



C.O.G.nizance

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The February meeting will be Friday, February 13, 2015 at 7:00 p.m. The meeting will be at the home of John Van Dyke.



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HAPPY VALENTINES DAY



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ANNOUNCEMENTS

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

*The February meeting of the Central Oklahoma Grotto will be held Friday, February 13, 2015, at the home of John VanDyke.

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 documents¹ 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 GROTTA

Minutes of the January 9, 2015

Host: the home of Mr. Good Chili John Talbot.

Attendees: Dale Amlee, Anne Ault, John and Sue Bozeman, Duane Del Vechhio, John Talbot, Dale and Carol Town, John and Jeremiah.T. Van Dyke, Jon and Kelley Woltz, S. Belev and honored guest Matt Brasher

King Jon Woltz opened the meeting at 8:00

OLD BUSINESS - none

NEW BUSINESS

- Sue told us about a report on National Public Radio about WNS and its gradual abatement. Here is that report – <http://www.npr.org/2015/01/13/376092152/good-news-for-bats-things-are-looking-up-for-stemming-disease-spread>
- Duane told us about how we would be sampling for WNS in the caves within which we count bats on February 14 and 21.

TRIP REPORT – Cherylsbad Cavern survey trip of January 17

TREASURER'S REPORT

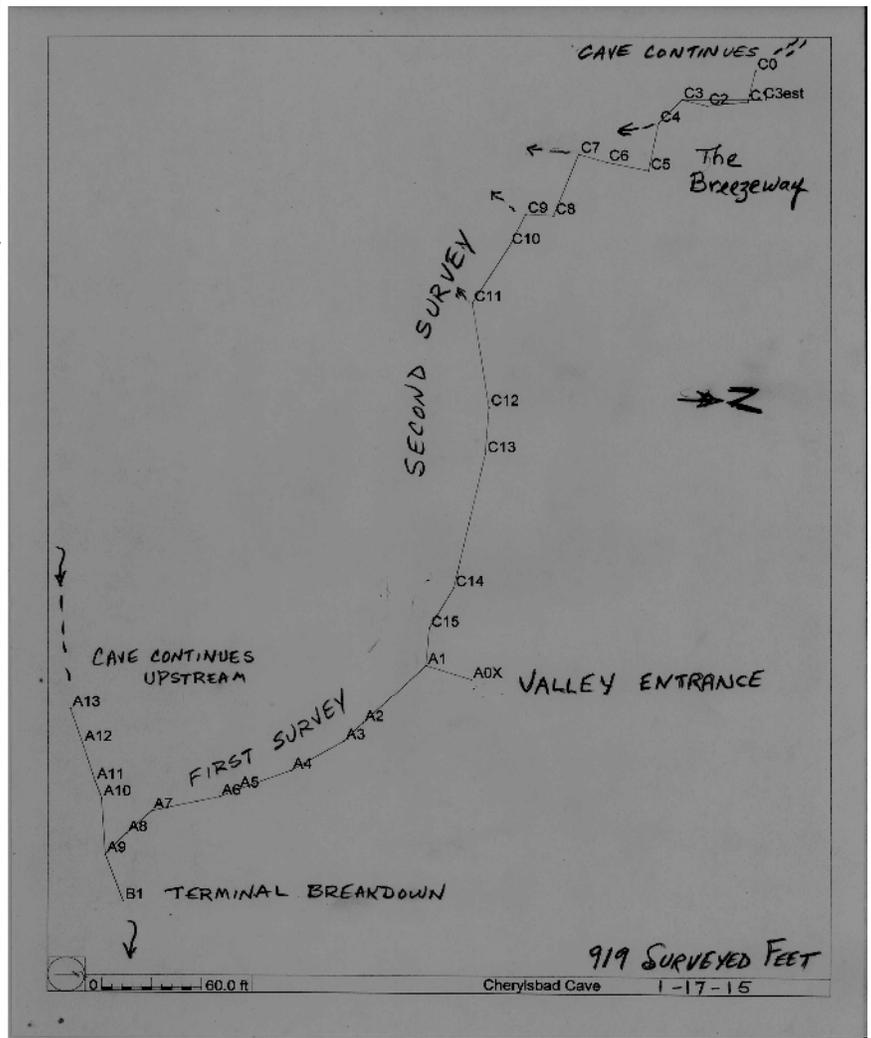
John Talbot gave his treasurer's report.

