PHOLEOS

WITTENBERG UNIVERSITY

SPELEOLOGICAL SOCIETY

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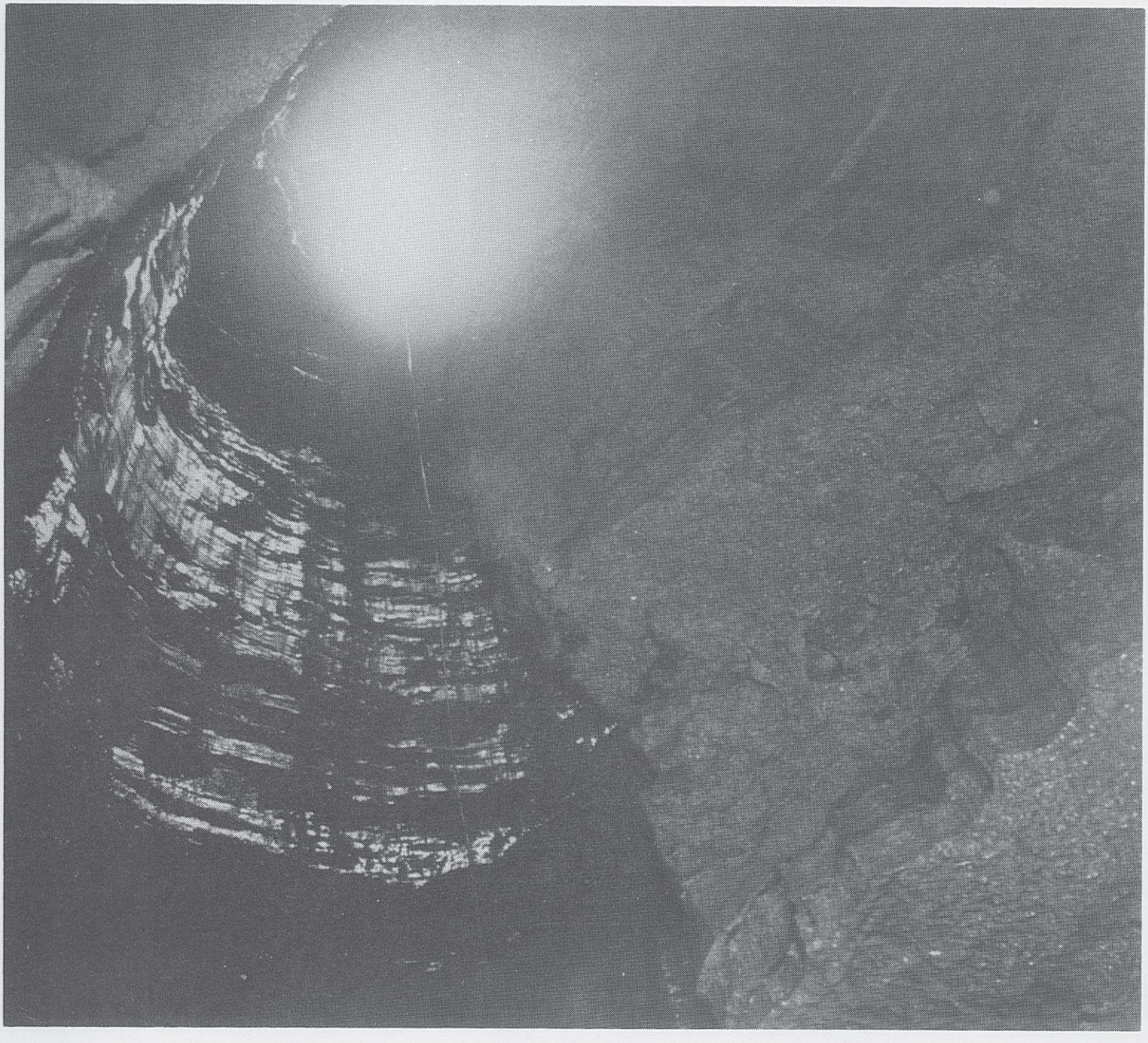

THE WITTENBERG UNIVERSITY SPELEOLOGICAL SOCIETY

The Wittenberg University Speleological Society is a chartered internal organization of the National Speleological Society, Inc. The Grotto received its charter in April 1980 and is dedicated to the advancement of speleology, to cave conservation and preservation, and to the safety of all persons entering the spelean domain.

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PHOLEOS

THE WITTENBERG UNIVERSITY SPELEOLOGICAL SOCIETY NEWSLETTER

Volume 6, Number 2 June, 1986

GROTTO ADDRESS

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SUBSCRIPTION RATE

1 Volume $4.00 (2 issues)
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Send to Grotto Address

EXCHANGES
Exchanges with other grottos and caving groups are encouraged. Please mail to Grotto address.

MEETINGS

Wedensday evening, 7:00 p.m., Room 206, Science Building, Wittenberg University Springfield, Ohio.

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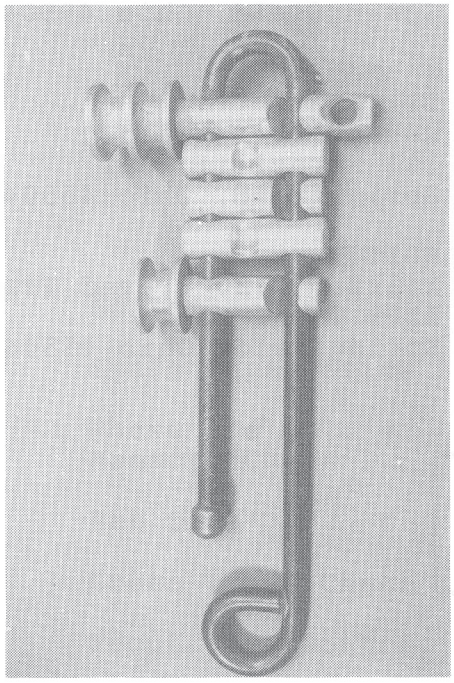
FRONT COVER: Green Trail Chasm
Photo by H.H. Hobbs

Editor's Note :
An Update on Ohio's Cave Bill

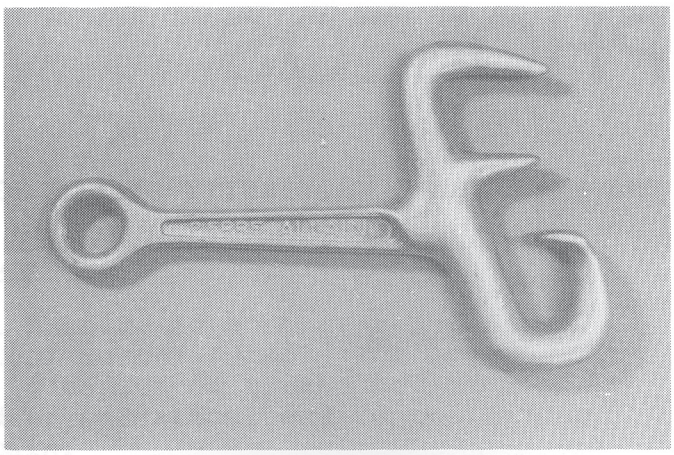
The bill finally made it to Columbus. After many discussions and revisions we sent off the final draft on May 1, 1986. It was to have been introduced on the senate floor during the session beginning May 14th. From there it was to be, as all legislation is, sent to committee. We have yet to receive word as to the bill's current status, but are hopes are high.

For those of you who have missed our periodical updates on this legislation here is a brief synopsis. The bill was created by the Cave Protection Committee of WUSS. The bill was designed to protect and preserve Ohio's caves. If enacted it will 1) limit the dumping of refuse into caves or sinkholes. 2) make it unlawful to harm a caves geologic and biologic components.

We would like all of your support behind this bill. It along with other legislation on the state and federal level will benefit us all. If you would like more information on the pending legislation send a stamped self-addressed envelope to the grotto address along with a note with any questions you might have.



Rack and Break Bars with self belay spool.



"French Death Hook" descender.

