



## INSIDE THIS ISSUE

### FEATURE ARTICLES

- Coon Creek Fossils ..... 1
- Mosasaurus ..... 8

### MEMBER PAGES

- From The President ..... 2
- Board Members ..... 2
- Upcoming Programs ..... 2
- Directory Additions ..... 2
- MAGS Field Trip:agnet Cove, AR. 3
- July Birthdays ..... 3
- Sunshine Report ..... 3
- Written in Stone: Glossary ..... 4
- Upcoming Field Trips ..... 4
- May Board Meeting Notes ..... 7
- May General Meeting Notes ..... 7
- Web Statistics ..... 9
- Letter to the Editor ..... 10
- For Sale ..... 10

### MICROMOUNTERS [M<sup>3</sup>]

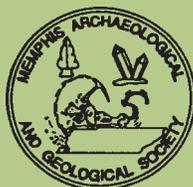
- Tektites ..... 4
- July M3 Meeting Reminder ..... 4

### MINI MAGS [MAGS YOUTH]

- Herkimer Diamonds & Gypsum ... 9
- What's Up With The Kids ..... 9
- Dino Card: Megaraptor ..... 9
- Specimen Card: Biotite Mica ..... 9

### FEDERATION NEWS

- DMC Field Trip: Blue Ridge, GA ... 6
- SFMS Clubs/Events ..... 6
- Wild Acres Workshops ..... 6



## COON CREEK FOSSILS 90 MILES EAST OF MEMPHIS



**Pterotrigonia thoracica**  
found in the Coon Creek Formation of West Tennessee. This distinctive looking, shallow-burrowing, suspension feeder inhabited the marine clay/sand ocean floor that was West Tennessee 73 million years ago. This species is now extinct. Only one relative of this bivalve, Neotrigonia, has survived to the present, and is found only in the Pacific Ocean, mostly near Australia.<sup>1</sup> Photo provided by University of Tennessee-Martin, June 24, 2003.

MIKE BALDWIN: The official state fossil of Tennessee is a small bivalve, known as *Pterotrigonia thoracica*. Bivalves are the class of molluscs that includes clams, oysters, mussels, and scallops. This bivalve lived during the Cretaceous Period, around 70 million years ago, when Tennessee was covered by a shallow sea. The continental shelf environment was home to a teeming ecosystem of snails, cephalopods, worms, sponges, corals, crustaceans, and bivalves. Of these bivalves, *Pterotrigonia* is one of the most common, and is distinguished by its wedge-shaped shell and prominent ribs.

Many of the best *Pterotrigonia* specimens are found in the Cretaceous sediments of western Tennessee, especially the Coon Creek Formation.<sup>1</sup>

Coon Creek is a 73 million-year-old fossil site located about 90 miles east of Memphis in McNairy County, Tennessee.

At that time a bay of the gulf of Mexico extended over West Tennessee up to southern Illinois. Little Rock was on the West Coast and the Tennessee River was on the East Coast. Memphis was under perhaps 1,000 of water.

(see Coon Creek Fossils on page five)

## JULY EVENTS

- July 01 6:30p Board Meeting: Blue Plate Café, 5469 Poplar Avenue
- July 05 9:30a DMC Field Trip: Blue Ridge, GA [page 6]
- July 11 7:30p General Meeting: Shady Grove Presbyterian Church, 5535 Shady Grove Rd., Memphis [bring displays]  
Adult Program: "Coon Creek Fossils" with Dr. Michael Gibson  
MAGS Youth [Mini-MAGS] Program: "Herkimer Diamonds and Collecting Gypsum" with Idajean Jordan
- July 17 7:00p M<sup>3</sup> Micromounters Meeting @ Roger Van Cleef's home
- July 19-20 8:00a MAGS Field Trip: Magnet Cove, AR [page 3]

## 2003-2004 MAGS BOARD

### **President--W.C. McDaniel**

2038 Central Ave, Memphis, TN 38104  
901-274-7706 • cfmcddaniel@worldnet.att.net

### **1st VP (Field Trips)--David McIlwain**

305 Catlin Dr, Oakland, TN 38060  
901-465-7388 • djmclwain@earthlink.net

### **2nd VP (Programs)--Paul Sides**

1062 CR 739, Wynne, AR 72396  
870-238-8078 • rockclub@earthlink.net

### **Secretary--Raynee Randolph**

6578 Birch Walk Dr, Memphis, TN 38117  
901-367-9329 • wrandol1@midsouth.rr.com

### **Treasurer/Co-Editor--Bill Scheffer**

2959 Sky Way Dr, Memphis, TN 38127  
901-358-1194 • schefwb@midsouth.rr.com

### **Director--Idajean Jordan**

104 Plainview, Memphis, TN 38111  
901-452-4286 • rockclub@earthlink.net

### **Director--Terry Noyes**

3366 Rosita Circle W, Memphis, TN 38116  
901-396-5835 • RNJ1958TLE@aol.com

### **Director--Kim Prudhomme**

3870 Robin Hill Dr, Bartlett, TN 38135  
901-266-5848 • dvdandkm@midsouth.rr.com

### **Director--Dennis Sanders**

2261 Scenic View Dr, Nesbit, MS 38651  
662-449-5199 • rockclub@earthlink.net

### **Director--Lou White**

3805 Melanie June, Bartlett, TN 38135  
901-937-8522 • Axelrod300@aol.com

### **Editor/Web Coordinator--Mike Baldwin**

367 N Main St, Collierville, TN 38017  
901-853-3603 • rockclub@earthlink.net

### **Librarian--Nancy Folden**

379 McDermit, Memphis, TN 38120  
901-683-8497 • nfolden@kroger.com

### **Membership--Cornelia McDaniel**

2038 Central Ave, Memphis, TN 38104  
901-274-7706 • cfmcddaniel@worldnet.att.net

### **Show Chairperson--W.C. McDaniel**

2038 Central Ave, Memphis, TN 38104  
901-274-7706 • cfmcddaniel@worldnet.att.net

### **Youth Program--Idajean Jordan**

104 Plainview, Memphis, TN 38111  
901-452-4286 • rockclub@earthlink.net

MAGS Rockhound News is published monthly by and for the members of the Memphis Archaeological and Geological Society. Please send your comments and articles to Mike Baldwin, 367 N. Main St., Collierville, TN 38017 or email them to rockclub@earthlink.net .

