



## **"THE BRITISH CAVER"**

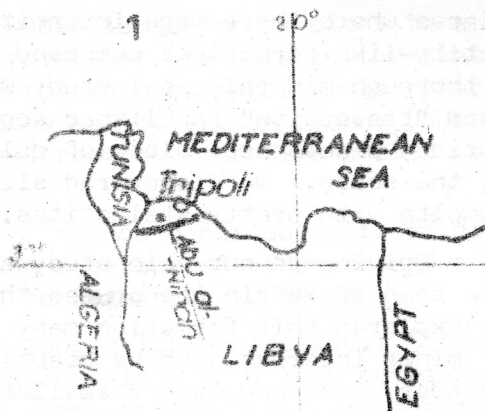
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# DISCOVERIES

## IN LIBYA

by Dr Attila Kósa



It might be thought that the Sahara and the North African coast are a caver's nightmare. Sand dunes roll on to infinity, there is no rain to dissolve the limestone which is also scarce, and consequently there are no caves to speak of. This belief is quite close to reality except that on the coast there are infrequent rains.

I went to Libya at the beginning of 1976 believing the above to be true and thinking that my caving activities would be stopped for a while. The nearest point of interest, according to the information I could find, was at a distance of about 1,000 kilometres either West or East. The latter place - being in Libya - gave me some hope and, in fact, I have been able to arrange a trip to the Green Mountains (Jabal al-Akhdar) and have been able to make a brief study of one of the cave systems (see Proc. 7th Int. Cong. 1977, p.275). Still, the distance to this area has proved to be too great to organize regular trips although it has a lot of exciting potential.

Bearing in mind "A good caver makes a cave, if there are none", I started to study the local geology. It was easy to discover that there are limestone and dolomite beds outcropping in the Jabal Nefusa escarpment, which is well within the range of a one day trip. As soon as I visited the area I realised that the limestones were in fact dolomite and the hydrological and geological conditions were unfavourable for cave development.

My companion on the trips was Professor W. Smykatz-Closs who was on leave from Karlsruhe in Germany. He is an expert on clays and has a slight antipathy towards caves (as I do to clays!). Actually, on our trips we located much more clay than anything else of real speleological interest. Still, the many days spent in the field did not pass without some success. We found much evidence of cave dwellings up in the escarpment which proved to be natural in origin and had been enlarged by human activity and divided by partition walls (see soon in the Karszt es Barlang, 1978, Hung. Spel. Soc.). We located two

places where there were intermittent streams and huge stalactite-like formations composed of travertine hung down. After a thorough mineralogical study we classified them by a new term "travertite" (published soon in the NSS Bulletin). At various places huge blocks of dolomite had slipped from the wall of the scarp. We discovered sizeable "Talus-caves" behind them complete with pretty stalactites.

Driving to our main study area in the escarpment close to the town of Yafrin one crosses the Bir al-Ghanam Gypsum formation. We explored this formation many times but found only phenomena of minor interest such as beautiful solution forms, canyons, meander caves and even a swallet which turned out to be only a 6 metre deep shaft leading nowhere. Because of the lack of passable roads we did not penetrate the area of beehive-like gypsum hills which resemble tropical tower karst, until the lucky day came when we were able to borrow a Toyota Landcruiser. This cross country car was intended to be used for a cross-Sahara trip of non-speleological interest but we were able to beg some time to explore the gypsum karst.

Catching sight of a group of ruins crowning a low hill top at a distance we decided to have a closer look. Driving towards these Berber ruins we all but fell into a huge sinkhole, at the bottom of which was a beautiful passage leading into inviting darkness. The exploration had to be postponed until the succeeding week because in spite of all our luck we had no lights with us. I spent some days studying aerial photographs of the area, which, now that I know what I was looking for, proved to be very useful.

The next Friday we located some new sinkholes. The name of the ghost town on the hilltop is Qasr Abu al-Niran (the Castle of the Father of Fires), so we decided to call this area the Abu al-Niran Karst.

The area is only several kilometres square, but its collection of caves and sinkholes is rather interesting, even more so when we consider them to be the only known occurrence of real karst in the middle part of the North African Mediterranean coast and the adjoining part of the Sahara. To date, we have discovered four major caves.

The Abu al-Niran Cave is the longest one. This consists of a joint controlled high main passage 120 metres long, and a side passage of similar length. From the main passage a bedding plane controlled drainage passage branches out but this becomes too flat to be entered after about 20 metres. The main passage was explored from the other end where we found the resurgence half a kilometre away. Here the cave is once again joint controlled, two to three metres high with a length of 225 metres. The exploration and survey have not yet been



completed, but we expect the whole length to be close to a kilometre. One interesting feature of the cave is the platform spanning from wall to wall in the main passage. This offers shelter even in flood conditions as the stream passes underneath. It probably originates from the same time period as the nearby ruins of Qasr.

The Qasr Cave is the remnant of a once continuous stream cave which has now collapsed leaving a series of sinkholes and a series of shorter cavities 10 to 20 metres in length.

The Hyena Cave is a 200 metre long solution passage. There is one big chamber which reaches dimensions of 4 to 6 metres wide and 30 to 40 centimetres high where the solution was controlled by the bedding plane. The exploration of the cave becomes really exciting when one encounters the first footprint of a rather large paw in the sand of the streambed. The footprint must have been put there since the last flood. The locals identified the prints to be of hyenas. There were many bones in the cave and it is a complete hydrological unit and can be traversed from sink to resurgence.

Rock Tower Cave starts in a sinkhole which is one of the four which we found about 5 kilometres west of the Abu al-Niral Karst at the foot of a gypsum butt (rock tower). The cave is the usual stream passage but too low for walking and too hard for crawling because of the sharply dissolved edges of the gypsum. It is known that it goes for a distance of about 50 metres but exploration has not been pushed further and the resurgence is unknown.

The exploration of a number of other sinkholes is still not complete as it was only started three weeks before last Christmas. A more or less complete survey is expected to be ready by the summer of 1979 when we leave the country for good, leaving the larger part of the Bir al-Ghanam Gypsum Formation to others for further exploration.

As for caving conditions they are comparatively good once one has entered the country. As the Government of Libya does not encourage tourism, caving is possible only for those who reside in the country and who have work contracts. The distances are vast but three to four hundred kilometre trips are feasible in some directions where the main roads are brand new and wide. The traffic is not very heavy once one is on the outskirts of Tripoli. Water is scarce and it is not advisable to drink it, but bottle drinks, Pepsi, 7-up and others are sold practically everywhere together with fried egg sandwiches. People are usually friendly in the country and speak Arabic, some English or French, and even more Italian. Policemen may be offensively curious. All people frown on photography. The best season is from October to the end of April in



in the mountains as the rest of the year is unbearably hot and temperatures can be more than 50°C at noon. Health conditions are good in the caving area, but the climate is desèrtic. Occasionally scorpions and venomous snakes can be encountered, so no one watches his step better than the caver himself. In the caves there are some bats, but no other cave adapted animals.

The Abu al-Niran is only a tiny fraction of the Bir al-Ghanam Formation which extends from the settlement of the same name some 200 kilometres westwards. It has numerous outcrops several kilometres square in its total area and extended research will probably reveal much more interesting karst phenomena.

Tripoli, 8th February 1979.

Photographs by Dr. Attila Kosa

Facing page:

Upper - Crumbled partition walls in an ancient cave dwelling near Yafrin

Middle - Dripstones in the talus cave of Wadi al-Uweyniyah

Lower - Travertites at the Wadi Rumia fall

Front cover:

The main passage of the Abu al-Niran cave

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