

Collecting at Parsons



The Nugget

North Mississippi Gem & Mineral Society Newsletter



Photo by Beth Thornton

Notes from the President's Desk....November 2018

November is here, and Thanksgiving is just around the corner. The holiday season is fast approaching, and there are just two NMGMS meetings left for 2018. The year goes by fast, and it is hard to squeeze in everything that we would like to do! We are already working on the event schedule for next year and have several speakers and programs lined up. NMGMS is fortunate to have both Dr. Jennifer Gifford and Dr. Julie Retrum set to do a program for us next year. We're sorry that George Phillips had to reschedule his presentation, but we eagerly await it. Now when he comes, we'll have many more fossils for his expert identification!

Our club workshops for 2019 should be very educational, as well as fun, since we have added some new tools, like jeweler's saws and solder, to our class supplies. Look for another enameling class, a copper brazing project, and a prong set pendant workshop. I am hoping that the cost of silver will continue to come down so we can start to expand our mixed-metals' techniques.

NMGMS will be gearing up for another Geology Fest and Fossil Road Show at the Oren Dunn City Museum next April. We will be displaying fossils, rocks, and minerals, many from around the state of Mississippi. We would like to add a display of rocks from around the country also. This will be something new! So I encourage everyone to start looking thru your collections now, and think about what you can loan the club for the display. If you have rocks from a specific state, especially from out west, consider loaning them for our museum displays. International rocks would be nice too!

The Rockheads group has been doing a fantastic job, and it looks like there will be quite a few badges earned at the end of the year. There are also more juniors who have completed the requirements for the NMGMS Junior Rockhound of the Year award. We can all be very proud of our juniors, as they continue to do such a great job, and a big "thank you" goes to our two very capable junior advisors.

I'd like to thank everyone who helped out and participated in our "Rocktoberfest". It was a very successful event with a great turnout. I think we managed to find new homes for quite a few rocks and some very nice jewelry pieces.

Our NMGMS website and Facebook page are great tools for getting the word out about our organization and its activities, but there's always a risk. Recently, our NMGMS officers and committee chairpersons received an erroneous email that claimed to have been sent by me. It was definitely a phishing or scam email. For one thing, I do not have an iPhone, or an iPad, or a "smart" phone that can send emails; plus, nearly all emails (99.9%) that I send are from my Yahoo "therockhoundlady" address. I do not have an AOL account. If you get an email that looks suspicious, feel free to call me before you reply to it. Paul Gunther has set up our website so that the email addresses should be hard for a Web Crawler to get, but if these phishing emails continue, there are a few other things we can try. A lot of other clubs are facing similar issues. Looking forward to seeing everyone at the next meeting! Nancy Roberts

Mark Your Calendar! NMGMS November 17, 2018 Meeting

The November meeting of the North Mississippi Gem and Mineral Society will be on Saturday, November 17, 2018 at the Tupelo library from 1-3pm. The program will be on Dinosaurs, given by the NMGMS Rockheads. We will also have a fun wire and bead lapidary project. Due to circumstances beyond his control, George Phillips regretfully had to cancel his presentation. We will reschedule George at a later date. Refreshments are "pot luck", so members are asked to bring something.

Other Upcoming NMGMS Events:

December 8, 2018: Possible NMGMS field trip. Location and time will be discussed at the upcoming meeting.

December 15, 2018: NMGMS annual Christmas party and luncheon from 11am to 3pm at the Tupelo library (See page 4 for details).

January 12, 2019: NMGMS January meeting from 1-3pm at the Tupelo Library. Program: Wire ring with beads. **

February 9, 2019: NMGMS February meeting from 1-3pm at the Tupelo Library. Speaker: Dr. Julie Retrum. **

****Note!** January and February meeting dates are changed due to the library being closed on the third weekend of those months.

Other Upcoming Events:

December 1, 2018: Link Centre's Holiday Market, 10am to 4pm. NMGMS will be setting up as a vendor and selling hand crafted jewelry items made by our members. Money raised from sales will go to our lapidary workshop. NMGMS volunteers will be needed at this event. Some NMGMS volunteers will assist the Link Centre at their sales table or food vending tables.

