CENTRAL
OKLAHOMA
GROTTO
OF THE NATIONAL
SPELEOLOGICAL SOCIETY,INC

C.O.G.nizance

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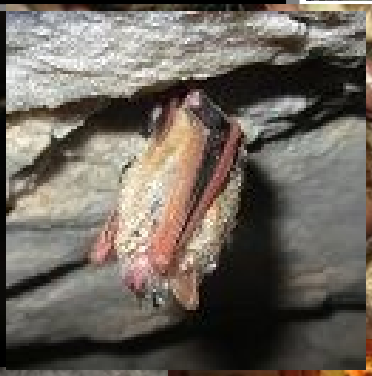
The Next Meeting will be on Friday February 8, 2019 7:30 p.m. Hosted by John VanDyke.



ANNOUNCEMENTS

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

*The Next meeting will be Friday, February 8, 2019 at John VanDyke's.

WHITE-NOSE SYNDROME DECONTAMINATION PROTOCOL, September 2018

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/static-page/decontamination-information

MEETING PLACES FOR 2019

Feb – John Van Dyke
Mar – John Talbot
Apr – Dale Amlee
May – Jason Talbot (!!)
Jun – Steve Beleu – self-noted 'The Skillful Ogre'

Sep – Woltz
Oct – Art and Paula Wallace
Nov – Van Dyke
Dec – Bozeman – Christmas Party

TREASURER'S REPORT

CENTRAL OKLAHOMA GROTTO
2018
TREASURY REPORT

1/1/2018	**BANK BALANCE**	**$2,343.00**		
	CASH ON HAND	**$ 56.05**		
	TOTAL	**$2,399.05**		
	INCOME		**EXPENSES**	
DUES	$	150.00	POSTAGE	($ 63.37)
DIVIDENDS	$	1.20	NEW LETTER PRINTING	($ 68.64)
			DONATION	($ 100.00)
			FLOWERS	($ 93.20)
TOTAL	**$**	**151.20**		**($325.21)**
12/31/2018	**BANK BALANCE**	**$2,208.99**		
	CASH ON HAND	**$ 16.05**		
	TOTAL	**$2,225.04**		

Balance as of **12/14/2018**

PREPARED BY
TREASURER JOHN TALBOT NSS#3054

JANUARY 2019 TREASURERS'S REPORT

INCOME			**EXPENSES**
DUES	$	111.00	
TOTAL	**$**	**111.00**	
CASH ON HAND	**$**	**52.05**	
CHECKING	**$**	**43.94**	
SAVINGS	**$**	**2,165.05**	
TOTAL	**$**	**2,336.04**	

Balance as of **1/22/2019**

PREPARED BY
TREASURER JOHN TALBOT NSS#3054

MINUTES

CENTRAL OKLAHOMA GROTTO
Date: January 18

Host: John Talbot
Attendees: John Talbot, Jason Talbot, John Van Dyke, Dale Amlee, Sue and John Bozeman, Kelley and Jon Woltz, S. Beleu
Start: 8:06; High Potentate Jon Woltz presides during 2019

OLD BUSINESS:
There were no locks on the gates for the December trip to Prospect Cave.

NEW BUSINESS:
1. Sue compiled COG data and submitted the membership and activities report that the NSS requires yearly.
2. We discussed whether we want Mary Hicks to approach the OKC Adventure Club on our behalf to determine if any of their members are interested in caving. John Talbot moved that we do so; we approved the motion.
3. Sue read the Xmas cards from Betty Selman and the Harris family that they sent to COG.
4. Dale noted that he had also received an Xmas card for COG from CaveSim.
5. Jon reported that we have finished the survey of Prospect Cave. Next up is Grotto Cave.
6. We discussed upcoming bat count, Greene's on Jan 18, Jester on Feb. 2

John Talbot presented his treasurer's reports for December and his annual report for 2018.

