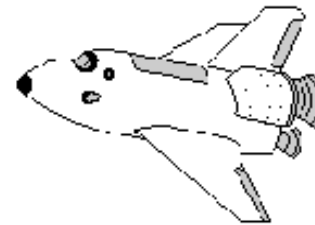
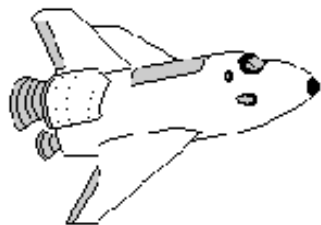


ROCKET CITY ROCKS & GEMS



The Monthly News Bulletin of the Huntsville Gem & Mineral Society, Huntsville, Alabama

Volume 49 No. 2

"We'll go to the Moon for a Rock"

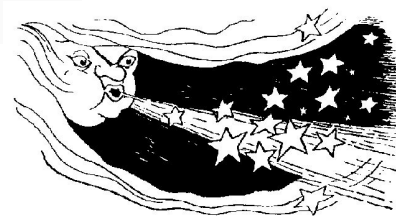
February 2017

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JADE

John Messamore will be our February Program Speaker. The topic is beautiful and mysterious Jade, and John knows quite a bit about the subject. He will be bringing some really cool pieces that he has collected over the years.



Visit us at www.huntsvillegms.org/ and www.facebook.com/HuntsvilleGMS



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Minutes of the January 24, 2017 Meeting of the Huntsville Gem & Mineral Society

The HGMS meeting came to order at 6:30pm. President Mike Harrison asked if anyone was visiting for the first time.

The treasurer Clara stated that we have \$3,588.74 in our club account. That was after memberships to date were paid. The President stated that we will have a budget for vote in a couple of weeks, and if you are a part of the budget you are to submit your expenses and send a copy to Clara. Bill Friday accepted dues payments and asked everyone who hasn't already to get their dues paid.

Jewelry has now changed their name to **Rocket City Jewelers**. Leslie Malakowsky will be leading the jewelry activity group. HGMS has two different groups for metalsmithing /silver. We have a beginning group and an advanced group. In the newsletter the classes are spelled out. Starting February 2nd we taught a pierced and sawed pendant. This is a beginner level class. The other class on March 2nd is a chemical etching class. The pendant class and the bezel class are for jewelry certification. Down the road we will have a riveting class and an electro-etching class for silver. March 9th is a bezel setting cabochon class. Both classes are beginner level classes everyone is welcome. If there is a lot of interest in each one HGMS may do this more than once. HGMS has combined their advanced jewelry group with the projects group. Mindy asked for a hand of applause for Cathy, Shelley and Leslie who volunteer their time, Mindy said we have one more certification class upcoming. February 21st is the safety class. February 23rd is the project class. If more than 10 members sign up we will have other classes to sign up for in March. There were signup sheets at the meeting for the classes. You must be certified before taking any of the metals classes. HGMS just wants to keep its' members safe and the equipment safe.

We have the Brookwood field trip on February 18th which is about 2 hours and 20 minutes away. You can find petrified wood, jasper, and agates. This is sponsored by the Dixie Mineral Council (DMC) with the Alabama Mineral & Lapidary Society of Birmingham serving as host.

Pebble Pups have moved into the senior center on third Thursday nights. HGMS has been hosting an average of 5 to 6 kids in Pebble Pups but expect to see an increase this year. Since they are now in the senior center we have dropped the \$10 pup fee. It is just a standard \$20 family fee.

The lapidary lab report was next. Problems have arisen with some of the equipment but mostly it is because the lab is used heavily every available day and evening. The lab had damage to two polishing wheels. The replacements will be ordered. Grinding wheels have been ordered. We had maintenance issues with our saws again mostly from heavy use. The new saw blades are a sixteenth of an inch thick, much more durable than the prior thinner blades. The Lapidary lab is recycling the mineral oil. It costs \$600 for a drum, so that is a big savings to HGMS.

There are three outside events coming up this year. The auction will be in April, and we need someone to chair that. It may be a combination of regular auction and a silent auction. Details pending.

Instead of, or along with, an auction it was suggested that we might start a club showcase, one that we can take around and display at different locations. This traveling display could be taken to schools and libraries. It would be good advertisement for the club. It might be tough to get enough minerals to do both the auction and traveling display in one year.

On June 17th HGMS will have our annual picnic at Monte Sano State Park.

Our annual Gem, Jewelry, and Mineral show will be October 13-15. Setup will be done on the prior Wednesday and Thursday. There will be a lot of open volunteer positions for the gem and mineral show.

The next order of business was the annual Science Olympiad at UAH, coming up on Saturday, March 4th from 9:00 a.m. till 12:00 p.m. This club sponsors the rocks & minerals and the fossils competition for High Schools and Middle Schools. HGMS needs several volunteers to monitor the activities. Currently there 19 middle school teams and 28 high school teams expected to compete, so there is a lot of interest this year. Those interested should contact Lowell Zoller.

Myra Soroczak is interested in starting an exploratory mentor club. It would initially be ten couples - five new and five experienced. This would be done four months of the year. One time a month the mentor would get together with the mentee. Please sign up at a meeting.

It was noted that we need a bigger space for meetings. Bill Friday said there was a large meeting room in the Community Center adjacent to the Senior Center on the north side. It costs a bit of money, but offers good parking in the Senior Center north lot, and an easy access through the rear door. The board will investigate a bigger meeting space.

The President then adjourned the meeting at 8:00 for refreshments.

