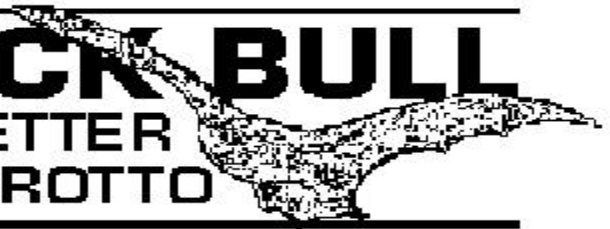

THE MAVERICK BULL

THE MONTHLY NEWSLETTER
OF THE MAVERICK GROTTTO



Volume 10, Issue 7

July 1997



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The Maverick Bull is the monthly newsletter of The Maverick Grotto, an internal organization of The National Speleological Society (NSS G-322). The editor invites all individuals and other grottos to submit articles, news, maps, cartoons, art and photographs. If the material is to be returned, a self-addressed stamped envelope should accompany it.

Reprinting Articles: Internal organizations of The National Speleological Society may reprint any item (unless copyrights belong to the author as stated in the byline) first appearing in *The Maverick Bull* if proper credit is given and a complete copy of the publication is delivered to the editor at the time of publication. Other organizations should contact the editor of *The Maverick Bull* at the address herein.

Exchanges: The Maverick Grotto will exchange newsletters with other grottos. Contact the editor.

Complementary Newsletters: The Maverick Grotto will provide complementary newsletters to persons or organizations that provide cave access (i.e. landowners) or otherwise provide assistance to cavers. The

Subscription Rates: Subscription rates are \$15.00 per year for non-members and free for members.

Membership Policy: Any individual with interests, beliefs and actions consistent with the purposes of The Maverick Grotto and The National Speleological Society is eligible for membership. Acceptance of new members is based on payment of dues and a mandatory three trip requirement with at least three different grotto members. These three members shall act as sponsors. At least one sponsor must attend the meeting at which the membership vote is taken. A two-thirds majority vote of the members present will be required for acceptance.

Meetings: Meetings are held the second Tuesday of each month at Smokey's Ribs, 5300 E. Lancaster, Fort Worth. It is located less than one mile west of Loop 820 and next to K-Mart. The time is 7:00 p.m., and the food is good.

Carbide: Grotto carbide is available at the meeting if prior arrangements are made. Carbide is free for the asking. Contact Russell Hill at 220-

Library: Support your Grotto Library. Russell Hill will be accepting books and magazines on cave-related topics, copies of homemade cave videos, etc. for our library. We wish to thank Russell for his efforts each month to bring and set up the Grotto Library.

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Photo Credits

This month's cover photo was taken by Sharon Mastbrook at the Emu Ranch in Palo Pinto County (related story inside)

Photos on page 6 by Chad Fenner in Scotia Hollow Cave

Emu drawing on page 7 by Dave Milhollin

Photos on page 8 by Butch Fralia (using Sharon Mastbrook's camera)

Other Credits

(This Month Only!)

Editor: Butch Fralia

Editor-in-charge-of-English: Sharon Mastbrook

Visit Our Web Site

The *Maverick Bull* is available as a World Wide Web site at: <http://users.why.net/caver/bull/>

Minutes for the June Meeting

Maverick Grotto June 10, 1997

The June meeting began at approximately 7 p.m. The business portion of the meeting was called to order shortly after 7:30 by Grotto Chairman John Langevin

Visitors

Christie Rogers from the UT Grotto

Announcements

Bruce and Donna Anderson are moving to McAllen.
Ernie will probably do a vertical class in

the fall.

Officers' Reports

None

Old Business

The Grotto voted to re-imburse Dave McClung \$45 for half the party expenses.

New Business

None

Trip Reports

Shanon Seals and Sherry Mahan (NTSS) went to the Carlsbad Restoration over

Memorial Day.

Don Abercromby went to Herolds Cave near Brister Ranch.

Ernie, Dave Milhollen, Bruce and Donna Anderson, Terry Doversberger, went with Butch on a dig project near Possum Kingdom.

John Langevin wants to do a Fitton trip in the Fall.

Terry Holsinger is leading a trip to Powells.

The meeting was closed by Grotto chairman John Langevin.

(Guest) Editor's Ramblings

Happy July!

I was sitting at home minding my own business when the phone rings. Chad Fenner is on the other end of the line saying something about "I'm going to the NSS Convention and wont be back 'till next Saturday. Then I'm leaving with the family to go to Lisa's family reunion!" "Cool," I said, "I envy people who get to take vacations!" "Well," says Chad, "I'm not going to have time to do the newsletter this month!" So here I am, your guest editor for the month.