We concluded the meeting at 8:52 so we could return to eating. 🍴

this is where I made my first big mistake. I had left my pack behind! Dale joined me as we further explored the route. We continued at least another 40 feet to where the ceiling began to close down. At this point there was a pronounced breeze blowing toward us. There did not seem to be an end. We decided to turn back and report our findings to Jon and Sue.

We begin surveying from the major breakdown out toward the cave entrance. We surveyed all the way back to the opening of the parallel passage. I took a chance to further investigate this top part. I discovered dried tree leaves on the cave floor and an old glass bottle. After turning off my headlamp and looking up at the ceiling I spied a skylight. It was fairly narrow and went up through several feet of sediment before it made a turn to the surface.

We continued the survey back to the cave entrance. Along the way we poked into a few of the side passages. Many were filled with dry silt on the bottom and will make for great exploring on future trips. Some of the cave life encountered included crickets, salamanders, cave myotis and spiders. We found some active 'drips' in the cave that were creating shallow holes in the cave floor. A few were beginning to form stalagmite-type mud piles. We found a few solidified piles that someone called a pimple. One of which made a great survey point. In all we ended up surveying 520 feet of raw distance. This was a great trip and I really appreciate Sue, Jon and Dale taking me along and showing me the ropes. 📷



A stick map of Cherylbad as of the last surveying trip. plotted by Sue Bozeman.

potpourri

Stroke drug made from snake venom, bat saliva

Reprint from Chron; Wed. January 7, 2014

<http://www.chron.com/news/houston-texas/article/Stroke-drug-made-from-snake-venom-bat-saliva-1865551.php>

The mouths of vampire bats and Malaysian pit vipers are like potentially lethal chemistry sets, dispensing life-taking and life-saving substances.

The vampire bat, a native of Central and South America, feeds exclusively on blood. Its saliva contains a substance that stops the prey's blood from coagulating, so it flows freely. Vampire bats need to consume at least two tablespoons of blood each day.

The viper, a native of Southeast Asia, also is equipped with a sophisticated hemotoxin, a chemical that kills prey by causing its blood to stop coagulating. When the viper bites a rat, the rat suffers a massive hemorrhage and quickly bleeds to death.

"These chemicals are very powerful and very complex, and the animals use them to survive. We are using them to help people survive strokes and lessen the damage they do," said Dr. David Chiu, a neurologist and medical director of the Eddy Scurlock Stroke Center at the Methodist Neurological Institute in Houston.

Chiu is chief of a clinical trial testing the effectiveness of the two venoms on patients who have suffered strokes, which happen when bloodflow to a region of the brain is obstructed. If enough time lapses without treatment, brain tissue dies and death results.

Strokes (most of which are caused by arterial blockage) are the No. 3 cause of death in the United States, killing almost 163,000 people each year. About 700,000 Americans suffer new or recurrent strokes annually.

(Continued on page 5)

The drugs Chiu is testing are for emergency use, not prevention of strokes. The sooner a stroke victim receives a powerful anticoagulant to open the obstruction and restore bloodflow, the more likely the patient is to survive and suffer less disability.

"We can't waste time," Chiu said. "Time is brain."

From the clot-busting agent found in the saliva of vampire bats, researchers have genetically engineered a medication called Desmoteplase. Development of this drug is especially exciting for Chiu because it can effectively be administered to a patient up to nine hours after the first symptoms of a stroke appear.

The other trial involves Viprinex, which is derived from a compound called ancrod found in the venom of the Malaysian pit viper. Chiu and his colleagues hope to determine if ischemic stroke victims treated with a one-time dose of Viprinex will experience improved neurological function.

At present, the only clot-busting medication with U.S. Food and Drug Administration approval is t-PA (tissue plasminogen activator), but it must be administered within three hours of the first symptoms.

Chiu hopes to test the drugs on at least 1,000 patients, and expects the trials to last for at least two years. Both studies are random, double-blind, placebo-controlled clinical trials. For information, call 713-441-5801.

