CENTRAL
OKLAHOMA
GROTTO
OF THE NATIONAL
SPELEOLOGICAL SOCIETY,INC

C.O.G.nizance

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The Next Meeting will be on Friday January 11, 2019 7:30 p.m. Hosted by John Talbot.

Sue, Jon and Dale Amlee cleaning up before entering car to head back to the City!

ANNOUNCEMENTS

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

*The Next meeting will be Friday, January 11, 2019 at John Talbots.

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

MEETING PLACES FOR 2019

Jan – John Talbot
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 – Bozemans – Christmas Party

USFS/BLM INTERNSHIPS

I am the Program Manager for the Conservation Intern program with the Montana Conservation Corps. We will have two internships available this summer through the USFS/BLM that will be focused on cave inventory in the Pryor Mountains. We are looking for young adults with caving experience. I have listed more about the opportunity below. Do you have a way to spread the word about the amazing opportunity?

Internship Information

The Montana Conservation Corps is partnering with the BLM Billings and US Forest Service Custer Gallatin National Forest to conduct cave inventory and monitoring of cave resources. Cave entrance location from a November 2017 recon flight and other information sources will be used to identify potential caves for inventory, monitoring and significance evaluation.

Duties will include:

- navigating to the points collected during the helicopter flight use GPS
- investigating to see if the location is a cave entrance, document what they find using a standardized inventory protocol and digital photos
- locating and entering cave systems to document and monitor physical cave characteristics, including biologic, geologic, hydrologic, and cultural resource
- incorporating findings into work on USFS and BLM Cave Management Plans and Federal Cave Resources Protection Act significant cave designations
- additional time will be spent organizing and compiling data, including digital photos, populating inventory databases and/or *hard copy files.*

Program Dates:

May 15th - August 16th

Benefits

- AmeriCorps Living Stipend - $504 biweekly
- AmeriCorps Education Award upon completion of the program
- Shared bunkhouse housing provided

Anyone interested should apply here:
https://careers-mtcorps.icims.com/jobs/1365/conservation-intern/job
Thank you Best, Mandy

MINUTES

CENTRAL OKLAHOMA GROTTO

Minutes of the November 9, 2018 COG Meeting

Host: Bozeman's

Attended: Sue and John Bozeman, Dale Amlee, John Van Dyke, Jon Woltz, The Skillful Ogre

Began: 8:00

Old business:

1. As we continue to try to work our way back into Carlbad we face the challenge of where to stay-the crappy motels in Carlsbad, the crappy CRF housing, camping at Lake Brantley sleeping on the roiling ground in tents, and now the possible site of "Washington Ranch" that we needeth to investigate; on the last survey trip to Prospect Cave we found a closed, locked gate with a lock that the landowner knew nothing about--the landowner has told us to remove any such locks in the future; we discussed The Great Dwayne's many names for his "press" that publishes this newsletter and have some suggestions for him such as - Purple Guano Press, Low-Crawl Press, Porcupine Poo Press, Zombie Cavers Press, and others that would have too many characters to key.

End: 9:00

TREASURER'S REPORTS

NOVEMBER 2018 TREASURERS'S REPORT

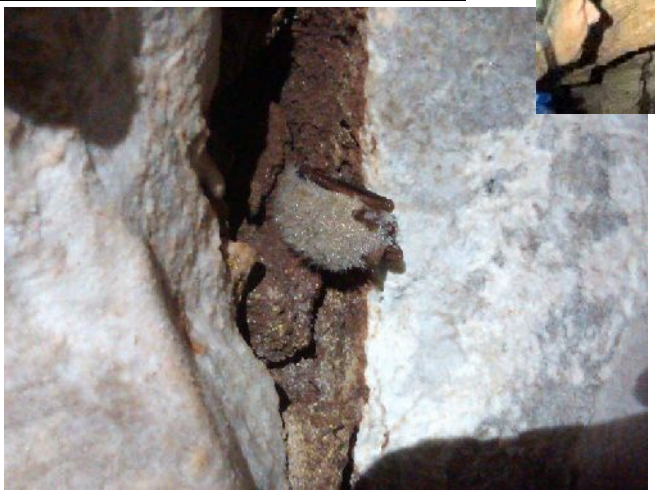
INCOME			**EXPENSES**	
Dividends	$	00.01	Printing	$ 68.64
			Postage	$ 63.37
TOTAL	**$**	**00.01**		**$ 132.01**
CASH ON HAND	**$**	**16.31**		
CHECKING	**$**	**43.94**		
SAVINGS	**$**	**2,164.76**	Balance as of **12/14/2018**	
TOTAL	**$**	**2,225.01**	*PREPARED BY TREASURER JOHN TALBOT*	

TRIP REPORT

DECEMBER'S TRIP REPORT WILL BE IN THE FEBRUARY NEWSLETTER.