## From the President

As we pass the summer solstice and look forward to the heat and humidity of a southern summer the club continues to create its' own heat with good meetings, displays, new members, auctions, field trips and a full schedule for the remainder of the year. Now, if we could figure out a way to get the river stage down to zero and have a cold front come through for a weekend trip to Richardson's Landing, that would be just dandy.

Two WOWS from the June meeting, First were the displays. For the adults, Mary Gibson displayed her recent finds in New Mexico, Docia Lenz displayed her roadcut finds from Missouri, David McIlwain displayed quartz crystals from Arkansas, and Doris Parsons won with her display of Druse Quartz found during our club trip in May. Emily Barton won the junior's display with her collection of various rocks and minerals she has collected. A very special display was presented by George Fulghum as he displayed his keen eye and intriguing and innovative ways to observe and display rocks. Keep those displays coming. Especially as we go into our summer vacations, bring those roadtrip and roadcut finds to upcoming meetings.

The second WOW was the live auction of material donated by the Mewberns. We raised \$300 to be divided between the club and Lenette Mewbern. Club members exhibited a desire and willingness to pursue specimens and to add to their collection. We have a large amount of donated material and will continue with silent and live auctions. Beginning with the July meeting we will have auctions every other month. Look for some opal at the July auction.

Start planning for the August club meeting, which will be our 3rd annual indoor rock swap and picnic. The library will be closed and there will be no displays. However, we will have lots of food, rocks for selling/swapping, door prizes and a couple of surprises.

W.C. McDaniel

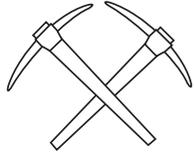
## UPCOMING PROGRAMS

PAUL SIDES: The programs for the remainder of 2003 are: [1] "Coon Creek Fossils" with Dr. Michael Gibson in July; [2] Indoor Rock Swap and Picnic in August; [3] "Pleistocene Animals and Pollen Spores" with Nina Riding in September; [4] "Facetting" with Ed Underhill and Paul Sides in October; [5] "Scrimshaw" with Mary Austin Talley in November; and [6] the MAGS Christmas Party in December.

## DIRECTORY ADDITIONS

BILL SCHEFFER: Please add these to your 2003 MAGS directory:

- [1] Fields, Lee, Ann, Andrew & Michael • 6640 Conifer Cove • Memphis, TN 38119 • 901-756-6368 • lfields@midsouth.rr.com
- [2] Riding, Keith & Nina Riding • 1716 Terrace Road, Cleveland, MS 38732 • 662-843-7821 • Kriding@aol.com



## MAGS FIELD TRIP MAGNET COVE, AR

SATURDAY JULY 19 - SUNDAY JULY 20 , 2003  
FIELD TRIP LEADER, DAVID McILWAIN, 901-456-7388

**MINERALS:** We will be collecting brookite, calcite, garnet, mica, novaculite, pyrite, rutile, and other rocks and minerals associated with pegmatite at these sites.

**MOTEL ACCOMMODATIONS (Optional):** Super 8 Motel–Malvern, Route 8, Box 719-6 (Highway 270 West), Malvern, AR 72104; phone 501-332-5755; fax 501-332-3401; toll-free reservations 1-800-800-8000; 74 units, located 1/2 mile west of I-30 at exit number 98A on Hwy. 270; rates of \$47.59+tax for 1 king bed (based on double occupancy) and \$52.09+tax for 2 double size beds (based on double occupancy). Please make your reservations ASAP, if you so choose.

**MEETING TIME/PLACE:** 8:00 a.m., We will meet at the convenience store located on the left (just south of the exit where I-30 and AR-270 intersect towards Malvern) and look for MAGS members. We will convoy to the collecting site promptly at 8:30 a.m. Please follow AFMS Field Trip Convoy Guidelines.

**DRIVING DIRECTIONS:** From Memphis take I-40 West towards Little Rock, then take the I-440 South exit number 159, towards Arkadelphia/Texarkana. I-440 becomes I-30 South, then take AR-270 South / AR-51 South exit number 98A, towards Malvern. Allow approximately 4 to 4-1/2 hours driving time.

**TOOLS:** Leather gloves, rubber boots or sandals, kneepads, small rake or small garden tools, 1/4 to 3/16 inch grid sieve box. If desired small shovel and pry bar, also rock pick, rock hammer and chisels. Newspapers for wrapping specimens, collecting containers such as buckets or clothe bags.

**SAFETY NOTE:** While at these sites, all safety rules must be followed. All children and junior members must be supervised by an adult member at all times. Please be advised that there is always a possibility for injury. Be aware of the possibility of poisonous plants and snakes, ticks and chiggers at these sites. Please follow AFMS safety rules, code of ethics and collect courtesy guidelines.

