CENTRAL
OKLAHOMA
GROTTO
OF THE NATIONAL
SPELEOLOGICAL SOCIETY,INC

C.O.G.nizance

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Google Meet
Friday, October 13, 2023
At 8:00 central time
Becky will send you an invitation

See you Friday evening online.

ANNOUNCEMENTS

*No trips planned at the present time.

*Next meeting is October 13, 2023 on Google Meet.

MINUTES

CENTRAL OKLAHOMA GROTTO MEETING, SEPTEMBER 8, 2023

In attendance: Dale Amlee, Sue Bozeman, Levi Carter, Becky Hunsinger—virtual meeting facilitator, John Talbot, Lil Town, Jon and Kelley Woltz, and Steve Beleu.
Presiding: His Majesty Dale Amlee
Start time: 8:11

OLD BUSINESS – nothing, no caving this summer.

NEW BUSINESS –
1. Becky told us about being contacted by a Missouri caver who would like to attend a meeting. He wants to know where one specific cave is in or near a "Colman's [sp?] Bluff" that his dad knew. He called into the meeting. Since its location is in eastern Oklahoma we thought it best to refer him to the Tulsa Grotto.
2. We discussed "cave houses" that can be rented, such as the Hobbit Cave in Eureka Springs and other such dwellings – https://www.estreehouses.com/eurekaspringshobbit/caves.html
3. Levi showed us a caving backpack that he made! It's a wonderful accomplishment and a precise work of craftsmanship. He plans to make another soon.
4. Sue suggested that our three surveyors return to the area of Pearl Cave and search for other caves there. Sue would help the lead officer by contacting the landowner.

TREASURER'S REPORT – John Talbot delivered his report unto us.

Meeting ended 9:10

Report by S. Beleu, Secretary and Sergeant at Underarms

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

Wildlife Health Bulletin 2022-01
National Wildlife Health Center
Jonathan Sleeman, Center Director
January 31, 2022

Winter 2021/2022 Bat Submission Guidelines and Highlights of the 202/2021 White-Nose Syndrome Surveillance Season

Summary: The USGS National Wildlife Health Center has released updated guidance for bat diagnostic submissions for the 2021/2022 white-nose syndrome (WNS) surveillance season. During the 2020/2021 surveillance season, WNS was detected for the first time in Wyoming and Montana, increasing the number of states where WNS has been confirmed to 37.

Field testing of several vaccine candidates to prevent WNS in susceptible bat species is ongoing, and field vaccination has proven to be safe in WNS susceptible animals.

Updated guidance from the USGS National Wildlife Health Center (NWHC) is now available for bat diagnostic submissions for the 2021/2022 white-nose syndrome (WNS) surveillance season. These guidelines are posted on the NWHC WNS web page and replace all previous NWHC bat submission criteria.

TREASURER'S REPORT

OCTOBER 2023 TREASURERS'S REPORT

INCOME		**EXPENSES**
Dividends	$ 0.19	
TOTAL	**$ 0.19**	
CASH	$ 106.05	
CHECKING	$ 341.89	**PREPARED BY TREASURER JOHN TALBOT NSS #30254**
SAVINGS	$ 1,433.89	
TOTAL	**$ 1,881.88**	

11/10/2023

TRIP REPORTS

No Trip Reports this month

POTPOURI

Renowned diver dies while exploring deepest underwater cave in US, officials say

Mitchell Willetts
Fort Worth Star-Telegram
Tue, October 10, 2023 at 8:53 AM MDT
http://news.yahoo.com/renowned-diver dies-while-exploring-145300977.htmi

A renowned diver recently died while exploring an underwater cave system in Texas, believed to be the deepest of its kind in the United States, researchers say Brett Hemphill, of Florida, began his dive Oct. 4 at 10:45 a.m., friend and researcher Andrew Pitkin said in a social media post. He was last seen tying off a guide rope at a depth of about 570 feet, but the team he was with "became separated," and Hemphill "never returned from the dive."

