



Volume 65 ♦ Number 02 ♦ February 2019 ♦ A monthly newsletter for and by the members of MAGS

Bones, Then and Now

Text and Photo by Jane Coop

February Adult Program



Who were the first humans to recognize the existence of dinosaurs and how do we know?

What were the Bone Wars of the mid-1800s and whose side would you be on?

What was missing from Darwin's evolutionary theory that dinosaurs helped prove?

Get the answers to these questions and more during the February

program next Membership Meeting where you learn about the early paleontologists—the curious, the eccentric, and the obsessed.

February's program will be a short history of man's important dinosaur discoveries with emphasis on the adventurous aspects of finding dinosaur bones. Early bone hunters had the U. S. Cavalry
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HOW ARE MOUNTAINS FORMED?

During the February MAGS Youth meeting, we will be talking about geological processes like folding, faulting and volcanoes. Mountains are some of the, most remarkable geologic features on earth. They tend to define the regions in which they are located. Earth's tectonic plates are continually moving. As two plates move against each

MIKE BALDWIN



FEBRUARY YOUTH PROGRAM

other, the crust is deformed, resulting in the formation of mountains.

We will be looking at four types of mountains:

1. Fold Mountains such as The Rockies.
2. Volcanic Mountains such as Mona Loa and Mona Kea in Hawaii.
3. Block Mountains such as the

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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 General Membership Meetings and MAGS Youth Meetings are held at 7:00 P. M. on the second Friday of every month, year round. The meetings are held in the Fellowship Hall of Shady Grove Presbyterian Church, 5530 Shady Grove Road, Memphis, Tennessee.

MAGS Website: memphisgeology.org

MAGS Show Website: www.theearthwideopen.com

We aren't kidding when we say this is a newsletter for and by the members of MAGS. An article with a byline was written by a MAGS Member, unless explicitly stated otherwise. If there is no byline, the article was written or compiled by the Editor. Please contribute articles or pictures on any subject of interest to rockhounds. If it interests you it probably interests others. The 15th of the month is the deadline for next month's issue. Send material to lybanon@earthlink.net.

February DMC Field Trip

WHERE: Stoney Bluff, Girard, GA

WHEN: Saturday, February 16, 9:00 A. M.

COLLECTING: Savannah River Agate

INFORMATION: Jim Maudsley, (706) 353-1792 or jamesm24@charter.net

Links to Federation News

- AFMS: www.amfed.org/afms_news.htm
- SFMS: www.amfed.org/sfms/
- DMC: www.amfed.org/sfms/dmc/dmc.htm

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

Bones, Then and Now escort them to dig sites because of outlaws and bandits. Learn about the challenges of transporting tons of fragile bone by horse, wagon, train, and boat.

The escorts are no longer needed. Dig sites are simply hot, gritty, and infested with cacti, snakes, and scorpions. When you see a bone being field-prepped for transport, you'll see why it is worth it.



2019 Show Grand Door Prize

2019 Show Update

- Dealer space is sold out.
- The SignUpGenius will premier in February so get ready to volunteer.
- We are in need of material for the Rockzone and Grab Bags, so start bringing that material to donate.
- If you run across some good buys of nonperishable, still good at show time items for

the hospitality and dealer bags please pick them up and save for later date.

- Help advertise and market the Show. We will have a new community focus marketing program.



Adult Programs

February: Jane Coop, "Bones, Then and Now"

March: Mike Howard, "Crater of Diamonds"

April: "2019 Show Preview"

Junior Programs

February: Mike Baldwin, "Mountain Building and Contour Map Reading"

March: Jane Coop, "What Are Fossils and How Do They Form?"

April: "2019 Show Preview" with the adults.

New Members

Elsie and Jason Bolton

Kelly and Jeremy Bowen

Rosie Crawford

Jennifer and Adam Featherston

Sendi Palmer

Elmer and Mary Katherine Stout

Want to Be a Member?

To become a MAGS Member, just go to our website at www.memphisgeology.org and print out an application form. There is a prorated fee schedule for new Members only. Mail the completed application along with the dues payment to the Membership Director shown on the form. If you are unable to print the application, you can pick one up at the sign-in desk at any of our Friday night Membership Meetings, or simply join at the meeting. Visitors are always welcome at our Membership Meetings but membership is required to attend our field trips.

The most important benefit of being a MAGS Member is getting to know and make friends with other members who have similar interest in rocks, minerals, fossils, and archaeology. All new Members will receive a New Member Packet, a MAGS ID card, and a monthly newsletter via email. Members are entitled to go on our monthly field trips and get free admission to our annual rock and mineral show.

