



Volume 63 ◊ Number 05 ◊ May 2017 ◊ A monthly newsletter for and by the members of MAGS

## *A Gem Tree Forest*

W. C. McDaniel

May Program



We will attempt to make a forest of gem trees. MAGS will provide the branches (wire), leaves (beads), and you provide the base—a rock about 2-3 inches wide, preferably with a flat bottom. A few extra rocks will be available if you are experiencing a rock short-

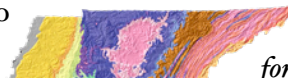
age. To prepare for this hands-on activity an instruction guide was emailed to all Members. Please study and print off and bring to the meeting. If you have mislaid your copy, please request another via email to [w.c.mcd@att.net](mailto:w.c.mcd@att.net).

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### WEB TIP: TENNESSEE GEOLOGIC MAP DATA

The U. S. Geological Survey (USGS) makes available a GIS database of geologic units and structural features in Tennessee, with lithology, age, data structure, and format. It's possible to view a map that displays geological information, list geologic units by county, and download a number of different types of geological data. The primary website is <https://>



MATTHEW LYBANON, EDITOR

[mrdata.usgs.gov/geology/state/state.php?state=TN](https://mrdata.usgs.gov/geology/state/state.php?state=TN). The information is based on

USGS Open-File Report 2005-1324,

*Preliminary integrated geologic map databases for the United States : Kentucky, Ohio, Tennessee, and West Virginia,*

<http://pubs.usgs.gov/of/2005/1324/>.

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

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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](http://memphisgeology.org)

MAGS Show Website: [www.theearthwideopen.com](http://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](mailto:lybanon@earthlink.net).

### May DMC Field Trip

WHERE: Cumberland Furnace, TN

WHEN: Saturday, May 6, 10:00 A. M.-3:00 P. M.

COLLECTING: Slag

INFORMATION: John Martin, (615) 210-5385 or  
[info@mtgms.org](mailto:info@mtgms.org)

### 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)

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

## New Members

19 Connie and Andy Anderson  
 Dana and Larry Armstrong  
 Nedra Baum  
 James and Robin Brown  
 Barbara Champagne  
 Celeste and Henry Conner  
 Jane Coop  
 Diane Donohue and Jorge Leal  
 Danielle Hoover and Alexander Cook  
 Darla and Frederick G. Joure  
 Pat Judd  
 Melissa and Josh Koontz  
 Jason Lurie  
 Hallie and Jeffrey Marker  
 Katie McIntyre  
 Stephen McMann and Ann Paterson  
 Pam Papich  
 Virginia Pierce  
 Dan and Barbara Reed  
 Jan Shivley  
 Patricia Twilla

19 J. R. Hill  
 Joanne Gilmore  
 Susan Jones  
 20 Bonnie Scott  
 Michele Robbins  
 21 Mike Nagel  
 23 Zoe Sams  
 24 Hallie Marker  
 25 Amber Shields  
 26 Dorothy Poole  
 Sonya Williams  
 29 Aidan Davis  
 30 Herb Nicholson  
 31 Sherry Bright

Family *Glyptocrinidae* von Zittel, 1879

Genus *Rhaphanocrinus*

Species cf. *subnodosus* (Walcott, 1883)

One of West Tennessee's primary economic resources is aggregate, commonly known as gravel. Gravel deposits are widely known to be the result of rivers eroding and rounding chert (itself a diagenetic change from the original limestone) to produce "river rock". Chert aggregate gravel is used as a road bed material and in the production of ornamental concrete. The process of replacing the original limestone deposits with silica chert can preserve the enclosed fossils. There are four primary fossiliferous chert gravel deposits in West Tennessee. Gravels are associated with the modern Mississippi River as bars, such as quarried by Memphis Stone and Gravel. Tuscaloosa (Late Cretaceous) gravels occur in isolated small remnants across the Western Highland Rim and are better exposed northeast Mississippi and northwest Alabama. Paleogene/Neogene gravels, often referred to as "Lafayette" gravel or "continental deposits" occur in abundance near Paris Landing, Henry County. Finally, Tennessee River terrace gravels (Pg/Ng) are exposed in Hardin and McNairy counties near the Tennessee-Mississippi state line and in Southwest Tennessee. These chert gravels are commonly fossiliferous containing partial molds of pelmatozoan echinoderms (see FTF 9 for more in pelmatozoans), brachiopods, bryozoans, trilobites, cephalopods, and snails that are

*Continued, P. 5*

## Down to Earth Festival



Thank you, MAGS volunteers, for representing MAGS at the Down to Earth Festival at Shelby Farms on April 1.

