

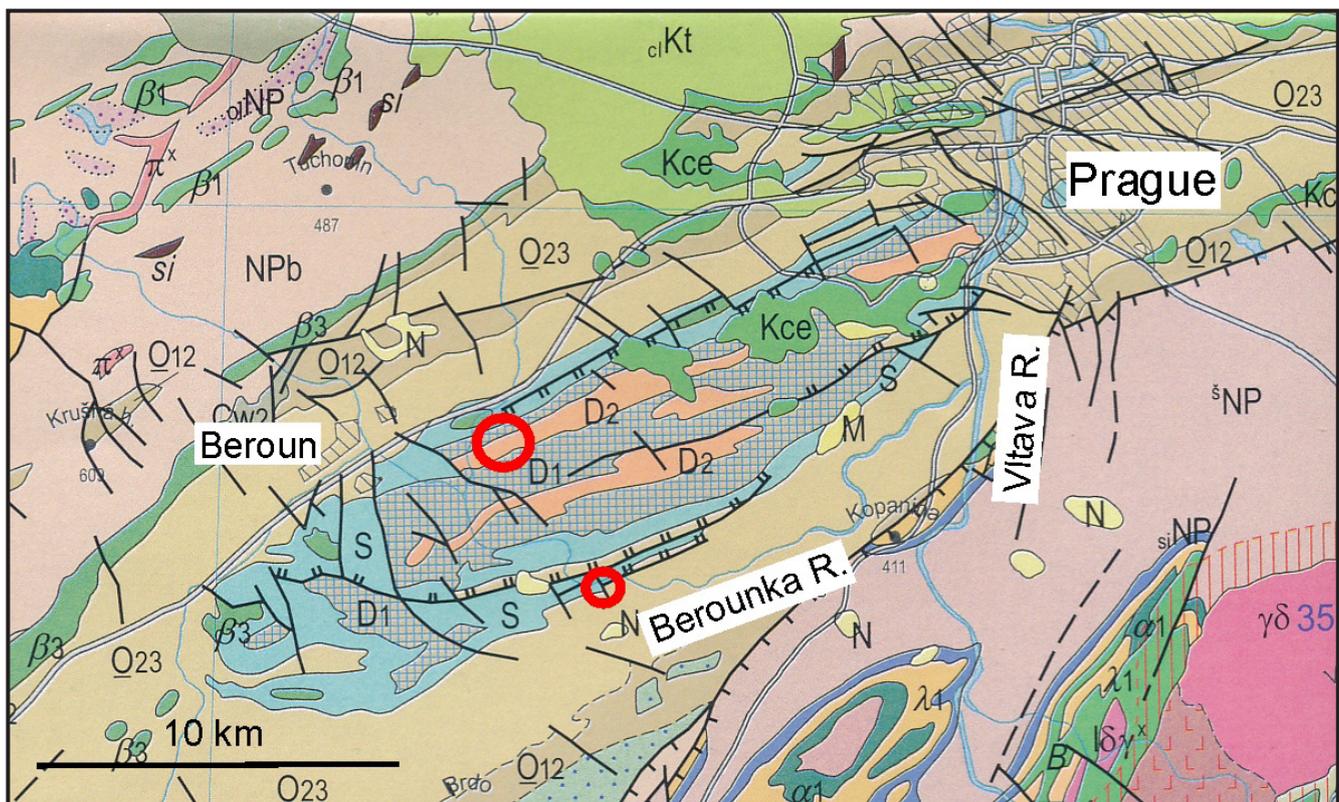


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Introduction

The GEOSPELEOS caving club is one of the earliest organizations of the Czech Speleological Society. The official club title is the Basic Organization of the Czech Speleological Society 1-05 „GEOSPELEOS“ Prague. The club member count has been varying between 30 (founding) and 55 (today). The members have been realizing in caving mainly in the Bohemian Karst at club cave localities concentrated around the Kačák River Canyon, the Bubovický Stream valley, and Solvay Quarries near Bubovice village. A majority of club members come from Prague and Central Bohemia (Beroun, Řevnice, Benešov towns etc.). The outstanding group of the GEOSPELEOS caving community is represented by cavers and cave divers from Kladno. Our main activities are focused on discovering, mapping, and documenting not only the karst cave systems, but also historical underground mining structures. However, contribution to scientific cognition of karst processes, both in the Czech Republic and foreign karst regions, has been a challenge for number of club members dealing with geology, hydrogeology or paleontology, both as professionals and students.



■ Geological map of the Prague Basin (Cháb et al., 2007) with karst areas managed by the GEOSPELEOS club (red circles).

Concise explanations: O23 - Ordovician marine mudstone and sandstone; S - Silurian shale, limestone, basalt; D1 - Devonian limestone; D2 - Devonian marine shale and sandstone; Kce - Cretaceous marine mudstone, sandstone and conglomerate.

Stage before 1978

Before the Czech Speleological Society Foundation

The first GEOSPELEOS root

Written by Vladimír Lysenko

The beginnings of a young spelunker in 1950s were not much different from the first struggles of a contemporary spelunker. There were many impulses at the start. When I was 11 years young I got to meet Dr. Peter Droppa (member of the Slovak Demänovská Caves discover team), and he took me on a guided tour in this gorgeous cave system, even through zones closed to common visitors. Also, my geography teacher in Prague, L. Letošník, was very influential at the karst point – his exciting stories about the fresh discovery of the Koněpruské Caves in Bohemian Karst were so exciting that I did not hesitate for long. After I narrated his stories back home, my dad decided to visit this striking site. We took my class mate, Kardam Ovčarov, along for our cave trip as well. When we arrived at the Koněpruské Caves we met a group of extraordinary persons covered in mud. They were local cavers. They agreed to show us around and took us into the cave as well. Our first stop was at a shaft descending to Prošek's Chamber below us. When my dad, who always suffered from fear of heights (and depths), saw the chasm below our feet, he strictly said that we are not going down there under any circumstances. The next week, leaving my dad home thinking that we left to collect minerals from the mining piles in Příbram, and with Kardam along for the ride, we hopped on a bus heading to the Koněpruské Caves. So, that was the beginning of everything - 1954...

Together with my friend Kardam we started spending more and more of our free time “discovering and exploring the caves” in the former Hlubočepy Quarries at the Prague periphery. One day we got stuck in a quarry wall without any ropes or helmets. It was impossible to go up or down. At the end we somehow managed to climb the wall using all of our efforts and strength. After that, we decided that our next karst climbing and caving attempts should be supervised by somebody experienced, like the guys who we met during our first visit to the Koněpruské Caves. And so we started with serious caving. This also meant meeting with the legendary explorer Jaroslav Petrboř, who directed us, after one of our many visits to his cellar office in the National Museum, to the “By Three Warriors” pub in Prague, where the legendary Wednesdays meetings of members of the Karst Section of the Society of National Museum were taking place. It was 1957. We (Kardam and I) graduated from high school on June 11, 1957, and on June 12 we officially became members of the above mentioned Karst Section. I got my membership card the following year when I turned 18.



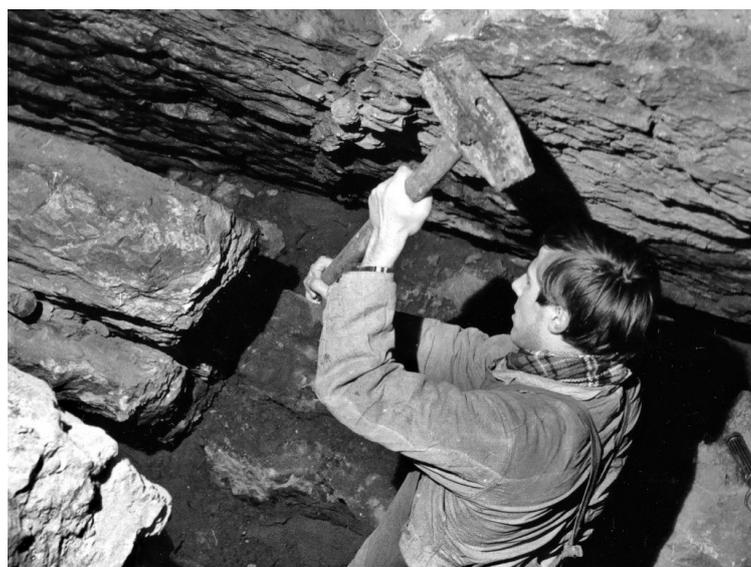
■ Shot from survey of the Main Chamber (today Prošek's Chamber) in the Koněpruské Caves (Bohemian Karst) in 1957 (Photo by V. Stárka).

The main activities of the Karst Section during the 1950s were mainly focused on the Bohemian Karst area around the Zlatý Kůň Hill where the Koněpruské Caves were discovered in 1950. The next areas of interest were located at Prachovice and Vápenný Podol in the Železné Hory Mts., in Tomášek's Chasm at Srbsko in the Bohemian Karst, as well as in the pseudokarst Caves at Locket. Explorations in these areas were conducted in 1955.

In Slovakia, we focused on geomorphological and geological research on the Muráň Karst Plateau (study of sediments from the Jasovská Cave – in collaboration with the Czech Geological Survey), and on karst features in the Zádielsky Canyon. One can find all of details about this pioneering research activity in papers published in the Czechoslovak Karst journal. Those papers are mainly reports by experienced professional karst specialists who guided our first steps during our caving beginnings: J. Kukla, F. Prošek, F. Skřivánek, F. Králík, and V. Ložek. I would also like to mention J. Budák and Z. Březina, who were very influential, especially with their activities around the Koněpruské Caves - closed to the public at that time.

The summer caving camps arranged by F. Skřivánek in the Slovak Karst during every summer holiday were outstanding and unforgettable. In 1957 the camp was located in the southern part of Silická Plateau (at Malá Žomboj Chasm). During 1958–1959 we stayed at the Velká Bikfa Chasm in the same plateau, and around chasms in Plešivecká Plateau and Dolní Vrch Plateaus.

