



Volume 59 ◊ Number 12 ◊ December 2013 ◊ A monthly newsletter for and by the members of MAGS

MAGS Holiday Party

December 13, 7:30 P. M., Shady Grove Presbyterian Church



MAGS will provide the meat and table decorations. You are requested to bring a potluck appetizer, vegetable, entree, or dessert. Board Members, please bring cold canned soft drinks to share with everyone.

Come early to help decorate

and prepare our hall for our party. Please help clean up after the party.

Gift Exchange

Adults: If you wish to participate in the gift exchange please bring a wrapped, hobby-

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MEMBERS: BRING FOOD TO SHARE

As it says above, MAGS will provide the meat, table decorations, and also plates and cutlery. Board Members will provide the drinks. We request Members to bring an item as determined by the initial letter of your last name. That way we'll have some of everything, rather than having half the people bringing the same thing.



Appetizers ◊ Last Names A-F

Entrees/Vegetables ◊ Last Names G-P

Desserts ◊ Last Names Q-Z

We encourage you to bring other items. Bring that special dish you do well, even if it doesn't fit in the categories listed above. And get ready for a party!

MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

2013-2014 MAGS BOARD

President—Paul Sides

1062 CR 739, Wynne, AR 72396 ♦ (870) 208-9586

1st VP (Field Trips)—W. C. McDaniel

2038 Central Avenue, Memphis, TN 38104 ♦ (901) 274-7706 ♦ w.c.mcd@att.net

2nd VP (Programs)—Ron Brister

3059 Old Brownsville Road, Bartlett, TN 38134 ♦ (901) 388-1765 ♦ bristerr@bellsouth.net

Secretary—Carol Lybanon

2019 Littlemore Drive, Memphis, TN 38016 ♦ (901) 757-2144 ♦ sgcarol@earthlink.net

Treasurer—Bill Gilbert

8588 Thor Road, Cordova, TN 38018 ♦ (901) 569-1725 ♦ billis4rox@comcast.net

Director (Asst. Field Trips)—Charles Hill

2887 Forest Hill Irene Road, Germantown, TN 38139 ♦ (901) 754-1504 ♦ hunter3006@aol.com

Director (Asst. Programs)—Guy Weaver

2563 Broad Avenue, Memphis, TN 38112 ♦ (901) 452-7554 ♦ gweaver@weaverassociatesllc.com

Director (Youth)—James Butchko

4220 Dunn, Memphis, TN 38111 ♦ (901) 743-0058 ♦ butch513j@yahoo.com

Director (Asst. Youth)—Bonnie Cooper

8695 Baylor Road, Arlington, TN 38002 ♦ (901) 377-0900 ♦ rocks4us@hotmail.com

Director (Librarian)—Ron Brister

3059 Old Brownsville Road, Bartlett, TN 38134 ♦ (901) 388-1765 ♦ bristerr@bellsouth.net

Director (Membership)—Neville Mayfield

3982 Glendale Drive, Memphis, TN 38128 ♦ (901) 386-3006 ♦ enmayfield@gmail.com

Director (Historian)—Nannett McDougal-Dykes

♦ 106 Maple Street, Stanton, TN 38069 ♦ (901) 634-9388 ♦ redchesty@yahoo.com

Newsletter Editor—Matthew Lybanon

2019 Littlemore Drive, Memphis, TN 38016 ♦ (901) 757-2144 ♦ lybanon@earthlink.net

Webmaster—Mike Baldwin

367 North Main Street, Collierville, TN 38017 ♦ (901) 853-3603 ♦ mbaldwin05@gmail.com

Show Chairman—James Butchko

4220 Dunn, Memphis, TN 38111 ♦ (901) 743-0058 ♦ butch513j@yahoo.com

MAGS AND FEDERATION NOTES

Hi, MAGS Members and Friends,

You are all invited to partake in the festivities of the season.

Each year since the early 1950s MAGS has always had a Christmas party. The first Christmas party with MAGS that I ever went to was nearly 30 years ago, 1984 or 1985. It's been a day or two ago and I can't remember exactly. I'd have to check the guest list for sure.

The Memphis Archaeological and Geological Society became my new family. It's a wonderful organization that's generous, educational, fun, and well rounded teaching the lapidary arts and sciences—and from time to time inter-planetary and space science as well.

