CENTRAL
OKLAHOMA
GROTTO
OF THE NATIONAL
SPELEOLOGICAL SOCIETY,INC

C.O.G.nizance

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IT IS NOT CERTAIN WHEN THE NEXT MEETING WILL BE DUE TO SOCIAL DISTANCING AND NEEDING TO STAY AT HOME! EVERYONE BE SAFE!

Having to stay home and read a book! Sounds like a good plan to me!

My social life with Covid-19… there may be people and even caves on the horizon but it's a long way to get there!

Picture taken by Duane—Devil's Golf Course—Death Valley—Aug. 15, 2019

ANNOUNCEMENTS

*No trips planned at the present time

*No meeting Friday, April 10, 2020.

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 2020??

April - Cancelled	Sept - Jon Woltz
May - John Van Dyke	Nov - John Van Dyke
June - The Skillful Ogre	October - Bozeman
July/August no meetings	Dec - Bozeman – Christmas Party

TREASURER'S REPORT

FEBRUARY 2020 TREASURERS'S REPORT

INCOME		EXPENSES
Dividends	$ 0.01	
TOTAL	$ 0.01	
CASH ON HAND	$ 106.05	
CHECKING	$ 628.62	
SAVINGS	$ 1,416.13	
TOTAL	**$ 2,150.80**	

PREPARED BY TREASURER JOHN TALBOT NSS#3054RE
3/14/2020

MINUTES

CENTRAL OKLAHOMA GROTTO MEETING
Date of meeting: March 13, 2020

Host: Bozemans
Attendees: Dale Amlee, Beleu, Bozemans, and John Talbot
Honored Guests: Elaine Talbot and Tammy Van Dyke
Began: 8:00 p.m. Grand Potentate Amlee, presiding
Steve B. dictated minutes to Sue for publication.

Old Business:

We have not advanced the possibility of visiting the Salt Mine in Kansas since the last meeting. Due to the contagion raging in our Nation, we are unsure if this trip will be feasible this August.

We had an open discussion about the pros and cons, likes and dislikes, of our new FaceBook web page.

Duane Del Vecchio did not accept the reimbursement that we sent him for his website work on our behalf. Dale said that he would send Duane intel about some free websites to consider using in addition to our FB web page.

New Business:

Dale will research how other grottos administer their publications.

Conclusion of meeting: 8:54 p.m.

POTPOURRI

Lab Results from Bat Swabs for Oklahoma Bats

Submitted by Duane Del Vecchio from Mel Hickman (OK Dept. of Wildife)

We sent in our test swabs for Jester Cave to Melynda Hickman of the Oklahoma Department of Wildlife and she said she would let us know the results in March when she got them. In fact only three sites in Oklahoma were tested (Little Crystal, Jester, and Nescatunga). Oklahoma wasn't supposed to have any allocated this year but the Dept. argued for at least Jester and three kits were given to the state. As COG is part of the Oklahoma Bat Coordinating Team, we were able to get one for Jester since there are three caves in the Texas panhandle less than 50 miles away that are positive. Results were announced to us on Friday, March 13th. (Ominous date huh!) Little Crystal and Jester were clean - all negative. Nescatunga had two positives with 1 tricolor and 1 myotis. Also bat count numbers were released to all members and we put this article and the count on our website:

http://www.okcavers.com/publications/OBCT/wnsresult20.htm

Reclusive, nocturnal, numerous -- bats are a possible source of the coronavirus.

Yet some scientists concur they are not to blame for the transfer of the disease that's changing daily life -- humans are.

(CNN) https://www.cnn.com/2020/03/19/health/coronavirus-human-actions-intl/index.html

Zoologists and disease experts have told CNN that changes to human behavior -- the destruction of natural habitats, coupled with the huge number of fast-moving people now on Earth -- has enabled diseases that were once locked away in nature to cross into people fast.

Scientists are still unsure where the virus originated, and will only be able to prove its source if they isolate a live virus in a suspected species -- a hard task.

But viruses that are extremely similar to the one that causes Covid-19 have been seen in Chinese horseshoe bats. That has led to urgent questions as to how the disease moved from bat communities -- often untouched by humans -- to spread across Earth. The answers suggest the need for a complete rethink of how we treat the planet.

Bats are a possible source of the coronavirus, but some scientists say humans are to blame for the spread of the disease.

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Bats are the only mammal that can fly, allowing them to spread in large numbers from one community over a wide area, scientists say. This means they can harbor a large number of pathogens, or diseases. Flying also requires a tremendous amount of activity for bats, which has caused their immune systems to become very specialized.

"When they fly they have a peak body temperature that mimics a fever," said Andrew Cunningham, Professor of Wildlife Epidemiology at the Zoological Society of London. "It happens at least twice a day with bats -- when they fly out to feed and then they return to roost. And so the pathogens that have evolved in bats have evolved to withstand these peaks of body temperature."

Cunningham said this poses a potential problem when these diseases cross into another species. In humans, for example, a fever is a defense mechanism designed to raise the body temperature to kill a virus. A virus that has evolved in a bat will probably not be affected by a higher body temperature, he warned.