NOTICE

The Indiana Karst Conservancy has leased Shaft Cave in Monroe County, Indiana, and gated the cave on May 17th. It is not the intention to limit the access to the cave by organized cavers, however we can no longer tolerate the trash and graffiti that is accumulating in the cave from traffic by casual visitors and the large number of rescues required by inexperienced cavers.

The gate is locked with a combination lock which can be changed easily. Cavers who want to visit the cave can apply for a permit and will be given the combination to the lock which will work on the day of your visit.

Persons applying for a permit must sign a liability release, own proper equipment, and agree to abide by the established management rules. For a permit application and other information write to:

SHAFT CAVE MANAGEMENT COMMITTEE
THE INDIANA KARST CONSERVANCY, INC.
P. O. BOX 461
PLAINFIELD, IN 46168

Caves and cave gates are protected by Indiana law. The Conservancy intends to do their best to stop the problems in Shaft Cave, including prosecuting violators, so it will remain open to responsible cavers. The neighbors have been made aware of the $500 reward offered by the National Speleological Society for information leading to the arrest and conviction of a trespasser.

Where are Ohio's Mammoth Caves ?

By T.A. Snyder

One of the great frustrations of Ohio cavers is the lack of sizable solution caves within the state. Although neighboring Indiana and Kentucky possess extensive karst topography and world-class cave systems, Ohio's share of such features is strangely small. Some 200 caves are presently listed with the Ohio Cave Survey, but they are mostly small affairs. The longest one surveyed to date (Freeland's Cave, Adams County) is only 2200 feet long (H.Hobbs, pers. comm.). Does this striking difference between Ohio and her neighbors mirror reality or is it a result of differential exploration? Are there large caves in Ohio waiting to be found and if so, where will they be? On the other hand, if Ohio has no truly large caves, then why not? A careful study of regional geology might supply some answers.

In Indiana, the most spectacular karst topography is found in limestones in the middle and upper Mississippian age which outcrop in a widening band from Putman County to the Ohio River (Powell 1966) as in Figure 1. The presence of extensive cave features in this area is due to a fortunate combination of factors. Of first importance is the presence of soluble carbonate rocks with enough thickness to hold large caves; average thickness of the individual cave-bearing formations in Indiana are between 15 and 100 feet (Powell 1966). Also important is the presence of bedding planes and fractures in the rock, opening it to the flow of groundwater which then enlarges them into cave passages. External streams have cut through these cave-bearing rocks in many places, creating outlets for the ground water which would otherwise stagnate at the water-table, become saturated with calcium carbonate from the surrounding rock, and lose its capacity for further cavity enlargement. Finally, the whole process is powered by a gentle (30 feet per mile) southwest dip of the rock strata (Powell 1966) which provides the gradient needed to move the groundwater through the openings in the rock.

The same Mississippian limestones which hold Indiana's major caves can be followed across the Ohio River in western Kentucky where they contain the huge Mammoth-Flint Ridge cave system (Livesay, 1953) through the southern part of the state and then back north into the northeastern part of Kentucky where they hold the Carter and Cascade Caves (McGrain 1954).

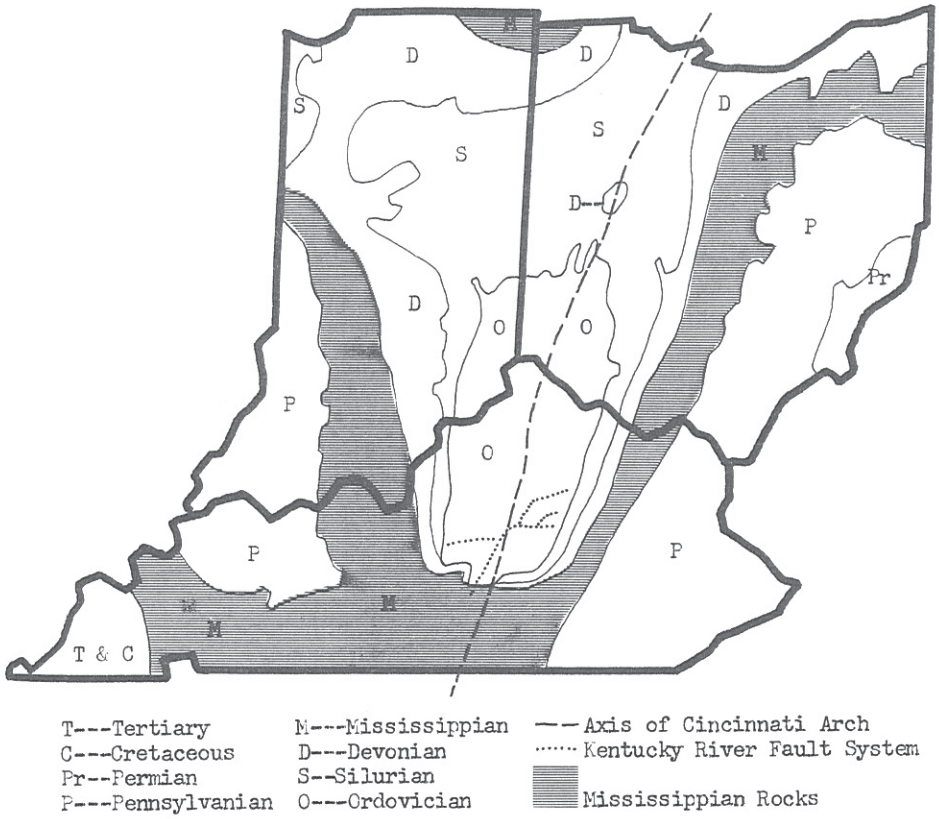
The crescent shape of this outcrop is due to the presence of the Cincinnati Arch. The arch is for the most part a geological feature only. Vast ages of erosion have so reduced any topographical elevation it may once have had that today it can only be recognized by careful study. On geological maps it appears somewhat like an elongated bull's eye covering 600 miles from Alabama to Ontario (Hubbard 1924), open to the north and centered on Cincinnati. The oldest rocks are exposed at the center of the bull's eye; these are the fossiliferous Ordovician shales and limestones for which Cincinnati is famous. The first ring of rock out from the center is made of younger Silurian age dolomites. The next ring is of still younger Devonian rocks, followed by rings of still younger Mississippian and Pennsyvanian rocks.

Because of this bull's eye structure, rocks of similar age will be found at approximately equal intervals on both sides of the centerline (or axis) of the arch. Having followed the outcrop of Mississippian rocks around the west and south sides of the arch, we should not be surprised to find them continuing to the north along its east side into Ohio. The question is: Do the Mississippian limestones which contain the large caves of our neighboring states continue as well? The answer is yes, apparently they do.

Most of the Mississippian-age rocks of Ohio are sandstones and shales, but at the very top of the column lies one lone layer of limestone. In 1869-70, E.B. Andrews--the first geologist to study this layer extensively--named it the Maxville Limestone after a village in Perry County, Ohio. Andrews believed that this limestone was the equivalent of the cavernous Mississippian limestones that hold such spectacular caves in Indiana and Kentucky. The question then becomes: Does the same combination of caveforming factors found in those states also exist in Ohio where the Maxville surfaces? At first glance, the answer would appear to be yes. A soluble carbonate (the Maxville Limestone) containing fractures and bedding planes is present, the area is cut by numerous river valleys which provide outlets for groundwater, and the rock strata dip gently to the southeast in a mirror image of the dip on the west side of the arch. Given this promising array of circumstances, why do we find no large solution caves reported from the area? Why is karst topography (which forms such an impressive part of the scenery on the Mississippian limestones of Indiana and Kentucky) so subdued on the same limestones in Ohio as to be invisible?

Figure 2 may provide some clues. This diagram compares the Mississippian rock sequences found in the cave region of Indiana, the Mammoth Cave region of western Kentucky, the Carter Cave region of eastern Kentucky, and in Ohio. The height of each block is roughly proportional to the greatest thickness attained by the rock layer it represents in that area.