Submitted by Dorothea Chism, Secretary, with assistance from Caryl Nixon

Board Meeting Minutes for Huntsville Gem and Mineral Society, Monday February 6, 2017

The HGMS board meeting began at 5:08 pm. Attendees were President Mike Harrison, Vice President Mark Habercom, Secretary Dorothea Chism, Treasurer Clara Goode, Members at Large Bruce Kowalczyk & Chris Kalange, Federal Liaison Charlie Willhoite, Newsletter Editor Bill Friday, Ex Officio Mindy Schell, Fall Show Chairman Tony Smith, Joe & Sherrie Bonin

Joe Bonin had been asked by Mike Harrison if he might take the position of Fall Show Volunteer Chairman, and he had come to learn what were the duties. He accepted the position, and then left the meeting.

Clara cited that there are those on the Board and among the members who feel like we need money for the auction. Mindy was told by Bruce Kiehl that we paid twice for the Jaycee Building last year and that money is still available to cover the auction this year. With details still to be worked out, it was agreed to plan for an Auction in April.

Bill Friday had the form for renewing membership in the Southeastern Federation of Mineralogical Societies and American FMS, at a cost of \$1,605.50 including liability insurance for members, the Fall Show and the Spring Auction. Clara had already sent the check to pay this fee. If not we would lose our memberships in both SFMS and AFMS. We pay separately to the Jaycees for reserving the building. Bill Friday said he just spent nearly \$3,000 on new saw blades and grinding wheels for the Lab, with prior approval from the Board. The Lab budget was \$900. We need the auction. We need a volunteer to run the auction and storage. We are looking into storage space for auction donations. A good date for the Auction would be April 22nd, since the police will be there at the same time for a separate function. A motion was made and approved to have the auction. For the auction it was suggested that we try food trucks instead of catered food.

There are individuals in the club who would like to donate some of all of their collections for a portable Club mineral display case. It was suggested by Mike that we make display cases for this material, but the decision was deferred pending further study.

Our picnic will be at Monte Sano State Park on June 17th at 10:00 a.m. There is a rock swap part to the picnic. You get to sell your rocks at the picnic. We are going to the State Park because Teledyne Brown Engineering and Boeing can no longer allow non-employees to use their picnic grounds. We have reserved the shelter at the State Park, which has electricity and restrooms. President Mike will get a chairman for the picnic.

We will have an October meeting besides the Fall Show. October 13-15 are the HGMS Show dates. If Tony is willing he tentatively the chair. If Shelley is willing it was suggested that she be the Vice Chair for the mineral show. Joe Bonin has volunteered for Volunteer Chair. Laura Wilhoite will instructing Joe Bonin on Volunteer Chair. It was also suggested that we use food truck for the mineral show. A motion was made to have a silent auction every 30 minutes for those items designated for the silent auction.

Mindy motioned all surveys must be approved by the HGMS board. This would cover having the meetings proceedings recorded for later transcription by the secretary. It was approved by the board.

President Mike will talk to Myra Soroczak about completing the bylaws update.

It was suggested that we need a publicity chair, that position currently being vacant, but important.

The board decided the Arts Council was worth the \$80.00 for free advertisement.

We need six volunteers for the Science Olympiad on April 28th. Contact Lowell Zoller.

A motion was made and approved that anytime a recording is used in a meeting, it is to be announced at the beginning at the meeting.

A motion was made and approved to have our meetings at the Community Center adjacent to the Senior Center to the North, starting in March. The meeting room is much larger, and comes with tables and chairs. We will use the Senior Center North Parking Lot and enter the back door.

The HGMS board meeting ended at 7:30.

Dorothea Chism, Board Secretary

HGMS Jewelry Crafts

By Mindy Schell

Our goal is to get HGMS members together to share what we know. Some of these are considered rare and lost arts in development, design, and the very many different types. We are quite blessed to have a handful of Advanced Artists in HGMS that are generous with their knowledge and time to educate our HGMS Jewelry Craft members as well as a number of us that are beginner students but want to make a difference by volunteering however we can. If you are a part of our Jewelry Classes, please thank your selfless instructors for all their time planning classes, kits, and their instruction. We also looking for volunteers to fill some empty slots to take some of the burden off of our instructors. If you are interested and can spare an hour or two a week please contact me. Thank you, Mindy



Rocket City Jewelers - by Leslie Malakowsky

Jewelry classes and freeform get-togethers will start in March 2017 and details will be announced at the 28 February HGMS Meeting. Leslie has a lot of fun projects in store for you starting with basics and exploring some new techniques. Our classes will appeal to all skill levels. This is YOUR Jewelry Group and a source of creativity for ALL HGMS members. If you have an idea for a class or a project, please contact Leslie directly at 256-755-0479 or email lmalakowsky@gmail.com.

Metal Smithing/Silver Group

By Kathy Bowman

Certified HGMS Members meet on Thursday nights from 6:00 p.m. to 9:00 p.m. at the Huntsville Senior Center in the Lapidary Room.

Certification Classes We had 15 people sign up for certification classes at the January meeting and the first 10 names drawn were notified that they will meet on February 21st (Safety) and February 23rd (Project). Those who will be in the 2nd group meeting in March will be notified of the dates as soon as the class dates are determined. The next sign up for Certification classes will be at the May HGMS meeting.

February 2 - Pieced Pendant Project Class:

Thanks to Shelly Curran for teaching a great Pierced Pendant class on February 2nd. I have uploaded a file containing some public domain piercing patterns onto the HGMS Metal Smithing/Silver Group Facebook page for those who want more sawing practice.

March 2 - Etching - (Part 1- Etching with Ferric Chloride)

Open to all who have completed their certification. Etch beautiful designs on various base metals using PCB etchant. This is a simple technique using minimal materials which produces beautifully patterned metal that can be used in jewelry making. We will not be making a finished piece of jewelry in this class however the metal you etch can be used for a later project we have planned



We have only a few slots left for this class. Please check at the meeting for space availability or contact Mindy or Shelly. The kit will be **\$6.00** which will include 3 x 3 inch sheets of copper, brass and bronze and one 1x6 bracelet blank to etch. All other supplies will be furnished. There will be a variety of rubber stamps available and some Sharpie pens if you want to draw your own design.