Hemphill had been exploring and mapping aquatic caverns for more than two decades and served as president of Karst Underwater Research, a nonprofit organization dedicated to researching and protecting underwater ecosystems. *(Continued on page 3)*

He also set a record in 2013 while exploring Phantom Springs Cave in Texas, swimming nearly 8,000 feet into the cave at a depth of 465 feet, according to Karst.

"We worked with him a lot over the years and had a lot of adventures. I'll forever be grateful to have known him and called him a friend," Emmy-winning photographer Becky Kagan Schott said in a Facebook post. "Brett always pushed me but never in a bad way. I'm better because I knew him."

Phantom Springs is believed to be the deepest underwater cave in the country. Even 10 years after his record dive, the cave continued drawing Hemphill back.

It's not clear what went wrong on Hemphill's final dive, but fellow divers traveled thousands of miles to the cave to help, Pitkin said. His body was recovered Oct. 8.

In addition to being the deepest, Phantom Springs is among the longest, according to Texas A&M University.

"You have to swim horizontally for over a mile at an average depth of 30 feet before arriving at the spot where the cave passage begins to stairstep down, getting deeper and larger all the time," Tom Iliffe, a professor of marine biology, said in 2013.

How deep it goes is unknown.

"The cave water is significantly warmer than what would normally be expected for this area, thus suggesting this geothermally warmed water almost certainly originates from deep below the Earth's surface," Iliffe said.

Few are allowed to dive at Phantom Springs and permission is granted for research purposes.

Phantom Springs is near Balmorhea, roughly 110 miles southwest of Odessa.

Microplastics Found In Cave System Closed To Humans For 30 Years

https://www.iflscience.com/microplastics-found-in-cave-system-closed-to-humans-for-30-years70907

IFLSCIENCE

September 29, 2023

Author STEPHEN LUNTZ

Aquifers give much of the world their drinking water, but know almost nothing about how many microplastics they contain.

Saint Louis University students sample the Cliff Cave system near St. Louis, Missouri, where visitors are normally banned for microplastic debris.

Water and sediment in the Cliff Cave system, Missouri, are contaminated with microplastics, scientists studying student-collected samples have found.

Reports of microplastic contamination are depressingly common these days, even in the most remote places. What makes this finding exceptional, however, is that no one has been able to enter the system for three decades prior to the research being conducted. Our least-wanted products are reaching places we cannot.

Microplastics are technically defined as those smaller than 5.0 millimeters (0.2 inches) in diameter, with those too small to see posing the biggest problems. They are getting into our food supply, and those of other animals, with disastrous consequences.

Still, places humans cannot go might be expected to be safe. Science is all about testing expectations, however, and Dr Elizabeth Hasenmueller of St Louis University decided investigating the Cliff Cave system would be both a worthy project and good practice for her students.

"A lot of research has been focused on surface water setting," Hasenmueller said in a statement. "Microplastics research initially started in the ocean because of the highly visible problem of large plastic pollution in this environment." Since then, it has extended into surface freshwater systems, but the subsurface has been largely ignored.

Hasenmueller's team took samples throughout the cave system and found microplastics almost everywhere, but the greatest concentrations were near the entrance and in sediment.

"Part of the reason we picked Cliff Cave is because St. Louis County Parks regulates access to the cave," Hasenmueller said. "We knew if we found microplastics in the cave, it's not going to be because somebody has just hiked back into the cave and shed fibers from their clothing or left food wrappers."

Floods brought more – and more diverse – microplastics into the cave, carried on the excess water. In one case, a chip packet was found mixed up with flood debris like leaves and acorns. "We weren't sure what to expect with the dataset, but we found that the cave's main entrance is where there's a lot of microplastic debris, either from flood deposition or possibly

(Continued on page 4)

from microplastic particles suspended in the air being deposited near the opening of the cave," Hasenmueller said.

During baseflow the team counted 9.2 pieces of microplastic per liter (35 per gallon), but this jumped to 81.3/L during floods.

