



CENTRAL OKLAHOMA GROTTTO OF THE NATIONAL SPELEOLOGICAL SOCIETY, INC

# C.O.G.nizance

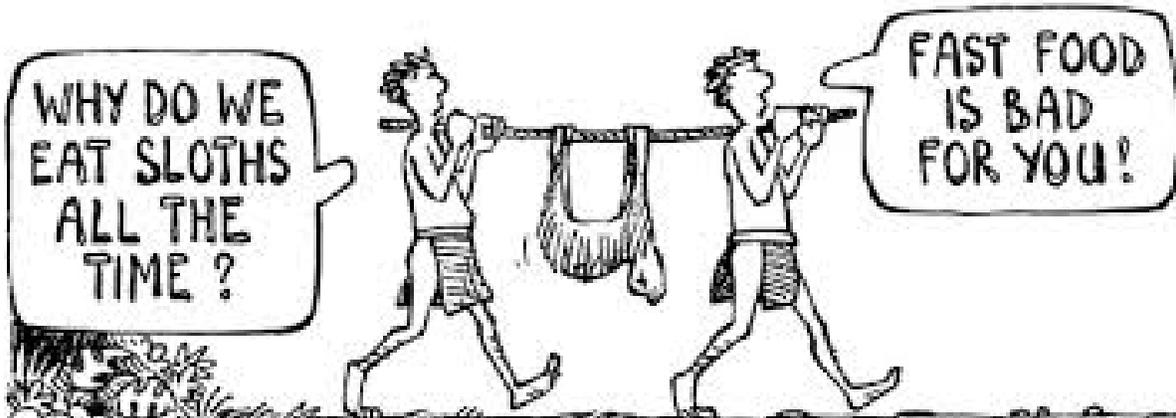
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The September meeting of the Central Oklahoma Grotto will be held Friday, September 12, 2014, at 7:00 p.m. The meeting will be at the home of Jon and Kelly.

## Caving

### Healthy tips throughout the ages!



## ANNOUNCEMENTS

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

\*The September meeting of the Central Oklahoma Grotto will be held in Weatherford at the home of Kelly and Jon. Friday, September 12, 2014. **NEW ADDRESS**

### National White-Nose Syndrome Decontamination Protocol - Version 06.25.2012

The fungus *Geomyces destructans* (*G.d.*) is the cause of white-nose syndrome (WNS), a disease that has devastated populations of hibernating bats in eastern North America. Since its discovery in New York in 2007, WNS has spread rapidly through northeastern, mid-Atlantic, and Midwest states and eastern Canada. It continues to threaten bat populations across the continent. For the protection of bats and their habitats, comply with all current cave and mine closures, advisories, and regulations on the federal, state, tribal, and private lands you plan to visit. In the absence of cave and mine closure policy, or when planned activities involve close/direct contact with bats, their environments, and/or associated materials, the following decontamination procedures should be implemented to **reduce the risk of transmission** of the fungus to other bats and/or habitats. For the purposes of clarification, the use of the word "decontamination," or any similar root, in this document entails both the 1) cleaning and 2) treatment to disinfect exposed materials.

**Under no circumstances should clothing, footwear, or equipment that was used in a confirmed or suspect WNS-affected state or region be used in a WNS-unaffected state or region.** Some state/federal regulatory or land management agencies have supplemental documents<sup>1</sup> that provide additional requirements or exemptions on lands under their jurisdiction.

#### I. TREATMENTS TO REDUCE RISK OF TRANSFERRING *GEOMYCES DESTRUCTANS*2:

##### Applications/Products:

The most universally available option for treatment of submersible gear is:

**Submersion in Hot Water: Effective at sustained temperatures 50°C (122°F) for 20 minutes**

Secondary or non-submersible treatment options (for a minimum of 10 min.) include:

**PRODUCTS:**     **Clorox® (6% HOCl) Bleach**  
                      **Lysol® IC Quaternary Disinfectant Cleaner**  
                      **Professional Lysol® Antibacterial All-purpose Clean**

## Minutes

### CENTRAL OKLAHOMA GROTTO

Minutes of the June 13, 2014 meeting

Host: the home of Dale Amlee

Attendees: Dale Amlee, Anne Ault, Sue and John Bozeman; John Talbot; John Van Dyke; Kelley and Jon Woltz; S. Belev

**BEGIN:** 8:21 Grand Imperial Muckluck Dale presiding

#### OLD BUSINESS –

- We discussed our March pilgrimage unto Carlsbad Caverns and the work that we did there. We also began planning our 2015 trip there when we propose to retape Lower Cave. We also officially gave up on finding edible food within Carlsbad (2013 population – 27,653); Dale and I proposed dining in Artesia (2013 population – 11,484), a town 15 minutes' drive north of the Carlsbad KOA we stayed in March and will again stay in next year. We found something in Artesia that hardly exists in Carlsbad: good food served with good service that doesn't hastily exit us a few painful hours later.
- We discussed our new trip to Green's Cathedral cave on July 19<sup>th</sup>. Dale and I reported our transfer of the *Oklahoma Underground* collection from my care unto Dale's within his house. Sue asked Dale if he could make an inventory of which issues are there. Ha ha!

