



C.O.G.nizance

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The first meeting of 2018 will be Friday, January 12, 2018 at 7:00 p.m. at the home of the John Talbot.



Happy New Year!



*... for helping us pull cave education to a higher level!
Happy Holidays,
Tracy and Dave Jackson*

ANNOUNCEMENTS

*Northwest trips are scheduled the third Saturday of every month. Contact Sue or John Bozeman for details.

*The January meeting will be Friday, January 12, 2018 at the home of John Talbot.

WHITE-NOSE SYNDROME DECONTAMINATION PROTOCOL, APRIL 2016

This is the latest formal revision of the national decontamination protocol to prevent spread of the fungus that causes white-nose syndrome. This document is the product of a collaborative effort with multiple federal and state agencies and several non-governmental organizations.

Go to this website to view the detailed suggestions listed to help stop the spreading of WNS.

<https://www.whitenosesyndrome.org/news/national-white-nose-syndrome-decontamination-protocol-april-2016>

For the latest information about WNS visit this site: <https://www.whitenosesyndrome.org/>



This is what I left as Secretary of the COG: The members of the Central Oklahoma Grotto wish to extend their heartfelt sympathies to Barbara, all of Jay's family and to all of us who have lost a wonderful friend in this world. Selfishly, as cavers who treasured Jay's knowledge of the caves, sinkholes and slots that he would point out to us, he is already missed. He was going to share another couple holes that he thought we might have overlooked. We were planning to come find him and take him for a joyride on the ranch this past Saturday. Betty Selman said in greeting, "So did you get to the funeral?" We looked stupidly at each other (3 of us were there for our monthly cave surveying day underground) and said, "Whose funeral?" She said, "Jay's". The dumbfoundedness continued. I said, "Jay RANKIN??" She said, "Yes, he had a heart attack and died last week. I told the girls to call you." Well, we are kind of 'out of mind' when it comes to the immediacy of a need for a phone call in a stressful situation, so that didn't happen. We sure would have come to pay our respects. Jay was a gentlemen, a caring, kind friend, a true cowboy and man of his word. He is missed.

Sue Bozeman, Secretary for the Central Oklahoma Grotto



I knew Jay because I'm a caver. Jay was tough as leather, a man's man, and a true cowboy. And for sure he knew where every hole in the ground was on that ranch.

Steve Belev



I have a few memories to share about Jay. One of our first meetings was when we went up to check out Mrs. Selman's property for cave entrances. Jay took us around and showed us every hole in the area. He really knew where everything was on the land. I especially remember two entrances. The first was a large entrance he said might be something to explore. The next was really small. As the years went by the group explored and mapped the caves. It turned out the large hole was short and nothing worth talking about. The small hole, we squeezed into, opened into a fairly large room. The passage continued to become a good size cave. Thank you Jay.

Another time we were caving the Bozemobile wouldn't start. It was getting late in the day and it was a fairly good hike back the ranch house. Of course there was no phone service. We unloaded everything out of my Jimmy and everyone squeezed into the back and rode back to the house. The car looked like it was packed with mud-covered sardines! We got back the house and Jay brought out a tractor and towed the Bozemobile to a mechanic in town. Jay to the rescue!

Christmas Eve 1999, our group received a call that a calf had fallen into a hole and couldn't get out. A group of us went up to help get the calf back to it's mom. Some repelled down and tied a harness around the calf. Jay brought out a tractor and lowered a chain down to attach to the harness and he lifted the calf out. Mama cow was very happy to have her baby back.

Jay was always willing to drop whatever he was doing to help others. A very memorable Christmas Eve spent with good friends.

Jay you will be missed , it was our privileged to know you.

Lil Town



As you may remember, a few months ago COG voted to give a little money to the CaveSim organization, who runs around the country trying to educate people about caves and caving through the use of a "simulated cave" built inside of a trailer. Among the various locations they went to, they took the trailer to the local Science Museum and set it up for free tours to whomever wanted to crawl through the simulated cave. They sent us a thank you letter, Dale Amlee

Dear Central Oklahoma Grotto members,
 Thank you so much for helping to bring CaveSim to Convention in Rio Rancho, NM! Your sponsorship enabled hundreds of trips by cavers during convention, and many hundreds more during two free post-convention public events. With your support, we taught so many people about the conservation of caves, bats, and groundwater. I hope you'll take the time to check out pictures at www.cavesim.com/news and I hope you'll consider sponsoring CaveSim again in 2018. Please say hello and check out CaveSim if you go to Convention in Montana. All the best,
 Dave Jackson