February Birthdays

- 2 Peggy Davis
- 3 Bill Price
Lupe Suarez
- 4 Anne Pinkerton
Brooklyn Coulson
- 9 Vincent Mayer
- 12 Louis White
- 13 Emrys Carnahan
- 17 Gary Sherman
- 19 David Vaughn
- 20 Kim Hill
- 21 Bella Hill
- 26 Harrison Parks
- 27 Leigh Scott

How Are Mountains Formed?

Continued from P. 1

Grand Tetons.

4. Plateau Mountains such as the Catskills.

The youth will be conducting mountain building experiments during the meeting.

SFMS Federation Week

William Holland

June 9th, 2019–June 14th, 2019

A brief list of the workshops follows. For more information go to www.sfmshkshops.org.

- ✓ **Casting** with Bill Harr
- ✓ **Loop 'n Loop** with Chuck Bruce
- ✓ **Silver II–Fused** with Dale Koebnick
- ✓ **Metal Manipulation/Cold Connections** with Debora Mauser
- ✓ **Wire II–Bracelets Only** with Gene Sheridan
- ✓ **Silver Wear I and II** with Jan and Keith Stephens
- ✓ **Electro Etching/Wood Inlay** with Micah Kirby
- ✓ **Silver I** with Vickie Prillaman
- ✓ **Cabochons I** with Paul Roberts
- ✓ **Opals II–Carving** with Cheryl Kasper
- ✓ **Beading** with Dot Kasper

Fossil Cabin

Matthew Lybanon, Editor



The historic Fossil Cabin on U. S. Route 30/287 about five miles east of Medicine Bow, Carbon County, Wyoming, was built in 1932 as a roadside attraction on the Lincoln Highway. The cabin was built as part of a filling station by Thomas Boylan. It is listed in the National Register of Historic Places for being unique and for being directly related to the nation's first transcontinental highway. The cabin is widely recognized as the only building constructed of fossilized dinosaur bones in the United States, according to Nancy Weidel, author of the document nominating the site for the National Register of Historic Places.

Thomas Boylan was born in Humboldt County, California, in 1863. He arrived in Wyoming in 1892, working for sheep ranching operations until 1904, when he switched to cattle. Boylan filed for a homestead near Como Bluff in 1908, where extensive deposits of fossilized dinosaur bones had been discovered in the 1870s.

Thomas and Grace Boylan originally homesteaded near this site in 1908. Beginning about 1915, Thomas Boylan began collecting dinosaur bones from nearby Como Bluff, intending, eventually, to display a complete dinosaur skeleton to attract travelers to his gas station. His 5,796 bones weighed 102,116 pounds (46,319 kg). He didn't have the bones necessary

for a complete skeleton, so he decided instead to build a house with his fossil bones.

The Boylans lived in the stone house next to the Fossil Cabin and also operated a museum in their house until construction of the Fossil Cabin was finished. Postcards were printed for travelers to purchase from the museum in 1935-1936. Some of the captions read: "The strangest building in the world;" "World's oldest building;" and the "building that used to walk." The cabin was so popular and unusual it was featured in the *Ripley's Believe It or Not!* feature in newspapers nationwide.

Boylan died in 1947. Grace continued to operate the gas station until the 1960s, when the construction of I-80 caused a falloff in traffic on Route 30. Grace sold the property in 1974. The cabin has since been offered for sale. One potential buyer has proposed moving the cabin to North Carolina for display

References:

- Roberts, Phil. "The Builder of the 'World's Oldest Cabin,'" accessed 1/3/12 at http://uwacadweb.uwyo.edu/robertshistory/worlds_oldest_cabin_fossil.htm
- Weidel, Nancy. *Fossil Cabin National Register of Historic Places Nomination Form*, 1 Feb. 2008, Carbon County file. Cheyenne: Wyoming State Historic Preservation Office.

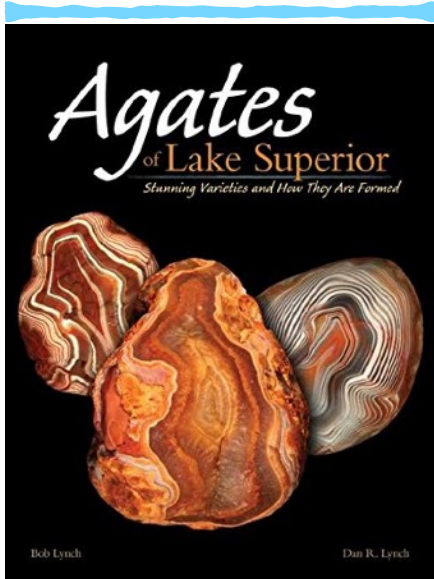
Continued, P. 5

Fossil Cabin

Continued from P. 4

- *Wyoming State Historic Preservation Office, National Register of Historic Places. "Fossil Cabin Near Medicine Bow, Wyoming." Accessed 12/14/11 at <http://wyoshpo.state.wy.us/NationalRegister/Site.aspx?ID=85>.*

Editor's Note: This article contains material from the Wyoming State Historical Society's website, WyoHistory.org, and Wikipedia.