As it turned out, I actually got a week off as long as I hang around the house to answer the phone. What else is there to do but the chores I've been putting off forever and do the newsletter.

Donna Anderson's announcement that she and Bruce will be moving to McAllen came as a shock. She's a

charter member and has always been a steadfast supporter of the Maverick Grotto. She's always been there when something needed to be done and has helped hold it together all these years. Bruce came to the grotto much later than Donna and has provided his own contributions. I will miss Donna and Bruce greatly. A sentiment I'm sure will be shared by many others.

The Grotto has come a long way since Donna and a few others like Dale Ellison organized it back in 1986. While reminiscing, it's also good to look back to the contributions of a few others over the years. Dale of course, Mike Anderson, David Finrock (our world renown weatherman) and more still.

The current crop of officers are doing a good job. New people are visiting and occasionally some

decide to stay. Now all we've got to do is get back to caving more. Could I interest you in a nice dig out at Possum Kingdom?

I want to thank Dave Milhollin who practically wrote the newsletter this month. He came by to deliver his Scotia cave article and got interested in the newsletter process. Since there wasn't enough material to fill the newsletter, he offered to type up the trip report to Palo Pinto County. He did that on Sharon's computer while I worked on the newsletter and scanned pictures. All in all, it worked out pretty well.

Butch Fralia

July Meeting

This month's meeting will be held on Tuesday, July 8 at Smokey's Ribs, 5300 E. Lancaster, at 7 p.m.

This month's program was not available at press time. I'm sure something will come together, and

that it will be interesting. Join us for good food and good cave talk.

Grotto Web Site Changes

The URL for the grotto website has changed. Note that I didn't say moved. Chad's e-mail stayed the same, but his Internet Service Provider changed how personal web site are accessed. The new URL is:
<http://users.why.net/caver/bull>

NSS Convention

The Maverick Grotto faired well at the 1997 NSS Salons.

In the Slide Salon, John Langevin had seven slides accepted for show, including the pictures used for last year's and this year's color newsletter covers. Congratulations, John.

In the Graphic Arts Salon (covers from newsletters and other NSS publications), the Maverick Grotto had 10 covers accepted for show. Of those, the July 1996 cover won an Honorable Mention Award (green ribbon) in the photographic category. The March 1996 and the September 1996 covers both won Merit Awards (blue ribbons) in the photographic category, and the January 1996 cover won a Merit Award in the non-photographic category.

For those of you who can't remember which month had which cover, the July cover was a shot of the

dragon in Pink Dragon cave, taken by Chad Fenner. The March cover was the John Langevin photo of Donna Anderson in an Arkansas stream passage. Ed Goff worked up the cover that month. The September cover was the spectacular color cover of Ed Goff and Pam Massey staged down a cave passage. That cover was worked up by Dale Ellison and Chad Fenner. The January cover was the array of bats created by Chad Fenner.

Ten shows, one green, and three blues is a fantastic accomplishment, and everyone involved deserves the credit. Thanks go out to John, Ed, Dale, Butch Fralia (his November cover was one of the shows), and everyone else who helped out on last year's covers.

In other salons, Vicky Williams of the North Texas Speleological Society

won two Honorable Mentions in the Symbolic Devices Salon (a.k.a. T-shirt Salon) with her T-shirts "Cave safely -- If you die we split your gear" and "Between a rock and a hard place."

The Symbolic Devices Salon features anything that symbolically represents some aspect of caving. Most entries are T-shirts (thus, the nickname), though other entries include patches, stickers, logos, and even stationery and thank-you cards. Congratulations, Vicky.

Congratulations to everyone, and maybe next year we can do even better. Maybe even nab a Best of Show (gold medal) in some category.

A Trip Under the Ozarks: Scotia Hollow Cave

R. D. Milhollin NSS 29962

Trip leader:

Greg Small, Small Spelunker Society, Missouri

Personnel:

R. D. Milhollin, Chad Fenner: Maverick Grotto, Texas. Pauline Barendse: Schoonhoven, Holland. Marvin Zaske, Val Schmidt: Meramec Valley Grotto, Missouri. Bob Stratford, Amanda Stratford: Ava, Missouri. Phil Heller, Julia Heller, Baltimore, Maryland. Steve Wilson: O'Fallon, Missouri. Mike McGarr: Edwardsville, Illinois

The wind and rain Saturday night was overwhelming; the lightning would have been spectacular if it had not been right on top of us. Tents, boots, and vehicles were wet or washed away by the floodwaters coming out of Blue Springs Creek, and we were informed that the geology trips of the 1997 NSS Convention in Sullivan Missouri had been cancelled, including the springs tour I was signed up for.

