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LONDON UNIVERSITY CAVING CLUBS

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No.8. Autumn 1968.

EDITORIAL

This is the 'international edition' of the L.U.C.C. Journal as it includes accounts of University cavers abroad this last summer. Places visited include Ireland, Turkey, France and Rumania. However, due to lack of space, the saga of the I.C.C.C. expedition to France has been held over until the next edition. Chelsea College C.C., unfortunately, not having Union financial support, were unable to organise such a trip to foreign parts.

I would like to point out that any correspondence concerning articles appearing in this Journal is very welcome. All such letters will be published, unless of course, we receive a flood, in which case only a selected few will appear.

Finally, ignore the remark in the last Editorial about the 'short measure'. In the rush to publish No.7 before the end of term, this was written before Jon Hallam's epic was finished, far longer than expected.

Mike J. Gibson (I.C.C.C.)

Copies of this Journal are obtainable from the Editor, c/o R.C.Lethbridge, Zoology Department, Imperial College, Prince Consort Road, London, S.W.7; price 2/6d. (inc. postage). Correspondence and subscriptions (9/- per 4 issues inc. postage) etc. should be sent to the above address.

Book numbers 1-4 are now out of print, but if there is sufficient demand, we may publish them in a combined volume. Alternatively, rumour has it that C.C.C.C. still possess a few spare copies of these early issues, so their secretary might be able to help would-be buyers.

Note that this Journal is also obtainable (together with a damn good pot of tea) from the Pen-y-Ghent cafe, Horton-in-Ribblesdale, Yorkshire; and also from Bryon Ellis, 'Knockauns', Combwich, Bridgewater, Somerset.

IRELAND 1968.

At the end of June 1968, six members of U.C.L.S.S. made a visit to Co.Clare in Ireland to sample the Guiness and a few caves. The Guiness was not appreciated by all as much as was expected, but unlike some of the caves.

Three people travelled in the luxury of a high class limousine with most of the kit, and three others hitched out. The car took 18 hours to get from London to Lisdoonvarna and the hitchers took from 0-30 hours to arrive. Various schemes and finally bribes were thought out by the hitchers, to entitle them to a ride back home - even at one stage to the exclusion of the driver! Luckily these attempts were all suitably repelled.

We caved most days but only spent a few hours underground each day - what else does one expect when the bars are open all the time! No difficulty was had in finding any of the caves - the entrances are usually large or obvious or start as semi-open stream passages.

Most of the caves in Co.Clare are liable to flooding and due care was taken when exploring particularly dangerous caves. (See Speleologist No.17 for flooding dangers). In spite of such hazards the caves are generally fairly easy and enjoyable, and often involve long sections of large but interesting streamways. There are only two caves in the region that involve many ladder pitches (Faunarooska and Poulomega). All the systems explored were active and in each one the passage size was related to the stream size - large streams indicated large passages. This was unfortunate as many of the smaller streams were followed underground in what was described as 'typical Clare canyons', which roughly translated means 'a small awkward passage'!

On our first day caving we visited:-

POLLNAGOLLUM-POLLELVA

This is the largest system in Co.Clare with nearly seven miles of surveyed passages, and ranks as the fourth longest system in the British Isles (see L.U.C.C. Journal No.1 with some amendments). The system has about six entrances (this varies because ones keep falling in, and new ones are being found), and two of these are large open pits, Pollnagollum and Pollelva potholes, each about 40ft. square and nearly 100 ft. deep. The two large potholes

are connected together underground by about a mile of passage, and a high level passage runs into each pothole just below the surface.

On our first day we visited the upper Pollelva Streamway. One can climb from the open pit into the streamway and wander up it. It starts off as a reasonable sized passage, but entails some crawling over bridges a few hundred feet in. After this it continues as a 'typical Clare canyon' for 3,400 ft., when after some low crawling it is possible to emerge through Pollismorahaun. The following day we descended Pollelva pothole using 70 ft. of ladder and a 50 ft. belay around a substantial eye-hole. At the bottom of the pothole a number of small crawls were looked at, and the Craven Canyon found, which leads to the maze in Pollnagollum.

So a couple of days later we went down Pollnagollum. We went into the Pollnua entrance to the Upper Pollnagollum streamway, an easy entrance since no tackle is required. A short, small passage leads to the Upper Pollnagollum streamway. This is a fine streamway, about two ft. wide and ten ft. high. We soon went down it to daylight at Pollbinn where one can climb out, and then onto the main Pollnagollum pothole. A short crawl and a climb down some dry waterfalls leads to a 15 ft. pitch to the floor of the open pothole.

From the floor of the pot we continued down the dry streamway to the first waterfall, whose waters came from the upper Pollnagollum streamway. We then strolled down it, two abreast, for a mile or so! The streamway meanders, about three to four feet wide and up to 70 ft. high. The water is usually only a few inches deep although in places there are some deep pools. Two inlets come in from the left, the branch passage and Cotter's Gallery. We followed Cotter's Gallery up for a few hundred feet on our way out. It turned out to be a fair sized passage containing a lot of moon-milk, but closed down finally to a smallish passage which leads to Sump Canyon.

Continuing down the main streamway the passage height soon drops to some 18 inches and the water flows to one's right. By crawling to the left you can get into the maze and from there the Craven Canyon in Pollelva. Unfortunately, on our way out we "lost" two members and spent some time looking for footprints in the sand, running up and down various side passages, finally giving up all hope and heading back, hoping that they had died quickly. However when we got back to the bottom of the open pot we found them lazing in the sunshine hoping we had died quickly too!

We soon retreated back out of the upper Pollnagollum streamway to Pollnua. We found the trip extremely enjoyable, and quite easy, although we were underground for only about four hours we covered nearly three miles of impressive passages.

POLL-AN-IONIAN

We visited this cave for a photographic trip early on in our stay. The entrance is just beyond where a small stream sinks, and at the time, there was a dead cat rotting in the entrance which made entry a little unpleasant. The stream was soon met and it stank even more than the festering cat in the entrance, so we were relieved to climb out of the streamway over some boulders. Dropping back to the streamway a small passage led to a large chamber and several short crawls from this led to the second large chamber. In this hangs a gigantic solitary stalactite, 25 ft. long, which reaches to within nine feet of the floor. According to the Guiness Book of Records this is the world's longest free-hanging stalactite. It is surprising to come upon this stalactite as there are no other formations in the cave. After taking a lot of photo's we returned to the surface suitably impressed.