For questions or comments on the Environment, Science & Space page, contact matthew.schwartz@chron.com. 📧

'Non-echolocating' fruit bats actually do echolocate, with wing clicks

December 4, 2014; *Science Daily*

<http://www.sciencedaily.com/releases/2014/12/141204140735.htm>

In a discovery that overturns conventional wisdom about bats, researchers reporting in the Cell Press journal *Current Biology* on December 4 have found that Old World fruit bats--long classified as "non-echolocating"--actually do use a rudimentary form of echolocation. Perhaps most surprisingly, the clicks they emit to produce the echoes that guide them through the darkness aren't vocalizations at all. They are instead produced by the bats' wings, although scientists don't yet know exactly how the bats do it.

"I was surprised by the fact that all of the fruit bats we recorded clicked and by the fact that clicks are produced by the wings," says Yossi Yovel of Tel Aviv University in Israel. "Arjan and I still find that hard to believe."

Yovel and postdoctoral fellow Arjan Boonman got their first hint about the fruit bats from a friendly man on a bus in Indonesia who told them about a species of bat that clicked with its wings. As further confirmation, Boonman found a single old paper about a fruit bat with wings that clicked, but it wasn't clear whether those clicks were good for anything.

Rather than look for that one earlier-described species in particular, Yovel suggested something else: "Why not check other fruit bats?"

They selected a total of 19 wild individuals representing three species of fruit bat and different parts of the evolutionary family tree to find that all of them did produce audible clicks with their wings.

"We did all we could to prove it wrong, including sealing the bats' mouths and anesthetizing their tongues, but nothing stopped them from clicking, except for when we interfered with their wing flaps," Yovel says.

Further study showed that two of the three species increased their clicking rate by a factor of three to five or even more when placed in a dark tunnel, implying that the clicks are a natural behavior for the bats.

Tests of the animals' ability to find their way in the dark showed that the fruit bats do have echolocation abilities, although they are poorer than those of other echolocating species.

The fruit bats constantly crashed into thick cables, but they could readily learn to discriminate between larger objects: an acoustically reflective black board versus a similar-looking sheet of cloth. Even with large objects, however, the fruit bats didn't exactly come in for a smooth landing, suggesting that their ability is rather rudimentary in comparison to that of bats that rely on clicks produced from their larynxes.

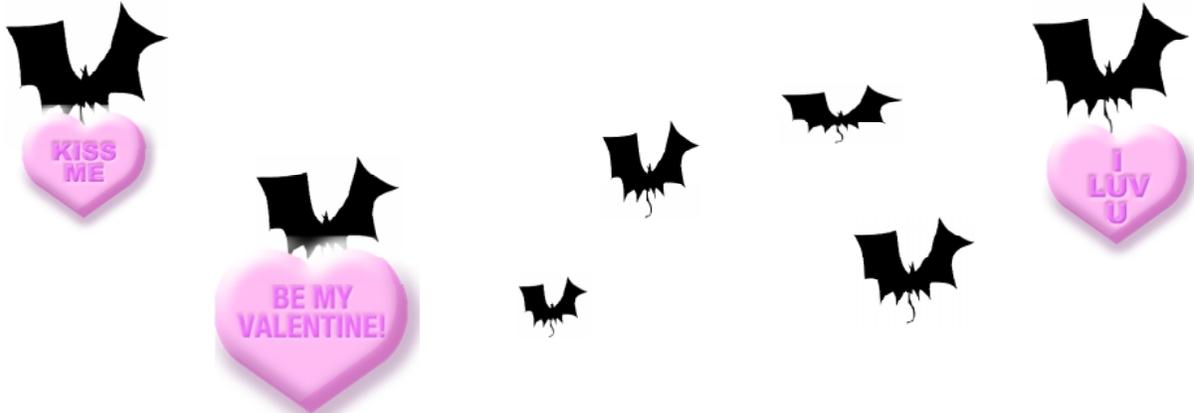
The findings are interesting in light of earlier suggestions that echolocation may have evolved initially for bats to identify and avoid crashing into large objects such as cave walls, Boonman and Yovel say. The new discovery in fruit bats offers insight into how this sophisticated ability in other bats may have evolved over time, although it is unlikely that the laryngeal clicks of those other bats evolved directly from fruit bats' wing clicks. In fact, Yovel says, it's possible that echolocation in bats has independently evolved many times.

"When we study extant species of echolocating bats, we see a developed sensory system that has been adapted and improved over millions of years of evolution," Yovel says. "The rudimentary echolocation of the fruit bat is one example of how the first types of echolocation may have evolved." 📧



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
At the home of John VanDyke's
Friday, February 13, 2015.



Central Oklahoma Grotto Print Shoppe