Jon Woltz, Sue Bozeman and Dale Amlee took the last cave survey trip of 2018 in December to Prospect Cave!

Here are some nice photos taken by Jon.



TOP LEFT: Huge Salamander
TOP RIGHT: Dale Amlee squeezing through a narrow passage. See Sue?
BOTTOM LEFT: tricolor batter hibernating in a crack!

POTPOURRI

Backpacking Through a Cave in Vietnam
By Ted Alvarez , Dec 11, 2017
Photo by Ryan Deboodt/Aurora Photos
Vietnamhttps://www.backpacker.com/.amp/trips/what-lies-beneath-vietnam

Forget higher—go deeper. The greatest adventure in Asia is a real-life Lost World hidden inside Son Doong, the planet's largest cave.

People usually don't believe me when I tell them the best place I've ever camped is underground. They would if they could see it: Vietnam's Son Doong is the biggest cave in the world, and unlike the pitch-black ratholes of your claustrophobic nightmares, it's more like a canyon with a ceiling. Its walls glitter with minerals and tower higher than 40-story skyscrapers in places, and a 747 could fly through its largest chambers. In scale and experience, it's a whole subterranean world.

Overhead, stadium-size skylights called dolines admit enough light to sustain jungle trees growing 100 feet tall. Monkeys, birds, and flying foxes flit from the treetops. A fast-flowing river leads to travertine lagoons and soft-sand beaches perfect for pitching tents.

The way to Son Doong (literally, "mountain river cave") begins at a trailhead in Phong Nah-Ke Bang National Park, in the central part of the country where karst mountains carpeted in rainforest roll like waves at the border with Laos. We hike along and across the giant teal rivers that sculpt amphitheaters out of limestone on the way to our first campsite in Hang En, the park's third-largest cave. From there, 2 miles of muddy hiking deliver us to Son Doong.

A local hunter named Ho Khanh discovered—but never entered—the cavern in the 1990s and kept it mostly to himself. It wasn't until 2009 that British researchers Deb and Howard Limbert, investigating rumors of one cave larger than all the others, convinced Ho Khanh to show them the way. The Limberts worked with locals to form a guide service to take backpackers inside.

When I arrive, I can see why Ho Khanh never thought to enter. Son Doong's entrance is a menacing cleft that blows the ferns and vegetation as it exhales damp air.

We spend four days inside, scrambling through chambers that have never seen sunlight, hiking past funhouse water formations and stalagmites the size of office buildings. We clip into guide wires and cross a teetering bridge over Rao Thuong, the river at the heart of the cave system.

Wires and ropes provide safe passage across several of the cave's rivers.

Our porters in sandals jog past the sections we scramble, beating us by hours to set up camp in sand beside the river. By the time we arrive, the tents are positioned at the perfect angle to watch a skylight sunset. Eerie shades of purple mute the cave walls and pocket forests while we change out of wet layers. About the time I'm dry, the pork is sizzling and the lead guide Bambu

slams a local Huda beer into my hand.Cynics say there's nothing new under the sun. But as Son Doong proves, there's still plenty to be discovered where the sun can't reach.

Trip Planner: Getting There From Hanoi, a 12-hour sleeper bus or train gets you to Phong Nha. Season February to August (rivers become impassible afterward) Guide Six-day tours of Son Doong are extremely limited; book a year or more in advance. Oxalis is the only outfitter allowed in the cavern. Full-service trips cost $3,000.Total cost $4,000 (includes flight from Los Angeles, ground transportation, and lodging)

CAN THIS BE OUR NEXT FUN TRIP?

Mexican cavefish with a scarred heart
November 20, 2018

BE SURE TO GO TO THE WEBSITE TO SEE MORE PHOTOS.

Source: Cell Press

https://www.sciencedaily.com/releases/2018/11/181120125947.htm

Scientists are studying a guppy-sized, blind, translucent fish that lives in the cave systems of northern Mexico to figure out why some animals can regenerate their hearts, while others just scar. Their research appears November 20 in the journal Cell Reports.