FIGURE 1: GENERALIZED GEOLOGIC MAP OF INDIANA, KENTUCKY, AND OHIO



The first thing we notice from the chart is that there are marked differences between the total thickness of Mississippian rocks in each area. Indiana's column is thickest, with 1742 total feet. Passing into Kentucky, the column thins to 1165 feet in the Mammoth Cave region and reaches its thinnest point (312 feet) in the Carter cave area. Northward into Ohio, the Mississippian system thickens again to 705 feet.

According to Figure 2, Ohio's share of Mississippian rocks is considerably less than in the western cave regions, but twice as that of Carter Caves. However, when only the soluble carbonate layers in each column are considered, a different picture emerges. Indiana has 754 feet of potentially cave-holding limestone; western Kentucky has 800 feet. In eastern Kentucky, the available thickness of carbonate rocks has plummeted to 212 feet, and declines to only 50 feet in Ohio. Here, then, is the first obstacle to the formation of large caverns in the Mississippian limestone in Ohio: they are simply not thick enough. Evan the 50 feet shown for Ohio is misleading, for the Maxville Limestone is for the most part considerably thinner on the outcrop over much of its range and notoriously discontinuous, being found in patches rather than in one broad sheet (Collins 1979).

Taking a second look at Figure 2, we notice that sandstones and shales, while present in every column, dominate Ohio's Mississippian rocks, forming over 90% of their total thickness. Such disparity can only be explained by differing depositional histories. A quick look at how the Mississippian rocks of the three states were laid down will go far in explaining why Ohio came out short on soluble carbonates.

At the beginning of Mississippian time, the tri-state area was part of a vast, tropical sea divided into two basins by the Cincinnati Arch. Opinions differ as to what height the arch had, but during part of Mississppian time it existed as a shoal or emergent lowland (Rice, et.al. 1979). The shallow sea to its east is now called the Appalachian Basin; that to its west, the Eastern Interior Basin. During the early part of Mississippian time (Kinderhookian and Osagian; see Figure 2), a vast delta similar to that now being built in the Gulf of Mexico by the Mississippi River grew south-western into the basins from highlands to the north and east in what is now Canada and the Atlantic states. The sand and gravel of the delta eventually solidified into sandstones and conglomerates of the Mississippian sequence. When delta-building ceased at the end of Osagian time, carbonate deposition began

and continued through Meramecian time (Rice, et. al . 1979). It is in the resulting limestones that most of the spectacular caves of the region have since been formed.

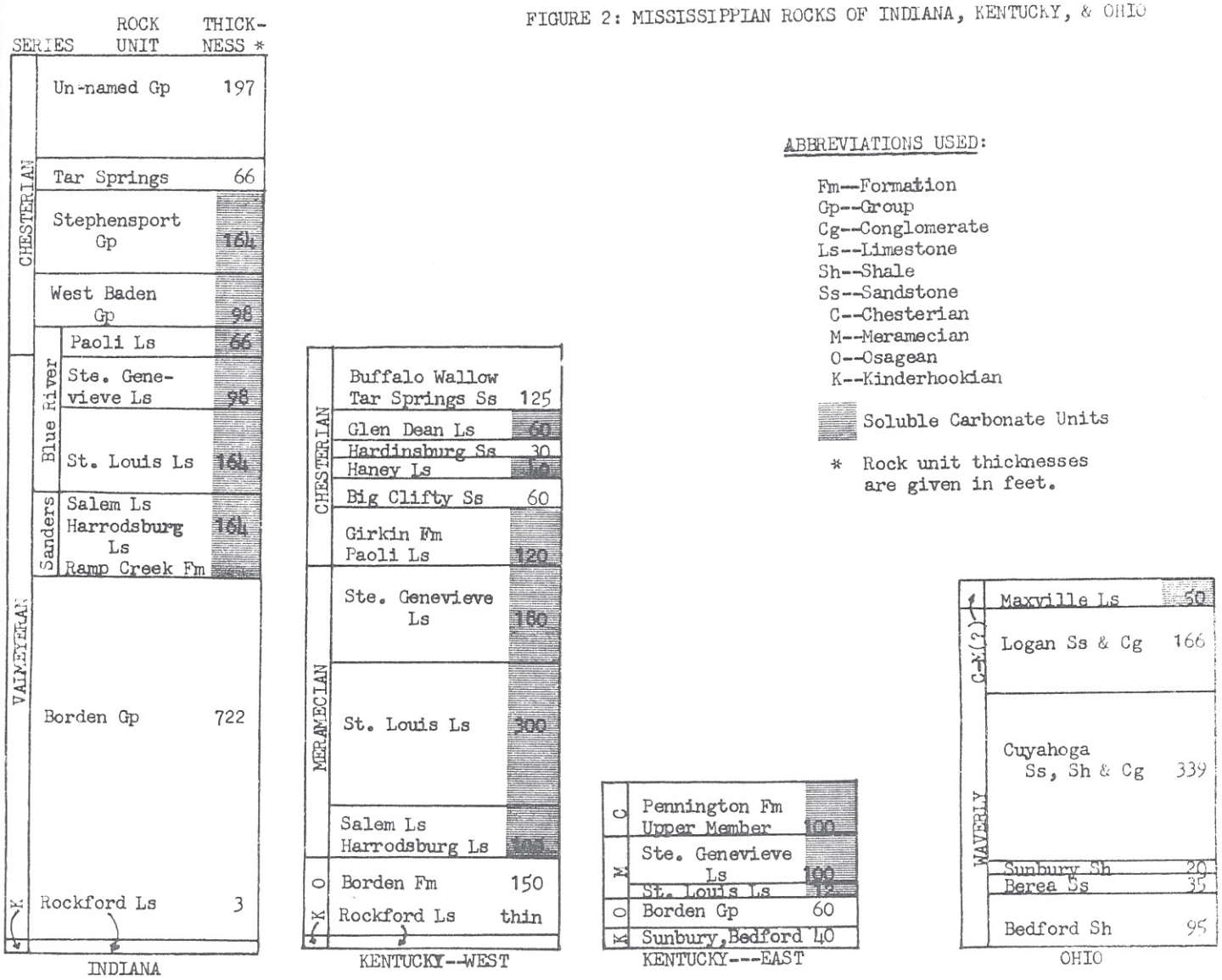
At the end of Meramecian time, limestone deposition was interrupted by elevation of the seafloor, allowing the Saint Louis and Ste. Genevieve Limestones which had been deposited in Meramecian time to be eroded. The greatest erosion took place north of the Kentucky River fault system, which is one reason these limestones thin out and then disappear north from Kentucky (Rice, -let. al-0. 1979).

Chesterian time saw intermittent renewal of delta-building in the Eastern Interior Basin, resulting in alternating layers of sandstone and limestone (Rice, et. al . 1979). In the shallower Appalachian Basin, carbonate deposition resumed on the eroded Ste. Genevieve surface, completing the layer we call the Maxville Limestone (Collins 1979).

The Appalachian Basin, being closer to the eroding uplands than the Eastern Interior Basin, filled more quickly with delta deposits. The carbonate rocks deposited on top of them were thinner than those in the Eastern Interior Basin and were further reduced by the period of erosion between Meramecian and Chesterian times. The addition of carbonate deposits in Chesterian time certainly thickened the limestone sequence in Ohio, but the gain was nearly offset by what happened next.

At the end of Mississippian time, the sea floor again rose above sea level. This time, the entire region was tilted gently southward. Once again erosion ate into the newly-emerged land, especially the higher, northern part. As a result, the originally gradual thinning of the limestone beds northward into Ohio was made more abrupt (Collins 1979).

FIGURE 2: MISSISSIPPIAN ROCKS OF INDIANA, KENTUCKY, & OHIO



The resulting land surface was gently rolling with deeply incised stream valleys (Lamborn 1945). In Ohio, the relief was between 50 and 75 feet with some valleys cut as much as 350 feet below the general surface--deep enough to pass completely through the Maxville Limestone and into the underlying Logan and Cuyahoga Formations (see figure 2). The topography of that time must have resembled parts of hilly southeastern Ohio today (Collins 1979).

