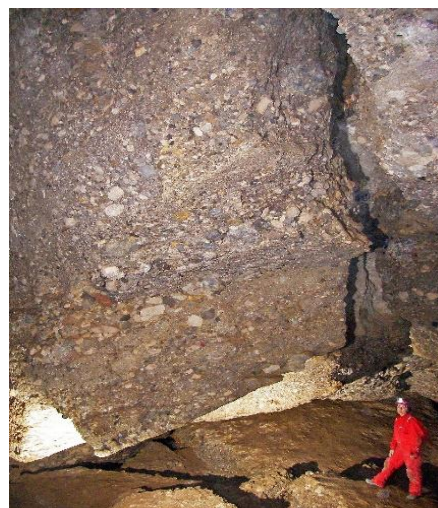


Fig. 10. *Mageli Cave – The massive conglomerate block with Seda Chavdarian - Republic of Armenia. Photo by S. Johnson*

Trchuneri Cave (Cave of the Birds): In 2007, we briefly explored Trchuneri Cave near the town of Areni. This cave is of particular note, as we observed evidence of an archeological excavation at the entrance of the cave [4]. Subsequently, in 2010 and 2011, significant archeological discoveries were reported at this dig, with artifacts dating back 6,000 years. Excavations continue to this day.

Jerovank (Water Cave Church): From the base camp in 2007, we traveled lower in elevation to a gorge with a path, which lead to a very unique cave, known as Jerovank. After hiking through the gorge, we reached the small limestone cave, next to a running stream. The locals make a religious pilgrimage to this cave each year. A church altar was built inside the cave. Some of the nearby water actually permeates into the church, and the water can be seen along the back of the main chamber, and also in an alcove next to the church altar. Along one side of the church chamber a brick wall was built, further enclosing the cave and church from the outside. We observed flowstone along the natural walls of the cave. Due to centuries of turbulence in Armenia, church caves like this existed to provide protection for the congregation.

Syunik Province, Republic of Armenia

In 2011, we traveled to Syunik Province to photo-document the man-made caves of Khndzoresk and the man-made caves of Old Goris near the eastern border of the Armenia.

Caves of Khndzoresk (Deep Gorge): The man-made caves of Khndzoresk are in an isolated and lightly populated mountainous rural region [7]. We hiked into this site. In centuries past, this was a thriving village, with man-made caves (homes) carved into the sandstone cliffs scattered all around (Fig.11). This even included a small church. It was inhabited up until the 1950s. The caves housed people, food supplies, and even livestock. All that now remains are the empty caves and the vacated church. Centuries ago, if one wanted a cave shelter or home, the local mason would fashion or carve a cave out of the soft rock. Over time, this resulted in a large, thriving cave village. The location of the caves rest on high ground, thus providing shelter in a strategic location – especially, important considering the enemies that had invaded Armenia over the ages.



Fig. 11. *The man-made caves of Khndzoresk - Republic of Armenia. Photo by C. Chavdarian*

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Caves of Old Goris: In the hills above the thriving Armenian town of Goris lie a series of rock spires (which look similar to “hoodoos”). The spires actually consist of many man-made caves, similar to those in Khndzoresk (Fig.12) [8]. This was the centuries-old village of Old Goris and it is extensive. The present town of Goris lies in a valley below Old Goris. One can access Old Goris, walk through it, and enter some of the carved sandstone caves. In some cases, where sandstone rock shelters may have already been present, the shelters were likely enlarged by local masons. The area is no longer inhabited. Once again it is important to note that Old Goris strategically sits on high ground, having provided protection to its former inhabitants.



Fig. 12. *The man-made caves of Old Goris - Republic of Armenia. Photo by C. Chavdarian*

Tavush Province – Republic of Armenia

In 2013, the focus was on the caves in the northeast section of Armenia, specifically in Tavush Province. We stayed in the town of Ijevan during our explorations in this province.

