



Volume 69 ♦ Number 09 ♦ September 2023 ♦ A monthly newsletter for and by the members of MAGS

# September Program

*Mineral Trip to South Africa*

*Jimmy McNeil*



My wife, Hisami, and I have been dealing minerals since 1979 and have met and befriended many customers and other mineral dealers. Sometimes a dealer will ask you to visit them in their country (or here in the USA) and go collecting, but seldom to go on

a buying trip with them. For some years a dealer friend had been asking us to visit him in South Africa and go with him on his buying trip.

Our friend, Paul Botha, is a long time, low key mineral dealer who *Continued, P. 3*

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## DULL GRAY? NOT SO DULL

One never knows what you will see when viewing minerals under long wave (LW, 365nm) or short wave (SW, 254nm) UV light!

A friend of mine used to say, "Why do you collect all these dull gray rocks?" Until he saw what they looked like in ultraviolet light ... then he went out and bought a couple



of UV lights! ... HA HA!

So here I have chosen three specimens because I like what I see.

The first example (Figure 1) is an encrustation of adamite crystals on limonite, from a mine in Mexico (Ojuela Mine, Mapimi, Mexico). There have been literally thousands of these *Continued, P. 4*

MIKE HOWARD

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

MAGS Rockhound News ♦ A monthly newsletter for and by the members of MAGS

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## MAGS AND FEDERATION NOTES

Memphis Archaeological and Geological Society,  
Memphis, Tennessee

The objectives of this society shall be as set out in the Charter of Incorporation issued by the State of Tennessee on September 29, 1958, as follows: for the purpose of promoting an active interest in the geological finds and data by scientific methods; to offer possible assistance to any archaeologist or geologist in the general area covered by the work and purposes of this society; to discourage commercialization of archaeology and work to its elimination and to assist in the younger members of the society; to publicize and create further public interest in the archaeological and geological field in the general area of the Mid-South and conduct means of displaying, publishing and conducting public forums for scientific and educational purposes.

MAGS Membership Meetings are at 7:00 P. M. on the second Friday of each month May-October, and 10:00 A.M. on Saturday after the second Friday November-April. The meetings are held in the Fellowship Hall of Shady Grove Presbyterian Church, 5530 Shady Grove Road, Memphis, Tennessee.

MAGS Website: [memphisgeology.org](http://memphisgeology.org)

MAGS Show Website: <https://earthwideopen.wixsite.com/rocks>



Please contribute articles or pictures on any subject of interest to rockhounds. The 20th of the month is the deadline for next month's issue. Send material to [lybanon@earthlink.net](mailto:lybanon@earthlink.net).

Go to <https://www.southeastfed.org/sfms-field-trips/dmc-field-trip-program> for the DMC field trip schedule and other information.

### Links to Federation News

- ➔ AFMS: [www.amfed.org/afms\\_news.htm](http://www.amfed.org/afms_news.htm)
- ➔ SFMS: <https://www.southeastfed.org/>



*Mineral Trip to South Africa* sells and collects only quality South Africa minerals. Paul had invited us many times to visit him, but we kept putting it off because of my job with the U.S. Army Corps of Engineers. We always saw Paul at the Tucson show and our shows in Japan. One night at dinner we surprised him by agreeing to visit next August (2017). We arrived at his house and the next morning we started our 5,000-mile journey.



Cerussite and diopside from the Tsumeb Mine.

We traveled through South Africa, Namibia, and Botswana, mostly on wide dirt roads. We vis-



Hematite included quartz. Orange River, Namibia.

### MAGS Labor Day Rock Sale

Monday, September 4, 9:00 am-2:00 pm

Lou White's, 3805 Melanie June Drive, Bartlett, Tennessee

From I-40: north on Whitten/Kirby Whitten, left on St.

Elmo's, right on Melanie June.

