CENTRAL
OKLAHOMA
GROTTO
OF THE NATIONAL
SPELEOLOGICAL SOCIETY,INC

C.O.G.nizance

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ANNOUNCEMENTS

*No trips planned at the present time.

***Next meeting may be February 14, 2025 at 8:00 pm central time on Google Meet. Becky will send out invitations.**

The National White-nose Syndrome Decontamination Protocol (March 2024) outlines procedures to effectively clean and disinfect clothing, footwear, and equipment that may have been exposed to *Pd*, and can help reduce the risk of human-assisted spread of the fungus. The recommendations are based on the best available evidence to date.

Key changes to the current update compared to October 2020 include the following:
- **Ethanol, Formula 409 and Hibiclens are removed from the approved disinfection product table.**
- **Isopropanol concentration is narrowed to 50-70%. In the previous protocol, >50% isopropanol was approved.**
- **The WNS management areas map is updated to reflect the current status of Pd and WNS occurrence in the US. Hawai'i, Alaska, and Puerto Rico are added to the map of management areas.**
- **Guidelines for movement of gear and when to decontaminate gear are stated in a bulleted list rather than a diagram.**
- **Additional information is provided regarding decontamination of mist-nets, harp traps and acoustic equipment.**

from https://www.whitenosesyndrome.org/mmedia-education/national-wns-decontamination-protocol-u-s

Bat White-Nose Syndrome (WNS)/Pd Surveillance Submission Guidelines
Winter 2023/2024 (November – May)

The following sample submission guidelines are for use when evaluating unusual bat morbidity or mortality during Winter 2023/2024 identified through either passive surveillance efforts (i.e.: public reporting, rabies lab submissions) or active surveillance efforts (i.e.: hibernacula surveys, spring trapping). They are meant to assist with prioritizing appropriate field samples for laboratory submission based on presence/absence of WNS clinical signs, geographic location, and prior knowledge of WNS/Pd status at a site. This document replaces all previous winter submission guidelines from the USGS-National Wildlife Health Center (NWHC).

BAT CONSERVATION TRUST
www.bats.org.uk/about-bats/threats-to-bats/white-nose-syndrome/overviewWhite-nose syndrome

(WNS) is the name used to describe a group of symptoms associated with the deaths of millions of bats in the USA (40 states) and Canada (eight provinces), according to figures from the US Fish and Wildlife Service. In some hibernation sites numbers have declined by 80-100% since 2006, when the condition was first identified.

The video Battle For Bats: Surviving White Nose Syndrome shows what is being done in the United States to mitigate the effects of WNS on bat populations.

MINUTES

CENTRAL OKLAHOMA GROTTO MEETING
JANUARY 10, 2025

In attendance: Dale Amlee, Sue Bozeman, Becky Hunsinger—virtual meeting facilitator, John Talbot, Dale and Carole Town, John, Tammy, and Andrew Van Dyke, Noan Zinn, Lil Town, Steve Beleu

Start time: 8:05

PRESIDING: Dale Amlee

OLD BUSINESS

Lead Officer for bat count John Van Dyke reported that he had not yet set the date for bat count but will soon after he e-mails the probable COG members who will do the counting. He also noted that he hasn't secured WNS test swabs yet but will attempt to do so before bat count.

NEW BUSINESS

Officers for 2025 (note that the NSS requires that all officers must be NSS members; all are) –

Jon Woltz, His Majesty

Dale Amlee, Prime Minister

John Talbot, Treasurer Emeritus

S. Beleu, records the minutes and keys them report by S. Beleu, Secretary and Sergeant at Underarms

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

Meeting ended 9:00

Report by S. Beleu, Secretary and Sergeant at Underarms

P.S. – this happened a few days ago before the 2/2/2025 date of these minutes: I affirmed that the Wild Cave Tour of Blanchard Springs Cavern is not being offered this spring of 2025.

TREASURER'S REPORT

JANUARY 2025 TREASURERS'S REPORT

	INCOME	EXPENSES
Dividends	$ 0.01	
TOTAL	**$ 0.01**	
CASH	$ 6.05	
CHECKING	$ 300.50	
SAVINGS	$ 1,234.79	
TOTAL	**$ 1,541.34**	

2/5/2025

PREPARED BY TREASURER JOHN TALBOT NSS #30254

TRIP REPORTS

Trip Report: SW Bat Count
February 1, 2925
Cavers: John , Andrew, J. T. and Vandyke

Of Abandonment, Old Friends, Traditions
John Vandyke

The morning of February 1st found us on the way to the caves of the SW. It looked to be Andrew, J.T., and me, with Tammy visiting her uncle for the day. We arrived at the "T" before 10, did our paperwork, and geared up for the excursion.

The walk to Resurgence was cool yet uneventful, except for one wrong detour. We

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took some temps and began a bit after 10:30. Part way into the cave we saw a light approaching from behind us. It turned out to be Noah, who I thought would not be able to attend (shame on me). He had not only caught up but had navigated the hike to the correct entrance - an impressive feat for only his second time there. Thinking I left him behind made me sad.