DOOLIN CAVE

This is another extensive system in Co.Clare with four miles of passages and three entrances. We descended the Fisher-street Pollnogollum (not to be confused with 'Pollnagollum') which is a circular shaft 40 ft. deep. This pot joins the streamway near the bottom, and we followed the passage upstream. The cave starts as a bedding plane 2 ft. high, half full of water, which was fairly warm. The floor and roof soon separate and a few hundred feet in one is wading through waist deep water. A large inlet comes in on the left containing very warm water, which was sad as we had to wade up the cooler waters coming down the main cave. A few hundred feet further on we waddled out of the water, wrung out our clothes, and then ran down a lovely passage about ten feet square. Occasional puddles a foot or so deep did not much impede our progress. About 1,000ft. in, a large inlet came in from the roof and again the water was distinctly warm, leaking from the Aille River which flows above the cave. This is an unusual situation, i.e. a cave passing right underneath a river and only some of the water leaking in. No doubt in a few thousand years all the Aille River will be captured and the waters flow down the cave to the sea. From here we followed the main stream up for well over a mile, generally a large easy passage but in a few places we had to clamber over boulders or crawl for a few yards.

We also explored the Aran View inlet which is a large inlet entering about 2,500 ft. from the Fisherstreet Pot. This was another fair sized passage but involved some crawling under formations. The passage gradually got smaller and finally degenerated into a crawl, at which stage we promptly gave up! Apparently, one can crawl out to the surface near Aran View House. You can also emerge from St.Catherine's Cave No1, which joins the main stream passage near the end of the cave.

FAUNAROOSKA

For a little practice at ladder climbing we decided to try Faunarooska cave. This is a typical 'Clare Canyon cave' at first but has several pitches near the bottom.

There are about five entrances, all close together, and they all join the main streamway in a short distance which can then be followed down to the sump. The earlier part of the cave is reminiscent of the Giant's Crabwalk, but a large number of inlets exist in the first few hundred feet. Further down, the passage increases a little in size, but formations make a little crawling necessary in places.

About 4,000 ft. in, the stream runs down a very small gully on the right and a few feet back a letterbox passage goes off from near the floor of the streamway. We dropped a ladder down this and clambered down. The ladder is unnecessary really as the drop is only some eight feet. The remaining pitches follow almost immediately a 50 ft. (a 20 ft. followed by a 30 ft. from a large ledge), a 40 ft. and a 20 ft. to the sump. The top of the 50 ft. pitch was a little wet but all the others are dry. The three lower ones follow an inclined fault.

On our trip down we free climbed the lower half of the 40 ft. and the last pitch, and arrived at the sump with armfuls of ladders, ropes and belays, looking around for the remaining pitches! However, the trip back up indicated it would be better to ladder them, or at least leave all the tackle at the top!

Having returned up all the pitches we had a look at the dry series. This extends into the passage beyond where the stream drops down the pitches and consists of large passages containing a lot of moon-milk and some pretty formations. We poked our noses into a few miserable looking little passages, leaving all these to the onslaughts of I.C.C.C.!

Suitable tackle for this cave would be:-

Ladders:10; 50; 40 and 20 feet.
Six belays: 20; 5; 10 and 5 feet and a 100 feet rope as a double lifeline for the 50 ft. pitch.

We also spent some time in the smaller, less interesting caves, most of them typical 'Clare Canyons'. We followed Pollballiny for a few thousand feet down a rather uninteresting streamway. A short through trip was made in Polldubh. We went down Cullaun 3 for about 1,000 ft. of awkward passage and while we were returning we saw a chink of light in the roof. We clambered up a very tight rift and were able to emerge into daylight through a recently collapsed shakehole. We saw no evidence that this shakehole had been used before. We also crawled around in Cullaun 2 but this was found to be a low crawl both upstream and downstream from the entrance. Pollballiny South was noticed and descended also. This cave though is only about 200 ft. long.

All the caves in this region that we did can be comfortably done in dry grots although one gets wet in some of them. During the summer the water in the caves is warm and this helps to make wet-suits unnecessary.

As well as good caves, the area has many attractions, from good bars and friendly locals, to impressive scenery and has much to recommend it as an enjoyable caving holiday.

U.C.L.S.S. members taking part in these trips were:-

Helen Sergeant, Tony Reynolds, Robert Basto, Gerry Eldridge, Roger Bowser, Julian Coward.

References:

J.C.COLEMAN - Caves of Ireland. Anvil Books Ltd. 10/6d. A very useful and interesting guide book.

SPELEOLOGIST No.17 - Flooding Dangers in Co.Clare (author unknown)

J.Coward.(U.C.L.S.S.)

LA FONTAINE DE VAUCLUSE

Situated in Southern France about 15 miles east of Avignon, the Fontaine de Vaucluse has become world famous by giving its name to the term "Vauclusian spring". This applies to a karst rising where the water flows up under pressure from a considerable depth to the surface, and the type locality does just this in a most impressive manner.

The Fontaine is set in magnificent surroundings at the head of a very deep gorge with a 1,000 ft high vertical cliff rising immediately above it. The village bearing the same name is situated about half-a-mile down this gorge. In normal winter conditions the spring pours forth between 4,000 and 6,000 cusecs - compare this with Swildons at 1 cusec and Wookey at 10 cusecs! This water is collected from a mountainous limestone catchment area of about 250 square miles, that is just greater than the entire Craven limestone area of Yorkshire. So far French Speleologists have not managed a single successful dye test to the Fontaine - probably due to the immense volume of ponded water behind it. In summer, however, the Fontaine dries up but still a fair sized stream issues from impenetrable boulders about 80 ft. vertically lower down the gorge.

In winter the spring just appears as a rock bound lake about 70 ft. across with a very considerable stream flowing out of it, but in summer the visitor can just walk down a steep rubble strewn slope and under the cliff to a static pool at a depth of 80 ft! There have, of course, been attempts to dive this magnificent rising, and perhaps the most serious attempt was by Jacques Cousteau and his team in 1955. They dived down into the static pool and passed a huge triangular boulder almost blocking the way on to find that the shaft belled out below them so they could not see the far wall. They stopped at a depth of 245 ft. and plumbed it to 310 ft. without finding a floor.