[Continued next page]

HGMS Jewelry Crafts [Continued]

March 9 - Bezel Setting a Cabochon. This is especially for those who completed the Certification classes but only completed your pendant project. It is also open to anyone else who is certified who would like to take the class. You will need to bring a round or oval medium sized (about 30 x 20 mm) cabochon that has a normal girdle---nothing with corners or points. We will cover setting those type stones at another time. The kit cost will be **\$4.00**. This class is limited to 10 people because of the number of torches and toolboxes available. We have only a couple of slots open. Check availability at the meeting.

Thursday, April 6: Etching Part II – Electro Etching. This is open to all who have completed certification. *A signup sheet will be available at the February HGMS meeting.* This is an alternate method of etching metal. It can be as simple as using salt water and 2 D size batteries to etch copper or brass or as complex as using a variable power supply and cupric nitrate to etch silver. Electro etching has the advantage of being repeatable from piece to piece and the etchant solution (except for salt water) is usable indefinitely and does not involve hazardous chemicals. The method of applying the “resist” to the metal is more involved than the methods used for chemical etching as Sharpie markers and stamp ink does not stand up to electro etching. I will not have a computer or laser printer available in this class to do custom designs so we will be using a variety of pre-printed designs on PnP paper as the resist. Kit cost is TBD.

Advanced/Experienced Group: The Advanced/Experienced Group will be meeting on the first *Thursday* of the month until further notice because the Paint Room is not available for us to use on Tuesdays. We plan several projects this year which will be of interest to our group which will also be open to everyone who is certified. We also have several classes planned for this year which will only be open only to the Advanced/Experienced Group.

Volunteer Positions

Program Manager/Treasurer Mindy Schell

Metal Smithing (Beginning/Intermediate/Advanced)

Lead Instructor/Adv. Grp Leader Kathy Bowman

Project Instructors Shelley Curran

& Opening

Safety Instructors Mindy Schell

& Opening

Webpage & Social Media Deborah Neis

Management Linda Haynes

Kit Manager Shelley Curran

Toolbox Sign-outs Opening

Inventory/Store Manager Opening

Rocket City Jewelers

Activity Group Leader Leslie Malakowsky

Kit Manager Shelley Curran



Left to Right: Kathy Bowman, Shelley Curran, Mindy Schell

*Please note we are all volunteers and most of us have jobs outside of HGMS.
Schedule is subject to change.

Lapidary & Related Arts Mentoring Program

Myra Soroczak has learned of interest from members in starting an exploratory mentor club. It would initially be ten couples - five new and five experienced. This could be done over four months during the year. One time a month the mentor would get together with the mentee.

If you are interested, please sign up at a meeting to be on either side of the table.

Pebble Pups - **New Year, New Place, New Ideas**

Thursday March 9, 6:00 to 7:00pm - A week earlier than usual
Madison County Senior Cafeteria (much larger space)



Please RSVP to Brian, **256-746-0641**,
bburgess771@gmail.com

With our new location in the Madison County Senior Center (see map), we have a new opportunity for using hands-on activities—crystal growing; mineral, fossil, and rock identification kits; and many other ideas with the ability to keep projects on site from month to month. Parking access is improved, cost is much reduced (no extra Pups fee for participation), and the Cafeteria is even friendlier than the Feb meeting. Enter the north center door, show your key tag to the computer red eye, and walk straight ahead.

We began the year last week with Rock Identification. We have kits with different types of rocks for you to identify (remember there are 3 types). We will be continuing this at the March meeting. Each of you started putting together your binder with all kinds of checks, instructions, charts, and other good information for you to use, to help with the identifications. **These are yours to keep and you will be responsible for bringing them to the meetings.** As we progress through the year and I find other materials and information, you can add it to your binders. I will have the label maker with me, so you can put your name on your binders. These binders will be your information foundation for years to come.

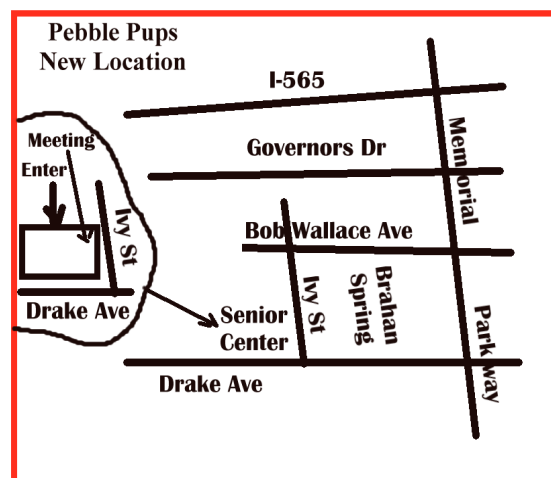
So get ready to Rock and Roll again.

We are exploring options for expanding the age range to include kids up through age 15.

With round tables in the cafeteria, we could tailor the activities separately for younger and older groups.

Kids ages 8 through 13 (for now) are invited to join this Junior Rock Enthusiasts Group. All participating families must have Family-Member status (the \$20 rate) in the HGMS and an adult family member must be present during the meeting. **We are now meeting at the Madison County Senior Center, 2200 Drake Ave, Huntsville AL. in the Cafeteria. Thanks**

Next Meeting Scheduled—March 9th



Mineral of the Month – Lapis Lazuli

By Leslie Malakowsky

This article was inspired by a polished specimen that an HGMS member brought to “show-and-tell” night!