#### NEW BUSINESS –

Sue told me to send my minutes—and John his treasurer's report--to both her and Lil in the future.

#### TREASURER'S REPORT

Treasurer John Talbot gave his report

THE MEETING ENDED AT: 9:08 📺

## Treasurer's reports

	INCOME		EXPENSES	
Dividends	\$	0.32		
Dues	\$	45.00		
<b>TOTAL</b>	<b>\$</b>	<b>45.32</b>	<b>TOTAL</b>	<b>\$ 0.00</b>
<b>CASH ON HAND</b>	<b>\$</b>	<b>104.04</b>	<b>TOTAL FUNDS AS OF 6/6/2014</b>	
<b>CHECKING</b>	<b>\$</b>	<b>537.71</b>	<i>PREPARED BY TREASURER JOHN TALBOT NSS #30254RE</i>	
<b>SAVINGS</b>	<b>\$</b>	<b>2,135.81</b>		
<b>TOTAL</b>	<b>\$</b>	<b>2777.56</b>		

	INCOME		EXPENSES	
Dividends	\$	0.04		
Dues	\$	57.00		
<b>TOTAL</b>	<b>\$</b>	<b>57.04</b>	<b>TOTAL</b>	<b>\$ 0.00</b>
<b>CASH ON HAND</b>	<b>\$</b>	<b>149.04</b>	<b>TOTAL FUNDS AS OF 9/8/2014</b>	
<b>CHECKING</b>	<b>\$</b>	<b>549.77</b>	<i>PREPARED BY TREASURER JOHN TALBOT NSS #30254RE</i>	
<b>SAVINGS</b>	<b>\$</b>	<b>2,136.08</b>		
<b>TOTAL</b>	<b>\$</b>	<b>2,834.89</b>		

## Trip Reports

NO TRIP REPORTS SUBMITTED

## potpourri

### Underside

by Sue Bozeman

Ah, Florida. Land of sunshine and a wonderful place for a childhood vacation. Left to personal devices, Morrow was just poking around Grandfather's new property. What came to sight was a crawley hole. Not much of a hole, it was still inviting to an inquisitive youth.

Not difficult to enter with dry pebbles and some leaf litter to kneel on, Morrow followed the entrance to a climb-down that was a bit darker than the entryway. From the pack that was always available, Morrow took out a 4 D-cell flashlight and determined that a safe descent was possible.

After a not-too-difficult climbdown, Morrow followed a jagged path to a huge pit. Casting the light around the pit, Morrow estimated

that it was way too wide and deep to descend without a rope and probably someone else along. But what was interesting was what appeared to be a peculiar ceiling pattern. Instead of rock, it looked very unnatural.

"What could be so flat?" Morrow wondered. "With lines?"

In an effort to get a different view of the ceiling, Morrow edged around on a body-wide ledge. Ooching along, carefully and very aware that every inch forward would have to be eventually retreated -- blind -- because there was no other out but the original entrance. Regardless, Morrow needed a different vantage point on the ceiling.

*(Continued on page 4)*

flinching around, the shelf looked relatively freshly cut. Morrow had been in caves before. Many caves. Most had been commercial, but some had been wild caves. As a family, they had enjoyed many hours exploring well-known and well-behaved underground pathways.

Morrow was sure that this was a relatively new cave. How new was not something knowable, but that ceiling was really peculiar. As far as the depth of the pit, the 'drop a pebble and count the seconds' test indicated a mere 60 feet to first, and probably last, bounce. Not interested in bouncing, Morrow still needed to scoot a few feet further around the pit to gain a better vantage point to see the ceiling composition. A vague feeling of unease was beginning to mount as the ledge got smaller.

With one arm now over the ledge edge and further progress impossible, Morrow shined the flashlight up to the ceiling and came to one horrendous conclusion: that was wood, not rock. The only way to see a flat wooden ceiling is if the cave's overburden, it's 'ceiling', had collapsed ... UNDER a home.

A rumble from up passage gave purpose to a necessary retreat. Worried somewhat about the house without a firm foundation above, Morrow was more worried about the promised thundershowers that apparently had come earlier than predicted and what kind of difficulties would be encountered backing out of the cave.

With those concerns in mind, Morrow began a hasty retreat to the surface. However, hasty was not to be. In came a bit of water; in came a bit of debris; in fear came Morrow -- backwards against the flow.

Never one to worry because Morrow had told family of the intent to explore Grandfather's land and everyone knew how to negotiate caves; nevertheless the predicament was not the happiest Morrow could have imagined. Gone for just under four hours, there was every chance the family would come to look for a missing young'un. Morrow hoped.

Pushing toward the entrance, Morrow was ecstatic to hear a voice yelling, "Morrow,

are you in there?" More than happily, she replied, "Yes. I'm coming!"

Efforting mightily against the incoming water, Morrow finally reached a place where she could turn around and boogie out to the grumpy gray of a stormy day and into waiting family arms.