"Millions of years ago, some surface fish living in rivers flooded into caves, became trapped when river levels retreated, and lost their eyes and pigment to adapt to cave life," says co-senior author Mathilda Mommersteeg, developmental scientist at the University of Oxford. "We have discovered that, like zebrafish, the river surface fish regenerate their heart, while some cavefish cannot and form a permanent scar. We introduce the Mexican cavefish as a new model for heart regeneration research."

Mommersteeg and her team bred both surface and cavefish in the laboratory, performing surgery on some fish to remove a piece of their hearts. After surgery, surface fish slowly regenerated the missing tissue, while cavefish developed a scar. When they cross-bred the cavefish with surface fish and performed the surgery, their offspring showed differing levels of regeneration, indicating that the ability to regenerate heart tissue is heritable in these fish.

They tested the regenerative role of lrrc10, a mysterious gene unique to heart muscle that the fish shares with mice and humans, using knockout models and quantitative trait locus analysis. They found that lrrc10 and three DNA segments may play a role in heart regeneration.

"Quantitative trait locus analysis is a method that has allowed us to find out what part of all the surface fish DNA is most crucial for heart regeneration," says co-senior author Yoshiyuki Yamamoto, developmental biologist at University College London. "We have identified three regions in the DNA that contain genes that make the difference between regeneration or scarring after heart injury."

The researchers next want to find out which genes in the regions they've identified are the key regulators of heart regeneration.

"The next step is to find out what the reason is that surface fish can regenerate their hearts, but cavefish cannot," says Mommersteeg. "What is it that happened during their adaptation to cave life that stopped them from regenerating their hearts?"

New research reveals plant wonderland inside China's caves

February 7, 2018

Source: Royal Botanic Gardens Kew

https://www.sciencedaily.com/releases/2018/02/180207151850.htm

Summary: Over five years (2009-2014) researchers have delved into the depths of some of China's most unexplored and unknown caves in the largest ever on cave floras. Surveying over 60 caves in the Guangxi, Guizhou and Yunnan regions, they were able to assess the vascular plant diversity of cave flora in more detail than ever before.

Yangzi cave, Guangxi, China. The cave entrance is approximately 70 m wide, 15 m high and the depth of the entrance cavern supporting vascular plants 170 m. This cave is type locality for 8 vascular plant species.

Over five years (2009-2014) the researchers delved into the depths of some of China's most unexplored and unknown caves in the largest ever study on cave floras. Surveying over 60 caves in the Guangxi, Guizhou and Yunnan regions, Kew's Alex Monro and his colleagues from Guangxi were able to assess the vascular plant diversity of cave flora in more detail than ever before.

From the 1950's to the 1970's, forests in SW China was virtually wiped out due to the demand for charcoal associated with rapid industrialisation during China's Great Leap Forward and the Cultural Revolution. This study documents 31 species known only from caves, leading the team to speculate that cave populations are all that remain of species which once grew in the 'understory' (the layer of vegetation between the forest canopy and the ground), which has been wiped out by recent deforestation. This discovery makes these caves and their flora significant and valuable for species conservation in South West China.

Lead researcher Alexandre Monro, at Royal Botanic Gardens, Kew says; "This collaboration with the Guangxi institute of Botany in China is a first attempt to document the presence of vascular plants in caves in Southeast Asia. Before we started we had no idea of the diversity of plants in caves, or that so many species are known only from caves. We hope that this work will lead to a greater interest in caves amongst botanists, and also to a greater interest in plants amongst cave biologists, prompting more study of cave-rich landscapes in Southeast Asia."

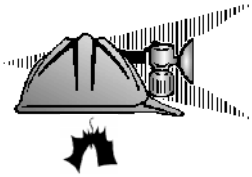
Over the course of the study, 418 species of vascular plants were recorded, with 7% of these species being endemic to caves and 37% of the species endemic to China. Once all caves have been samples in the region, the real figure is likely to be between 500 and 850 species, based on modelling conducted by this team.

The other conclusion of the study is that the twilight zones in caves can be considered distinct biomes for plants based on a combination of constant and a seasonal climate, as well as very low light. The authors document plants growing in some of the lowest light levels recorded for vascular plants, suggesting a broad range of plants can photosynthesise at much lower light levels than originally thought.

Whilst exploring the entrance caverns, the team observed that almost half of the caves sampled were impacted by tourism or agriculture, with tourism being the more frequent and impactful.

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 December meeting will be Friday, January 11, 2019 At John Talbot's.



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