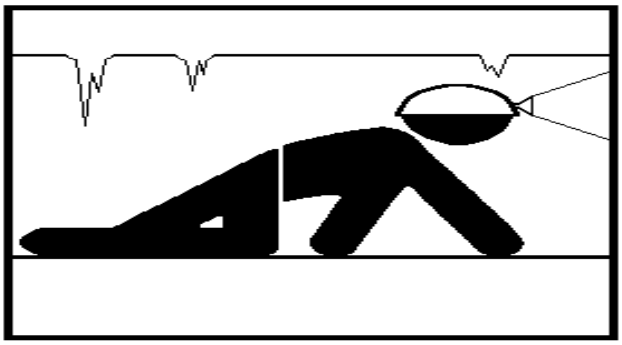
CENTRAL
OKLAHOMA
GROTTO
OF THE NATIONAL
SPELEOLOGICAL SOCIETY,INC

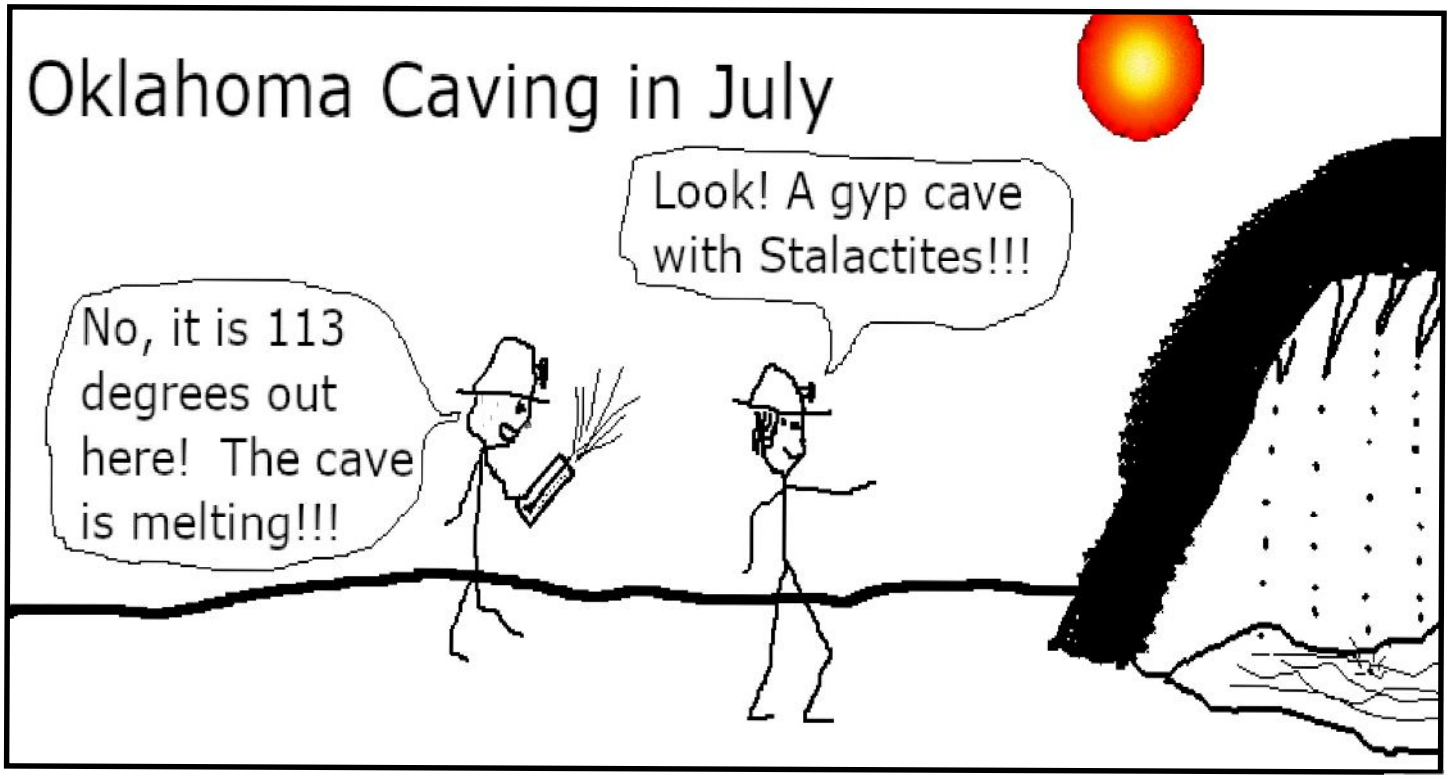
C.O.G.nizance

Inside this Issue

Announcements ……..…...….....2
Treasurer's Report ……...……...…..2
Minutes ……...…….....…...……..……2
Trip Reports ……. 3
Prospect Cave June 16, 2018 written by Sue Bozeman
Potpourri
Can Automated software tell bats from flying Squirrels? ..…….…. 3
The World's Largest Cave Sat Undiscovered for Millennia ……...……...4
Fire-adapted? Recreating Historical fire Regimes May Benefit an Endangered Bat ….……..…...4
Pre-Maya Remains Found……..…...…..…… 5

The Next Meeting will be on Friday September 14th 7:30 p.m.at Jon & Kelley Woltz's place





CARTOONEST: Duane Del Vecchio

ANNOUNCEMENTS

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

*The Next meeting will be Friday, Sept. 14, 2018 at Jon & Kelley's place in Weatherford.

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

TREASURER'S REPORTS

JUNE 2018 TREASURERS'S REPORT

INCOME			**EXPENSES**
Dues	$	12.00	
Dividends	$	00.01	
TOTAL	**$**	**21.01**	
CASH ON HAND	**$**	**80.05**	
CHECKING	**$**	**245.09**	
SAVINGS	**$**	**2163.96**	Balance as of **6/4/2018**
TOTAL	**$**	**2489.10**	*PREPARED BY TREASURER JOHN TALBOT*

MINUTES

CENTRAL OKLAHOMA GROTTO
Minutes of the meeting of June 8, 2018

Host: the shack and lean-to of Steve Beleu.

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

Grand Potentate Dale Amlee began the meeting at 7:50

OLD BUSINESS
Return to Carlsbad Initiative: no report.

NEW BUSINESS
1. CaveSim asked COG for money as they did last year when we voted to give them $100; we voted to do so again. The Skillful Ogre moved the motion, Dale seconded it. See CaveSim at: https://www.cavesim.com/