Lapis lazuli (/ˈlæpɪs ˈlæzjuːli/), or lapis for short, is a semi-precious stone prized since antiquity for its intense deep-blue color. Lapis is a rock that consists of a mixture of minerals. An essential component mineral is lazurite, a *feldspathoid* and a member of the sodalite group of silicate minerals with the formula $\text{Na}_3\text{Ca}(\text{Si}_3\text{Al}_3)\text{O}_{12}\text{S}$. (Feldspathoids are a group of tectosilicate minerals that resemble feldspars but have a different structure and much lower silica content.) But the species lazurite is ultra-rare and there are no known specimens of pure lazurite.

All occurrences of lapis consist of additional feldspathoids such as hauyne, vladimirivanovite, and afghanite. Some samples can also consist of other silicates such as augite, diopside and enstatite. But the most common mineral component is hauyne, a sulphur-rich member of the sodalite group with the formula $\text{Na}_3\text{Ca}(\text{Si}_3\text{Al}_3)\text{O}_{12}(\text{SO}_4)$. Sulphur is the chemical that causes lapis' deep blue color. Most lapis also contains (in varying amounts) calcite (white), sodalite (blue), and pyrite (metallic yellow). The variety known as “denim lapis” has an even distribution of calcite that causes the blue color to resemble denim fabric. The variety known as “Chilean lapis” is flecked with golden pyrite.

Lapis is a rock, so there's no crystal system, but lazurite frequently occurs as dodecahedra. Other physical properties are: crystal habit: compact/massive; fracture: irregular/uneven/conchoidal; hardness: 5 – 5.5 on Moh's scale; luster: dull/sub-vitreous/greasy; transparency : opaque; streak: light blue; specific gravity: 2.7 – 2.9; refractive index: 1.5. Lapis also takes an excellent polish.

Lapis usually occurs in crystalline marble as a result of *contact* metamorphism. Marble is metamorphosed limestone that consists of recrystallized carbonate minerals such as calcite or dolomite. Contact metamorphism typically occurs around new igneous rocks as they intrude into cooler native rock.

Historically, the name “lapis lazuli” was used to describe hauyne and the rock that consists predominantly of hauyne plus calcite, sodalite, and pyrite. Today, the name is used to describe the material that we use as a decorative stone rather than its mineral content. Through time, the name has come to be associated with the stone's blue color, and the word for blue in many languages is derived from this name. For example, *azure* (English), *azur* (French), *azzurro* (Italian), *lazur* (Polish), *azur* and *azuriu* (Romanian), *azul* (Portuguese and Spanish), and *azúr* (Hungarian).

Lapis is the Latin word for “stone”. *Lazuli* is from the Medieval Latin word *lazulum*. Lazulum comes from the Persian word *lājawardis*, meaning “blue”.

It is also the name of a place where lapis lazuli was mined in Persia.

The earliest *published* use of the name is in The History of Gems

and Stones, published in 1609. This book was one of the most influential texts on minerals in the seventeenth century. The author, Anselmus Boetius de Boodt, a Flemish mineralogist and naturalist, was an avid mineral collector whose travels to various mining regions in Europe formed the basis of his book. (De Boodt, who with German-born Georgius Agricola, was responsible for establishing modern mineralogy.)

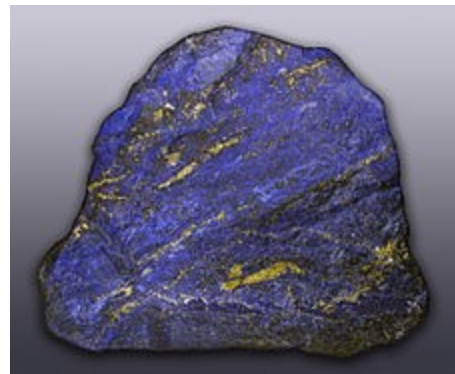
Lapis was mined for 6,000 years from limestone caves in Sar-e-Sang in the Kokcha River valley of the Hindu Kush Mountains in Northeast Afghanistan. It spread throughout the prehistoric world through trade. Lapis beads have been found at Neolithic burials in Mehrgarh, the Caucasus and Mauritania. Lapis was highly valued by the Indus Valley Civilization, the ancient Egyptians and Mesopotamians, and the later Greeks and Romans. In ancient Egypt, lapis was a favorite stone of royalty made into amulets and ornaments such as scarabs. It was used to decorate the funeral mask of the Egyptian pharaoh Tutankhamun (1341–23 BC).

At the end of the Middle Ages, lapis lazuli was exported to Europe, where it was ground into powder and made into ultramarine, the finest and most expensive blue pigment of the time. Ultramarine was used in frescoes and oil paintings by some of the most important artists of the Renaissance and Baroque periods, including Masaccio, Perugino, Titian and Vermeer. They often reserved ultramarine for the clothing of their central figures, especially the Virgin Mary. This practice ended in the early 19th century when a synthetic variety of ultramarine became available.

Today, mines in Northeast Afghanistan are still a major source of lapis. Additional major sources are Pakistan, Russia (West of Lake Baikal) and Chile (in the Andes mountains). Lesser sources are Angola, Argentina, Burma, Canada, India, Italy, Mongolia and the United States (California and Colorado).

Lapis is popular for making jewelry (cabochons, pendants, beads and inlay) and decorative items such as carvings, boxes, small statues and vases. It is also commercially synthesized to make ultramarine and hydrous zinc phosphates (a commonly used corrosion inhibitor). Sometimes spinel, sodalite, or dyed jasper or howlite are substituted.

