



Volume 58 ◊ Number 12 ◊ December 2012 ◊ A monthly newsletter for and by the members of MAGS

## 2012 Holiday Party

Friday, December 14, 7:30 pm, at Shady Grove Presbyterian Church



MAGS will provide the meat and table decorations. You are requested to bring a potluck salad, entree, or dessert. Board Members please bring cold canned soft drinks to share with everyone. If you would like to help decorate and prepare the hall for our party,

come early. If you can help clean up after the party, plan to stay late.

### Gift Exchange

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

*Continued, P. 5*

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### MEMBERS: BRING FOOD TO SHARE

As the previous article mentions, MAGS will provide the meat, table decorations, and also plates and cutlery. Board Members will provide the drinks. So that we can have a balanced meal, we request members to bring an item as determined by the initial letter of your last name.



Desserts ◊ Last Names A-F

Appetizers/Sides ◊ Last Names G-P

Entrees ◊ 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.

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

## 2011-2012 MAGS BOARD

### President—Lou White

3805 Melanie June Drive, Bartlett, TN 38135 ♦ (901) 937-8522

### 1st VP (Field Trips)—Marc Mueller

1415 Shagbark Trail, Murfreesboro, TN 37120 ♦ (615) 491-5110 ♦ skydancer2992@yahoo.com

### 2nd VP (Programs)—Paul Sides

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

### Secretary—Marc Mueller

1415 Shagbark Trail, Murfreesboro, TN 37120 ♦ (615) 491-5110 ♦ skydancer2992@yahoo.com

### Treasurer—Doris Johnston Jones (acting)

409 Bradford Trail Cove, Collierville, TN 38017 ♦ (901) 832-0437 ♦ darjohnston@aol.com

### Director (Asst. Field Trips)—Charles Hill

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

### Director (Asst. Programs)—Alan Schaeffer

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### Director (Youth)—Carol Lybanon

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

### Director (Asst. Youth)—Bonnie Cooper

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### 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

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### Show Chairman—James Butchko

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

## New MAGS Board

Here is a list of the 2013-2014 Board Members elected at the November Membership Meeting:

- ★ *President*—Paul Sides
- ★ *1st Vice President (Field Trips)*—W. C. McDaniel
- ★ *2nd Vice President (Programs)*—Ron Brister
- ★ *Secretary*—Carol Lybanon
- ★ *Treasurer*—Bill Gilbert
- ★ *Director (Assistant Field Trips)*—Charles Hill
- ★ *Director (Assistant Programs)*—Guy Weaver
- ★ *Director (Youth)*—James Butchko
- ★ *Director (Assistant Youth)*—Bonnie Cooper
- ★ *Director (Librarian)*—Ron Brister
- ★ *Director (Membership)*—Neville Mayfield
- ★ *Director (Historian)*—Nannett McDougal-Dykes

The Newsletter Editor, Webmaster, and Show Chairman are appointed Board Members.

MAGS Rockhound News thanks Mike Baldwin, James Butchko, Matthew Lybanon, Marc Mueller, Debbie Schaeffer, Karen Schaeffer, and Susan Thompson for the Texas field trip pictures you can see starting on the next page of this issue.



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](mailto:lybanon@earthlink.net).

## December DMC Field Trip

WHERE: Wartrace, TN

WHEN: Saturday, December 15, 2012

COLLECTING: Horse Mount agate. You will find beautiful agate, some of it carnelian. [\$10 fee]

INFORMATION: Barbara Fields, [President@mtgms.org](mailto:President@mtgms.org), cell phone (615) 218-4344

## Links to Federation News

- ➔ AFMS: [www.amfed.org/afms\\_news.htm](http://www.amfed.org/afms_news.htm)
- ➔ SFMS: [www.amfed.org/sfms/](http://www.amfed.org/sfms/)
- ➔ DMC: [www.amfed.org/sfms/dmc/dmc.htm](http://www.amfed.org/sfms/dmc/dmc.htm)

## Long Day's Journey Into *Ammonite Country*



The best way to give the details is with pictures.

MAGSters are used to watching out for snakes, bugs, and other hazards on field trips. But this was the first time (as far as we know) that we've been threatened by a Texas-size chicken! The picture above shows many of the people who ventured to an area of northeast Texas where the ammonites grow (or grew) as big as you might expect for that state. (The man at far left is Bob Williams, our Texas host—the one who lined up some outstanding collecting sites.)