- Rocks and minerals
- Fossils, geodes, petrified wood
- Jewelry and beads
- Open to Members and public
- Bring your tables and chairs
- Bring your drinks and snacks

ited local mineral collectors, miners, dealers, and museums. We traveled up the diamond coast highway where you aren't allowed to get off the highway but a few feet in case of car trouble.



Cerussite from the Tsumeb Mine.

In Namibia we visited the town of Tsumeb where the world famous Tsumeb mine is located; however, we were not allowed to visit the mine. The mine has produced some of the world's most beautiful minerals.

It was three weeks through a beautiful, often desolate land with friendly people, good food, and wonderful minerals. ♦

### A Good Day Hunting



MAGSter David New's daughter Abby found this Pickwick type point (Middle to Late Archaic, 6,000-3,500 B.P., <http://www.projectilepoints.net/Points/Pickwick.html>) in a creek in Marshall County, Mississippi. Later that day the family found several more. See the pictures on P. 5. It was a good day of artifact hunting.

*Dull Gray? Not So Dull*  
Continued from P. 1

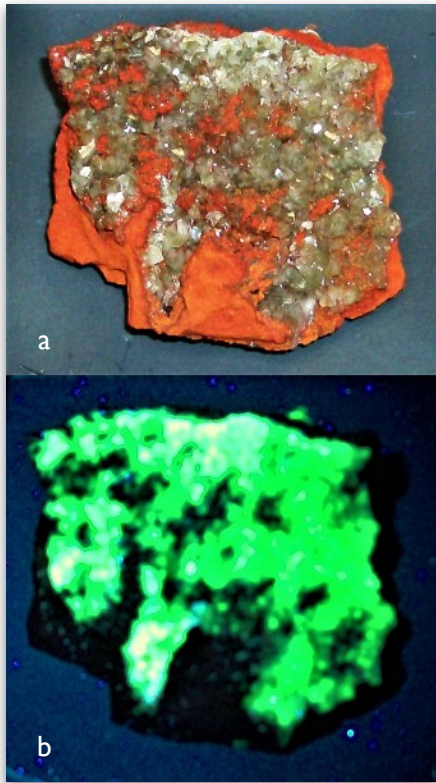


Figure 1. Adamite, Ojuela Mine, Mapimi, Mexico

specimens available for many years from this mine, and as nice as they are as a regular mineral specimen (Fig. 1a), you only need to see it in LW UV (Fig 1b) to know it is something special. If you have a LW lamp, even a cheap one, and this specimen, check it out!

The second specimen (Figure 2) is a calcite marble from the Long Lake Zinc Mine in Ontario, Canada. In natural light (Fig. 2a), it is just a white to cream colored crystalline marble, but in SW UV (Fig. 2b) it shows a thin veinlet of aragonite fluorescing a brilliant blue-white. The local collectors call this type of specimen displaying a “lightning bolt”! The specimen also contains other spots of

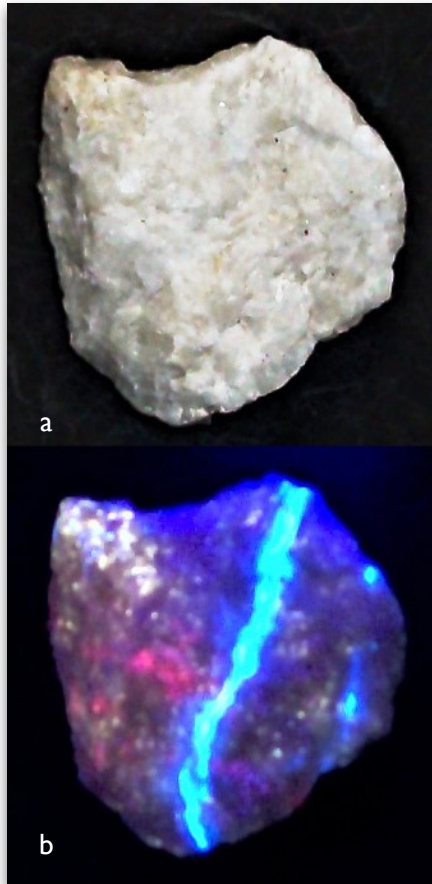


Figure 2. Aragonite (lightning bolts) with Calcite matrix, Long Lake Zn Mine, Ontario, Canada, FOV=2.4 in. minerals that fluoresce blue, yellow and red! This is truly one of my friend’s “dull gray rocks”. HA HA!