**DIFFICULTY LEVEL:** Level 4 on a scale of 1 (easy) to 10 (hard).

**FIELD TRIP AGENDA FOR SATURDAY:** We will be collecting at the old titanium pit. Collecting is free at this site. Specimens may be found in rock, clay, and on or just under the ground. Break for lunch around noon. Bring a sack/picnic lunch.

**FIELD TRIP AGENDA FOR SUNDAY:** We will be collecting at Cove Creek. Collecting is free at this site. Specimens may be found in creek bottom. Break for lunch around noon. Bring a sack/picnic lunch. Around 3:00 pm we'll head for home.

If you want to go, please sign the list. If you sign up and decide not to go, please contact David McIlwain ASAP. (901) 465-7388 or davidmcilwain@netscape.net .

*Please Note: This field trip is open only to MAGS members and their guests.*



## JULY BIRTHDAYS

July Birthstone is RUBY

- 1 - David Barton
- 3 - Connie Devine
- 3 - Kathryn Van Cleef
- 3 - Wayne Williams
- 5 - Clay Crumpton
- 6 - Sherry Barton
- 9 - Ali Harrell
- 14 - Sandy Ward
- 17 - Melinda Warren
- 18 - Kristina Spencer
- 19 - Bill Scheffer
- 21 - Aaron Boucher
- 21 - Steve Huber
- 21 - Susan Vaughn
- 21 - Lisa Walker
- 22 - John Givens
- 23 - Karen Loud
- 23 - Mary Gibson
- 23 - Myrna Muir
- 23 - Doris Parsons
- 25 - Jenny Vaughn
- 27 - Ken Lovelett
- 28 - Roman Novarese
- 30 - Maria Wood



## SUNSHINE REPORT

CORNELIA McDANIEL—We wish Roger Van Cleef a speedy recovery from pulled muscles in his back. The sunshine grapevine has been quiet this month. I hope this means that our members are almost all feeling well and enjoying the summer.

*If you, or a MAGS member you know, becomes ill, please call Cornelia McDaniel at 274-7706 and let her know.*

## Written in Stone A MAGS Glossary of Terms

This month's glossary terms are from *The American Heritage Dictionary of Science*, Robert K. Barnhart, Houghtlin Mifflin Company, Boston, MA; 1986.

**AMPHIBOLE:** any of a group of hydrous silicate minerals, including hornblende and actinolite. Amphiboles usually consist of a silicate of calcium, magnesium, and one or more other metals, such as iron or sodium. Amphibole is one of the five essential minerals that make up most igneous rocks; the others are quartz, feldspar, mica, and pyroxene.

**EMERY:** a hard, dark granular rock consisting of corundum with various iron minerals: Emery is essentially an intimate mixture of granular corundum and magnetite, and in powdered form has long been used as emery paper, emery cloth and emery wheels.

**LACUSTRINE:** of, having to do with, or originating in lakes; of or having to do with strata that originated by deposition at the bottom of a lake; another type of plain is the lake or lacustrine plain, one of the flattest land forms extant. The low relief is consequent upon streams carrying sediment which they deposited on the lake bottoms and which was redistributed smoothly by waves and currents.

*If you have entries [5 or 6 glossary terms] that you would like to see included in the MAGS Glossary, email them to editor@memphisgeology.org or mail them to Mike Baldwin, 367 N. Main Street, Collierville, TN 38017. Send as many entries and as often as you like. Don't forget to include your sources.*

## TEKTITES

Tektites are silica-rich glass objects that were once believed to be meteorites. However, their distribution on the earth, and their chemistry, have led scientists to suggest that they may not have an extraterrestrial origin. Tektites actually have a composition not unlike that of some volcanic rocks. These rocks have a high silica content, and are also rich in oxides of potassium, calcium and aluminum.

The rocks are small in size, usually about 7-10 oz. [200 to 300g] in weight, and have a disk or ovoid shape. Their surface may be smooth or rough.

A matter of debate, but tektites may result from the melting of terrestrial rocks on the impact of a meteorite. It seems unlikely that these rocks were fired toward the earth from a large volcano on the moon, as has been suggested in the past.

REF: Chris Pellant, Eyewitness Handbooks: Rocks and Minerals; Dorling Kidersley Inc.; New York, New York; 1992. Information gathered for educational purposes under the provisions of the "Fair Use Act of 1976".

BROUGHT TO YOU BY M<sup>3</sup>



Tektites

Photograph by Harry Taylor, Natural History Museum for Eyewitness Handbooks: Rocks and Minerals. For educational purposes under the provisions of the "Fair Use Act of 1976".

## UPCOMING FIELD TRIPS

DAVID McILWAIN: MAGS Field Trips for the remainder of 2003 include: [1] Magnet Cove, Arkansas in July for minerals; [2] Frankstown, Mississippi in August for fossils; [3] Richardson's Landing, Tennessee in September for Ice Age fossils and Lake Superior Agates; [4] Middle Tennessee in October for geodes and fossils; and [5] Vulcan Quarry, Parsons, Tennessee in November for fossils. Check your monthly *MAGS Rockhound News* for field trip details.

## M<sup>3</sup> MEETING

JENNIFER BALDWIN: MAGS Micro-mounters did not meet in June, due to Roger's back injury. We hope you get well soon Roger. If all goes well, we will meet July 17. Hope to see you there.

## COON CREEK FOSSILS

(continued from page one)

### COON CREEK FOSSILS

Coon Creek fossils are the remains of clams, snails, crabs, sharks and other animals inhabiting the warm semi-tropical sea. Coon Creek is world famous for an abundance of many different types of perfectly preserved animal fossils. Although no dinosaur remains have been found at Coon Creek, duckbill dinosaur bones have been found in nearby Tennessee and Mississippi sites of the same age.