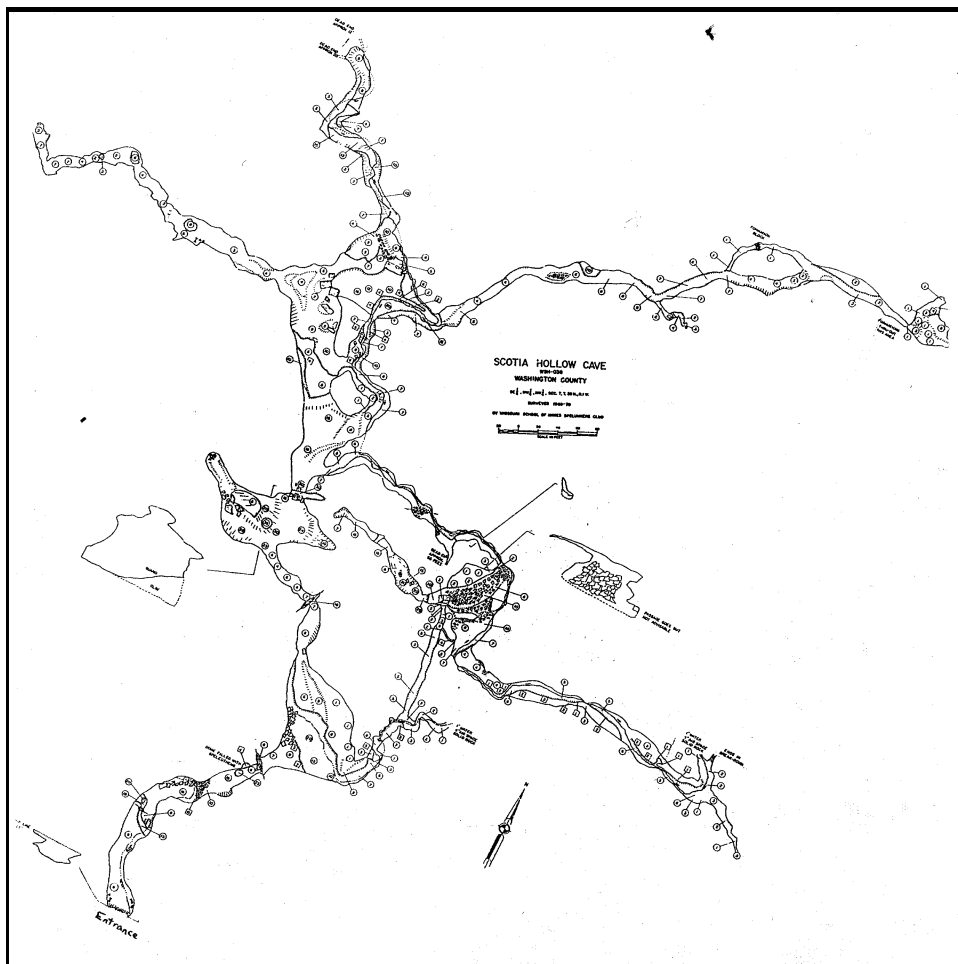
The following day, Sunday, June 22nd, appeared to be a total wash. The trip coordinator for the convention was reluctant to admit that all was lost however, despite the

official proclamations coming from the convention headquarters 20 miles away from the campground. It was difficult to have a consensus since the campground was closed to vehicle access due to flooded roads, and almost 100 attendees were forced to spend the night in the school gym. The cellular phone link was used as little as possible after the coordinator, Steve Every, was struck by lightning while talking from under the steel-roofed shelter. After spending the night in Chad Fenner's truck, I fixed pancakes and sausage for the security and planning crew stranded at the park, and just assumed that the day would be lost.

About 10:30, Steve seemed to perk up when he saw local caver Greg Small show up, having maneuvered through the county back roads in his large truck to the little-used back gate to the camp ranch. Greg said he was there to lead a trip to Scotia Hollow cave, as he had intended to do from the beginning. I just happened to be in the shelter at the time this was going on, and was able to sign Chad and I up for the first two slots available for the trip. We were told Scotia Hollow was a "dry" cave, and Chad showed up in shorts and a t-shirt. Upon assembling

the group at noon, we found out that a "dry cave" in Missouri means the water doesn't come up to your waist. Chad decided to brave the trip any way, and agreed later it was worth it. The optimum clothing for this type of cave seemed to be by thick nylon caving coveralls over polypropylene or another insulating underwear, but Pauline's European-made PVC suit and fuzzy-unders was impressive.