It appears that the passage rises at an angle of about 65° up an almost vertical fault plane. It is difficult to say how much deeper the Fontaine may be as the limestone is immensely thick and it is only the fault which has dictated its position. Furthermore the fault can be clearly seen in the cliffs above the rising, and it is very likely that, in the past, the water issued from a point far higher in the cliff and has only reached its present position by cutting down the gorge, which has no other inlets. The rising in the boulders just below the Fontaine is obviously connected to it and will one day in the distant future fossilise the Fontaine

by enlarging its passage sufficiently to take the entire water flow throughout the year. However, I imagine the French Tourist Office will by then have been busy with some carefully placed concrete, so as to preserve one of the most interesting phenomena of the natural world!

A.C.Waltham.

TURKEY 1968.

Phil Collett (Ex.I.C.C.C.), Tim Gilbert and Norman Marsh (both C.S.S.) spent most of August 1968 in Turkey. We went out at the invitation of the Speleo Club de Paris with whom we were caving for some of the time.

Transport was by Tim's (then) almost new Vauxhall Viva type van. We took out a small petrol engine driven air compressor and a fair amount of diving gear. We took no ladder as we intented to use that take out by the French. It is recommended that vehicles taken on this type of trip have very good ground clearance! The only place we had trouble in passing any particular point is when we happily drove into the Manavgat river near Cevisli. The van came to a rest after a few feet of the boulder strewn bed, with a large expanse of water still to be crossed. Not to be defeated we pulled up a few trees and "borrowed" some planks off the bridge which was still under construction. Utilising his degree in stone-age technology Phil advised that by using a tree as a lever one could lift alternate wheels of the van and push planks underneath them. Due to technical and management difficulties combined with equipment malfunction, it took four hours to cross the Manavgat. It was dark when we finished. Another trouble was that while cruising at 3 m.p.h. over jagged hunks of rubble one would hear a large Clunk followed by a rapid bonk-bonk-bonk. The cause of this was that a strategic cross beam was getting pushed up into the rear universal joint. The remedy was to give the beam to a likely looking Turk, such as a lumberjack, who would beat it straight with a huge sledgehammer. The mechanical 'piece de resistance' was on the way home. One moment we were cruising at 60 m.p.h. on

a smooth road, the next we were stopping in a shower of smouldering hunks of rubber with the van body resting on the rear wheels. Tim negotiated the hire of a lorry and we lifted the van on, took it 50 miles to Bursa and had various bits of suspension and prop-shaft welded together. The van was fully repaired less than 24 hours after the breakdown, so we were not late back to England.

Diving and Caving.

Duden Resurgence, Antalya

A large resurgence on the plain of Antalya. Tim dived to a depth of 80 ft. on 200 ft. of line, and some days later Phil dived to a depth of 125 ft. on 300 ft. of line, and found the passage continuing downwards but at a slightly decreased angle. Visibility was not very good and the current was nil in some places and strong in others.

Karapinar

Between Cevisli and Uzumdere, about half a mile south of the crossing of the Manavgat river. A large resurgence on the east bank. Below the resurgence half the water in the river is the comparatively clear water from the resurgence and the rest is the turbid waters of the Manavgat. Both Tim and Phil found the way blocked with boulders at 80 ft. depth (120 ft. of line).

Handos Cave

A few miles south of Karapinar resurgence a large cave visible in the cliffs on the west of the river, about one mile north of the bridge to Akseki.

The cave is an intermittent vauclusian spring, with the water level in August 100 ft. vertically below the entrance sill. Tim dived in clear water and went to the end of the line (200 ft.). The passage continues, and is almost horizontal.

Tinastepe

This cave takes its name from Tinastepe mountain. It is reached by going from Seydisehir to the bauxite mine and following the road for four more miles. The cave is a huge sink in the bottom of a doline about eight miles long. A rock bridge identifies the sink hole. Another large sink is a couple of miles further along the road, and gives access to a cave which the French hope to explore in 1969.

A full description and survey of Tinastepe cave will be given by the Speleo Club de Paris in their next journal, so I will give only a brief description on the character of the cave.

The main cave is a succession of pitches ending in deep pools. The first few can be avoided, but later each pitch ends in a rift passage full of deep water, (we used wet suits and boats). The end of the cave was a rift passage which in places was so narrow that one had to traverse up and tilt the boat to get it through. This passage ended in a chamber containing a lake.

There are several "fossil" caves in the cliff behind the cave. The longest goes for about 600 metres almost horizontally, then drops down a pitch into a huge chamber containing a lake at either end.

Belays have been provided for some of the pitches but these are incredibly small diameter Turkish made bolts which should not be trusted.

Pinargozu Resurgence

This is reached by following the road down the west side of Beysehir lake to Yenisarbademli and continuing on the road towards Anamas for about seven miles. Pinargozu resurgence is about 200 ft. from the road, and is the location of a small woodcutter's camp, so can be asked for by name.

A large stream flows from the cave together with a strong draught of cold air. The source of the water is not known (by me) but there is 1,500 metres of limestone "on top" of the rising.

When we arrived the French had already made their trip into the cave. Over a meal of local snails and local wine we found out the details of their trip. Having no exposure suits they had made their trip with dingys. They had reached (5) the ten foot waterfall, but were unable to climb due to the force of the water.

NOTE: Numbers in the text refer to points on the survey which indicates the path taken by the survey points through the cave. A solid line indicates that distances are estimated, bearings measured on handbearing compass.

Dotted lines indicate that bearings are guessed. Passage widths have not been shown as enough survey detail was not taken in the high level series between (7) and (8) to show the complex nature of the passage.