Because the Koněpruské Caves were converted to a show-cave in 1958–1959, our karst team moved to another, still promising and undiscovered locations in Bohemian Karst. We participated during the excavation and prolongation in the Císařská Gorge terminal cave, and in the opening works at a new entrance to the Srbské Caves. We also started documenting caves on the right bank of the Berounka River between Beroun and Karlštejn towns above and below a railroad. Our next points of interest were the caves in the Bubovický stream valley and around and inside the America Quarries. During these years we participated in the exploration and measurement of newly discovered New Caves in Bozkov in N Bohemia (our team was led by F. Skřivánek).



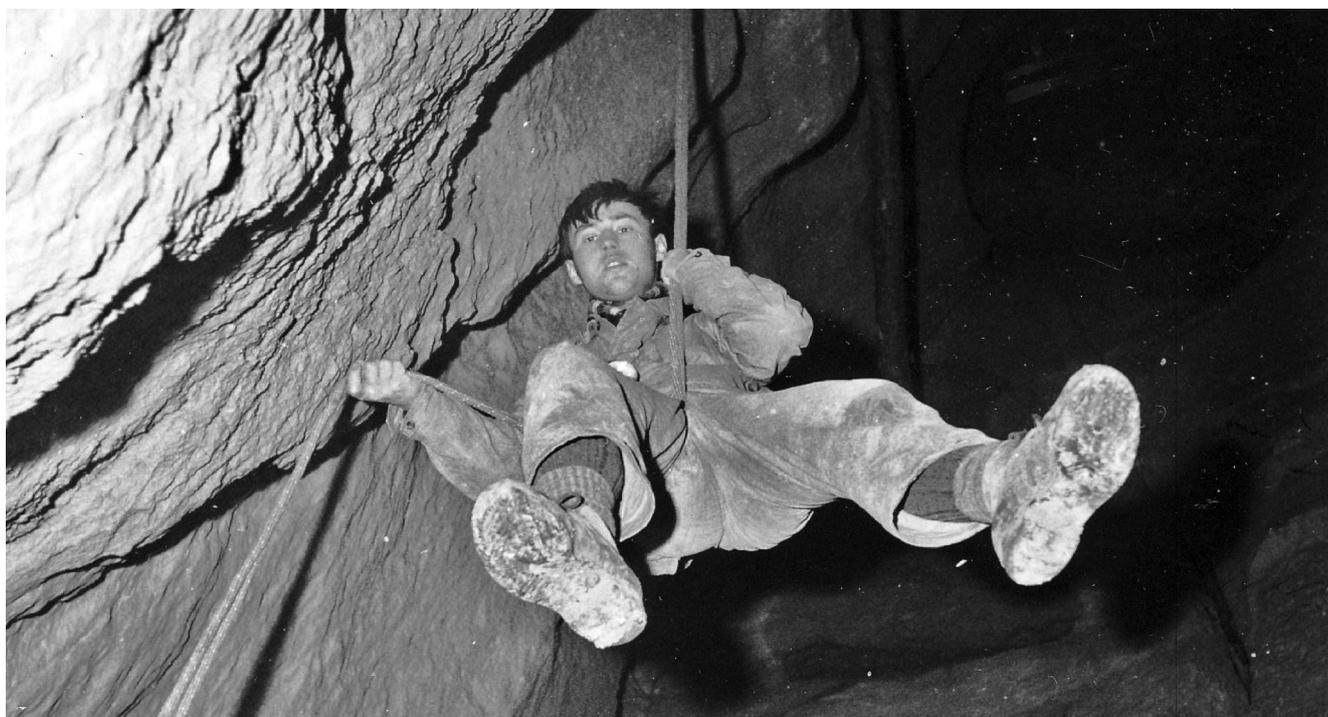
■ Fine exploration work in the Tetín Discharge (Bohemian Karst) in 1967 (Photo by V. Lysenko).

Our group was still growing and we did not have a proper “leader”. Generally, everybody who came and enjoyed caving with us could become a member of our team. The ones who were later founded the GEOSPELEOS club were: Kardam and his younger brother Irnik, Ivan Turnovec and myself.

The political situation changed quickly in late 1960s. Travelling possibilities became limited and the state establishment was trying to shackle all free time activities. Thus, many young people tried to join organizations that were not overly ideologically-controlled.

From this point of view, caving represented a return to nature, romantic feelings, a free mind, etc. Caving represented the real “underground” in the sense of background and philosophy. There were many people who joined the Karst Section for these reasons. Many of them were students or graduates from the geological high school or Faculty of Science at the Charles University in Prague, together with other professional specialists. In 1962, M. Erdös from Rožnava (finishing his studies at the Faculty of Civil Engineering in Prague at that time) became a member of the Karst Section.

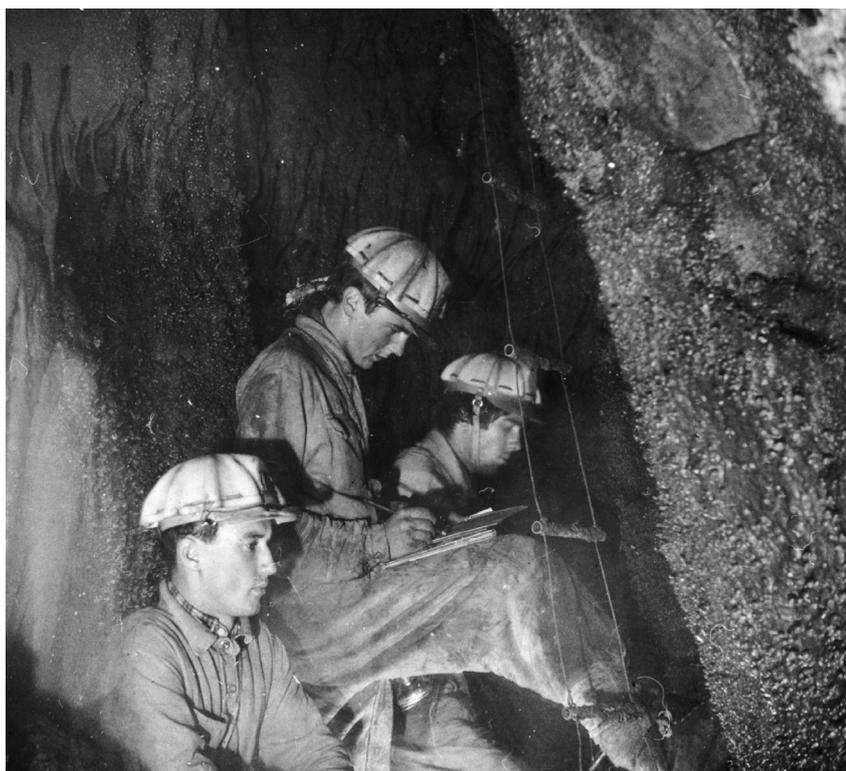
In 1962, J. Hromas (working in the Koněpruské Caves at that time) initiated in Beroun the foundation of a speleological club called “Bohemian Karst”. The Karst Section became a co-founder of this club. Our caving activities were endless. We were climbing the cave shafts in the formerly-discovered cave systems, documenting and digging caves in abandoned quarries (e.g. Kavčí, Chlum and Amerika quarries) and measuring the caves in Mramor and Šamor hills. In 1965 we finally penetrated a narrow crack in the Podtraťová Cave enough to get through into a chamber with a lake, which is still the deepest underground lake in Bohemian Karst.



■ Descent to newly discovered passages in the Amerika II Cave (Bohemian Karst) in 1967 (Photo by V. Lysenko).

The research was also continuing in Slovak Karst. Together with J. Hromas we were exploring and measuring the Brzotínská Cave and chasms in the Plešivecká and Dolní Vrch plateaus. All together we documented or explored more than 20 chasms in 1963 alone.

In 1962–1964, F. Skřivánek was organizing several speleological events in Italy. In 1963, I participated as well, being the youngest member of a team, and we descended into the Antro del Corchia Chasm, at that time the 3rd deepest cave system of the world.



■ Mapping in the Diviača Chasm in the Plešivecká Plateau (Slovakia) in 1965 (Photo by V. Lysenko).

In 1964 we measured 12 chasms and one cave in the Plešivecká Plateau together with M. Erdős and a small team accompanied by local hunters. Moreover, we penetrated into other parts in the Diviača Chasm. We got to the bottom, 118 meter deep, through chambers and vertical passages with beautiful cave decorations. The 1960s and 1970s were dedicated to the descents and research of the deepest chasms and caves in Slovak Karst.

Our vertical caving technique was improving rapidly - from descents on rope leaders we started to use regular alpinist ropes and climbing equipment,

and we started to learn how to use the single rope technique properly. We learned most of these tricks from our Polish colleagues. Sometimes we also practiced our techniques in chasms together with mountaineering experts.

On May 5, 1966, we organized the 1st annual Jaroslav Petrbok Memorial Bicycle Race in remembrance of this great “Karst Old Man”, who was very popular, and his achievements became legendary. The race was designed in the spirit of a famous “novel” by V.W. Stárka. The route started in Prague and led through the Amerika quarries to the Zlatý Kůň Hill hosting the Koněpruské Caves. This annual race event is arranged (in a little modified form) by the GEOPELEOS club up to the present day.

It was during this time that a group of young enthusiastic spelunkers, led by teacher Z. Valeš from Řevnice, appeared on the scene. Several of them later became members of the Prague Karst Section, similarly to some members of the Bohemian Karst caving club from Beroun town. In 1969, the cavers from Řevnice were the ones who discovered Palach’s Chasm in the Čerínka Quarry in Bohemian Karst (see Chapter 2.2).

There were various groups with different fields of interest connected with Bohemian Karst, or groups focusing on specific activities in the karst like speleoalpinism, karst hiking or scientific research. Activities of the separate teams and clubs were often interconnected and they occasionally culminated in common events - e.g. weekend visits of the Moravian Karst caves, descents into Slovak Karst chasms or expeditions abroad to Romanian, Hungarian or Poland karst regions.

In the late 1960s I graduated together with P. Hradecký in geology with diploma thesis on Slovak Karst (Horný Vrch and Plešivecká plateaus), including cave and chasm descriptions and maps.

