



TCMA
PASSAGES

TCMA

FALL 2001

Partnership to Protect Endangered Species and Caver Interests at Robber Baron Cave

Photo courtesy Jean Krejca

Robber Baron Cave is the first cave area to be a part of the US Fish and Wildlife Service's *Partners for Fish and Wildlife Program* in Texas. Robber Baron is an ideal location for this program because of the two endangered species in the cave, *Cicurina baroni* (Robber Baron Cave spider) and *Texella cokendolpheri* (Robber Baron Cave harvestman). Both are small and eyeless, and Robber Baron Cave is the only known locality for these two species, making it highly endemic. *Texella cokendolpheri* is the most rare of the two species, and one of the most rare of the endangered species in this area. This program will help finance projects to enhance and protect the habitat for the endangered species, while still maintaining the current level of use of the cave.

TCMA and the US Fish and Wildlife Service are finalizing Robber Baron Cave as a site for the *Partners for Fish and Wildlife Program*. According to the US Fish and Wildlife website (<http://partners.fws.gov/>), this partnership program is consistent with the mission of the Service, which is to protect and enhance fish and wildlife habitats for the continuing benefit of the American people. Through this program technical and financial assistance are offered to non-federal landowners to voluntarily restore and protect wildlife

See *ROBBER BARON* on p. 3



Endangered: This is an endangered meshweaver of the genus *Cicurina* that is named for Robber Baron's Cave.

Inside the Passages

What is the TCMA?	2
Cavers Meet Environmental Challenges	4
Bluff Creek Ranch Report	6
Robber Baron Drilling Project Report	7

What is the TCMA?

Karst, caves, and critters compose a special environment creating the focus for the Texas Cave Management Association (TCMA). Managing and conserving these karst resources requires an expertise, which TCMA has and continues to develop. TCMA strives to make the necessary knowledge and means for intelligent decision-making available to the State and its population.

Karst is a unique landscape created by the dissolution of soluble rock such as limestone and gypsum. It is characterized by sinkholes; caves; rocky fractured bedrock, and little surface water. Many animals have adapted to caves and related groundwater flow systems. Some animals, such as bats, play an important role in the ecosystem in the eradication of insects. Karst aquifers are especially vulnerable to contamination related to surface activities. TCMA uses various management tools to help protect caves and sensitive karst features such as leases, conservation easements and direct ownership.

Bats inhabit caves and provide invaluable service to the area; for example, a south Texas Mexican Free-Tail Bat Colony can eat more than 250,000 pounds of insects every night. TCMA acknowledges the importance of these animals and is dedicated to protecting their habitat for them to survive and reproduce;

As a unique environment, caves also provide habitat for flora and fauna found nowhere else. This environment can easily be contaminated and made toxic to the life inside through pesticide use, fire ant invasion, or human modifications. TCMA pursues education about and protection of this environment.

TCMA works with other land trusts to evalu-

ate karst areas as to their hydrological importance. Management plans are specifically tailored to a cave or karst feature and include, eradication of fire ants, and maintenance of surface water inputs. Photo monitoring projects are being instituted in some caves to evaluate the topsoil erosion and its effect on recharge, or to document other influences of the urban or rural environment changing the cave environment.

TCMA was founded in 1986 and was the first organization in Texas dedicated to the preservation of the states' caves and karst resources. It now manages numerous caves in central Texas and two caves in southwest Texas. Educational programs, management plans and work, and outreach activities contribute to the TCMA agenda. As the population and use pressures on Texas' cave and karst resources increase, the need for conservation escalates - TCMA will continue to be dedicated to protecting our cave and karst resources.

TCMA Officers

2001

President	Linda Palit
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Robber Baron (from p. 1)

habitat on their land.