The uniqueness of this 73 million-year-old marine site is based on three conditions: [1] the large number of fossils found there; [2] the variety of animals preserved in fossils; and [3] the perfect preservation of the fossils.

### NUMBERS AND VARIETY OF FOSSILS

Coon Creek has produced over 600 species of animals ranging from microscopic organisms to huge sea-going reptiles over 30 feet in length. This number is roughly equal to the number of species expected in a modern temperate sea. Most fossil sites preserve only a fraction of the number

of organisms originally living there and these specimens are often damaged or incomplete.

Almost all of the types of animals originally living at Coon Creek appear to have been preserved. Although plant fossils are rare, seaweed and algae must have been abundant. Leaves from land plants have been found in the hard nodules of rock in the bottom of the creek. Lignite, carbonized fossil wood which was originally driftwood, is abundant at the site. It is often found infested with the wood-boring clam *Teredo rectus*.

### THE PALEOENVIRONMENT AND ANCIENT LIFE AT COON CREEK

Conditions for life were ideal. The water was warm and undiluted by fresh water. Sedimentation and isotope studies indicate that the semi-tropical, ancient Coon Creek environment was similar to that of today's Texas Gulf Coast. Coon Creek was located several miles off the coast of the Mississippi Embayment in forty to seventy feet of water. The site may have been on the seaward side of a

long-shore island. This would be similar to today's Padre Island in the Gulf of Mexico off the coast of Texas. The foraminifera found there indicate a full marine environment. The climate was semi-tropical and life flourished in the warm, wet environment.

Distributary streams drained the lands to the east and brought down huge quantities of leaves and wood upon which bacteria and other decomposers, the base of the food chain, fed. Shells, teeth, bones, carapaces, and other hard parts were constantly buried in the sandy mud of the sea floor. The lack of layering suggests that burrowing organisms heavily disturbed the bottom sediments. Apparently periodic tropical hurricanes brought in heavy loads of river sediment to bury the plants and animals living there.

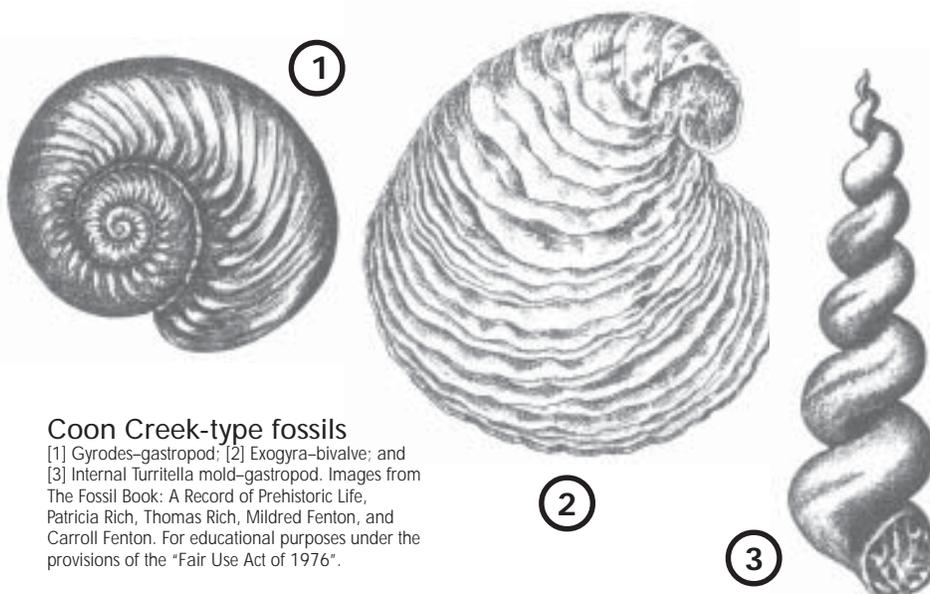
The types of animals preserved at Coon Creek include: foraminifera, corals, bryozoans, brachiopods, worms, tusk shells, snails, clams, scallops, whelks, nautilus, sea urchins, ostracodes, crabs, lobsters, sharks, fish, turtles, and mosasaurs [see related story on page eight].

### PRESERVATION OF THE FOSSILS

The fossils found at Coon Creek are delicate, but so perfectly preserved that they look as if they had been picked up on the beach yesterday. Even muscle, mantle, ligament, and other soft tissue attachments can still be seen.<sup>2</sup>

#### References:

1. *Tennessee State Fossil*; <http://www.utm.edu/departments/ggp/statefossil.htm>; Department of Geology, Geography, and Physics; University of Tennessee at Martin; June 24, 2003.
  2. *The Coon Creek Site*; Fact Sheet; Coon Creek Science Center; Memphis Museums; 1998.
- Information gathered for educational purposes under the provisions of the "Fair Use Act of 1976". For more information about the Coon Creek Science Center, visit <http://www.memphismuseums.org/creek.htm>.



Coon Creek-type fossils

[1] Gyrodes-gastropod; [2] Exogyra-bivalve; and [3] Internal Turritella mold-gastropod. Images from *The Fossil Book: A Record of Prehistoric Life*, Patricia Rich, Thomas Rich, Mildred Fenton, and Carroll Fenton. For educational purposes under the provisions of the "Fair Use Act of 1976".