This period of erosion may have been Ohio's cavernous moment of glory. The sloping Maxville Limestone capping the uplands and isolated hills of the time would have been ideally situated for cave-development. The high level of precipitation found in tropical areas (Ohio was near the the equator at that time; see Scotese, et.al. 1979) would have provided ample water. Limestones of similar age outcropping along the western edge of the Cumberland Plateau show evidence of Mississippian karst topography as well as the same hill and-valley-terrain found in Ohio at that time (Rice, et.al. 1979). Extensive caves probably formed in Ohio as well and no doubt aided in the disintegration of the Maxville Limestone. Careful searching might reveal remnants of these caves filed with younger, Pennsylvanian age rock.

After a period of erosion, the Mississippian landscape sank once again beneath the sea and sediments covered the hills and filled the valleys (and caves, if any existed). The submergence marked the beginning of Pennsylvanian time which lasted 95 million years and gave Ohio her extensive coal fields. After Pennsylvanian time and early Permian time which followed it, the tri-state area rose once again above sea level and has not been submerged since. It is in the long centuries of erosion following this final uplift that the large caves in the Mississippian limestones of Indiana and Kentucky have formed. Have any formed in the Mississippian limestone of Ohio? We are now ready to reach some conclusions.

The general thinning of Mississippian limestones northward from Kentucky into Ohio is a disappointing fact. If caves have indeed formed in these limestones, they must of necessity be smaller than those in Indiana and Kentucky. The discontinuous nature of Ohio's Mississippian limestone, cut through as it was by post-Mississippian erosion, means that such caves as may have formed will also be of smaller lateral extent. It is highly unlikely that any caves found in Ohio's Mississippian rocks will compare in size to those of our sister states. The apparent lack of karst topography in Ohio's Mississippian outcrop region gives additional weight to this conclusion. To find Ohio's largest caves, we will have to look to carbonate deposits of Devonian and Selurian age--deposits already known to be cave-bearing in the state.

However, the absence of large caves in Ohio's Mississippian limestone does not necessarily mean no caves at all. The Maxville Limestone does reach a thickness of at least 35 feet in one noted outcrop (Lamborn 1945)--thick enough to contain fair-sized caves. Additionally, some deposits of the limestone buried beneath younger sediments may be as thick as 195 feet, raising further possibilities (Collins 1979). The other conditions (groundwater, slope, external stream valleys) are all present. Careful searching in this neglected part of the state might reveal something nearly as exciting as large caves: undiscovered caves.

If caves are to be found in Ohio's Mississippian limestone, they will be found where the Maxville surfaces; that is, in the discontinuous band from Scioto County on the the Ohio River north to Muskingum County. The most promising area would appear to be southwestern Muskingum and northeastern Perry counties where the Maxville outcrops reach their greatest thickness (Lamborn 1945).

By way of encouragement, it is interesting to note that one possible cave in the Maxville Limestone of Ohio has already been reported. In 1972, Warren Luther published an unverified report of a cave in Lawrence County. By checking its supposed location against an unspecified map, he placed the cave in the Maxville Limestone. To date, no evidence has yet been found indicating that the cave was actually vistited to determine if it is a true solution feature, or even if it exists. For those interested in expanding Ohio's cave frontier, here is a good place to start.

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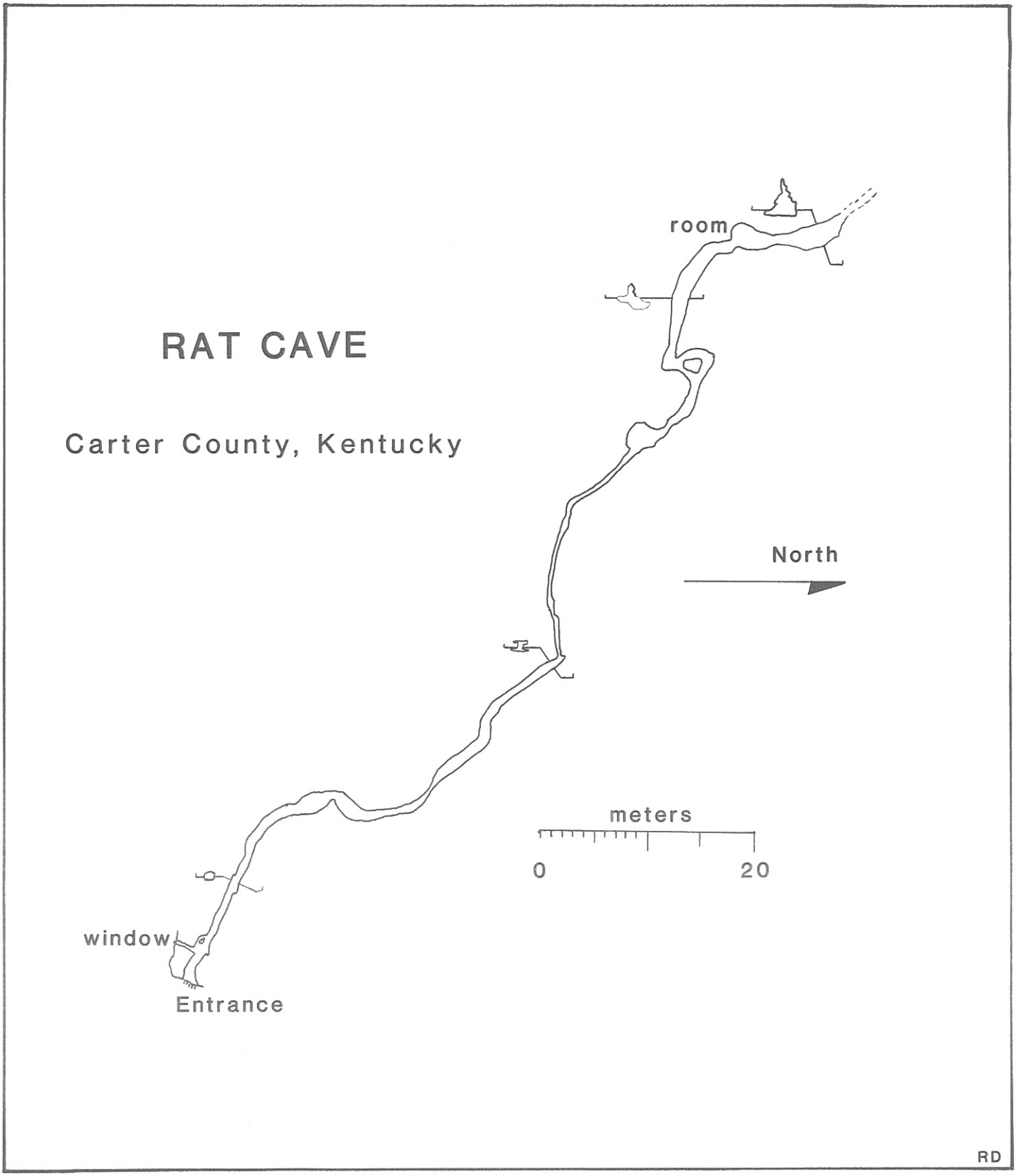
RAT CAVE
by Robert Davenport

The entrance to Rat Cave is a conspicuous phreatic tube in the cliffs above the Smokey Lake. The cave is located within Carter Caves state Park, Kentucky. It is a single crawling passageway (THC 115 meters), with the only place to stand being at the end of the cave. This is a very dry cave with the only wet spot occurring 20 meters in the cave.

As the name suggests, this cave is populated (at least temporarily) by rats. The floor is covered to several inches by rat droppings and plant material used as food and nesting material, which is very dry and causes the cave to be very dusty in spots. Masks are a great help in this cave to help prevent breathing dust. Care should also be taken if using carbide, to prevent setting the floor material on fire. There is little evidence of speleothem development, which only consists of flowstone. It occurs at the beginning of the cave and at the end of the cave before the standing room. The most striking feature is the constant cross bedding of the limestone throughout the cave.