We concluded our meeting at 9:15

TRIP REPORT

Alabaster Caverns Bat Count 2019

Date: Saturday, February 2, 2019
Report by Duane Del Vecchio
Pictures available on Web link:
http://ddvdude.com/old news/2019/abc19/index.htm

Once again, I came up from Texas to help Park Manager Mike Caywood with his annual bat count. This year I was particularly looking forward to seeing the collapsed section of the cave that had stopped the tours from going through for almost three months! About Oct. 17th last year a section of wall and ceiling fell blocking the path from the entrance to the exit. It happened during the night before and the first tour of the day found the way blocked. (Sorry you can't continue - Your cave is broke!) <grin>

The location is just past the lowest point (near entrance of the cave) and then you start to go up and down for a short way (in the area of the Black Alabaster) (which is now covered with rock). Slabs from the ceiling and walls closed off the path. We spent quite some time there looking it over (and crawling under it all) while Mike was visualizing a new suspended path though the opening that was now there bypassing the broken down back to the trail rather than getting all those TONS of rock out of the cave.

The tours resumed on Jan. 8th but they now go in the exit and turn around about mid-way. The path is closed from the entrance to the big hall. You might remember the old insulators that hung way up in the ceiling that when we did the bat counts way back then you might have thought they were bats? Well… now you can just about touch them as that slab is on the ground. There is a path through, but the exit is weggied between the edge of the stairs and all that breakdown and a bit smaller than manhole cover. Made a few of our bat counter people

nervous going though it, but the cavers in the group just slid right though. <grin>

So back on to the bat count… last year they had a movie production group in the cave that closed the cave for about a week… lots of movement, noise and lights almost 24 hours a day while they were filming. Soon afterwards we had last years bat count and only had 6,091 total which was way down from normal (15 to 19 thousand) which we attributed to the movie crew. This year the cave was silent for almost three months and certain sections still are having no human disturbance (except us). Thus, we were encountering bats in places we had not found before and in greater numbers than in the past. Our final count was 23,002 (up 16,911 from last year and over 4K from our high count a few years ago! Needless to say, Mike was a happy camper! Last four years of data included in this report.

Alabaster Bat Counts

YEAR	MYVE	PESU	EPFU	COTO	TOTAL
2016	16,035	120	65	1	16,221
2017	18,834	172	4	0	19,010
2018	5,939	148	4	0	6,091
2019	22,838	163	1	0	23,002

Here is data from Saturday's 1/26/2019 Greene's Cathedral Bat Count: Sue Bozeman

6,382 Myotis velifer 2 Tricolor / pips

Prior to the fire in 2017 (March-May), the counts were in the 20,000 range. Our 2017 bat count yielded 20,322 velifer and 5 pips.
In 2018, we got 3,808 velifer and 6 pips.
In 2019, we got 6,382 velifer and 2 pips.

This years outside temperature was 49 degrees F. We started counting at 11:25 a.m. and finished at 12:37 p.m.

Inside at the back of the first chamber but in the twilight zone, air temp = 43/ soil = 39.

Inside about midway, the water temp at noon was 41 degrees. Air temp = 48

Near the end of our normal count, where we find pips usually, air and soil temp = 52. The first pip was found high in the last room where the temperature was 55 degrees!

Trip Report, Bat Count of Greene's Cathedral 1/26/2019
Trip members: Dale Amlee, Jon Woltz, Sue Bozeman
Report by Dale Amlee

Our annual bat count of Greene's Cathedral cave was done on a cold Saturday morning. In years past our bat counts were done in February, but there were too many instances of February weekends getting too warm, and as the temperature in the cave warms up the bats become much more active. So we moved our bat count outings up a few weeks to try and stay in cooler weather, both to improve our ability to count the bats and also to reduce the stress on them that counting them while warm would do. This particular Saturday morning in Oklahoma was fairly cold early in the morning, with an overnight low down in the 20's.