References: Wikipedia, mindat.org



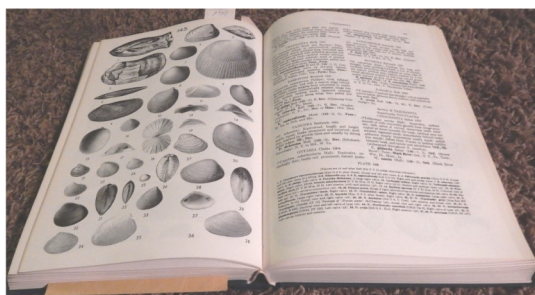


Mollusks - Anchors of the Tree of Life by Bill Friday

Mollusks include many familiar animals— oysters, mussels, scallops, and clams—which often show up on meal tables. They are close kin to other animals which we may not know as well—crinoids, snails, slugs, squids, conchs, and corals. They have been around in some abundance for a very long time, over 500 million years, and though they have changed and diverged dramatically in appearance and even in life functions, they still retain some of those original features—particularly their shells. When we look at a mass of mollusk fossils embedded in an ancient rock, we immediately know what they are, based on our current knowledge of

what they still look like. This characteristic has been intensively studied, with the aim of using these sturdy creatures as index fossils.

Basic anatomy aside, they have constantly and sometimes dramatically adapted their lifestyles to match the environments in which they find themselves—salt or fresh water, surface or submerged in mud, mobile or attached to rocks, armed or simply fast multiplying to keep ahead of predators. Documentation of these changes in features and appearance over the ages allows scientists to use them as index fossils. Their relative ages are tied to the rocks in which they are found, and



thus by association, anything found in the same rocks must be of the same age, whether that local rock's age is known or not. They may even identify the type and age of the rock itself. Other creatures which survived over long periods have also been attached to this same timeline, but it is the mollusks that anchor the whole fossil history of all animals. A difficult to read but thorough treatment of this important tool was prepared by Hervey Shimer and Robert Schrock, called *Index Fossils of North America*, MIT Press 1944, with over 800 pages and thousands of annotated photographs, covering major groups of marine animals.

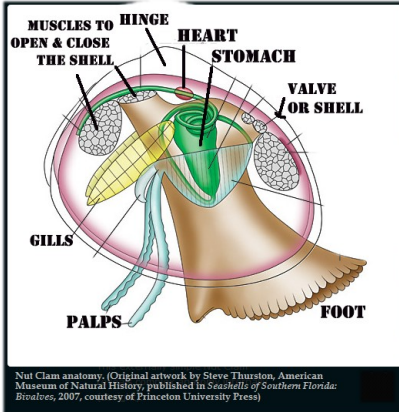
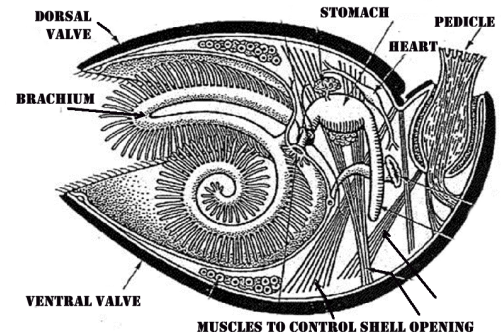
The two major groups of mollusks are brachiopods and pelecypods, better known as bivalves, with the shell halves being the valves. Their appearance is similar in some ways, but their internal organs are completely different. Brachiopods have shell halves above and below, generally dissimilar from each other, while pelecypods mostly have mirror image valves which encase the body on the sides. The more important differences will be explored later in the article.

In their evolution the brachiopods initially dominated the population, with pelecypods languishing in their shadow. At the time of the Permian Extinction, around 252 million years ago (MYA), when 95% of all life forms on earth were lost, these hardy creatures survived with enough critical mass to continue their separate developments. The brachiopods generally lacked mobility, making them susceptible to being eaten by any number of hungry predators, including some other mollusks. But with some critical new body features evolving out of that crisis, the pelecypods forever after have dominated the floors of oceans, rivers, and lakes. The later Cretaceous/Tertiary extinction, caused most likely by a huge meteor striking the Yucatan Peninsula around 65 MYA, again impacted all life forms including mollusks, severely reducing the number of all species in the world by around 75%. But the hardy mud-dwellers again rebounded. Today there are only a few living brachiopods, with only about 325 species extant today, while there are around 15,000 known types of pelecypods, thriving in nearly every niche of marine environment found on earth. There are more types of gastropods (snails) than mollusks, but their habitat is mainly dry land, where fossilization is less sure, and they don't span such a long age range, so the primary index is based on mollusks.

So what makes these animals so resilient? The shells in which they are encased are actually rocks themselves, made of calcite or a related mineral aragonite which converts to calcite upon decomposition. They are either preserved over the eons as original material or as imprints—casts or molds. Often even tiny details of internal organs can be interpreted from the fossils when the entombment was fast enough, sealing out oxygen and isolating from predators.

All brachiopods are suspension feeders, and extract food from the water around them using a structure known as a lophophore (not shown). Water is drawn in through this lophophore, food is extracted by the brachium, and the remaining water and fecal matter are ejected back through the lophophore. The soft tissues of a brachiopod are enclosed by two valves, which can be opened and closed by muscles. All are sessile, and most are attached permanently to

some substrate via a fleshy appendage known as a pedicle.



Pelecypods make use of a variety of lifestyles. Sedentary species (e.g., mussels and oysters) spend their lives attached to substrates, whereas others burrow underground (e.g., clams) or live on the bottom and swim (e.g., scallops). Some bore into their substrates, as “shipworms” have sunk old wooden sailing ships. Pelecypods have highly reduced heads and simple nervous and sensory systems. Most species have some chemosensory cells at the edge of the mantle that are used to detect chemical signals in the water. Some also have simple eyes. They have an open circulatory system.

This series will continue as we explore other major groups of fossils which have revealed very important clues to our own evolution. Like it or not, we have common ancestors with all of the creatures on earth from some point in the dim distant past.

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[MNN.com](#) > [Earth Matters](#) > [Wilderness & Resources](#)

Meteorite fragment contains bizarre crystals never seen before in nature

Bryan Nelson December 19, 2016, 3:03 p.m.