Merry Christmas
W. Paul Sides
MAGS President

Upcoming Programs

January, W. C. McDaniel, **QA & G**

- Quartz—Cleaning tips and methods for druse, crystals, and other rocks.
- Agates—Bring your found agates and improve their looks using everyday products.
- Geodes—Bring your geodes for cracking.

February, Mike Baldwin, **Planetary geology**

March, Robert Connolly, **Chucalissa**



Please contribute articles or pictures (everybody likes 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.

No DMC field trip in December.

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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MAGS Holiday Party related gift appropriate for either a man or a woman, valued at \$10.

Juniors: The Juniors program will provide a gift for each Junior, so you do not need to bring a gift to exchange.

Hospitality



Our club needs help with the refreshment part of our Membership Meeting. We need several Members to sign up for each month's meeting. Your job will be to set up and clean up the refreshment area. It is not a lot of work but there needs to be someone in charge each month. If it is your month to help you will need to provide one bag of ice, arrive early enough to set up two tables, and stay a few minutes after the meeting to help put things away.



Be an active member and sign up for hospitality at least once a year. I will be circulating sign-up sheets at our holiday party.

Please sign up or call Carol at 757-2144 to help.

**La Madona Rosa vs. the Van Allen Belt
Battle of the Rose Quartzes**
W. C. McDaniel

In the late 1950s miners near the town of Sapucaia, Brazil, un-

earthed a rose quartz vein measuring about six inches by 12 inches and extending about 16 feet. Within that vein was found a spectacular deposit of rose and smoky quartz. Individual specimens from this find are considered some of the finest mineral specimens ever found. The two most famous are the Van Allen Belt and the La Madona. Look at the pictures and facts and decide which to add to your wish list.

The Van Allen Belt	La Madona Rosa
	
<p>The mineral takes its name from the belt of lustrous deep pink rose quartz crystals that encircle a large smoky quartz crystal. It currently is part of the Janet Annenberg Hooker Hall of Geology, Gems, & Minerals at the Smithsonian.</p>	<p>The mineral takes its name from the fact that its shape resembles traditional Catholic depictions of the Madonna.</p>
<p>9 inches tall.</p>	<p>15-1/2 inches tall.</p>
<p>Not for sale.</p>	<p>Sold at auction in June of 2013 for a world record price, \$662,500. This was the highest dollar amount ever paid for a mineral specimen.</p>

Now that you have selected your favorite rose quartz email your selection to w.c.mcd@att.net and you will be entered in a drawing at the January meeting for a special prize. Must be present to win.



Found In An Alabama Coal Mine

Carol Lybanon

Matthew and I signed up to join the NMGMS/APS trip to an Alabama coal mine. The weather was perfect and hunting was fun. Here are some pictures of the trip's finds.



Found At Birmingham Ridge



MAGS Member Katherine Kitzmann, along with her daughter Ellie, went fossil hunting at

Birmingham Ridge in late September. Ellie found the intact tooth shown in the photos.



The identity of this fossil is unclear. Someone at the quarry said that the tooth belonged to a bony fish called *Xiphactinus audax*. However, when Katherine posted

these photos on the Fossil Forum, several people identified the tooth as coming from another fish, *Enchodus*. The photo below shows what *Enchodus* might have looked like.



What do you think?

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Experiencing the Earth Wide Open

MAGS 2014—Upcoming field trips

Dates	Location	Trip status
January 3-5	Missouri druse quartz	Trip bulletin available upon request at w.c.mcd@att.net
February	TBA, several options are being considered	Trip bulletin early January
March	MAGS hosts the Dixie Mineral Council	Trip bulletin early February
April	TBA	Trip bulletin to be published
May 24-26 Memorial Day weekend	Hot Springs/Mt. Ida, Arkansas, for crystals	Trip bulletin to be published

October Board Minutes

Carol Lybanon

The MAGS Board of Directors met October 3 at St. Francis Hospital, 5959 Park Avenue. The meeting was called to order at 6:30 P. M. Present: James Butchko, Bill Gilbert, Carol Lybanon, Matthew Lybanon, Neville Mayfield, W. C. McDaniel, and Bob Cooper.

Secretary: The minutes were accepted as submitted.

Treasurer: Bill reported that he has the check from the Show Account but has not deposited it yet. Outstanding bill at present is for our meeting facility rent. W. C. said he would submit a yearly expense report for field trips. Bill needs to change the name of the new combined fund to the Roger Van Cleef Library and Education Fund. The Treasurer's report was approved as corrected, subject to audit.