Congratulations to Alan Parks for winning the early membership renewal prize, *Agates of Lake Superior*, written by Bob and Dan R. Lynch.

It's About Time

Matthew Lybanon

Geologists look into the "deep time" of Earth's early history (billions of years), just as astronomers look into the "deep space" of the outer universe (billions of light years). The geologic time scale organizes "deep time."

Articles in two recent issues gave a brief description of the geologic time scale and a mnemonic to help you remember all those names. An overview follows.

The geologic time scale divides Earth's history into intervals marked by distinct sets of fossils, and it places the boundaries of those intervals at times when those sets of fossils changed abruptly. The basic divisions are **eras**: the Paleozoic, the Mesozoic, and the Cenozoic.

The eras are subdivided into **periods**, usually named for the locality in which the formations representing them were first or best described, or for some distinguishing characteristic of the formations. The Paleogene and Neogene periods of the Cenozoic are exceptions; these Greek names mean "old origin" and "new origin," respectively.

Some periods are further subdivided into **epochs**, such as the Miocene, Pliocene, and Pleistocene epochs of the Neogene period. We live in the Holocene ("completely new") epoch of the Neogene period in the Cenozoic era.

Many of the major boundaries in the geologic time scale represent **mass extinctions**: short intervals during which a large proportion of the species simply disappeared from the fossil record, followed by the blossoming of many new species. These abrupt changes in faunal successions (the **principle of faunal succession** states that the sedimentary strata in an outcrop contain fossils in a definite sequence) were a great mystery to the geologists who dis-

covered them.

Darwin's theory of evolution explained how new species could evolve, but what had caused the mass extinctions? In some cases mass extinctions can be tied to catastrophic events (a large meteorite impact, for example). In other cases we're still not sure.

There is a related problem. Perhaps the most remarkable geological event in Earth's history, aside from the origin of life itself, was the sudden appearance of large animals with shells and skeletons at the end of Precambrian time (the Cambrian period is the first in the Paleozoic era).

This rapid development of new types of organisms from a common ancestor—what biologists call an **evolutionary radiation**—had such an extraordinary effect on the fossil record that its culmination 542 million years ago is used to mark the most profound boundary of the geologic time scale: the beginning of the Phanerozoic eon.

(Yet another of those words: eon. What's an eon? More below.)

This boundary also coincides with the start of the Paleozoic era and the Cambrian period. The radiation of animals during the early Cambrian, after almost a billion years of very slow evolution, was so fast that it is often called the **Cambrian explosion**. Every major animal group that exists on Earth today, as well as a few more that have since become extinct, appeared within less than 10 million years.

Back in the days of Charles Darwin, it wasn't

Continued, P. 6

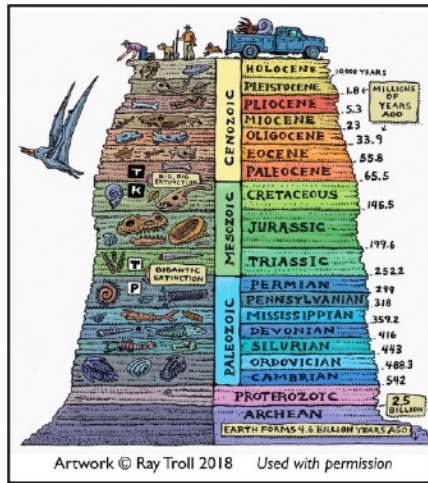
It's About Time clear whether
Continued from P. 5 the Cambrian
 explosion represented the origin of life itself. But the sudden appearance of complex and diverse animal fossils in the geologic record presented a challenge to Darwin's theory of natural selection. Less complex life forms should have occurred before the first animals, and the theory could not easily accommodate these complex creatures that apparently had no simpler ancestors.

Darwin hypothesized that the expected ancestors must be absent from the record because the rocks containing the Cambrian fossils must lie above an **unconformity** (the surface between two beds laid down with a time gap between them). He predicted that rocks from the time of the proposed unconformity would eventually be discovered, and that those rocks would contain the "missing" ancestors. And he was right.

To represent the rich history of the Precambrian, a division of the geologic time scale longer than the era, the **eon**, was introduced. Four eons, based on the isotopic ages (**isotopic dating** is the use of naturally occurring radioactive elements to determine the ages of rocks) of terrestrial rocks and meteorites, are now recognized.

The earliest eon is called the **Hadean** (from *Hades*, the Greek word for "hell"). It began with the formation of Earth 4.56 billion years ago and ended about 3.9 billion years ago.