Show Dates:

November 23 – 25, 2018

Mobile, AL Mobile Rock and Gem Society Show

Friday, November 23, 1:00 PM to 6:00 PM Saturday, November 24, 9:00 AM to 6:00 PM

Sunday, November 25, 10:00 AM to 5:00 PM Admission: \$4, children 12 & under FREE with adult

Friday & Saturday FREE admission after 5PM

ABBA Shrine Center, 7701 Hitt Rd, Mobile, AL

For more information, go to <http://www.mobilerockandgem.com/show-summary>

November 30 - December 2, 2018

48th Annual Montgomery Gem, Mineral & Jewelry Show, November 30 - December 2, 2018

Garrett Coliseum, 1555 Federal Drive, Montgomery, Alabama

Friday, November 30, 9:00 a.m. to 6:00 p.m. Saturday, December 1, 10:00 a.m. to 6:00 p.m.

Sunday, December 2, 11:00 a.m. to 5:00 p.m. Admission: Adults \$2.00 daily, or \$3.00 for a weekend pass, 18 and under free with student ID and one paid adult ticket.

For more information, go to <http://www.montgomerygemandmineralsociety.com/mgms/index.php/annual-gem-show>.

December 8 - 9, 2018

Franklin, TN Mid Tennessee Gem and Mineral Society's 38th Annual Earth Treasures Show
Gem, Jewelry, Mineral, and Fossil Show and Sale

Saturday, December 9, 9am to 6pm Sunday, December 10, 10am to 5pm.

Williamson County Ag Expo Park, 4215 Long Lane, Franklin, TN 37064

Admission: \$5 (2 day pass, \$7), students (18 and under) \$1, children 12 and under free with an adult.

Scout Youth in Uniform are free. For more information, go to <http://www.mtgms.org/show.htm>.

October Picnic and Rock Swap Review: "Rocktoberfest"

Photo by Alison Schuchs



I think if NMGMS scheduled the club picnic in July, it would still turnout to be a chilly day! Despite the early morning rain and a cool north wind, we still had a great picnic with good attendance. There was a wide variety of rocks, minerals, and lapidary items available at the club's silent auction table, plus NMGMS had a table with donated rock and mineral specimens for sale. A few members brought some of their own collection to swap, so there were plenty of interesting things to choose from. I would like to thank Bernice for bringing some nice wire and gemstone chips, etc. I'm sure we'll see lots of neat gem trees or wire bracelets being made by

fellow members now! I think everyone went home with a few new specimens for their collections and some nice jewelry pieces to wear or give as gifts.

Photo by Alison Schuchs



Photo by Alison Schuchs



Buddy Shotts, our Mississippi State Director to the Southeast Federation, and his wife Reba were able to join us again this year. We always enjoy having them come and appreciate their making the trip up from the coast. Jim Roberts had the fishing game set up, so the younger members at the picnic had fun "fishing" for gemstone treasures. Our grill master, Mike Schuchs, did a great job of cooking the hot dogs and kielbasa, so no one went hungry. There were plenty of desserts, chips, drinks, and

fixings to round out the picnic meal. The sun finally came out and warmed things up, so it turned out to be a great day for getting together with fellow rockhounds, and many treasures found new homes. Nancy Roberts



Check out our NMGMS Facebook page for more photos.

Photos by Alison Schuchs and Bernice Burkeen

Club News: Reminder! Dues Rate Change

2019 is fast approaching, and it is time to start thinking about renewing your NMGMS membership. At the NMGMS March 17, 2018 meeting, the members present voted unanimously to change the club dues to the following rate: \$15 for a single membership, \$25 for a couple, and \$4 for each child. This change has been added to the club bylaws and will take effect starting with our 2019 renewals and new memberships.

Our club treasurer will be available to collect your dues at our meetings, or you can make checks payable to NMGMS (\$15 single, \$25 for a couple and \$4 for each child) and mail them along with an application form to: NMGMS, P.O. Box 1445, Tupelo, MS 38802.

An application form is located on our club website: www.nmgms.org

Photo by Nancy Roberts



The Holidays are coming!