Some people arrived in Valley View, Texas, on Wednesday evening, November 21. The rest got there by around noon on Thanksgiving Day. The early arrivers had such a good time at the nearby Old Toll Bridge Road site that all of us went back that afternoon. The next day we went into Oklahoma, to a site on Caney Creek. On Saturday we went to Jacksboro for a change of pace (Pennsylvanian marine fossils). After we finished there we went over to Rayzor Ranch for *Ilymatogyra* and *turrilites* as well as *brachiopods*.



*We searched high  
and we searched low,*



*... but it was worth it.*



## **More Ammonite Hunt Pictures**

*We're glad we ordered  
perfect weather.*



*This road was hardly wide  
enough for our vehicles.*

*Some places were easy to get to and some were difficult.  
Sometimes we had to crawl under barbed wire.*



*Sometimes we needed a break.*



*All in a day's work (just kidding)!*

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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2012 *Holiday Party* appropriate for *Continued from P. 1* 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.

## October Board Minutes

*Mike Baldwin*

Attending: Mike Baldwin, James Butchko, Bob Cooper, Doris Johnston, Carol Lybanon, Matthew Lybanon, Neville Mayfield and Alan Schaeffer.

Treasurer Doris Johnston called the meeting to order at 1839.

**Secretary's Report:** Minutes approved with corrections.

**Treasurer's Report:** Motion made and seconded to accept the September treasurer's report. Motion carried.

**Junior Programs:** Carol Lybanon reported that there are two Junior programs remaining for the year. The October program will be "Everything You Want To Know About Crinoids". The November program will be "Making Gem Trees". Holiday gifts have been purchased for the Juniors.

**Web Report:** Mike Baldwin reported that October updates have been made to the website.

**Newsletter Report:** Matthew Lybanon led a discussion about a recent email received from the Dixie Mineral Council concerning the publication of DMC field trips on the internet. The concern centers around other clubs and non-council members seeing the details of these field trips and visiting the sites without permission and consent of the field trips leaders and property owners. MAGS new policy for DMC field trips will be similar to

## November Junior Program



Crinoid Stem Construction

The Juniors learned all about crinoids.

that adopted several years ago for MAGS field trips. Only minimal information about the trip will be published. If members want more information about any particular trip, information sheets will be available at the monthly meetings. Information sheets may also be emailed to members upon request. Matthew also mentioned that nominations from the nominating committee are due to him before October 15.

**Programs:** Alan Schaeffer reported that the program for October will be "Why Archaeologists Love Pottery" presented by Guy Weaver.

**Nominating Committee:** Mike Baldwin presented the slate of officers and directors [with 4 positions open: President, Director-Youth, Director-Assistant Youth, Director-Assistant Programs]. The nominees are: 1VP [Field Trips]-W. C. McDaniel; 2VP [Programs]-Ron Brister; Secretary-Carol Lybanon; Treasurer-Bill Gilbert; Director [Assistant Field Trips]-Charles Hill; Director [Membership]-Neville Mayfield; Director [Historian]-Nannette McDougal-Dykes; and Librarian-Ron Brister.

**Show:** James Butchko reported that the dealer table fee for 2013 has increased by \$5.00 per table. The first 2013 contract has been submitted. Show plans are moving well. We need to start on grab bags. MAGS did the Ronald McDonald House Big Scoop last weekend. Neville Mayfield reported that the show's damaged rolling cart has been repaired. We have a couple of new pallets. Bob Cooper is currently trying to locate more pallets. Neville Mayfield suggested rolling carts or pallets to replace the 8-10 pallets we currently have. An alternate suggestion was large, rolling cabinets.

### New Business:

- ▶ Carol Lybanon reported that the Dallas field trip is set to take place the second weekend in October. Carol recommended that MAGS present Bob Williams with the \$100 new field trip finder's fee, since he will be organizing and providing MAGS with three fossil collecting sites in the Dallas area.
- ▶ Neville Mayfield reminded the board that Saturday is construction day at Chucalissa. We need volunteers *Continued, P. 6*

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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*October Board Minutes Continued from P. 5* to help roof the house on the plaza. The roof on this structure is very steep. Rain postpones this activity.

Having no further reports or business to conduct, the meeting was adjourned at 1931.

## October Meeting Minutes

*Mike Baldwin*

23 members and 3 visitors were in attendance at tonight's Membership Meeting.

The meeting was called to order at 1945 by First Vice President, Marc Mueller.

Membership Director Neville Mayfield welcomed and introduced visitors.

