



Volume 66 ♦ Number 02 ♦ February 2020 ♦ A monthly newsletter for and by the members of MAGS

The Parsons Vulcan Materials Quarry

The Happy Hunting Ground for Fossils *February Program*

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



In 1957, a small limestone pit operated by N. J. Boogie was opened under the name of Western Materials, a few miles north of Parsons, Tennessee. By 1966, Vulcan Materials Mid-South Division took-over the quarry and expanded it to produce well over a million

tons of limestone gravel, rip-rap, and agricultural lime each year. By the end of the 1960s, the quarry became a favorite place for professional and amateur fossil collectors, especially MAGS, because mining operations removed and concentrated the

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SHOWTIME

Soon you will get a message from an online service called SignUp Genius, asking you to sign up to volunteer for the 2020 Memphis Mineral, Fossil, and Jewelry Show. You will be asked to sign up for two-hour time slots under one of these headings. Since we have a lot of new Members, I want to clarify what you



are volunteering to do.

Ticket Booth: Sell tickets, give out wrist bands, hand out signup cards for the grand prize drawing.

Greeters: Sell grab bags and other items. Gather and give out hourly door prizes, post winning numbers, answer guests's questions.

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CAROL LYBANON

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 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: Gravel pit/coal mine, Brookwood, AL

WHEN: Saturday, February 29, 2020, 9:00 A. M.-3:00 P. M.

COLLECTING: Petrified wood, jasper, agate, marine fossils, ...

CONTACT: Lou Ann Newell, newell.louann@gmail.com, (205) 482-3234

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

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The Parsons Vulcan Materials Quarry Continued from P. 1

highly fossiliferous shale and shaly-limestone of the Ross Formation, particularly the Birdsong Shale Member, for easy access. Paleontologists were well acquainted with the Middle Paleozoic fossil riches of Decatur and Perry counties thanks to the pioneering works published by Yale's famous Carl O. Dunbar, who studied the region for his dissertation just after World War I; however, incredible fossils from the Ross had been collected for nearly a hundred years prior to Dunbar's synthesis. Dunbar dubbed the Birdsong Shale the "Happy Hunting Ground" and provided a stratigraphic framework in which to understand the fossils. Soon after the publication of his works, it became commonplace to see college geology classes frequent the roadside ditches, creeks, and rail-

road cuts collecting Middle Paleozoic brachiopods, crinoids, trilobites, gastropods, and much more. During this period of time, many seminar scientific reports were produced that remain "bibles" to the time interval for our part of the country. The opening of the Vulcan Materials quarry increased access to more material and more extensive exposures of rock. Nationally, invertebrate paleontology underwent an explosive phase in the 1960s and 1970s with new technologies of study, new concepts to test, along with a rise in popularity of geology as a career path. The Ross became ripe for renewed study and the Vulcan Materials Quarry became the central place to start. By the 1980s University of Tennessee paleontologists, including me, began expanded research to more fully understand the paleoecology, biotic interactions, geologic timing, and

bed-by-bed reconstructions of the environments represented by these formations. The result is that this area is now not only a treasure trove of fossils for amateur collectors, but is now one of the best studied regions that preserves the change-over from the Late Silurian into the Early Devonian, with no gap in the record. Paleoenvironmental reconstructions demonstrate that this was a warm-water mud-dominated marine shelf that was dominated by frequent storms that would mobile mud that would smother vast regions of seafloor, thus entombing the fossils and preserving them in great abundance and fine detail. My talk is a tour of the history, stratigraphy, and highlights of the great finds that make the Ross Formation so popular for collectors, important to university geology education, and attractive for paleontology research.

Show Time

Continued from P.1

Rock Zone: Help with kids games, collect money and give out tickets for games, man games like Geode Bowling, Rock Toss, Gem Dig, Rocks Around the Clock.

Help Where Needed: Sometimes we do not have enough people to help, so you will be asked to fill in. Also you can help in Hospitality and give some vendors a break. There is always a need for extra hands.

We need lots of volunteers to help with our Show. So sign up for as many slots as you can, on Saturday and Sunday, and come to help with setup on Friday. There will also be an announcement of the time for grab bag packing, as soon as that time is set.