2. We discussed a request from a postsecondary education student to have access to one or more of our caves so that he can complete work for his degree. We will instead recommend one or more of the caves of Alabaster Caverns State Park to him. We will also ask him for more details about his research.

3. DDV sent us an e-mail about the presence of "sensitivity to WNS" (not WNS itself) being measured in bats in Selman Cave. Such sensitivity can be the first sign that a cave is being invaded by WNS.

UPCOMING BUSINESS
Our next meeting will be in September at the luxury home of Jon and Kelley Woltz.

TREASURER'S REPORT
John Talbot presented his report.

We concluded the meeting at 8:30.

TRIP REPORT

Trip Report: Prospect Cave
June 16, 3018
Dale Amlee, Sue Bozeman, Steve Beleu and Jon Woltz
Written by Sue Bozeman

We had not been back to this cave since April. Wildfires one month; heavy rains the next; we finally got to go back and see what kind of damage Nature had wrought.

Piles of trash and deadwood had been demolished by the fires, but while the surface had burned, no effect could be seen inside the cave. We went in our normal, walk-in west entrance, chatting away and suddenly heard the insistent buzz of a rattler … somewhere. Eyes flitting, we didn't take another step until we located the coiled rattler. Dale got a bit jumpy when I pointed to just below his feet saying, "And there's another snake!" Well, yes, but it was a garter snake. So, this two-snake entrance gained a wide berth and we opted for the Cliffside Entrance instead.