We stopped by Alabaster Caverns to change into our caving gear. It is sometimes difficult to predict how cool the caves may be inside, because it not only depends on the outside temperature, but also on whether the cave entrances and exits allow a good airflow through it. A cave with large entrances and exits will have an interior air temperature similar to the outside, but a cave with narrow exits or blocked passages will develop a more moderate temperature. I added a couple of additional layers of thermal insulation under my coveralls just in case. Then, we headed out to Greene's Cathedral cave to do the counting.

There were a few small icicles just inside of the entrance to Greene's. But once we got deeper inside where we encountered our first bat clusters, the air temperatures were already up in the low 40's. Bats in this zone were still tightly clustered together, with a packing rate of roughly 210 bats per square foot. The cool temperatures kept them from getting annoyed by our proximity and our headlights as we proceeded along, counting the clusters as accurately as we could.

Sue was keeping count in a small ring binder while Jon and I shouted out the counts. Depending on the cave topography, Jon and I frequently had to climb as high as we could on various boulders in order to get closer to the ceiling to better count the bats, and also look into various small ceiling cracks to see if any bats were squeezed into them. It was not uncommon to find a dozen or more bats stuffed into a tiny crack, side-by-side in that small space. Sue also stopped periodically to take temperature readings of the air, soil, and water. As we proceeded deeper into the cave the ambient temperatures slowly increased, and the bat activity rose in a similar fashion. At the end of our count, when we reached the last passable portion of the Greene's cave, the air temperature was 55 degrees and the bats were easily disturbed by our presence. We resorted to trying to count them from afar, trying our best to count them without getting too close.

Total count in Greene's Cathedral was 6,382 Myotis Velifer, and 2 Tricolor bats (pips). This is up from last year, but not nearly the numbers that were counted prior to the large fire that swept the vicinity in 2017.

When we finished the count, there was still plenty of daylight left, so we drove over to the Grotto Cave entrance to continue our survey of that cave. This survey was still in the early stages, and we managed to get a few more shots before the water in the cave got deep enough that we decided to quit while we were relatively dry. The air temp outside was still quite cool, and we honestly did not feel like splashing through water during the survey and then walking a good distance back to the vehicles in nearly freezing weather.

Jester Cave Bat Count 2019

Date: Saturday, February 2, 2019
Report by Duane Del Vecchio
Cog Members: Dale Amlee, Sue Bozeman, Duane Del Vecchio, Andrew & John Van Dyke, and Jon Woltz.
Pictures available on Web link:
http://www.okcavers.com/bat%20counts/2019/index.htm

Time to do another bat count in Jester Cave. This year we had Dale A, Jon & Sue joining us after we can't remember how long again!

We met at 11 at the usual junction and trekked away to the resurgence to start out count. It was a windy and very damp morning but not that cold. When we got inside it was pretty wet. Water dripped from the ceiling and about 40% of the bats were soaked while the rest looked like dew-covered pips (but they were myotis). Kind of scary to look at them at first as their snouts were full of dew which gave impression of WNS but a blacklight showed nothing and if you touched it, it all gathered and dripped off. We made our way down to pip dome and hall. The water level on the ground was up a bit and everyone had to get at least knee high in the cold water.

We got onto the high ground in pip hall and started our swabbing for WNS. It was the first time for Sue, Jon, and Dale, so John gave them a lesson while Duane got organized with paperwork and handing out samples. Dale & Jon teamed up and went down the hall one way while Sue & John went the other way. We got ten samples of Tri-color bats (old name Pips).

We then sloshed back though the water and got back to the main tunnel where we took 15 more samples this time of cave myotis. Having our full quota of 25 samples from the cave, we packed out and left.

At the cars again we split into two groups. Duane, Dale, Jon and Andrew went on to Train Tunnel and John and Sue headed for Glade entrance to start counting there.

Train was rather disappointing with just two big ears, 2 myotis, and 5 tri-color. There was an incredible amount of wash debris at the entrance (big tree trunks, which collected smaller branches which collected grass mats etc…). The 90 degree turn inside the cave had choked off the low crawl into the cave proper.