Membership: Neville reported four new Members. He asked if we should try to get new Members by attending more outside events and handing out information. The biggest problem would be getting people to man the booth. At the November Membership Meeting Neville should ask Members to keep a lookout for events for which we could set up yearly participation. We will be looking to set up a committee to do this. Also, we

should begin attaching membership forms in our newsletters from now through March.

Field Trips: October 12—rock quarry, new site in Arkansas, Charles Hill to lead. November 2—Richardson's Landing. Plans are being solidified to go to the Ledbetter Farm in December. January—Missouri trip (tentative).

Adult Programs: W. C. will check with Ron Brister to see if he can do the October program, since Paul will be out of town.

Junior Programs: Jim will do a program on Post Oak Creek in Sherman, Texas, at the October meeting.

Show: Jim reported that the Show Committee had a meeting. There was some discussion of the importance of making sure that everything connected with the show should be done on time. Jim needs to personally approach people to join the Show Committee. Blanket emails are not effective. The next Show Committee meeting will be on October 14.

Library: No report.

Newsletter: Matthew asked people to send in articles. Bill said that he has several articles he can send.

Webmaster: No report.

Historian/Rock Swap: No report.

Old Business: None.

New Business:

- ▶ A motion was made and carried to donate \$2,000 to the C. H. Nash Museum at Chucalissa, which satisfies our commitment.
- ▶ There was a discussion about whether MAGS should design and produce a new t-shirt; no decision.
- ▶ Carol is still interested in pursuing the Nonconnah park. Should MAGS provide some financial support?

Meeting adjourned at 8:00 P. M.

October Meeting Minutes

Carol Lybanon

The MAGS Membership Meeting was held at Shady Grove Presbyterian Church on October 11. The meeting was called to order at 7:30 P. M. by Ron Brister, in the absence of the President and First Vice-President. 37 Members and 5 visitors were present.

BUSINESS: Charles Hill gave a field trip report. W. C. McDaniel will lead the Arkansas field trip tomorrow. On November 2 Charles will lead a field trip to Richardson's Landing. A trip to Dale Hollow Lake and other sites for geode collecting is being planned. Signup sheets are on the table in the back of the room. Ron an-

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October Meeting Minutes Continued from P. 5 nounced that the November program will be given by Paul Sides, on Crowley's Ridge. Ron discussed the importance of the Board for the continuation of our club. He asked that Members consider joining the Board. Neville Mayfield said that it is time to start paying 2014 dues. Matthew Lybanon told the Members that here will be a new section on the MAGS website, with pictures from our field trips. He asked that if people have pictures from trips within the last year they should send them to him. Charles announced that we are having a silent auction, so bid high.

DISPLAYS: Kim Hill brought the only display.

PROGRAM: Ron Brister talked about common invertebrate fossils.

Meeting adjourned at 9:00 P. M.



Richardson Landing Field Trip Pictures

Thanks go to MAGS Member Hongbing Wang for sharing these pictures of the November 2 field trip to Richardson Landing.

Memphis Archaeological and Geological Society
presents the 35th annual
Memphis Mineral, Fossil, Jewelry Show
“The Earth Wide Open”
April 26-27, 2014
Agricenter International

MAGS Members' volunteer schedule needs:

- **Friday, April 25—all day (*really big big day*)**
 - **Saturday, April 26—all day (open to public)**
 - **Sunday, April 27—all day (open to public)**
 - **Monday, April 28—8:00 am to 11:00 am**
- *Note: we will not have Thursday available for move-in*

☞ **Show Factoid-Benefits for members** ☞

1. **\$15** amount show provides in free direct benefits to an adult member
2. **\$54** amount show provides in free direct benefits to a family of four
(admission, grab bag party, Friday show dinner, hospitality for weekend)

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DUES YOU DO YOUR DUES?

Seasons' Seasonings, Oh MAGS-nificent Folks!

In order to keep our membership roster more accurate and timely, we'll be using a new procedure for membership renewal.

Previously, we simply received your dues by mail or in person, and marked you as paid.