Description

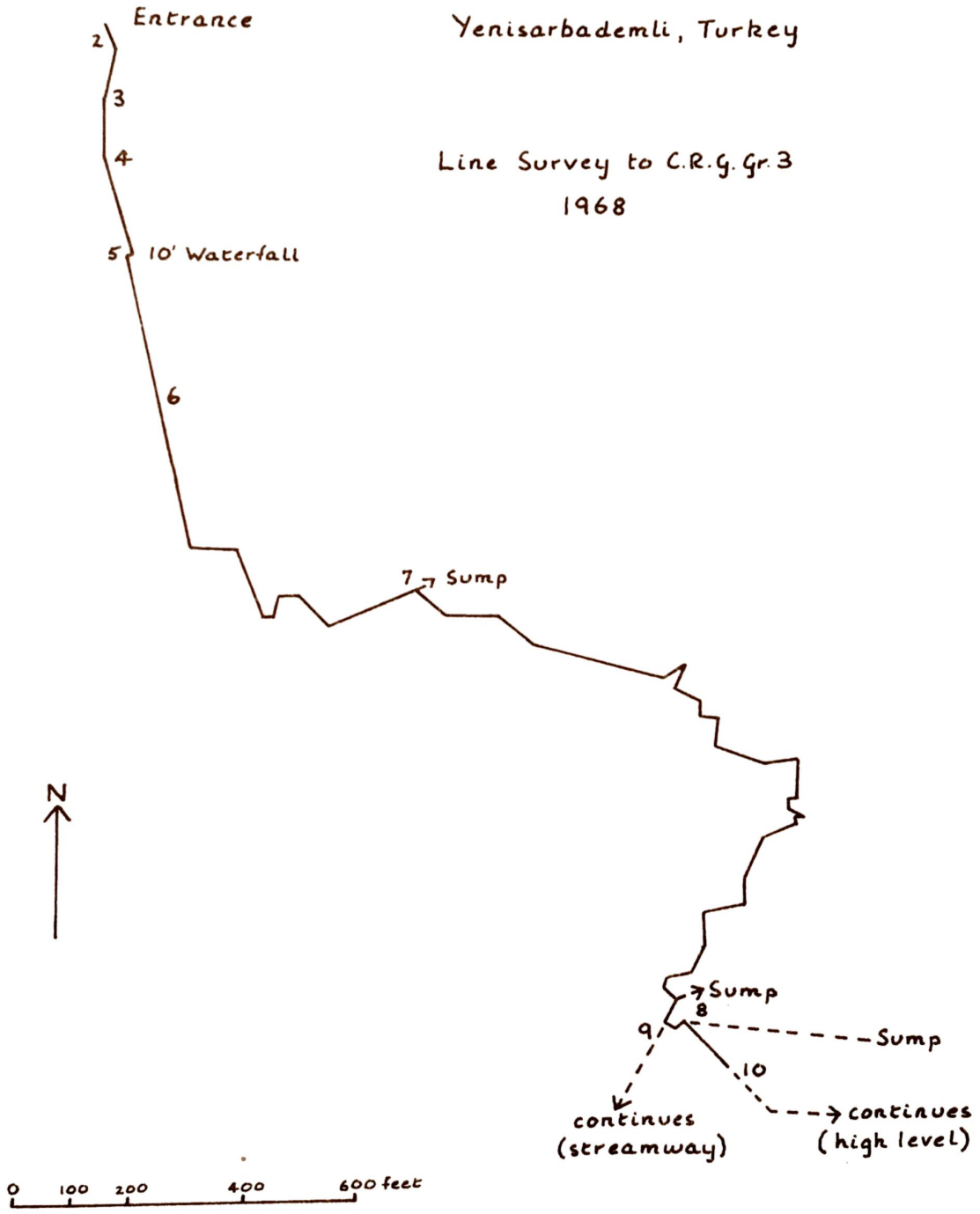
From the entrance (2) the roof drops after about 100 ft. to a point (3) where the water is about 18 inches from the roof. The wind is so strong here that it blows spray off the water producing a sound like a waterfall. 300 ft. of streamway including a bit of swimming and a small amount of dry ground (4) lead to the bottom of the waterfalls (5). The first fall of five feet was climbed by the French who were unable to climb the ten feet which followed after twenty feet. Phil climbed this and the five feet fall which followed, and the others eventually followed him up. Two hundred feet of narrow high streamway followed. This contained a sporting succession of small waterfalls, rapids and pools. The stream is left for eighty feet over stalagmited boulders (6). Seven hundred feet of high streamway followed, ending in a probable sump (7). Access was gained to 1,200 ft. of high level fossil passage. In some places the passage was 50 ft. x 50 ft. and in others it was almost completely blocked by boulder chokes, and in this case navigation was made easy by the strong draught. In places it was possible to hear or drop down to the stream, and in at least one place the high level passage took more than one route. At the end of the high level series (8)a the passage dropped 8 ft. back into the streamway. Downstream the stream flowed down 50 ft. of steep passage to a sump. Upstream there was a junction after 80 ft. The left-hand passage was explored first and after about 50 ft. a high level passage led off on the right (10). The high level passage contained some remarkable stalagtites in the first 100 ft. which sloped upwards. The Passage turned to the left and continues horizontally, large and unexplored. The streamway (11) continued 300 ft. to a sump, the passage was fairly low, and a boulder choke had to be negotiated. The streamway (9) on the right was looked at last. This was only explored for a couple of hundred feet. No obstruction was met, but exploration was terminated due to lack of time. The passage was noticed to contain the draught, so it seems to be the way on.

P.Collett (I.C.C.C.)

PINARGOZU RESURGENCE

Yenisarbademli, Turkey

Line Survey to C.R.G. Gr. 3
1968



P.J. Collett

THE JOINT BRITISH UNIVERSITIES SPELEOLOGICAL EXPEDITION TO RUMANIA, 1968.

C.J.Gilmore, Leader.
J.W.Dolman, Organizer.

Introduction:

In 1967, John Dolman visited Rumania and was impressed by some caves there. Early in 1968 he and a group of colleagues at Q.M.C. set the wheels of organisation in motion. The final result was for twenty people from seven British universities, one College of Technology, two reaearch institutes and two schools to arrive in Rumania in August 1968. The party had all the equipment necessary for a full-scale scientific attack on large cave systems, and after a few days' getting to know the area and organizing the campsite, work began. All work was carried out in conjunction with the Rumanian Institute of Speleology, the Rumanian Academy and the Postojna Institute of Speleology (Yugoslavia).

The limestone area visited lay between the towns of Hateg and Petrosani N.E. of the Retezat mountains in the Transylvanian Alps (fig.1). The exposed limestone area was small, covering some 200 sq.km., with very little surface drainage. The scenery was typical of that of Karst areas in other parts of eastern Europe.