From The Horse's Mouth

Matthew Lybanon, Editor



“Can you give me the details of the next field trip?” When I get a request like that I try to be helpful. But I’ve already put all the information I have in the newsletter. I don’t know anything more. There is someone who does know more—the field trip leader [officially, 1st VP (Field Trips)]. She has the latest and best information, including—important—possible last-minute changes.

The same thing is true about programs (adult and junior), when and where the next rock swap will be, where to find something on the MAGS website, whether the library has some books on a particular topic, There’s a Board Member who has the information because it’s that person’s job. And it’s easy to find out how to contact that person. P. 2 of every issue of *MAGS Rockhound News* has contact information for every Board Member.

Get it straight from the horse’s mouth.

Rock Food Table

W. C. McDaniel

One of the big highlights of the Show is the MAGS Rock Food

Memphis Mineral, Fossil and Jewelry Show
THE EARTH WIDE OPEN
 Rocks, Fossils, Minerals, Gems,
 Lapidary Equipment, Jewelry and Beads

Sat. April 25, 9-6 | Sun. April 26, 10-5
 Agricenter International
 7777 Walnut Grove Rd.,
 Memphis, TN

Presented by the
 Memphis Archaeological
 and Geological Society

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



Table (above). The table has been a yearly display since the 1980s. I am aware of one other active food table display. Who came first was unknown to me until I ran across this article published in December 20, 2018, on this website (*How the Tucson Shows Got Their Start*):

<https://www.interweave.com/article/jewelry/tucson-shows-got-start-history/>

In 1957, the show highlight was a fascinating display of dinners instead of dinnerware. Mrs. Emma Clark, a 53-year-old widow from Redlands, California, brought her rock food. Everything on Mrs. Clark’s plates looked not just edible but delicious—but everything on the menu was a natural rock or mineral that she had collected, cleaned,

shaped, and polished. There were mouth-watering meats, a pot roast, bacon and eggs, loaves of crusty bread, peas, carrots, and mashed potatoes—even apple pie and chocolate cake!

“Several years later, Mrs. Clark and a friend camped out in a travel trailer at my folks’ house, and I got to see the rock foods again. Up close, they looked just as yummy, except for the rhodochrosite “ham,” which as far as I was concerned looked just like a slice of rhodochrosite on a plate. Nevertheless, I was and still am powerfully impressed by Mrs. Clark’s petro-culinary accomplishments’

Web Tips

“Geology 101: Weathering and Chemical Erosion” is the title of an article by Jim Brace-Thompson published in *Rock & Gem Magazine* on January 16. You can find it on the web at <https://www.rockngem.com/geology-101-weathering-and-chemical-erosion/>.

The next web tip is best described by the person who developed *Continued, P. 5*

Web Tips the website, as
Continued from P. 4 posted on the
Memphis Ar-
chaological and Geological Soci-
ety Facebook page:

Dear Club:

I had spent several years panning for gold in the Smokies and digging for emeralds and other gemstones in North Carolina. Then 10 years ago I got interested in hunting fossils, which now has become my favorite hobby. So far as an amateur, I have found over 150 dinosaur bones of 6 different species including 60 bones of a Triceratops and 20 bones of a T-Rex.

To share some of my discoveries with home schooling families, I developed the one room Prairie Fossil Museum here in Knoxville. To help other beginners avoid all the mistakes I made along the way I developed an educational web site, www.findingadinosaur.com.

Please share this site with any of your members who might want to branch out into dinosaur fossils. If any are interested and need help, have them contact me anytime.
865-621-0626

Cheers
Dick Wills
865-621-0626
Knoxville, TN

2020 Early Renewal Prize Winner

Bob Cooper, Membership Director

Congratulations to Matthew Lybanon for winning the 2020 early renewal prize. The prize this year was a nice specimen of an amethyst crystal as shown in recent MAGS newsletters. Matthew is currently out of state enjoying

warm sunny weather in Florida but will return soon. As MAGS Members know, this year we added a new incentive to the early renewal prize drawing in that if you renewed in October or November, you were given a second entry in the drawing. Matthew was the first beneficiary of this new incentive because the winning number was his second chance number. Keep this in mind when you plan to renew your 2021 MAGS membership.

