



Volume 65 ♦ Number 08 ♦ August 2019 ♦ A monthly newsletter for and by the members of MAGS

Indoor Picnic & Rock Swap

August Program

Jane Coop

**A Mid-Summer
Rocking Rock Swap
And Indoor Picnic**

Friday
August 9, 2019
7:00 pm

BRING For the Rock Swap

- money (some take credit cards)
- **If you are selling**, bring
 1. your own table
 2. your own material
 3. a donation for the door prize drawing

AND For the Picnic

- **Bring a LOT of food**

Suggested guide: by last name

A-H–Appetizers, Side Dishes, Veggies
I-T–Main Course Dishes
U-Z–Desserts

Activities

- Music hits from the 1950s and 1960s. If you feel so moved, ladies wear a poodle skirt, guys get a crew cut, and anyone or everyone can DANCE.

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MAGS YOUTH AND MOHS

During the July youth program, Jane Coop talked about the MOHS Hardness Scale. The MOHS Scale was created by the German mineralogist Friedrich Mohs in 1812. He based this scale on ten readily available minerals and their ability to scratch other minerals. According to the scale, Talc is the softest mineral. Talc can

MOHS Hardness Scale	
1	Talc
2	Gypsum
3	Calcite
4	Fluorite
5	Apatite
6	Feldspar
7	Quartz
8	Topaz
9	Corundum
10	Diamond

be scratched by all other materials. Gypsum is harder than talc. It can scratch talc but cannot scratch calcite, and so on.

The hardness of a mineral is the measure of the resistance of the mineral to being scratched. Hardness is primarily controlled by the strength of the bonding between the atoms that make up the

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MIKE BALDWIN

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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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.

DMC

- ➔ No August DMC Field Trip.
- ➔ New member club: North Mississippi Gem and Mineral Society, Tupelo, Mississippi. They will host their first DMC field trip in May, 2023.

Links to Federation News

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

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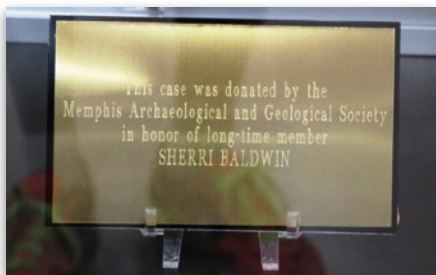
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MAGS Youth and MOHS mineral. Continued from P. 1 It's also controlled in part by the size of the atoms. MAGS has purchased a few MOHS Hardness Kits for use by our youth. We will be accessing these kits on occasion to test some of the rocks and minerals we talk about during our programs.

Here's a couple of questions for you. Is a mineral a rock? Is a rock a mineral? The answer to both questions is "No." No, a mineral is not a rock. A mineral is a mineral (complete with its own set of qualities, colors, and specifications) No, a rock is not a mineral. A rock is a solid, stony mass composed of a combination of two or more minerals (or other organic compounds) fused together. For example, quartz and feldspar are minerals, but when fused, they make a rock called granite. Here (P. 1) is a MOHS table for your quick reference. Play around with it at home. Check some of your minerals (maybe not your mom's diamond ring though).

MAGS/Chucalissa Dedication

Mike Baldwin



Approximately 30 people attended the dedication reception of the MAGS-sponsored Chucalissa display case at the C. H. Nash Museum. The case houses pottery



excavated from the village years ago. The case was dedicated to the memory of Sherri Baldwin. Thank you to all who attended, and thank you, W. C., for your comments.

July Field Trip Canceled, More To Come

Kim Hill

Well, the Mid-South weather proved too much for rockhounds. With the heat advisories out we decided it was best to cancel the July field trip to Turkey Creek. I will try to reschedule it for a cooler month in 2020. Or if you have free time during the week give me a holler.

The August 17 trip is to the Parkin Museum in Arkansas. Other Members have been there and said they really enjoyed it. The club will pay for Members, if you sign up in advance.

Remember to put the September trip on your calendar. Sept 27-29, Geode festival in Hamilton, Illinois.