## May Birthdays

2 Alexander Cook  
 3 Jessica Clark  
 Alex Poppelreuter  
 Thomas Jones  
 4 Sunny Finch  
 5 Henry Rhudy  
 9 Lawson Tully  
 Carol Lybanon  
 10 Julie Lybanon  
 11 Theresa Childress  
 Mary Elliott  
 12 Pam Crumpton  
 Trace Hartman  
 13 James Butchko  
 14 Philip W. Eglsaer  
 16 Robert Duncan

## Fabulous Tennessee

### Fossils

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



FTF 28

### *Rhaphanocrinus* Cobble

Kingdom Animalia

Phylum Echinodermata

Class Crinoidea Miller 1821

Subclass Camerata Wachsmuth & Springer, 1885

Order Diplobathrida Moore & Laudon, 1943

**“A Delineation ...”**

*Matthew Lybanon*

Geologic processes occur on time scales that range from seconds (earthquakes) to tens of millions of years (recycling of the oceanic lithosphere) and even billions of years (tectonic evolution of continents). Almost all oceanic crust older than 200 million years has been subducted back into the mantle, so most of Earth's history is documented only in the older rocks of the continents.

But how can we tell how old a rock is? Beginning geology students learn two principles due to Nicolas Steno (1638-1686), a Danish scientist who was the in-house physician of Grand Duke of Tuscany Ferdinando II de' Medici, in Florence. Steno laid the foundation for the science of **stratigraphy**, the study of layers in rocks. He set forth two principles: the **principle of original horizontality** (sediments are deposited under the influence of gravity as nearly horizontal beds) and the **principle of superposition** (each layer of an undeformed sedimentary sequence is younger than the one beneath it and older than the one above it).

This works very well in the field to determine whether one sedimentary formation is older than another, and by piecing together the formations exposed in different outcrops we can construct the stratigraphic succession of a region. But what about two widely separated sites? Stratigraphy alone can't determine whether a sequence of mudstones in Italy is younger, older, or the same age as a similar sequence in England.

William Smith (1769-1839) to the rescue! He was a surveyor working on the construction of canals in southern England. Smith recognized that fossils (Steno was the first to demonstrate that fossils are the remains of ancient life) could help geologists determine the relative ages of sedimentary rocks. He observed that different layers contained different sets of fossils, and he was able to tell one layer from another by the characteristic fossils in each. Smith's **principle of faunal succession** [*faunal: (adj.) of fauna*] states that sedimentary strata in an outcrop contain fossils in a definite sequence. The same sequence can be found in outcrops at other locations, so that strata in one location can be matched to strata in another location.

William Smith was born in the same year that Josiah Wedgwood opened his great factory, Etruria, Richard Arkwright created his first water-powered cotton-spinning frame, and James Watt received the patent for the first condensing steam engine. Only seven when his father died, Smith was cared for by a farming uncle. He attended a village school, learned the basic methods of surveying from books he bought himself, and collected the abundant fossils of his native Cotswold hills. In 1787 he became an assistant to Edward Webb, a surveyor in nearby Stow-on-the-Wold, who in 1791 helped Smith become established in the Somersetshire coal district southwest of Bath.

He came to understand that the different layers of rock—in part as revealed by the fossils they

contained—always appeared in the same order, no matter where they were found. He also realized that geology required a three-dimensional approach. Smith spent the next 20 some years traveling throughout Britain, observing the land, gathering data, and chattering away about his theories to those he met along the way, thus acquiring the nickname "Strata Smith." In 1815 he published his masterpiece: an 8.5- by 6-foot, hand-tinted map (see picture and last paragraph of this article).

Snubbed by the gentlemanly Geological Society, Smith complained that "the theory of geology is in the possession of one class of men, the practice in another." Some members of the society went further than mere ostracism—they stole Smith's work. These cartographic plagiarists produced their own map, remarkably similar to Smith's, in 1819. Meanwhile the chronically cash-strapped Smith had been forced to sell his prized fossil collection and was eventually consigned to debtor's prison.