There are three main cave systems in the area. The largest of these, Sura Mare, is known from its huge resurgence. This is the main drainage channel for the whole region. The resurgence lay about one kilometre from the campsite, up an impressive limestone gorge and was about 40 m. high and 15 m. wide. The normal flow rate of the stream leaving the cave was about 2,000 galls/min. The furthest point in the cave reached previously by anyone was about 4 km. in. This had been reached in 1967 by John Dolman, and had been named Mendip Chamber. The cave was fed by sinks some 4 to 5km. distant and 300 m. higher. The most important of these were Lunca Ponorlui and Fundatura Ponorlui.

The second system was much less extensive. It consisted of a smaller resurgence cave, Pestera Sura Mica (= Pestera lui Cocolbea). This was 200 m. long as far as the previously unexplored sump.

The third system was about 5 km. from Sura Mare, the Ciclovina system. Though the Rumanians had done a through trip of this from the top to the resurgence, it had not been surveyed.

Most of the work done took place in Sura Mare, the first of the three.

CAVE EXPLORATION:

Sura Mare:

It had been hoped to prove a connection between the resurgence of Sura Mare and the sinks of Fundatura and Lunca Ponorlui, and the problem was attacked from both ends.

A base camp was established in Mendip Chamber in Sura Mare consisting of a large amount of concentrated food and heating equipment, and also spare caving equipment. Using this base, several pushes were made, eventually finding a sump with a turmoil of water coming out of it 1,000 m. further on. Attempts to by-pass this obstacle by finding high-level passages in the roof of the cave found a well decorated passage about 500 m. long. This ended in a unscalable shaft down which water cascaded. This was called 'Green Inlet' owing to the colour of the water at this place. However, no by-pass to the sump was found, and a high-grade survey of the cave was begun.

Attention was now transferred to the sinks. First the Fundatura pothole was explored, pack-horses being used to carry the equipment up the mountain. The results were rather disappointing. Two trips revealed a pothole with 4 pitches totalling 70 m. in depth, which led into a mud-blocked chamber.

The sink at Lunca Ponorlui was attacked by seven cavers for a week, under the direction of Derek Abraham. This sink drained an area of 10-15 sq.km., but was so blocked up with mud and debris that all efforts to clear it were unsuccessful.

Finally various dolines and shakeholes in the line of Sura Mare were attacked and eliminated one by one, though at the bottom of one shakehole the sound of running water could be heard.

No dye-testing could be done in these sinks since immediately a dye-testing programme was worked out, caving activity was stopped by a week of heavy flooding.

Sura Mica:

Chris Gilmore dived the terminal sump in this cave. The sump sloped deeply at 45^{o} in a passage 2 m. square. This dive helped to confirm the results of the chemical analysis of the water, that the sump is very long and could probably not be tackled by a solo diver using a single bottle.

Fig 1. Sketch map showing region of Rumania visited.

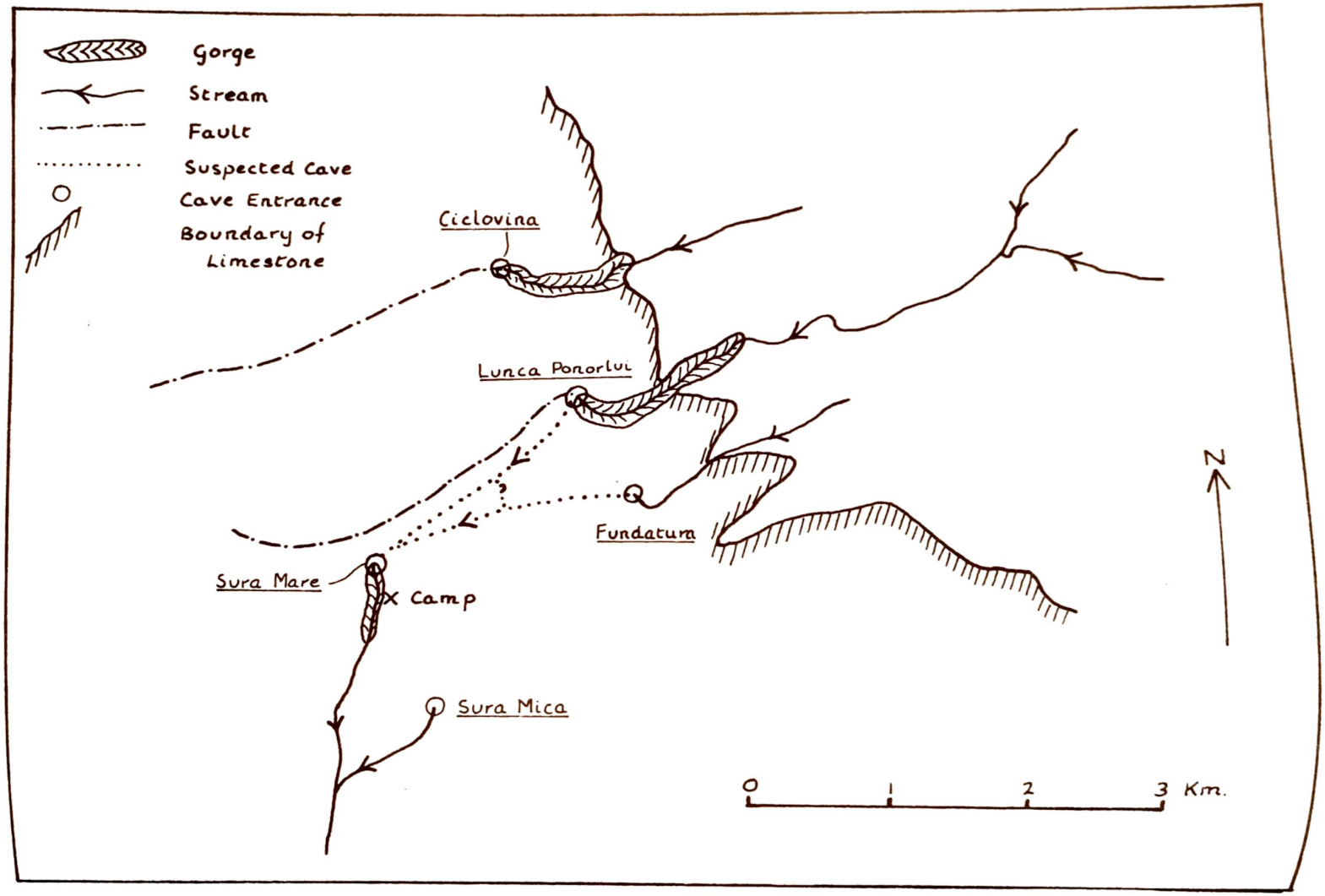


Fig. 2. The Main Caves of the Area.