Lastiver Cave (aka Anapat Cave): Lastiver Cave is perched near a cliff, in a mountainous region of Tavush Province, west of the town of Ijevan [9]. After driving up the mountainous terrain with our 4WD vehicle to a parking area, we then hiked about 4 km to the cave. The cave lies at an elevation just below 1.200 meters. This natural cave is limestone-based. The cave has had some frequent visitation, and, as a result, is fairly devoid of decoration. The chambers in the cave range from about 10 to 100 meters deep to about 15 meters wide. In the past, one of the chambers was used as a crude church, dating back to the 12th century. In this chamber, and opposite the centuries-old altar, are a series of nearly two-meter tall, human wall carvings that appear to be just as old. However, it turns out that these carvings were actually created only about 80 years ago², as explained by Smbat Davtyan. Why this was done is not clear. But it certainly has added to the mystique of the cave. In the largest room to the right of the church chamber, there is some actual flowstone remaining along the walls. However, there is breakage of the flowstone, and they are covered in dust and silt. This is now a fairly dry cave. In one of the other chambers we did observe two bats. However, there was no evidence that the cave houses a major bat roost. We explored various large and small chambers. Lastiver Cave is a natural cave that was also used as a church (Fig.13).



Fig. 13. *Lastiver Cave – Smbat Davtyan and Vrezh Nazaryan in a large chamber with aged flowstone - Republic of Armenia. Photo by C. Chavdarian*

Large Grotto Cave, Pool Cave, and Crystal Cave: Hiking beyond Lastiver Cave, we gradually came upon a huge wall or cliff of karst at an elevation of about 1.200 meters, where we came upon a large cave shelter [10]. We named it “Large Grotto Cave”, as it consisted of a large entrance estimated to be approximately 45 meters in width. The cave extended back about 15 meters. There was breakdown at the

² Speleological Center of Armenia

back of this large cave shelter. We looked for additional passage at the back of the cave but did not locate any. It is possible that there may be passage beyond the breakdown.

We then hiked on along the karst wall and encountered another cave high up in the karst cliff. The way to this cave required some vertical rock climbing with exposure. We found a handline which had been placed there by others who had been to the cave. One member of our team – Vrezh Nazaryan – did the climb and went into the cave entrance. This cave measured about 7 meters in width at the entrance, and 10 meters deep. Further inside this cave (shelter), the width expanded to 35 meters. Inside the cave, someone had actually constructed a circular pool containing water.

Hovk 5 and Hovk 1 Caves: The Hovk caves are high in elevation in a remote area of the mountains west of Ijevan. There had been archeological excavations conducted 10 years earlier [4]. From our base in the town of Ijevan, we drove our 4 WD vehicle high up into that area. After parking off-road, we hiked up a very steep slope to the base of karst cliffs. We found Hovk 5 Cave at an elevation of approximately 2.380 meters. The cave is actually a rock shelter with dimensions of about 9 meters wide and 2 meters deep. We found evidence of an archeological dig. We then continued the hike near the karst cliff toward Hovk 1 Cave (Fig.14) [8]. During the hike, we noted limestone outcroppings scattered all along the way. Even more noteworthy was the lay of the land, which revealed an undulating landscape with sinks. As a result, there is great potential in this region for a potential cave system, or systems, waiting to be discovered. Once we reached the cave, we hiked up a slope and entered the elevated entrance, which sits at an elevation of over 2.050 meters. The first section of the entrance is about 0.5 meter wide and 3 meters long. This is followed by two large steps cut into the entrance – presumably by archeologists who excavated the cave entrance – which then lead into the main part of the cave which is approximately 3 meters wide and over 21 meters in length. The main passage has a high ceiling which eventually pinches down to a marrow slot at the back of the cave. There is little decoration. This was clearly a very habitable cave, and strategically favorable as it sits up into the side of the karst cliff .



Fig. 14. Hovk 1 Cave – Vrezh Nazaryan in the high entrance - Republic of Armenia. Photo by C. Chavdarian

Zrangan Cave (or Zerangan Cave): For our next destination, we traveled east of our base - the town of Ijevan - and up into the mountains towering above the town. The goal was to reach Zrangan Cave (Fig.15). at an elevation of approximately 1.850 meters [4]. The last part of our trip was off-road with our 4WD vehicle. This cave has a deep vertical entrance drop thought to be at least 45 meters in length. At the time of this trip, our colleague Smbat Davtyan told us that he knew of only one attempt at dropping down the entrance pit. This occurred about 30 years earlier. A group of non-cavers had lowered one of their people down to the bottom of the pit. This person actually explored some passage, but became frightened, and was hauled out of the



Fig. 15. Zrangan Cave - C. Chavdarian on rope at the entrance drop. - Republic of Armenia. Photo by V. Nazaryan

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cave. No one knows the true extent of the cave. Unfortunately, on the day we were there, **C. Chavdarian** was the only caver with extensive experience at single-rope technique. Although very tempting, the correct decision was made to not drop the pit – that is, not to do any solo caving for obvious safety reasons. Instead, he did a demonstration for the caving colleagues by rigging the entrance drop, gearing up, and only rappelling down a short distance, followed by a changeover and ascent out of the cave. An actual cave trip into Zrangan Cave may be planned for in a future expedition.