For the Robber Baron Cave Project, the gate will be repaired and modified to improve the habitat for the cave by restoring air circulation to a degree similar to estimated circulation when the cave was ungated and open. Water and natural leaf-litter entry into the cave will also be restored, hopefully, to a level similar to that of the entrance prior to gating. This provides nutrients for the cave biota. While inspecting the cave and gate in late September 2001, a Robber Baron Cave Gate Committee closed the cave until the modifications are made. There is serious erosion, and instability of the dirt around the railroad ties under the concrete bunker, which houses the entrance. Bob Cowell and George Veni, co-leaders of the committee, determined the situation was serious and dangerous, necessitating the closing of the cave until the repairs are complete. At this point, the gate modifications look like a large project which involves moving massive amounts of dirt and using a crane to move the bunker out of the entrance area, then back again later.

The area around the cave will also be modified

to enhance the natural surface environment. Returning the area to a more natural state is the goal, to be accomplished through adding drought resistant native species. This should provide better forage for the cave crickets that leave the cave nightly and are of key importance to the ecology of cave and of the listed species. Some exotics will be removed and native habitat will be restored as much as is practical. Fire Ant monitoring will be continued, protecting the cave creatures from these predators. Plans for this part of the project are not yet complete. Christina Vail has agreed to coordinate the grounds efforts.

Robber Baron Cave serves as an important resource to the Texas caving community and to the cities of San Antonio and Alamo Heights. Through the *Partners for Fish and Wildlife Program* TCMA hopes to maintain and enhance the usefulness of the cave both for caving and for protection of the endangered species. Labor and resources are necessary to accomplish this project; TCMA will be calling on Texas Cavers in the coming months to help with this important project.

TCMA to Sponsor Cave Gate Field Trip

By Ron Ralph

Bat Conservation International will host a symposium for cave managers next spring. Participants from all levels of state and federal bureaucracies, private managers and local people will attend. The symposium will give participants a chance to present and assimilate material concerning bats, caves, and bat conservation. BCI has asked the Texas Cave Management Association to sponsor and conduct a tour of gated caves in the Austin area as a Friday continuation of the symposium. BCI will advertise and collect fees; TCMA will organize the trip and provide expertise. The tour is scheduled for March 7, 2002 and will begin and end at the Red Lion Inn at the intersection of Interstate Highway 35 and Highway 290 in north Austin.

Rune Burnett and I have been visiting gated caves to figure mileage and drive times while William Russell has been putting together data for a brochure or guidebook. Jim Kennedy has been invaluable answering questions about the symposium and has visited several of the cave localities to help in the decision making process. Mike Walsh, with Texas Cave Conser-

vancy, has shown some of the newly gated caves and has promised to help in any way he can with the tour. Mike Warton is also involved as a cave gate builder and as a presenter at the symposium.

At this time, it appears there will be several stops in north and south Austin to view flat-swing-up gates, vertical fence gates, "A" frame angle-iron gates and chain-link fence enclosures. The tour will include single gates and multiple gates in karst preserves both with and without interpretive signage. A catered noon meal will be provided for tour participants. There may be extra \$35 tickets available to those who will not attend the symposium but who would like to take the tour.

Several slots are open for TCMA volunteers to assist with driving, interpretation and lunch set-up. Please let me know if you will be available that day and would like to help. In addition, give me a call if you want to help with the guidebook.

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Cavers Meeting Worldwide Environmental Challenges to Caves, Karst

Photo by Jay Jorden

By Jay Jorden

Threats to caves and karst landscapes, from Mammoth Cave to the Egyptian desert, are being met by cavers who are committed to conservation and preservation.

A series of speakers at the Cave Conservation and Management Section meeting this summer in Kentucky explored the challenges and what they are doing to meet them. Speakers included Dr. William Halliday, a National Speleological Society board of governors' member and international karst advocate.

The Texas Cave Management Association was represented at the proceedings, which also brought participation from the National Park Service, U.S. Forest Service and other federal agencies as well as cave conservation task forces.

Halliday described his work with Egyptian scientists in the desert a half-day drive south of Cairo, Egypt, where mine workers at the bottom of a quarry had tunneled into a cave. "This cave is the only resource of its type that has such fine examples of Egyptian alabaster," said Halliday.