The final specimen (Figure 3) is an example of austinite from its type locality of the Gold Hill Mine, Toole County, Utah. Magnification in the three pictures is 10X. These pictures were taken with my Chinese USB LED microscope. The first picture is in natural light (Fig. 3a), the second in LW 365nm (Fig. 3b), and the third picture is in SW 254nm (Fig. 3c). Many minerals fluoresce in either LW or SW, but some, like this specimen, display a different color response, depending on

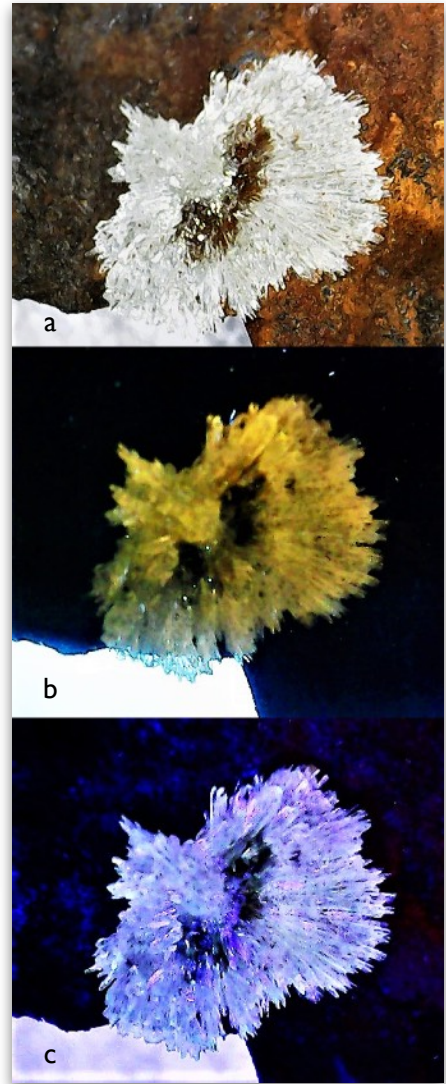


Figure 3. Austinite, Gold Hill Mine (TL), Tooele Co., Utah, 10X which wavelength is hitting it.

After selling my collection in 2019, I started collecting fluorescent minerals, and now have over 600 in my collection. I try to take representative photos of every specimen, in both natural and UV light.





## A Good Day Hunting, More Photos

*Continued from P. 3*



Pickwick type projectile points found in Marshall County, Mississippi, by David New and his daughters.



## Fabulous Tennessee Fossils

*Dr. Michael A. Gibson,  
University of Tennessee at Martin*

### FTF 103

New Age Date for the Coon Creek Formation



Just how old is the Late Cretaceous Coon Creek Formation? This is a tough question to answer because the sediments that were deposited on what is called the Coon Creek Formation (CCF) were deposited over a period of time as the global sea level rose, stalled, and then began to drop. So, the absolute age will vary depending upon where, geographically, you are looking at the Coon Creek sediments, and at what stratigraphic horizon within the formation you are looking. Thus, we know that the CCF is a “time-transgressive” sedimentary unit, which most geologic formations are to varying degrees. Still, we can determine the “age” of a deposit within certain limitations as long as the needed ingredients are present. You will recall from your basic geology learning that geolo-

gists use both “relative” and “absolute” dating methods. Relative dating places sediments or events within a historical chronological sequence, without reference to any absolute number of years. Absolute dating attempts to use various methods to assign numerical age values to these same events or geologic materials. What absolute dating techniques are used depends upon the geologic materials. Where radioisotopes are available, then radiometric dating is commonly employed. Sedimentary materials often use a method that is referred to as biochronology (a branch of the subsistence biostratigraphy)—using fossils to identify the time range represented by sediments. For a refresher on biostratigraphy, please refer back to FTF 17-21. Basically, we use the presence of specific fossil taxa to

indicate age. This can be done because the absolute age ranges of these taxa have been determined with a high degree of accuracy globally using other methods and are proven to be reliable.