The entrance to the cave is a phreatic tube .85 meters in diameter. Three meters into the cave a window on the left extends to the cliffside. The cave floor in the entrance is clean. Rat droppings are first found about 18 meters into the cave. Going further into the cave, many rocks can be seen scattered around the cave floor. The debris is very thick and dry in this area. After travelling through this rocky area the cave becomes narrow enough that further progress through this 10 meter section can be done only on your side. It is here that the cave ceiling opens up in a narrow crack, which gives the cave an upside down keyhole shape. On either side of the crack is a small ledge that is used by the rats. Beyond this the passageway opens up and on the left is a window that shows the passageway as it continues down that direction. The crack in the ceiling continues to get bigger but it is never wide enough to put your head into it. Near the end the passage widens out into an area that has been used for a nesting area by the rats. The debris has reached its thickest here. After a tight crawl under some flowstone you enter the standing room. It is not wide but you are able to stand and give your back a break from crawling. On one of the ledges to the left there are many scratches in the rock leading to a hole in the wall. This is a possible entrance for the rats. Beyond this room the cave continues but the amount of debris on the floor prevents travel by making the passageway too narrow. There are no plans to dig through the debris at this time.


RAT CAVE
Carter County, Kentucky
room
North
meters
0
20
window
Entrance
RD

Green Trail Chasm - from below.

A second pool lies to the west, a mound of sand separating it from the other pool. Water (from a different source) cascades approximately 18m down the north wall, collects in the sand-bottom pool, and flows northwest over a small calcite-coated crevice in the floor. This crevice is approximately 2.5m deep, about 1m wide, yet is too narrow at the top for entry. This lower drain passaage apparently continues to the southwest. Future dye tracing may indicate that this is the source of the small rivulet that flows through Constipation Cave situated below and west of the entrance to Green Trail Chasm.

Evidence of an aborted (hopefully!) attempt to enter the pit is found at the base of the drop: two saplings are lashed together and lie against the east wall of the pit. This pit should be visited only by those persons EXPERIENCED IN VERTICAL TECHNIQUES. Also, it should not be entered during periods of heavy rainfall or springmelt.

AN ADDITIONAL KARST FEATURE OF CARTER COUNTY, KENTUCKY

by
H. H. Hobbs III and Marcus Pender

Green Trail Chasm is a small, primarily vertical cave situated on the eastern boundary of Carter Caves State Resort Park in Carter County, Kentucky. The entrance shaft lies above Cave Branch and overlooks the main road into the Park.

This well-decorated cave exceeds 23m in total depth and has a free-fall entrance drop of 19.5m. Total horizontal extent is limited to little more than 10m yet the cave is quite picturesque and certainly worth a brief visit (Fig. 1).

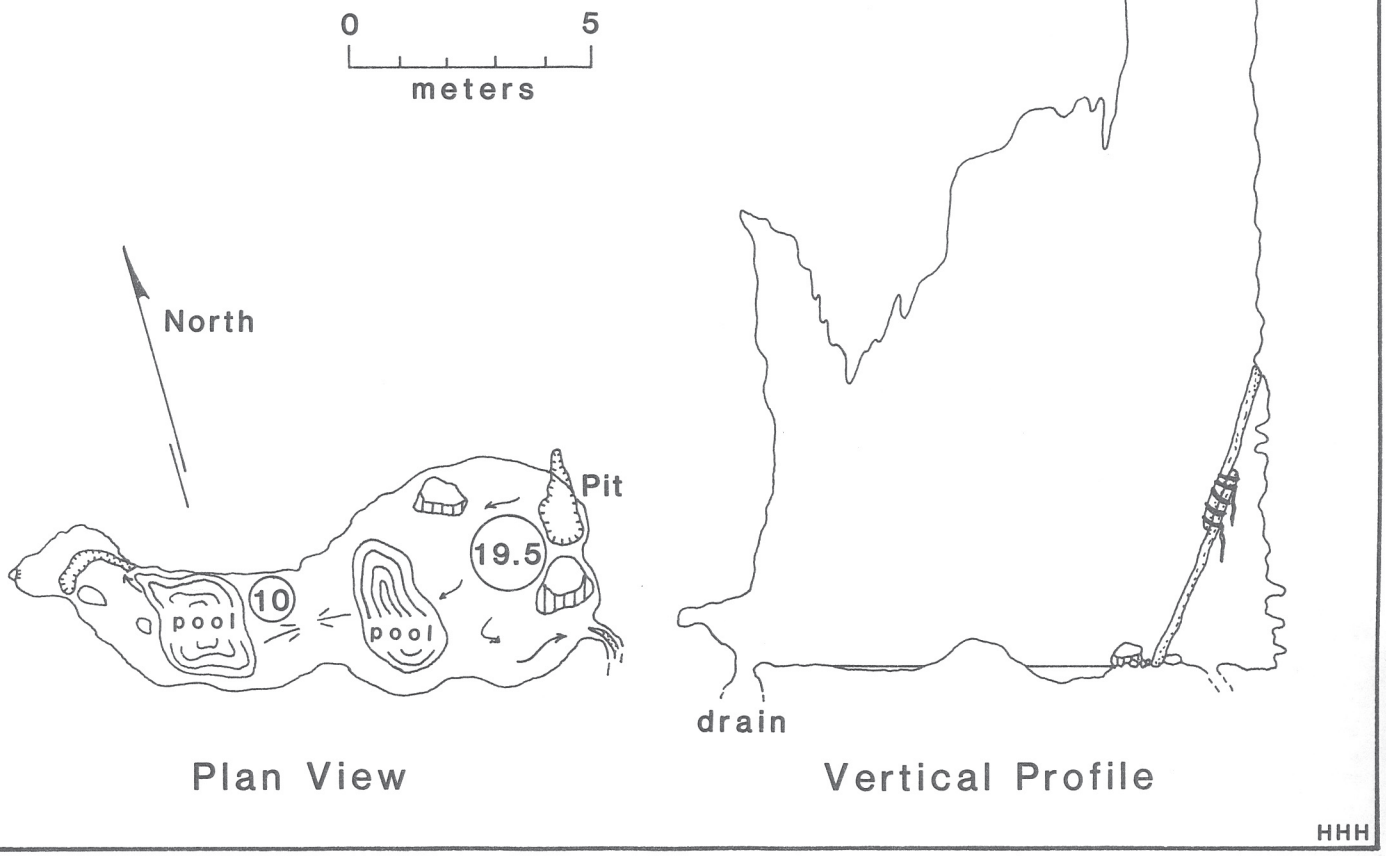
A stream enters the main pit from the north approximately 3.5m below the entrance and, unfortunately, the rope cannot be rigged away from the shower. At the base of the drop is a small pool which drains into a narrow crevice on the southeast wall. Remains of numerous surface animals (e.g., Terrapene carolina) are found in the debris in and around this pool.

Green Trail Chasm - Entrance.

GREEN TRAIL CHASM

Carter County, Kentucky

4 October 1985



Dear NSS Members:

IN 1984, by the generosity of NSS members, we paid for our new enlarged office "home" in Huntsville. In the same year, also by member generosity, we bought another kind of "home" - one for bats in large numbers. This is Trout Cave, near Franklin, West Virginia, one of four caves in the John Guilday Cave Preserve. The property was purchased to "preserve, protect and manage (these) significant caves with respect to their size, recreational opportunities, human historic value and paleontological value". It was soon rediscovered that Trout Cave had also been one of the most important ancestral hibernacula for the endangered Indiana Bat in West Virginia.

Between 1600 and 2400 Indiana Bats were counted "in one room alone" in 1941. The number now hibernating in Trout Cave is small, but a study of cave temperatures conducted during 1984-85 showed that conditions in TRout remain suitable for the reestabishment of a major hibernaculum. The NSS has therefore declared Trout closed from Labor Day to May Day, for a period of six years, in order to attempt the restoration of the use of the hibernaculum.

We are strongly supported by professional biologists. Among many others, Dr. Merlin Tuttle wrote "I strongly support your effort to protect the endangered bats of Trout Cave", and and an endangered species biologist, Dr. G. Andrew Moser, said "seasonal closure of Trout Cave would make an important contribution to the nationwide protection effort currently underway for this species".