The group then headed to Homestead as we usually get anywhere from 3 to 8 long ears in there for our count. First thing to notice is the entire backside of Homestead has collapsed and there is daylight all the way though (walking space size). It was no longer cold in this section as it was in the past and thus, we found only one long ear way up in a crevice. As we started going back to Glade via the connection Jon pointed out an owl in the rock above us. I got it identified from a biologist that it was a screech owl. It blended right into the rock.

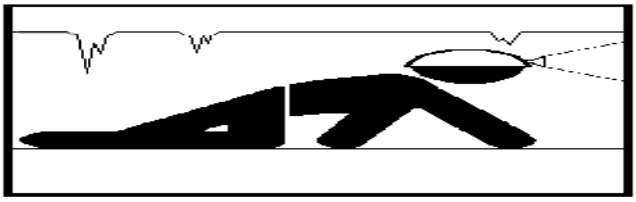
It got it identified from a biologist that it was a screech owl. It blended right into the rock.

We took the side passages as John and Sue were doing the water passage. These are usually pip hallways… though they seemed low population compared to past years.

We met up with the others close to Stovepipe entrance/exit. We all then proceeded to the waterfall where we stop counting in that section and exited before 4 p.m. That left us plenty of time to hike back, clean up a bit, then head for Lugi's for our after bat count feast!

The overall count felt like we were way low this year from the number last year (19,176) but as we got 17,351, it wasn't that far off (-1,825).

Final Counts: Myotis 17,290, Tri-Color 56, Big ear 5… Total: 17,351



POTPOURRI

New 'Glenwood Gondola' installation keeping Caverns employees busy in other ways

Staff report; Post Independent Citizen Telegram
January 30, 2019
https://www.postindependent.com/news/local/new-glenwood-gondola-installation-keeping-caverns-employees-busy-in-other-ways/

Construction continues as the first pylon is in place at the base of the new high efficiency tramway for the Glenwood Caverns Adventure Park in Glenwo...

Though Glenwood Caverns Adventure Park has been closed this winter for installation of the new tram system, the park's employees have been anything but idle.

And, the main reason for the seasonal park shutdown has resulted in a new name for the primary transportation device used to access the popular Glenwood Springs tourist attraction.

Since late October, the park's maintenance crew and a contract team from Leitner-POMA are busy replacing the Iron Mountain Tramway.

The new, higher-capacity, more-efficient tram will go by the new name, the "Glenwood Gondola, "Caverns General Manager Nancy Heard announced Wednesday.

"We've chosen a new name to emphasize just how much difference it will make in our guests' experience," Heard said. "The 44 detachable cabins that won't stop on the way up or down the mountain are going to more than triple our capacity and decrease the ride time.

"So, instead of waiting in line at the base or the top during peak season, our guests can spend that time enjoying the park."

In the meantime, other departments are busy upgrading, renovating and repairing park infrastructure, and even the natural caves themselves.

"It was really important to us to be able to keep our full-time, year-round employees on the payroll this winter," Heard said. "Since it is difficult to complete large-scale renovations while the park is open, we're keeping everyone busy by making improvements throughout the park."

One of the biggest projects is taking place in the cave section known as "The Barn," a large room located in the lower section of Glenwood Caverns.

Walkways constructed of decking material are being replaced with concrete, which is intended to provide better footing, and steel handrails. A new route has eliminated seven steps and allows guests to walk among the rocks rather than above them.

"Extreme care was taken to ensure that no living cave formations were damaged in the process of building the pathway," according to a news release explaining the off-season work that's being done.

To protect the air inside the cave from dust, a double tent houses portable concrete mixers and bagged concrete that's mixed by hand in small batches.

"After 20 years, it's time to replace the old decking materials with something more permanent, so we are using concrete and stainless steel," said Kathy Miller, natural attractions manager for the resort. "We've been working on this for a couple of years now; this is phase three of four."

In addition, cave staff members have been busy dusting formations with shop vacs fitted with attachments typically used to clean computer keyboards. They also do a gentle wash, remove lint and hair that collects over time, and check, replace and reset light bulbs, among other repairs and maintenance.