Next is the **Archaean** eon (from *archaios*, Greek for "ancient"). Rocks of Archaean age range from 3.9 billion to 2.5 billion



years old. The first stable continental masses formed during the Archaean.

The last part of the Precambrian is the **Proterozoic** eon (from the Greek words *proteros* and *zoi*, meaning "earlier life"), which spans the time interval from 2.5 billion to 542 million years ago. Throughout the Proterozoic, organisms that produced oxygen as a waste product increased the amount of oxygen in the atmosphere.

The current eon (which includes the Paleozoic, Mesozoic, and Cenozoic eras) is the **Phanerozoic** eon. The name (from the Greek *phaneros* and *zoi*—"visible life") is appropriate because it comprises all three eras originally recognized in the fossil record.

Imagine compressing the 4.56 billion years of Earth history into a single year, starting with the formation of Earth on January 1 and ending at midnight on December 31. Within the first week, Earth was organized into core, mantle, and crust. The oldest zircon grain from the Jack Hills [the Australian site where the oldest known mineral grain yet discov-

ered in Earth's crust was found] crystallized on January 13. The first primitive organisms appeared in mid-March. By mid-June, stable continents had developed, and throughout the summer and early fall, the biological activity of evolving life increased the concentration of oxygen in the atmosphere. On November 18, at the beginning of the Cambrian period, complex organisms, including those with shells, appeared. On December 11, reptiles evolved, and late on Christmas Day, the dinosaurs became extinct. Modern humans, *Homo sapiens*, did not appear on the scene until 11:42 P. M. on New Year's Eve, and the most recent ice age did not end until 11:58 P. M. Three and a half seconds before midnight, Columbus landed on a West Indian island, and a couple of tenths of a second ago, you were born!

This article is adapted largely from material in J. Grotzinger and T. Jordan, *Understanding Earth*, Sixth Edition, W. H. Freeman and Company, 2010, ISBN-13: 978-1-4292-1951-8. The preceding paragraph is quoted directly from that book.

Jewelry Bench Tips by Brad Smith

PROTECTING FINISHED SURFACES

I figure that any accidental scratch I make on a piece means about 15 minutes of extra sanding and polishing. So after finishing major surfaces I typically cover them with some masking tape to avoid any scratches when doing final work like cleanups and setting of stones. The blue masking tape *Continued, P. 9*

Fabulous Tennessee Fossils

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

FTF 49**The Sponge *Cliona* & *Ichnotaxon Entobia***

When we think of a fossil, we are usually thinking of shell, bone, wood, leaves, teeth, or some other “hard part” of an organism that lived, died, was buried, and with luck, endured various types of preservation processes to become fossilized. The definition of fossil is actually a little broader than the actual remains of an organism; it includes molecular fossils (kerogen, oil, blood, DNA, urine, etc.) and a category of fossils paleontologists call “trace fossils”. Trace fossils are the tracks, trails, footprints, bite marks, scratch marks, drill holes, etc. made by ancient organisms. They represent behaviors of organisms. Skeletal features do not have to be present to classify a fossil as a trace fossil. Actually, we do not need to know the trace-maker to get value out of a trace fossil. The German word for traces made by organisms is “lebenspuren” (from the German for “live tracks”); German paleontologists were pioneers in the study of trace making. The branch of paleontology that focuses upon traces is called “ichnology” (from the Greek “ichnion” meaning “tracker”), which includes the study of modern traces (neoichnology) and ancient traces (paleoichnology). When discussing classification of a group of organisms, biologists use the term “taxon” to represent a formalized group. Likewise, an ancient group can be referred to as a “paleotaxon” and traces can be

Kingdom Animalia
Phylum Porifera
Class Calcarea or Demospongia
Order Clionaida or Clavulina
Family Clionaidae d’Orbigny, 1851
Genus *Cliona* Grant, 1926
Species *celata*, *cretacea* Portlock, 1843
Ichnotaxon *Entobia* Bromley, 1970
Ichnospecies *cretacea* Portlock, 1843

called “ichnotaxa”; both “ichnotaxa” and “ichnospecies” exist. There are three important things to always remember about ichnotaxa. First, often, we may never know the actual identity of the organism that makes a trace. They remain useful, though, because they do represent behaviors and response to environmental characteristics, even if we do not know the identity of the trace-maker. That is why specimens that still have the trace-maker associated with the trace are very important discoveries. Secondly, sometimes the same trace can be made by more than one organism. Thirdly, most organisms are capable of making many different types of traces. Both of the above explain why it is good to have a separate naming system for traces. In this FTF, I want to focus on the invertebrate genus *Cliona* and its trace fossil counterpart *Entobia*.