When creditors seized his London property after he had spent 10 weeks in debtor's prison in 1819, he sold out and left for Yorkshire. For some years he had no permanent home but finally settled in Scarborough among a small band of geological enthusiasts, one of whom retained him as a consultant on his nearby estate. Recognition of his achievements came from other sources. In 1822 his work was praised by William D. Conybeare and William Phillips in their textbook on English stratigraphy,

*Continued, P. 5*

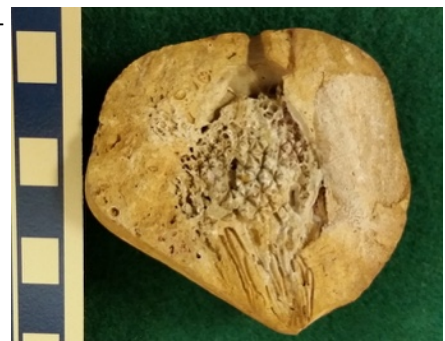
“A Delineation ...” *Outlines of the Continued from P. 4 Geology of England and Wales.* In 1831 he received (ironically) from the Geological Society of London the first Wollaston Medal and in 1832 a yearly pension from the crown. He died in 1839 on his way to a scientific meeting in Birmingham.



The discovery of radioactivity finally provided a method to determine the absolute age of a rock, but the work of Steno and Smith gave geologists a relative time scale, which led to the geologic time scale we know today. Smith kept track of his work by mapping outcrops using colors assigned to specific formations. He received 50 guineas for his 8.5 x 6 foot hand-tinted geological map “A Delineation of the Strata of England and Wales, with Part of Scotland.” A restored copy hangs in Burlington House, current home to the Geological Society of London.

*Fabulous Tennessee Fossils* all of middle Paleozoic age. Usually preservation is too poor to identify chert fossils to biostratigraphically useful genera or species, but several previous studies have concluded that these cherts are reworked from Upper Silurian through Mississippian age strata, with most of the chert gravels derived from the Devonian Camden Chert or Mississippian Fort Payne Chert. Recently an observant student at UT Martin, visiting a friend living between Paris and the Tennessee River, found a broken chert cobble with a remarkably preserved crinoid in the driveway gravel of his friend’s home! It took some “forensic” digging to trace the driveway gravel to the quarry from which it originated, but we did it. That quarry is only a few miles west of the driveway. More importantly, the crinoid is now identified as *Rhaphanocrinus* cf. *subnodosus*. The specimen is preserved in profile view showing the relief details of the upper stem, entire calyx with articulated plates (which have small ridges that make the plates resemble the “Chrysler symbol”) and crown with arms and pinnules in closed position. The same separation plane in the cobble preserves a wrinkled fenestrate bryozoan impression. *R. subnodosus* is typically an Ordovician (Trenton) crinoid genus. This is the first record of *R. subnodosus* in Tennessee and the first confirmed Ordovician crinoid from gravel deposits in West Tennessee. Usually fossil preservation in chert gravel is too poor to identify species-level features, but it does occur. Check your collections for complete fossil specimens and let me know if you have something interesting. Your specimen could have scientific value related to biostratigraphy.

**Figure 1.** *Rhaphanocrinus* cf. *subnodosus* from the Lower Tennessee River terrace deposits near Paris, Tennessee. The specimen is unique in that the calyx is complete with arms and all plates are articulated. Additionally, this species is an Ordovician species, indicating the depth of erosion into Ordovician strata during the earlier phase of the Tennessee River’s history. (Photo by MAG, Scale marked in cm)



**MAGS in Training** by Joseph Blodgett

Here is an update for you about the MAGS Junior meetings this year. In case you readers weren’t aware, we have a volunteer instructional program for the youth that is one of the principal foundation stones of MAGS. We’ve been regularly getting over 20 participants in the youth program this year.

For those of you who have been bringing your *Continued, P. 8*

**Editor’s Note:** Thanks go to Teresa Polly, President of the Southeast Federation of Mineralogical Societies, for providing the information about upcoming William Holland workshops listed on the next two pages.

## William Holland Workshop

June 11-17, 2017

<http://sfmsworkshops.com/>

**Tuition \$370**

Full descriptions of class and instructors on website



### Beading – Gail DeLuca

Gail's 2017 SFMS classes will be all about playing with flat Peyote Stitch. This class will be appropriate for both beginners and experienced stitchers. Class kits include bead kits and instructions for 4 projects using variations of flat peyote stitch: Color Block Bracelet, Hombre Ombre Amulet Bag, Zig Zag Bracelet, Freeform bracelet

Class Kit Fee \$150. Includes beads, findings, instructions, and notions for four complete projects as pictured. Several color options will be available.