He traveled to the Wadi Sannur area to visit the cave, which is located 30 miles from the nearest paved road.

After discussions with local quarry representatives and government officials, Halliday said that progress is being made toward saving the cave from further damage.

A recurring topic at the NSS convention this year has been the proposed Kentucky Trimodal Transpark, a combination airport and trucking center envisioned for construction near Bowling Green and Mammoth Cave National Park. Since one of the favored sites is atop a karst plain where all significant drainage is through cave resources, the project has reached the highest levels of concern among cave conservationists.

Drainage from the area around the proposed airport and transportation center would likely flow directly through Mammoth Cave's protected area,



CAVE MANAGEMENT SYMPOSIUM: Conservationists from across the country, including Texas Cave Management Association members, attended the steering committee meeting for the National Cave & Karst Management Symposium. The chairperson, Cheryl Jones, a former NSS administrative vice president, moderated discussion with (from L) Rane Curl, former NSS president; Ronal Kerbo, National Park Service cave coordinator; and Jerry Trout, U.S. Forest Service national cave specialist.

said Nicholas C. Crawford of the Western Kentucky University Center for Cave and Karst Studies.

"Since national parks such as Mammoth Cave and the Everglades do not control their headwaters, they have to worry about pollution," Crawford said.

And since the entire Bowling Green area is constructed on karst, there are no sites for the proposed project that are without risk. The first site favored has garnered international opposition, since it is adjacent to two large karst features. The second, along the Cumberland Plateau, is directly at the headwaters of Mammoth Cave parkland.

Crawford said the Federal Aviation Administration is expected to pay for an environmental impact study. Officials have talked of setting aside \$6 million just for studies necessary for siting the transpark.

Proposed for construction on 4,000 acres ad-

Photo by Jay Jorden

adjacent to the northern boundary of Bowling Green, the project is envisioned by developers as a way to attract high-tech commercial and industrial companies to locate in south central Kentucky, which is currently reliant on coal and tobacco for much of its economy.

Rick Olson, an ecologist for the Mammoth Cave National Park division of science and resource management, presented a paper on issues relating to the widening of Interstate 65, which runs through a karst region near Mammoth.

Concerned about possible adverse consequences to cave communities in the Mammoth area, Olson nominated the South Central Kentucky karst region for inclusion in the Karst Waters Institute's global list of most endangered karst communities. He helped organize meetings with the Kentucky Transportation Cabinet and Federal Highway Administration on methods to filter runoff from the interstate project and contain major spills that might occur.

Information on clearinghouses for data on international cave and bat conservation was pre-



CAVE POLLUTION: A detailed map of spill retention and runoff filtration structures along Interstate 65 near Mammoth Cave National Park is shown to participants at the 2001 Cave Conservation and Management Section meeting in Kentucky.

sented by Thomas Lera of Falls Church, Va., a former member of the Dallas-Fort Worth Grotto who now chairs the Working Group on Speleothem Protection and is NSS Liaison for International Speleothem Protection.



**Texas
Cave
Management
Association**

Since 1985, dedicated to the conservation and protection of our underground resources.

Cave Science - Cave Management - Cave Protection

TCMA welcomes and encourages cavers to become new members. We have dedicated years of field work and research to the preservation and protection of caves for the caver, the community, and the future.

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Web Site: www.texascavers.com/tcma

- Regular - \$15.00 year**
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(Students Under 21)
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TCMA Bluff Creek Ranch Project

Twenty-two Texas cavers spent about 200 hours on the TCMA Bluff Creek Ranch Project on the weekend of February 17th – 18th. The quick search of the 1400+ acre ranch yielded several shelter caves, two very promising digs, and a cave called Schuchart Cave, named after the family which owns the heritage ranch. The ranch was beautiful, the creek full of water, and the weather delightful; Sunday morning frost stung enough to make the sun a welcome comfort the rest of the day.