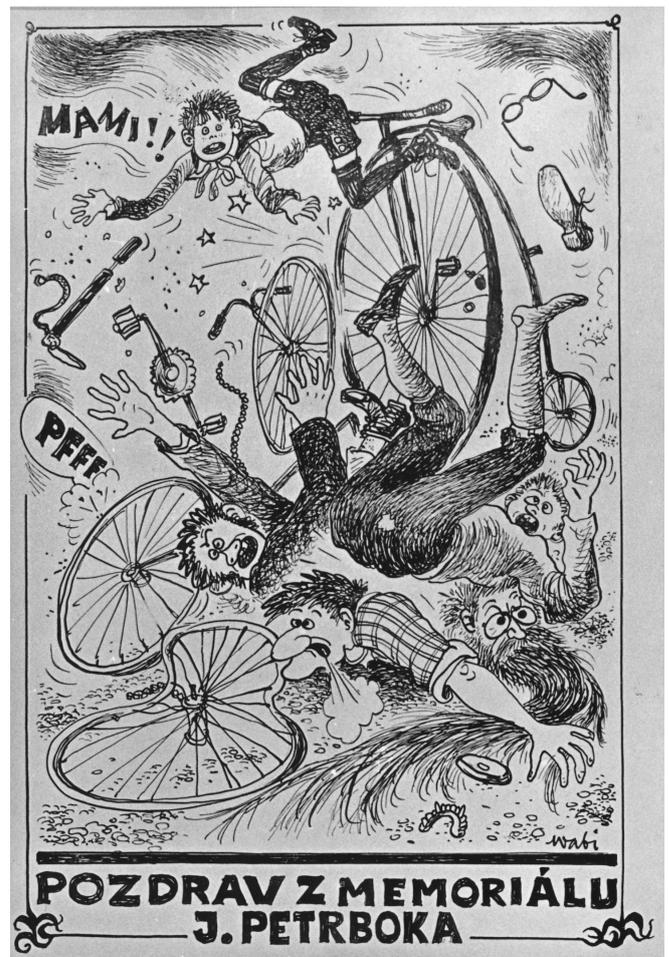
Collaboration with the East Slovak Museum in Košice was developed thanks to M. Erdős in 1966–1967. The following research of the Čertova Diera-Liščí cave system and Domica Cave was conducted in the frame of a flood protection project. In 1967, we revised the original J. Májko discoveries in Silicko-Gombasecká cave system. Following exploration of the most important sumps in the Slovak Karst cave systems, we conducted during a joint project together with British cave divers supported by J. Kukla.

On November 15, 1969, there was an official founding meeting in the National Museum in Prague where the TIS (Union for Nature and Landscape Protection) was established. The Prague Karst Section became a 5th basic organization of this Union. I participated in this event as an official delegate of the Prague Karst Section (registered under No. 125).

Unfortunately, in 1968 we could not realize a joint expedition together with our French colleagues – the descent into the deepest chasm of the world (at that time), called Gouffre Berger, because we did not get permissions to travel and visas from our state institutions. Therefore, we started to prepare another expedition sheltered by the TIS. It was a volcanic expedition focused on the geological mapping of the Cotopaxi volcano (5897 m high) in Ecuador. The locality was intended to become a National Park. One of the expedition's goals was a descent into a 334 meters deep volcano crater which was considered at that time the highest active volcano in the world. We were preparing the descent using the cave single rope technique. We organized a couple of practice descents for our less experienced colleagues into several chasms: Čertova Diera at Horný Vrch Plateau, Velká Bikfa Chasm and Zvonica at the Silická and Plešivecká plateaus.

The Cotopaxi expedition did in fact happen in 1972 as a joint Czechoslovak-Polish event (with Polish Club Wysokogórski, Sekcja Taternictwa Jaskinowego from Krakow). We successfully completed our scientific program, including the first descend ever into the Cotopaxi volcano crater. Newly discovered caves in volcanic rocks were also measured and mapped in a frame of the geological mapping.

The VII Speleological Congress was arranged in Olomouc in 1973. The Karst Section helped with the event preparation. I participated with a talk in a scientific session (Lysenko, 1973). During the congress we met J. Slačík from Ore Mine Company in Příbram, as well as professional speleologists from the Karst Research Dept. of the Moravian Museum in Brno. Together with J. Slačík we studied speleothem



■ Invitation to the 10th Annual Jaroslav Petrbok Memorial Bicycle Race (drawn by V. Stárka).

mineralogy, especially in Bohemian Karst during the following years. Our field of interest was mainly focused on photoluminescence and chemical composition of limestone, speleothems and cave minerals. A special scientific team for karst physical research named TARCUS was founded on March 15, 1974. The authors of the team name were Moravian speleologists and the founding members V.A. Gregor and M. Princ from Brno, V. Lysenko from Beroun, and J. Slačik from Příbram (the last two were members of the Prague Karst Section) and A. Pakr from Ostrava. A.T. Romero - the chairman of the UIS committee for physical and chemical karst processes - was officially informed about the team founding. Consequently, the TARCUS team members also became members of the UIS board as well. During following years many spelunkers and university students from Bohemia and Moravia participated in the TARCUS program.

Establishing of the TARCUS team did not mean the end of our caving activities in Bohemian, Moravian, and the Slovakian Karst areas. In 1974 we arranged a geological survey of chasms at the Dolní Vrch Plaeau (supervisor V. Lysenko) for the IGHP Žilina Company. The research included descents into the Almása (-103m) and Vescembükki (-213m) chasms in Hungary. We also organized clearing the Barazdaláš Chasm at the Silická Plateau in 1975. The leaders of this event were M. Sluka and P. Hradecký. There were 25 cavers from the Bohemian and Moravian Karst areas who participated.

In 1973 we descended to the bottom of Meintusiej Cave (-220m) in the western High Tatra Mts. in Poland along with the Polish Mountain Rescue team. In 1977 we arranged a descent to the bottom of the Sniežna Chasm (-620 m). It was quite dangerous and hard because the level of groundwater was really high due to floods in the Zákopaný region. In 1978 a group of 5 members wandered through the Banát Mts. (Romania) where they descended into a number of caves and chasms, including the famous Avenul din Poiana Gropii (-235m).

The second GEOSPELEOS root

Written by Stanislav Kácha and Zdeněk Řeřábek

It all started at a small local elementary school in Řevnice, not far from Prague. Our teacher Z. Valeš, along with another karst enthusiast, V. Stárka, founded a speleological club for young pupils. These karst gurus were both members of the Prague Karst Section. We joined our first karst trips with the club in 1964 as 13 years old boys. There were a lot of caves in the Bohemian Karst for us to explore and enjoy the real adventure (e.g. Na chlumu caves, bottom level of Koněpruské Caves



■ Shot from survey of the Krápníková Cave (Bohemian Karst) in 1965 (Photo by Z. Valeš).

or Podtraťová Cave). Adventure awaited everywhere. The first time we descended into the Tomášková Chasm using simple rope leather, being belayed by more experienced friends.

The most exciting and unforgettable were the summer holiday expeditions to the Slovak Karst areas, which lasted for couple of weeks. The first one was organized in 1965. The itinerary of this and subsequent expeditions was always the same – we started in Slovak Karst (for a week) then we moved to the Slovak Paradise canyons, and the final part took place in the Vysoke Tatry Mts.

During this memorable year we also visited Plešivecká Plateau, where the Prague Karst Section were exploring and documenting the newly discovered Kančí Chasm. For the first time in our lives we got to see a real cave field camp and the tough looks of the live, hard spelunkers. We still keep in touch with some of them today.

Our main activities in the Slovak Karst were focused on the Dolní Vrch Plateau. We were mapping and searching above and underground under the supervision of Z. Valeš and V. Stárka. We always sent all of our gear and food supplies in advance from our native Řevnice by train to the Slovak Hrhov railroad station, and then we carried all of the material uphill to the Dolní Vrch Plateau where our field camp was. There were also often cave guys from the Prague Speleological Club working at this plateau.

Most of these adventurous expeditions happened during 1965–1967, and visits to famous show-caves were also common: e.g. Domica, Gombasecká and Jasovská. We also got to see the most famous Slovak karst places such as Zádielský Canyon, Turňanský hrad, Betliar, Krásná Hôrka, Silická and Horný Vrch plateaus. Later, we would often and gladly travel back to the Slovak Karst - especially during Easter and May holidays. We would descend into the deepest chasms in the Silická, Plešivecká, Horní and Dolní Vrch plateaus. In 1967, after we graduated elementary school, we finally entered the Karst Section. At that time we met experienced cavers who were working in a team sheltered by the District Museum in Beroun, which is the center of the Bohemian Karst. And we also started going to prestigious Wednesdays meetings of the Prague Karst Section. At the beginning, most of the meetings were happening at the Koruna Hotel, on Černá Street in Prague. Throughout this time period we got to meet the most famous and legendary karst gurus there. It was during these years when we started our first serious excavations and digging in the Bohemian Karst (test pit in Tetínská Gorge, Tetínská Discharge, Jezevčí Cave on Mramoru Hill, Peklo Cave at Srbsko, etc.). Finally, we began working in the newly discovered Palach's Chasm (Čeřinka Cave) in February 1969.



■ Handmade postcard by V. Stárka containing a message (opposite site) concerning a following weekend speleological (and probably also paleontological) trip to caves in Bohemian Karst (10/06/1966).



■ Material transport from Hrhov railroad station to caving camp on Dolní Vrch Plateau (Slovakia) in 1967 (Photo by Z. Valeš).

In May 1968 we took part in the Jaroslav Petrbok Memorial Bicycle Race. This was already the 3rd year, with the starting point being on Jerolímova Street in Prague. The racing track led through Prague City to limestone Amerika Quarries, and then finished at Zlatý Kůň Hill where the Koněpruské Caves are located. There were 15 contestants, and after the race we celebrated the winners with an amazing bonfire at an old cave cabin and a wooden barrel of excellent beer transported from a local pub in Koněprusy village.