Lori Province – Republic of Armenia

After leaving Tavush Province, our final caving destination of the 2013 expedition was to a lava cave in the neighboring province of Lori, to the west. This is also a rugged mountainous area of Armenia that also has caves.

Sanahin Lava Cave: Sanahin Lava Cave is the second largest lava cave (aka lava tube) in the Republic of Armenia (Fig.16), as noted by my colleague Smbat Davtyan [11]. The cave is located near the town of Alaverdi and is just off a main mountain road and on the side of a cliff, at an elevation of nearly 1.000 meters. The cave looks out over the town of Alaverdi and the Debed River in the spectacular and scenic gorge below [9]. This lava cave has about 80 meters of passage. There are three entrances to the cave, but only one is negotiable - and that is the main entrance nearest the road. To the left of the main entrance is a very small, squeeze entrance, which is not negotiable as a crawl, and farther to the left is a large, wide cliff entrance. The cliff entrance has an approximate 30 meter vertical drop outside, and thus, very dangerous if one is near this drop when standing inside the cave and looking out this entrance. Over the years, people and livestock have inhabited the cave, but we saw no one there during our trip. The cave appeared to be abandoned. Inside, there is mostly walking passage. However, there is a wet passage of about 9 meters in length which required kneeling and crawling. We did observe some small secondary formations overhead in the cave inside this wet passage – small stalactites of about 2.5 to 5 cm in length, generated from solution deposition. Inside the main entrance and to the left is the main trunk passage. This passage curves and eventually ends at the wide cliff entrance with the sheer vertical drop. This cave is well worth exploring.



Fig. 16. *Sanahin Lava Cave – Vrezh Nazaryan and Smbat Davtyan at the impressive cliff entrance, with a spectacular view of the town of Alaverdi in the gorge below - Republic of Armenia. Photo by C. Chavdarian*

Kotayk Province – Republic of Armenia

In Kotayk Province sits the medieval monastery of Geghard. This church is noteworthy as it was originally created by boring by hand into a rocky mountainside. It is now a UNESCO World Heritage Site. The majority of the church sits inside the mountainside, thus, the interior walls and massive columns of the main chapel, built in 1215 A.D., are entirely carved out of rock. It is, in essence, Armenia's most famous man-made cave church. Our team spent a day inside the church, marveling at it.

The Nagorno-Karabakh Republic

East of the Republic of Armenia lies the Nagorno-Karabagh Republic (NKR), home to an estimated 150,000 Armenians. This present-day independent Armenian republic is actually part of historical Armenia

(and contains Armenian churches dating back centuries) but was tragically partitioned away and placed under the jurisdiction of Azerbaijan by the Soviet Union. Following the break-up of the Soviet Union in 1991, the Armenians of NKR fought for and regained their independence. This war with Azerbaijan ended in a cease-fire in 1994. Presently, one can travel through most areas of the Republic. Thus, in 2011, Vrezh Nazaryan, Smbat Davtyan, and Charles Chavdarian journeyed to NKR to explore a specific cave.

The Caves of Tegh: On our way to NKR, we initially passed through the border village of Tegh (Fig.17), located just inside the Republic of Armenia, and east of the town of Goris. As we drove through, we looked off to our left, and there along a ridge, just below the main plain of the present-day village, we saw a number of large holes running along it. These were indeed caves, but it was not clear if they were all man-made. Some may have been natural caves that may have been enlarged to house families, and some may have been totally man-made. We did not stop there, but we did capture some photos.



