



Volume 59 ◊ Number 05 ◊ May 2013 ◊ A monthly newsletter for and by the members of MAGS

Reelfoot Lake Finds

Bill Lawrence, Tennessee Division of Archaeology

May Meeting Presentation



My talk will address a cache of 70 turkey tail blades, two stone beads, and a large lump of Galena (natural lead) that was recovered in the Reelfoot Lake area last Spring. A radiocarbon date of 2780±40 years before present was obtained for the cache.

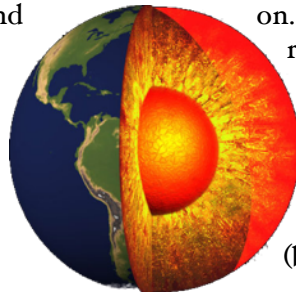
I will also discuss a collection of 38 red jasper beads that were recovered from a site in Tipton County, Tennessee, in the late 1980s. These beads are typically found further south in the Lower Mississippi Valley and this collection represents the *Continued, P. 3*

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MAGS MEMBER SHOW SPONSORS

The 2013 Memphis Mineral, Fossil, and Jewelry Show just closed its doors. The best show of its kind in the area was a success, largely thanks to our Members. Many of you helped at the Show, some wrote a check, and some did both.

The Show is our largest single source of income, but it is very expensive to put



on. Aside from the big-ticket items, such as renting the Agricenter, there is a surprising amount of “miscellaneous.” We pay for soft drinks and water for volunteers and dealers, snack bags for dealers, fabric to make hundreds of grab bags, many small printing jobs, and plenty of other minor (but necessary) expenses.

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MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

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PRESIDENT'S MESSAGE

Hey, MAGS Rockhounds,

The April showers have been very abundant in some places, so there should be plenty of new specimens on the creeks waiting for us to collect.

One thing about creeks most people don't think about—and yes, I learned it from the "Rockhound School of Ridge Runners." Some places have deep holes that get filled quickly—like quicksand. It's really a good idea to allow about 3 days of settling and compaction in some areas. That's about mid-creek on Crowley's Ridge; the lower creek is a bit more dangerous. Sometimes the bottom is way over your head. The upper creek is usually the firmest. Heed this tidbit; it may save your life.

MAGS President

W. Paul Sides

Lapidary Forums has a downloadable book on their website called the *2012 American Agate/Jasper Database*. It's huge and has great pictures. You can download it free from

gemstone.smfforfree4.com/index.php/topic,5180.0.html.

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.

May DMC Field Trip

WHERE: Boxley Aggregates, Piney River Quarry, Arrington, VA

WHEN: Saturday, May 25, 9:00 A. M.-2:00 P. M.

COLLECTING: Minerals, Anatase to Zoisite

INFORMATION: David Callahan, (540) 297-1853 (home), (540) 874-5201 (cell, day of trip only), dbc11@aol.com, www.LynchburgRockClub.org

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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Reelfoot Lake Finds northern extent
Continued from P. 1 of the distribu-
tion of red jas-
per beads. Typically associated
with the Poverty Point culture,
new research indicates that they
are actually older than Poverty
Point and are associated with
Middle Archaic cultures in the
Lower Valley.

*Bill Lawrence is State Parks ar-
chaeologist for the Tennessee Division
of Archaeology, Tennessee Department
of Environment and Conservation. He
received a Masters degree in Archae-
ology from the University of Memphis.
Bill has been actively involved in West
Tennessee archaeology throughout his
career, with a specific interest in the
Reelfoot Lake area of northwest Ten-
nessee.*



*MAGS Member Show Sponsors
Continued from P. 1*

The following MAGS Mem-
bers made financial contributions:

- ★ Sherry Bright
- ★ Howard and Victoria Bromley
- ★ Lori and Charles Carter
- ★ Beth Prussia and David A. Day
- ★ Philip Eglsaer
- ★ Amelia Herrington
- ★ Alan K. and Cathie Jacobs
- ★ James Johnson
- ★ Thomas Jones
- ★ Ray Lovelady
- ★ Matthew and Carol Lybanon
- ★ Cornelia F. McDaniel
- ★ Mike and Kathy Nagel
- ★ Virginia Pierce
- ★ Danielle Schaeffer
- ★ Karen Schaeffer
- ★ Lauren Schaeffer
- ★ Jerry Seamans
- ★ Randa Spears

★ Hongbing Wang

★ Jon and Debi Stanford

Thanks! You made a lot of things
easier.