Since 1970, when the Society of National Museum in Prague turned into TIS - Union for Nature and Landscape Protection - Karst Section, we started to explore other challenging karst regions in Bohemia: e.g. the surroundings of the Bozkov Caves (in particular the local famous spelunker balls), we also enjoyed annual hiking around the caves in Ještěd Ridge with a bonfire at the end of the day. Quite often we would also travel to the Moravian Karst – to the local Cerberus Caving Club and their caves. These stays on their field base in Veselice village were in particular very interesting, and usually crazy.

When the Arnoldka Cave in Bohemian Karst was discovered in 1972, our caving team was there to help explore unknown cave passages. During the summer of 1974 we participated in a challenging international event at Dolní Vrch Plateau. First, on the Hungarian side of the border we descended into the Vecsembükki Chasm, and then we continued with caving on the Slovak side - this time with our



■ Shot from cleaning project in the Barazdaláš Chasm on Silica Plateau (Slovakia) in 1975 (Photo by V. Lysenko).

former guru Z. Valeš and his young boys from his spelunker school club.

The year 1975 turned out to be very interesting for us – we participated in cleaning of the deepest chasm in Czechoslovakia Barazdaláš located in the Silica Plateau in Slovakia. Many well-known and respected cavers from the Bohemian and Moravian karst areas were there cleaning the mess after previous speleological expeditions.

Without doubt 1977 represented for us - the former members of the young spelunker club from the Řevnice elementary school - the biggest achievement in terms of descending into a really deep vertical cave system. Under the leadership of V. Lysenko, we took part in a descent into the Velká Sněžná Chasm in the Polish High Tatra Mts. Despite the horrible weather and missing Polish members (probably still lost in the fog), we managed to dig a way to the cave entrance through the frozen snow, and together with heroic members of the Prague caving group „Specialists“, we descended to a final sump at the chasm bottom (located about 500 meters below the entrance). It was one of the toughest expeditions in our lives – nobody had ever experienced such cold, or being soaked for 31 hours in a row.

Stage 1978–1989

Before Political Changes in Central Europe

Exploration and research in Czechoslovakia

On the remarkable and glorious day of December 2, 1978, the Czech Speleological Society was founded at a conference arranged in historical Valdštejnský Palace in Prague. That was the beginning of a new era in the future development of the Czech speleology. The Prague Karst Section was represented at the conference not only by the head committee members, but also by deputies from the Bohemian Karst caving groups, which were later established as separate basic organizations (clubs) of the Czech Speleological Society.

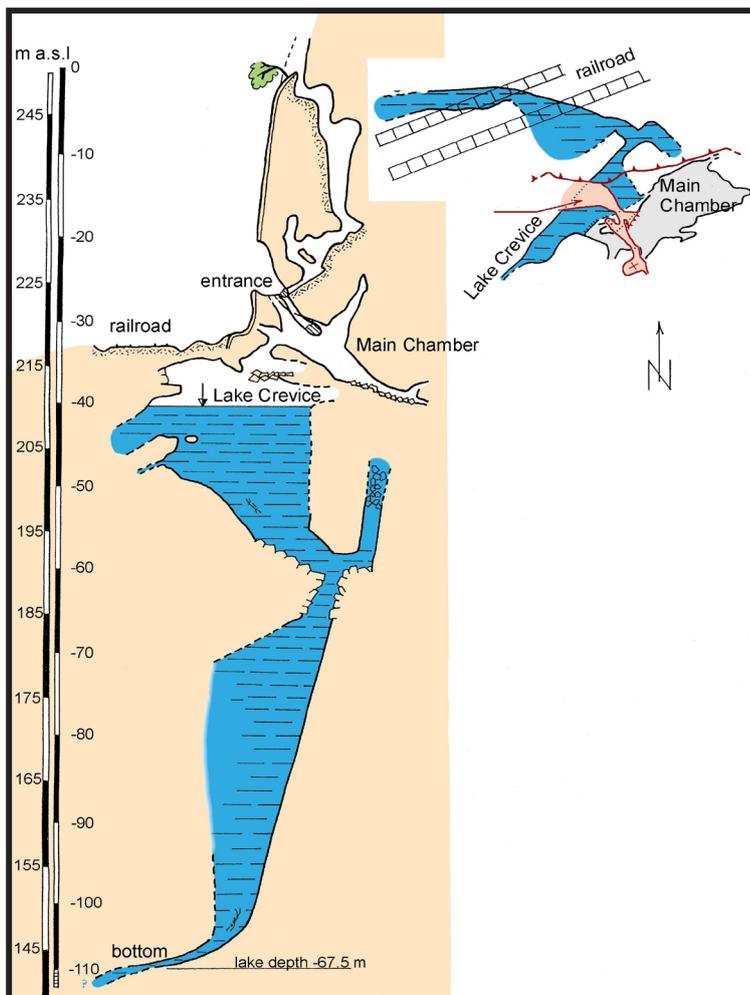
Shortly after, on December 21, 1978, founding meeting of the GEOSPELEOS club took place - 18 people who were active in the Prague Karst Section, the TARCUS research team, Kačák and Speloalpinistická teams attended the meeting. Before the meeting, a serious discussion in a local pub took place concerning the club name. The suggestion of Irnik Ovčarov – GEOSPELEOS - was accepted in the end. The number of club members increased to 30 enrolled cavers during next month. The Czech Speleological Society headquarters approved the Basic Organization 1-05 “GEOSPELEOS” Prague on February 28, 1979.

In 1982, the club acquired a field base located in our karst territory near Bobovice village in the Bohemian Karst. The “building” was originally an electric substation and it was in terrible technical condition. A lot of the subsequent construction and reconstruction works were done by the club members, and they created a cozy place that people still use today when they work in the karst on weekends.

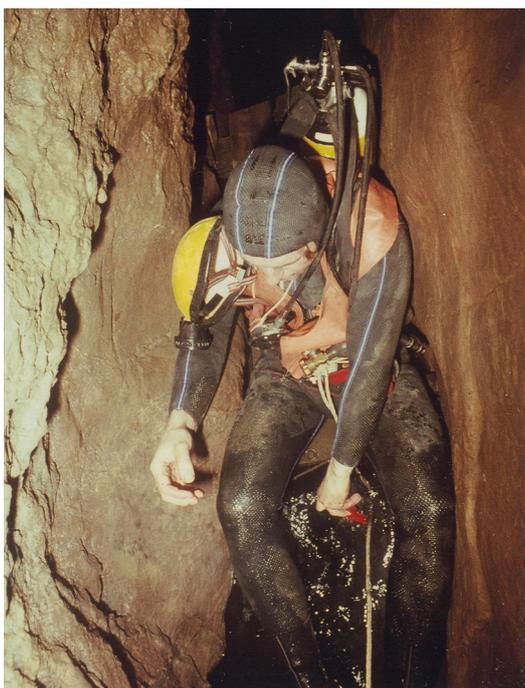


■ High-rise field base of the GEOSPELEOS caving club in Bohemian Karst. Lamentable state in 1981 and today (Photo by J. Zapletal).

Hard core club members and a group of their helpers have been attending a weekend exploration slog in our caves. The cave divers were very successful in the Podtraťová Cave, where they descended to the bottom of a 67.5 m deep lake representing the deepest underground lake in the Bohemian Karst. After an excavation through the sedimentary fill in a vertical shaft in a dry part of



■ **Podtraťová Cave. Vertical section (left) and map (right), blue color - underground lake. Surveyed and drawn by M. Sluka, J. Zapletal, and M. Kolčava.**



■ **Podtraťová Cave. Preparation of cave diver for hard descent in narrow Lake Crevice (Photo by J. Zapletal).**

the cave, the total difference between the upper cave entrance and lake bottom is 142.5 m. More information: e.g. Zapletal, 1990; <http://www.geospeleos.com/Lokality/Podtratovka/Index.htm>.

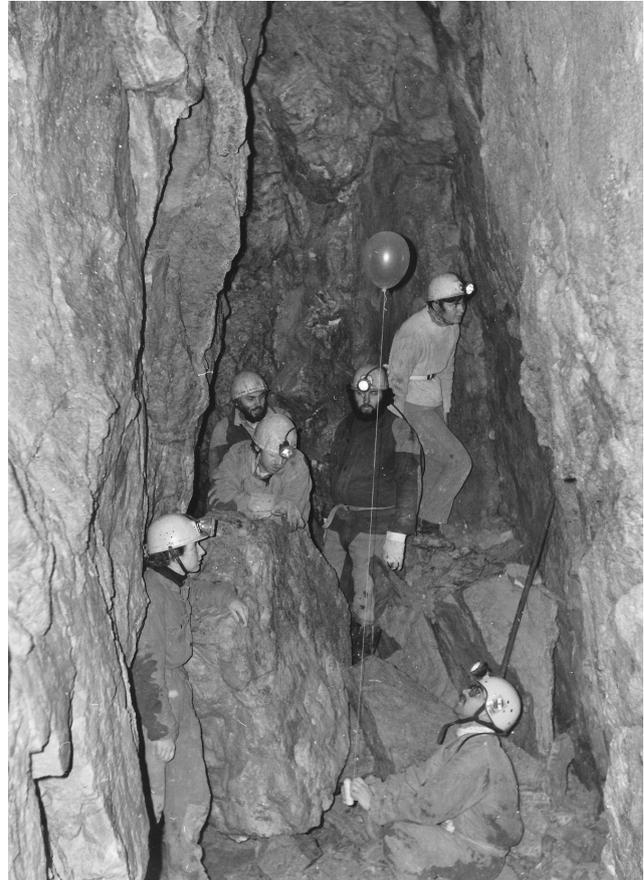
The club members conducted exploration and mapping in natural caverns developed in Cretaceous sandstone in Děčínský Sněžník Hill at Jílové (N Bohemia). In total, 12 caverns, formed usually on faults, were mapped step by step. The largest one with a volume 2,500 m³ was 158 m long, 34 m high. Cavern walls are decorated with hydrothermal fluorite coatings dating from the Tertiary age. Later (in 1990s) our maps and mineralogical assessment reports were used as a basis for making decisions on how to protect this attractive geological and speleological feature. Two years later we conducted a similar project – the mapping of caverns in crystalline limestone opened during graphite mining in Bližná v Pošumaví (S Bohemia) (Kadlec, 1986).