Fig. 17. *The Caves of Tegh - Caves below the village - Republic of Armenia. Photo by C. Chavdarian*

Azokh Cave: Azokh Cave, located in the southern region of NKR, was the goal of our trip. Lying on a hillside in NKR's Hadrut province, and overlooking the village of Azokh, is Azokh Cave (Fig.18). This cave is of archeological significance, as a Pleistocene, pre-Neanderthal mandible fragment was discovered there in 1968 [12]. This led to a series of subsequent excavations up to the present. A number of artifacts have been found, but the excavations are essentially all at the three entrances (not deep inside the cave), with most of the excavations at the large main entrance (which is a high and wide vertical slot entrance). It is known that the cave consists of roughly three chambers, and three cave entrances, and has roughly 180 meters of cave passages. In researching this cave prior to the expedition, we found very little information regarding the actual interior of the cave (beyond the main entrance), and hardly any photographs. There is only a very rudimentary hand-drawn outline map of the cave [5]. It appeared that very few individuals ventured beyond the main entrance and deep into the cave. Once we passed through the main entrance chamber and into the next chamber, we discovered why there was so little information. In the second chamber and beyond, one is subjected to massive amounts of flying bats, flies, and guano (and its odor), which can be overwhelming. This was a shock, but it also answered the riddle of this cave, as to why so little was known of it. A non-caver would not have lasted longer than 10 minutes inside the cave. However, we cavers were determined to explore and photo-document the cave. We managed to remain in the cave for about 1.5 hours. We gingerly moved through the narrow passages connecting the chambers, either upright or by crouching, and were careful not to fall into the slippery,



Fig. 18. *Azokh Cave - Smbat Davtyan with a column and decoration - Nagorno-Karabakh Republic. Photo by C. Chavdarian*

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deep guano. The cave is mostly devoid of decoration however, we were pleased to find two large limestone columns – one of which was rather impressive with surrounding flowstone. We also discovered an incredibly large mound of guano taller than us – reminiscent of the guano mound in the Planet Earth television series. As tough as this trip was, all caves deserve to be explored, regardless of the conditions one may encounter. We accomplished the objective, and now have a clear understanding of the nature of this cave.

Discussion

Inside one of the caves, someone had actually constructed a circular pool containing water. Stones lined the pool. As a result, we named the cave “Pool Cave”. It is not clear the purpose of the pool. It may have provided a water source for the more contemporary inhabitants, or possibly a source for bathing.

We then continued our hike along the bottom of the karst wall and soon came to another cave at an elevation of approximately 1.200 meters. The walk-in entrance was approximately 2.5 meters high and 2 meters wide. The cave extended back over 20 meters, and we could walk upright through the entire length of it. There was no noticeable decoration, and a fair amount of breakdown. It is possible that there had been an excavation inside this cave. The notable feature was that there was a pile of crystalline calcite near the entrance, which had been partially scavenged by others. Because of this, we simply named the cave “Crystal Cave”.

The medieval monastery of Geghard in Kotayk province is, in essence, Armenia’s most famous man-made cave church. The original name of the monastery was Ayrivank, which means “The Cave Monastery” or “The Monastery of the Cave”. It was later called Geghard, which refers to the spear which wounded Christ during the crucifixion, and was subsequently alleged to have been brought to this church for storage (the spear currently resides in the Holy See of Echmiadzin, near the capital of Yerevan, Armenia). In any event, Geghard is a must-see for any visitor to Armenia, including cavers.

Conclusion

Over a period of six years, with four expeditions to Armenia in 2007, 2010, 2011, and 2013, we explored and photo-documented a number of natural and man-made caves – limestone, conglomerate, sandstone, and lava. We experienced the color and beauty of Armenia’s natural caves, the intriguing man-made cave villages, and the reverent use of caves as chapels and churches. Caves have been an integral part of the landscape and culture of Armenia and the Armenians. Through these expeditions, one cannot help but gain a greater and enduring respect for this ancient land and its people.

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Charles G. Chavdarian, Doctor of Philosophy (PhD) in Chemistry (United Kingdom, Cambridge) - AstraZeneca, Cambridge, United Kingdom, caver3d@comcast.net

Smbat Davtyan, Doctor of Philosophy (PhD) in Geodesy, Cartography and Cadastre (RA, Yerevan) - Brusov State University, Lecturer at the Chair of Tourism and Service, srdavtyan@mail.ru

Samvel Shahinyan, Doctor of Science (Architecture) (RA, Yerevan) - National University of Architecture and Construction of Armenia, Head of the Chair of Geoecology and Biosafety, sshahinyan@nuaca.am