The trio now a quartet, we worked our way through the south end. We noticed more water but fewer bats, at least as memory served us. We took close looks at the bats but did not notice any signs of WNS, just a few extra mites here and there. This part complete, we trekked back and loaded into the Van Dyke mobile. Next stop, Train.

The normal path to the entrance to Train has gained a few more fallen fellows. In fact, it's now more like a tree maze you have to survive just to get to the cave mouth. Once inside we were treated to a most delicious find - two Long Ear Browns were among the residents, which included a handful of Myotis' and a Pip, errr, Tri-Color. Train was typically dry and it took more time to talk about and photograph the LEB's than it did to traverse the entire cave. After leaving and moving back to the vehicle, the general consensus was that this bat count was already a success. How long has it been since we've seen LEB's in Train?

Arriving at the north site we noticed the gate wide open and locked in that position. I began to text the owner to let him know when J.T. excitedly informed me that there was a 12-pack of beer, unopened, lying outside the fence. We decided on the nature-way and left them there.

The beginning of Glade/Homestead was disappointing - no bats in the small entrance to the left. Yet our disappointment soon faded as we began to realize that the bat population appeared to be more than previous years. No huge mats as in the decades of prior history, but lots of smaller mats, singles, doubles, etc., throughout the cave. We made our way through and just short of the Maternity Ward er noted new breakdown on the right side - more could happen fairly soon.

Count complete, we found ourselves outside in a typically sunny, warm (about 70 degrees) day in the SW. I offered Noah the opportunity to change at former sheriff Jim's, so he followed us to the McAden outpost. This was the way-station for so many counters and cavers but we've eschewed the stop in recent years. Another tradition renewed and a new member partaking. At least, so I thought.

We decided on Luigi's in Blair (yes, another tradition). I mentioned how we used to stop at Jim's and I told the family that Noah had now been introduced to it and to the colorful character who resides there. From the back, Andrew "That's my first time to change there also". Who knew?

Let's end the story simply - Luigi's was superb, as usual. Eat your hearts out.

POTPOURI

Did giant ice age beasts carve these vast caves in South America?

By Meghie Rodrigues

https://www.nature.com/articles/d41586-025-00216-x?utm_source=Live+Audience&utm_campaign=4972ef10a4-nature-briefing-daily0250128&utm_medium=email&utm_term=0_b27a691814-4972ef10a4-498999955

At age 75, Vadevino Alano keeps up a brisk pace as he strides through the forest on the way to the Armadillo's Den — a spectacular cave in southern Brazil. When he reaches the cave's opening, Alano is dwarfed by the size of the hole, which is big enough to accommodate a van.

Alano steps into the cave and enters a different world. The air is noticeably warmer and the cavern echoes loudly as Alano, who is a local guide, discusses the cave's history with Juliano Campos, an archaeologist at the University of the Extreme South of Santa Catarina (UNESC) in Criciúma, Brazil. According to local legend, the Armadillo's Den — known as Toca do Tatu in Portuguese — was a hiding place where Jesuit missionaries stored gold centuries ago. But the real treasure is more ancient and strange.

Palaeontologists have been amassing evidence to tease out which creatures were responsible and how they carved such huge burrows — the biggest known caves of their type in the world — from solid rock. But many questions

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remain about these enigmatic formations, says Campos.

The vast desert

Researchers call these caves giant palaeoburrows and most are concentrated in Brazil, with a few in Argentina, says Heinrich Frank, a retired geologist formerly at the Federal University of Rio Grande do Sul in Porto Alegre, Brazil. He founded the Palaeoburrows Project research group in the early 2000s to study these structures.

According to Francisco Buchmann, a palaeo-oceanographer at São Paulo State University in São Vicente, Brazil, the majority of the caves are found in a particular layer of sandstone called the Botucatu Formation. It dates to more than 100 million years ago, a time when the region was a large desert. “The Sahara is small compared to this one,” says Buchmann, who leads the Palaeoburrows Project with Frank.

Because of how those desert sands solidified, the Botucatu sandstone is soft enough to carve but not so soft that it falls apart too easily, says Maria Carolina Villaça Gomes, a physical geographer at the State University of Rio de Janeiro in Brazil.

Inside the Armadillo’s Den, the rock is covered with modern graffiti, which researchers can spot because its edges are much crisper than those of the inscriptions made by ancient human residents. Alano points to a zig-zag carving on the wall. “This line puzzled many explorers who came here in the past,” he says. “But what it most certainly shows is an ancient map of the Rocinha River that flows nearby,” because it depicts specific bends seen in the nearby canyons. “Past Indigenous groups could have used it to orient themselves in the region,” says Alano, a descendant of one of the Indigenous groups that could have left the inscription.

Just a few metres beyond the zig-zag line, the cave presents evidence of even older residents. The large scratches on the walls and ceiling have stunned palaeontologists and other scientists from across South America.

Frank and Buchmann were part of the first group to describe the Armadillo’s Den, and suggested in 2012 that it was carved by ancient megafauna1. It is an example of what palaeontologists refer to as an ichnofossil: tracks, tunnels and other marks left by ancient organisms.