Participants included Randy Baker, Robert Cowell, Michael Cunningham, David Custer, Stephen Gutting, Chris Hall, Kyle Hahn, Daniel Hogenauer, Kevin Huffaker, Dusty Kahl, Kurt Menking, Joe Mitchell, Rebecca O’Daniel, Linda Palit, Donnie Roland, Aspen Schindel, Geary Schindel, Aaron Miller, George Veni, Chris Vreeland, Eloise Wenzel, and Joseph Mikula. The time was limited, so a systematic grid search was not possible. But teams chose areas that appeared promising, and searched those areas.

Relatively level areas were the most productive areas searched. This is typical of the area, which is a Dolomitic limestone in the Edwards. Shelter caves were found along San Geronimo Creek but none were extensive or significant. In the flat area near the creek David Custer found a cave with his team after an extensive hunt in both high and low areas. He named it after the ranch family, *Schuchart Cave*. Geary Schindel and a team surveyed the cave Sunday morning. A lead was partially dug out leading

to a visual but not physical examination of a passage that could be entered if tools were used. A Sunday morning team of Dan Hogenauer, Kyle Hahn, and Kevin Huffaker found a promising dig in the area around the hunting cabin near San Geronimo Creek.

The uplands were steep, with little in the way of sinkholes or catchments to create caves. No entrances were found, though karst features were present and the areas continued to look promising. Since the ranch is in the Dolomitic Member of the Edwards Limestone, finding no sinks in the uplands was not too surprising. Much of the higher territory was not searched. Rebecca O’Daniel and team did find a sink with lots of airflow. They spent enough time digging to determine that it would be well worth a return dig trip. They called the feature *Rebecca’s Nightmare*.

The Nature Conservancy has an option on the property, and is interested in its being preserved to contribute to the recharge of the Edwards aquifer. According to Dr. George Veni, “Hydrologically, the property is valuable. San Geronimo Creek is an important recharge feature. Lime Kiln Creek is another important recharge feature. The big reason we don’t find caves easily in the Dolomitic is because it is so riddled with fractures that easily recharge water into the ground, that few single fractures capture enough water to enlarge to form caves. The water is still rushing underground through thousands of narrow openings to the aquifer.

Is it time for TCMA to consider buying Texas caves for Texas cavers? TCMA is managing more caves, making more contacts, and doing increasing work for the conservation of Texas Caves. But many of those caves are not accessible to cavers, or available to a very limited number of Texas Cavers who are only doing scientific work or maintenance. Access to other caves is becoming increasingly difficult in many cases. At the TCMA Board of Directors meeting earlier this month, we discussed the question of cave ownership for the purpose of keeping caves accessible to cavers, and opening some caves specifically for “recreational” caving. The TCMA Board wants to explore this issue with Texas cavers; voice your opinion on Cave Tex or at TCR. Will Texas Cavers help with the project? Can the money be raised? Is there enough interest? Which caves might be considered? TCMA will create a list of interesting caves that might be investigated for potential opportunities by an acquisition committee. Please send suggestions and, if known, information on current ownership to one of the TCMA Board Members through email or mail (no locations or owners on Cave Tex please). Help us make a decision about this “**NEXT STEP.**”

Robber Baron Drilling Project Report

By Steve Gutting

The Robber Baron drilling project came about as an answer to a safe, quick way to search for lost and yet to be discovered sections of Robber Baron Cave. Descriptions from numerous eyewitnesses tell of lower levels with streams and water well pipes intersecting the cave. In the 1920's, during the commercial development, one or more passageways were blasted shut and others may have been blocked by natural collapses. Over the years many cavers have dug by hand and pick to search for the other sections and were able to add some passage length to the map.