But why does the disease transfer in the first place? That answer seems simpler, says Cunningham, and it involves an alien phrase that we will have to get used to, as it is one that has changed our lives -- "zoonotic spillover" or transfer.

"The underlying causes of zoonotic spillover from bats or from other wild species have almost always -- always -- been shown to be human behavior," said Cunningham. "Human activities are causing this."

When a bat is stressed -- by being hunted, or having its habitat damaged by deforestation -- its immune system is challenged and finds it harder to cope with pathogens it otherwise took in its stride. "We believe that the impact of stress on bats would be very much as it would be on people," said Cunningham.

"It would allow infections to increase and to be excreted -- to be shed. You can think of it like if people are stressed and have the cold sore virus, they will get a cold sore. That is the virus being 'expressed.' This can happen in bats too."

Pathogens that have evolved in bats can withstand a high body temperature, so a human fever will not work as a defense mechanism.

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In the likely epicenter of the virus -- the so-called wet-markets of Wuhan, China -- where wild animals are held captive together and sold as delicacies or pets, a terrifying mix of viruses and species can occur.

"If they are being shipped or held in markets, in close proximity to other animals or humans," said Cunningham, "then there is a chance those viruses are being shed in large numbers." He said the other animals in a market like that are also more vulnerable to infection as they too are stressed.

"We are increasing transport of animals -- for medicine, for pets, for food -- at a scale that we have never done before," said Kate Jones, Chair of Ecology and Biodiversity at University College London. *(continued on page 4)*

"We are also destroying their habitats into landscapes that are more human-dominated. Animals are mixing in weird ways that have never happened before. So in a wet market, you are going to have a load of animals in cages on top of each other."

Kate Jones, Chair of Ecology and Biodiversity at University College London, said increasing transport of animals and habitat destruction meant animals were mixing in ways they never had before.

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Cunningham and Jones both pointed to one factor that means rare instances of zoonotic spillover can turn into global problems in weeks. "Spillovers from wild animals will have occurred historically, but the person who would have been infected would probably have died or recovered before coming into contact with a large number of other people in a town or in a city," said Cunningham.

"These days with motorized transport and planes you can be in a forest in central Africa one day, and in a city like central London the next."

Jones agreed. "Any spillover you might have had before is magnified by the fact there is so many of us, and we are so well connected."

There are two simple lessons, they say, that humanity can learn, and must learn fast.

First, bats are not to blame, and might actually help provide the solution. "It's easy to point the finger at the host species," said Cunningham.

"But actually it's the way we interact with them that has led to the pandemic spread of the pathogen." He added that their immune systems are poorly understood and may provide important clues.

"Understanding how bats cope with these pathogens can teach us how to deal with them, if they spillover to people."

The cause of "zoonotic spillover," or transfer from bats or other wild species, is almost always human behavior, says Professor Andrew Cunningham from the Zoological Society of London.

The cause of "zoonotic spillover," or transfer from bats or other wild species, is almost always human behavior, says Professor Andrew Cunningham from the Zoological Society of London.

Ultimately diseases like coronavirus could be here to stay, as humanity grows and spreads into places where it's previously had no business. Cunningham and Jones agree this will make changing human behavior an easier fix than developing a vastly expensive vaccine for each new virus.

The coronavirus is perhaps humanity's first clear, indisputable sign that environmental damage can kill humans fast too. And it can also happen again, for the same reasons.

"There are tens of thousands [of viruses] waiting to be discovered," Cunningham said. "What we really need to do is understand where the critical control points are for zoonotic spillover from wildlife are, and to stop it happening at those places. That will be the most cost-effective way to protect humans."

Jones said viruses "are on the rise more because there are so many of us and we are so connected. The chance of more [spillovers into humans] happening is higher because we are degrading these landscapes. Destroying habitats is the cause, so restoring habitats is a solution."

The ultimate lesson is that damage to the planet can also damage people more quickly and severely than the generational, gradual shifts of climate change.

"It's not OK to transform a forest into agriculture without understanding the impact that has on climate, carbon storage, disease emergence and flood risk," said Jones. "You can't do those things in isolation without thinking about what that does to humans."

Inside the 900-year-old cave lying underneath this town's streets It's a fascinating historical site

CambridgeLive – Daily

https://www.cambridge-news.co.uk/news/local-news/inside-900-year-old-cave-18043619

An ancient cave lies deep below the streets of one busy town centre - but not many people know about it.

People walk through the town of Royston every day and may not know that they're above a special and unique historical site.

Alice Cunningham from our sister site HertsLive took a look inside the cave to learn about its fascinating history.

Where is the cave and how did Royston come to be a town?

Royston cave sits just beneath the road know today as Melbourn Street, but hundreds of years ago the town was a completely different place.

It was a prehistoric highway known as Ickneild Way that ran from East Anglia all the way to Salisbury Plain and was used by tribes thousands of years ago.

Around 2,000 years ago, the Romans came along and the built Ermine Street that ran from North to South from York to London. These two streets met to form a crossroad in Royston and were considered to be sacred. A tradition began to put up red crosses on crossroads.