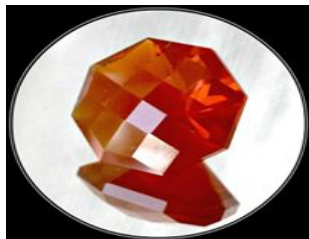
### Cabs 2 With Intarsia – Paul Roberts

This course is designed for those with some cabbing experience who wish to broaden their skills. Dopless cabbing of fancy shapes and freeforms (including use of the instructor's special carving wheels and jeweler's bit) will receive some attention although for the most of this week we will concentrate on making composite cabochons (intarsia utilizing a Genie cabbing machine and an intarsia grinder). We will also cover instructions for simple settings (wire/groove and prong-sets). Lab Fee: \$45 Estimated Material Costs: \$0 -\$100



### Casting – Bill Harr

This class will teach silver casting for beginner and intermediate silversmithing. The emphasis will be on production centrifugal casting, meaning techniques for high reliability. The class will teach centrifugal and vacuum casting, wax modeling, spruing, investing, burnout, casting, finishing and polishing, rubber mold making and wax injection. Steam casting will be covered if there is interest. Waxes will be available, and students will learn to inject their own. Lab Fee: \$80 Estimated Material Costs: \$0 -\$100



### Gemstone Faceting – Linda Searcy

In this week long workshop, you will 1) get acquainted with the faceting machine. 2) learn about abrasive disks / laps to do the cutting / grinding and polishing. 3) learn how to turn a piece of natural or man-made (synthetic) crystal into a beautiful gemstone; learn how to prepare / dop a stone; learn how to read and understand a faceting diagram; learn Meet Point (precision) faceting. By the end of the week, you should complete at least one or several gemstones. Material / Lab fee: \$50



### Immersion Enameling and Cold Connection – Debora Mauser

First we will learn the immersion method of enameling, often referred to as Painting with Fire. We will combine that with various cold connection treatments and metal shapes formed with a hydraulic press. Students will enamel beads, flat pieces and formed pieces. Your class fee includes one tank of map gas, use of all enamel and enhancements, all copper and brass needed to complete projects, beads, ear wires and leather.

Class fee \$175, includes gas, enamel, metal, beads, leather, rivets.

## **William Holland Workshop**

**June 11-17, 2017**

<http://sfmsworkshops.com/>

**Tuition \$370**

**Full descriptions of class and instructors on website**



**Inlay/Silver 1 INTRO TO INLAY – Chuck Bruce & Co-Teacher Micah Kirby**  
Beginning Inlay Jewelry – Students will construct an inlay pendant (project 1), and student choice after. Suggestions for project, Large Inlay pendant, inlay bead, Inlay Ring, Belt Buckle, and Cuff links. Students can bring basic silver tools, pocketknife or scribe, will have most tools needed. Students need to bring or purchase 2-3 slabs of rock that are similar hardness. Lab Fee: \$150.00 Includes Sterling Silver for Project 1. Estimate Material Cost: First 1 projects are included in lab fee, other materials plan on \$100 to \$300.



### **Opals 1 – Cheryl Kasper**

You will learn about various types of opals, how to cut and polish opal, how to read a stone before and during cutting, what makes opal precious, how opal forms, the equipment and supplies used to cut, treatments, care and tops for setting opals, opal valuation and why opal is such a unique and mysterious gemstone. Opals, books and supplies will be available for purchase. You are invited to bring your own opal as well. No prior experience is required.  
Lab fee: \$70



### **Silver 2 -Southwest Style, Vickie Prillaman**

This class will cover the Southwestern style of jewelry. We will discuss the styles and what are the differences between the Hopi, Navaho, and Zuni and other tribes. You will learn how to make several sizes of feathers, flowers, geckos, and other common southwest symbols. We will make our own appliques to add onto pieces of jewelry, whether it's rings, bracelets, pendants, or earrings. We will also use stamps to make designs in the metal. Lab Fee: \$80.00 Est. materials cost, depending on the price of silver: \$190.00-\$270.00



### **Silver 1 – Pattie Appleby**

Time to hone those solder skills! Our first project is a sterling silver CRAZY CHAIN! During the week we will learn how to use the rolling mill, hydraulic press, and other tools in the studio! We are also going to make a bezel by building a stone-set sterling silver wide band ring. Then, let's make a chunky filagree ring! And finish the week off with a stone-set pendant with a toggle closure. And, of course, there will be fun, quick items to make during the week. Lab fee is \$60 and the class projects' fee will be approximately \$150-175