## SFMS CLUBS SHOWS/EVENTS

JULY 18-19 • 10am-6pm  
JULY 20 • 10am-5pm  
Centerville, TN—30th Annual  
Middle Tennessee Gem,  
Mineral, & Jewelry Show.  
Riverbend Entertainment Center.  
Andrea Dixon, 304-825-6421,  
dixon@dixonboergoat.com.

JULY 19 • 9am-5pm  
JULY 20 • 9am-4pm  
Moose Lake, MN—Agate Days.  
Moose Lake High School Gym.  
Al Hyopponen, 218-525-7716,  
finnspec@hotmail.com.

JULY 24-26 • 10am-6pm  
JULY 27 • noon-5pm  
Franklin, NC—Franklin Area  
Chamber of Commerce & the Gem  
& Mineral Society of Franklin.  
38th Annual Macon County  
Gemboree. Community  
Facilities Building, Hwy. 23/441  
South. 888-510-GEMS,  
www.franklin-chamber.com.

JULY 27 • noon-6pm  
JULY 28-AUGUST 2 • 10am-6pm  
AUGUST 3 • noon-6pm  
Spruce Pine, NC—Parkway Fire &  
Rescue Dept. 19th Annual  
Grassy Creek Mineral & Gem  
Show. Hwy. 226 South, 28777.  
Donna Collis, 828-765-5519,  
collisrescue@aol.com.

-----  
AUGUST 9 • 9am-5pm  
AUGUST 10 • 9am-4pm  
Nixa, MO—Ozark Mountain Gem  
& Mineral Society. 23rd Annual  
Rock Swap. 1517 N. West-Maples  
Rd. 417-725-3001 or 417-882-9296

## SFMS FEDERATION NEWS



**Dixie Mineral Council Field Trip:**  
Hosted by Georgia Mineral Society  
9:30am [EST], Saturday, July 5, 2003  
Hackney Farm, Blue Ridge, GA

Children are welcome. Pets are OK but the owner has pit bull dogs which are very friendly to people. Pets?, I'm not so sure about?

**LOCATION:** This is a world class site for staurolite (fairy crosses and the Georgia state mineral)! The crystals at Hackney Farm are small and almost perfect. Most of this material is in the form of single prismatic blades (over 60% found), twinned crystals inter-grown at 60° (over 30% found), twinned crystals inter-grown at 90° (3-4% found) and occasionally Maltese crosses (under 3% found) and "multi-twins" (rare). You may also find hornblende, diorite and gold ore.

**TOOLS:** You will need to bring a shovel and pick for digging in the new trenches, a bucket or two to hold specimen dirt, wire screens of 1/2 inch and 1/4 inch to take to the stream to wash your bucket material, and Ziplocs for your specimen finds. You could forget the digging and just screen the stream material. I've had great luck with this method in the past. You may even want to take a few buckets of specimen dirt home to process later! Don't forget your food and drinks.

**COST:** \$10.00 fee per carload. A Georgia Mineral Society host will be collecting this fee and issuing a "parking pass" at the movie theater meeting location. Please bring the exact dollar amount!

**DIRECTIONS:** We will be meeting at 9:30 AM, Saturday, July 5th, 2003, in the theater parking lot located behind McDonalds at the junction of SR 515/76 and SR 5 in Blue Ridge, GA. From Atlanta, take I-75 north to I-575. I-575 will change to Georgia 5 and 515. Follow this highway North through Ellijay until you reach the town of Blue Ridge. SR 5 makes a left at the McDonalds. You will see the McDonalds on the North West corner. Make the left and then right into the theater parking lot which is just after the McDonald's entrance. Total distance is 74 miles from I-75/I-575 and total driving time will be about 1:25 hours

**CONTACT:** George Libby, GMS Field Trip Chair • Telephone: 770-978-2117 • Fax: 770-985-4281 • Cell Phone: 678-910-7476 • email: [Onsiteinatlanta@yahoo.com](mailto:Onsiteinatlanta@yahoo.com)

*DMC Field Trips are open to all members of associated clubs of the DMC program of the SFMS Field Trip Committee and to all members of SFMS member clubs who have provided their membership with SFMS liability insurance. Because of insurance requirements, members of the GENERAL PUBLIC are NOT invited on this or any DMC program field trips!*

## WILD ACRES SFMS WORKSHOPS

SFMS Session 2 [August 18-24, 2003] workshops include: [1] Casting—Bill Harr; [2] Intarsia (Beginning)—Tom Wilkie; [3] Fused Glass—Addy dePietro; [4] Gem Appreciation—Ben Smith; [5] Precious Metal Clay (Levels 1)—Ken & Mary Ann Devos; [6] Opals—Joe dePietro; [7] Raku Pottery—Cindy McDowell; [8] Metalwork/Repair (Advanced)—Jeff Sheer; [9] Silversmithing (Beginning)—Bill Cady; [10] Wirecraft (Beginning)—Ranny Parham; [11] Wirecraft (Advanced Free Form)—Lisa Roberts. For more information, fees, or an application visit <http://www.amfed.org/sfms/wildacres-retreat.html>

## MAGS REVIEW

### BOARD MEETING May 1, 2003; 6:30pm

RAYNEE RANDOLPH: The May board meeting of MAGS was held at Blue Plate Café, 5469 Poplar Avenue. The following were present: Mike Baldwin, Idajean Jordan, W.C. and Cornelia McDaniel, David McIlwain, Park and Terri Noyes, Raynee Randolph, Bill Scheffer, Paul Sides, and Lou White.