The fires had burned the red cedars along the edge of the cliff – no loss whatsoever, as they are insidiously invasive and actively removed by many ranchers. We access Cliffside by going up over the top of the ridge and down the other side, keeping out of the slough made by upper West Trader Creek.

Scrambling into the cave, we were assaulted by the odor of carrion. Not happy times for noses. Also not happy times for the critters inside that created this stench; namely, a pair of white baby vultures and very quiet (maybe you can't see me if I don't look at you) adult vulture. The babies were gruesomely hissing, giving us warnings galore. We heeded them and began our survey quietly, going the other way around the boulder.

With Jon doing book for this cave, it had fallen to me to do backsights and Steve to do trailblazing and advance point work. This time, we swapped duties and Steve manned the instruments. He had not used the Fluke and so was shown how to use it in the cave and not just at the meeting. The Suuntos were old hat and we began our march to the rear, slowly. We took our time and got about 200 feet of cave done.

There is a great deal of breakdown in this entrance. The passage is wide enough and tall enough (25' x 15'), but it is so chuck-full of fallen car-sized rocks that you spend a goodly amount of time scrambling. There is a very pristine section of gypsum cloud formations and tiny stalactites at a place where the passage takes a jog. It is probably a mini thermocline, where outside and inside air collide.

We finished up and retraced our steps to the vehicles. The adult vulture had left the youngun's behind and escaped the bad interlopers. I'm sure the birds will have flown the cave by September when we return.

POTPOURRI

CAN AUTOMATED SOFTWARE TELL BATS FROM FLYING SQUIRRELS?

REPRINTED FROM Nightwing News, spring 2018 page 27

https://mail.google.com/mail/u/0/?tab=wm#inbox/16418dec6871f1cb?projector=1&messagePartId=0.1

Corinne A. Diggins1, L. Michelle Gilley2, and W. Mark Ford3. *1Department of Fish and Wildlife Conservation, Virginia Tech, Blacksburg,VA, 2Department of Natural Sciences, Mars Hill University, Mars Hill, NC, 3U.S. Geological Survey, Virginia Cooperative Fishand Wildlife Research Unit Blacksburg, VA*

Automated bat call identification software has expedited the processing of the copious amount of call files collected during ultrasonic acoustic surveys. These software programs determine which call files have tonal qualities and subsequently identify those call files to bat species using classifiers specifying call parameters. Although ultrasonic calls of bats have been studied extensively,ultrasonic calls of other mammals, such as flying squirrels (*Glaucomys* spp.) have been recently discovered and classified. Flying squirrels call between 7-25 kHz. The majority of bat species produce ultrasonic calls ≥30 kHz. However, hoary bats (*Lasiurus cinereus*) produce calls between 15-39 kHz, some of which have a similar shape to common flying squirrel calls. Since automated call identification does not exist for flying squirrels, we have identified acoustic files by hand, separating flying squirrel calls from bat calls. We used visually confirmed flying squirrel and bat calls to test to see if three automated bat call software programs (SonoBat, Kaleidoscope, and EchoClass) misidentified flying squirrel calls as bat calls.

The World's Largest Cave Sat Undiscovered for Millennia

Written by Trevor English

https://interestingengineering.com/the-worlds-largest-cave-sat-undiscovered-for-millennia

Just beneath the ground on the border of Laos and Vietnam the world's largest cave sat for much of human history until in 1991, a local man stumbled across something **unusual**…

He heard a whistling sound coming from a steep entrance to what appeared to be a regular cave. Due to the precipitous entry, locals didn't dare try to enter the cave and simply left it at that. Despite its curious allure, the cave sat for another **18 years** until in 2009, a group of cavers from the British Cave Research Association conducted a survey. *What they found shocked the world.*

The cave that the local man had found in 1991 is now known as the Son Doong Cave which sits in the Phong Nha Ke Bang National Park in the Quang Binh province of Central Vietnam. This system was discovered to be the largest known cave by cross-section in the entire world. The entire subterranean structure is thought to be between **2 and 5 million years old** and it holds a treasure trove of wonder.