The NMGMS annual Christmas party and potluck luncheon will be on **Saturday, December 15, 2018 from 11a.m. until 3p.m., upstairs at the Lee County Public Library in Tupelo, MS.**

The club will provide a ham for the luncheon, and members attending are asked to bring a potluck dish to share. We will have a gift exchange. If you wish to participate, bring a gift (\$10 max), and label it either as a man, woman, or child's gift. We are asking members to bring a few canned goods or other nonperishable food items for our club's contribution to a local food pantry. We will also participate in the "Toys for Tots" program, so please bring a new toy to donate. The toys will be dropped off at the Oren Dunn Museum after the party.

We will be doing the "Night before Christmas" ornament exchange. If you would like to participate in the game and ornament exchange, just bring an ornament. They can be handmade or store bought. Everyone that brings an ornament will go home with one. Hope to see everyone there to help NMGMS celebrate another great year.

Remember, this is when NMGMS passes out badges, awards, and certificates to members for their accomplishments.

NMGMS Participates:

ODCM Dogtrot Festival and Robins Street Art Stroll



Photo by Nancy Roberts

NMGMS members were busy on Saturday, October 13, 2018. Several members set up a kids' activity booth at the Oren Dunn City Museum's annual Dogtrot Festival, while a few others were manning a jewelry sales table for the club at the Robins Street Art Stroll, also in Tupelo. Those of us who were participating in the event at the museum had the opportunity to enjoy some very delightful bluegrass and country music, as well as see how sorghum is made and watch a blacksmith at his craft. Every time the black powder gun went off, we all jumped! I heard the ladies who worked the art festival had a very delightful time also. I would like to thank those members who volunteered their time to help the North

Mississippi Gem and Mineral Society support our local community at these events.

Nancy Roberts

Thank you!

NMGMS would like to express our thanks to Mr. Bill Parker for his generous donation of gem and jewelry books, as well as some very beautiful rock specimens which had been a part of Beth Parker's, collection. Thank you, Bill. Many of the gemstone guides and "how-to" books will be a very useful addition to the NMGMS library. Nancy Roberts

Field Trip Reviews: Blue Springs Can Still Yield Surprises!

Photo by Nancy Roberts



by Rebecca Vallarian

Eight carloads from the Georgia Mineral Society and a few North Mississippi Gem and Mineral Society members first scanned the floor of the Blue Springs barrow pit, finding tiny crabs and some very good shark teeth. Then some of the Georgia team staked out two promising sites up on the hillside, and after a few hours of digging with picks and shovels, they came away with some very large and very detailed specimens.

Meanwhile, our NMGMS president, whose trained eye spotted just the tiniest arc of an ammonite, managed through careful excavation and some PVA “glue” to retrieve a beautiful half of an ammonite’s shell. Further up the hillside in a gully wash, an unusual

“lump” hung out of the clay. Nancy's training again sensed that “it” was something important.

After three hours of digging with spade, screwdriver, and a pick, a quite large “it” now rests in a huge cardboard flat, awaiting further cleaning and an evaluation by George Phillips. What could it be, a Croc skull, mosasaur bone, or something entirely new? Speculation abounds! Blue Springs will give up her secrets yet!

Photos by Nancy Roberts and Paul Gunther



Crinoids Abound and So Much More! By Nancy Roberts



Photo by Nancy Roberts

The Vulcan quarry located in Parsons, TN has always been noted for crinoids, and on the morning of November 3, 2018, NMGMS members were not disappointed.

Crinoid “stems” of all sizes were scattered among the quarry’s tailings piles where our group was allowed to collect. Many of the crinoid pieces were still in matrix, and if you collected those in a linear group that lay end to end and glued them together later, you could put together a piece that would be six inches or longer.

On this trip, we were fortunate enough to collect a few parts of the crinoid calyxes too. Beth Thornton found a very nice basal plate, and I found a partial crinoid calyx.

I also spotted two very large specimens of *Camarocrinus*, the root or “bulb” of *Scyphocrinites*. Unfortunately, they were embedded in a very large rock, so pictures were all I could take. Sigh! Crinoids weren’t the only abundant fossils; there were a wide variety of brachiopods, as well as bryozoans and horn corals. We found a few nice trilobite pygidiums too! All in all, we had no trouble collecting some very nice specimens, and by 11o’clock we were ready to make our way back to our vehicles and load up. Would have liked to take a break and go back to another spot, but the quarry closed at noon, so we’ll just have to wait until our next trip to Parsons.