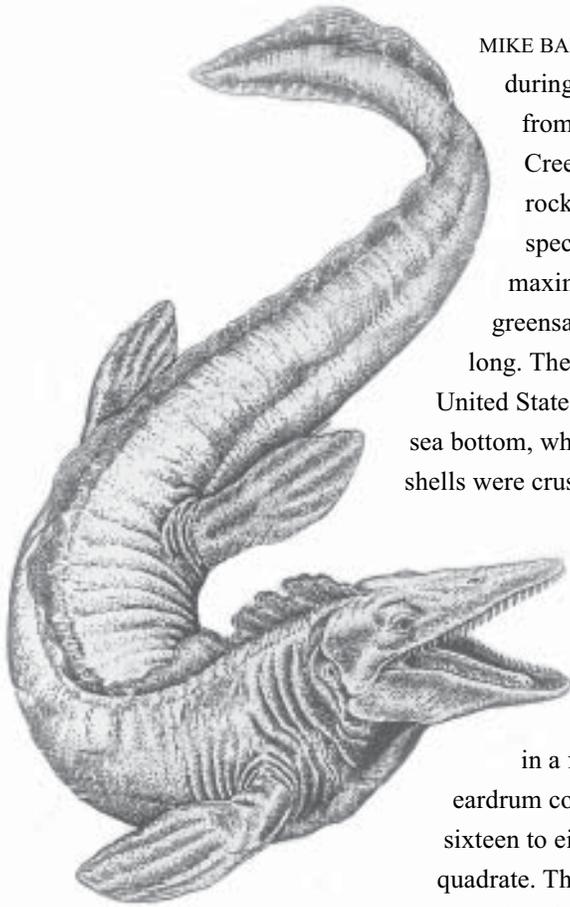
Highlights of the meeting are: [1] **FIRST VP:** Field trips will be May 24-26–Potosi, MO [for calcite and druse quartz/Hamilton, IL for geodes]; June to Mt. Ida, AR; and July– to Magnet Cove, AR; [2] **SECOND VP:** Program for May, “The Process of Gold Mining” will be presented by Terry Panhurst. Mike Gibson will be educating us about Coon Creek fossils in June; [3] **WEB:** Pictures from the show are on the web. We also need articles for the newsletter; [4] **LIBRARY:** Library cards are now available for our new members; [5] **JUNIORS:** Fossil Development will be the June program; [6] **SUNSHINE:** Roger re-injured his ankle and condolences go out to the Mewbern family; [7] **SHOW:** It’s over! Comments about hospitality were excellent! No other show extends caring, hospitality, and food like ours does. Well-Done MAGS! [8] **ROCK SWAP:** May 10th at the home of Carolyn Hayes. Home remedies for cleaning materials will be discussed at 1:00pm; [9] **OLD BUSINESS:** Motion carried to grant funding to TEST (Tennessee Earth Science Teachers). Meeting adjourned at 7:30pm.

### GENERAL MEETING May 9, 2003; 7:31pm

RAYNEE RANDOLPH: MAGS May General Membership meeting held at Shady Grove Presbyterian Church, presided by President W.C. McDaniel. There were 22 visitors present. Visitors were Nola and Shelby Beckum; Luke, Mary and Leslie Ramsey; Jacob, Matthew, Pam, and Tim Ridde; Rick and Haley Bethune; Stacey and Sam Stevenson; Rick and Tammy Bartley; Terry Panhurst; Gregory Hurley; Sharon Drungell; Sherida, Kris, Sharon, and Rhena Helms.

Highlights of the meeting are: [1] **PRESIDENT:** W.C. presented our former president Lou White with a polished piece of petrified wood from Madagascar as a thank you gift. Job well-done Lou! Thanks for all you time and effort you gave to the club for the last two years; [2] **FIRST VP:** May’s Memorial Day weekend field trip will be to Potosi Missouri to collect druse quartz, calcite, lace agate, barite, and possibly geodes in Illinois. See the newsletter for details on directions and lodging. Hope to see every one there. The weather is going to be great for collecting! [3] **WEB:** Pictures from the show are on the web. The web has new pages to visit. May 15 will be a total lunar eclipse beginning around 8:05pm and ending around 1:15am. On May 17, Mars will be as close to Earth as it has been in 73,000 years. Mark your calendars for August 14. This is the date for the next meteor shower. [4] **LIBRARY:** New members please pick up your library cards so you can sign out books and videos. Roger has donated several magazines to anyone that would like to have them. So if you see something that interests you please feel free to take it. Thanks Roger! [5] **SHOW:** The show is over for the year with many great comments. If you volunteered in any way please come to the June 13 meeting for a special program; [6] **PROGRAM:** “The Process of Gold Mining” presented by Terry Panhurst, University of Mississippi. Terry will take us to Mojave California at the Standard Hill Mine, and tell us how to “FLUFF” the rock just right so it will release gold. Dr. Mike Gibson will talk to us about fossils in July. In November we will have Mary Austin Talley, master knifsmith; [7] **ANNOUNCEMENTS:** George and Rena Everett [SFMS Youth Resources Co-chairs] are here to present special awards. The Junior of the Year program is open to all youth in the federation. It takes on solid year of attending meetings, going on field trips, writing articles for the clubs newsletters, volunteering, and more. This is the second year in a row that our club has the winner and the runners up. Congratulations to Emily and Abbey Randolph for being the semi finalists. Congratulations to Jennifer Baldwin for being the runner up. And last but not least, congratulations to Kelly Baldwin for attaining Junior of the Year. Emily and Abbey received certificates, Jennifer received a geode, and Kelly received trilobites. Job Well Done to the “Geology Girls!”; [8] **DISPLAYS:** Sherri Baldwin–Potosi material from 2002; Lydia Haff–Rocks of TN, amethyst from Peru, Persian Gulf shells; Keith Dulin–Antique rock tumbler that really works; Lou White–New Zealand rocks; Nancy Folden–Fools gold; Docia Lenz–Petrified wood, garnets, quartz and copper; [9] **DISPLAY WINNER:** Sherri Baldwin. Meeting adjourned at 8:50pm followed by refreshments.