Marc Mueller announced a field trip to Razor Rock Quarry in Harrisburg, Arkansas, set for October 20. Please sign up at the back table. Marc announced a Rock Sale scheduled for October 27-28 at the home of W. C. and Cornelia McDaniel. Proceeds from the sale will be split 50/50 between MAGS and the Collierville estate that provided the material.

Matthew Lybanon provided the audience with information concerning the field trip scheduled for October 11-15 to Valley View, Texas. The locations for this trip are located 50 miles from Dallas. This will be surface collecting and will include a sharks' teeth site, a Pennsylvanian era site, and collecting along the North Sulphur River.

Mike Baldwin presented the slate of officers and directors [with only 1 position open: Director-Youth]. The nominees are: President-Paul Sides; 1 VP [Field Trips]-W. C. McDaniel; 2 VP [Programs]-Ron Brister; Secretary-Carol Lybanon; Treasurer-Bill Gilbert; Director [Assistant Field Trips]-Charles Hill; Director [Assistant Programs]-Guy Weaver; Director [Assistant Youth]-Bonnie Cooper; Director [Membership]-Neville Mayfield; Director [Historian]-Nannett McDougal-Dykes; and Librarian-Ron Brister. Mike made a plea for a volunteer to be Youth Director.

Neville Mayfield reminded Members that there are flyers for upcoming field trips, the Rock Sale, and the Chucalissa work project. The Chucalissa house construction project will be tomorrow. If you know how to swing a hammer or climb a ladder, sign up. Volunteer Day is October 20 at Chucalissa. Neville also mentioned that the November rock swap will be at the home of Alan and Alishia Parks.

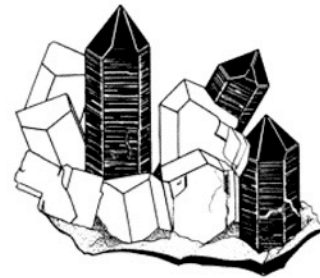
Marc introduced the displays for this evening.

Paul Sides announced that the November 9 program will

be on meteorites, presented by Anita Westlake, who was with the Tellus Meteorite Museum of Georgia at one time. The Juniors joined the adults for tonight's program, "Why Archaeologists Love Pottery", presented by urban archaeologist Guy Weaver.

The business portion of the membership meeting was adjourned at 2045, followed by fellowship and refreshments.

## Experiencing the Earth WideOpen



### MAGS Field Trip Program 2013-14

#### Coming in January

- Monthly field trips and more
- Field trip guide and journal
- Collect, exhibit and win program

Mid-Tennessee Gem & Mineral Society, Inc. 32nd Annual

## 2012 "Earth Treasures" 2012

### Gem, Jewelry, Mineral, Fossil Show & Sale

Free Parking Ag Expo Park, Franklin, TN Free Parking

4215 Long Lane • Franklin, TN 37064—20 Miles South of Nashville; I-65, Exit 61

Saturday, Dec. 8, 2012, 9:00 AM—6:00 PM & Sunday, Dec. 9, 2012, 10:00 AM—5:00 PM

Admission: Adults, \$4.00 (2-Day Pass, \$6.00); Students, 18 and under, \$1.00

Children under 12 with adult, FREE • Scouts in uniform, FREE

#### OVER 30 DEALERS

Exhibits • Demos • Silent Auction • Door Prizes

• Mineral & Fossil Specimens • Lapidary & Faceting Rough • Beads • Cabochons • Gem Stones • Tools & Supplies

Visit [www.MTGMS.org](http://www.MTGMS.org) for more information.

## Jewelry Bench Tips by Brad Smith

### OCHRE APPLICATOR

Yellow ochre is used when you want to be sure the solder will not flow onto an area of your piece while you're soldering on *Continued, P. 7*

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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*Jewelry Bench Tips* another area. *Continued from P. 6* The only problem with ochre is coming up with a good way to store and apply it. I like recycled nail polish bottles. They seal well and have a built-in brush. Just clean them out with a little acetone or nail polish remover, and they're ready to go.



*Bench Tips for Jewelry Making* is now available as an e-book for

Kindle and Nook readers. Free apps allow it to be read on most phones, tablets, and home computers.

The book can be found at several locations:

- Kindle edition—[www.amazon.com/dp/B00A5ELDRU](http://www.amazon.com/dp/B00A5ELDRU)
- Nook edition—[www.bn.com/w/?ean=2940015848915](http://www.bn.com/w/?ean=2940015848915)
- Print edition—[www.createpace.com/3976439](http://www.createpace.com/3976439)

Makes a good holiday present for friends who do jewelry.