TRIP REPORT

Cave Trip Report : Prospect Cave 12/16/2017

Personnel: Dale Amlee, Sue Bozeman,
 and Jon Woltz
 Written by Dale Amlee



On this Saturday in December, the Oklahoma weather was pleasantly mild. Forecast was for highs in the upper 50's, but windy. This was to be our first foray into one of the caves that we had marked on our surface survey the prior month on Mr. Vogt's land. We had previously identified two caves, one on the east side of the creek and one on the west side. We had chosen to begin mapping the western cave first, which had already acquired the name "Prospect Cave".

In order to divide up the work a little differently, Jon had volunteered to do the book and to draw the map on this cave. Jon has been surveying for close to fifteen years, but this was his first time on book, so Sue spent some time getting Jon up to speed on the proper techniques. That also put Sue back on instruments, which she has obviously done many times in the past, but not recently. That also took a little bit of time to re-acquaint herself with those particular skills.

The cave entrance is fairly large, but that turned out to be false advertising. Within about 20 feet of surveying, the cave passage began squeezing down to narrow crawls between numerous breakdown boulders. The cave was bone dry, which was a blessing. The walls and ceiling in many areas of this cave are heavily covered with thick popcorn formations and some nearly white cloud formations, with many selenite crystal formations interspersed throughout, making this one of the prettier caves we have been into in a long time.

The cave passage splits into a very narrow lower crawl, and a middle area that zig-zags between large boulders, making this quite a physical challenge to get through. There were several dead ends where the pas-

sages tapered down to channels too narrow for us to fit through, necessitating some backtracking and looping around to see just how to get through. All the time we were surveying we had a strong breeze blowing through the cave, so we knew that there was a through passage somewhere.

This cave is also the home of some local critter(s) possibly porcupine or similar, and while we never saw the actual critter we definitely saw traces left behind, specifically numerous piles of his scat scattered throughout the cave. This creature had obviously over-indulged in sumac berries. The berries must have done a number on his digestive system because the smell in the cave was unbelievably sour. The whole time we were mapping the cave we had to endure the strong odor left behind by the cave's resident. The low passageways we had to navigate through left us no choice in many areas but to carefully crawl directly over or around some of the larger disgusting piles of poo. We briefly discussed chipping in to buy the critter some decent dog chow to help settle his digestive system.

One of the last areas we got into during this mapping expedition was a relatively large room, about twelve feet in diameter but with a low ceiling, that was almost completely made of selenite crystals studding the walls. This glorious crystal chamber had been used as a chamber pot by said resident.

We got out of the cave late in the afternoon, just in time to witness a truly glorious Oklahoma sunset as we drove away from the cave and headed out for our traditional Pizza.



MINUTES

CENTRAL OKLAHOMA GROTTO

Minutes of the meeting of November 10, 2017

Host: the home of the Bozemans

Attendees: Dale Amlee, John and Sue Bozeman, John Talbot, John Van Dyke, Jon and Kelley Woltz, The Skillful Ogre.

The Honorable Jon Woltz began the meeting at 8:10

NEW BUSINESS

- We talked about our discovery/GPS trip to the lands of Jason Vogt. We saved the waypoints of 7 entrances, which are probably 2 caves total. We look forward to meeting him and his family in person.
- We had our annual "elections" with these ever-predictable results –

Dale Amlee – Chair
 Jon Woltz – Vice Chair
 John Talbot – Treasurer
 Steve Beleu – Secretary and Sergeant at Arms

- We talked about why all the wild pigs in our state must be exterminated because of their caver-threatening behavior.
- We talked about a proposed power transmission line which could pass either above or too close to Cattle Cave and threaten its existence.

TREASURER'S REPORT

John Talbot gave his report.
 We concluded the meeting at 9:00.