Solid matter is typically understood to come in just two forms: patterned and crystalline, or amorphous and disordered. But scientists investigating fragments from the Khatyrka meteorite in Siberia have found something truly otherworldly. Hiding within grains of space rock less than a millimeter thick, they have found so-called "quasicrystals," bits of matter that seem to represent a third, in-between solid form, reports New Scientist.

Quasicrystals aren't entirely unheard of. They are theoretical entities, first dreamed up by Paul Steinhardt of Princeton University in the early 1980s, and scientists have been able to synthesize them in the lab since 1982. But they've never been found in nature —until now. So far, three different forms of quasicrystal have been uncovered, but all three were found in a single crater in Siberia, all bits from the Khatyrka meteorite.

"It's hard to look systematically for these things, because we're talking about grains which are typically tens, or maybe a few hundred microns, in size, and you have to look through a gigantic meteorite at each little grain that size," said Steinhardt. "Unless you were completely crazy like we were, you wouldn't be doing that."

When asteroids collide?

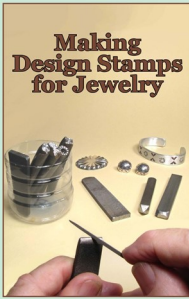
The thing that makes quasicrystals so unreal is that they have a regular structure but not in a repeating pattern. They require extreme conditions to form, conditions too extreme to naturally form on Earth. Scientists have surmised that they might form during violent impacts in space, such as when asteroids collide. It's possible that the Siberian quasicrystals originally formed sometime in the early, chaotic years of the solar system.

It's certainly a fascinating find, but not one with any foreseeable practical applications ... not yet, anyway. Steinhardt has taken advantage of the hard, slippery surface of the odd material to fashion a quasicrystal-coated frying pan, which sits in the corner of his office, but he hopes that future scientists will find a more profound use for the stuff eventually.

"It's not out of the question that someone will find a really good use for quasicrystals one of these days," said Paul Asimow at the California Institute of Technology, who helped study the origin of the materials.

Brad's Bench Tips

"Bench Tips for Jewelry Making" and "Broom Casting for Creative Jewelry" are available on Amazon www.BradSmithJewelry.com



Bradford M. Smith

Recommended as a good buy and good reading for all who like to have better lapidary skills. S.S. <http://www.goodreads.com/author/show/> See all Brad's jewelry books at Amazon.com/author/author/bradfordsmith

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Announcing Brad's latest jewelry techniques book for those who like South-west-style stamped jewelry.

"**Making Design Stamps For Jewelry**" covers the step-by-step process of selecting best steels, carving the design, hardening the steel, and tempering the completed stamp to ensure a long service life. It describes the tools to use, gives examples for how to make several design stamps, and 78 close-up photos that illustrate the important details. Both Kindle and paperback editions are on Amazon at <http://amzn.to/2fvf58T>

ADJUSTABLE CHUCK FOR DREMELS

Many of us have a Dremel motor tool to use at home or when out to a class or workshop. The one thing that makes this tool much more productive is the addition of one inexpensive option, an adjustable chuck.

The basic motor tool as sold typically comes with a collet chuck. This means you have to use a wrench to change every tool bit, you have to switch collets to use different shaft sizes (3/32 or 1/8 inch bits), and you can't use ordinary drills at all - only the special ones that have a 3/32 shaft.

A simple and inexpensive (\$12) adjustable chuck solves all of this. It's available in most large local hardware stores or modelmaking outlets.

Tightening the chuck is done easily by hand to any size shaft. No key is required.



**Club members are reminded to
bring back any show yard signs that
they have so they can be changed
for the next show.**

Thanks, Tony Smith

**Membership Renewals were Due on January 1.
Time is running out for maintaining your participation in
our great association.**

UAH Science Olympiad, Volunteers Needed

HGMS supports the University of Alabama in Huntsville with the annual Science Olympiad by organizing and overseeing the Rocks and Mineral Division and the Fossil Division. The Olympiad is open to student teams from regional Middle and High Schools. We develop the materials and tests for the competitions, set up the rooms, monitor the testing, and grade the papers.

This year the focus is on Rocks and Minerals, and students spend months preparing. Nineteen Middle School and 28 High School Teams have entered the competition which will be held at the Shelby Center on the UAH campus, Saturday, March 4. **WE NEED AT LEAST 4 VOLUNTEERS** to be there about 8:30 to set up; the Middle School session is from 9 to 10 and High School from 10 to 11. We then grade the answer sheets and replace the room furniture for UAH classes. We finishing noon. UAH provides box lunches for the volunteers.

This is our opportunity to not only provide a community service, but also to **INSPIRE FUTURE ROCKHOUNDS and FUTURE CLUB MEMBERS.**

If you could help on March 4, please contact Lowell Zoller, 256-534-8803,

Lzol@comcast.net.

Feb DMC Field Trip Report—Brookwood Mine. Sat Feb 18th

For a change, the Dixie Mineral Council offered a venue which was conveniently close (only 130 miles from Huntsville) and yielded popular materials—colorful agates and jaspers, pudding stone, breccia, a few fossils. Most popular were the “Paint Pots”. The active coal mine is now being mostly used for fracking deep natural gas. We benefitted from the spoils piles left from the prior surface mining, which reached through an enormous alluvial (ancient river origin) gravel bed. At least 21 members of the Huntsville Gem & Mineral Society took advantage of the opportunity to collect nice specimens, to greet each other, and to meet other rockhounds from Florida, Georgia, Mississippi, and Tennessee. The weather was cool and overcast—about as good as you could ask for. The scenery was spectacular. Special thanks to the **Alabama Mineral & Lapidary Society** in Birmingham for serving as gracious and efficient hosts. A good time was had by all.