### **Wire 1 – Spoon Jewelry – Jan Stephens**

This course will be a fun filled week designed to give students a sample of both the art of wire jewelry making and jewelry made of repurposed vintage Silverware. The first two days will be spent making wire bracelets, rings and earrings while learning basic wire wrapping techniques. This will be followed by three days of experimenting with bending vintage pieces of Silverware into beautiful "SilverWear" bracelets, rings, earrings and pendants.  
Course Fee: \$175.00

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*MAGS in Training* younger  
*Continued from P. 5* MAGSters, we hope you (and they) are enjoying the new structure of the meetings. For those of you who have MAGSlings but haven't brought them in yet, we've attached the plan for the next few months, just so you can whet their appetites.

For those who have volunteered, we would like to say a very heartfelt thanks. Without your knowledge and willingness to share, MAGS wouldn't be what it is today. If you have any questions about the calendar or about the program, don't hesitate to give us a call. The Junior MAGS coordinator is Joseph Blodgett, and he can be reached at [judo.ki.securities@gmail.com](mailto:judo.ki.securities@gmail.com) or at (602) 717-7925. Give him a ring.

Here is the schedule (subject to change):

*May*—Gem Trees

*June*—Space/Planets (Mike Baldwin)

*July*—Magnetism (Matthew Lybanon)

*August*—Egyptology (University of Memphis)

*September*—Prospecting (Charles Hill)

*October*—Fluorescence (Alan Schaeffer)

## All in the Family

*Matthew Lybanon, Editor*

David Kitkowski, who won this year's Show grand prize, has a hereditary connection to rocks—he inherited it from his son.

MAGS Member Susan (Dee Dee) Goossens, who signed the Member Show Ticket that David



used to get into the Show, provided some information on David and his family. David's son Will (shown in the picture, along with David and his wife Heidi) is a fifth-generation rockhound. Will is the great-great grandson of Edward H. Kraus. Dr. Kraus taught mineralogy at Syracuse University and the University of Michigan. And he was a member of the group of six individuals who founded The Mineralogical Society of America.

One of the best things about our Show is meeting new people and learning their stories. You can see Show pictures on P. 10.

## March Board Minutes

*Mike Baldwin*

Called to order 6:37. Attending: Charles Hill, Kim Hill, Mike Baldwin, James Butchko, Bob Cooper, Bonnie Cooper, Carol Lybanon, Matthew Lybanon, and W. C. McDaniel.

**Secretary:** February minutes sent via email, hard copies provided at meeting. Approved, one minor correction.

**Treasurer:** Bonnie shared financials for February and distributed the February bank statement for review. Names on the checking account have not yet been changed. Report approved with no changes.

**Membership:** We have 1 new Member from last meeting and 2 renewals. Bob has a paid list and an unpaid list. Some will pay at the Show. A good field trip in April encourages Members to renew. Charles will send out an

email encouraging unpaid members to renew before the Show in order to take advantage of the free admission.

**Field Trips:** Rain in Parsons didn't stop the 23 attendees from finding plenty of fossils. March 11 field trip will be to Nonconna Creek. April 29 field trip will be to Turkey Creek. Charles suggested Twin Creek Mine in Mt. Ida, Arkansas. Carol suggested Black Rock and Razor Rock near Jonesboro. Jim will plan a trip to Mt. Ida over Memorial Day weekend. Carol suggested that Jim talk to Bill Prior during the Show.

**Show:** Everything is going well. We need to get the volunteers together and iron out a lot of small details. Kim will start doing a weekly posting for The Earth Wide Open contest.

**Programs:** We are missing a connector cable that goes from the computer to the projector. Our projector is stored in a library cabinet. David Clarke will present the March program, on collecting in New Zealand and Australia. April is the Show program. May program will be gem trees. June program will be presented by Mike Howard. W. C. mentioned that we really need to use the microphone. The door prize and registration forms are in the cabinet.

**Historian:** Carol would like to make a photo album of things the club has done, starting around 2003. She has three photo categories: field trips, show, and parties. Cornelia sent Carol a box of photos to search through. Carol will scan several of these photos and display them in albums. Carol mentioned that the McNeils are not doing a rock swap this year. She will ask for two volunteers to sponsor a swap. For the first and third swap, we will have traditional backyard swaps. Maybe we could coordinate with the Nonconna Conservancy to set up at Halle Park when they have a meeting.