TREASURER'S REPORTS

NOVEMBER 2017 TREASURERS'S REPORT

INCOME		EXPENSES	
Dues	\$ 7.00	Postage	\$ 104.29
Dividends	\$ 0.01	Printing	\$ 106.60
Publication sale	\$ 25.00		
Postage	\$ 14.00		
TOTAL	\$ 46.01		\$ 210.89
CASH ON HAND	\$ 56.05		
CHECKING	\$ 200.03		
SAVINGS	\$ 2,139.68		
TOTAL	\$ 2,395.76		

Balance as of 12/11/2017

PREPARED BY TREASURER JOHN TALBOT

POTPOURRI

Mexico's Yucatan Peninsula reveals a cryptic methane-fueled ecosystem in flooded caves

Date: November 28, 2017

Source: US Geological Survey

<https://www.sciencedaily.com/releases/2017/11/171128090945.htm>

In the underground rivers and flooded caves of Mexico's Yucatan Peninsula, where Mayan lore described a fantastical underworld, scientists have found a cryptic world in its own right. Here, methane and the bacteria that feed off it form the lynchpin of an ecosystem that is similar to what has been found in deep ocean cold seeps and some lakes, according to recent research by Texas A&M University at Galveston, the U.S. Geological Survey and a team of collaborators from Mexico, The Netherlands, Switzerland and

other U.S. institutions. The research, conducted by scientists who are trained in cave diving in addition to their other expertise, is the most detailed ecological study ever for a coastal cave ecosystem that is always underwater. In fact, the scientists had to use techniques that had previously been used by deep-sea submergence vehicles to be able to study the environment. "The opportunity to work with an international team of experts has been a remarkable experience for me," said David Brankovits, who is the paper's lead author and conducted the research during his Ph.D. studies at TAMUG. "Finding that methane and other forms of mostly invisible dissolved organic matter are the foundation of the food web in these caves explains why cave-adapted ani-

(CONTINUED ON PAGE 5)

mals are able to thrive in the water column in a habitat without visible evidence of food."

The study was conducted in the Ox Bel Ha cave network of the northeastern Yucatan, which is described as a subterranean estuary because the flooded cave passages contain distinct water layers consisting of freshwater fed by rainfall and salt water from the coastal ocean. This subterranean estuary complex covers an area approximately the size of Galveston Bay, the seventh largest surface estuary in the United States.

The freshwater portion of the caves and the sinkholes, which are used to access the caves and are referred to locally as cenotes, are important sources of freshwater for communities throughout the Yucatan. Methane in the caves forms naturally beneath the jungle floor and migrates downward, deeper into the water and caves. Normally, all of the methane formed in soils migrates upward, towards the atmosphere.

This sets the stage for the bacteria and other microbes that form the basis for the cave ecosystem. The microbes eat both the methane in the water and other dissolved organic material that the freshwater brought with it from the surface. The microbes then fuel a food web that is dominated by crustaceans, including a cave-adapted shrimp species that obtains about 21 percent of its nutrition from methane.

"The processes we are investigating in these stratified groundwater systems are analogous to what is happening in the global ocean, especially in oxygen minimum zones where deoxygenation is a growing concern," says John Pohlman, a coauthor of the study and a USGS biogeochemist whose work from the early 90s motivated the research. "Although accessing these systems requires specialized training and strict adherence to cave diving safety protocols, relative to the complexity of an oceanographic expedition, the field programs we organize are simple and economical."

One surprising finding was how important the dissolved organic material like methane was to the caves' food web. Prior studies had assumed that the majority of organic material that feeds the microbes of caves came from vegetation and other detritus in the tropical forest that washed into the caves from the cenotes.

However, deep within the caves, where the study was conducted, there is very little of that surface debris, so the microbes depend on methane and the other dissolved organics percolating downward through the ceiling of the caves.

Tom Iliffe, a professor in the Marine Biology Department at TAMUG who has been studying the biodiversity, evolution and conservation of marine cave animals for nearly 40 years, remarks, "Providing a model for the basic function of this globally-distributed ecosystem is an important contribution to coastal groundwater ecology and establishes a baseline for evaluating how sea level rise, seaside touristic development and other stressors will impact the viability of these lightless, food-poor systems."



Fossil found in Nevada cave holds clues of ancient horse

Associated Press Published 8:45 a.m. PT Dec. 31, 2017 |

Updated 4:27 p.m. PT Jan. 1, 2018

<http://www.rgj.com/story/news/2017/12/31/fossil-found-nevada-cave-holds-clues-ancient-horse/993356001/>

LAS VEGAS — A well-preserved horse skull collected more than 86 years ago from a cave near Las Vegas is helping scientists identify a new type of extinct, stilt-legged horse that died out during the last ice age.