A large cave system was discovered in the Nízke Tatry Mts. in Slovakia in 1980 and was named Jaskyňa mŕtvych netopierov Cave. The GEOSPELEOS club members often took part in exploring and mapping new passages. The advanced geophysical method (so-called radiotest) was applied to identify the connections between passages. The present length of all of the discovered passages is 20.1 km. The club members have arranged sporting trips to other caves in Slovakia - e.g. Čachtická Cave, Stratenská Cave, Diviača Chasm.

The GEOSPELEOS club was also a convener of two international scientific meetings titled “New trends in

speleology”. The first was held in Dobřichovice (Bohemian Karst) in 1983, the second was organized in Blansko (Moravian Karst) a year later. More information: Jančařík A. (Ed.), 1983.

Two student members of the GEOSPELEOS club studied the tectonic structure of the Koněpruské Caves. More information: Kadlec and Jäger (1984). The aerosol flowstone origin was also a popular subject of research. More information: Halbichová and Jančařík (1982–1983, 1983).



■ Geodetic survey in caverns in the fluorite mine in Děčínský Sněžník Hill (N. Bohemia) in 1983 - right and mapping (survey of cavern height) - left (Photo by V. Lysenko).

Exploration and research abroad

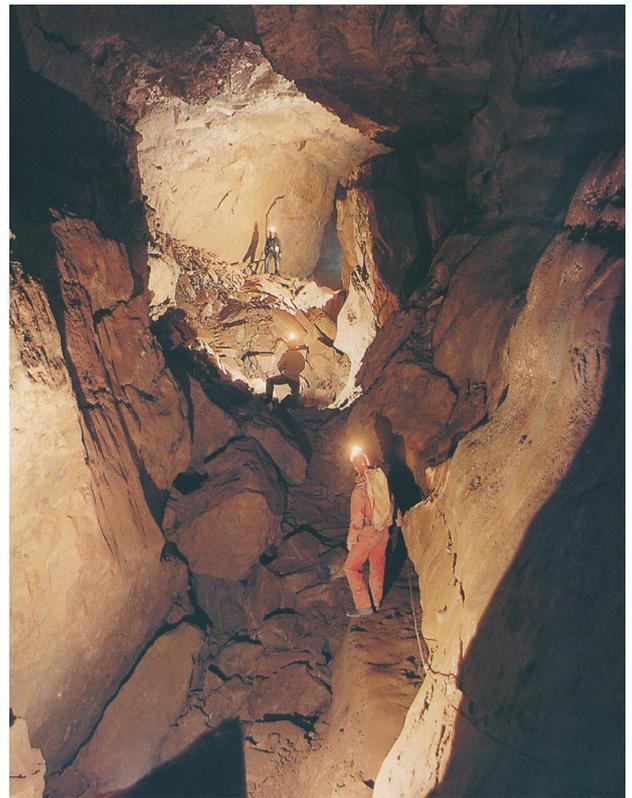
Many GEOSPELEOS club members took part in a funny and unforgettable bus trip to the Slovenian mountains and karst regions in 1981. We explored 11 chasms (up to 108 m deep) in the Goričica Plateau (E of Kanin Mt.) close to the Italian-Yugoslavian border. Because this area seemed to be very promising in terms of expected future discoveries of extremely deep cave systems, we started to arrange a caving camp there for the next year. Unfortunately, this project collapsed in the end due to restriction of our caving plans by Slovenian institutions.

Collaboration with Italian cavers from Neapolitan Club Alpino Italiano came to visit the Czechoslovak karst regions in 1983. Consequently, the GEOSPELEOS club members visited caves located in Alburni area in Cilento and Vallo di Diano National Park SE from Naples. During our trip back to Prague, we descended to the bottom of the Antro del Corchia cave system (1,220 m deep)

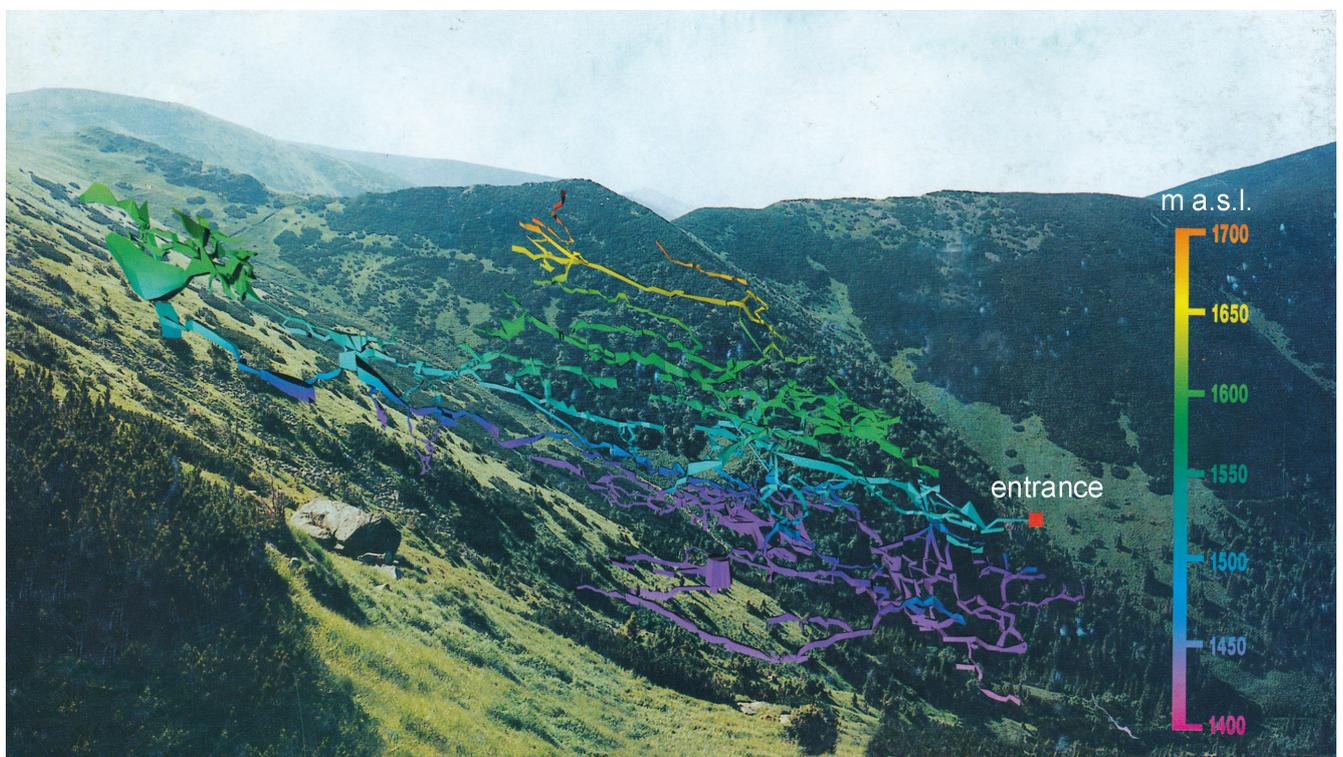
in the Apuan Alps Regional Park.

Two club members participated in a great speleological expedition, Himalaya '85, arranged by the Zlatý Kůň caving club in 1985. In the Low Himalaya Mts. range they discovered Parahansa Cave and found its interconnection with well known Chakra Tirtha Cave system, forming the second largest cave in Nepal (about 1,200 m long). The expedition members also conducted a preliminary karst exploration in Pokhara, Kali Ghandaki, and Modi river valleys, and in Annapurna and Dhampus Peak regions. They discovered 16 caves in total, 12 of which were mapped. More information: Cílek et al. (1986).

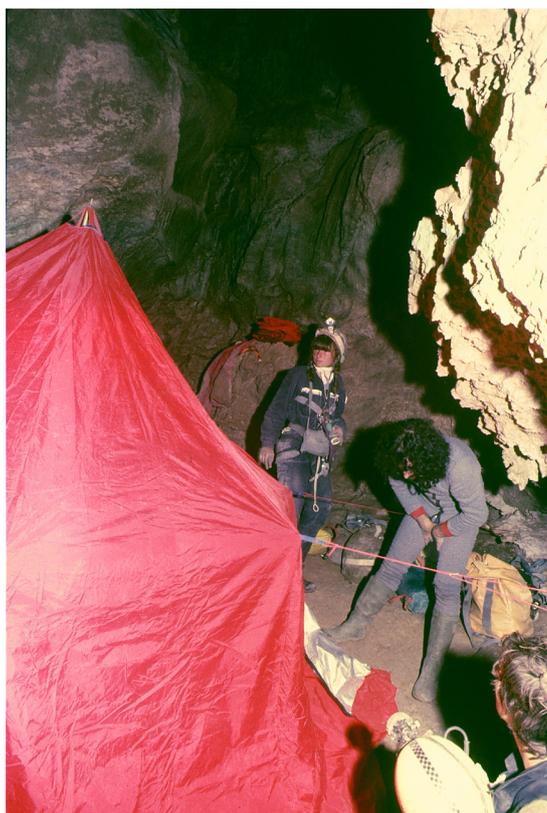
The same two guys (called now the “Himalayan Tigers”) took part in a subsequent sporting and caving trip to the USA (in 1989) where they visited many cave systems, including the gorgeous Lechuguilla Cave (New Mexico) or Wind and Jewel caves in South Dakota.



■ Tunnel Passage in the Jaskyňa mŕtvych netopierov Cave in the Nizke Tatry Mts. in Slovakia (Photo P. Hipman).



■ Jaskyňa mŕtvych netopierov cave labyrinth, view from Chopok Mt. to SE (modified from Štéc, 2000). Colors express cave passage altitude.



■ Antro del Corchia Chasm in Italy. Sunless morning in the underground bivouac - left; descent in the Carrarra marbles intercalated by shale blades - right (Photo by I. Poltavec).