We'll continue to happily receive your dues, of course, but we're requesting that you also complete and mail in the simple renewal form below, so that we can be sure that the roster has your correct contact information:

Memphis Archaeological and Geological Society

www.memphisgeology.org

MEMBERSHIP RENEWAL (Membership year: Jan 1st–Dec 31st) **PLEASE PRINT LEGIBLY !!**

CATEGORY (Please check): FAMILY [] - \$25.00; INDIVIDUAL (OVER 18) [] - \$20.00;
JUNIOR (UNDER 18) [] - \$10.00

Please make checks payable to: MAGS - (Mail to: MAGS, 3982 Glendale Dr., Memphis, TN 38128)

APPLICANT'S NAME: _____

HOME ADDRESS: _____ HOME PH.: _____

CITY: _____ ST: _____ ZIP CODE: _____

E-MAIL ADDRESS: _____ CELL/WORK PH: _____

You can just print this out from the newsletter (or email), or clip it out if you get a mailed copy of the newsletter, and mail it in with your dues. If you attend a meeting, you can simply check the roster and update with changes.

At the end of January, we'll let you know if we haven't received your dues & form, and at the end of February, if we haven't received your renewal, we'll let you know that you've been dropped from the roster. We'll also send out dues reminders in between newsletters.

Thanks for helping us keep our roster squared away!

Jewelry Bench Tips by
Brad Smith

MINI DRILL PRESS

If you find yourself drilling a number of small holes for your work, you might want to look at the small, inexpensive drill presses now available. They take up just minimal space on your bench and are always ready to give you nice straight holes. Some models even have a variable speed control. I've been very pleased with a low-priced one that's been well-used in my classes for over a year.



Because these machines are only a foot high, they're limited as to the size of workpieces that can fit into the machine and the size of the drill bits you can use. But I've had no problems with drill bits up to about 3/16" (4.5mm), even drilling steel.

The machines are sold by a number of companies. If you do get one, be sure to buy a spare belt because they are generally not available at local hardware stores.

LASER WELDING

A question came up this week about how to solder some jump rings to hold blue topaz briolettes onto a necklace. We've all heard

about ways to do some soldering close to a stone, and some of us have sized a ring without taking the stones out of their mounts. We've used wet paper towels, garnet sand, cooling gels, and my favorite of suspending the stone in a dish of water. All techniques bank on the principle of using a small, hot flame to do the job quickly before the stone gets hot enough to crack or change color.

But each job is somewhat of a gamble. Some stones are hardy and some are frail. Jades and jaspers will generally take a lot of heat, but I'd never chance it with the likes of topaz or opal. Trying to shield a stone from the torch is always a betting game, and sometimes you lose.

If you're worried about soldering something close to a stone, perhaps it's time to consider a no-heat method like laser welding. Most jewelry stores have laser welders these days, and the cost of having it done is quite affordable. They used to have problems doing silver, but now seem to do it routinely.

I've used a local shop twice in the last year, once for a piece with little emeralds a "friend" asked me to repair and for a second piece where I needed a safety catch and didn't want the torch heat to expose all the solder lines again.

More BenchTips by Brad Smith are at [facebook.com/BenchTips/](https://www.facebook.com/BenchTips/) or see the book *Bench Tips for Jewelry Making* on Amazon.



**Planetary Geology:
Large Body Less
Dense Than Water**

A planetary scientist has identified the largest-known solid object in the Solar System that could float in a bathtub. The rock-and-ice body, which circles well outside the orbits of the planets, is less dense than water—although a bathtub big enough to hold it would stretch from London to Frankfurt.



The body, dubbed 2002 UX25, lies in the Kuiper belt, a reservoir of dwarf planets, comets, and smaller frozen bodies beyond the orbit of Neptune. The object's low density and size, 650 km wide, seem to conflict with a leading model for the formation of large solid bodies in the Kuiper belt and throughout the Solar System.

Planetary scientist Michael Brown of the California Institute of Technology in Pasadena reports its density measurement in an upcoming issue of *The Astrophysical Journal Letters*, with a preprint available on the arXiv online repository.

Because objects in the Kuiper belt are believed to

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Planetary Geology have changed since the early years of the Solar System, the region “offers our best chance to comprehend how the early stages of planet formation unfold”, says planetary scientist Andrew Youdin of the University of Colorado-Boulder.