**Newsletter:** The 2016 newsletter contest results were *Continued, P. 9*



*March Board Minutes* published in *Continued form P. 8* the January newsletter. We had several winners at the regional and national level. We haven't received the certificates yet. This year's entries were submitted in January; results in the fall. A new requirement this year: two paper copies and a PDF on disc.

**Web:** March updates are ready to post as soon as Mike gets home tonight. There is a link to The Earth Wide Open at the top of the home page. Bob has several bunches of photos to be uploaded. Mike will send Flickr log-on to Charles, Kim, Matthew, and Bob so they can upload photos.

**Sunshine Report:** Members updated the Board on several club members with medical concerns.

**Old Business:**

- Hospitality form has three open dates. The youth coordinator has a schedule.
- Holiday gifts, grand door prize, and gem tree making materials were purchased in Tucson.

**New Business:**

- Bob made a display box for a raptor claw and a tooth. W. C. suggested the Coopers and he meet at the shed to look through hidden treasures that could be displayed at the Show.
- Discussion on needs for the wire wrapping workshop at Carol's.

Adjourned 7:43.

**March Meeting Minutes**

*Mike Baldwin*

Called to order at 7:00. Tonight's program will be "Rockhunting Downunder: Geology and Gemstones, Fossils and Culture" presented by Dave J. Clarke. James Butchko reminded Members that the March 11 field trip will be to Nonconnah Creek and the April 29 field trip will be to Turkey Creek to hunt for marcasite.

He mentioned that there are only 42 days remaining before the Show. There are show materials on the sign-in table that members may pick up and distribute to friends, neighbors, co-workers, and anyone else who looks like they may be interested in attending. Thursday night before the Show we need volunteers to help fill grab bags. Volunteers are needed on Friday from 9:00 until 6:00 to help set up the vendor, exhibitor, display, and Rockzone areas. Please fill out the sign-up sheet and specify how many will be attending in your party. There are two different SignUp Genius messages: one for volunteers, one for signing up for different tasks and areas. There will be a beading/necklace making workshop at Carol's house on Tuesday, March 21. Mike Baldwin encouraged members to visit the website. There are new buttons at the top of the homepage for Flickr and The Earth Wide Open. Carol Lybanon asked members to consider hosting a rock swap in their backyard. More rock swap information coming at the April Membership Meeting. Displays were presented by Leo Koulogianos, Kim Hill, Dave Clarke and Alan Schaeffer. Leah Gloyd explained the new sections and classifications in the library and encouraged members (especially the kids) to take advantage of all the resources. Youth were dismissed to their program: "How the Earth Works and Minerals and Fossils from Around the World" presented by Mike Baldwin. Dave Clarke presented the adult program (see above).  
Adjourned 8:40.

**Jewelry Bench Tips** by *Brad Smith*

CUTOFF WHEELS

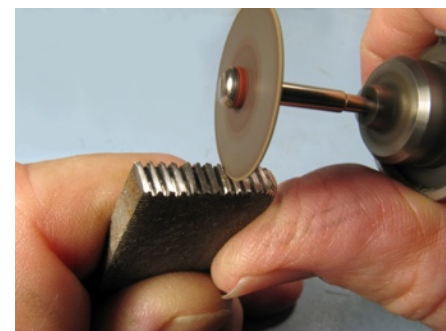
Cutoff wheels are inexpensive and do a great job cutting or sharpening steel. You can use them to

sharpen tool points, cut piano wire to length, make slots, and sharpen worn drills. Other uses include modifying pliers and making your own design stamps.

My preference is the 1 in diameter size. Be sure to hold the wheel firmly so nothing moves to break the disk, and definitely wear safety glasses. Those are little flakes of steel coming off the disk.



BTW—Cutoff wheels are poor at soft metals like copper, silver and gold. Soft metals clog up the cutting edges.



DEBURRING JUMP RINGS

When cutting jump rings from large gauge wire for chainmaking, you'll notice the saw leaves a small burr. An easy way to remove these is to tumble the rings with some fine-cut pyramids. It's best not to tumble for a long period with the pyramids because it will remove the polished finish from the wire.

*Continued, P. 10*

# The Earth Wide Open 2017



Thursday, grab bag packing



Dinos are ready



Dinosaurs aren't scary!