## SANDING/POLISHING IN TIGHT PLACES

Often you'll need to sand or polish an area that's impossible to reach with even a small wheel on a

flexshaft. Other times it might be the bottom of a pocket or inside bottom corner of a box that needs to be finished. One trick for these nit-picky jobs may be left over from your last Chinese dinner—a chopstick.



I've found quite a few uses for these in the shop. Prepare the tip by simply sawing it off at a 45 degree angle. Then apply whatever *Continued, P. 8*

## November Field Trip Site Pictures

Just a few pictures to show the “landscape”—the way that the sites in Texas and Oklahoma looked.



*Jewelry Bench Tips* abrasive grit you  
*Continued from P. 6* will need for the  
job or hold a  
strip of sandpaper around the end.  
Loose grit can be held onto the tip  
with a bit of vaseline or oil. Trip-  
oli or rouge can be just rubbed  
onto the end of the chopstick.

More BenchTips by Brad  
Smith are at [groups.yahoo.com/  
group/BenchTips/](http://groups.yahoo.com/group/BenchTips/) or  
[facebook.com/BenchTips](https://www.facebook.com/BenchTips).

**Fossil Cleaning  
and Preparation**

**Editor's Note:** *This article, used by  
permission, comes from a workshop  
handout prepared by Nancy Roberts,  
President of the North Mississippi  
Gem and Mineral Society.*

Fossil Preparation  
Begins in the Field:

Loose pieces of a fossil should  
be immobilized, if at all possible,  
with glue or a plaster cast, or col-  
lected in separate, mapped and  
labeled packages. Use foil for the  
smaller, more delicate pieces and  
newspaper for larger ones.

Any glues used out in the field  
should be reversible and compati-  
ble with those used in the lab.

Taking a photo or making a  
drawing before removal of any  
pieces of the fossil will be a great  
help in later reconstruction.

Methods of Matrix Removal:

Mechanical and chemical proc-  
esses used for matrix removal,

**Always practice any technique  
with less important fossils first!**

- 1. Washing with soap and water,  
Always test a small sample

**October Field Trip Pictures**

Thanks, Kim Hill, for these pictures from the October 20 MAGS  
field trip to Razor Rock Quarry in Harrisburg, Arkansas.



first, as water can completely de-  
stroy some fossils. This may be all  
the preparation that some fossils  
will need.

**Note:** Never rinse the dirt and  
clay from your fossils down the  
sink drain, as these can turn to  
cement in your drain pipes! Al-  
ways wash outside or over a  
bucket that you can then empty  
outside. (I know from experi-  
ence!)

- 2. Scrubbing with a soft bristle  
brush,

Using a toothbrush or small  
scrub brush is effective in remov-  
ing dirt, algae and other surface  
deposits. As always, be sure that  
this is removing only the un-  
wanted material and not any of the  
fossil itself.

- 3. Removing excess matrix with  
hand tools,

Hand tools that are frequently  
used to remove matrix are ham-

mers and chisels, dental picks, X-  
ACTO knives, scribes, and rotary  
tools like a Dremel which include  
saws and grinders. Decrease tool  
size as you work closer to the fos-  
sil itself and try to avoid touching  
the fossil with these tools. **\*\* I use  
a brush to remove loosened matrix as  
I'm working.**

- 4. Removing matrix with percus-  
sion and air-brasive tools,

Pneumatic percussion tools  
are extremely useful for fine ma-  
trix removal. There are hand held  
trigger models for removing gross  
quantities of matrix and small  
pencil like ones for more delicate  
work.

Using air-brasive tools requires  
the use of a vacuum chamber and  
dust collection system. Make sure  
that the abrasive used is softer  
than the fossil. Sodium bicarbon-  
ate (hardness 1.5) is frequently  
used.

- 5. Chemical re- *Continued, P. 9*



*Fossil Cleaning and Preparation*

*Continued from P. 8*

removal of matrix,

Vinegar (acetic acid) can be used to dissolve carbonates which are a major component of sedimentary rock. The calcium phosphates making up vertebrate fossils are nearly insoluble in this acid, so an acid bath can be used to remove matrix from them. Make an acid bath of 10% glacial acetic acid and water. Adding bone meal will help complete the insolubility. Cover any matrix that you wish to keep or any exposed fossil material with PVA (polyvinyl acetate) first before soaking. This procedure may take several days and periodic brushing away of softened matrix is recommended. Wear rubber gloves and coat any exposed fossil material with PVA as it appears.