Get up. Get out. Hunt rocks.

Kim

Keokuk Area Convention & Tourism Bureau
Presents

Geode Fest and Rock Show

Family Fun!
2019

Sept. 27, 28 & 29

Chaney Creek Boat Access
IL Highway 96 N
Hamilton, Illinois

Guided Hunts
Friday - Saturday - Sunday
Dealers with Rocks, Minerals, Fossils & Jewelry
Displays Identification
Geode Cracking

For More Information, Contact:
Kirk Brandenberger (319) 524-5599
www.keokukioatourism.org

Super-Secret Sand

Matthew Lybanon, Editor

It plays a key role in manufacturing the chips that make your computers, tablets, and cell phones possible. The world's biggest telescope is made from it. It's the raw material for the fiber optic cables that connect the world. The highest-purity form of this natural mineral comes from a small North Carolina town.

The mineral is quartz, silicon dioxide (SiO₂), in *Continued, P. 4*

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Super-Secret Sand the form of
Continued from P. 3 sand. The town
is Spruce Pine,
North Carolina, 50 or so miles
northeast of Asheville, population
2,175 in the 2010 census. Its down-
town consists of a train station
across the street from a couple of
blocks of two-story brick build-
ings, including a long-closed movie
theater and several empty store-
fronts.

Spruce Pine is the source of
the purest natural quartz ever
found on Earth. About 380 million
years ago the area was located
south of the equator. Plate tecton-
ics pushed the African continent
toward eastern America, forcing
the heavier oceanic crust under-
neath the lighter North American
continent. The friction of that
colossal grind generated heat top-
ping 2,000°F, melting the rock
that lay between 9 and 15 miles
below the surface. The pressure on
that molten rock forced huge
amounts of it into cracks and fis-
sures of the surrounding host
rock, where it formed deposits of
what are known as *pegmatites* (ig-
neous rocks, formed underground,
with interlocking crystals usually
larger than 2.5 cm in size).

It took some 100 million years
for the deeply buried molten rock
to cool down and crystallize.
Thanks to the depth at which it
was buried and to the lack of wa-
ter where all this was happening,
the pegmatites formed almost
without impurities. Generally
speaking, the pegmatites are about
65% feldspar, 25% quartz, 8%
mica, and the rest traces of other
minerals. Meanwhile, over the
course of some 300 million years,

the plate under the Appalachian
Mountains shifted upward.
Weather eroded the exposed rock,
until the hard formations of peg-
matites were left near the surface.

Native Americans mined the
shiny, glittering mica and used it
for grave decorations and as cur-
rency. American settlers tried their
hand at the mica business, but
there were no rivers, roads, or
trains. They had to haul the mater-
ial out on horseback.

The region's prospects started
to improve in 1903 when the
South and Western Railroad com-
pany, while building a line from
Kentucky to South Carolina,
carved a track up into the moun-
tains, a serpentine marvel that
loops back and forth for 20 miles
to ascend just 1,000 feet. Once
this artery to the outside world
was finally opened, mining started
to pick up. Locals and wildcatters
dug hundreds of shafts and open
pits in the mountains of what be-
came known as the Spruce Pine
Mining District, a swath of land 25
miles by 10 miles that sprawls over
three counties.

During World War II, demand
for mica and feldspar boomed.
Prosperity came to Spruce Pine.
The town quadrupled in size in
the 1940s. At its peak, Spruce Pine
boasted three movie theaters, two
pool halls, a bowling alley, and
plenty of restaurants. Three pas-
senger trains came through every
day.

For years, locals would simply
dig up the pegmatites and crush
them with hand tools or crude
machines, separating out the
feldspar and mica by hand. (The
left-over quartz was considered

junk, at best fit to be used as con-
struction sand, more likely thrown
out with the other tailings.) Scien-
tists working for the Tennessee
Valley Authority, collaborating
with researchers at North Carolina
State University, developed a much
faster and more efficient method
to separate out minerals, called
froth flotation.