Gone with a trace

The South American palaeoburrows might be the largest ichnofossils known so far, says Luis Buatois, an ichnologist at the University of Saskatchewan in Saskatoon, Canada.

In the field of ichnology, researchers assign genus and species names to specific ichnofossils. In a study of these caves, Buchmann, Frank and their colleagues divided the South American palaeoburrows into two types: Megaichnus minor and Megaichnus major2. The M. minor type includes tunnels with openings measuring 0.6–1.5 metres wide by 0.5–0.9 metres high, and a maximum length of 30 metres. The M. major type is massive: more than 2 m high by 4 m wide, with a length that can exceed 50 m.

The longest described so far is in Pará state in the Amazon region, with combined internal galleries some 1,500 metres long, says Buchmann.

According to Frank, there are between 1,500 and 2,000 of these structures in South America, but none on other continents, which baffles scientists. Caves of the M. major type have so far been found only in Brazil. Just a few of each type of cave have been described in detail, and they are hard to find because most — about 70% of the M. major ones — are filled with rubble. “We often find them when a company is doing some earth-moving work for construction,” Frank says.

Knowledge of these caves goes back more than a century, and researchers have long thought the giant palaeoburrows were archaeological structures left by people. But in 2001, Sergio Vizcaíno, head of the vertebrate palaeontology department at the La Plata Museum in Argentina and his colleagues proposed that the large palaeoburrows that have claw-like markings on the walls and roof could have been excavated by ground sloths belonging to

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the extinct genera Scelidotherium and Glossotherium3. The scratches are a match for these animals' claws, he and his colleagues argued.

One species, Glossotherium robustum, a South American sloth that lived between 4 million and 12,500 years ago, reached more than 3 metres in length and weighed up to 1,500 kilograms. A smaller species of sloth, Scelidotherium leptocephalum, inhabited South America between about 800,000 and 11,000 years ago. It is thought to have been about one metre long, weighing up to one tonne.

According to Richard Fariña, a palaeontologist at the University of the Republic Uruguay in Montevideo, the anatomy of these large ancient sloths suggests that they were efficient diggers.

Despite their size and strength, individual animals might not have carved each burrow, says Vizcaíno. He suggests that the caves might instead have been the work of several animals over time. "Palaeoburrows must be

He suggests that the caves might instead have been the work of several animals over time.

transgenerational, as the energy cost decreases when the work is done by many individuals," he says.

Why these animals would dig such large, long burrows is not clear, however. Néstor Toledo, a comparative anatomist at the La Plata Museum argues that giant prehistoric armadillos might have carved the smaller burrows to hide from predators, and giant sloths "could have started digging to protect themselves from a colder and drier climate" during ice ages. Ground sloths might also have used the caves to hide offspring from predators.

66-million-year-old vomit discovered by amateur fossil hunter in Denmark: "Truly an unusual find"

January 27, 2025 / 11:44 AM EST / CBS/AFP
https://www.cbsnews.com/news/prehistoric-vomit-found-denmark/

A piece of fossilized vomit, dating back to when dinosaurs roamed the earth, was discovered in Denmark, the Museum of East Zealand said on Monday.

A local amateur fossil hunter made the find on the Cliffs of Stevns, a UNESCO-listed site south of Copenhagen.

While out on a walk, Peter Bennicke found some unusual fragments, which turned out to be pieces of sea lily, in a piece of chalk.

He then took the fragments to a museum for examination, which dated the vomit to the end of the Cretaceous era some 66 million years ago.

According to experts, the vomit contains at least two species of sea lilies, likely eaten by a fish that threw up the parts it could not digest.

"This type of find... is considered very important when reconstructing past ecosystems because it provides important information about which animals were eaten by which," the museum said in a press release, which also included an image of the fossilized vomit.

A piece of fossilized vomit, dating back to when dinosaurs roamed the earth, has been discovered in Denmark, the Museum of East Zealand said on Monday.

Paleontologist Jesper Milan hailed the discovery as "truly an unusual find," adding it helped explain the relationships in the prehistoric food chain.

"Sea lilies are not a particularly nutritious diet, as they consist mainly of calcareous plates held together by a few soft parts," he said.

"But here is an animal, probably some kind of fish, that 66 million years ago ate sea lilies that lived at the bottom of the Cretaceous sea and regurgitated the skeletal parts."

According to UNESCO, the Cliffs of Stevns offers "exceptional evidence of the impact of the Chicxulub meteorite that crashed into the planet about 65 million years ago," which is widely believed to have caused the end of the age of the dinosaurs.

Researchers have studied ancient regurgitated remains before. Last November, scientists used fossilized feces and vomit samples from Poland to try to determine who was eating whom 200 million years ago, the Associated Press reported.

In 2018, researchers discovered fossilized vomit during an excavation in southeastern Utah, Live Science reported. In a study published in 2022 in the journal Palaios, those scientists reported finding remnants of salamanders and frogs in the vomit.

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!*

Friday
February 14, 2025
There will be a virtual meeting.
See you online!

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