Over the past 150 years, both microfossils and invertebrate macrofossils have been utilized for stratigraphic correlation and age determination of sediments from the CCF within the Mississippi Embayment and correlated to other areas of the Gulf and Atlantic Coastal Plain. All studies agree that the CCF was deposited in the Late Cretaceous period of time. Geologic periods are subdivided into smaller subdivisions called epochs and even smaller subdivisions called stages or ages. Stage/age dates for the CCF studied in West Tennessee and North

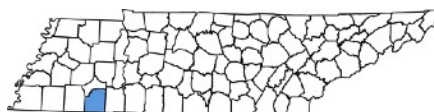
*Continued, P. 6*

*Fabulous Tennessee Fossils* Mississippi range from as old as Campanian Stage to the Early Maastrichtian Stage. As pointed out before, most stratigraphers recognize the time transgressive nature of the CCF sediments, which become younger to the south (reinforcing a regressive—sea level drop—character to the deposit). So, what is the exact age of the type-locality of the CCF along Coon Creek in Tennessee?

To answer this question, a new team of paleontologists that study many different groups of microfossils was assembled to apply the newest techniques to address the question: How old is the Coon Creek Formation at the Type Locality? Direct radiometric dating is not possible on CCF sediments, so we need to use a different method, in this case, “biochronology”. As you will recall from FTF 17-21, the best fossil organisms to use for this type of question are pelagic microfossils that are not restricted by environment, readily identifiable, with rapid evolutionary histories. So, our team of experts included the study of several groups simultaneously: calcareous nannofossils, foraminifera, plant palynomorphs and dinoflagellates, and ostracods. The study team consists of Jean M. Self-Trail and Kristina F. Gardner from the U.S. Geological Survey, Jennifer O’Keefe and M. Maeve McCarty from Morehead State University in Kentucky, Patricia H. Mason from the University of North Carolina, Wilmington, Mark Puckett from the University of Southern Mississippi, and me from the University of

Tennessee at Martin.

Here is what we found - all microfossil groups place the CCF sediments at the type locality in McNairy County within the late Campanian Stage (83.5 million years ago to 72.17 million years ago). So, for the CCF at the type, a Maastrichtian date is now ruled out; the CCF is Campanian in age. However, we also found a slight discrepancy between the absolute ages of the calcareous nannofossil and palynomorphs. Palynomorphs suggest the CCF sediments are between 74-78 million years old, but the calcareous nannoplankton fossils indicate a narrower range of 76-76.8 million-year-old date (this is using the most current version of the geologic time scale from 2020). Knowing that palynomorphs can be transported into the depositional setting, the wider range of dates for them is not too surprising. The “nanos” seem to provide a better age constraint. Thus, this new work places the CCF at its type locality to be somewhere within the range of 76.0-76.8 million years old. Most of the previous written literature used a 72-73 million year date for the CCF, so it appears that the CCF at our site is a couple of million years older than we originally thought. We will be updating these displays and information sheets in the coming weeks! The fossils from this study are also providing insight into the paleoenvironment of the CCF at the site, which will be the subject of future articles in this series.