A fast flowing cave river runs throughout the cave supplying a steady supply of nutrients to thousands of species of cave plants and animals. It's this lush vegetation that gives **the world's largest cave** a such sumptuous appearance.

The Son Doong Cave system is estimated to have a volume of **1.36 billion cubic feet.** For reference, that means by volume alone, the cave could fit over **35 Empire State buildings** beneath the surface of the earth. It stretches more than **5.5 miles (8.85 km) long** that we know of and the tallest point is **660 feet high (201 m).** In total, cavers have been able to document over 150 connected caverns each with ecosystems all their own.

Two portions of cave ceiling have collapsed sometime in its history, estimated to be about **300,000 years ago**, melding both the surface world with the subterranean wonderland. Coupling this with the sheer size of the cave and you are left with one of the most alien-like places on earth

In terms of formation, the Son Doong cave is known as a solutional cave, which means that the structure is made completely out of limestone, specifically Permo-Carboniferous limestone, that was shaped by water movement. The formations themselves are still being shaped by the fast-moving river that flows throughout.

This alien-esque ecosystem yielded researchers with species of cave plants found nowhere else in the world. Thanks to the collapsed ceiling structures, monkeys, bats, frogs, insects, bunnies, nearly all the local fauna can be found living in this massive cave as well. This cave has its own unique ecosystem, so large that clouds form in the caverns that let off light mistings.

Naturally, in a cave this large filled with water movement, it contains rock formations like stalagmites. The Son Doong Caves are home to the largest in the world, standing up to 265 feet (80.7 m) tall. That's only 40 feet shy of the height of the Statue of Liberty. Again, all held peacefully underneath the surface of the earth.

Don't think that these stalagmites don't have room to grow though, they're barely half the height of the tallest ceiling span in the cave system…

One of the most alluring aspects of the cave apart from its mystifying nature is just how hard it is to reach. Currently, only a local company by the name of Oaxalis Adventures takes antsy visitors into the cave system. Tours have been running since 2013, before which experts were busy mapping out the system and studying the subterranean life.

In order to protect the caves' one-of-a-kind natural architecture and wonder, only 10 cavers are permitted per expedition, which only run twice a week from February through August each year.

Ultimately, this secluded terrestrial paradise is filled with remaining mysteries. Researchers have been unable to find the exact source of the large river that shapes the inside of the cave leaving question as to the existence of even more caverns.

FIRE-ADAPTED? RECREATING HISTORICAL FIRE REGIMES MAY BENEFIT AN ENDANGERED BAT

Elizabeth C. Braun de Torrez, Holly K. Ober, and Robert A. McCleery. *Department of Wildlife Ecology and Conservation, University of Florida, Gainesville, FL 32611, page 25*

Fire suppression has altered ecological communities globally. Prescribed fire regimes strive to restore function to these fire dependent ecosystems by mimicking natural fire regimes. Although fire frequency is a widely acknowledged component of fire regimes, the importance of fire seasonality for biodiversity is unclear. In subtropical Florida, fire historically occurred primarily at the transition from the dry to wet season (early wet) when dry fuel accumulation coincides with a high incidence of lightning. We investigated the effects of fire frequency and season on endangered Florida bonneted bats (*Eumops floridanus*), a species endemic 25 to a region that evolved with frequent fires. We surveyed bat activity acoustically in 149 sites, and evaluated the effects of

fire frequency for all burns, and for burns conducted during three seasons (dry, early wet, wet), using burn records from the previous 18 years. Variation in bat activity was best explained by both fire frequency and season: bat activity decreased with early wet season burn interval and increased with dry season burn interval. Bat activity and foraging activity were highest in sites burned at 3-5 year intervals during the early wet season. Fires during the historic fire season at this moderate frequency may lead to optimal effects on bat habitat through increases in roost, flight space, and insect prey availability. We suggest that Florida bonneted bats are fire-adapted and benefit from prescribed burn regimes that closely mimic historical fire regimes, and encourage consideration of both fire frequency and seasonality when managing ecosystems with fire.