I look upon this project as a superb embodiment of the conservation principles of our society. We are sensitive to the rarity and fragility of the cave environment; we understand and appreciate bats more than do most people; we have worked closely with public agencies for study and protection of caves in their care; and we are challenged and stimulated by difficult tasks - of either exploration or conservation.

Effective closure is a problem. Indiana Bats are very sensitive to disturbance. This has been an important factor in their population losses, which has led to their being placed on the federal list of endangered species. Unfortunately, Trout Cave is well known and heavily visited. No one yet knows how to obtain effective and reliable closure by means other than a gate. The NSS Board has authorized obtaining gate designs and estimates, and has initiated a fund raising effort with an article about this project, by Dr. Virginia Tipton, published in the March 1986 NSS NEWS.

The only estimate for construction of a gate that has been obtained to date is $20,000. Hopefully, a way will be found to build a less expensive gate, but for now $20,000 must be our goal. If effective winter closure of Trout can be accomplished by other means, the money raised will be used to support that effort.

I would now like to personally ask every NSS member to participate in the effort to restore our "winter home for bats". Individual contributions are the basis for success, but there are many ways for NSS members, Grottos and other Internal Organizations to make this a community effort. Here are a few: "pass the hat"; hold a meeting at which a bat program will be presented, and request donations; sell bat T-shirts,..... (if you have other ideas, carry them out -- and tell us about them).

Please help the bats come home. Donations are tax deductible and should be sent to the NSS Trout Cave Gate Fund, Cave Avenue, Huntsville, AL 35810.

Reprint of Rane L. Curl's (NSS Board Member) Memo dated May, 1986.

Video Review: Caving in Mexico

by Elisa Shepland

Realm of Darkness, a video on caving in Mexico, gives one glimpses of the beauty and extensiveness of the cave system in the San Cristobel Plateau. It also shows facets of village life in San Cristobel. Most importantly, however, it provides valuable--perhaps potentially life-saving--information regarding cave locations, procedures, and dangers of caving in one area of Mexico, the San Cristobel Plateau.

This video covers the 1982 efforts of a British-based group of cavers, the first major exploration by such a group. The President's permission is, says the narrator, vital in overcoming the suspicions of the villagers. These suspicions exist mainly because many of the caves have religious significance to the residents of San Cristobel. One cave, the speleologists related, has an altar with decorations and candles; Borovitz also has a curse attached to it.

The knowledge of this "curse" is another valuable bit of information gained from viewing the video. Because of the extreme dryness of the cave, as well as the buildup of carbon dioxide and the great amount of bat guano which exist in Borovitz, there is a real danger of contracting histoplasmosis (a fungal infection which affects the lungs). Several members of the group did contract the disease; as a result the expedition was defeated.

On the more pleasant side, Realm of Darkness reveals the exhilaration which results from seeing the tremendous beauty of the Mexican caves and the feeling of amazement expressed by the cavers at walking through passages into which no one else had ever stepped. In addition, this video provides the viewer with an interesting sight of the village customs, rituals and festivals which occurred while the British group stayed at San Cristobel.

Overall, Realm of Darkness could be a valuable tool for anyone who has an interest in exploring the caves of the San Cristobel Plateau, caves which have the potential for being the deepest and longest in the world. It also expresses the view that there is a distinct possibility for finding an extensive cave system in the area--a challenge for any serious caver!

A Description of Two Small Southwestern Ohio Caves

H. H. Hobbs III

The following is a discription of two small caves from southwestern Ohio, one from Preble and the other from Hamilton County.

Mcousta (Big, Clinton, or Somers) Cave is situated in Somers Township in Preble County. The small, climb-down entrance (see Fig. 1) is at an altitude of 323m and has a maximum depth of 2.5 - 3m, with a total horizontal length of 8.5m.. It is developed in the Clinton Limestone (fringes the Lower Silurian) and is really a small, sloping room with one dead-end crawlway and a tube connecting to the surface ("window" - see Fig. 2). It has been rumored that the cave was much larger than it is at present. The following is a quote from James, 1890:

Figure 1. Mcousta Cave.

"It is possible that at one time the cave had considerable extent. About the mouth or entrance are many huge fragments of rock which have fallen as the earth has been washed away below. That these have not fallen very recently is shown by the presence of trees of considerable size, and from fifty to seventy-five years growth, close to one of the fallen masses. Probably also before the cultivation of the land above, the cave was readily accessible. But the washing in of earth has gradually filled up the passages and most of the cavity. Formerly, it was easy to enter. These have been stopped up with dirt and stones, partly to prevent cattle from falling into them, partly to enable the land to be cultivated."

James also stated, "I had been told before visiting the spot that it was possible to penetrate several hundred yards under ground; that there was a large entrance, into which a man could walk

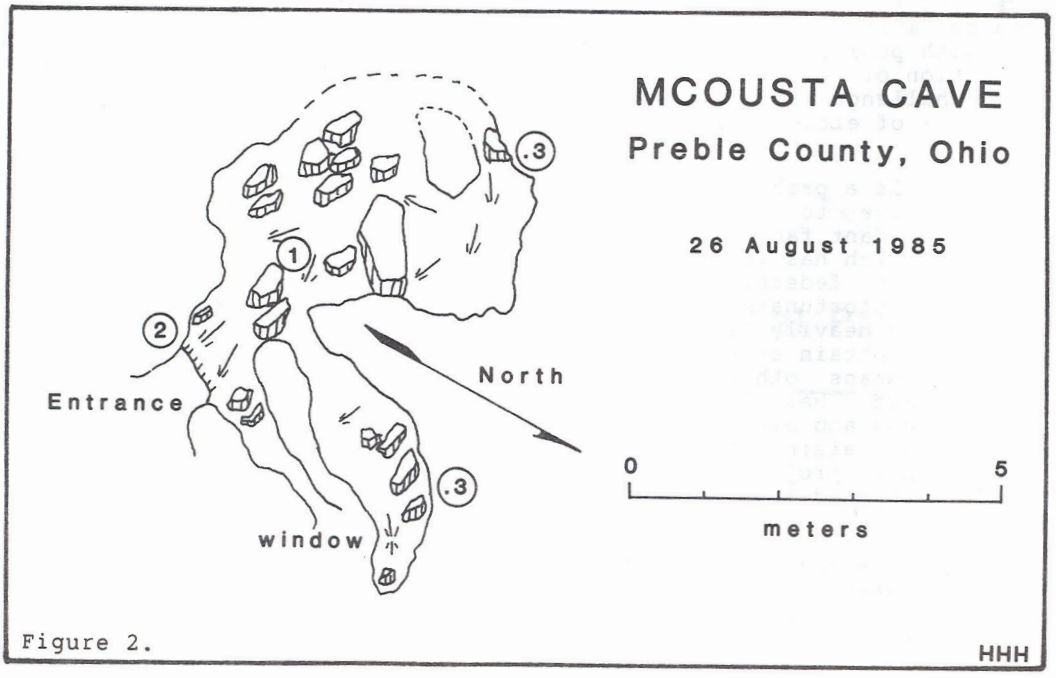


Figure 2.

upright; and that the floor was paved with bones. Persistent inquiry and search did not reveal this entrance, so we were compelled perforce to take what we could find. This was a hole in the ground, descending perpendicularly some six or eight feet [see Fig. 1]. At the bottom was an opening under a projecting lodge of rock. Once inside, there was found a narrow descending passage. It was about two and a half feet high at first, and about twenty feet from the mouth opened out into a cavity about large enough to turn around in. At one side was a slight depression, and then roof and floor met. At another side was a small opening about a foot high, through which, by patient, snake-like movement it was possible to crawl. Beyond this was another slight enlargement, also of sufficient size to turn around in , and that was all. At one side was a funnel shaped cavity about two feet in diameter and of the same depth, with a hole at the bottom. This had been made, apparently, by water running in from above. All around floor and roof came together, except that at one side was an opening too small to attempt a passage. This was the extent of the cave. The floor was of dried mud, which becomes converted to a mass of sticky clay in wet weather." Obviously the cave has filled considerably since James visited it.