Scientists are calling it *Haringtonhippus francisci* after Richard Harington, an accomplished paleontologist who spent his career studying the ice age fossils of northern Canada and first described the stilt-legged horses in the early 1970s, the Las Vegas Review-Journal reported Tuesday.

A team of researchers led by famed archaeologist Mark Harrington discovered the bone in the 1930s inside the Gypsum Cave east of Las Vegas.

This Tuesday, Dec. 19, 2017 photo shows a view from inside the Gypsum Cave east of Las Vegas. A well-preserved horse skull collected more than 86 years ago from the cave near Las Vegas is helping scientists identify a new type of extinct, stilt-legged horse that died out during the last ice age. A team of researchers led by famed archaeologist Mark Harrington discovered the bone in the 1930s inside the Gypsum Cave. (Erik Verduzco/Las Vegas Review-Journal via AP) The fossil was initially mistaken for a modern specimen because it looked so fresh, said paleontologist Eric Scott.

"It looked like last week's lunch," he said.

It turns out the horse skull is actually 13,000 years old.

It was put away in museum collections and was not revisited until recently.

Scott tracked down the skull on a shelf at the Natural History Museum of Los Angeles County. He found it mislabeled.

"Someone had even written in pencil across the top of the skull: 'modern sample, wild horse or burro,'" he said.

The new genus of horse was a lightly built horse with long, thin leg bones, according to a study by an international team of researchers including Scott published Nov. 28 in the journal *eLife*.

Using the skull found in the Nevada cave and other fossils found in Wyoming and Canada, researchers determined that the extinct horses were not closely related to any living population.

In this Tuesday, Dec. 19, 2017 photo, archaeologist Justin DeMaio speaks while touring the Gypsum Cave east of Las Vegas. A well-preserved horse skull collected more than 86 years ago from the cave near Las Vegas is helping scientists identify a new type of extinct, stilt-legged horse that died out during the last ice age. A team of researchers led by famed archaeologist Mark Harrington discovered the bone in the 1930s inside the Gypsum Cave. (Erik Verduzco/Las Vegas Review-Journal via AP) (Photo: Erik Verduzco, AP)

"The evolutionary distance between the extinct stilt-legged horses and all living horses took us by surprise, but it presented us with an exciting opportunity to name a new genus of horse," said the study's senior author, Beth Shapiro, a professor of ecology and evolutionary biology at the University of California, Santa Cruz.

Mark Harrington's expedition in the Gypsum Cave almost 90 years ago also uncovered evidence of the extinct Shasta ground sloth.

After finding so many sloth skulls, backbones, claws and even reddish-brown hair, Harrington concluded that the cave may have served as an ice age den for the animal.

From a thick layer of sloth dung that covered the cave floor, scientists were able to identify what the sloth liked to eat and what was growing in the area at the time.

The cave's historical importance was recognized in 2010 when it was added to the National Register of Historic Places.



Central Oklahoma Grotto is a non-profit organization and a chapter of the NSS (National Speleological Society), Cave Avenue, Huntsville, AL., 35810. Dedicated to cave conservation and safety, C.O.G. published general information in a monthly newsletter (\$6.00/year) and detailed cave surveys and related Speleological items in a yearly publication, The Oklahoma Underground (\$3-\$8/issue) Membership is by sponsor and is \$12 per year for adults, \$6 for spouses and students, and \$3 if under 18. Central Oklahoma Grotto meets once a month on the second Friday of each month. For information, write Lil Town, 25692 Mosier Circle, Conifer, CO 80433: All submissions to the newsletter should be sent to the editor: Lil Town, 25692 Mosier Circle, Conifer, CO 80433: Telephone: (580)471-1238: E-mail: cavemoose@gmail.com. The deadline for submissions for any particular month's issue is the 20th day of the previous month. If you wish material returned. Please include a SASE with submission. All materials in this newsletter is available for reproduction, provided proper credit is given with the article when you print it. Trade publications are welcomed. *Cave softly and safely!* Website: <http://www.okcavers.co>

The January meeting will be
At the home of John Talbot
Friday, January 12, 2018



**Central Oklahoma Grotto
Office of New Year Hangovers
2119 Holly Oaks Lane #283
Weatherford, TX 76087**