Ciclovina Ponorlui:

This sporting and well decorated sink was fully explored, photographed and surveyed (CRG grade 4), and further details will be published in the main report.

BIOLOGICAL WORK:

Biological Officer - Paul Cornelius.

The fauna of the entrance regions of the cave had already been collected by the Rumanians, and no attempt was made to repeat this work. The Rumanian workers, led by Professor Orghidan of the Bucharest Speleological Institute, had found about 200 invertebrates in the bat guano deposits in the entrance of the cave. They had found also that of these only four species could not be found outside in the surrounding countryside.

To complement the work of the Rumanians, all pools in the side of the main streamway up to a height of about six feet from the water level were searched for fauna. None was found, despite intensive searching to within 200 m. of Mendip Chamber.

The reason for this absence of fauna was probably the fast-flowing nature of the streamway. Any fauna would soon be washed out of the cave, and a true cave fauna could not develop.

Possible collecting grounds that were not visited included the large rimstone pools in Mendip Chamber, Green Inlet Passage and the sandy bottom of the main streamway. It was possible, though in the author's view unlikely, that there was an interstitial fauna in this habitat. Before these places could be collected from, severe flooding of the whole system prevented access.

Conclusion:

The dark zone of Sura Mare had such a large volume of water flowing through it that any fauna attempting to become established there would soon be washed out. Any fauna found in this region would probably be of terrestrial origin and only of passing interest to the bio-speleologist. The fauna of the entrance zone had been studied by the Rumanians.

CHEMISTRY:

Chemical Officer - Graham Eaton.

Introduction:

It was hoped from the chemical analysis of cave water in the area to make predictions about which sinks fed which resurgences and to answer related questions. A programme involving determinations of pH, total hardness, alkaline hardness, non-alkaline hardness, calcium content and magnesium content was embarked upon, using a pH meter and standard volumetric analytical apparatus. Considering the difficulties of working under field conditions and the remoteness of the site from normal laboratory facilities, Graham deserved praise for the consistently high standard of results obtained.

Results:

The only cave investigated completely was Pestera Sura Mare. A total of four samples was taken at approximately 40 m. intervals. These were the entrance, the small inlet, a long pool above the waterfall and the final sump. The sinks for this cave were not investigated.

Samples were also taken from sinks known to connect with Sura Mare, and from the resurgence itself. Though flooding halted the collecting programme, it has been possible to draw some interesting conclusions from the results. However, since these have not yet been fully analysed the conclusions will be held over until the final report comes out.

GEOLOGY:

Geological Officer - John Warbrook.

Introduction:

The geology of the region was studied with a view to supplementing the cave geomorphological work (see below). The two valleys associated with the two caves Pestera Sura Mare and Pestera Sura Mica were mapped and studied in detail geologically. The specimens collected are still being analysed and a detailed account must wait until the full report is published.

Preliminary discussion:

The valley through which the stream flowing out of Sura Mare flows is a Jurassic/Cretaceous sedimentary basin. The

majority of the Mesozoic sediments were deltaic or on-shore in type with conglomerates being predominant in Lias and Dogger times. These were succeeded by thick limestone, which proved difficult to map due to the absence of persistent marker horizons. The overlying Cretaceous rocks were sandstones and shales with local grit/conglomerate horizons.

The western edge of the Jurassic/Cretaceous basin was a fault bounded with Senonian faulted against mica schists of uncertain age. To the north-east of the basin, beds of lower Jurassic age rested unconformably on the mica schists.

CAVE GEOMORPHOLOGY:

Carried out by John Dolman and Derek Abraham.

Introduction:

Severe flooding of the cave Sura Mare prevented study of more than the gorge at the entrance to the cave and the first 1,000 m. inside it. The latter was done under conditions of flood and international political unrest, and was therefore made more difficult than the task would otherwise have been. Two main erosion levels were found throughout the length of the cave from Mendip Chamber to the entrance. There were smaller channels above the present entrance of Sura Mare, and it is likely that several small channels in one horizontal plane joined together and cut down into the present cave. It is likely that the downward cutting has been arrested due to the stream's having attained its natural graded profile.

The gradient of the main streamway in Sura Mare is only a few degrees along the known part of the cave. There must, therefore, be steeper sections undiscovered as there is 300 m. vertically between sink and resurgence. Fundatura, forexample, consists of a hectic series of vertical pots one after the other. It may be that when the whole system was been studied in detail it will be found to be a near text-book example of karstic development. Mendip Chamber, however, 200ft. high by 300ft. long and 100 ft. wide (grade 1!) is mysterious. Just what causes a chamber of this size to develop in an ordinary stream passage? The Yugoslavs have some theories about this, but we are awaiting their conclusions.

PHOTOGRAPHY:

Photographic Officer - Tony Philpott.

Tony had three main objectives:- 1) To record the day to day running of the expedition; 2) To record new cave discoveries;

and 3) to film the region itself. In particular a 16 m.m. film was shot using film provided by the B.C.C. and which remained their property. Rumanian television sent a couple of their cameramen to cover us, and in all fairness it must be said that they handled their difficult film-stars in their difficult surroundings with dogged perseverance, great technical skill and an envyable source of patience and good humour. They were kind enough to allow us to use their own lighting equipment underground.

Meanwhile, our own Photographic Officer was filming and snapping shots of camp life, cave features, new cave systems, the local peasants, people eating sponsors' products and a hundred and one other subjects. It is sad that the cost of photographic reporduction makes it impossible to publish more of these results.

SURVEYING:

Survey Team Leader	-	H.K.V.White,
Team	-	J.Forder, G.Griffiths, C.T.Little, D.Pearce, J.Sheppard.
Assistants	-	H.J.Ball, P.F.S.Cornelius, M.J.Gallagher.