MAGS Archaeology Interest Group

Robert Connolly

The MAGS Archaeology In-
terest Group has met twice now at
the C. H. Nash Museum at Chu-
calissa. Our next three meetings
will take place on the following
Saturdays: **May 25, June 22,** and
July 27. The group has identified
two projects that they will work
on in the coming months. First,
the group members will continue
the analysis of surface collected
artifacts donated in the 1980s to
the Museum by a landowner in
Lincoln County, Tennessee. Next
the group will work with the
County Museum to develop an
exhibit for the Lincoln County

Museum in Fayetteville. A second
project will be the creation of a
reference or comparative type col-
lection of stone tools, ceramics,
and other artifacts drawn from the
repository of the Museum's cu-
rated materials.

Both of these projects are de-
signed to involve MAGS members
with little experience but an inter-
est in archaeology to make a real
time research contribution to area
studies. That is, the projects of
the MAGS Archaeology Interest
Group will make a difference and
be seen by the broader public.
Join us! No experience is neces-
sary.

March Board Minutes

Carol Lybanon

The MAGS Board of Directors met
February 28 at St. Francis Hospital,
5959 Park Avenue. The meeting was
called to order at 6:30 P. M. by W. C.
McDaniel in the ab- *Continued, P. 4*

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MAGS2013-Upcoming field trips

Dates	Location	Trip status
May	May 18 Blue Springs and Frankstown, Mississippi Fossils, Lunch, and Fossils	trip bulletin to be published
June	June 15 Crow Creek near Forrest City, Arkansas Mimetoliths, Agates, and Fossils	trip bulletin to be published
July	July 13 Behind the Scenes Tour at the Pink Palace, admission required	trip bulletin to be published

March Board Minutes sence of President Paul Sides. Present were: Mike Baldwin, Ron Brister, James Butchko, Bonnie Cooper, Carol Lybanon, Matthew Lybanon, Neville Mayfield, W. C. McDaniel, Nannett McDougal-Dykes, Guy Weaver, Bob Cooper, Marc Mueller, and Lou White.

Secretary: The minutes were accepted with corrections.

Treasurer: No report.

Membership: Neville reported that only about half of the 2012 Members have paid 2013 dues. W. C. will send an email blast asking Members to pay 2013 dues.

Field Trips: W. C. reported that the Park Hills trip was very good, and the new site had the best small druse he had ever seen. About 14 people attended. March 5 (Tuesday) field trip will only take place if the weather is good. We were invited to join the Georgia club on March 9 for a trip to Wells Creek and Cumberland Furnace. MAGS will host a Nonconnah Creek trip on March 16.

Adult Programs: Dr. Michael Gibson had to cancel for March due to surgery. Ron Brister will fill in with a program on the geology of Tennessee. The April program will focus on the

MAGS Show. Ron is working on nailing down speakers for future meetings, but there is nothing definite yet. Ron asked Guy Weaver to help with the displays in March. W. C. would like to take over running the display contest. He will take over at the April meeting.

Junior Programs: Jim is working on getting the University of Memphis Egyptology Graduate Students Association to give the March program.

Show: Jim reported that the dealers are all lined up, he talked to the table supplier, and he plans to send out an email for volunteers. Bob said we need more co-chairs, because we only have one person each for the RockZone, information/membership desk, etc. W. C. replied that he will be at the front table.

Library: Ron reported that he has processed 36 books.

Newsletter: Matthew said that he always needs more articles. He would like events, speakers, and field trips to be listed at least three months in advance.

Webmaster: Mike said he is continuing to update the website. He also asked for donations of fossils and minerals for Scout programs he is giving, and announced that he is giving a program on March 23 on astrogeology

at the Collierville YMCA, from 2:00 to 4:00.