### Some Original “Pink”

W.C. McDaniel

Hey, Mattel and Barbie. You don’t have dibs on pink. Long before the first Barbie Car rolled off the assembly line, nature, time, and history were producing and putting on a pretty good pink show of their own. Pink flowers are abundant and gorgeous, but I will leave them to the flower folks and look at the rock version of the pink show. Pink rocks are not necessarily widespread, but they are popular and darn good looking. Here are some of the better-known pink rocks that I have in my collection:



**Rose Quartz:** The most well-known and abundant pink rock, rose quartz has many attributes beyond its pink color. Brazil, *Continued, P. 8*



# Iceland



# Land of Fire and Ice

## Letting Off Steam

Matthew Lybanon, Editor



The Mid-Atlantic Ridge is a mid-ocean ridge located at the bottom of the Atlantic Ocean that stretches approximately 16,000 km from north to south. Mid-ocean ridges are large central rift valleys surrounded by mountain ranges created by tectonic forces along divergent plate boundaries. Divergent plate boundaries exist between plates that are spreading apart. This occurs due to convection currents in the mantle rising and impacting beneath the lithosphere before spreading out and dragging plates along with them.

The Mid-Atlantic Ridge separates the Eurasian, North American, and African plates, and extends from Greenland all the way south before splitting at the Bou-

vet Triple Junction (a plate boundary that separates the South American, African, and Antarctic plates). The Mid-Atlantic Ridge also comes out of the Atlantic Ocean and extends through Iceland.

The west of Iceland sits on the North American plate and the east sits on the Eurasian plate. This means that Iceland is slowly being ripped apart by the forces of nature. As Iceland sits on a constant source of friction with the movement of two major tectonic plates beneath it, volcanism (any of various processes and phenomena associated with the surficial discharge of molten rock) is a major part of the landscape.

There are locations of visibly obvious volcanic activity across the whole of Iceland including countless hot springs such as Haukadalur valley with the magnificent geysers (e.g. Strokkur) within Iceland's famous Golden Circle, and Deildartunguhver which feeds the stunning Krauma spa in West Iceland.



Iceland's geothermal water is more than simply a tourist attraction. Largely because of it, Iceland is the only country in the world that can claim to obtain 100% of its electricity and heat from renewable sources.

The following explanation of the geology of Iceland's geothermal water comes from a sign at one of the sites:

**“Cold ground water seeps down to magma intrusions where it is heated and transformed into steam, and then comes back to the surface. Along with the steam comes fumarole gas [Fumaroles are openings in the Earth's surface that emit steam and volcanic gases, such as sulfur dioxide and carbon dioxide.], which contains sulphur which is responsible for the hot spring smell most people know. In hot spring areas; sulphur deposits are formed when fumarole gas mixes with air. Besides the sulphur deposits, a mixture of silica and gypsum forms around the fumaroles. In mud pots, fumarole gas rises through surface water, producing sulphuric acid, which makes the water acid. Rock and soil dissolve in this acid water, producing the mud which is typical of mud pots and their surroundings.”**



*Continued, P. 8*

## Letting Off Steam Continued from P. 7



There is no national grid in Iceland—harnessing the energy comes via the remarkably simple method of sticking a drill in the ground near one of the country's 600 hot spring areas, and using the steam that is released to turn the turbines and pump up water that is then piped to nearby settlements.

Geothermal water is used to heat around 90% of Iceland's homes (the other 10% get their heat from electricity generated either using steam from that water or hydropower), and keeps pavements and car parks (American translation: parking lots) snow-free in the winter. The geothermal fields provide about 20% of the country's electricity needs (the glaciers and rivers of the interior of the country are harnessed to generate the rest through hydropower). These underground fields also provide Icelanders with an almost limitless and inexpensive supply of natural hot water. Hot water from the springs is cooled and pumped from boreholes that vary between 200 and 2,000m straight into the taps of nearby homes, negating the need for hot water heating. It's also purified and cooled to provide cold drinking water.