Probing for new passage via drilling was made possible by the development of a drill that could open a three inch diameter hole up to thirty feet long. On November 11, 2000, two test holes were drilled, one in the West wall of the sink and another in the Entrance Passage. The rock in the Austin Chalk, at the depth of the cave passages where we drilled, was much harder than the sinkhole. How-

ever, we determined that we could drill at a rate of one foot per 5 minutes of drill time. This later turned out to be incorrect. On June 10, 2001 a proposal was submitted to TCMA to drill at the far end of the Entrance Passage. This location was chosen because the area seemed to be some form of collapse, and a seventeen-foot long tunnel had previously been dug in the same general direction of the passage. Another reason to drill in this area was that in 1986, Geophysics International did a geophysical survey and determined there was a void under Camellia Road roughly off the end of the Entrance Passage. September 15, 2001 was chosen to put the system to a real test. A quick re-survey of the Entrance Passage indicated that we needed to drill on an azimuth of 117 degrees, and an elevation of +5 degrees to maximize the possibility of hitting any continuation of the Entrance Passage. A TV camera system was designed and built to videotape any voids that we might encounter. There was enthusiastic support from many cavers. People donated time, money, equipment, and refreshments. The people who lived next-door to the cave allowed us the use of their power although we had a generator as a backup. A GFI (ground fault interrupter) breaker was used at the drill for safety. Drilling started around 10:00 am with two man teams on the drill and one observer outside the tunnel to document the time each person spent drilling. No one was allowed to remain in the tunnel for more than one hour. Air quality was not bad when we first started, but became increasingly

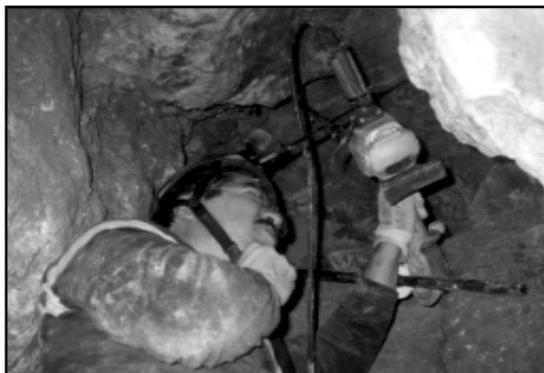
worse as people worked in the confined spaces of the tunnel. On the next drilling attempt we will need a ventilation system in place.

During the drilling there were periods where you could see the drill move into the wall and at one time the drill cut through the edge of a hard rock. This helps to confirm the theory that the area is a collapse. After several hours of work, we began to realize that the drill rate had slowed from what it was initially. Re-sharpening the cutting edge did not seem to improve matters. Upon closer examination, it was concluded that debris from the drill pilot were being trapped and were "floating" the cutting edge away from the rock surface. This did not happen until the drill bit was confined in the rock. Early in the drilling and when the test holes were drilled, the drilling angle would constantly change allowing the debris to move. After about five hours, (about 2 hours of drill time), the depth of the hole was only about five feet. It was determined that what was needed was

a new bit, one with a modified pilot, two cutting edges instead of one, and a second opening in the drill face to expedite the drilling process. At the time of this publication, we now have two new bits for the next drilling attempt. In all, we made progress, and learned a lot about what it takes to do drill exploration of soft rock and the issues related to cameras and probes. Enthusiasm still runs high and we do expect to find much more cave.

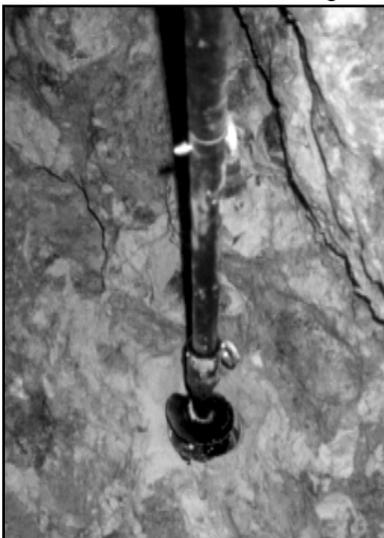
The following people provided valuable project support:

Ron Aguirre- drill team, support, food
Christi Bennett- support, documentation
Tom Brown- drill team, support
Mike Cunningham- drill team, support, food
Patrick Cunningham- support
Bob Cowell- support, equipment
Tom Florer- drill team, support
Steve Gutting- drill team, project leader
Dan Hogenauer-drill team, engineering support
Melissa Long- drill team, support
Mike Lucky- engineering support
John McClusky- engineering support
Kurt Menking-drill team, support, equipment
Evelynn Mitchell- drill team, support
Joe Mitchell- drill team, engineering support
Alan Montemayor- support, equipment
Linda Palit- support, advisory
Carl Ponebshek- support, equipment
George Veni- support, advisory
Roy Wessel- drill team, support
Trish Wilson- support, refreshments



Ron Aguirre takes a turn on the drill in Robber Baron Cave.

*Photos by
Mike Cunningham*



Drill On! The two foot long bit has fully penetrated the rock.

September 18 Robber Baron Meeting Minutes

Attending:

Bob Cowell, Michael Cunningham, Steve Gutting, Evelyn Mitchell, Linda Palit, Carl Ponebshek, Sue Schindel, Linda Palit Christina Vail, George Veni, Trish Wilson

Correction to former minutes: Rick Corbell was not in attendance

1. Robber Baron Sign needs to be done. Which names and numbers need to be on it, and what else does it need to say?
 2. Trish is the manager of the cave; her name needs to be on the sign. The TCMA website needs to be updated with guidelines and calendar contact. Trish will assign trip leaders. We still need a list of volunteers from the grotto to assist with trips.
 3. All the contact, procedure and trip information needs to be published – **Bexar Facts, Caver, Cave Tex, TCMA Web** site.
 4. We need to make certain that the information about 5 trips per month, no carbide, no biological collecting without written permission, scheduling through Trish, is made broadly available.
 5. Release forms, maps and TCMA information will be kept in the cave. Bob volunteers to make a closed pvc pipe tube to keep the information in, beside the front log. Release forms should be returned to Trish either by mail, or dropping by her house one block from cave.
 6. New log books were placed in the entrance room and back room by Michael Cunningham and Linda Palit. They need to be checked, probably.
 7. Certain areas of the caves will be designated “no traffic” for protection of biology and habitat. Selected routes will be marked on a map for group tour routes, and guides will be familiar with routes. New guides may be trained in using the routes so that we have more people willing to lead trips. Key holders may lend their keys out to any TCMA member they choose to lead trips, but they have the authority to give key only to those they know and trust (ones they have caved with or whatever).
 8. TCMA still needs a safety deposit box. Sue will check on getting box, then we will check on getting the cave titles that we have to that central place.
 9. Grant for “Partners” work on Robber Baron has three phases. For the monies for each phase, receipts must be turned in to Parks and Wildlife, and we will be reimbursed.
 10. Phase I concerns the gate and Phase II concerns air flow; modifications on those two phases will be considered together since they are probably going to be closely related or overlapping projects. Phase III concerns landscape and grounds modifications.
 11. For Phase III we must find a qualified person to help draw up the plans. Perhaps Manuel Flores or Vivian Loftin will help. For Phase I and II we probably have plenty of expertise with our professional engineer, Christina Vail, and other experts in assorted related fields. It is important that we can turn in professional looking plans to Fish and Wildlife to sustain our credibility.
 12. Jobs to be done soon
 - a. Write up guidelines for **Bexar Facts, CaveTex, Texas Caver** and Web Page – Evelyn
 - b. Revisions and modifications to web page – Linda
 - c. Write up for **Passages** of Saturday, 15 September, effort to drill into new passage – Steve
 - d. Committees to work on plans for RB Grant – * indicates chair
 - Phase I & II – *George, Bob, Christina, Steve, Rick, Kurt
 - Phase III - *Christina, Linda, Evelyn
 13. Carl is pursuing possible neighborhood grant for fencing, Kiosk, picnic tables, and safety fences. Bob volunteers to assist.
 14. Phase I & II committee will meet Sunday, 30 September at 1pm at the cave.
 15. Meeting adjourned.
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