The food and beverage department is also taking advantage of the down time to scrub and clean its areas from top to bottom.

"The opportunity to clean this deeply does not come very often, so we are removing everything and getting in there with toothbrushes," said Food and Beverage Manager Bob Stepniewski.

Upgrades are also taking place in the general store and with the various amusement park attractions, as well as involving park infrastructure.

In conjunction with the tram replacement, utility lines that were previously attached to the tram cables are being buried.

"This was a big, long-term job that consisted of trenching 4,500 feet down the mountain," according to the news release. "The benefits of having these lines underground include the ability to pump water continuously, whereas before the park could only pump water when the air temperature was above freezing."

At the midpoint of the tram replacement project, Heard said everything is on track for a grand opening celebration in March.

EDITOR: SOUND LIKE A NEAT FUNTRIP?

Neanderthals and Denisovans Lived (and Mated) in This Siberian Cave

By Laura Geggel, Senior Writer
January 31, 2019 03:08

The Neanderthals and Denisovans — both relatives of modern humans — were roommates, literally, for thousands of years in a remote Siberian cave, two new studies find.

Back in ancient times, this cave would have been a real estate agent's paradise; it's the only place in the world that Neanderthals, Denisovans and possibly even modern humans lived in together throughout history, the researchers found.

The cave was so popular that hominins (a group that includes humans, our ancestors and our close evolutionary cousins like chimps) lived there almost continuously over both warm and cold periods during the past 300,000 years, the researchers found. [In Photos: Bones from a Denisovan-Neanderthal Hybrid]

By analyzing fossils and DNA, the researchers learned that the enigmatic Denisovans lived in the cave from at least 200,000 to 50,000 years ago, and the Neanderthals lived there between 190,000 and 100,000 years ago.

It's not completely out of the blue that Neanderthals and Denisovans mingled. In 2018, researchers published a study in the journal Nature on the bone fragment of a teenage girl who had a Neanderthal mother and a Denisovan father, the first direct evidence that the two hominin groups interbred.

The new research shows that this girl, whose remains were found in Denisova Cave, lived about 100,000 years ago, the scientists said.

Dating bonanza: Researchers have been excavating Denisova Cave, located in the foothills of the Altai Mountains in Siberia, for the past 40 years.

In 2010, the cave gained worldwide recognition when scientists announced they had found the finger bone of a previously unknown hominin, and published its genome. They named the hominin the Denisovans (deh-NEESE-so-vans), after the cave.

However, until now, researchers had few artifacts to date, so they weren't sure exactly when the cave's inhabitants lived there. Now, two new studies reveal a chronology for the cave's inhabitants.

In one study, researchers in Australia and Russia used optical dating to determine the age of the cave's sediments. They couldn't use radiocarbon dating because that can reliably date organic objects to only 50,000 years ago. In contrast, optical dating allows scientists to find out when quartz and feldspar grains in the soil were last exposed to sunlight.

In the other study, researchers in Germany, the United Kingdom, Australia, Russia and Canada looked at the predictable decay of a radioactive carbon isotope (radiocarbon dating) to figure out the ages of bone, tooth and charcoal fragments found in the upper layers of the site; and then they created a statistical model that integrated all of the cave's newly discovered dates.

"We had to invent some new methods to date the deepest and oldest deposits and construct a robust chronology for the sediments in Denisova Cave," study co-researcher Bo Li, an associate professor at the School of Earth, Atmospheric and Life Sciences at the University of Wollongong in Australia, said in a statement.

Moreover, the new statistical model helped "incorporate all of the dating evidence available for these small and isolated fossils, which could easily have been displaced after deposition," study lead researcher Katerina Douka, an archaeological scientist at the Max Planck Institute for the Science of Human History in Germany, said in the statement. [Denisovan Gallery: Tracing the Genetics of Human Ancestors]

Even so, questions remain about the dated material in the cave. For instance, "do the human fossils derive from human occupations or from, say, carnivore activity, and have they been transported far from their original depositional location?" asked study researcher Chris Stringer, a research leader of human origins at London's Natural History Museum.