There is a small risk of “hu-

man-induced seismicity” as a result of injecting water into the ground to help facilitate heat extraction. This is carefully monitored. As an example, the Hellisheiði power plant has been producing energy for the capital area for almost 30 years. A large amount of water is regularly pumped back into the earth from the geothermal system after it's been used in the plant. Changes in re-injection have caused small seismic activity in the past. About ten earthquakes of magnitude 2 and over were detected in the area one night a few years ago. The largest of the quakes measured 3.3. Most of the induced earthquakes in Iceland are of low magnitude, often too small to be felt by humans. Iceland experiences experiences 70-100 earthquakes per day, mostly as a result of natural processes (and mostly small).



This video (good one!), <https://www.youtube.com/watch?v=eWkh-pWRRpVo>, gives a good overview of geothermal energy in Iceland. The photo just above shows the type of geothermal radiator used in houses, hotels, and other buildings to provide heat.

All this is important, but Icelanders are like other people. They want to have fun. They (and tourists) also use geothermal water for recreation. The photo at the top of this article shows someone many of you know enjoying the

water of the lagoon at Mývatn Nature Baths in Northeast Iceland, about 105 km south of the Arctic Circle. Patrons can get beverages at a swim-up bar. Another option is a steam bath in natural, geothermal steam rising through vents in the floor. You can rent towels and bathrobes, or bring your own.

The water supplies for the lagoon run straight from the National Power Company's bore hole in Bjarnarflag. The water has a temperature of about 130°C when it arrives at the huge basin beside the lagoon, itself forming an impressive, man-made hot spring. Altogether, the lagoon and the basin contain around 3.5 million liters of water at a temperature of 36-40°C.

Icelanders take advantage of their country's unique geology to affect their lives in a positive way. That's a good example for the rest of us.

*Some Original “Pink” Madagascar*  
*Continued from P. 6* and the United States produce the majority of the commercial rose quartz. It can serve as a yard rock or be shaped into a variety of polished specimens. Spheres, beads, towers, hearts and are commonly seen for sale. It is also relatively inexpensive.

**Rhodochrosite:** Most of the commercially produced rhodochrosite comes from the area around Capillitas, Argentina. Rhodochrosite is Argentina's national gemstone. Colorado officially named rhodochrosite as its state mineral in 2002. This pictured specimen (P. 9) was carved by

*Continued, P. 9*



# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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*Some Original "Pink"*  
*Continued from P. 8*

MAGS Member David Day



**Dolomite:** Most dolomite looks like limestone. The exceptions are the pearlescent, bright, salmon-pink Dolomite crystals from the well-known Arkansas locality of Black Rock. This specimen was collected in November of 2006. I just had to step out of my car and pick up this one. It was a triple mother lode of collecting that day, as they had dynamited two days before our club trip. Buckets and buckets were collected that day, most as pink as this one.



**Other pink rocks (not pictured):** Sapphire. Rhodonite. Star Ruby. Rubellite, and Tourmaline.

## Discount Sale Two Large Private Collections

• **Who is this for?**  
Exclusive invitation to rockhound

club members—you may invite family and friends to this sale.

- **When?**  
Saturday, Sept. 9 (10 AM to 4 PM)  
Sunday, Sept. 10 (11 AM to 4 PM)

- **Where?**  
At Alan Goldstein's home (drive-way sale), 1607 Washington Blvd., Louisville, KY 40242 (in Lyndon). Street parking along Washington Blvd. (like for a yard sale).

### Details about each collection:

**Steve Garza collection (ca. 1965–2016)—All specimens 50% off retail price.**

- ✓ Consists of worldwide locations—Canada, Mexico, and South America are well-represented.
- ✓ U.S.—many New England localities—especially closed/no longer accessible/reclaimed mines & road cuts in Connecticut, Rhode Island, Massachusetts, New Hampshire, and Maine. Almost every state across the U.S. is represented. Lots of great Corydon quarry minerals are available—Steve collected there regularly for nearly 20 years.