Photos by Nancy Roberts



Mascot by Remy Collins

NMGMS Junior Members

Rockheads

November 2018



www.amfed.org/fra/fra_badge.htm

Rockhead Officers for 2018:

President, Hunter Watson
Vice President, Liam Langford
Secretary, Sydney Thornton

Adult Youth Advisors for 2018:

Diana Watson, jodyanddiana@hotmail.com
Krista Williamson, kristawilliamson2008@yahoo.com

Next Rockhead Meeting: November 17, 2018

Photo from Amazon.com



At the November 17th meeting, the Rockheads will be covering dinosaurs, so plan to take a step back in time and learn about these amazing creatures. Do you have a favorite? The Rockheads will be finishing up requirements for the FRA fossil badge.

Junior members will be completing whatever requirements they need for this year's FRA badges. Ms. Diana Watson will have the FRA badge sheets at the November meeting, so please plan to attend and be ready to sign off on any of the badges that you have completed. Badges will be presented at the December 15th Christmas Party meeting

Rockheads Participate at "Rocktoberfest"!



Photos by Nancy Roberts, Alison Schuchs, and Bernice Burkeen

Attention Rockheads! 2019 Officers

November is when our organization proposes a new slate of officers for the coming year. At the next Rockhead meeting, you will decide on who you would like to have as officers for 2019. Are you willing to serve? Who do you want to lead the Rockheads? Be thinking about this issue, and be prepared to vote on the 17th! Nancy Roberts

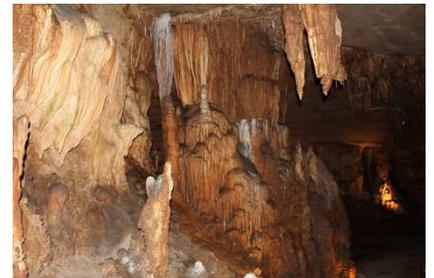
Touring Fantastic Caverns by Sydney Thornton



Photo by Beth Thornton

On my fall break, I took a trip to Springfield, MO. While I was there, I went on a tour of Fantastic Caverns. Instead of a walking tour of the cave, we had a Jeep ride through the cave. Fantastic Caverns is a huge cave that has a lot of flat ground for the Jeeps to drive on. There are many beautiful cave features. I really liked all of the beautiful cave formations. It even has two large sinkholes that we drove over. The sinkholes are an important feature of the cave because they allow water to drain to the lower levels of the cave where three different types of animals live: the Ozark cavefish, the Ozark crayfish, and the grotto salamander.

I even learned a little history about the cave on the tour. The cave was discovered by a hunter and his dog. The man's dog disappeared behind some bushes. When the man went after his dog, he found the opening to the cave. The first explorers of the cave were a group of 12 women. Later during World War II, the cave was kept open by growing mushrooms in the cave and then selling them around Springfield.



We had so much fun on our tour. If you are ever in Springfield, I recommend stopping by Fantastic Caverns for a tour.

Photo by Beth Thornton

Bead Soup: A place to talk “shop”!

MORE CREDIT CARD HACKS by Nikki Kenney

Many metalsmithing techniques require the surface of your metal to be clean and free of oils from your hands. To keep your metal clean and to help hold a metal blank steady while painting or drawing a design onto its surface, use a piece of Loctite Fun-Tak Mounting Putty to secure your metal piece to the surface of an old credit card.



Photo from Amazon.com

Fun-Tak is as malleable as clay, sticks to most surfaces, and is easy to remove without leaving a residue. It can be found in the crafts department at Wal-Mart. It is also available in other stores that carry similar products.

Photo by Nikki Kenney

Press a small piece of the Fun-Tak putty flat upon the surface of a credit card; then carefully lift the clean metal blank just by the edges, being careful not to touch

the front of the piece as you place it onto the putty.



This will enable you to turn the piece to any angle for working, simply by moving the card. Your piece will remain steady, and you will not have to touch it while you draw your design. If you need to stabilize a domed piece, make sure the Fun-Tak putty extends beyond the piece on two sides, since only the edges of the metal will touch the surface of the card.