**Always test these methods on non-important fossils first!!**

Methods for Repairing and Preserving:

1. Gluing broken pieces,

Water soluble glues like Elmer's can be used to glue pieces of a broken fossil together. This glue dries clear and can be easily diluted with water if different consistencies are required. Placing the glued specimen on a piece of plastic like a coffee can lid insures that the fossil can be moved once the glue is dry. Also, modeling clay (or DAP tacky stuff) works well as a rest on which to place the fossil while the glue is drying. This is especially useful if the fossil doesn't sit flat.

Cyanoacrylate glues, like Paleobond, are also very versatile and

important in the preservation of fossils. They provide some of the strongest bonds of any glue. Paleobond comes in a variety of viscosities from a gel to a liquid and can be used to penetrate cracks and other porous places that need gluing.

Two other very useful consolidates are Polyvinyl acetate (PVA) and Polyvinyl Butyral (PVB, Butvar-76). These come as spheres or beads and are then dissolved in acetone. They can be used thick or thinned to various consistencies similar to Paleobond for filling cracks and sealing surfaces. They are also extremely useful in preserving the very small fossils where just a drop of this glue applied with an eyedropper is all that is needed.

2. Surface sealing,

Water soluble glues (Elmer's) can be diluted to a 50% solution with water and applied as a surface coat to a fossil with a fine bristle brush. Several coats may be applied, but to keep the coat clear and not looking milky, be sure that you are using a dilute mixture.

PVA or Butvar mixtures that have been diluted with acetone to about the consistency of water make excellent top coats for fossils. Multiple coats may be applied where necessary.

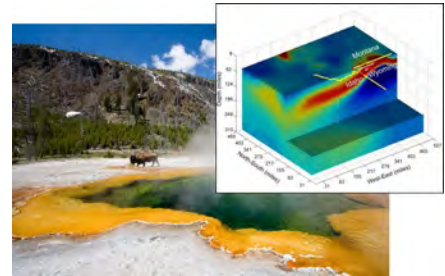
Another product that can be used as a topcoat, especially for delicate plant fossils where brushing on a topcoat isn't applicable, is an acrylic fixative by Krylon. This can be found in most craft stores where art supplies are sold or in the paint department at most hardware stores. This also works

well for fossils that will be repeatedly handled.

Future Floor Polish is another acrylic based product that can be used as a top coat for shell material when mixed 50/50 with water. This is reversible with ammonia.

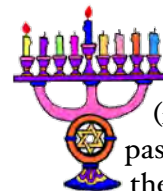
**Note:** Any fossil showing marcasite invasions should be preserved with something not diluted with water.

**Yellowstone Underlying Geology**



Yellowstone National Park is indeed an electrifying place. Researchers have used observations of Earth's electromagnetic field collected at more than 100 sites surrounding the park to create a CT scan-like image of the plume

of hot rock responsible for today's geysers and hot springs (main image) as well as past volcanic activity in the region. Variations in the conductivity of rock underlying the region—which conducts electricity in some places as well as seawater does (dark red, inset)—reveal zones rich in molten silicate rocks and hot briny fluids, the researchers report in a recent issue of *Geophysical Research Letters*. The plume may stretch more than 600 kilometers



*Continued, P. 10*

## Yellowstone “CT Scan” (cont.)



westward of the Yellowstone basin, the new report suggests. In the past decade or so, several other teams of geoscientists, including one with one of the researchers making the new report, have spotted the plume using seismic waves. The electromagnetic image of the plume is

broader than the one derived from seismic data but doesn't extend as deep, largely because the electromagnetic waves the study analyzed can penetrate only 300 kilometers or so of Earth's crust.



**Ref:** *Michael S. Zhdanov et al, GEOPHYSICAL RESEARCH LETTERS, VOL. 38, L08307, 7 PP., 2011, doi:10.1029/2011GL046953*



See you at the MAGS holiday party, December 14!

### Calendar

#### December 6, 2012

Board Meeting (combined old/new), St. Francis Hospital, Library, 6:30 P.M.

#### December 8 & 9, 2012

MTGMS Show, Ag Expo Park, Franklin, TN

#### December 14, 2012

Membership Meeting/Holiday Party, Shady Grove Presbyterian Church, 7:30 P.M.

#### December 15, 2012

DMC Field Trip, Wartrace, TN

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