It was the feldspar, which is
used in glassmaking, that first at-
tracted Corning Glass Company
to the area. One of Spruce Pine
quartz's greatest achievements in
the glass world came in the 1930s,
when Corning won a contract to
manufacture the 200-inch, 20-ton
mirror for what was to be the
world's biggest telescope, ordered
by the Palomar Observatory in
Southern California. Making it
involved melting mountains of
quartz in a giant furnace heated to
2,700°F.

California was also involved in
what makes Spruce Pine sand such
a valuable resource today. In the
mid-1950s, thousands of miles
from North Carolina, a group of
engineers in California began
working on an invention that
would become the foundation of
the computer industry. This article
would be much longer if it went
through the history of the devel-
opment of the modern solid-state
electronics industry. Instead, let's
just reveal the nickname for this
area of California: Silicon Valley.

Making computer chips is a
fiendishly complicated process.
They require essentially pure sili-
con. Leaving out a great many de-
tails, high-purity silica sand is
blasted in a powerful electric fur-
nace, creating a

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Super-Secret Sand chemical reaction that separates out much of the oxygen. That leaves you with what is called silicon metal, which is about 99% pure silicon. But that's not nearly good enough for high-tech uses. Silicon for solar panels has to be 99.999999% pure. Computer chips are even more demanding: eleven 9s after the decimal point.

A chemical process converts the silicon metal into two components. One is *trichlorosilane*, which is treated further to become *polysilicon*, an extremely pure form of silicon that will go on to become the key ingredient in solar cells and computer chips. The polysilicon has to be melted down. This is where Spruce Pine quartz comes in. It's the world's primary source

of the raw material needed to make the fused-quartz crucibles in which computer-chip-grade polysilicon is melted.

Spruce Pine is the source of a billion-dollar industry because of the geological accident that put the ultra-high-quality sand there. Today one company dominates production of Spruce Pine quartz. Unimin, an outfit founded in 1970, has gradually bought up Spruce Pine area mines and bought out competitors, until today the company's North Carolina quartz operations supply most of the world's high- and ultra-high-purity quartz. (Unimin is now a division of a Belgian mining conglomerate, Sibelco.) There are a few competitors, but Unimin controls the bulk of the trade. Only Unimin knows exactly how much Spruce Pine

quartz is produced, because it doesn't publish any production figures. It is an organization famously big on secrecy.

The foreign ownership, plus the fact that the mines are highly automated, means that they don't need many workers. One of the few new sources of jobs are several huge data processing centers that have opened up in the area. Attracted by the cheap land, Google, Apple, Microsoft, and other tech companies have all opened up server farms within an hour's drive of Spruce Pine.

Want more information? Look for *The World In A Grain*, by Vince Beiser, ISBN-10: 0399576428, ISBN-13: 978-0399576423.

Editor's Note: Thanks to Dr. A. W. Green for sending information about this unique geological locale.

July Meeting Programs



Jane Coop explaining the Mohs scale to Juniors



Ryan Parish telling the adults about Poverty Point

Indoor Picnic & Rock Swap *Continued from P. 1*

- What rock/fossil mineral is inside this jar?
(From the last rock swap ... where no one guessed it)
- Name those dinosaurs

- 901 Rocks
- **Work—come earlier to help set up and stay late to help clean up.**



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Adult Programs

August: Indoor Rock Swap/Picnic
September: Dr. Elizabeth Rhenberg, "Crinoids"
October: Bill Prior, "Sinkhole In Arkansas"

Junior Programs

August: Indoor Picnic with the adults
September: Kim Hill, "Native American Lore and Artifacts"
October: W. C. McDaniel, "Everyday Uses of Minerals"

Field Trips

August 17: Parkin Museum, Arkansas
September 27-29: Geode Fest, Illinois
October 12: DMC Field Trip (MAGS-Sponsored), Memphis Stone & Gravel Co.