Historian/Rock Swap: The first rock swap of 2013 will be at the home of the McNeils on April 6, 11:00-3:00. It will be a cookout. Jim will cook the hamburgers. Other people are asked to bring side dishes and dessert. Nannett will send Matthew information for the April newsletter, since the rock swap is before the April Membership Meeting.

Old Business:

▶ Nannett reported that she will be at Earth Day at Shelby Farms Park again this year. She will hand out MAGS Show flyers. She also reminded us about the Shelby Farms dino dig that will take place on Thursdays, May 30, June 6, 13, and 20.

▶ Carol and Matthew reported that they had presented a fossil program to fifth graders at Levi Elementary School.

New Business:

▶ There was a general discussion of officers' duties and responsibilities, and what the Board should do if they were not able to carry out their responsibilities. It was decided that the Board should add a new Standing Rule to take care of this problem. Carol will draft

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March Board Minutes the new Standing Rule and the *Continued from P. 4* Board will vote on it at the next meeting.

- ▶ There was a question about how we should handle information on DMC field trips. The Board decided that Matthew will email the information to our Members separately from the newsletter.
- ▶ Lou reported on the special field trip to Chunky Gal Mountain in North Carolina. They gathered lots of material and had a visit from a bear.

The meeting was adjourned at 8:30 P. M.

March Meeting

Minutes

Carol Lybanon

The MAGS Membership Meeting was held at Shady Grove Presbyterian Church on March 8. The meeting was called to order at 7:30 P. M. 44 Members and 7 visitors were present.

BUSINESS:

- ▶ W. C. McDaniel called the meeting to order and gave a

Show report. He asked Members to sign up to be volunteers at the Show. Carol Lybanon asked Members to be Show sponsors.

- ▶ W. C. reported on the field trips. Tomorrow MAGS Members will join the Atlanta group for shatter cones and slag glass. On March 16 he will lead a field trip to Nonconnah Creek. He will mail trip bulletins to Members.
- ▶ Ron Brister talked about the display that he brought, and introduced Guy Weaver to our Members. Guy asked people to vote on the displays. Ron asked Members to consider giving a program at one of our Membership Meetings.
- ▶ Nannett McDougal-Dykes talked about our rock swap, which will take place on April 6, 11:00-3:00, at the home of Jimmy and Hisami McNeil. We will cook hot dogs and hamburgers. Members are asked to bring side dishes and desserts.

DISPLAYS: There were two Junior displays.

PROGRAM: Ron Brister presented a very informative program about the geology of Tennessee.

The meeting was adjourned at 9:00 P. M.

April Rock Swap Pictures



Thanks to Jimmy and Hisami McNeil for hosting, and for the pictures

Field Trip Announcement
Texas-Size Ammonites



Eopachydiscus! Idiohamites! Mortonicerias! No, that's not a football cheer. Those are some of the ammonite species you might find on the September 2013 MAGS field trip.

If you're kicking yourself for not going on last Fall's ammonite-hunting trip to Texas, stop. MAGS is offering you another opportunity to bring back some of those nice ammonites—and possibly other fossils.

Bob Williams, our on-site Texas field trip leader, has graciously consented to lead another trip. We're planning this one for Labor Day weekend, August 31-September 2. The reason for scheduling it this early is so that we don't get shut out of some sites by hunting season. This is the last 3-day weekend before White Tailed Deer Archery season. Landowners don't want you to be mistaken for a deer and neither do we.



The sites (there are several good ones) are near Valley View, Texas, around 50 miles north of Dallas and a 9-hour drive from Memphis. Aside from the sites where you might find ammonites like those your friends brought back last November, Valley View is close to (Google them) Jacksboro, North Sulphur River, and other promising collecting areas.



We're giving you lots of notice so you can make plans. If you are interested or think you might be, contact Matthew or Carol Lybanon at (901) 757-2144 or lybanon@earthlink.net.

**Field Trip—Ammonites and other fossils
August 31-September 2, 2013
Valley View, Texas
More information to follow**



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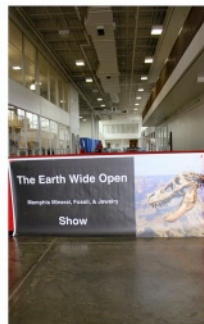
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Setting Up For The Show

Delivery, Unloading, Laying the (Rock Food) Table, Grab Bag Packing...