Cliona is a genus of sponge in the Phylum Porifera that is very common in modern oceans, but it has an unusual life habit for what we normally think of as a marine

sponge. Most marine sponges we picture occur on reefs and are cup-shaped baskets or sheets with large holes for current exchange (ostia and osculum). The type species for this genus is the modern yellow encrusting sponge *Cliona celata*. The geologic range of the genus *Cliona* is from Late Mississippian to the modern.

Living *Cliona* occur in two habits, large, encrusting, massive masses and as a cryptic borer into calcareous substrates (mostly other shells made of calcite, but also limestone rock); the later growth form is commonly found in both fossilized and living shells along the Atlantic and Gulf coasts. It is this latter form that is of interest to us at this time. Living *Cliona celata* that bore are nearly hidden from the surface as the main body of the sponge is inside the substrate. Often the only indication the sponge is present in a living shell are tiny (< 1mm) yellow bumps extending a very short distance above the shell substrate. These are “ostia and oscula” and are the incurrent and excurrent openings respectively for the sponge, which is a filter feeder. In fossilized shells, the soft sponge tissue is long gone, but the shell will show a patch of tiny pinholes. As the excavations of *Cliona* weaken the shell substrate, fossilized shells with *Cliona* are often broken and in worse shape than most of the shells that were not infested by

Continued, P. 8

Fabulous Tennessee Fossils Cliona.
Continued from P. 7

Since many collectors look for very well-preserved specimens, these more corroded specimens are overlooked as “defective”, when in fact they are preserving traces of an entire different, and hidden, organism AND a behavioral interaction between the two organisms. *Cliona* can infest the shell of a living organism, like a clam, which would make it a symbiont, or it can infest shells of dead organisms, in which the association is postmortem and not interactive. At this point, another term that needs introducing is “sclerobiont” for any organism that attaches to or bores into another skeletal substrate, with no implications about the relationships between organisms implied (e. g., parasite, commensal, etc.). This is a fairly new scientific term that has become common in research in the last 20 years.

Now I am going to complicate these concepts a bit, so read carefully. So far we have been discussing the sponge genus *Cliona* ... the organism itself. But the tiny holes that *Cliona* excavates are not the organism itself, rather it is a result of destructive boring behavior (careful how you read that as you can change the meaning to be “a boring topic”, ha!) made by clionid sponges (Figure 1A). Do we use the same name, *Cliona*, for both the sponge and its bored galleries of traces? Well, yes; and no. A search of the literature will reveal that the holes are indeed very often given Linnaean binomial names and referred to as *Cliona*; and the holes are even given species names such as *Cliona cre-*

tacea (we find this one in our famous Coon Creek Formation; Figure 1A). But, technically this is incorrect usage (although convenient for the researcher focusing on biodiversity [who was there] over paleoecology). The gallery of holes is the trace, not the organism itself, and the trace has its own genus name, *Entobia*, coined in 1970 by paleontologist Richard Bromley (a paleoichnologist). So our Coon Creek specimens are best called *Entobia cretacea* Portlock, 1843. The genus refers to the genus of traces borings, the species relates this particular trace to the species of sponge that made it, and the person’s name and date referring to who named the sponge species and when. Sometimes the species name for a trace does not match the species or or-

ganisms who made it, rather is chosen for some other feature of the trace that makes it distinct.

Can the shape of the original sponge be preserved? Yes. If we infill the gallery made by a boring *Cliona* with sediment (usually mud) that hardens and then erode or dissolve away the shell, we are left with a cast of the *Cliona* sponge (Figure 1B).

So, next time you find a somewhat ratty-looking shell (fossil or on a modern beach) full of small pin-head sized holes, think of it as a “threefer”: the host sclerobiont, its fossilized sponge neighbor, and a possible trace fossil representing the behavioral relationship between them. Also, one last tidbit of knowledge – *Cliona* etches the *Continued, P. 9*