Scotia Hollow had never before been toured by an outside group. Greg had been exploring the cave for several years, first with a private cave club, the "Small Spelunker Society", but when the club went defunct several years later, Greg joined forces with the local NSS grotto to explore, map, and advocate for the preservation of the cave. Several years ago the large property containing the cave was purchased by a Texas land development company, and the thousands of acres were divided into around 6000 lots separated by strips and parcels of undeveloped land held in common by the landowner's association. Greg was able to buy a lot directly over the cave, with trail access down to hill to the only known entrance. In cooperation with the developers and the landowners, the



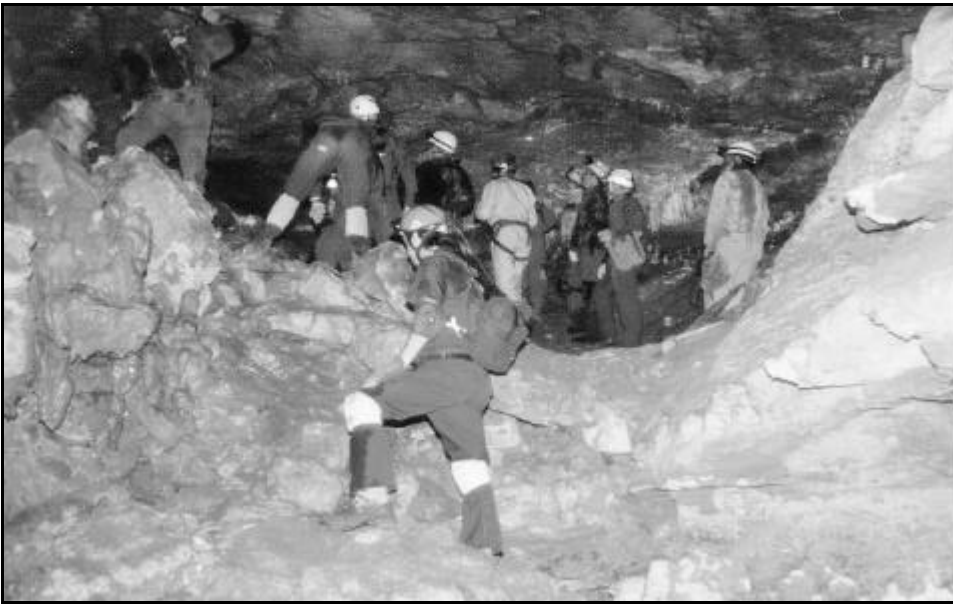
encountered just inside the cave. It is quite large, and to prove the point of how hard these early caves had worked at this ill-advised activity, we tried to lift the stalactite. It would have taken three men at a minimum to carry it out of the cave, which may explain why it was left in the passage before the steep climb up to the entrance. Hunting is not permitted in the development surrounding the cave entrance, by the way. One other item of interest is that around 2500 feet below the cave is a huge metal ore mine, one of the largest remaining in this country. Marvin Zaske, one of the cavers on this trip, is employed as a mineralogist by the mining company, and explained that several metals were extracted from the ores removed from deep underground including iron, copper, and lead. The ores are transported around underground by huge trucks with tires 10 feet in diameter. To get there vehicles down, they had to be completely disassembled in order to fit down the elevators, the largest pieces being the aforementioned tires. When the mine is retired, the machines will probably be left underground due to the cost involved in disassembling them for removal to the surface.

cave was gated, and access was permitted to the grotto for specific purposes. Greg stated that it had taken a lot of time and talking to get the permit to take a convention group into Scotia Hollow, but he felt that it would be worth it to have this unique resource. An interesting story Greg told as we drove to the site was that during the course of exploration, he would check out any verbal leads that might yield some additional information concerning the earlier attempts at mapping and exploration. He had previously learned the names of the previous landowners, and found a signature of what appeared to be one of them in a room within the cave. Greg initiated a search for this individual, knowing he might be deceased, but found instead the son of that landowner, who shared the same name. When Greg introduced himself over the phone, there was a long silence from the other end as memories flooded through the man's mind. He had placed that signature when he was fourteen years old, and

when contacted by Greg he was in his sixties, and had forgotten the incident entirely until reminded.