## MOSASAURS: TRUE AQUATIC LIZARDS



**Mosasaur**s, or marine lizards, of Late Cretaceous age. Images from *The Fossil Book: A Record of Prehistoric Life*, Patricia Rich, Thomas Rich, Mildred Fenton, and Carroll Fenton. For educational purposes under the provisions of the "Fair Use Act of 1976".

MIKE BALDWIN: Mosasaurs were bizarre reptiles that ranged around the world during the Late Cretaceous, reaching their peak in seas that spread inland from the Atlantic Ocean and the Gulf of Mexico, including the Coon Creek area of Tennessee.<sup>1</sup> They are especially abundant in the Cretaceous rocks of northern Europe [Holland] and Kansas [USA].<sup>2</sup> The finest specimens come from chalk deposits of western Kansas and reach a maximum length of 30 feet [9m]. However, the jaws and teeth found in greensand beds of New Jersey, suggest a giant mosasaur about 45 feet [14m] long. The strangest member of the group was *Globidens*, of the southern United States, South America, Africa, Europe and Asia. It apparently fed upon the sea bottom, where it grubbed for clams, snails, and other sluggish molluscs whose shells were crushed between bulbous teeth that had all but lost their once-sharp points.

A more typical mosasaur, such as *Tylosaurus*, of Kansas and New Zealand, was an active swimmer with a long body, flattened tail and feet that had become broad, webbed paddles with well-developed toes. Bony plates covered the top of the head; neck, body, and tail were covered by lizard-type scales still preserved in a few carbonized fossils. Sclerotic rings strengthened the eyes, and the eardrum consisted of thick cartilage. The lower jaws were each armed with sixteen to eighteen sharp teeth. At the back of each was a rod of bone, the quadrate. The quadrate had a hinge connection with the jaw at one end and a second such joint at the other uniting it with the skull. This and a ligament linking the two jaws together at the front meant that, like serpents, mosasaurs were able to drop their jaws and spread them widely in order to swallow oversized food.<sup>1</sup> In the shape and arrangement of its bones, the skull is very similar to that of living monitor lizards. Such similarities even extend to the structure of the jointed lower jaw.<sup>2</sup>

Petrified stomach contents show that fish formed the chief food of mosasaurs. With lengths of 20 to 30 feet [6.1-9.1m], they were the only vertebrates that could capture such large forms as the "bulldog tarpon" [*Porthetus molossus*], which weighed 600 to 800 pounds [270-360kg] and was as dangerous as most marine reptiles. Another item in the mosasaur diet was ammonites. Ammonites have been found with puncture marks in their shells that match the teeth of mosasaurs. Because old, dull teeth dropped from the jaws and were replaced by new ones, mosasaurs never lacked weapons with which to attack rivals and prey.<sup>1</sup>

One or two mosasaurs show slightly unusual types of teeth: for example *Globidens* ['globe tooth'] has rather flattened teeth which may reveal an appetite for shellfish.<sup>2</sup>

Reference:

1. Patricia Rich, Thomas Rich, Mildred Fenton, and Carroll Fenton; *The Fossil Book: A Record of Prehistoric Life*; Dover Publications, Inc.; New York, New York; 1996.
2. Dr. David Norman and Dr. Peter Wellnhofer; *The Illustrated Encyclopedia of Dinosaurs*; Salamander Books Ltd.; London, UK; 2000

Information gathered for educational purposes under the provisions of the "Fair Use Act of 1976".

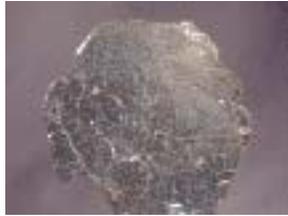
# MINI MAGS

## HERKIMER DIAMONDS AND COLLECTING GYPSUM

Kids, join us on July 11, and find out about Herkimer Diamonds and Gypsum. Bring a sheet of paper with you telling us what your favorite thing to collect is.

**COLLECTOR'S CARDS:** Cut out the Dinosaur Card, and the Specimen-of-the-Month card, fold on the dotted lines, tape them closed and add them to your collection.

Did You Know . . .	Megaraptor
<p>If this monster was everything scientists think it was, it could have been the most vicious predator ever. <i>Megaraptor</i> was like a giant <i>Velociraptor</i>, larger even than the <i>Utahraptor</i>, that had a killing claw over 14 inches long. Add to that its sharp teeth, long powerful arms and hands with huge claws, and you have one fierce animal. Discovered in 1997 in Argentina, <i>Megaraptor</i> was found with the fossil remains of <i>Unenlagia</i>, a bird-like dinosaur. There is some speculation that <i>Megaraptor</i> was the adult version of <i>Unenlagia</i>. Remains of a specimen similar to those of <i>Megaraptor</i> have recently been found in China and await study.</p> <p><small>©2003 Memphis Archaeological and Geological Society</small></p>	<div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: small;">MAGS DINOSAUR CARD</div> <div style="text-align: center;">  </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Megaraptor namunhauquii</i>                      Pronounced: Meg-uh-Rap-tor                      Diet: Carnivore (Meat-Eater)                      Name Means: "Big Robber"                      Length: 26 feet (8 m)                      Height: 10 feet (3 m)                      Weight: 1 tons (900 kilos)                      Time: Middle Cretaceous-90 MYA</p> </div>