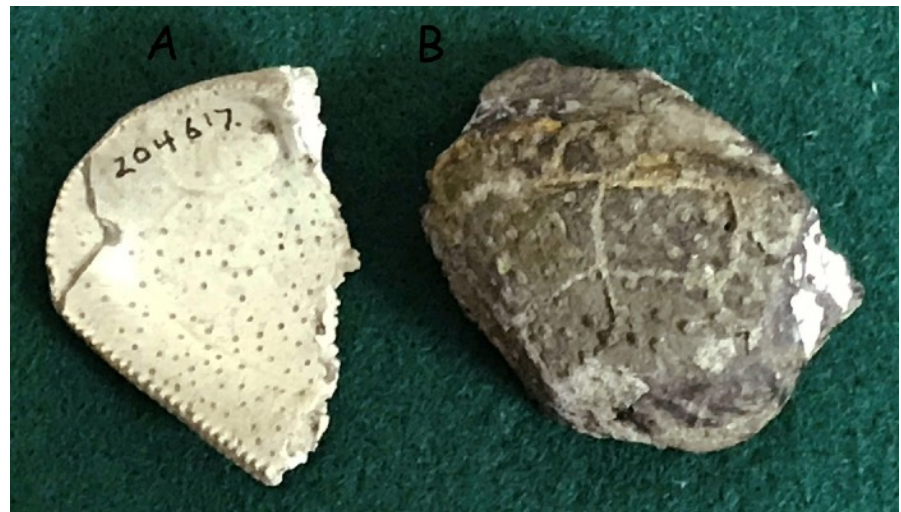


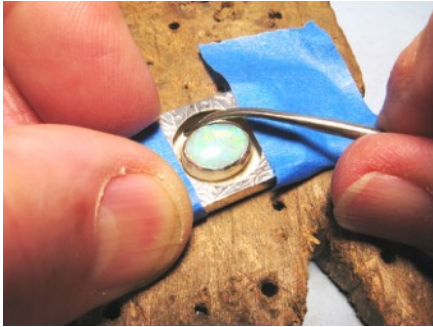
Figure 1. A. Fragment of the bivalve *Eucrassatella vadosus* from the Yale Peabody Museum Collection showing the tiny pin-hole size openings (oscula) of *Entobia cretacea*, made by the boring sponge *Cliona cretacea*. This specimen was collected by Carl Dunbar between 1917-1921 while he was working on the Devonian fossils of West Tennessee for his dissertation at Yale. B. Mudstone cast of *Cliona cretacea* from the Coon Creek Formation (UT Martin Collection). The shell has dissolved leaving a cast copy of the sponge. Note the rounded protrusions, which are the mud infillings of the holes (oscula) that would have been in the original shell (Photos by Michael A. Gibson).

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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Fabulous Tennessee Fossils holes into its host shell by using a weak acid. As it etches the holes, very tiny silt-sized particles of carbonate are removed from the shell to become part of the surrounding sediment of the seafloor itself. Yep, *Cliona* is what we call a “sediment-producer”. Look at that! A “fourfer”!

Jewelry Bench Tips used by painters
Continued from P. 6 works particularly well because it doesn't leave a sticky residue.



PICKLE PRECAUTIONS

A hot pickle pot gives off fumes that bother me in my home workshop. I get around that by using my pickle cold. I mix it a little stronger than for a hot pot so that it works almost as quickly. I keep it in a large-mouth plastic bottle and cap it off whenever I'm done using it.

Be More Productive With Brad's "How To Do It" Books
[amazon.com/author/bradfordsmith](https://www.amazon.com/author/bradfordsmith)

February's Field Trip *Kim Hill*

We will meet on February 16, 10 o'clock, at the Millington Walmart parking lot next to the Popeyes, and will convoy to the site. There will be directions and a signup sheet at the February Membership Meeting.

For the February 16 field trip we will have two choices in case

Memphis Mineral, Fossil and Jewelry Show
THE EARTH WIDE OPEN
Sat. April 27, 9-6 | Sun. April 28, 10-5
Agricenter International
7777 Walnut Grove, Memphis
Rocks, Fossils, Minerals, Gems,
Lapidary Equipment,
Jewelry and Beads
Presented by the
Memphis Archaeological
and Geological Society
f Adults - \$5, 2 day pass - \$8 12 & under - \$2 Scouts in Uniform - Free
www.theearthwideopen.com info@theearthwideopen.com 901-692-7518 / 901-490-3575

one doesn't work. The planned trip is to Richardson's Landing, but Richardson's always comes with a question. That question is ... How high is the river?

Right now the answer is ... very high. So in case the Mississippi doesn't cooperate we have our second choice: Sugar Creek. The creek is just down the road from Richardson's. Generally, even when the river is high, Sugar Creek is usually low enough to hunt. I will be watching the water levels before the trip

Both places can be a treasure trove of finds. You can find agates, corals, Lake Superior agates, even ice age fossils and awesome pieces of driftwood at Richardson's. Pretty much the same at Sugar Creek, which also has some great petrified wood.

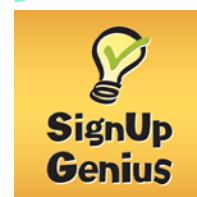
Shhhhh ... I am also told there might be outlaw treasure buried

out there somewhere.

For Richardson's comfortable shoes or boots are a must (there is a lot of walking to reach the gravel beds), buckets or backpack to carry your finds, water, snacks. There are no facilities at either place.