In a paper on their findings, the team notes that karst terrains, suited to forming caves; “May be particularly susceptible to microplastic pollution because the presence of large dissolution openings allows fast transport of water through the systems.” They note that 9 percent of the global population gets their water from karst aquifers.

Once the water recedes, the microplastics remain in the sediments in concentrations far higher than the water left behind; 843 pieces per kilogram (383 per pound)

Chip packets aside, the origins of the microplastics could not always be identified. However, the cave is close to residential areas, and previous research shows that population density around St Louis is the biggest determinant of local microplastic concentration.

"Individuals can avoid buying plastic materials like synthetic textiles used in clothing, but doing so presents challenges to everyday consumers,” Hasenmueller said. “On a larger scale, we, as a society, could move away from synthetic clothing, because a lot of the debris that we found in this cave was synthetic fibers from textiles. And, of course, reducing our overall plastic production and consumption would help as well."

The caves are home to animals such as bats and amphibians that play a crucial role in the external ecosystem, and microplastics could affect their breeding and survival rates.

Slimy, eyeless critter found stuck to cave stalagmites. See colorful new species

BY MOIRA RITTER
Miami Herald
SEPTEMBER 21, 2023 1:03 PM
http://www.miamiherald.com/news/nation-nation-world/world/article279598694.html

Two new species of leeches were discovered in the country of Georgia, a new study says. One species was found on cave stalagmites.

A minuscule creature clung to the side of a wet stalagmite in the dank depths of a cave in the country of Georgia. The eyeless creature couldn’t see as a human hand reached for it, plucking it from its comfortable position on the rock.

Scientists were exploring in western Georgia when they discovered unusual leeches deep within karst caves — and identified two new species. The new species of leeches are known as Dina imeretiensis and Dina samegreloensis, according to a study published Sept. 20 in the European Journal of Taxonomy. The discovery marks the third and fourth species of cave leech discovered in Georgia.

Researchers said both new species are differentiated from similar leeches by their large and distinctly shaped genitalia. Both species are also eyeless. D. imeretiensis is a medium-sized

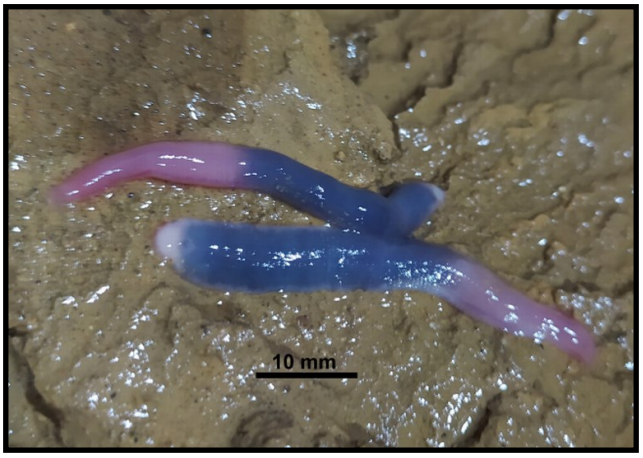
It is tri-colored, with a white tip that fades to dark blue which fades to a light pinkish purple color.

leech, measuring approximately 1.8 inches long and 0.28 inches wide, according to the study. It is tri-colored, with a white tip that fades to dark blue which fades to a light pinkish purple color. The creatures were found stuck to wet stalagmites in the dark zone of Prometheus Cave.

D. samegreloensis is smaller, measuring about 1.26 inches long and 0.24 inches wide, the study said. The slimy critter is pale pink when living, and when preserved is an unpatterned grayish color. The leeches were discovered beneath stones in an underground stream in Motena Cave.

Scientists said they named both species after the location where they were discovered.

Georgia is situated at the intersection of eastern Europe and western Asia. The country borders Russia, Azerbaijan, Armenia and Turkey.



The world's oldest shoes?
Sandals found in bat cave believed to be thousands of years old

NBC News
PATRICK SMITH
Updated September 29, 2023 at 1:56 PM
http://www.aol.com/wordlds-oldest-shoes-sandals-found-132237976.html

Sandals buried in a bat cave in southern Spain may be the oldest footwear ever discovered in Europe, scientists said this week, estimating that they could be up to 6,200 years old.