- ✓ Sizes: Micromount to Large Cabinet specimens

**Bob Robinson collection (ca. 1990–2010)—All specimens 1/3 off retail price.**

- ✓ Consists of minerals and fossils. U.S. localities plus Canada, Mexico, and Brazil. Several large fluorite specimens from Kentucky. Bulk material includes Kentucky & Indiana geodes, Corydon dolomite & calcite, and Arkansas quartz. The sale of this large collection began earlier this year at the Clement Mineral Museum

Show.

- ✓ Other bulk materials may be brought out.
- ✓ Sizes: Thumbnail to Large Cabinet specimens.

Thousands of specimens will be out—I only have room for a fraction of the million specimens in these collections.

### How to pay?

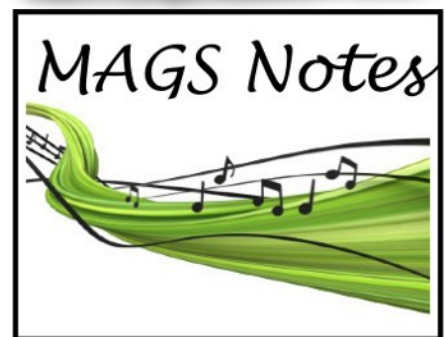
Cash, check, credit cards, & PayPal accepted.

**Bonifide retail dealers**—by-the-flat; greater discounts are available.

### Questions?

[deepskyspy@outlook.com](mailto:deepskyspy@outlook.com)

Regards,  
*Alan Goldstein*



### Adult Programs

September 8: Jimmy McNeil, Mineral Trip to South Africa

October 13: Lapping & learning

November 11: Josh Anderson, TBA

### Junior Programs

September 8: Painting ceramic tiles.

October 13: Puzzles night

November 11: TBA

*Continued, P. 10*

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

MAGS Rockhound News ◊ A monthly newsletter for and by the members of MAGS

## MAGS Notes

Continued from P. 9

### 🎵 Field Trips

September, Hot Springs

October, Geodes, Dale Hollow

November, Creek Collecting, TBA

**Schedules change. Contact field trip chair Jim Butchko for the latest information.**

### 🎵 September Birthdays

- 2 Eric Marbury
- 4 William Anderson
- 5 Emily Fox-Hill
- 7 Charlotte Uhrman
- 10 Gus Mitchell  
Alishia Parks
- 13 Wayne Fewell  
Sarah Taylor Stout
- 14 Jane Coop
- 16 Alex New
- 17 Jeremy Bowen
- 18 Cliff Caudle
- 19 Patricia Hewitt  
Shirley Hawkins
- 22 Christina Clapsadle
- 23 Park Noyes  
Ullis Gonzalez  
Mildred Schiff
- 26 Lucia Clarke
- 27 Shane Ashurst  
Leah Fryar
- 28 Elmer Stout  
Bonnie Cooper
- 29 Scott Ramin
- 30 Peyton Robinson

### July Board Minutes

Josh Anderson

Zoom Board Meeting called to order 6:30. Present: W.C. McDaniel, Christine McManus, Joshua Anderson, Nannett McDougal-Dykes, Melissa

## August Indoor Picnic and Rock Swap



Photo credits: Nannett McDougal-Dykes & W.C. McDaniel

Koontz, Jim Butchko, Carol and Matthew Lybanon, Bonnie Cooper

**Secretary:** Minutes submitted via email, presented to Board, and approved.

**New Business:** Behavior at Youth Program—expectations and discussion of incident occurring during June meeting. See youth program notes below.

**Treasurer:** Approved by Board.

**Membership:** No new Members.

**Field Trips:** July 22, Metal Museum, 20-25 signed up; will pay at door. August 12, Crow Creek. September, Hot Springs, Jim needs a volunteer to lead. October, Geodes, Dale Hollow. November, Creek Collecting, TBA.

**Youth Programs:** June, Note: Jewelry Making Incident; child behavior problem during youth program. Child rude and refusing to participate. Incident discussed and handled. Will be addressed in July at club meeting. Sign in sheet for juniors will result from discussion by Board as a measure to identify children exhibiting behavior problems for accountability. July, World tour of archaeological sites August, Rock Swap. Sept, Paint idea dis-

cussed.