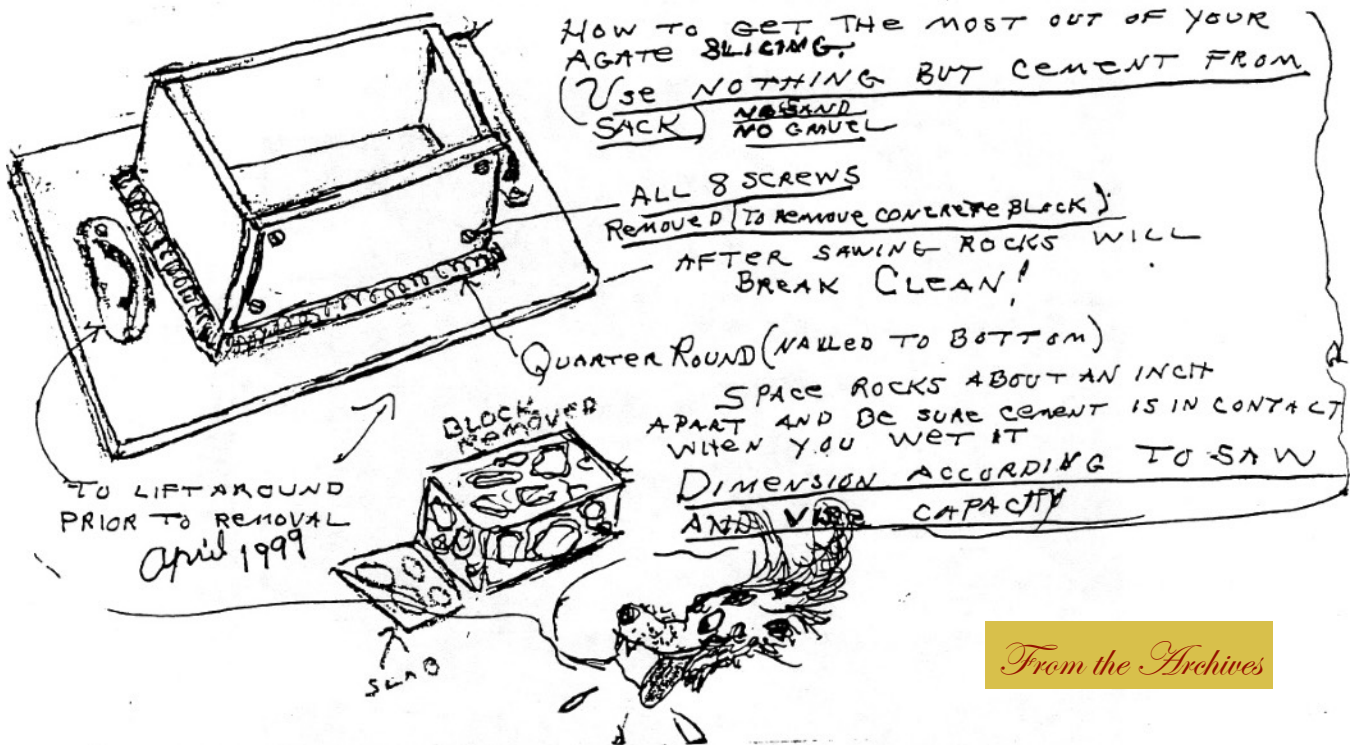
If we go to Sugar Creek there is a fee. I will need to check what it is now. You will definitely need boots to help cross the creek to get to the gravel beds. It will be surface collecting at both sites, and please, no digging in the banks of the creek.

Hope to see you there. Happy collecting



Just 85 days to the Show! We need volunteers. Look for an email from SignUpGenius and sign up.

THE WORLD ACCORDING TO CHARLEY McPHERSON



From the Archives

December Board Minutes

Mike Baldwin

Called to order 6:30. Present: Charles Hill, Mike Baldwin, Kim Hill, Matthew Lybanon, Carol Lybanon, Bonnie Cooper, Bob Cooper, James Butchko, Nannett McDougal-Dykes, Mike Coulson, Jane Coop.

Secretary: Mike Baldwin: Electronic copies of the November minutes distributed to Board Members earlier this week, hard copies distributed this evening. Minutes approved with no changes. Hard copies of newsletter will be printed and mailed on Monday.

Web: The home page, calendar, and newsletter pages have been updated.

Treasurer: Bonnie passed the current checking summary around for review. Next month the rent and do-

main registration fee will be paid. Bonnie will take responsibility to print and mail the USPS newsletter.

Membership: We've had a small number of renewals and one request for membership information this month. The drawing will be held at the end of the January meeting. Charles suggested that we start a membership drive in the new year. Mike gave Bob 300 information sheets.

Field Trips: The Pickwick trip went very well, with a good crowd. Everyone found good specimens. James suggested that we schedule Sugar Creek for December.

Show: Waiting on 5-6 dealers to register. James will follow up in January. The Coopers may not be able to attend the show so we might not have

their dinosaur display. James asked for suggestions. A MAGS display area was suggested. We need grab bag material.

Adult Programs: No report.