Dixie Mineral Council Field Trips

The Southeast Federation of Mineralogical Societies, Inc



The Friendly Federation - Founded in 1976 to serve
DMC Program of the SFMS Field Trip Committee
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An Official Field Trip of the Mississippi Gem and Mineral Society (Florence, MS) (HOST)

An Official Field Trip of the Huntsville Gem & Mineral Society

Saturday, March 25, 2017

Hammett Gravel Pit, Redwood, Mississippi

TRIP: This is an active gravel pit producing sand and gravel for industries. The site has igneous, metamorphic and sedimentary rocks. The hunt site includes "oversize" rocks culled from commercial gravel. Citronelle gravel is mined from a layer 40 feet below Ice Age loess soil. The abundance of agate, coral and other fossils made this site a favorite last year.

COLLECTING: Expect to find agates, coral and other fossils, geodes, chunks of petrified wood and Sioux quartzite. A few unusual finds included a magnificent Petoskey stone and a piece of St. Francois Mountain rhyolite.

BRING: We'll hunt around and on tall piles of gravel. Bring a bucket, bag or backpack for collecting as you climb on the gravel piles. A walking staff is helpful but not necessary. Wear close-toed shoes to protect feet. If you need ankle support, wear hiking boots. An extra pair of "muck" boots might be helpful if there is mud. Wear clothes that you won't be afraid to get dirty and bring a change of clothes. Weather may be cold and/or windy. Bring a coat and dress in layers. Expect cold mornings and warm afternoons. If you have allergies or require medication, please bring your medication. Bring water, snacks and drinks. Pack a lunch if you expect to stay until 2 p.m. Bring gloves, hat, sunglasses, sunscreen and a chair.

REQUIREMENTS: The collecting area will be limited to specific gravel piles that will be announced on site. Participants must stay off equipment, away from slopes adjacent to ponds, out of ponds and away from loess walls.

SPECIAL CONDITIONS: We will not park close to the hunt piles. Unless you are very selective, you will make multiple trips to your auto to deposit your finds to avoid potential injury. Footing on the gravel piles can be tricky. People who have stability issues should stay at the bottom of the gravel piles. It will still be good hunting. Walking and digging on steep slopes can lead to slides. Be aware that gravel slides are possible. Care must be taken when around the ponds. Stay away from the edge of rock piles against the ponds. This is a remote area with little or no cell phone reception.

REGISTRATION REQUIRED: Registration deadline is Wednesday, March 22. Please let us know if you will attend and the best way to contact you. In case of bad weather or weather damage to the site, we might have to cancel. Spring in Mississippi can bring heavy rain, sleet, or snow as well as crisp, breezy or wonderfully warm weather.

Contact: Rosina Echols: 601-825-5752 or rosinae@bellsouth.net.

CHILDREN: Children are allowed - minimum age 8 years. Adult supervision is required at all times. Children may not throw rocks or run at the site, especially on the gravel piles. Care should be taken when around the ponds. No climbing on equipment is allowed. No pets are allowed.

FACILITIES: No stores or facilities are close to the collecting site. A portable toilet will be on the site. At the meeting place before the convoy goes to the site, there will be drinks, snacks, some prepared breakfast/lunch food items, and restrooms. Hotels and restaurants are available in both locations. If you would prefer to stay in the Jackson area, there are a variety of hotels and restaurants available at Exit 48 (Pearl).

DIRECTIONS AND WHERE TO MEET: We will meet at 8:00 a.m. CDT at the Chevron Truck Stop on the south side of I-20 at Exit 27 (Bolton exit). This is west of Jackson and Clinton / east of Vicksburg. Please sign in when you arrive. Prior to departure, there will be a short discussion of the plans for the day. We will leave the truck stop at 8:15 a.m. We will drive approximately 10 minutes west on I-20, then travel on gravel roads to the hunt site for about 30 minutes. If you have trouble, call Trip Leader David Kraft, 601-613-7360. david@truckservicesms.com

February Birthdays

1 Ryan Flippo	10 Tony Smith
1 Darrell Murphy	11 Karin Bath
1 Briley Poff	12 Angie Gilchrist
2 Julie Eve	17 Eli Gilchrist
2 Michael Cape	17 Dave Kalange
4 Taylor Gulliver	17 Don Cooper
5 Alli Curran	17 Mary Lauren Thompson
6 Doran Adams	18 Wayne Falkenberg
6 Mike Goode	19 Ethan Hunneycut
6 Savanna Emerson	23 Mark Robinson
7 Antonio Bedard	25 John Cook
7 Lester Bartel	27 Rose Smith

Anniversaries

2 Dortha Chism
12 Don & Marie Aldridge
18 Karen & Gary Thompson
19 Steven & Christine Tate
20 Ben Hunneycut & Brandy Hyatt

March Birthdays

5 Allison Kowalczyk	21 Teresa Roberts
5 Jacob Roberts	22 Susan Hessler
8 Virgil Fischer	22 Gene Powers
14 Sarah Herman	22 Harry Wiley
15 Carol Roden	24 Preston Hurst
15 Victoria Bedard	24 Carson Knight
16 June Kalange	27 Kelly Gulliver
18 Michael O'Dell	29 Mark Bishop
18 Ola Ann Lee	29 Linda McKinney
19 Ben Carroll	29 Mario Bedard
20 Robert Broussard	30 Chelie Britt
20 Charlotte Gilchrist	30 Robyn McCoy
21 Leigh Ann Hurst	Julie McCullough

Anniversaries

7 Barbara Deckelman
14 Ben & Monika Carroll
18 Robert & Gayle Joyce
22 Wayne & Rhonda Hall
24 Margaret & Jerry Olson
28 Leigh Ann & Preston Hurst
31 Wendell & Mary Lou Allen

February 2017 - Senior Center Lapidary Lab Schedule Lapidary, Silver Jewelry and Wood Carving—

To use lapidary equipment, you must be certified unless a licensed instructor is present
- currently: B. Friday, & C. Kalange