Numerous crickets (Ceuthophilus sp.), two small spiders, and the salamander, Eurycea longicauda, were observed when the cave was visited in August 1985.

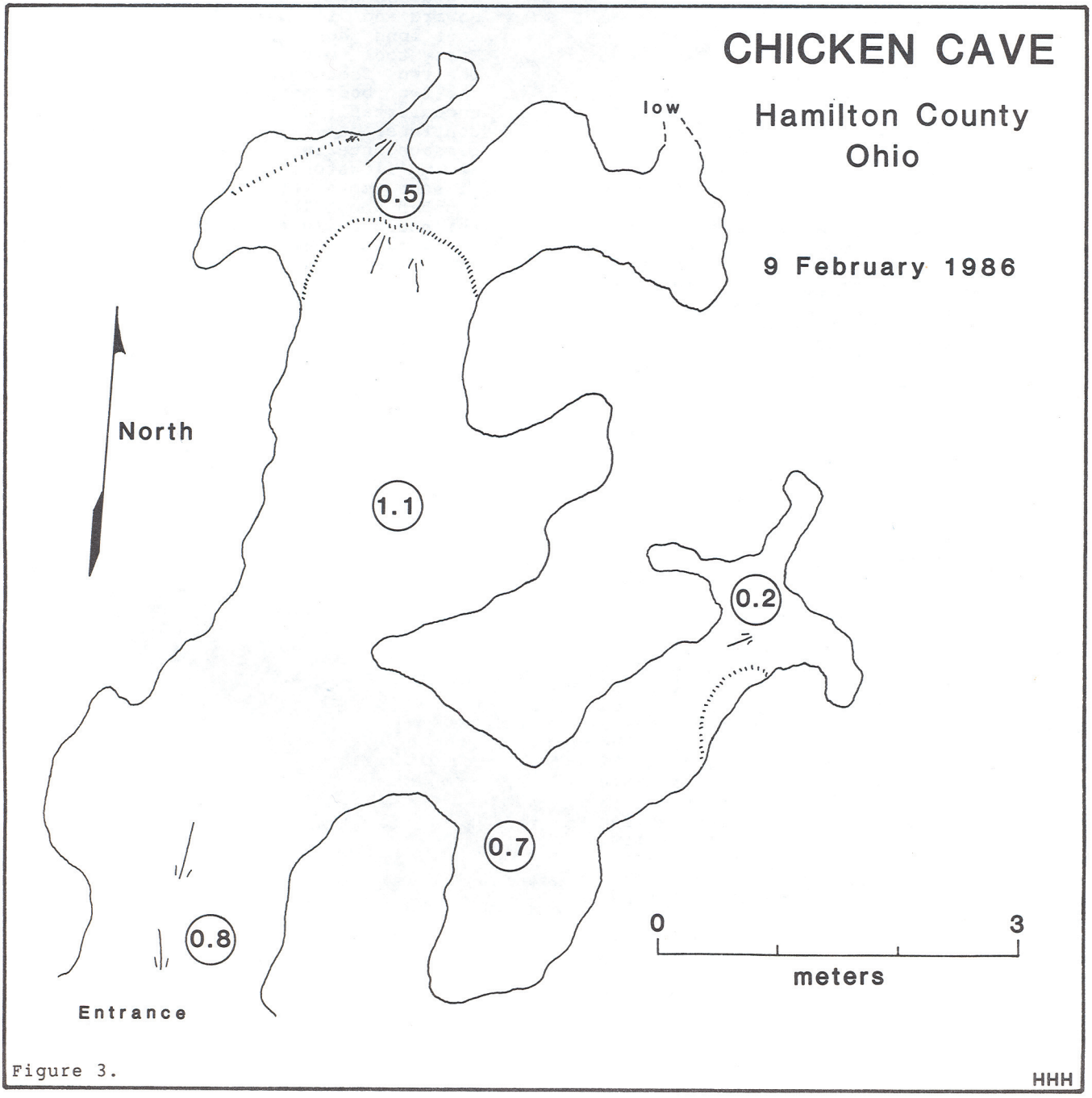


Figure 3.

Chicken Cave (Fig. 3) consists of small crawlway-stoop passages and is only 13.2m in total length. It is developed in slightly indurated gravel which is probably Pre-Wisconsin (Illinoian?) glacial outwash. This "cave" is located in Anderson Township and was surveyed 9 February 1986. Much of the floor has been excavated and the cave appears to be a local "hangout." Although this is the only known cave developed in glacial outwash in this region, undoubtedly others exist and attempt should be made to locate potential sites.

Literature Cited

James, Joseph F. 1980. A cave in the Clinton Formation of Ohio. Journal of the Cincinnati Society of Natural History, 13:31-32.

Journeys to Carter
by R.W. Klapthor

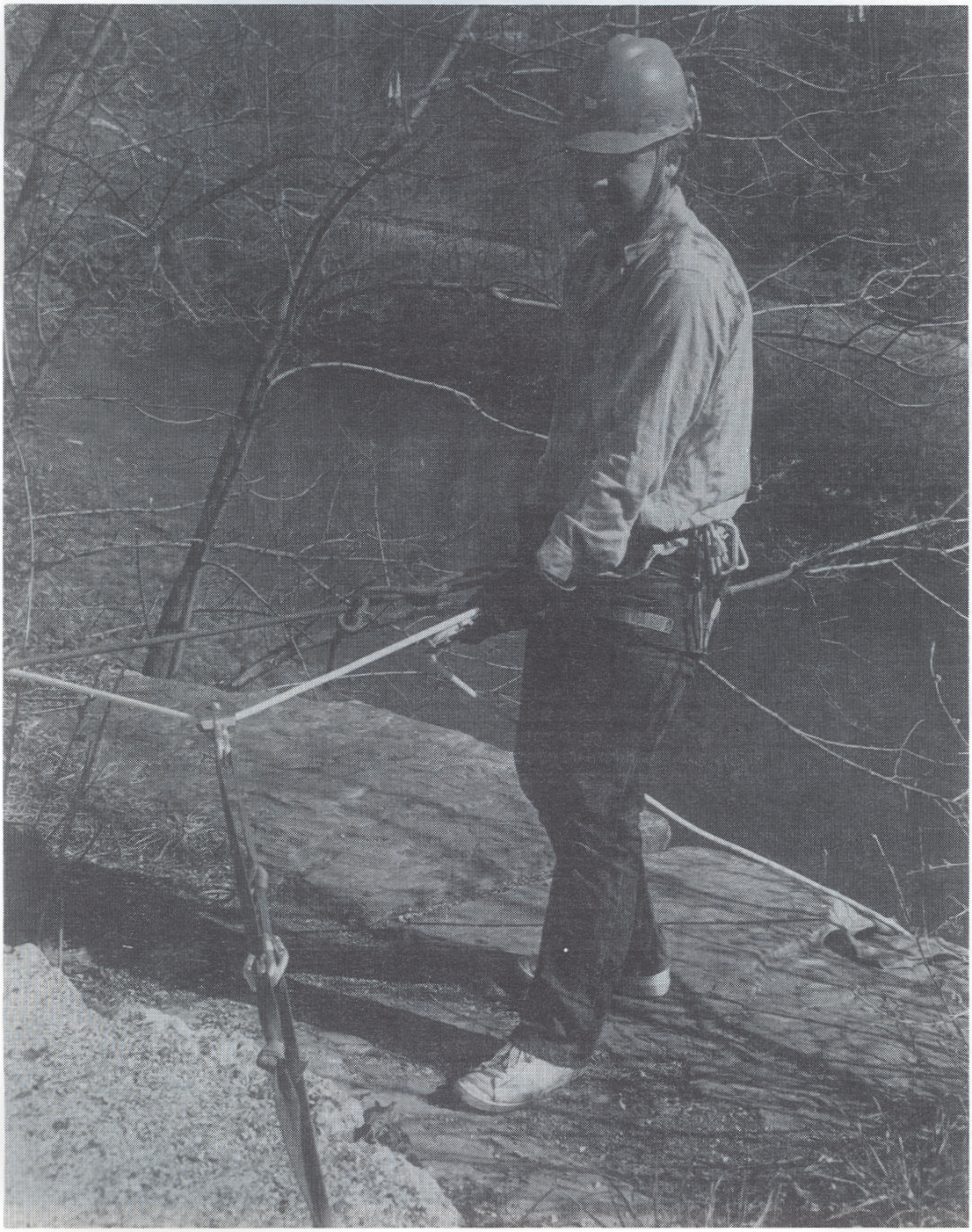
Over the past several months various members of WUSS have returned south to Carter Caves State Park in Kentucky where we have been working the past five years on locating and mapping the caves in the park and the surrounding area. Along with introducing newer members of WUSS to various caves in this area, over the course of these visits we finished walking the woods and cliffs surrounding Smoky Lake and found six new (to us at least) horizontal caves and three pits. The pits are of various guesstimated depths of 25, 40+ and 70+ feet, and are all located above the south side of the lake. Hopefully on our next trip to Carter we will be able to drop these pits and find out if they lead to any more cave. Of the six new surveyable horizontal caves, three of them exhibit no signs of previous visitation. All of them have small stoopway/crawlway entrances and continue as low caves. We have not yet mapped any of these caves, and even though their early sections are not very promising we can still hope to find something great!