Some our members participated in the 9th International Speleological Congress arranged in Barcelona in 1986. After the meeting we met British cavers from Lancaster University in Picos de Europa Mts., where they conducted yearly serious exploration of the vertical cave systems in high mountains and water caves in the valleys, trying to get an interconnection of both parts of the caves. We visited some of the caves. Both teams planned a joint British-Czech speleological expedition to Taurus Mts. in Turkey, which was realized in 1989.



■ The journey to Himalaya across Pakistan was sometimes as exciting as the Paris-Dakar Rally (Photo by V. Čílek).

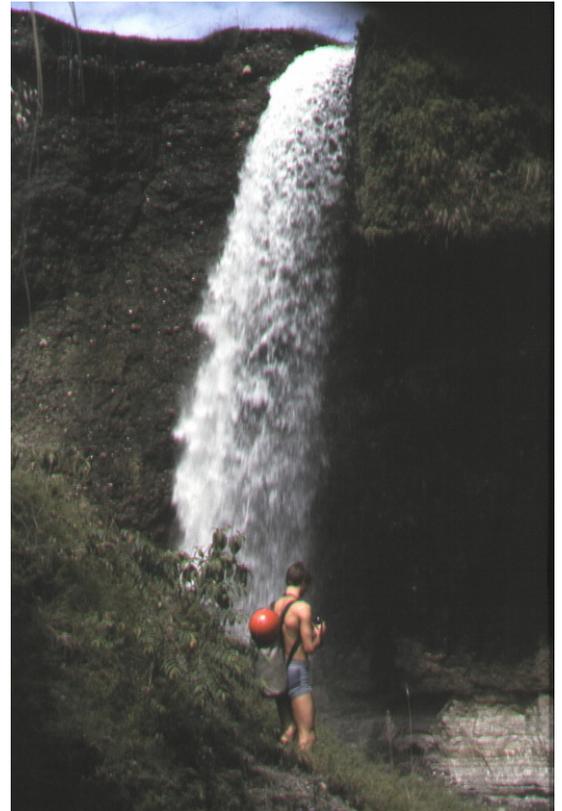


■ Golden Caves opened on the opposite side of the Trisuli River in Nepal. The cave fluvial deposits contain up to 2 mm large gold nuggets (Photo by V. Čílek).



■ Patale Chango Cave passage developed in carbonate cemented fine to coarse fluvial deposits. Pokhara Valley in Nepal (Photo by V. Čílek).

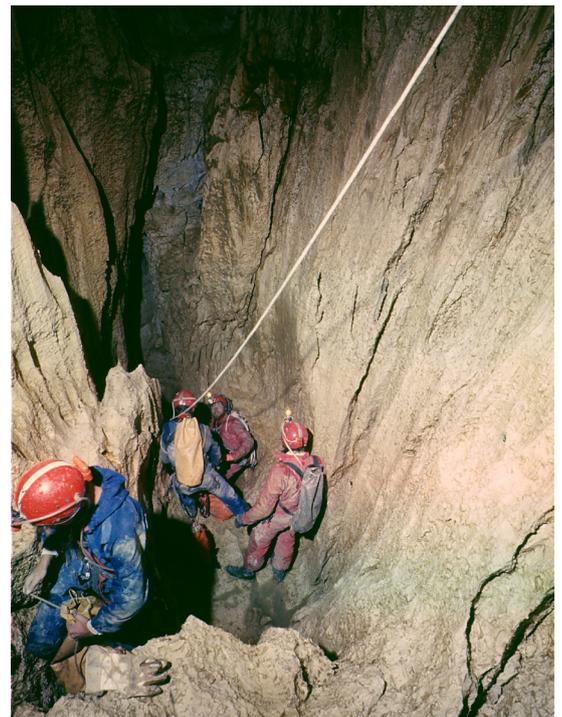
■ Waterfall originated after monsoon rains in a conglomerate river deposits hosting large cave systems. Pokhara Valley in Nepal (Photo by V. Čílek).



In addition to exploring and mapping of chasms around Kembos, Eynif, and Sugla poljes, and diving in ponor caves we visited a discharge Altinbesik Dūdensuyu Cave. This wonderful cave became the subject of our caving and diving exploration activities during expeditions during the next years - see below.



■ Picos de Europa Mts. in Spain. Karst exploration around Dosser's Delight Chasm - left; descent to Antre des Dames Chasm in Vercors in France where we stopped during our journey to the 9th International Speleological Congress in Barcelona - right (Photo by I. Poltavec).



Trips to the Romanian karst areas in Bihor Mts. became legendary. The young club members (mostly students) had their first experiences in both vertical and horizontal cave systems (e.g. Avenul din Stanul Foncii (-339 m) or Coiba Mica-Coiba Mare-Hodobana-Izbucul Tauz water cave system).

In the frame of mineralogical and geochemical prospection in NW Syria conducted by the Czech Geological Survey, one club member discovered and mapped caves in Jabal and Nusayriyah Mts. in 1989. More information: Čížek et al. (1996).



■ Members of the first expedition to caves in Taurus Mts. in Turkey in front of the GEOSPELEOS expedition truck (Photo by E. Janoušek).



■ Güvercinlik Cave terminal sump in 1989, Turkey. Preparation for diver submersion (Photo by E. Janoušek).



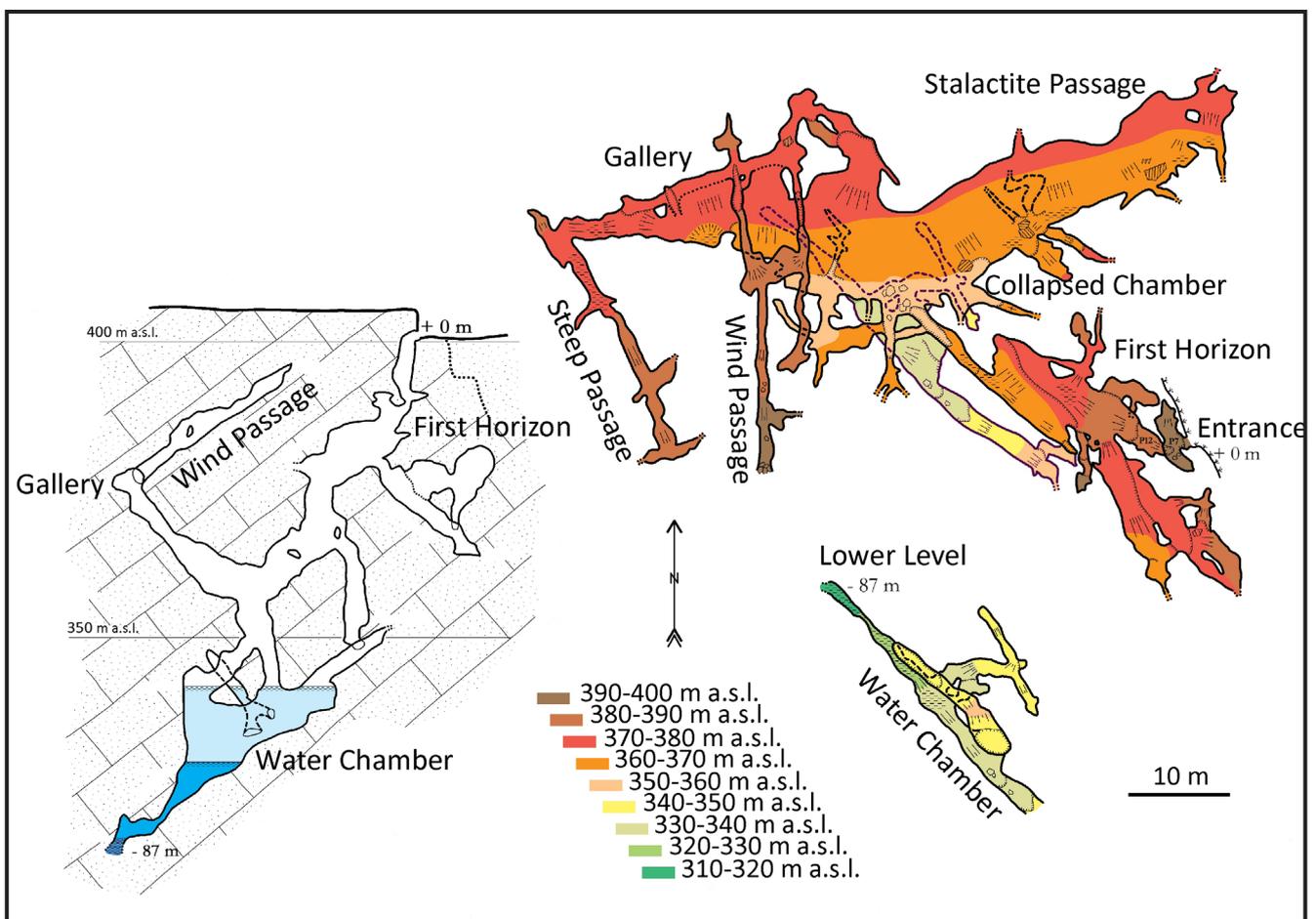
■ Altinbesik Dūdensuyu Cave entrance lake (Photo by E. Janoušek).