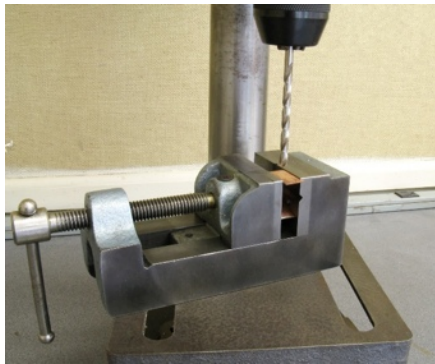
Will We Ever Finish?



Jewelry Bench Tips by Brad Smith

DRILL PRESS VISE

A drill press vise is a versatile tool to hold a workpiece securely and in precise alignment. It reduces the risks of working with high power motors, use of larger drill bits, and higher heat generated in the operation. The vise can be clamped to the drill press table if needed and is quite handy for bench use to hold things for sawing or riveting.



You can find them at stores that carry machine tool supplies. My feeling is that the best ones are made from steel. And I like the ones with V grooves cut into the jaw plates to help hold a punch straight up or to hold a rod horizontal. To find a supplier, search on "vise" or "drill press vise" at micromark.com, use-enco.com, smallparts.com, grizzly.com, sears.com.

DENTAL GOLD

You might think that a couple pieces of dental gold would be valuable, but if you only have a small amount, it can be a problem. You might think you could melt it and roll out your own sheet. However, the trace metals that dental gold contains to make it a

good material in your mouth cause it to crack if you try to forge it or roll it out as a sheet.

Sending it to a refiner is expensive for small amounts of metal, so a reasonable alternative is to try incorporating it into your jewelry. If you have enough material to do a casting, that's probably the best use for dental gold. If not, try melting it on a solder pad and while molten, divide it into small pieces with your solder pick and then flow the metal again to make little gold balls for use as accents on your designs.

More BenchTips by Brad Smith are at facebook.com/BenchTips/ or see the book *Bench Tips for Jewelry Making* on Amazon.

North America Geologic History Rewritten

It's time to redraw the map of the world during the reign of the dinosaurs, two scientists say.

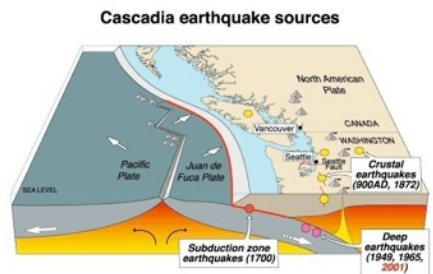
"Now it fits together," said lead study author Karin Sigloch, a seismologist at Ludwig-Maximilians-University in Munich. "We've come up with a pretty different solution that I think will hold up." With a spectacularly clear look at the remnants of ancient subduction zones under North America, Sigloch and her colleague Mitch Mihalynuk have revised 200 million years of geologic history. The results of their study were published April 3 in the journal *Nature*.

The story begins 200 million years ago. North America was crammed into the Pangaea super-

continent and the vast Panthalassa Ocean covered the rest of the planet. Panthalassa's ocean floor has almost completely disappeared under North America as Earth's tectonic plates have shifted., so its history is somewhat cryptic.

A few geologic clues led scientists to the prevailing model, contested by the new study. The puzzle pieces include the few remaining bits of Panthalassic ocean floor, rocks scattered along western North America, and remnants of the old oceanic crust seen under the continent, where the plate disappeared into the mantle, the layer of Earth beneath the crust.

After North America started shifting to the west 185 million years ago, the prevailing model placed a subduction zone along the West Coast that consumed Panthalassa's huge oceanic tectonic plate, the Farallon plate. The subduction zone delivered exotic terranes that built out the western continent. But for some scientists, the puzzle pieces just didn't fit this picture. Sigloch and Mihalynuk think they know why.