August Birthdays

- 1 Cornelia McDaniel
- 3 Mike Coulson
Jane Brandon
- 12 Ron Brister
David Murray
- 13 George Krasle
- 14 Rommel Childress
- 16 George Loud
Letitia Brister
- 17 Sophia Coulson
Christine Lemons
- 19 Heidi Kitkowske
- 20 Dana Armstrong
Jan Shivley
- 23 Stephanie Blandin
Sendi Palmer
- 25 Lenora Murray
- 27 Ricardo Ortiz
- 28 Beth Day
Susan Cohn
- 31 Teresa Potter

New Members

- Mitchell and Sandy Childress
- Paul and Jackie Lefebvre and children
- Karen and Joe McIntire and children
- Olga Smoliar and Jeffrey Soucia and son Nick
- Susan Cohn

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.



Fabulous Tennessee Fossils

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

FTF 55

Dunbar's Blastoid Echinoderm: *Decaschisma lorae*



Carl O. Dunbar's fossil collection in the Peabody Museum at Yale University contains several species that Dunbar described as new at the time he

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Kingdom Animalia	Order Fissiculata Jackel, 1918
Phylum Echinodermata	Family Phaenoschismatidae Etheridge & Carpenter, 1886
Subphylum Blastozoa Sprinkle, 1978	Genus <i>Decaschisma</i> Fay, 1961
Class Blastoidea Say, 1825	Species <i>lorae</i> (Dunbar, 1920)

Fabulous Tennessee Fossils did his dissertation and published on his “happy hunting ground” for fossils. In previous essays, we looked at the three new species of coral he named and described: *Favosites foerstei*, *Pleurodictyum trifoliatum*, and *Zaphrentis parsonensis*. Dunbar also named two echinoderm species from his collections: one blastoid and one crinoid. Let’s turn our attention to the blastoid echinoderm.

Blastoids, or “sea buds”, are stalked echinoderms with a rosebud-like crown (calyx) and generally lacks the numerous distinctive arms that characterize crinoids. Both blastoids and crinoids are also referred to as “pelmatozoans”, especially when the calyx is not present and we are forced to rely upon the stem for fossil work (see FTF #9 for more on pelmatozoans). Blastoids originated in the Ordovician and suffered their extinction during the great Permian Extinction event. Their “heyday”, or acme, was during the Mississippian period. One of the most recognizable blastoids is the genus *Pentremites*, which occurs in Tennessee, and which displays the five-fold symmetry, which is considered a primary trait of many echinoderms. In 1919, Dunbar reported the occurrence of a new species of the blastoid genus *Codaster*, which he named *Codaster lorae*, which he then published the description of in 1920 as part of the Transactions of the Connected Academy of Sciences. Now quickly look up at the taxonomy box at the beginning of this article. Note that the genus listed is not *Codaster*, but *Decaschisma*, and that I

have written the author and date within parentheses this time. This form of the name indicates that the genus and/or species has been revised since Dunbar originally named it and the species was removed from the *Codaster* genus and placed within the *Decaschisma* genus. In actuality, this species has been moved twice! Follow carefully as these changes can become complex to follow.

Over 400 million years after this animal died in what will become West Tennessee, in 1919, the first event in the scientific history of this organism occurs when Dunbar lists *Codaster lorae* as being a very rarely encountered blastoid fossil from the Birdsong Shale. Dunbar found the only two specimens along Birdsong Creek near Allen’s Mill (property owned by J. P. Rains), which is 2.5 miles north of Parsons (the mill remains no longer exist). However, he did with the corals we read about in earlier essays, Dunbar did not publish the actual taxonomic description and name of this new blastoid until 1920 and in a different publication. So far so good, *Codaster lorae* Dunbar, 1920 officially becomes known to the scientific community and the taxon remains unmodified for the next fifty-two years. Only a few more specimens found in other areas—no more specimens are found in Tennessee. Dunbar’s syn-type specimens (meaning the two specimens have equal weight in the naming and describing) are housed at the Yale Peabody Museum, where it remains to this day, and where I looked at it a few weeks ago on my visit to the museum (Figure 1).