Stage 1990–2000

Before the Last Millennium Termination

Exploration and research in the Czech Republic

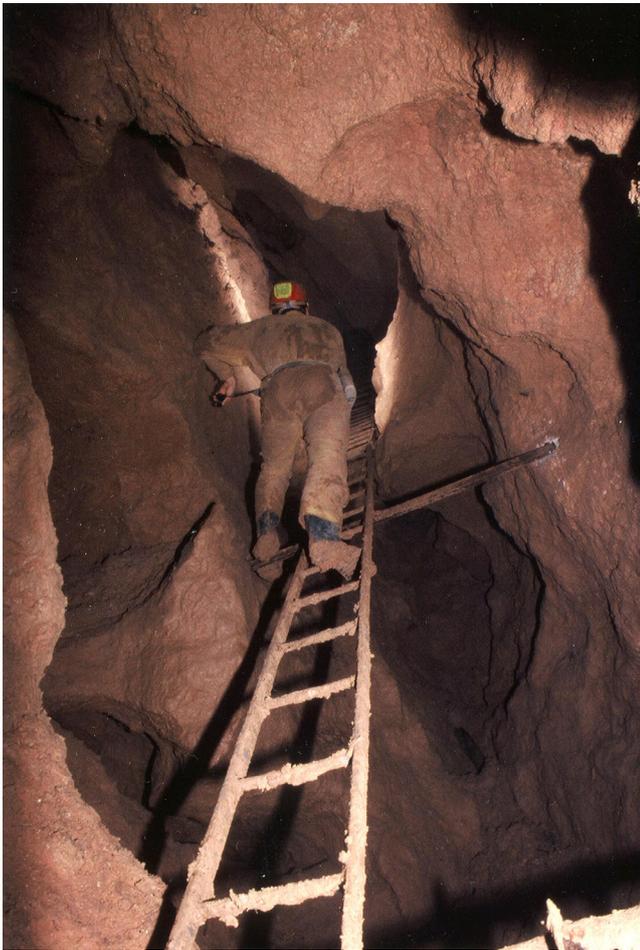
The Čeřinka (Palachova propast) Cave, discovered in 1969 during limestone mining in the Čeřinka Quarry in Bohemian Karst, became a key vertical cave system for the GEOSPELEOS club. The chasm is 87 m deep. We installed iron leaders in the vertical shafts in the upper segments of the chasm in 1990s. There is a lake at the bottom which periodically disappears. Its depth reached record 30.6 m after anomalous precipitation in 2013. More information: <http://www.geospeleos.com/Lokality/Cerinka/Index.htm>.



■ Čeřinka Cave. Vertical section (left) and map (right) with altitude of passages expressed by different colors. Surveyed and drawn by J. Hromas, B. Kučera, S. Kácha, J. Kadlec, E. Janoušek, and M. Kolčava.

In early 1990 the GEOSLEPEOS club became a manager of the Arnoldka Cave, opened in 1972 during mining activities in the same above mentioned quarry. With its overall depth of 111 m, this cave represents one of the deepest underground systems in the Bohemian Karst. There is a small lake at the bottom of the cave. Oscillation of its water level is being monitored by automatic

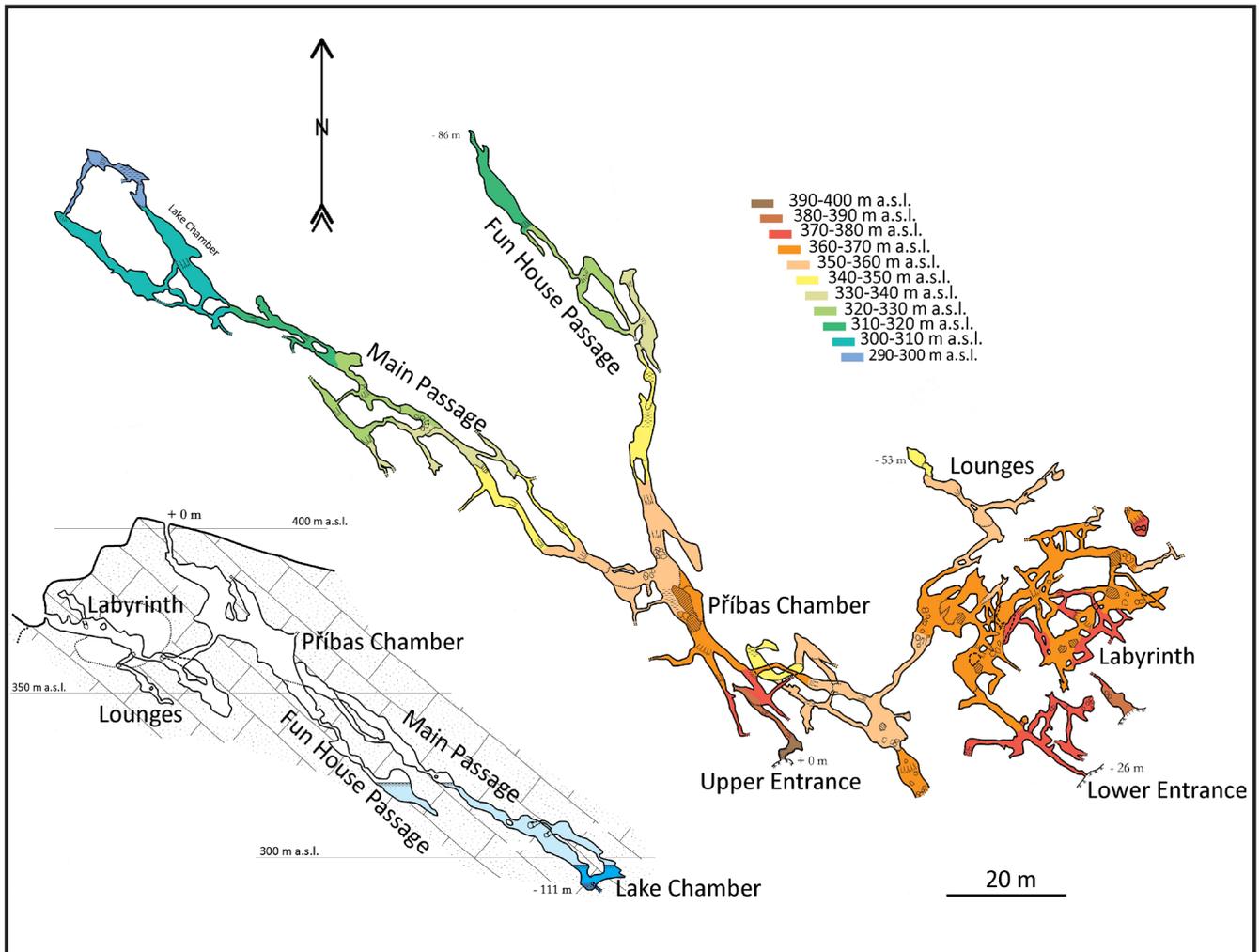
measuring systems. In 2013, after the aforementioned heavy rains, the depth of the water was 38.1 meters (M. Kolčava, pers. com.) More information: <http://www.geospeleos.com/Lokality/Arnoldka/Index.htm>.



■ Čeňinka (Palachova propast) Cave - First Horizon - left; Water Chamber - right (Photo by M. Kolčava).

During the summer of 1995, after continuous precipitation, a small crack incepted rain water was opened in Propadlé vody Valley about 1 km E of the karst discharge in Svatý Jan pod Skalou village. A subsequent tracing experiment showed the connection of this influx with the discharge. Our club members immediately started to explore the opening. The cave was named Arnika, and up to the present day more than 175 m of the underground maze of passages have been discovered (excavated). The total depth of the system is now 36 m. From the bottom of the cave the water disappears through cracks into the limestone bedrock. Unfortunately, these unknown parts are still inaccessible to human beings. More information: <http://www.geospeleos.com/Lokality/Arnika/Index.htm>.

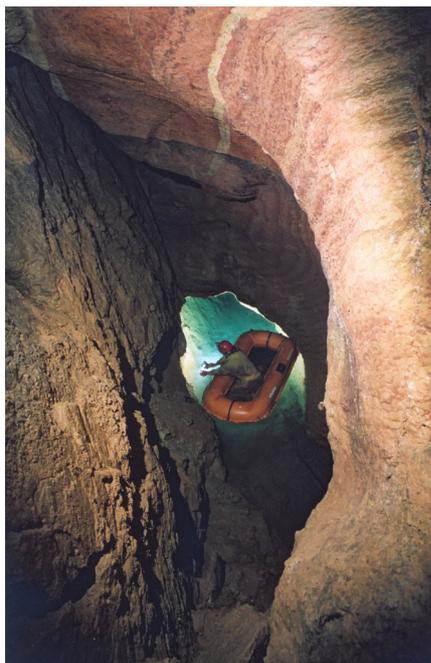
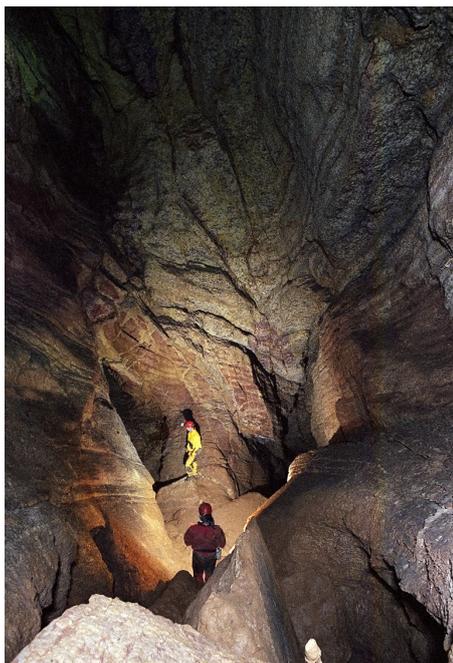
The club members (divers) discovered, explored and mapped the extraordinary 225 m long cave passage developed in calcareous sandstone in the Bohemian Cretaceous Basin. This success was awarded as the most significant discovery of the year by the national Speleofórum 2001 meeting. More information: <http://www.geospeleos.com/Lokality/BartosovaPec/Index.htm>.



■ **Arnoldka Cave. Vertical section (bottom left) and map (right) with altitude of passages expressed by different colors. Surveyed and drawn by M. Kolčava, D. Kaifoš, P. Novák, Š. Křtěnský, J. Bruthans, Z. Matějka, and M. Novák.**

Cave deposits, abundantly filling our caves, have been always attracting our attention. In 1995 a paleomagnetic method was used to date cave sediments exposed in the Stará Argonitová Cave test pit (Kadlec et al., 1995). It was the first time that this dating technique was used on cave deposits in the Czech Republic. In 1990, systematic research focused on cave sediments in the Moravian Karst (N segment) began. The most intensive period of this project lasted until 1998. We managed to obtain a lot of new data and knowledge about karst processes in the famous and legendary Moravian Karst cave systems. The research was covered by the Faculty of Science at Charles University in Prague, Czech Geological Survey, and Michigan Technological University. The results were summarized in the Ph.D. Theses of two club members and were published in many papers (e.g. Kadlec, 1996, 1997, 2012; Kadlec et al., 2000a, b, 2001, 2002, 2007; Šroubek et al., 2001, 2007). Unforgettable excursions into the Moravian Karst caves were organized for the GEOSPELEOS club members as a byproduct of the research activities.