Pre-Mayan Remains found in Mexican Cave of Ancestors, Some Showing Cranial Deformation

Alicia McDermott
11 August, 2018 - 18:54

https://www.ancient-origins.net/news-history-archaeology/cave-ancestors-0010527

There is a cave in southern Mexico where the distant past, more recent past, and the present intertwine. It is referred to as the Cave of Ancestors, where locals continue to honor their distant relatives and the site with rituals even today. Mexican archaeologists have found several sets of human remains in the ancient cave, the oldest dating as far back as 7,000 years ago! The Cave of Ancestors is 75 meters (246.06 feet) long and has a spiral shape. Proceso reports that over the years 29 sets of human remains have been found. Apart from the three sets more recently found, most of the skeletal remains have been dated to the Mayan Late Classical Period (600-900 AD). Of the three oldest, one comes from the Early Pre-Classical Period (2500-1200 BC) and the other two are consider Archaic (8000-2500 AD), according to Lourdes Muñoz Moreno and Teresa Navarro Romero, of the Centro de Investigación y de Estudios Avanzados (Center for Investigation and Advanced Studies/Cinvestav), of the Instituto Politécnico Nacional (National Polytechnic Institute/IPN). Archaeologist Alberto Martos said the oldest of the remains comes from "the period of transition from being hunters to sedentarism."

Of the 29 sets of remains found to date, 22 are adult, four are children, and three are infants. Experts have said that overall the remains have similar characteristics to individuals found from the same time periods in Guatemala, Cuba, Peru, Bolivia, and Brazil. However, Luis Alberto Martos, a researcher with Instituto Nacional de Antropología e Historia (National Institute of Anthropology and History/INAH), points out that five of the skulls show signs of cranial deformation; four are slightly slanted and one has an especially strong elongation, which Martos explains is "very rare to see in the Mayan region." María Cristina García Cepeda, secretary of Culture, said that artifacts left as offerings in the Cave of Ancestors include jade, ceramics, shells, and obsidian.

The INAH was alerted to the cave's archaeological importance in 2004. In 2005 they made their first trip, but it was only a couple of years later when they finally began a systematic exploration of the ten chambers in the cave system. Expeditions have been somewhat difficult due to narrow passageways and seeping mud and water when it rains heavily.

Martos gave a concise overview of how the cave was used in the past, saying:

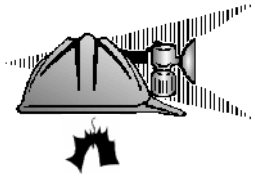
"There were different groups during this time that used the caves, clearly it wasn't a domestic cave. In prehistoric times it was probably used for rituals and cemeteries so as to dispose of remains of people. For the Maya, it was a cave of ancestors. This cave was used by the Maya, they respected the remains that were already there and left their own remains inside."

Today, the Cave of Ancestors is still visited by locals a few days after May 3rd if the region is experiencing drought. They still leave offerings asking for the rains to come, but today those offerings come in the form of candles, food, and alcohol. As one archaeologist explained, the site "is still alive."

Milenio reports the Museo Nacional de Antropología (National Anthropology Museum) has a one month exposition with the skeletal remains, artifacts, and an explanation of expeditions to and research surrounding the Cave of Ancestors.

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.com

No meetings in July or August
See you in September at The Woltz's Place!



Central Oklahoma Grotto
Dark Caverns Printing Ogres
2119 Holly Oaks Lane #283
Weatherford, TX 76087