Baskets, tools and the sandals found in the 19th century at a hunter-gatherer burial site in the Cueva de los Murciélagos, or "cave of the bats," near the southern city of Granada, are much older than previously thought, a team examining the items said in an article in Science Advances journal on Wednesday.

The study used radiocarbon dating to date 76 items, including baskets and 22 sandals made from esparto, a kind of grass used in crafts across the Iberian Peninsula and North Africa for thousands of years.

The ancient humans crushed the grass to make twine to braid baskets, bags and sandals. The grass had to be dried for 20 to 30 days before it was rehydrated for 24 hours to make it pliable — a complex and skilled process.

Similar sandals found in Armenia are estimated to be 5,500 years old, while the shoes worn by "Ötzi the Iceman" — a prehistoric man found in Italy in 1991 — are dated to 5,300 years ago.

"The quality and technological complexity of the basketry makes us question the simplistic assumptions we have about human communities prior to the arrival of agriculture in southern Europe," the study's leader, Francisco Martínez Sevilla, said in a news release.

Martínez Sevilla, of Spain's University of Alcalá, added that the Cueva de los Murciélagos was a "unique site in Europe to study the organic materials of prehistoric populations."

The sandals have no laces, but some had a single braid fixed to the middle which could be tied around the wearer's ankle. Similar sandals from later periods found across Europe were made with other materials, not just grass.

"This sandal set therefore represents the earliest and widest-ranging assemblage of prehistoric footwear, both in the Iberian peninsula and in Europe, unparalleled at other latitudes," the study said.

While some of the sandals showed marks from being worn, others were unused and could have been made for the dead, the study said.

The cave once housed burial goods from a huge swath of early human history, some possibly 9,500 years old.

A team of 20 experts from different disciplines, including geologists and historians, worked on the ongoing project.

The cave's lack of humidity and its constant cooling wind made the items here the best preserved plant-based tools found in southern Europe. The same conditions have led to a huge number of important archaeological finds in the Middle East, particularly in caves around the Dead Sea.

The bat cave's treasures were discovered in the 19th century but the new study is the first to fully shed light on their age and importance.

Ceramic fragments, flakes of flint and quartz, a polished ax head, as well as ornamental boar's teeth and stone bracelets, were found at the site, most of which are now displayed in museums in Madrid and Granada. Questions persisted over the dating of the items until the first radiocarbon dating tests in the 1970s.

But scientists are more excited about the perishable, plant-based items, such as the sandals and baskets, which are rarely found in any condition.

"Plant material culture offers unique insights into the life of prehistoric societies. Lack of preservation has meant that perishable materials have not previously been extensively considered during archaeological research," the research team said in the article.

The hugely important finds almost didn't survive to be studied at all.

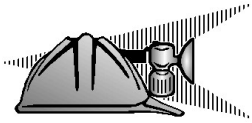
Miners entered the Cueva de los Murciélagos in 1857, before stumbling upon several partially mummified corpses. Much of the plant-based tools and baskets alongside them were burned and scattered around the site as a result of the mining, while the rest were given to people in the nearby village of Albuñol.

Ten years later, the archaeologist Manuel de Góngora y Martínez visited the cave and interviewed miners and villagers, preserving many items for future generations. The original location of the tools is forever lost, however, robbing archaeologists of crucial context. The human remains were not recovered.

"Despite the mining activity, this assemblage represents one of the oldest and best-preserved collections of hunter-gatherer basketry in southern Europe," the research team said in the article.

Central Oklahoma Grotto is a non-profit organization and a chapter of the NSS (National Speleological Society), 6001 Pulaski Pike, Huntsville, AL, 35810-1122 USA. Phone (256)852-1300. Dedicated to cave conservation and safety, C.O.G. publishes 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 an SASE with submission. All materials in this newsletter are 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

Friday
October 13, 2023
There will be a virtual meeting.
See you online!



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