Then in 1972, Albert Breimer and D. Bradley Macurda, Jr., both echinoderm paleontologists at the University of Michigan’s Museum of Paleontology, and who had been working on blastoids for decades, published a very large volume and influential monograph on the biology of “fissiculate” blastoids, in which they revised the taxonomy of that entire group. (“Fissiculate” refers to the slit-like shape of the respiratory openings in a blastoid.) In that publication, they revised the genus *Codaster* and moved *C. lorae* into a different genus, *Leptoschisma*. Hence, our “rare little blastoid” blastoid as Dunbar had referred to it in 1920, becomes *Leptoschisma lorae* (Dunbar, 1920). In that same publication, Breimer and Macurda also erected a new taxon, *Decaschisma pulchellum*, for a somewhat similar (but still different in their assessment) group of specimens collected from the Silurian-age Waldron Shale of Indiana, and which we will see below will become important to our Tennessee blastoids collected by Dunbar. Later in 1983, Brad Macurda published another monograph in which he used this same genus and species combination of *Leptoschisma lorae* (Dunbar, 1920). While this name for Dunbar’s blastoid remains unchanged for the next thirty-two years, at about the same time and in the same place that Dunbar had found the original specimen, the seeds of another change were being sown.

Now enter into the picture my good friend, field partner, and lab mate in the middle 1980’s, Craig R. Clement, originally from upstate New York. I arrived at UT

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Fabulous Tennessee Fossils Knoxville
Continued from P. 7 in 1984

fresh from teaching my first paleontology classes at Auburn University, to begin my PhD at UTK. Craig Clement was already in the program and, after aborting an earlier dissertation topic, had chosen to do complete his dissertation under Dr. Thomas W. Broadhead, an echinoderm and conodont worker, on the echinoderms of the Silurian and Devonian strata of West Tennessee. I entered the Broadhead Lab to work on the biotic interactions and depositional environments of the Ross Formation in West Tennessee. Craig and I made many trips together to all of Dunbar's original sites, plus many more sites we found, jointly carrying out our fieldwork, often camping at Natchez Trace State Park. Four years later in 1988, I completed my dissertation and took up my current teaching position at UT Martin, in the process becoming Tom Broadhead's first PhD student. Craig did not finish his dissertation until a year later, becoming Tom's second PhD student. Craig opted to return with his wife to Cleveland, Ohio, where he still lives with his family, to pursue a non-paleontology career. Unfortunately, this meant that his dissertation remained unpublished "gray literature" for many years until a mutual paleontologist friend, Carl Brett, now at the University of Cincinnati, agreed to work with Craig to get his dissertation in order so that it could be published. This took several more years. Carl Brett and Craig have a long history together. Both were kids who used to collect fossils

together in upstate New York, in the classic Helderberg beds studied by the great New York paleontologist James Hall, and both followed one another into the paleontology field as life-long pals. In 2015, with Carl's help and support, Craig finally published his wonderful dissertation entitled *Echinoderm Faunas of the Decatur Limestone and Ross Formation (Upper Silurian to Lower Devonian) of West-Central Tennessee* as Bulletin of American Paleontology 388. A quick internet search of that title will lead you to the pdf file of this publication, which you can download free to your own personal library. It is now the "echinoderm bible" for the Silurian and Devonian of West Tennessee.

Craig had collected thirteen partial and mostly crushed "*Codaster lorae*" specimens during our field collecting days and from washings of the shales we collected. Most of these specimens are housed at the Paleontological Research Institute in Ithica, New York, the home institution for the Bulletin of American Paleontology. Craig's research determined that this blastoid was not only restricted only to the Birdsong Shale Member of the Ross Formation, but is also restricted to a relatively thin upper part of that member (what Dunbar called his "upper bryozoan zone"). Craig and Carl revise a large number of taxa in BAM 388, including the blastoid in question with the thirteen new specimens. After comparing the important features of the *Leptoschisma lorae* and *Decaschisma pulchellum* (remember that this taxon was also named by Briemer and Macurda in 1984), they concluded

that there was not enough difference between the two taxa to warrant them being separate species (they felt that some of the difference may be age-related—one a juvenile), so they "synonymized" the two species, which also meant changing genera again for one of the species. They determined that the genus *Leptoschisma* should be a "junior synonym" (a name that, in zoological nomenclature, describes the same taxon as a previously published name) for the earlier named *Decaschisma*. In paleontology, the Law of Priority stipulates that the oldest name is the valid name to use. *Leptoschisma lorae* is thus considered to be invalid. The revised actual name changes to *Decaschisma lorae*. So, Craig and Carl published a "new combination" of genus and species, thus revising Carl Dunbar's original *Codaster lorae* to the new combination *Decaschisma lorae*, at least until and if someone else revises the taxon again!