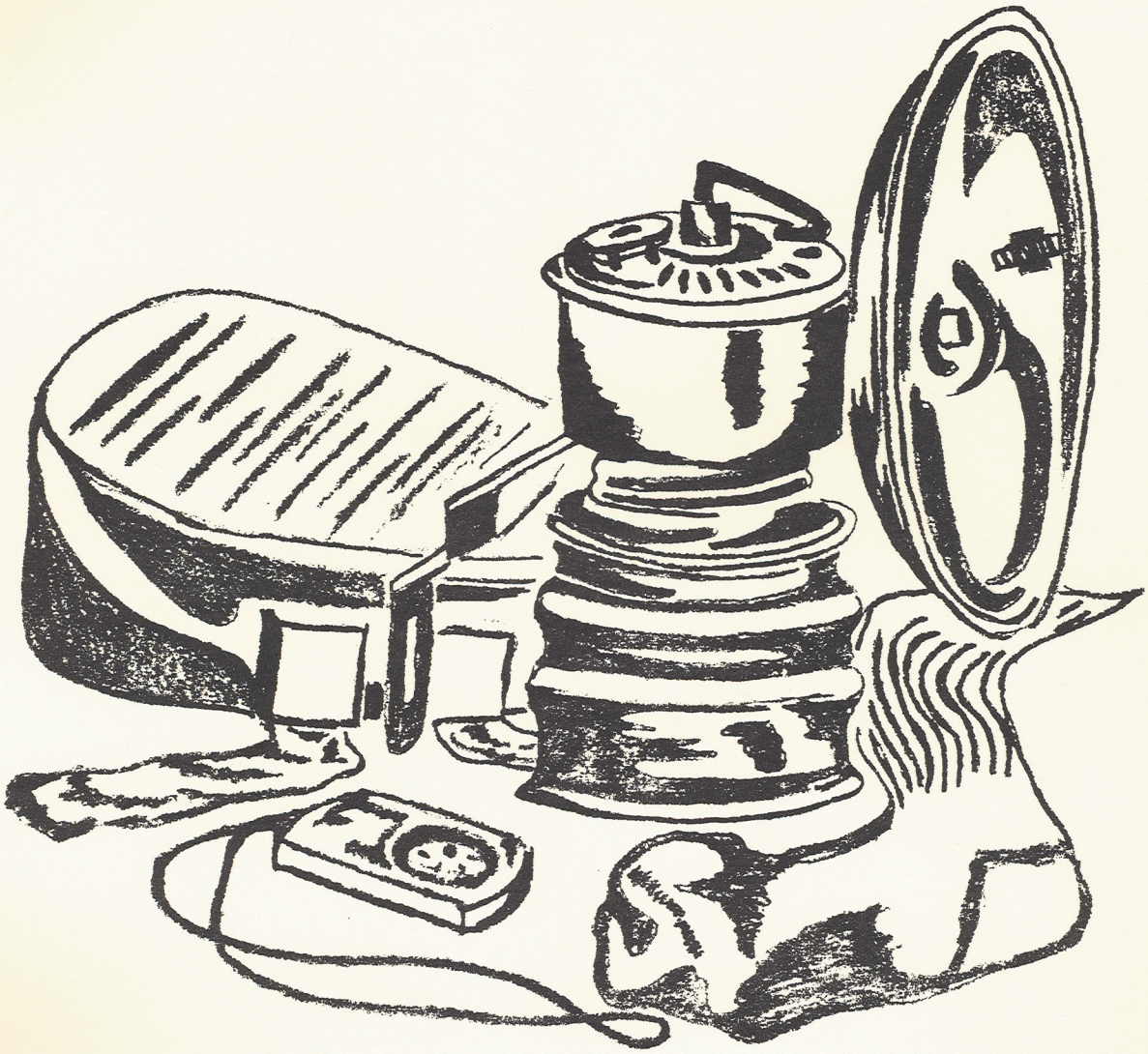
The most interesting (so far) of these caves is found up Kiser Hollow at the west end of the lake. The entrance is located in some overhanging cliffs at the head of the hanging valley about 30 feet above a spring coming out from the base of the cliffs. The entrance is 3 feet high and 12 feet wide; the cave continues like this for about 200 feet where you climb up (5 feet) and under a loose breakdown section and then descends 3 feet into a low, gravelly crawlway leading to a stream crawl about 300 feet from the entrance. The stream comes from the left, flows right about 10 feet and then descends into some boulders, presumably to come out at the spring down below. A plastic milk jug was found in the stream at this point of furthest penetration. The stream seems to come from up-valley, probably from a large sinkhole located about 1500 feet up the valley. This would make us a good summertime mapping project.

Of more interest to us are the ridges and valleys to the south of Smokey Lake. While I was hiking this area to check some large sinkholes, which I was unable to do because they were on some actively farmed land, I followed an old road downvalley towards Tygarts Creek and found a stream flowing from a large overhanging bluff about 100 yards from Tygarts Creek. The actual entrance is about 3 feet wide and 15 feet high, but soon became 5 feet by 40 40 feet with some nice flowstone decoration. Having reached my turnaround time to return to my fellow cavers, I stopped here and vowed to return ASAP. The following saturday night found Howard Kronk, Marty Trent and myself back in the cave. Twenty feet ahead and around a corner was our first obstacle, a big flowstone block. We negated a difficult climb over it since we would have disturbed some sleeping bats; and instead Howard and I crawled through a little 7 foot long hole to the other side while Marty took pictures in the entrance area. The two foot deep pool of water between the two body-size sqeezes make this an uncomfortable start to this cave. The cave continues on as high, narrow, decorated passage interrupted by low, wet passages around flowstone blockages. Howard pushed it some more the following weekend, but stooped about 1500 feet in before reaching the end. Because the cave is heading west towards the big sinkholes, Howard made contact with a local farmer and checked out the two big sinks. He was unable to find a connection to the cave, but the farmer tells him that one once was able to walk through the cave [entrance to entrance], thirty five years ago. I think he [the farmer] may be thinking of Natural Tunnel Cave which is on his farm near Tygarts Creek. Another mystery is a pit on his land which supposedly leads to a cave going under Tygarts Creek. This long rumored system would have a drain age at least 150 feet lower than any other system in the area, but some local cavers say they have been through this cave which is perhaps 15 miles long. This summer we will drop this pit and find out for sure where this cave goes. Hang tight, we will let you know our findings in the fall issue of Pholeos.

Rapelling Expo

Photos By W. Freund





"Remanence of a Caver" by David Grace