Royston's red cross was known as Roisia's Cross that was attributed to a Lady Roisia. It's not clear who she was but a few names appear in archives from 1066. One of them was the wife of William the Conquerer's steward, Eudo Dapifer. He was incredibly important and owned land in Royston.

At this time however, there was no Royston town but in the twelfth century, a market was formed and the town we know today evolved.

So Roisia's Cross became known as Roisia's Town which then became known as Royston.

1742 and the discovery of the cave

The cave was accidentally discovered in 1742 by workmen who were building foundations in the butter market above. The men found a millstone in the ground and when they lifted it they discovered a vertical shaft that led deep into the ground.

A young boy, around nine or 10-years-of-age volunteered to go through this shaft and he found this cave 30 feet down, that was half-filled with earth and debris.

(Continued on page 5)

Rumours of treasure in the cave soon began to spread and a group of people quickly cleared out the debris. *(continues on Page 5)*

Carvings on the wall and a human skull were found. These original artifacts and skull were unfortunately lost not long after they were discovered.

Remarkably, before the discovery there isn't any documentation of the cave even existing. This has meant the cave is a complete enigma and has baffled people for decades.

Shortly after the men found the cave, a new entrance was built to make it far easier to get in and out.

Cave theories

There are actually a few theories behind who made the cave and what is was used for.

The most popular one being it was used by the Knights Templar. These were a religious military order of monks who's main purpose was to escort pilgrims from Europe to Jerusalem and the Holy land.

They were known to be in Hertfordshire at this time and they had a stronghold in Baldock, so it's very possible they built the cave.

In 1307 they were persecuted by Pope Clement V and King Phillip IV of France and many of them fled underground so this was possibly a safe place for them.

The second theory is that the cave was used by King James I who had a palace in the area.
He had links to Freemasonry that wasn't particularly understood at the time so it's possible he could have used the cave to practice in peace.

Other less prevalent theories include it being used as a prison, as a private chapel or even where a Saxon hermit could have lived.

It's believed due to markings on the cave walls that the cave actually had multiple floors made from a wooden platform and some theories even suggest there were walkways from the cave leading to a church but these haven't been found.

The wall carvings

Once you have walked down a steep walkway into the cave, you will be in awe of the cave that now surrounds you.

When you look up you realize just how far you are under the ground and you begin to wonder how people got in and out with just ropes and ladders.

You'll also notice that the walls are covered in carvings that are incredibly detailed. Each one has it's own story about what it could mean or who it may well represent.

The most significant carvings include one of Jesus' resurrection along with the carving of the hand of God, one of St Katherine who is holding a representation of a spiked wheel associated with her martyrdom and even a line of 13 figures believed to be Jesus and his disciples have been carved.

One notable carving that brings people to the cave is that of St Laurence who was referred to as the Grail Saint. The legend goes that when Rome was being ransacked, he stole the cup that was used in the celebration of mass at Church and took it to Spain for safety. The cup is believed to be the same cup that Jesus used in the last supper which we know today as the Holy Grail.

A lot of the carvings depict Christian figures and stories but the cave does contain some that are non-Christian. These include a large figure of a horse and an Earth Goddess known as Sheela Na Gig.

It's not clear why these non-Christian carvings are here but they are known to be Pagan symbols for fertility.

The different carvings that come from different eras throw a date discrepancy into the mix but without any records before 1742 we will never officially know who built the cave first.

Ley Lines

Visitors often come to the cave who believe that Michael and Mary Ley lines meet inside the cave. These are powerful earth energy lines or electromagnetic pulses that the earth emits which hit spiritual sites. It's thought spiritual sites like the cave were built on these lines purposefully as they create a powerful source of healing energy. The Michael and Mary lines are also thought to run through other sites like Glastobury, Avebury, St Michael's Mount and other prominent places.

Conservation techniques

The cave is made from chalk which is a very soft making conservation very difficult.

A lot of the problems are naturally occurring such as water coming through the chalk. This means that the carvings are then softened down and it also creates cracks and fissures within them which dry and break away.

There's also been problems with microbiological growth and worms that eat away the carvings and even a person's breath and heat can affect the carvings.

As the cave is also so unique there are no other similar examples to take from about how best to conserve it despite world leading researchers and scientists often examining it.

Therefore, the conservation efforts are having to be built from the ground up which can be very time and money consuming. Then even at the end of it all, there's no 100 per cent guarantee it would work.

The cave is a remarkable site and one that shouldn't be missed. In just a short amount of time you will learn so much about things you never knew existed and people who were very significant.

We highly recommended you take a visit and learn a bit more about one of the world's most fascinating sites. You truly will be completely amazed.

Information into tour dates and times as well as about the cave's history can be found on

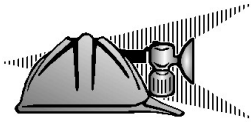
https://www.roystoncave.co.uk/history

Tours are currently not running to allow for the cave to have a cool down period and ensure we are not damaging the cave.

Between April 11 and September 27 next year (2020) tours will run on every Saturday, Sunday and Bank Holiday.

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 meeting is scheduled for April, 2020.
Stay home and be safe!



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