Library: About 45 books are still delinquent. Nannett noted the policy which states that only MAGS Members can check out books. The Board discussed establishing rules of library usage, including issuing library cards. Mike will print library cards before next Friday's night's meeting, and memorial labels for donated books.

Newsletter: Send articles. December 15 deadline for the January newsletter.

Historian: Carol Lybanon will transition to Jane Coop.

Youth Programs: All the 2019 monthly programs for the youth have been determined,

Continued, P. 11

December Board Minutes Continued from P. 10

2020 if someone else would like to present. Here's the list for next year. January 11: "The Colors of Mars" with Mike Baldwin. February 8: "Mountain Building and Contour Map Reading" with Mike Baldwin. March 8: "The Last Ice Age" with Mike Baldwin. April 12: "Show Preparations" with the adults. May 10: "Earth's Treasures" with Jane Coop. June 14: "Viewing Micro-Minerals with a Binocular Microscope" with Mike Baldwin. July 12: "Caves: How They Form and What's Inside Them" with Mike Baldwin. August 9: "Indoor Picnic and Rock Swap" with the adults. September 13: "Native American Lore and Artifacts" with Kim Hill. October 11: "Inside Geology" with W. C. McDaniel. November 8: "Native Americans: Who Are They and Where Did They Come From" with Mike Baldwin. December 13: "Holiday Party" with the adults.

Mike needs to work on the specimen-of-the-month. He has Tennessee agates for January, California white howlite for February, and Utah snowflake obsidian for March. He hopes to find enough Douglas Lake Diamonds in January to give each youth that attends the April meeting. Mike plans to purchase specimen cases for the January meeting.

The Board discussed Holiday Party plans; planning for at least 100 people. The DMC Field Trip for January 2019 will be to Davidson Lake (30 miles east of Knoxville) to surface collect Davidson Lake Diamonds, which are similar to Herkimer Diamonds. Mike hopes to plan a "youth and youth families only" visit to Cumberland Caverns or Mammoth Cave during July. He would also like to begin working through the Junior Rockhound Program with the MAGS youth in January, keeping records of youth attendance and rewarding those that are loyal to the program with a

new specimen for their collection each month. Please contact Mike Baldwin or James Butchko if you want to help or find out more about the youth program.

December Meeting Minutes

Mike Baldwin

Called to order 6:30. 80+ Members and at least 7 visitors attended the annual Holiday Party. A few Members worked to set up the room. Members brought a variety of food to share. W. C. McDaniel and Nannett McDougal-Dykes shared the emcee responsibilities. There were several rounds of Rockhound Bingo, background music, MAGS-provided a gifts for everyone. Table centerpieces were given away during the closing drawing. Several Members pitched in to return the fellowship hall to its original appearance after the party. Happy Holidays to everyone.



The MAGS Quarry

Displays
Sales

W. C. McDaniel

Displays

The MAGS quarry will be the area -during membership meetings- for members to display material from any or all of the listed areas:

- 1. **My Fines**—Display material field collected on club, federation, or individual trips.
- 2. **My Collection**—Display items that are part of your collection—field collected, purchases, gifts, themed, or any items that is part of your collection and you want to show off with a display.
- 3. **My Projects**—Display items that you have created through lapidary type activities.

Displayers (Members or guests)

- 1. Each meeting displayers will bring their displays.
- 2. Be sure to complete the provided display form.
- 3. You may orally present your display and/or be available to talk about it.
- 4. Each meeting there will be a drawing for the display prize.
- 5. All display forms will be entered for the end of year display winner drawing(s).
- 6. There is no limit to the number of times you can display.

Sales

- 1. Raffle prizes (materials, specimens, supplies) will be conducted at most meetings. Purchase tickets for your chance to win the raffle prize.
- 2. Auctions will also be scheduled.
- 3. All proceeds go to the club.



All Things Come ...



from news reports



The picture shows a mastodon bone, one of 200 found in Virginia. In 1983 a bricklayer wandering through the woods in York County saw something sticking out of the stream. The landowner at the time didn't allow him to excavate, so he had to wait 35 years. The Virginia Living Museum now has the bones, and will put them on display.

MAGS At A Glance

February 2019

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28	29	30	31 Board Meeting, 6:30 pm, St. Francis Hospital (February Meeting)	1	2
3	4	5	6	7	8 Membership Meeting, 7:00 pm, "Bones, Then and Now"	9
10	11	12	13	14 	15	16 MAGS field trip, Richardson's Landing or Sugar Creek/DMC Field Trip, Stoney Bluff
17	18 	19	20	21	22	23
24 Show Committee Meeting, 6:30 pm, Agricenter	25	26	27	28 Board Meeting, 6:30 pm, St. Francis Hospital (March Meeting)	1	2

Memphis Archaeological and Geological Society
 2019 Littlemore Drive
 Memphis, TN 38016