Jewelry Bench Tips by
Brad Smith

CUTTING MOLDS

Cutting molds is easier and more precise with a sharp blade. A new X-ACTO blade is sufficient for cutting RTV molds but is usually not sharp enough for vulcanized rubber. For that it's best to use scalpel blades available from most jewelry supply companies. The #11 blade is triangle shaped, and the #12 is hawksbill shaped. I find the hawksbill is particularly nice for cutting the registration keys of the mold.



USING YOUR THUMB

When using multiple bits in a Foredom, we often have to deal with different shaft sizes—the usual 3/32 inch burs, the larger 1/8 inch shafts sizes, and of course the

many different sizes of twist drills. For some reason I really dislike having to turn the key multiple times to open or close the jaws of the handpiece chuck.

So I have two ways to speed up that task. For opening up the jaws, I just remember "four", the number of turns I have to make to open the chuck just enough from the 3/32 bur shaft size to the larger 1/8 bur shaft size.

For closing the jaws around a smaller shaft, there's a neat trick. Hold the new bit in the center of the open jaws of the chuck, put your thumb lightly onto the outer toothed collar of the chuck, and gently start up the Foredom. As the chuck turns, it will naturally tighten the jaws around the bur shaft or the drill bit. Then all you have to do is a final tightening with the key.



Learn New Jewelry Skills With Brad's Series of "How To" Books
amazon.com/author/bradfordsmith

Look for an announcement about MAGS Show volunteer prizes in next month's MAGS Rockhound News. You must sign up through SignUp Genius to be eligible.

Fabulous Tennessee Fossils

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

FTF 61

Hamulus & Pyrgopolon



Kingdom Animalia
Phylum Annelida
Class Polychaeta
Subclass Sedentaria
Order Sabellida
Family Serpulidae
Genus *Pyrgopolon* de Montfort, 1808
Species *P. onyx* (Morton, 1834)
P. angulatus Wade, 1921
P. squamosus Gabb, 1859
Hamulus sp. (operculum)

The title of this essay reads a bit like a Greek play. Have you ever noticed that there are times when you are fossil collecting that one particular fossil seems to dominate what you find? Sometimes this is because that fossil is truly particularly abundant at that locality or within that particular layer of sediment that is eroding out at the time. Sometimes it is due to “pattern recognition” where your eyes become fixed on seeing that particular image. Our current collecting mound excavated at the Coon Creek Science Center in McNairy County, home of our famous Cretaceous-age Coon Creek Lagerstätten, is producing copious numbers of a very small annelid worm fossil called *Hamulus* (Figure 1). I am not sure whether or not the *Hamulus* is just that abundant or that my eyes are fixed on the search image, but I know I have collected well over a hundred specimens over the past two trips to the site. What is interesting is that *Hamulus* is a very small fossil,

rarely over a centimeter in length, that should be easily overlooked, yet specimens are readily found.

The fossil genus *Hamulus* belongs to what we think of as “marine bristle worms”. Specifically, these are “sedentary polychaete annelids” (see above classification), which means that the worm is not mobile (sedentary), and that each segment of the worm has a pair of fleshy protrusions (“parapodia”) with bristles on them. The bristles are called “chaetae”. Some of you may have a marine aquarium at home and be familiar with these little fellows. My wife, who maintains several marine aquaria at our home, despises bristle worms in her aquaria as they come out from under her “reef rocks”, usually at night, to use their tiny jaws to feed on her favorite aquarium pet, the feather duster. She has a type of polychaete worm called an “errant polychaete” because it is very mobile. More than once I have had to fish under this rocks with tongs to snag these worms for eviction. Occasionally, I may have to remove as many as ten of them. While many polychaetes are “naked” mobile worms, there are also sedentary polychaetes that are not as mobile, rather they secrete organic or mineralized tubes to live inside of. Many glue sand together to make agglutinated tubes. Serpulid worms mineralize their

tubes using calcium carbonate, which makes them more likely to be preserved.