**Library:** Additional discussion of behavior issues and involvement in solution. Two new books—children's section.

**Newsletter:** Please email youth and adult activity pictures and stories.

**Rock Swaps:** August Membership Meeting, pot luck. September, Labor Day Rock Swap/Sale, Lou White.

**Adult Programs:** July, Metal Museum. August, Midsummer Night Rock Swap. Sept, Jimmy McNeil, TBA. Oct, Lapping and learning w/ MAGS. Nov, Josh Anderson, TBA.

**Show:** Reviewed reducing footprint options for 2024 show. Quote requests and options discussed briefly by Board. Will have discussion at July club meeting with options.

**Old Business:** Instagram—Tabled discussion. Will send out email to club.

#### Website:

1. Discussed domain issue with former webmaster.
2. New website under new name proposed.

Continued, P. 11



July Board Minutes 3. Wix again  
Continued from P. 10 discussed as a  
solution.  
4. Issue tabled for further discussion.  
Adjourned 7:22.

## Elephant Graveyard ... In Florida

Matthew Lybanon, Editor

Florida didn't begin to emerge from the ocean until 30 million years ago, and it is largely surrounded by water. Yet (according to the Florida Museum of Natural History) it has the richest fossil record of vertebrate animals in the eastern United States.

Montbrook is a Florida ghost town (Montbrook Army Air Field, was a World War II U.S. Army Air Forces airfield, but now only a few buildings of the former town remain). It's close to Williston, about 20 miles southwest of Gainesville.

Montbrook lives on as the Montbrook Fossil Dig, About 5 to 5.5 million years ago (latest Miocene-earliest Pliocene) the area of the Montbrook fossil dig site was a freshwater ecosystem teeming with fish, amphibians, snakes, turtles, alligators, and water birds. Montbrook is the first late Hemphillian (Hemphillian North American Land Mammal Age-NALMA, 10,300,000 to 4,900,000 years BP) site found in north Florida.



In the spring of 2022 Dean Warner, a retired chemistry teacher and Montbrook volunteer, made a discovery. "I started coming upon one after another of toe and ankle bones. As I continued to dig, what turned out to be the ulna and radius started to be uncovered. We all knew that something special had been found."

It was a gomphothere (extinct relative of elephants) skeleton. About 5.5 million years ago, several gomphotheres died in or near a river (which no longer exists). Although their deaths likely occurred hundreds of years apart, their bodies were all deposited in a single location.

According to Rachel Narducci, collection manager of vertebrate paleontology at the Florida Museum, "Modern elephants travel in herds and can be very protective of their young, but I don't think this was a situation in which they all died at once. It seems like members of one or multiple herds got stuck in this one spot at different times."

Within a few days of Warner's



discovery, it became clear there was not just one but several complete skeletons, including one adult and at least seven juveniles. Jonathan Bloch, curator of vertebrate paleontology at the Florida Museum and leader of the dig, estimates the adult was eight feet tall at the shoulders. With the tusks included, the skull measures over nine feet in length.

Over the last seven years, paleontologists working at Montbrook have discovered the oldest deer in North America, the oldest known skull of a smilodontine sabertoothed cat, and a new species of extinct heron. Over 70,000 specimens have been collected by the Florida Museum and volunteers.

Despite the diversity of fossils at Montbrook, most of these animals were interred after being transported by running water, and their remains are rarely found intact. The discovery of several complete gomphotheres was entirely unexpected.



# MAGS At A Glance

## September 2023

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28	29	30	31 Zoom Board Meeting, 6:30 pm	1	2
3 MAGS Labor Day Rock Sale, Lou White's residence, 9:00 am-2:00 pm	4	5	6	7	8 Membership Meeting, "Mineral Trip to South Africa," 7:00 pm	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23  DMC Field Trip
24	25	26	27	28	29	30

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