Monday	7:30am-9:00am	Open Lab: Lapidary, certified HGMS 60+
	9:00am- Noon	Silver Jewelry - Ron West, Instructor - Seniors & HGMS 60+
	Noon-4:30pm	Open Lab: Lapidary, certified HGMS 60+
Tuesday	7:30am-9:00am	Open Lab: Lapidary, certified HGMS 60+
	9:00am—Noon	Silver Jewelry - Ron West, Instructor - Seniors & HGMS 60+
	Noon -3:00 pm	Silver Jewelry- Terry Clarke, Instructor - Seniors & HGMS 60+
	3:00pm-4:30 pm	Open Lab: Lapidary, certified HGMS 60+
Wednesday	6:00pm-9:00pm	Open Lapidary & Open Jewelry - certified HGMS 18+
	7:30am-4:30 pm	Open Lab: Lapidary - certified HGMS 60+
	6:00pm-9:00pm	Open Lapidary & Jewelry - certified HGMS 18+
Thursday	7:30am-9:00am	Open Lab: Lapidary - certified HGMS 60+
	9:00am-11:30am	Silver Jewelry- Ron West, Instructor - Seniors & HGMS 60+
	Noon-3:00pm	Wood Carving - Copeland, Instructor - Seniors & HGMS 60+
	3:00pm-4:30 pm	Open Lab: Lapidary -certified HGMS 60+
Friday	6:00pm-9:00pm	Metal Smithing & Jewelry Classes— HGMS 18+
	7:30am-12:00am	Open Lab: Lapidary - certified Seniors & HGMS 60+

2017 HUNTSVILLE GEM & MINERAL SOCIETY OFFICERS

President: Mike Harrison 256-797-2435

wm.harrison.123@gmail.com

Vice President— Mark Habercom

mhabercom@energize.net

Recording Secretary: Dorothea Chism

dorotheachism@gmail.com

Treasurer: Clara Goode, 256-883-9194

clarag1964@gmail.com

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2705 Jarvis Street S. W. Decatur AL 35603

2017 COMMITTEE CHAIRS

Membership: Bill Friday— 256-527-8227

bill.friday@earthlink.net

2508 Excalibur Dr. Huntsville AL 35803

Scrapbook: Dianna O'Dell, 256-828-1813

Librarian: Leslie Malakowsky, 256-755-0479

Club Publicity: open

Education & Craftsmanship: vacant

Field Trips: Brian Burgess, 256-746-0641

Hospitality: Caryl Nixon 256-426-5061

caryl.nixon@outlook.com

Mineral ID: Wayne Falkenberg—

falkenbergwp@comcast.net

(William Holland offers a class for this)

Property: Chris Kalange, 256-883-7627

ckalange@comcast.net

Program Chair—Myra Soroczak 256-446-9938 -

Soroczak@yahoo.com

Show Chair: Tony Smith, 256-603-3095.

Show Vendor Chair: Lowell Zoller, 256-534-8803

Show Volunteer Chair: Open for a Volunteer

Show Publicity Chair: Tony Smith, 256-852-3210

Show Treasurer: Clara Goode, 256-883-9194

clarag1964@gmail.com

PURPOSE OF THE SOCIETY: The Huntsville Gem & Mineral Society is a non-profit educational organization for people interested in mineralogy, geology, paleontology, and related lapidary arts. Its primary purpose is the education of the members and the general public in these areas. This purpose is accomplished through programs, shows, lectures to school children and organizations, and exchange of rocks, minerals and artifacts.

DUES: Annual dues are \$15.00 per person, \$20.00 per family, and are due on January 1st of each year

Membership Applications may be found at our webpage www.Huntsvillegms.org, at meetings, or the lab

MEETING PLACE: Huntsville/Madison County Senior Center, 2200 Drake Ave, Huntsville, AL at 6:30pm.

DATE: Fourth Tuesday of each month except for June picnic/rock swap, Christmas Dinner and major holidays.

Federation Liaison: Huntsville Gem & Mineral Society, 2705 Jarvis St SW, Decatur AL 35603, Attn: Charlie Willhoite

The Society is affiliated with the American Federation of Mineralogical Societies ,
the Southeast Federation of Mineralogical Societies, and the Dixie Mineral Council

Federation Newsletters:

SFMS: www.amfed.org/sfms/lodestar_newsletter.html

AFMS: www.amfed.org/news/default.htm

DMC: http://www.amfed.org/sfms/_dmc/dmc.htm



2017 CALENDAR

28 Feb '17 - Regular HG&MS Meeting, Madison County Senior Center,
2200 Drake Ave, Huntsville, AL 6:30pm
28 Mar '17 - Regular HG&MS Meeting, Madison County Senior Center,
2200 Drake Ave, Huntsville, AL 6:30pm
Apr '17 - Annual Rock Auction— date & details to be finalized
Jaycees Bldg, 2180 Airport Rd, Huntsville AL
23 May '17 - Regular HG&MS Meeting, Madison County Senior Center,
2200 Drake Ave, Huntsville, AL 6:30pm
17 Jun '17 - Annual HGMS Picnic—
Monte Sano State Park, Huntsville AL
25 Jul '17 - Regular HG&MS Meeting, Madison County Senior Center,
2200 Drake Ave, Huntsville, AL 6:30pm
22 Aug '17 - Regular HG&MS Meeting, Madison County Senior Center,
2200 Drake Ave, Huntsville, AL 6:30pm
26 Sep '17 - Regular HG&MS Meeting, Madison County Senior Center,
2200 Drake Ave, Huntsville, AL 6:30pm
13-15 Oct '17 - Fall HGMS Gem Jewelry Show -
Jaycees Bldg, 2180 Airport Rd

Deadline for Next Newsletter— March 18, 2017

Rocket City Rocks & Gems

Bill Friday, Editor
2508 Excalibur Dr.
Huntsville, AL 35803

HGMS February 2017



Dated Material
Do not Delay