Figure 1. Photograph of the type specimen of *Codaster lorae*, the only specimen collected by Carl O. Dunbar sometime in 1917 or 1918, as it occurs in its tray at the Yale Peabody Museum (Photo by Michael A. Gibson). After 100 years of study, thirteen new specimens collected from West Tennessee, and three revisions, *Codaster lorae* Dunbar, nomen nudem (new name) is now *Decaschisma lorae* (Dunbar, 1920).

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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MAGS UPCOMING EVENT SCHEDULE				
Month	Membership Meeting Programs	Hospitality & Featured Display	Field Trips	Other Events
August	August 9 Rock Swap	Rock Swap • No displays • Everyone helps with the hospitality	August 17 • Parkin Museum • MAGS will pay for admission	August 10 Metal Art Glass class at the Art Academy
September	September 13 • Adult—Crinoids, Elizabeth Rhenberg • Youth—Native American Lore and Artifacts, Kim Hill	Hospitality 1. Dotty Coulson 2. Need one more Featured Display Crinoids	September 27-29 Geode Fest in Illinois	September 28 & 29 MAGS at the Zoo Harvest Festival
October	October 11 • Adult—Bill Prior (Arkansas Geological Survey), Sinkholes, particularly the one in Arkansas that was in the news recently. • Youth—How Minerals Play a Part In Our Daily Lives, W. C. McDaniel	Hospitality 1. DeeDee Goossens 2. Need one more Featured Display Agate from a gravel pit/mine	October 12 DMC Field Trip (MAGS sponsored), Memphis Stone & Gravel Co.	October 5 & 6 Rock show in Greater Little Rock area

Jewelry Bench Tips by Brad Smith

FINISHING PIERCED PATTERNS

After sawing patterns there's always a little cleanup to do, and the smaller cutouts can be a challenge. Needle files (7-8 inches) can get into the larger areas, and escapement files (4 inches) can get into some of the corners.

But I often find myself wanting even smaller files. I couldn't find them even at a watchmaker tools supply company, so I had to try something else. I ended up grinding down the tip of a 4" barrette file using a separating disk (or cutoff wheel) in the Dremel or Foredom.

Be sure to wear your safety glasses when using this tool. A

flake of steel in your eye makes for a bad day.



MAKING FILIGREE WIRE

Making wire for filigree is quite simple. Take a double strand of 24-26 gauge silver wire, twist it tightly, and then flatten it a bit. While the basics are straightforward, here's a few tips that will quickly make you an expert with filigree.

Filigree looks best when the

wire has a very tight twist. The way I do this is to start with dead soft wire and twist it until it breaks. It always seems to break on one end or the other.

I like to use a screw gun, although a Foredom also works well. You'll need a small hook in the spindle, either a cup hook from the hardware store or a nail that has been bent into the shape.

Be sure to keep a little tension on the wires as you twist. Then to get a real tight twist, I anneal the wire and twist it a second time until it breaks.

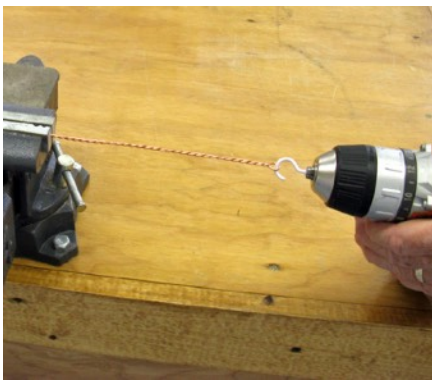
The final step in prepping the filigree wire is to flatten it slightly with a planishing hammer or rolling mill. The amount of flattening is a personal preference. I like to reduce the

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MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

Jewelry Bench Tips diameter about 25%. The wire will be quite stiff at this point, so it's best to anneal it again before starting to make the filigree shapes.