The cave contains many interesting aspects, but perhaps the most important is its role as a hibernaculum for a colony of 4000 Indiana Bats, along with 3 other less endangered species. For this reason, the gate is constructed to allow flights to proceed unimpeded, while restricting human access. Additionally, the cave once served as a winter den for several black bears, dating of their beds indicating last occupation about 100 years ago. The bear population was until recently in decline, but has increased in recent years due to enforcement of habitat regulations in the state and federal forest lands in the state. Because of the gate, however, the new bears will have to find another shelter for the winter. In the early days of cave exploration, and before the conservation ethics embraced by Missouri cavers was widely accepted, explorers removed lots of formations from Scotia Cave, and one of these is

involved in disassembling them for removal to the surface. The cave tour had something for everyone, with the exception of vertical enthusiasts. The entrance features an obligatory waterfall directly over the path leading through the gate, and a steep rubble slope leading down to a meandering stream which appeared and disappeared through the cave walls. From here a short climb led up to some of the bear beds which featured claw marks in the still-moist clay. This area was decorated with speleothems, especially in the high ceiling, but also including draperies and large, fat columns. The "big room" followed this smaller passage, and contained the signatures. Chad and another photographer set up cameras and strobes here, and the rest of the party stopped for a short opportunity to relax and just enjoy the surroundings. Greg pointed out a vein of glockertite (or glockentite), a greenish mineral which appeared throughout the walls of the cave. Much of the passage was cut through limestone, but some



Dave Milhollin walking up talus slope in Scotia Hollow Cave to where the rest of the group is viewing a set of bear beds.

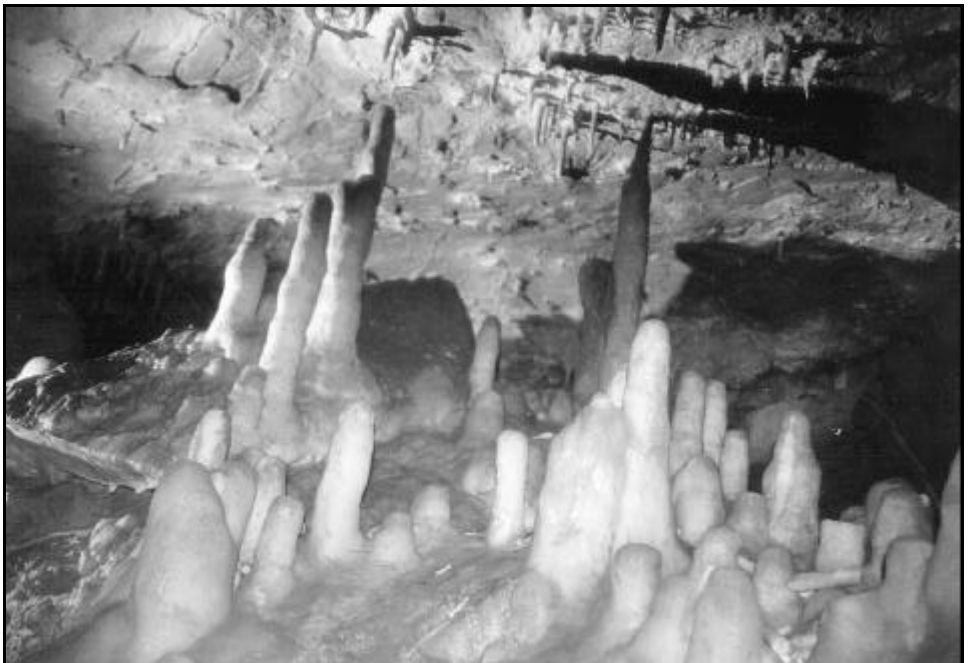
another set on the way back, and our guide noted the area for further study later. Near this area, Geg told us that he was involved in a digging project in a tiny clay-filled passage. He has built a clay extractor tool modeled after a cheese slicer (handle with roller and thin wire) but made from corrugated steel. The passage has revealed a blowing air anomaly with an asymmetrical pattern. The wind flows in for 5 minutes, then blows out for 2. This pattern has been repeatedly observed over numerous trips and has not been found to deviate across seasons and changing external conditions.

Leaving this beautiful section of the cave, our guide led us into a low stream passage that quickly became a belly-crawl through fine clay along a flowing stream. One had to cross the stream at several points, and Chad was careful to avoid a dunking. After around 125 feet we emerged into a further section of the big room, and proceeded into an area we had not seen before. Much of the passage required the adults to stoop-walk, to the delight of Julia, who was able to stroll with great comfort. There were many fragments of charred wooden material down this passage which might suggest Native American exploration, but this possibility has not been seriously explored at this date. We passed large accumulations of clay and fine silts, often sliced through

dolomite could be seen in some places, and the ceiling was often of fine, flat sandstone. We found the temperature of the cave air to be around 57 degrees F, and was quite comfortable for most of us. Even Chad was reasonably comfortable as long as the group kept moving, and he stayed out of the water, a somewhat difficult task as the tour continued. We continued into the passages and encountered another large room with a high, flat ceiling, and a huge guano pile on one side of the room. A short climb around this formation revealed some delicate frostwork on a cavern wall. It was here that I found the first of two Coleman lantern globes that had been broken and left in the cave. Although extensive cleanup work has been done by the grotto which protects this cave, they missed this debris, and on the way out of the cave it was removed in a trash bag supplied one of the other members of the party.