Photo by Nikki Kenney

Southeast Federation of Mineralogical Societies, Inc. News:



In the SFMS October 2018 issue of the *Lodestar*, President Craig Hamilton reported that SFMS has a full slate of dedicated officers for 2019. Listed were: the new 1st V.P., Mr. Jesse Griffin, 2nd V.P., Mr. Travis Paris, and Assistant Treasurer, Mr. David Liles.

2018 BULLETIN EDITOR'S CONTEST WINNERS:

The following are the results of the 2018 SFMS Bulletin Editor's Contest as announced at the September 23, 2018 SFMS Editor's Breakfast in Jacksonville, Florida in conjunction with the SFMS Annual Meeting. I want to thank all of the entrants. There were more entries for 2018 than the year before in similar categories. Congratulations, and well done! Mark Easterbrook, SFMS Bulletin Editor's Contest Chair

Editor's Note: Because the list of winners was quite long, I have only listed those entries made by NMGMS members. Congratulations everyone! Your hard work makes the editor's job much easier. Thank you! Nancy Roberts

SMALL BULLETINS: Second Place – Nancy Roberts, Editor: The Nugget, December 2017; North Mississippi Gem and Mineral Society.

LARGE BULLETINS: First Place – Rosina Echols, Editor: Rocky Echoes, July 2017; Mississippi Gem and Mineral Society, Second Place – Matthew Lybanon, Editor: MAGS Rockhound News, October 2017, Memphis Archaeological and Geological Society

JUNIOR ARTICLES 12 to 17: First Place – Hunter Watson, Age 13: Tennessee State Fossil – The Nugget, November 2017; North Mississippi Gem and Mineral Society, Second Place – Konrad Armstrong, Age 15: The Truth about Radiation – MAGS Rockhound News, November 2017; Memphis Archaeological and Geological Society

ORIGINAL ADULT ARTICLES: First Place – Matthew Lybanon: A Delineation – MAGS Rockhound News, May 2017; Memphis Archaeological and Geological Society, Second Place – Nancy Roberts: Lapidary Words: Test Your Knowledge! – The Nugget, December 2017; North Mississippi Gem and Mineral Society, Fourth Place – Nikki Kenney: Easy to Strip (Wire) – The Nugget, March 2017; North Mississippi Gem and Mineral Society, Fifth Place – Beverly Pettigrew Kraft: Bayou Pierre quicksand encounter: never hike or hunt alone – Rocky Echoes, October 2017; Mississippi Gem and Mineral Society, Sixth Place – Mike Schuchs: Safety First! A Heavy Safety Tip – The Nugget, February 2017; North Mississippi Gem and Mineral Society, Seventh Place – Rebecca Vallarian: What is it like to speak another language – The Nugget, May 2017; North Mississippi Gem and Mineral Society, Ninth Place – Rosina Echols: MNGMS Affiliations – Rocky Echoes, March 2017; Mississippi Gem and Mineral Society.

WRITTEN FEATURES: Fifth Place – Rosina Echols: Members from Two Mississippi Clubs Win High Honors – Rocky Echoes, September 2017; Mississippi Gem and Mineral Society, Seventh Place – Carol Ishee: A Message from the President – Rocky Echoes, June 2017; Mississippi Gem and Mineral Society, Ninth Place – Nancy Roberts: Book Review: Remarkable Creatures by Tracy Chevalier – The Nugget, September 2017; North Mississippi Gem and Mineral Society, Honorable Mention – Jennifer Eubank: NMGMS Goes to Parsons – The Nugget, March 2017; North Mississippi Gem and Mineral Society, Honorable Mention – Robert Langford, RPG: NMGMS January Meeting Program – The Nugget, February 2017; North Mississippi Gem and Mineral Society, Honorable Mention – Clarice Turner: Lapidary Enthusiasts Throng to Prong-Setting Workshop, February 2017 – The Nugget; North Mississippi Gem and Mineral Society, Honorable Mention – Carol Lybanon: Dinosaur Eggs in Bartlett – MAGS Rockhound News, November 2017; Memphis Archaeological and Geological Society.