Reporting of the wooden ceiling at the top of the pit, the search for a home that was next to collapse, being undermined by limestone sinkhole erosion began. Having only a general directional 'feeling', Morrow indicated the best guess direction in which to look for a structure that might be in peril.

They all trooped up the hill and found a home in the woods that no one knew existed. Well, not exactly a "home," rather a cabin. They knocked on the door and a man finally answered. He had no clue that his cabin was being undermined and was basically in disbelief as we told him of the underground examination by Morrow.

To prove us wrong ... or right ... the man, who introduced himself as Kerry, suggested that he remove a floorboard from his closet so as not to mess up his cabin unnecessarily. "Hmmm," thought Morrow. "Doesn't believe me. Would serve him right if his house collapsed under him. Phooey. Not a nice thought. We'll just see."

Taking a crowbar, Kerry pried up one, then another board in his closet ... and was greeted with an earthy wind ... and nothing below.

Morrow smiled. 🦇

**TO BE CONTINUED....WHO WILL WRITE THE NEXT CHAPTER?**



**Bats use polarized light to navigate:  
First mammal known to use polarization patterns  
in the sky to navigate**

Science Daily July 22, 2014

From the Natural Environment Research Council  
<http://www.sciencedaily.com/releases/2014/07/140722111838.htm>

**Bats use polarized light to navigate: First mammal known to  
use polarization pattern in the sky to navigate**

Scientists have discovered that greater mouse-eared bats use polarization patterns in the sky to navigate -- the first mammal that's known to do this.

The bats use the way the Sun's light is scattered in the atmosphere at sunset to calibrate their internal magnetic compass, which helps them to fly in the right direction, a study published in *Nature Communication* has shown.

Despite this breakthrough, researchers have no idea how they manage to detect polarized light.

"We know that other animals use polarization patterns in the sky, and we have at least some idea how they do it: bees have specially-adapted photoreceptors in their eyes, and birds, fish, amphibians and reptiles have cone cell structures in their eyes which may help them to detect polarization," says Dr Richard Holland of Queen's University Belfast, co-author of the study.

"But we don't know which structure these bats might be using."

Polarization patterns depend on where the sun is in the sky. They're clearest in a strip across the sky 90° from the position of the sun at sunset or sunrise.

But animals can still see the patterns long after sunset. This means they can orient themselves even when they can't see the sun, including when it's cloudy. Scientists have even shown that dung beetles use the polarization pattern of moonlight for orientation.

A hugely diverse range of creatures -- including bees, anchovies, birds, reptiles and amphibians -- use the patterns as a compass to work out which way is north, south, east and west.

"Every night through the spring, summer and autumn, bats leave their roosts in caves, trees and buildings to search for insect prey. They might range hundreds of kilometers in a night, but return to their roosts before sunrise to avoid predators. But, until now, how they achieved such feats of navigation wasn't clear," says Stefan Greif of Queen's University Belfast, lead author of the study.

Even so, previous studies suggested that bats might detect polarization patterns when they emerge from their caves at dusk.

"Most people are familiar with bats using echolocation to get around. But that only works up to about 5 metres, so we knew they had to be using another of their senses for longer range navigation," says Greif.

In a bid to shed light on the matter, Holland, Greif and colleagues from Tel Aviv University showed 70 adult, female mouse-eared bats one of two different types of polarization patterns at sunset.

They then took them to one of two release sites in Bulgaria about 20 to 25 kilometres from their home roost. They released the bats at 01:00 AM -- when no polarization is visible -- and followed the direction they set off in using small radio transmitters attached to their backs.

They found the bats that had been shown a shifted pattern of polarized light headed off in a direction shifted at right angles from the controls released at the same time.

Bats probably use a suite of senses, including the position of the Sun or the stars, Earth's magnetic field, smells, sight, and of course, echolocation to navigate.

Many bat species are declining across Europe, despite being protected. Ironically, wind turbines are seriously harming their populations.

"We know that bats must be 'seeing' the turbines, but it seems that the air pressure patterns around working turbines give the bats what's akin to the bends," says Holland.

"It's most common in migratory species, with around 300,000 bats affected every year in Europe alone. You just find bats dead at the bottom of these turbine towers. One option is to reduce turbine activity during times of peak migration."

Bats provide a vital service that tends to be overlooked -- they're natural pest controllers. It's estimated that they save us millions of pounds in pesticide costs by eating insects.

"Anything we can do to understand how they get about, how they move and navigate will be step forward in helping to protect them," adds Holland.

The study was funded by a Natural Environment Research Council grant to Richard Holland and by the Max Planck Society.

**Story Source:**

The above story is based on materials provided by **Natural Environment Research Council**. Note: Materials may be edited for content and length.

**Journal Reference:**

Stefan Greif, Ivailo Borissov, Yossi Yovel, Richard A. Holland. **A functional role of the sky's polarization pattern for orientation in the greater mouse-eared bat.** *Nature Communication*, 2014; 5 DOI: 10.1038/ncomms5488

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: E-mail: [cavemoose@gmail.com](mailto: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 September meeting will be***  
At Jon and Kelly's  
September 12, 2014.



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