We backtracked to the big room, and proceeded down a stream passage which decreased in diameter until the stream disappeared completely into a low hole in the floor, but the cave passage continued through a small passage all cavers present crawled through with varying degrees of ease. Julia Heller, who was about nine years old, showed all of the rest of us how it should be done, and I

for one was impressed with her custom nylon caving suit. As the passage slowly increased in size, we soon found ourselves in standing passage which was ornately decorated with stalactites and soda straws. At one narrow part of the cave Greg warned us to be careful due to the tiny aragonite crystals which were interspersed with the fine popcorn formations along one side. Down through a small canyon the party found small animal tracks, and bear claw marks that Greg and his grotto groups had not previously identified. I found



deeply by the meandering cave stream. At the end of the walking passage, Pauline, Steve, and Mike who were dressed for water-passage crawling, took a side-trip down a long, wet crawl to see what Greg described as the prettiest formations in the cave. The rest of us had time to ask questions and to discuss various features of the cave we had seen thus far, and a short crawl allowed some of us to see some delicate decorations around rimstone ponds without getting too wet. When the rest of the party returned, they seemed tired but happy, and described the formations in glowing terms. Pauline had a very excited look in her eyes, and exclaimed that the cold, wet, muddy, rocky passage traverse and return made her think of the caves at home in her native Holland and adjoining Belgium.

We left that area just visited

and retraced our steps back to the big room, entering the part first visited through a small hole in the breakdown wall separating the chamber into two distinct areas. Before exiting, most of us made a long crawl across fine "modeling" clay to an area that bats seem go to when they feel they are going to die. The skeletons of around 15 to 20 bats were found on the floor on top of the deeply cracked clay, as well as on a portion of fine, white calcite flowstone floor. The crawl had several small ceiling domes along the way, which seemed to filter out one caver at a time as the crawl became lower and lower as it progressed, so that only around 6 out of the original group reached the end of the chamber. We were tired as a group at this point, having been underground for about 3 hours, and active during most of that time.

We left the cave and changed

clothes in Greg's "front yard" before beginning the trip back to the campground. The roads were dry for the most part, and we were glad that the waters of the Missouri Ozark region generally subside rather quickly, even after a soaker like the one that hit the day before. The land was green and alive, and we were glad to have been able to glimpse, even for a short tour, one of the small jewels that make the Ozark underground so pleasurable. My special thanks to Greg Small for taking the time to share with our group his own special cave. The work and care that has gone into the preservation of Scotia Hollow cave is a credit to the cavers of the cave state.

"Emu Cave:" Expedition Caving in Palo Pinto County

(If you don't have caves, get some)

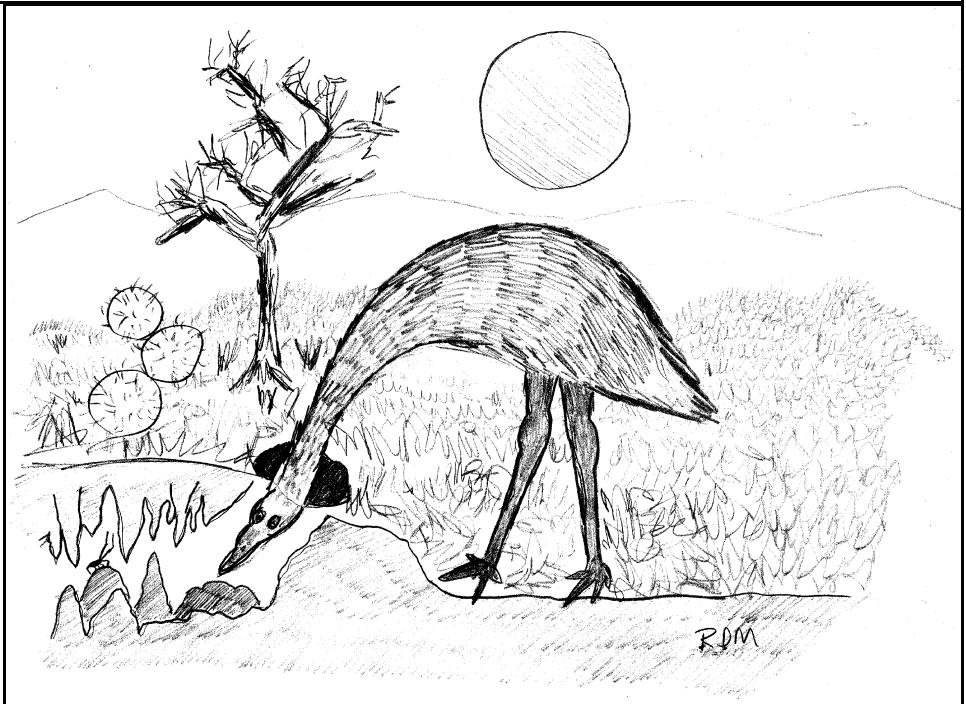
R. D. Milhollin and Butch Fralia

Expedition Members:

- Bruce Anderson
- Donna Anderson
- Terry Doversberger
- Butch Fralia
- R. D. "Dave" Milhollin
- Ernie Parker

The perennial problem of cave proximity was recently addressed by a group of North Texas cavers in a practical manner. As detailed in a recent edition of the Maverick Bull (vol. 10, no. 5), a curious landowner contacted Butch Fralia through a roundabout way concerning the possibility of a karst sinkhole on his property near Possum Kingdom Lake. On an initial visit, Butch and Sharon Mastbrook determined the possibility was worth checking out, and a few weeks later began to assemble a small team to perform further reconnaissance.

On the second trip, Sunday, May 18th, all hands except Sharon met beneath the smokestack at Thurber, and proceeded to the property to meet with the landowner. The principal use of the land is to raise emus, the large flightless bird native to



Australia.

When we arrived, we were met and escorted through the pastures to a rocky expanse bearing many cedar trees as well as lots of cactus, range grass, and oaks. A fire several years before had left

dead trees standing and laying across the landscape, with new growth coming up between the blackened trunks. The likely residents of the range include the usual mix of mammals and reptiles, although they were probably of sufficient good sense to



Bruce Anderson at the sink hole before removal of the trees.

stay indoors on a hot day, a quality the above mentioned cavers decidedly lack. The landowner was very friendly, and was genuinely interested in the activities of his guest cavers. He sat and talked with the group for awhile, until his regular duties called him away. He returned several times to check on the progress.

Very quickly it was determined that the exposed limestone walls most likely indicated a true sink. A cavern of sufficient size had formed below the surface due to dissolution of the rock and at some time in the past the ceiling overhead had collapsed. The resulting hole was partially filled in with rock and soil from the surface, and over that several large trees had fallen, effectively blocking any chance of easy entry for cavers wishing to see if it went. Winches to the rescue! Ernie's Dodge pickup and Butch's Chevy Suburban are both equipped with powerful cable winches, and with some creative rigging first the trees, and then some of the larger rocks were removed from the pit. Now the fun began.

Bruce began digging on the upstream side of the pit closest the trucks where a small but blocked passage seemed to lead off. Dave and Terry began digging at the filled-in "downstream", which was

blocked with a thick accumulation of fine silt. The digging went on for some time with help from the rest of the crew in hauling rocks and fill dirt away from the site. The quality of the dirt was pointed out to the landowner's wife, who instructed us to just leave the soil nearby, and it "would be transported to the house later." Before he left, the landowner "thanked us" for mentioning this.

Dave and Terry's dig got down to some large rocks that may be blocking the continuing passage. Some flowstone and erosional features were noted, especially on the underside of the exposed face of the rock, where the collapse occurred. The digging here was done primarily with shovels, at first a military surplus folding type (latrine shovel), and then later with a narrow shovel, and ultimately with a long-handled shovel. Bruce's job consisted more of moving the jumble of large rocks from the collapsed surface, than digging more of the same from the dirt fill. After a couple of hours Bruce indicated he thought he was hot. What he meant, in addition to the evident perspiration and thermal overload, was that his lead was showing definite promise. Everyone went over to have a look and to concentrate the team effort where success looked most likely. In a short matter of time the hole was widened enough that several members of the team could insert various parts of themselves into the hole. The sides were still somewhat unstable, and efforts were made at removing the loose rocks from the wall in advance of sending someone down to see if we had cave. Dave managed to hang upside down in the shaft for a few minutes at a time using feet and knees to grip, managed to grab an unstable rock, but lost his grip before bringing it up. The errant boulder fell into the pit, blocking any chance of entering the snug spot we could see, and subsequent attempts to snag it with a rope and various imprromptu



Dave Milhollin and Donna Anderson in sink hole after the trees were removed.

engineering devices were without success. Ernie tried several times to enter the vertical crevasse, but was unable to maneuver his hips past a tight spot in the chimney. In response to Ernie's excuses for not getting in, Butch wisely noted that guts are no problem, they will just "fold up" when entering a tight spot, but bones are a different matter entirely..... All seemed lost.