Human history: A conundrum about the cave persists: Did modern humans live there? Our species (Homo sapiens) was present in other parts of Asia by 50,000 years ago, but it's unclear whether any H. sapiens interacted with the Denisovans in the cave. That's because scientists have yet to find any fossil or genetic traces of modern humans in the cave, although researchers have found a hominin bone dating to between 50,000 and 46,000 years ago. The team couldn't procure any DNA from it, so it's unclear what species the bone belonged to.

Upper Palaeolithic artifacts from Denisova Cave, which date from 50,000 to 35,000 years ago. The scale bar equals 1 cm.

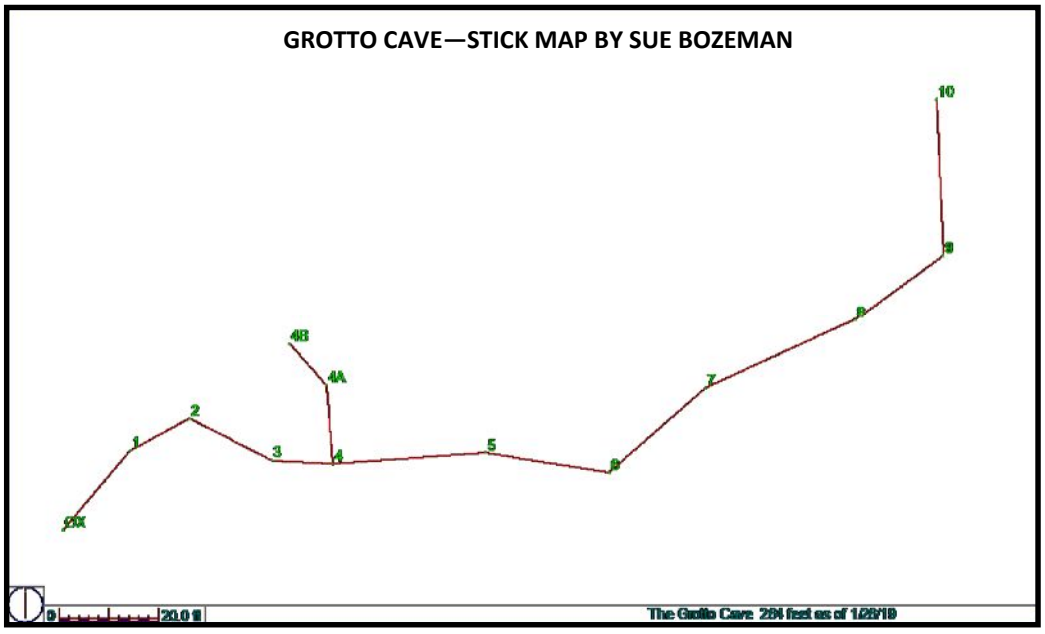
In addition, it's possible that modern humans made some of the artifacts in the cave.

"Another open question is whether Denisovans or modern humans made the oldest bone points and personal ornaments [tooth pendants] found in the cave," Tom Higham, a professor of archaeology at the University of Oxford who worked on the radiocarbon study, said in the statement. "With direct dates of between 43,000 and 49,000 years ago, they are the earliest such artifacts known from all of northern Eurasia."

But Stringer said he would put his money on early modern humans.

"Early modern humans can be mapped elsewhere at this date, for example at Ust'-Ishim in Siberia," Stringer told Live Science in an email. "But the authors of the [radiocarbon dating] paper rather surprisingly argue that it's most parsimonious to assume that Denisovans were responsible, even though no Denisovans are yet known as late as that in the sequence.

"Only more discoveries and more research can resolve that question satisfactorily," Stringer added.



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

The February meeting will be Friday, February 8, 2019 At John VanDyke's.

Central Oklahoma Grotto
Crazy Bat Counting Division
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