Did You Know . . .	Biotite Mica
<p>Biotite is a common rock forming mineral, being present in at least some percentage in most igneous and both regional and contact metamorphic rocks. The typical black to brown color of biotite is characteristic. Biotite, like other micas, has a layered structure of iron magnesium aluminum silicate sheets weakly bonded together by layers of potassium ions. These potassium ion layers produce the perfect cleavage. Biotite is rarely considered a valuable mineral specimen, but it can accompany other minerals and compliment them. Single large plates or "books" of biotite can grow to considerable size and can make impressive mineral specimens. Weathered tiny crystals of biotite can appear golden yellow with a nice sparkle producing a "fool's Gold" that has fooled many.</p> <p><small>©2003 Memphis Archaeological and Geological Society</small></p>	<div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; font-size: small;">MAGS SPECIMEN CARD</div> <div style="text-align: center;">  </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Composition: <math>K(Mg,Fe)_3(Al,Fe)Si_3O_{10}(OH,F)_2</math>                      Hardness: 2.5-3                      Crystal form: Monoclinic                      Cleavage: Perfect, one direction                      Color: Black, brownish black, greenish black, dark green                      Location: Trout Creek Pass, CO</p> </div>

## [M&M's] WHAT'S UP WITH THE KIDS

**JUNE MEETING:** There were 12 M&Ms at the June meeting: Zack Faddis, Taylor Faddis, Kelly Baldwin, Jennifer Baldwin, Abbey Randolph, Emily Randolph, Madison Horowitz, Sam Stevenson, Haley Bethune, Alexander Hurley, Réna South, and Sharon Muir.

If you take an exciting or unusual vacation this summer, tell us about it. Write about it and send it to the *MAGS Explorer* editor at [editor@memphisgeology.org](mailto:editor@memphisgeology.org). We all want to hear about it.

Don't forget to work on your requirements for 2003 Junior-of-the-Year. You can get an application from MAGS President W.C. McDaniel. The requirements will be listed in the *June MAGS Explorer*. Pick up your copy of the *July MAGS Explorer* at the July meeting or online at <http://www.memphisgeology.org/images/explorer0703.pdf>.

## WEB STATISTICS

Here's a brief look at our website ([www.memphisgeology.org](http://www.memphisgeology.org)) from 01.21.02 through 05.24.03:

Visits\* ..... 69,793  
 Hits\*\* ..... 332,624

Top pages in the past 30 days:

- Explorer0203.pdf ..... 377 hits
- RockNews0603.pdf ..... 246 hits
- RockNews1002.pdf ..... 242 hits
- RockNews0403.pdf ..... 217 hits
- RockNews0203.pdf ..... 213 hits
- Herkimer ..... 204 hits

Average visits/day this month..... 210  
 \* visit= every time someone comes to the site  
 \*\* hit= every page viewed on the site

## LETTER TO THE EDITOR

10 JUNE 2003—*What a wonderful newsletter! I am so glad I found your newsletter online. I teach 5th grade science and my students have to collect fossil specimens from gravel found here in Mississippi. I plan to link to your site on my science webpage as a source of information for my students and their parents.*

*Your youth newsletter is outstanding as well.*

Leah Hasselle  
McLaurin Elementary School  
Florence, MS

## FOR SALE

[1] 16" Highland Park Rock Saw, used but refurbished and in excellent condition; [2] 16" Blade for saw that has never been used; [3] 8" Rock Grinder with 4 Silicon Carbide Wheels and Leather Polishing Pad; [4] Loritone 20" Flat Lap for polishing Slabs; and [5] One Small Tumbler. All for one price of \$500.00 If interested call 743-1836 and ask for Larry Pelles between 8:00am and 3:00pm during the week. Arrangements can be made to see equipment at 4446 Yale Road near Northmoor by calling Larry.

Except for items that are specifically copyrighted by their authors, other societies may use material published in MAGS Rockhound News provided that proper credit is given and the sense or meaning of the material is not changed. Editor: Mike Baldwin, 367 North Main Street, Collierville, TN 38017. ©2003 Memphis Archaeological and Geological Society.



### AFMS NEWSLETTER AWARDS:

New Editor 7th Place-95 • Junior Article 3rd Place-98

### SFMS NEWSLETTER AWARDS:

New Editor 1st Place-86 • New Editor 2nd Place-88, 97

Certificate of Excellence-89, 90, 91, 92, 93 • Large Bulletin-87

Art-77, 80, 81, 82, 86 • Original Articles-(4) 85, (6) 87, (2) 89, (2) 90, (5) 91, (3) 92

### DUES:

Family-\$20.00

Single-\$16.00

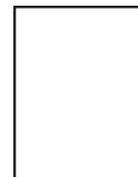
Junior-\$8.00

Associate: \$13.00

The Memphis Archaeological and Geological Society's main purpose is to promote and advance the knowledge of the Lapidary Sciences in the mining, identification, cutting, polishing and mounting of gems, minerals and fossils to the utmost of our geological and lapidary capabilities.

MAGS Rockhound News is printed on Hammermill Laser Print, 24 lb., Radiant White. Typefaces are Futura, Univers, Stone, Times New Roman.

MAGS Rockhound News  
367 North Main Street  
Collierville, TN 38017-2301



## MARK YOUR CALENDAR

Board Meeting  
July 1

DMC Field Trip  
July 5

General Meeting  
July 11

M<sup>3</sup> Meeting  
July 17

MAGS Field Trip  
July 19-20