This team was well led, and it worked hard, achieving more than any other facet of the expedition. The amount of work done makes it impossible to do more here than simply list the surveys produced, CRG grade 4 to 5sC.

1. Pestera Sura Mica (Pestera lui Cocolbea).
2. The Valley of Pestera Sura Mica.
3. Pestera Sura Mare (part only).
4. The valley and gorge of Pestera Sura Mare.
5. Pestera Ciclovina.
6. Fundatura Ponorlui.
7. Small, unamed cave near Pestera Sura Mare.
8. An area map was compiled from existing maps.

These surveys will be published in the final report.

Instruments:

Simple instruments were used and techniques involving complex calculations were avoided. Some of the survey trips into Sura Mare were arduous due to protracted standing in 1-4 feet of swiftly flowing water. The instruments used underground were compass, tape, Abney level and candles for targets. Surface surveys used the same equipment except that ranging rods were used as targets. Fore- and back-sights were taken above and below ground, and all slopes of 3° or more were corrected to the horizontal reading. Plane tabling

was used to fill in details on the maps where appropriate, especially to fill in geological features.

RELATIONS WITH LOCAL POPULATION:

The local people were a peasant community for whom the communal way of life was not entirely appropriate due to the ruggedness of the terrain. Consequently, they did not have all the public facilities enjoyed by people in more accessible parts of the country, such as roads and electricity. They were a proud, healthy, happy people and we welcomed their generous hospitality and uninhibited interest in our activities.

CONCLUSIONS:

The expedition worked for one month under difficult conditions and over rough terrain. A great deal was achieved. A week of heavy rain in mid-August greatly impaired our work and turned our camp into a quagmire. However, spirits revived and the work went on.

The Rumanian Institute of Speleology was pleased with our research and even paid a contribution to the expedition funds. They have invited us to return in August 1969 to work in the limestone massif in the Retezat mountains on the other side of the valley. This region has great potential, but is somewhat inaccessible. An expedition is being planned for the summer of 1969, and anyone who might be interested should contact John Dolman, 155, Victoria Park Road, E.9. A little further work on the Sura Mare system is also planned.

Finally, thanks and praise are due to Chris Gilmore for his excellent leadership of the largest student speleological expedition to leave this country to date. He had to cope with a team of twenty, most of whom did not know each other; with severe floods; two cave rescue alerts (fortunately false alarms); diplomatic relations with the local peasants and with the Secretary of State of Rumania; with the prospect of a military invasion in the absence of reliable first hand radioreports; and an epidemic affecting the lower part of the gut! Whatever this expedition might have achieved it owes in large part to Chris's untiring sound judgement and good nature, both above and below ground.

Expedition Members:

C.J.Gilmore	- Bristol	- Leader.
J.W.Dolman	- Q.M.C.	- Secretary.
P.F.S.Cornelius	- Q.M.C.*	- Assistant Secretary, Biological Officer.
D.A.Abraham	- Q.M.C.	- Treasurer.
M.C.Nott	- Q.M.C.	- Finance Officer.
J.P.Warbrook	- Q.M.C.	- Geological Officer.
G.Eaton	- Birkbeck*	- Food Officer, Chemical Officer.
R.A.Philpott	- Bristol	- Photographic Officer.
H.K.V.White	- S.W.E.T.C.	- Survey Officer.
H.J.Ball	- M.A.F.F.	
N.R.Clatworthy	- Sussex.	
J.Forder	- Oxford.	
M.J.Gallagher	- Essex.	
G.Griffiths	- O.S.	
C.T.Little	- Oxford.	
D.A.Peace	- Oxford.	
J.G.Sheppard	- Oxford.	
D.T.Underhill	- Birmingham	
A.Wadham	- Q.M.C.*	
Eve Wheeler	- Bristol*	

* Indicates now left institution in question.

Paul Cornelius.

VOLCANIC CAVES, SUSWA CRATER, KENYA.

This year I was lucky enough to be a member of the Imperial College Kenya Expedition. Towards the end of our stay in Kenya we visited one of the extinct volcanoes situated in the rift valley, not far from Nairobi. This volcano is known as Suswa, and is in fact a very large crater, several miles across, with a smaller crater inside the large one. On the rim of the larger crater several volcanic caves can be found and explored.

The caves themselves are easily located as vegetation is very prolific around their entrances, probably due to the fact that there is more water available there. The area is in fact riddled with these caves, some of which are quite extensive.

We had a preliminary look into several of these, with the aid of a battery torch between about five of us. The caves were formed by a lava flow, which cooled and solidified on its surface, and thus became static whilst the still molten lava inside the crust kept flowing. The caves showed several very interesting features. In places there were large chambers generally near the entrance, which showed volcanic stalagmites - formed from molten lava dripping from the roof of the cave - and also flow structures on the base of the cave proper. The type of lava may be described as pahoehoe or 'ropey' and this was clearly illustrated in the tunnels we explored. Along the edges of the tunnel the molten lava had been stretched out into a long ropelike structure as it solidified, whilst the floor of the tunnel itself showed the direction of flow of the lava. In one place the tunnel was partially blocked by a lava flow which had come in from the opposite direction. This lava, was a pumice i.e. filled with gas bubles, which sounded hollow when tapped. In places one could find the bones of various animals, for example a wart-hog, which had probably been dragged in and eaten by a hyena.

Visiting these caves was extremely useful and interesting, as well as proving that not all caves are developed in massive limestone.

Mark Stokeld (I.C.C.C.)

JOURNAL EXCHANGE

This Journal now operates a satisfactory exchange scheme with the following clubs, whose publications we receive, in some cases intermittently, and keep in the I.C.C.C. library. Such publications may be borrowed by members of the London University Caving Clubs.

The name or place in brackets after the club name indicates the person to whom our Journal will be sent from now on. If clubs listed below have not been receiving the L.U.C.C. Journal, it is probably because we have not been informed of any change of address.