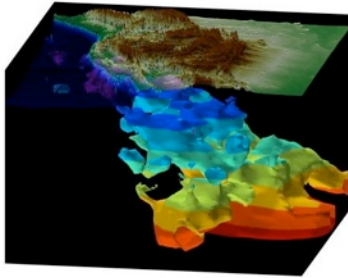


Sigloch looked deep into the mantle, at the remnants of oceanic crust that remain beneath North America. In a subduction zone, two tectonic plates collide and one slides into the mantle. Seismic waves change their speed as they pass *Continued, P. 9*

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Geologic History Rewritten through the plates, revealing their location. No one had seen these old pieces of crust in this detail before because it requires powerful computers and very dense arrays of seismic monitoring equipment, both of which came about in the last decade.



Sigloch discovered a vertical pile of oceanic crust segments stacked on top of one another like bricks. The 400-600 km. wide wall runs from northwest Canada to Central America, and extends from between 800 to 2,000 km. beneath the surface. These former slabs, as geologists call subducted crust, fix the position of Panthalassa's ancient subduction zones in time and space, the study shows. Because geologists know the travels of North America in detail, thanks to magnetic stripes in the Atlantic Ocean, the researchers can pull back the continent and compare it to the position of subducted crust.

"The slabs are telling us the sites of past ocean trenches and the locality of island arcs, which are the building blocks of continents," said Mihalynuk, a geologist with the British Columbia Geological Survey in Canada.

What the mantle evidence shows is that as Pangaea broke up,

out in the Panthalassa Ocean, a vast archipelago sat far offshore of North America. It was shaped like an arrowhead, 10,000 km. long, with its tip pointing to the proto-Pacific Northwest. Instead of an Andes-style subduction zone, with the Farallon plate sliding to the east under North America, there was a westward-dipping subduction zone, with North American crust sliding beneath the Angauchum and Mezcalera plates.

"It makes perfect sense," said Robert Hildebrand, a geologist at the University of California, Davis, who was not involved in the study. "If there was eastward subduction, as most people would suggest, it would leave a bread crumb trail strewn out across the mantle."

As North America plowed westward, with its margin sinking the two plates, it rammed into the arrow point about 150 million years ago. This impact was responsible for raising the initial Rocky Mountains, Mihalynuk said. Further west of the archipelago, the Farallon ocean plate was descending into its own subduction zone, the mantle evidence indicates.

In fact, the entire western Panthalassic was more like the Southwest Pacific, where northeast Australia collides with islands, microcontinents disappear into the Earth, and there are flip-flopping subduction zones, the study authors said.

Over time, collisions with the different subduction zones smeared exotic terranes along the continent's western margin, a rock record that has long hinted at

North America's violent tectonic history. The history revealed by the mantle slabs helps explain some baffling geology, such as rocks carried 2,000 km. from Mexico to Canada. "I would say that this model comes very close to fitting the geology," Hildebrand said.

Sigloch also found another, more westerly slab wall connected to the Cascadia trench off Washington and Oregon, into which the last remnant of the Farallon plate, now called the Juan de Fuca, is subducting.

Mihalynuk said the new model will make waves, as it overturns 40 years of accepted wisdom about the evolution of western North America. "It will take a while to turn people around."

2013 MAGS Show Grand Prize Winner



MAGS Member Sherry Bright draws the winning ticket and Aryan Rajesh claims his prize from W. C. McDaniel.



Special Thanks

Memphis Botanic Garden asked our members to consider donating some rocks for their new rock garden. A group of Eagle Scouts are helping with the construction of this garden. Thank you, MAGS Members, for your help. The Botanic Garden received quite a few donations. We will publish a photo of the rock garden when it is completed.

MAGS Members, you rock!

Upcoming Programs

Adult

May—Bill Lawrence, Reelfoot Lake Finds

June—W. C. McDaniel, Oddities
July—Matthew Lybanon, Let's Go to the Beach

Juniors

May—Identifying Minerals
June—Earth's Crust: Tectonics, Earthquakes, Volcanoes and More
July—Micro-minerals



Calendar

May 2, 2013

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

May 10, 2013

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

May 18, 2013

MAGS Field Trip, Blue Springs/ Frankstown, MS

May 25, 2013

MAGS Archaeology Group Meeting, Chucalissa, 10 A. M.

May 25, 2013

DMC Field Trip, Arrington, VA

Memphis Archaeological and Geological Society
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