The SFMS Newsletter, the *Lodestar*, is available for all members to read on line. <http://www.amfed.org/sfms/>

American Federation of Mineralogical Societies News:



In the AFMS Newsletter Volume 72, Number 1, November 2018, changes to the judging criteria for this year's Web Site Competition were listed on the front page. The article also talked about how entering this competition can help webmasters design better websites, thus making them more meaningful to members and visitors alike. The deadline for clubs in the Southeast Federation that wish to enter this competition is December 10, 2018. For more information on how to enter go to:

<http://www.amfed.org/sfms/webmaster-contest.html> The Guidelines sheet also contains some information on how you can protect the email addresses that you post on the club's website from Web Crawlers.

<http://www.amfed.org/sfms/pdf/2019GuidelinesAFMSScoresheet.pdf>

This issue of the AFMS newsletter also contained an article about how using the Facebook platform can increase attendance and membership by boosting posts and setting up a demographic target. The article talked about how one club's use of Facebook for their show advertising lead to a huge increase in attendance.

Editor's Note: NMGMS has a Facebook page. Our meetings and events are posted, so please check out the club's page and "share" our posts! Thank you, Nancy Roberts.

For more AFMS Federation news, please check out their website: <http://www.amfed.org/>

The *AFMS Newsletter* is available for all members to read on line

Fabulous Tennessee Fossils: by Dr. Michael A. Gibson

University of Tennessee at Martin, FTF 44, "Epilogue to a Day in the Devonian"

In the Vulcan Materials limestone quarry near Parsons, Tennessee, Fall, 2018....

Three miles north of present day Parsons' city limits, on the right hand side of the road, is the Parsons Vulcan Materials limestone quarry. Many locals work at the quarry, and most residents drive past it every day with little thought about the rock being quarried. To them the limestone is just a building material resource. The limestone is used as rip rap along the sides of roads and interstates to stabilize the cut surface from sliding. One particularly large and new example of this occurs along Interstate 40 at the Birdsong exit, just before crossing the Tennessee River. Vulcan crushes the limestone into various sizes of gravel for a variety of uses such as driveways, foundations, etc. Most people simply walk over it with little thought of where it came from, how it forms, or what secrets it has about past worlds.

Dr. Michael Gibson and his students have been to the quarry many times before, conducting field trips, trying to give college geology students an understanding and appreciation for the factual observations and the story that weaves this factual information into a coherent whole reconstruction of an ancient environment. In a quarry like this one, the vertical exposure of so many rock layers is bound to reveal change, and change is one of those inevitable processes that paleontologists document. Actually, Gibson has spent a significant portion of his professional career unraveling and documenting the story in these rocks, having begun working in this quarry in 1984.

On this sunny, warm fall day, Gibson and his students sit on a boulder in the quarry discussing how best they could reveal the story of these rocks to students, teachers, and fossil enthusiasts. Gibson first points out that they are standing on the remains of an ancient ocean, one of several that covered Tennessee at different times. Additionally, this sea was a tropical ocean akin to the clear warm water of the Caribbean. Also, nearly every fossil species in these rocks are extinct, truly a lost world. Gibson explains that these deposits in West Tennessee are now internationally famous because of the fossils they contain and the story the stratigraphy preserves. Over the years he has led dozens of field trips for geologists from all over the world to this very spot.

Continued on page 10.

Fabulous Tennessee Fossils: by Dr. Michael A. Gibson

Continued from page 9....

Most non-geologists find it difficult to believe that Tennessee used to be under hundreds of feet of ocean water, multiple times! How can sea level change so drastically? What causes the changes? What was the sea floor like 400 million years ago? What caused pulsations of mud to spread over the limey "carbonate" bottom smothering communities of sea life? How did life cope with episodes of mud invasion? What does the composition of the rocks and minerals in the layers reveal about the chemical environment of the ancient sea floor? How can events that occurred after the rocks were formed be distinguished from the original forming processes? So many questions! Where does one begin?