Work Smarter With Brad's "How To" Jewelry Books

amazon.com/author/bradfordsmith

June Board Minutes

Mike Coulson

Called to order 6:33. Present: W. C. McDaniel, Charles Hill, Mike Baldwin, Kim Hill, Carol Lybanon, Matthew Lybanon, Bonnie Cooper, Bob Cooper, Dave Clarke, James Butchko, Mike Coulson.

New Business: Move July 4 meeting to 6:15 before Membership Meeting Friday the 12th.

Secretary: Distributed copies of the April Minutes, changes noted. Report approved.

Treasurer: Time to pay rent. Treasury report reviewed and approved.

Membership: One new Member.

Field Trips: Upcoming field trips: June 22: Crow Creek, Ark. confirmation pending. July 20: Turkey Creek. August 17: Parkin Museum. Sept 27,28,29: Geode Fest in Illinois. More to come, need to register by Sept. 15th. October: ideas, suggestions welcome. DMC trip a possibility. (Fort Payne tourmaline). November: Parsons. December: No outing.

Adult Programs: Upcoming adult programs: June 14: Melissa Buchner will present on MAGS and Chucalissa: Seven decades of collaboration. July 12: Ryan Parish decided to give presentation on Poverty Point. August 9: Rock Swap. September 13: Elizabeth Rhenberg, Crinoids talk. October 11: Possibly Bill Prior. November 8: Michael Gibson, Vulcan quarry. December 13: Holiday Party.

Junior Programs: At the May Youth Meeting we took a journey back in time to the last Ice Age. We talked about the animals (like the saber-toothed tiger, giant bear, woolly mammoths, and mastodons) and the people that inhabited the earth then. In June the youth will have an opportunity to look at the crystalline structure of a number of minerals under the lens of a binocular microscope and view some of those minerals on a big screen through a USB microscope.

Future programs include June: Micro Minerals. Bob Cooper is lending his USB Microscope for projected viewing of minerals. July: "Caves and How They Form". August: "The Indoor Rock Swap". September: "Native American Lore and Artifacts" with Kim Hill. October: "How Minerals Play a Part in Our Daily Lives" with W. C. McDaniel. November: Who Are the Native Americans and Where Did They Come From?". December: Holiday Party.

Library: No report.

Show: Nearly all member show ticket money is in. Plans to close out the show and give a check to club for proceeds of the Show at the next meeting. No more money coming in or out at this time. Paid deposit for next year's rent and paid all the big bills for this year's Show.

Rock Swaps: Rock Swap at W. C. went well, about 25-28 in attendance; paper bag swap went well, no winner on what was in the jar. August 9, Membership Meeting is rock swap. October 13: Try setting one up in October, the Sunday after Membership Meeting, Freeman Smith Park (small one on Brunswick), in Bartlett. Carol said Sunday might have low attendance so consider Saturday instead.

Editor: Would appreciate receiving a report on upcoming (3 months worth) field trips and programs for newsletter.

Web: The website has been updated with June information on homepage, calendar page and newsletter page.

Old Business: None.

New Business:

- Matthew and Carol will be out July, August and maybe September.
- When we get the check, we need to decide if we will donate anything. Chucalissa or Parkin.
- Still waiting on Chucalissa date for dedication. Dedication ceremony for display cabinet named in memory of Sherri Baldwin: **Saturday, June 29, 2:00 pm, at the C. H. Nash Museum.**

Adjourned 7/10.

June Meeting Minutes

Mike Coulson

Called to order 7:10. Five visitors tonight.