Conducted by the Czech Geological Survey, some club members participated in a project focused on paleoclimatic record hidden in the Bohemian Karst's largest calcareous tufa cascade deposited in



■ Arnoldka Cave - Příba's Chamber - left (Photo by P. Vodička); Lake Chamber - right (Photo by L. Němeček).

Svatý Jan pod Skalou during Holocene (Žák et al. 2001, 2002), and other cascades that had developed in this karst area (Hlaváč et al. 2003).

Some club members were busy with documentation and mapping of abandoned historical underground mines and factories (e.g. sand mines in Prosek and Hloubětín in Prague, Goldberg gold mine in Doupovské Hills, Hosín-Orty clay mine in S Bohemia, sand mine in Skalice at Česká Lípa, ore mines around Kutná Hora, limestone quarries and underground factory “Richard” at Litoměřice, and an underground factory in Branická skála in Prague). More information: SPEA (1992); Kaifoš and Kolčava (1993); Kolčava and Novák (1994); Křtěnský and Kolčava (1996). The project results concerning the historical underground exploration were published not only in the official Czech Speleological Society journal called “Speleo”, but also in a special edition of underground magazine named “Karst Depression”. Some enthusiastic club members were markedly contributing to this publishing activity. In total, 10 issues were published from 1994–2004. Many young GEOSPELEOS club members also encouraged the creation of the Museum of Limestone Mining and Transport in Bohemian Karst – Historical Open-air Museum Solvayovy Quarries. Today, this destination is visited in droves by public during the weekends and is an interesting attraction of the Bohemian Karst.

Exploration and research abroad

During the following expeditions arranged from 1990–1997 into the Altinbesik Dūdensuyu Cave in the Western Taurus Mts. in Turkey, our cave divers penetrated a 100 m long and 15 m deep terminal sump and discovered a more than 2,000 m long new passage closed by the next sump. These results were awarded as the most significant discovery of the year by the national Speleofórum 2006 meeting. More information in: Janoušek E. and Jäger O. (2013).

Stage 2001-2013

New Millennium Performance

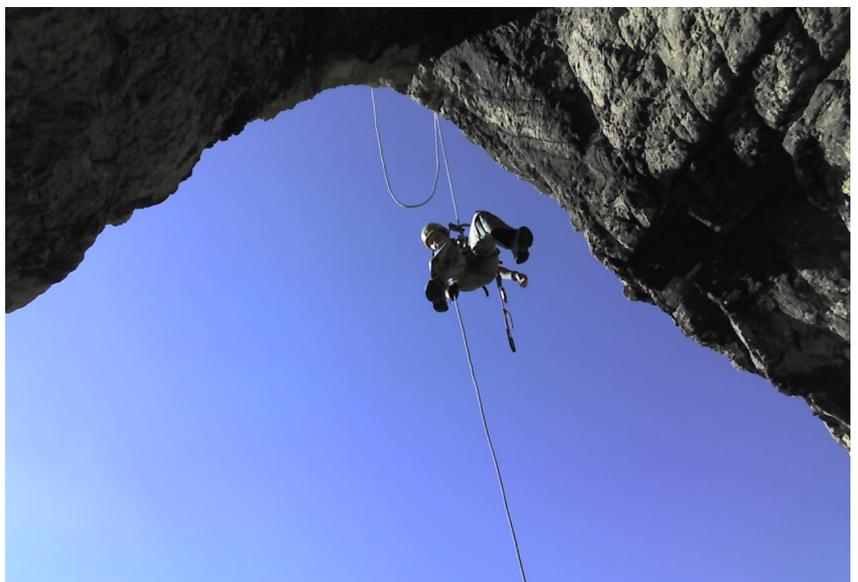
Exploration and research in the Czech Republic

Exploration activities have been continuing at selected club cave locations. Several club members tried to penetrate through caves in the limestone cliff dominating above the Svatý Jan pod Skalou monastery. Their hard exploration weekend travail was stopped after several years - the main reason was the zero perspective of cave continuation into the limestone hill. The exploration team moved to the Arnika and dug away there for some time. Today, our most perspective underground workplace is located in the Studniční Cave. An updated complete list of the karst features managed by the GEOSPELEOS club was produced for the karst community applicants. More information: Kolčava (2004).

■ Monastery and church in Svatý Jan pod Skalou village in Bohemian Karst. Mostly Devonian limestone cliff hosting number of smaller caves. In the top left part of the cliff the entrance to Pod křížem Cave is visible (Photo by J. Voráček).



■ Descent to the Pod křížem Cave in the Svatý Jan pod Skalou limestone cliff (Photo by J. Voráček).



One Club member and his students engaged in karst groundwater research arranged in a frame of scientific projects conducted in the Hydrogeology Dept. at Charles University in Prague. The research is focused on groundwater function in karst and pseudokarst processes, both in the Czech Republic and foreign regions. More information: Bruthans (2006); Bruthans et al. (2012 a, b); Vysoká (2012); Vysoká et al. (2012); Kukačka et al. (2008); Vojtechovska et al. (2010). One club member is continuing with cave deposit research (in the Moravian Karst southern segment) in projects managed by the Institute of Geology AS CR, v.v.i. More information: e.g. Kadlec et al. (2000).

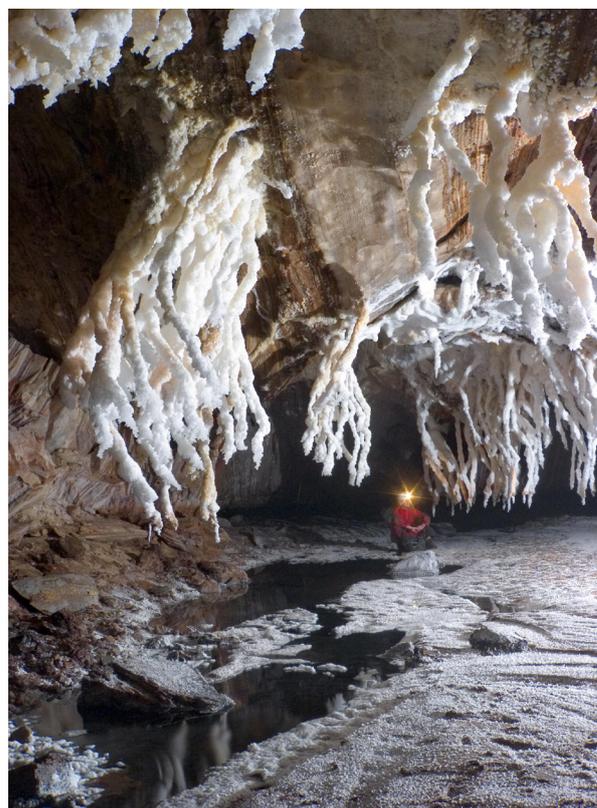
Projects focused on exploration and documentation the historical underground have also been continuing: e.g. Anna ore mine in Roztoky at Děčín, coal adit at Valkeřice (Děčín area) and the coal mine at Hředle (Rakovník area), respectively. Great effort was exerted to detailed explorations of the adit systems developed around the limestone Amerika Quarries in the Bohemian Karst. The mining galleries opened approximately one hundred karst caverns which were measured and documented.

Exploration and research abroad

The GEOSPELEOS Club members participated in salt karst exploration and research arranged by hydro geologists from the Faculty of Science at Charles University in Prague. Up to 10 expeditions (carried out between 1998 and 2010) organized in areas close to Bandar-e Abbas Port in Zagros Mts., South Iran, were focused on caves developed in salt (halite) diapirs protruding surrounding limestone. The purpose of the joint Czech-Iranian Namak (means salt in Persian language) expeditions was to discover, map and research the caves and surface karst features. The most important results of expeditions was the discovery



■ Megadom Chamber in the 3N Cave, salt karst in South Iran (Photo by M. Audy).



■ Fascinating salt speleothems in the 3N Cave (Photo by M. Audy).

and mapping of 18 km of new cave passages, including the longest salt cave in the world - 3N Cave (6,580 m long) and the description of the development of the surface and subsurface karst features. More information in: Bruthans et al. (2006 a, b, 2008, 2009, 2110); Fillipi et al. (2006, 2011).



■ Contentment in underground camp set up in the Namak Tunnel Cave, salt karst in South Iran (Photo by O. Jäger).

The GEOSPELEOS club has been participating in the “Kota1000” international project with the aim to explore extremely deep cave systems. Members of this team discovered a 908 m deep cave (named Brezno pod Velbom-Ceska jama) at the Kanin Mt. in Slovenia in a frame of karst exploration conducted in this area since 2000.

Our cave divers participated in international projects focused on the exploration of flooded passages in Kačna jama in Slovenia and in Loferer Schacht in Austria. One club member has been participating in annual Slovak expeditions to the karst areas in Balkan Kosovo, Macedonia and Albania since 2005 in order to explore and document cave systems. He also took part in a scientific trip to gorgeous caves developed in sandstone tepuis in Venezuela.

One club member participated in research projects of the Institute of Geology AV CR, v.v.i. focused on paleomagnetic dating of cave sediments preserved in Central European karst regions. More information: e.g. Kadlec et al. (2004). An exceptional opportunity for cave sediment study in the Botovskaya Cave (the largest cave system in Russia) arrived thanks to a joint EU research project conducted by the Geoforschungs Centrum Potsdam in Germany and the Institute of Geology AV CR, v.v.i. More information: Kadlec et al. (2008).



■ Winter taiga trail to the Botovskaya Cave, Russia - left; contentment during lunch break between sampling of sediments in the Botovskaya Cave - right (Photo by M. Chadima).

One GEOSPELEOS club member has been working as an expert guide in exotic karst destinations: e.g. in Gunung Mulu NP (he also joined an international trip to Gunung Buda NP) in Sarawak, N Borneo in Malaysia or Flores Island in Indonesia. An abundant collection of pictures documenting activities both in local and foreigner karst regions served to arrangement of several exhibitions showing underground beauties.

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