Gibson explains to his students that the approach to understanding this ancient world is relatively simple in concept, but the multiplicity of interacting things creates the difficulty. All objects are the products of the environment that make them. The visible characteristics of the object are dictated by the conditions of their formation. While we may not be present to see an ancient environment and the daily happenings in the environment, we can still deduce the processes scientifically. As an illustration, Gibson pulls out a silver dollar, flips it into the air, and passes it around for his students to see. He explains that one way to practice this type of thinking is for them to study the physical attributes of the coin and from its characteristics, determine everything they can about the people that made it, processes they used, materials they favored, etc. Fossils, rocks, and minerals are objects with differing characteristics. As these characteristics differ in describable ways that often show patterns, they reveal the changing conditions of their formation. Looking around the large quarry excavation, an excavation that has been going on since the 1960s, they see so many different rocks and layers. Once again Gibson and his students are awed by the abundance of clues in the rock.

Presently, Gibson spies a particular slab of limestone that catches his interest. He draws the students' attention to it and the large group of fossils embedded in it. He tells them to sit around the slab and write down all observations they can about what they see: composition, layering, fossils, condition of the fossils, color, thicknesses, change in composition, anything they can see. He tells them to make observations only, no interpretations. At least not yet; good use of the scientific methods requires that observations are taken separately from interpretations of these observations. The students generate a long list of observations; clues that will ultimately tell them the story of this rock and how it formed. Excitedly they notice fossil sea shells in shale between thicker layers of limestone, also with fossils, but of a different variety. An entire community of brachiopods, crinoids, sponges, and bryozoans can be seen as they probably lived on the sea floor. The shells are essentially complete and do not show the wear and tear of wave action or the burrowing of worms. Some are left in their original living position. A large range in the sizes of the brachiopod shells indicates that all age groups were killed in a single event. Even the mud of the shale shows a change in texture and color indicating a storm event of higher energy brought this material further into the ocean basin than normal, smothering many of the life forms. Of special interest is a cephalopod which occurs as a mud filled cast with no trace of the original shell. Modern forms of this animal build their shells of aragonite instead of the more stable calcite. Did these animals build their shells of aragonite that became susceptible to solution leaving only the casts behind?

One student is very interested in the fossils that were pyritized. When most life forms die, scavengers consume the fleshy parts leaving only the hard parts to fossilize. In this case, the fleshy parts were buried and became reducing microenvironments allowing sulfur from the fleshy parts to combine with iron. The scarcity of pyrite grains throughout the rock and the close association of pyrite to fossils support this explanation. Another very interesting mineral occurrence is in association with the fossil *Scyphocrinites* bulbs. Some of these bulbs look like geodes with beautifully formed calcite crystals attached to the walls and extending into the open cavity. The crystalline form of these calcite crystals is also somewhat unusual in that they are hexagonal prisms terminated with rhombohedral faces. A casual glance at these crystals might lead the observer to think that the mineral is quartz. The acid test, however, proves their composition. The student notices several more minerals inside the bulbs: chert, quartz, and dolomite. What prompted these crystals to grow as they did? When did the crystals grow?

Continued on page 11.

Fabulous Tennessee Fossils: by Dr. Michael A. Gibson

Continued from page 10....

As Gibson and his students sit on the remains of this ancient sea floor tallying their observations, they begin to make hypotheses to explain what they are seeing. They apply the scientific method to test their hypotheses and slowly a vision of the past comes to life for them. They make observations on the physical, biological, and chemical features of the rocks. By comparing these observations with their knowledge of how processes work in today's world, they begin to reconstruct the events leading up to the deposition of the sediment and the preservation of the organisms. Changes that occurred after deposition that masks the true story are determined and the mask of change removed. For them, the alien world begins to unfold in every increasing detail. They can actually see struggle for life amid nature's meteorological tantrums...395 million years ago! The next best thing to being there is to envision it. This slab appears to have preserved the remains of a cephalopod mollusk that died rather suddenly and was buried quickly, along with the other sea floor inhabitants on this small three-foot area of ancient sea floor. Something catastrophic happened here, probably a storm event. While this storm resulted in the demise of these organisms, it also provided the burial conditions to guarantee their preservation.

Millions of years after that, in the 1960s, Vulcan Materials opened this quarry to use the limestone it contains as a resource for society. Nearly 70 years after that, Dr. Gibson and his students happen upon a slab of rock that has not been eroded away. They analyze the contents of the rock and are able to deduce the physical, chemical, and biological parameters the rock preserves. With great excitement and reverence for Earth's history, they bring back to life the events of this alien world. Time travel...science style! Looking across the vast expanse of fossiliferous rock slabs that seem to go on for acres and acres, they wonder what wonderful secrets the other rocks hold. So much rock, so little time...