The genus *Hamulus* was first described by Samuel George Morton (1799-1851), a physician and naturalist who worked mostly out of Pennsylvania, in his 1834 summary of Cretaceous “organic remains” for specimens from New Jersey and from Erie, Alabama. The name is derived from the Latin “hamus”, later changed to “hamulus”, which is a hook-shaped projection, thus reflecting the curved nature of the shell. Before discussing this fossil genus further, I should point out that this genus has undergone the same types of taxonomic revisions that we have seen for some many other fossils I have written about. What Morton named, and Bruce Wade later described in his 1926 USGS professional paper on the “Ripley Formation) as *Hamulus*, is now *Pyrgopolon* de Montfort, 1808 (based upon an extensive revision of serpulid worm taxonomy published in 2009 by H. A. Ten Hove and E. K. Kupriyanova). These authors believed that *Hamulus* and *Pyrgopolon* are the same animal. Notice that de Montfort erected this genus in 1808, 16 years before Morton erects *Hamulus*, so *Pyrgopolon* has priority according the rules of nomenclature (see FTF 58, Nov. 2019, for more on this rule). The name *Hamulus* is considered a “junior synonym” of

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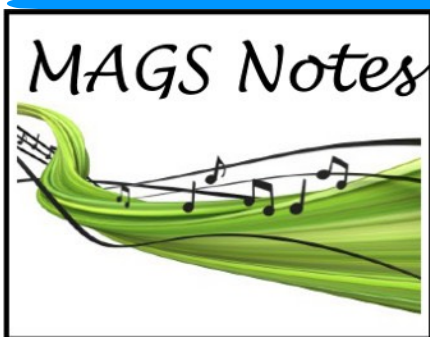
Fabulous Tennessee Fossils *Pyrgopolon*, and what Wade's
Continued from P. 6 identified as *Hamulus onyx* is
now *Pyrgopolon onyx*.

You will notice in my taxonomy box at the beginning of this essay that I did update the *Hamulus onyx* to *Pyrgopolon onyx*, but did not refer to the other three species to this new genus. Here is why. In 1921, five years before Bruce Wade publishes his now classic dissertation on the Coon Creek fauna as U.S.G.S. Professional Paper 137, and while he was working as a mapper for the Tennessee State Geological Survey, he published a short paper entitled "The Fossil Annelid Genus *Hamulus* Morton, An Operculate Serupla" as Proceedings of the U.S. National Museum #2359, which he will later incorporate verbatim into his 1926 opus. In this paper, Wade wanted to draw attention to the fact that his Coon Creek deposit not only had numerous *Hamulus* preserved, but that the deposit also preserved the operculum (or cover over the shell opening) that would close the tube when the animal retracted into the tube. Mineralized polychaete opercula are exceedingly rare; however, the Coon Creek seems to preserve them well. The *H.* species that Wade described in 1921 (see taxonomy box above) is not actually for a new and different *Hamulus* shell, but was erected for the operculum only. In an unusual, and probably not a valid approach technically with regard to the ICZN, Wade created a new, but unnamed, species category for just the operculum of what he acknowledged was probably part of the other *Hamulus* species. What about the other two species, *Hamulus angulatus* Wade, 1921 and *H. squamosus* Gabb? Are they *Hamulus* or *Pyrgopolon*? Well, the 2009 taxonomic revision of *Hamulus* specifically synonymized *H. onyx*, but said nothing about *H. angula-*

tus and *H. squamosus* specifically, but they did say the genus itself should be synonymized, so technically these species should probably be *Pyrgopolon angulatus* and *Pyrgopolon squamosus*. For our UT Martin collections, I have placed a new set of specimen labels in the specimen boxes updating the name; however, I must confess that when I identify the fossil to visitors at Coon Creek, I usually use the *Hamulus* name as that most readily leads to the historic publications that describe this enigmatic little curve tube worm. Who would have thought that such a small and simple shell could have such a varied history?



Figure 1. Top row and bottom right—*Pyrgopolon onyx* (Morton, 1834) from the UT Martin collections from Coon Creek (photo by Michael A. Gibson). Bottom left—*Pyrgopolon angulatus* from UT Martin collections. This genus is more commonly known by its older name *Hamulus*. Scale in cm.