According to the leading model, small dust particles in the swirling disk that surrounded the infant Sun gradually collided and coalesced to form bigger particles. This process ultimately built dwarf planets in the Kuiper belt, such as Pluto, as well as Earth and the other rocky planets in the inner Solar System. If large bodies in the Kuiper belt were made by the merging of small ones, the densities of the small and big bodies should be related. But objects in the Kuiper belt with diameters of less than 350 km all seem to be less dense than water, whereas those with diameters greater than 800 km seem to be denser than water.

For that scenario to hold true, medium-sized bodies—those with diameters of around 600 km—should have a density that is midway between the smaller and larger bodies. That turns out not to be the case if 2002 UX₂₅, the first intermediate-size Kuiper belt object to have its density measured, is typical of the vast number of similarly sized objects in the belt. On the basis of measurements made with several space- and ground-based telescopes, the object has a density of 0.82 grams per cubic centimeter, 18% lower than that of water. The low den-

sity suggests that 2002 UX₂₅ consists mainly of ice, making it difficult to understand how larger, more rocky objects could form from the merging of smaller bodies in the Kuiper belt, notes Brown.

An alternative theory proposed by Youdin and a colleague could explain the results. According to his theory, the large Kuiper belt objects formed first. They were rapidly built from pebble-sized pieces of rock or ice that were forced to clump together by turbulent, swirling eddies in the Sun’s primordial, planet-making disk. Collisions between the large objects chipped away at their icy exteriors, forming the small, low-density Kuiper belt members and leaving behind large, rock-rich bodies.

To corroborate that theory, scientists will need to measure the density of more Kuiper belt objects that have a size similar to 2002 UX₂₅, says Youdin. But even if the body turns out to be an oddball, he adds, its extremely low density “can’t be easily dismissed”.

Refs:

1. *Nature* doi:10.1038/nature.2013.14135
2. arXiv:1311.0553 [astro-ph.EP]

Ancient Shark Teeth In Alabama Creeks

Lying on the creek bed, dark blue against the pebbled bottom, the shark tooth is unmistakable. The tooth is small, about an inch and a half long, but the point is still sharp. It is probably about 40 million years old.

The tooth was found in a small

Choctaw County creek near the town of Milry, Alabama. Like many of the creeks in Choctaw, Clarke, Monroe, Hale, Greene, Marengo, and Sumter counties, it is full of shark teeth.

The state’s rich fossil past has been an open secret for more than a century. There are multiple references to expeditions to Alabama to collect fossils, including shark teeth in Choctaw County, in the annual report of the Smithsonian Institution from 1895.

Three hours spent on hands and knees in the creek, which is about 6 feet across and knee deep in the deepest parts, yielded 300 teeth, some small enough to fit on a pinky nail, others close to 2 inches long. Most were found by sifting through the gravel with mesh screens.

A 40 million year old shark tooth lies next to a mussel on the bottom of the creek. In the mix were teeth from tiger sharks, sand tiger sharks, and a number of prehistoric species thought to have gone extinct long ago. Mixed in the group of prehistoric sharks was one known as *Galeocerdo alabamensis*, so named because most of the fossils of the species were found in this state.

The haul also included teeth from an extinct species of snaggle-tooth shark, which sported wide, serrated teeth on the top jaw for cutting into prey, and long, pointy needle-like teeth in the bottom jaw for holding onto its victims while eating.

Martin Becker, chair of environmental sciences at William Patterson Univer-

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Ancient Shark Teeth (continued)



sity in New Jersey, is an expert in fossil shark teeth, and has led several expeditions to collect fossils in Alabama.

“It looks like an Eocene locality, that puts it at around 40 mill years old,” Becker said, determining the era the teeth came from by identifying the species they belonged to. Becker published a paper a few years ago about teeth he found farther north, in Greene County. Those

teeth, estimated to be 80 million years old, were aged by studying the amount of radioactive material present in them.

He said there are dozens of creeks in the state where it’s possible to find fossils of marine creatures, from nautilus and sea urchins, to shark teeth and sand dollars. “... Anywhere you find a concentration of pebbles and debris, that’s where you’ll find fossils and shells and things.”

MAGSters, if this sounds intriguing to you, make your wishes known. Some of these sites are not much farther than 20 Mile Creek.

Calendar

December 5, 2013

Board Meeting, St. Francis Hospital, 6:30 P.M.

December 13, 2013

MAGS Holiday Party, Shady Grove Presbyterian Church, 7:30 P.M.

January 3-5, 2014

MAGS Field Trip to Missouri

Now

2014 dues are due

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