Donna to the rescue! No one else at this point was able to enter the chimney, although we could easily see about 15 feet down to the small horizontal-ish restriction. She went quickly to work, slipped down the hole, and after a few minutes rearranging the

previously mentioned boulder and other stones at the bottom of the pit, disappeared into the ground. She was gone for several minutes during which we could not hear her voice from the surface. She had found a small chamber just past the initial restriction, and had gone to work enlarging the passage inside by moving rocks to allow her access to the small pit she saw in front of her. When she returned to the surface no worse for the wear, she was wearing the grin of an explorer who had seen what no one else had. The second pit is estimated to be another 15 feet deep, with rocks at the bottom that could not be removed because Donna's arms are too short. The crew had

taken a lunch break during her excursion underground, and her return was greeted with applause. It was decided that the outing had been a success, and cave that was found was designated PAL004, the 4th cave officially recognized for Palo Pinto County. All expedition members congratulated themselves and each other, and agreed another trip should be organized in the future to continue enlarging the chimney passage and removing fill from the sink.

All in the Interest of Science!

Butch Fralia

Date: June 13-15, 1997

Destination: Colorado Bend State Park

Personnel:

Ben Heuss
Chris Heuss
Keith Heuss
Butch Fralia

We've talked about the Global Positioning System or GPS system at meetings and in newsletter articles. It's been mentioned that the satellites transmit an intentional error called SA (Selective Availability). SA forces a location error of as much as 100 meters 95% of the time. GPS is good enough to get you places, back to caves, or back to your truck, within about 65 feet (about 20 meters) but it's not quite good enough to map with.

Differential GPS or DGPS offers a solution to the error problem. This involves the use of an external receiver connected to the GPS receiver. DGPS providers transmit corrections from land based transmitters via VHF transmitting stations and in the pager band of some FM radio stations.

My latest GPS, a Garmin 12XL will interface to a computer to upload/download data and it's DGPS capable. I fully intended to buy a DGPS system since the price has come down to 'reasonable.'

Investigation has suggested a

number of questions about coverage areas and how well it might work in the particular areas of Texas where there are caves. The system I was most desirous of involved a \$375 receiver and \$75 annual subscription fee for 10 meter service. The recommended system involves a receiver that costs \$450 and a \$900 a year subscription for 1 meter service. That's a lot of money!

I tried to rent a unit for a weekend to see if it would work as advertised. Bill Elliott located a company in Austin willing to rent one for the weekend. Keith Heuss made arrangements to rent the unit and we went back to CBSP (where a large location database is already established) in June to test the equipment. A much better way than spending \$1,350 to find it doesn't work like you want it to.

I left Friday night and about 15 miles from home my power steering pump mount disassembled itself and threw ALL the fan belts off. I managed to get one belt back on for the alternator and water pump. I had no way of reaching Keith so I continued on sans air conditioning and power steering. He had the DGPS receiver and I had the GPS. When do you most appreciate the power steering on a super heavy duty suburban? When you don't have it!

Keith was already there and actually stayed up late so we could put the equipment together and hopefully get it working. It worked - sort of. The

reception in the area was poor and the receiver had to be held at just the right height and the antenna pointed in just the right direction.

Saturday we took off in Keith's van only to discover that the last set of tires he had put on were undersized. We hit every rock on every trail and couldn't go many of the places we wanted. The DGPS worked well when it worked and repeated itself within 2 meters! We worked until about 12:30 when the temperature rose to join with the high humidity to create a blast furnace. We relocated to Spicewood Creek to cool off.

Sunday we resumed with better results. We were able to get locations on a number of caves. We noted that some of the UTM coordinates derived from overland survey locations were as much as 100 meters off from where we expected them to be. Previous GPS measurements were off by as much as 50 meters off.

We called it quits and for the most part a successful weekend. On the way back, Bear entertained me by riding with his head out the window. With the wind hitting him in the mouth and his loose skin, his head looked like a balloon.

I got back to be called in to work for four hours. It cost \$92 to fix the truck. I got swimmers ear infections in both ears and had to take antibiotics and lost a day's work. It was all in the interest of Science!

Calendar of Events

July 8, 1997, Maverick Grotto Meeting.

August 12, 1997, Maverick Grotto Meeting.

September 9, 1997, Maverick Grotto Meeting.

October, 1997, Texas Cavers Reunion (formerly Texas Old Timers).

October 14, 1997, Maverick Grotto Meeting (nomination of officers for 1998).

November 11, 1997, Maverick Grotto Meeting (election of officers for 1998).

August 3-7, 1998, NSS Convention, Sewanee Tennessee. Contact William Shrewsbury, (423) 886-3296

July 12-16, 1999, NSS Convention, Twin Falls Idaho. Contact David W Kenser (208) 939-0979

Maverick Grotto
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