Originally published in the MAGS Roundhoun News, Volume 64, Number 09, September 2018

Editor's Note: Since NMGMS just recently completed a field trip to the Vulcan quarry in Parsons, TN, I thought this article would be of interest to my readers. Dr. Gibson has written many very informative articles for the MAGS Rockhoun News, published by Matthew Lybanon. You can read these articles and find a lot of very pertinent information on the MAGS website, maintained by Mike Baldwin. Check it out! <http://www.memphisgeology.org/>



Due to our annual picnic and rock swap, "Rocktoberfest", NMGMS did not hold a regular club meeting in October, so there are no meeting minutes to report this month.

Photo by Paul Gunther



On October 20, 2018, NMGMS member Paul Gunther attended the DMC trip to the Hogg Mine in Georgia. Paul enjoyed the field trip and managed to collect some rose quartz, smoky quartz, tourmaline, mica, and beryl. Looks like he made a nice haul! NMGMS is not currently a member of the Dixie Mineral Council, but since we carry the Federation's insurance, club members are allowed to participate in these field trips, as long as their dues are current. DMC trips are for club members only! If NMGMS wishes to become a member of the DMC, we would have to sponsor a trip to a site that other clubs do not normally have access to and that

can handle about 50-70 attendees. Nancy Roberts

NMGMS 2018 Officers:**President/Field Trip Chair:**

Nancy Roberts
25 Amber Lane
Counce, TN 38326
(731)689-5336
therockhoundlady@yahoo.com

Secretary:

Paul Gunther
101 Westover Heights
Booneville, MS 38829
662-643-4210
paul.gunther@gmail.com

Vice-President:

Mike Schuchs
1148 Lake Dr.
Fulton, MS 38843
(662)862-3160
mike.schuchs@gmail.com

Treasurer:

Nikki Kenney
PO Box 808
Tupelo, MS 38802
662-844-6142
nmgms@comcast.net

Committees:**Publicity Chair/Web Master:**

John Byzet
1209 Queensgate Dr
Tupelo, MS 38801
(662)844-9841
wa4iax@comcast.net

Hospitality:

Rebecca Vallarian
308 Meadowbrook Circle
Armory, MS 38821
(662)256-2040
janiegirl@vallarian.com

Membership:

Beth Thornton
104 Grand Ridge Rd.
Starkville, MS 39759 (662)320-9805
bethunderwood78@hotmail.com

Historian:

Cheryle Langford
121 Willow Creek Rd
Salttillo, MS 38866 (662)869-2278
cherlang7@att.net

Newsletter editor:

Nancy Roberts
25 Amber Ln
Counce, TN 38326
(731)689-5336
therockhoundlady@yahoo.com

Junior Youth Advisor:

Diana Watson
2312 Hwy 70E
Jackson, TN 38305
731-427-3946
jodyanddiana@hotmail.com



NMGMS meets the third Saturday of the month (except June, July and August) from 1p.m. to 3p.m. at the Lee County Public Library in Tupelo, MS. Any changes will be posted on the website www.nmgms.org, in *The Nugget*, or on the NMGMS Facebook page.

Annual Dues Starting 2019: \$15 for a single, \$25 for a couple, and \$4 each child.

The North Mississippi Gem and Mineral Society was established in 2001 as a non-profit organization dedicated to education and the collection of rocks, minerals, and fossils. NMGMS is a member of the Southeast Federation of Mineralogical Societies, Inc. and is affiliated with the American Federation of Mineralogical Societies. Our organization promotes the educational, scientific, and recreational aspects of the hobby in the subjects of mineralogy, geology, paleontology, the lapidary arts, and other areas related to the earth sciences. Through our meeting programs, workshops, field trips, and other club activities, we strive to increase the knowledge and skills of our members in these subjects. We not only share knowledge within our club, but we have participated in activities throughout the community.

The Society's newsletter, *The Nugget*, is mailed to members electronically and posted on the website.