Friday night, dinner



Scouts



Tickets and wristbands



Two generations—Dad used to be one of the little kids digging in the gravel.

901 Rocks



Rocks Around the Clock Gang

# MEMPHIS ARCHAEOLOGICAL AND GEOLOGICAL SOCIETY

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

*Jewelry Bench Tips* No tumbler, no problem. You don't actually need a tumbler. I just put a handful of pyramids in a wide mouth plastic jar and shake for a bit. You can find these pyramids in the tumble finishing section of most jewelry supply catalogs.

See all Brad's jewelry books at [Amazon.com/author/bradfordsmith](http://Amazon.com/author/bradfordsmith).

## Scouts Rock Graceland

*Matthew Lybanon, Editor*



Thanks to Jim Butchko for volunteering to represent MAGS at this April 10 event, and for sending the picture.

## May Field Trips

*Matthew Lybanon, Editor*

Two field trips are on the May schedule. On May 13 we will go to 20 Mile Creek, near Frankstown, Miss., for shark teeth and other Cretaceous fossils (some Native American artifacts are also found there). Over the Memorial Day Weekend we will be in the Mt. Ida, Ark., area to hunt for quartz crystals. Saturday, May 27, the hunt will be at the Twin Creeks mine. Those who stay for Sunday will get to go another site (TBD).

Contact Field Trip chair Jim Butchko for more details ((901)

692-7518, [butch513j@yahoo.com](mailto:butch513j@yahoo.com)). Plans may change because of the weather or other factors.

**If you like rock swaps, please volunteer to be the host in June.**

Call Carol: (901) 757-2144.



Gem Dig at MAGS Show

## Great Rift Valley Whale

*Matthew Lybanon*

The uplift and aridification associated with the Great Rift Valley of East Africa caused changes in vegetation and have been considered a driver of human evolution. Recent evidence helps to pinpoint the uplift date. A 17 million-year-old whale fossil provides the first date for East Africa's puzzling tectonic uplift, say paleontologists who rediscovered the fossil.

The beaked whale fossil was discovered in 1964 by J. G. Mead in what is now the Turkana region of northwest Kenya. Mead, an undergraduate student at Yale University at the time, made a career at the Smithsonian Institution. Over the years, the Kenya whale fossil went missing in storage. Vertebrate paleontologist Louis L. Jacobs of Southern Methodist University, who was at one

time head of the Division of Paleontology for the National Museums of Kenya, spent 30 years trying to locate the fossil. His effort paid off in 2011, when he rediscovered it at Harvard University and returned it to the National Museums of Kenya.


The whale fossil was found 740 km inland and at 620 m elevation. In contrast to most whale fossils, which have been discovered in marine rocks, Kenya's beached whale was found in river deposits, known as fluvial sediments (there have been modern reports of stranded whales in several rivers). The ancient large Anza River flowed in a southeastward direction to the Indian Ocean. The whale, probably disoriented, swam into the river and could not change its course, continuing well inland.

Although located in an area repeatedly affected by extensional processes since the Cretaceous, the fossil location corresponds to the northern periphery of the Late Cenozoic East African Plateau (EAP). Analysis shows the fossil is from 17 million years ago (Ma), which gives one constraint on the time of the uplift (by a minimum of 590 m). Along with other evidence, this helps to constrain the onset of uplift of the EAP to between 17 and 13.5 Ma.

**Ref:** Henry Wichura et al, A 17-My-old whale constrains onset of uplift and climate change in east Africa, *Proc Natl Acad Sci U S A.* 2015 Mar 31; 112(13): 3910-3915. PMID: PMC4386349 Published online 2015 Mar 16. doi: [10.1073/pnas.1421502112](https://doi.org/10.1073/pnas.1421502112)

# MAGS At A Glance

## May 2017

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
30	1	2	3	4 Board Meeting, 6:30 pm, St. Francis Hospital	5	6 DMC Field Trip, Cumberland Furnace, TN
7	8	9	10	11	12 Membership Meeting, 7:00 pm, Gem Trees	13 MAGS Field Trip, 20 Mile Creek, Frankstown, MS
14 	15	16	17	18	19	20
21	22	23	24	25	26	27 MAGS Field Trip, Twin Creeks Mine, Mt. Ida, AR
28 MAGS Field Trip, Mt. Ida, AR	29 	30	31	1	2	3

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