New Business:

- Silent Auction tonight.
- Live Auction tonight.
- Door Prizes: Mark Mueller, Ava Davis

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June Meeting Minutes • The drawing Continued from P. 10

- for volunteer prizes (* not present) took place at the June MAGS meeting. The winners are: Aaron Van Alstine, Cornelia McDaniel*, Melissa Koontz, Hongbing Wang*, Dotty Coulson, Teresa Childress*, Jon Stanford*, Beth Day*, Cecelia Hemme*.
- Dedication of Cabinet in honor of Sherry Baldwin will be the first Sat in July.
 - Nice check presented to MAGS from Show, picture taken of Bonnie, W. C., and Matthew.
 - New Display, bring in what you find.

Show: Still some Member Show Tickets that need to be paid for. See Matthew for payments.

Library: Nannett has found the Club Charter and 6 new books in the library.

Rock Swap: August9 the rock swap will be at the regular meeting. October 12 at a park. We will meet, eat, picnic, and swap rocks.

Field Trips: June 22 trip is now scheduled for Crow Creek. Signup sheet is at front desk. Geode Fest in September.

Displays:

Kim: Display of petrified wood, Native American point found in local creek

Dan: very nice petrified wood, misc. coral Nonconnah Creek finds and marcasite from Turkey Creek, Exogyra fossils.

Carol: On Missouri trip while others were looking for druzey, Carol was looking for hematite/pyrite.

Adult Programs: July program is Ryan Parish on Poverty Point. August 9: Rock Swap. September 13: Elizabeth Rhenberg, Crinoids talk.

Meeting Program: Melissa Buchner talked about the interaction between MAGS and Chucalissa and all the wonderful things MAGS has done. A

display case showed books, articles, papers, and the first annual report published Feb. 1952. She played two videos, first an overview and history of Chucalissa and the second on the life of C. H. Nash. Ron Brister then talked about the people that lived at Chucalissa and their way of life. He talked briefly about Charles Nash's and Perry Bynum's involvement. Adjourned 8:36.

Cosmic Pearls

Matthew Lybanon, Editor

Mike Meyer was a University of South Florida undergraduate when he discovered fossil clams in a Sarasota County (Florida) quarry. The clams contained dozens of tiny glass beads, likely the calling cards of an ancient meteorite.

Analysis of the beads suggests they are *microtektites*, particles that form when the explosive impact of an extraterrestrial object sends molten debris hurtling into the atmosphere where it cools and recrystallizes before falling back to Earth. They are the first documented microtektites in Florida and possibly the first to be recovered from fossil shells.

Meyer (now an assistant professor of Earth systems science at Harrisburg University in Pennsylvania) made the discovery during a 2006 summer fieldwork project led by Roger Potell, invertebrate paleontology collections director at the Florida Museum of Natural History. Students systematically collected fossils from the shell-packed walls of a quarry that offered a cross-section of the last few million years of Florida's geological history.

They pried open fossil clams,



washing the sediment trapped inside through very fine sieves. Meyer was looking for other tiny objects—the shells of single-celled organisms known as benthic foraminifera—when he noticed the translucent glassy balls, smaller than grains of salt.

Meyer kept the spheres in a small box for more than a decade. When he had some free time, he analyzed the elemental makeup and physical features of the spheres and compared them to microtektites, volcanic rock and byproducts of industrial processes. His findings pointed to an extraterrestrial origin.

He thinks the microtektites are the products of one or more small, previously unknown meteorite impacts, potentially on or near the Florida Platform, the plateau that undergirds the Florida Peninsula. Initial results from an unpublished test suggest the spheres have traces of exotic metals, further evidence they are microtektites, Meyer said.

The original quarry is now part of a housing development.

Editor's Note: The journal article was published online in *Meteoritics & Planetary Science*. Readers can find it at <https://doi.org/10.1111/maps.13299>.

MAGS At A Glance

August 2019

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
28	29	30	31	1 Board Meeting, 6:30 pm, St. Francis Hospital	2	3
4	5	6	7	8	9 Membership Meeting, 7:00 pm, Indoor Picnic/Rock Swap	10
11	12	13	14	15	16	17 MAGS Field Trip, Museum, Parkin Archaeological State Park, Arkansas
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Memphis Archaeological and Geological Society
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