Association of Mexican Cave Studies (University Station)
Bristol Exploration Club (G.D.Tilly)
British Speleological Association (P.Crabtree)
Chelsea Speleological Society (W.G.R.Maxwell)
Craven Pothole Club (D.C.Mellor)
Exeter University Speleological Society (J.Cobbett)
Gritstone Club (J.R.Sutcliffe)
Happy Wanderers C.P.C. (Braida Garth)
Kendal Caving Club (E.F.D.Acland)
Liverpool University P.C. (L.Cowle,Students' Union)
Manchester University S.S. (L.D.J.Mills)
Mendip Caver (A.D.O.Oldham)
Mendip Cave Group (P.Mathews)
Northern Pothole Club (B.Smith)
South Wales C.C. (Mrs.C.Harvey)
South West Essex Technical College C.C. (The Editor,S.W.E.T.C.C.C.)
University of Bristol S.S. (P.Standing, c/o University)
University of Leeds S.A. (D.Brook)
Wessex Caving Club (T.E.Reynolds)
Westminster S.G. (T.Bull)

We also have a somewhat one-sided exchange with the following organisations as we can find no record of having received a publication from them for over a year. We would therefore be grateful for an explanation (e.g. if a publication appears only once every two years or so). If these clubs have not received the L.U.C.C. Journal, have we the right address? If no such explanation is forthcoming, we see no point in continuing the 'exchange'.

Bradford P.C. (M.N.Hartland)
Derbyshire C.A. (P.Taylor)
Eldon P.C. (A.R.K.Watt)
Northern S.G. (J.Mitchell)
Red Rose P.C. (M.Bateson)
White Rose P.C. (J.Heseltine)

CLUB ADDRESSES AND OFFICIALS 1968/69.

Chelsea College Caving Club,
Chelsea College,
Manresa Road,
London, S.W.3.

PRESIDENT: Cris Stoakes
SECRETARY: Chris Buckland.

Imperial College Caving Club,
Imperial College,
Prince Consort Road,
London, S.W.7.

PRESIDENT: Jim Winterhalder
SECRETARY: Dave Prime

Queen Mary College Caving Society,
Queen Mary College,
Mile End Road,
London, E.1.

CHAIRMAN: Mike Nott
SECRETARY: John Dolman

University College London Speleological Society,
University College,
Gower Street,
London, W.C.1.

PRESIDENT: Roger Scott
SECRETARY: Rob Basto.

NOTES and NEWS

Ireby Cavern

Divers from the N.C.C. have this summer explored about 3,000 ft. of passage up the inlet in Ireby 2. This includes a 2,000 ft. inlet streamway and some large chambers which are well on the way to the surface.

Crystal Cave, Barbondale.

The 1,300 ft. long South Passage has been explored by the Gritstone Club.

Swinsto Hole.

The flood inlet below the main pitches has been explored by U.L.S.A. to a point underneath Turbary Pot.

Foss Gill Pot.

This was extended some time ago by N.C.C. and is now 162 ft. deep, 400 ft. long and tight.

Gaping Gill.

A 6,500 ft. long system known as the Far Country was explored by U.L.S.A. after digging through the choke in the high level over Henslers Sump. A 45 ft. ladder is needed and the end point is only 100 yards from Clapham Cave.

Roaring Hole.

This is a hole dug out by U.L.S.A. near Chapel le Dale but is only 60 ft. deep.

Newby Moss.

P2 has been dug out by the Gritstone and explored for 2,000 ft. to a depth of 260 ft. via 5 short pitches.

Provetina.

This famour Greek pothole was bottomed by two expeditions - the Army and Pete Livesey. The entrance shaft is 1,400 ft. deep and completely choked at the bottom.

Antro di Corchia, Italy.

This summer's British expedition found a mile of new passage and slightly deepened the system.

Tysfjord, Norway.

This new limestone area fell to David Heap's party of the K.C.C. who descended one cave to a depth of 700 ft. and were stopped by a 400 ft. pitch. Another cave was explored for 3 miles.

Gouffre Berger.

A large French-Belgian expedition dived the sump and descended Pearce's pitch, only 20 ft. deep, and after 300 ft. were stopped by an impassable bedding plane sump. The expedition had its share of accidents and put 3 men in hospital, one after a 3-day rescue from just below Camp 1. In looking for another entrance to the Berger they opened up an adjacent doline and found an 1,100 ft. shaft - unfortunately choked at the bottom.

Birks Fell Cave.

In August members of the C.P.C. finally managed to remove enough boulders from the crawl at the end of the old canal to bypass the choked aven which had previously barred progress. Several hundred yards of passage were found, passing through a number of large dry boulder chambers, until a drop of about 50 ft. could be made back into the main stream. This was followed for about three-quarters of a mile through high rift passage (in places beautifully decorated) and low canals to the 55 ft. shale pitch, and a 20 ft. pitch. A further quarter-mile of mainly

waterlogged passage continues, and exploration here is not yet completed. Total length of system about 1¼ mile, depth about 420 ft. Access is presently being refused by the tenant at Redmire Farm, and in any case the bedding plane at the start of the new series is inaccessible except in dry conditions. A full account of the system is contained in the latest C.P.C. Journal.

Aille River Cave (near Westport, Co.Mayo)

This fine system which was first entered by the C.P.C. in 1967 was thoroughly explored and surveyed by the same club in July. The total length is now 5,000 ft. with a water drop in the cave of an incredible 4 feet! The final flooded series is at the same level as the resurgence, 2 miles away. A full account and survey may be found in this year's C.P.C. journal.

Mendip Floods.

The July floods in Somerset radically altered many of the Mendip caves. Both routes down the Longwood and August System were well blocked and the streamway made inaccessible. Manor Farm Swallet where U.B.S.S. have been digging for years is now an 80 ft. shaft, 15 ft. in diameter. Swildons Hole now has a new entrance rift to the left of the blockhouse, and the wedge-shaped block over which one had to squeeze into the first chamber has disappeared. The Water Rift has been lowered in level by about 20 ft. and it terminates in a fairly small hole which gives access to a 5 ft. pitch. The bottom of this pitch corresponds to the bottom of the old 'Forty' pitch which is now dry and rarely used. Shortly after the flood visitors found the boulders on the floor leading to Sump I (below Tratman's) underwater, and the sump itself some 10 ft. long and 5 feet deep. The water level in this area has now returned to normal. At that time Creeps I and II had disappeared and Ducks I and II had become near-sumps. The Mud Sump was again filled up during the floods, and Sump IV became impassable due to silt washed downstream.

PRELIMINARY NOTICE

Easter vacation1969, there will be an anthropological/ caving meet in south-west France. The cost will be under £25. For further details, contact the secretary, U.C.L.S.S.