♪ Adult Programs

February: Michael Gibson, "Vulcan Quarry"

March: Lou White, "Collect Memphis"

April: "Show Biz"

♪ Junior Programs

February: Mike Baldwin, "Lunar Geology"

March: Mike Baldwin, "Geology Along I-40"

April: "Show Biz"

♪ Field Trips

February 22: Pickwick

March 21: Mozarkite

April: Local day trip

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MAGS UPCOMING EVENT SCHEDULE				
Month	Membership Meeting Programs	Hospitality	Field Trips	Other Events
February	February 14 • Adult—Dr. Michael Gibson, “Vulcan Quarry” • Youth—Mike Baldwin, “Lunar Geology”	Hospitality 1. Jane Brandon 2. Kathy Baker	Check with field trip leader for specific information	February 1 —Chickasaw Council’s University of Scouting/Cub Scout Pow Wow
March	March 13 • Adult—Lou White, “Collect Memphis” • Youth—Mike Baldwin, “Geology Along I-40”	Hospitality 1. Deborah Crowder 2. Dan Crowder	Check with field trip leader for specific information	March 28 —Scouts rock at Graceland!
April	April 10 Adult and Youth, “Show Biz”	Hospitality 1. Wingfield Bouchard 2. Jonte Bouchard	Check with field trip leader for specific information	• April 23-24 —Show workdays • April 25-26 —Show days

MAGS Notes

Continued from P. 7

🎵 February Birthdays

- 3 Bill Price
- 4 Anne Pinkerton
Brooklyn Coulson
- 9 Vincent Mayer
- 11 Sandy Childress
- 12 Louis White
- 14 Aaron Van Alstine
- 15 Willow Wilson
- 17 Gary Sherman
- 19 David Vaughn
- 20 Kim Hill
- 23 Dominic Mitchell
- 24 Dakota Smith
Katie Waddell
- 25 Cecilia Hemme
- 26 Harrison Parks
- 27 Leigh Scott
- 28 Joy Ashurst

🎵 New Members

Jim and Francie Collins and grandchildren
Kevin and Robyn Lasater
Gus and Racheal Mitchell and children

🎵 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 Show.

Mammoth Traps Found in Mexico

Matthew Lybanon, Editor

Anthropologists have found skeletons of at least 14 woolly mammoths that died after falling into traps built by humans 15,000 years ago. The two pits were found in Tultepec, just north of Mexico City, Mexico's National Institute of Anthropology and History said. The pits were found

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January DMC Field Trip

Carol and Matthew Lybanon

Photo Credits: Marlin Swikert (Tampa Bay Fossil Club), Mike Baldwin, Matthew Lybanon



MAGS Members at January 2020 DMC Field Trip

Here are some pictures from the January 11 DMC field trip. We met Mike Baldwin there and had a fun day collecting at a Vulcan facility in Brooksville, Florida. If you have not participated in a DMC field trip you should. They are enjoyable and you get to meet people from other clubs.



Mammoth Traps Found In Mexico Continued from P. 8

when crews were digging in the area to build a garbage dump.

The recent discovery of more than 800 mammoth bones could change our understanding of how early humans hunted the enormous animals. Researchers speculated that ancient hunters probably chased the giant animals into the pits, which are 1.70 m deep and 25 m in diameter, using torches and branches. There was some evidence that some of the mammals had been butchered.

As of early November, when this was reported, excavations at the site had been taking place for

10 months. Luis Cordoba, the head of the excavation team, said the discovery was key in studying the relationship between prehistoric hunting and gathering communities and the huge herbivores.

"There was little evidence before that hunters attacked mammoths. It was thought they frightened them into getting stuck in swamps and then waited for them to die," he told reporters. "This is evidence of direct attacks on mammoths. In Tultepec we can see there was the intention to hunt and make use of the mammoths."

Diego Prieto Hernández, director of the institute, said the

discovery "represents a watershed, a turning point in what we until now imagined to be the interaction between hunter-gatherers with these huge herbivores"



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MAGS At A Glance
February 2020

Valentine's Day
February 14

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
26	27	28	29	30	31	1
2	3	4	5	6 Board Meeting/ Show Committee Meeting, St. Francis Hospital, 6:30 pm	7	8
9	10	11	12	13	14 Membership Meeting, 7:00 pm, "Vulcan Quarry- Parsons, TN"	15
16	17 	18	19	20	21	22 MAGS Field Trip, Pickwick Lake
23	24	25 	26	27	28	29 DMC Field Trip, Brookwood, AL, 9:00 am-3:00 pm

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

