



## FRANKSTOWN PALEOECOLOGY

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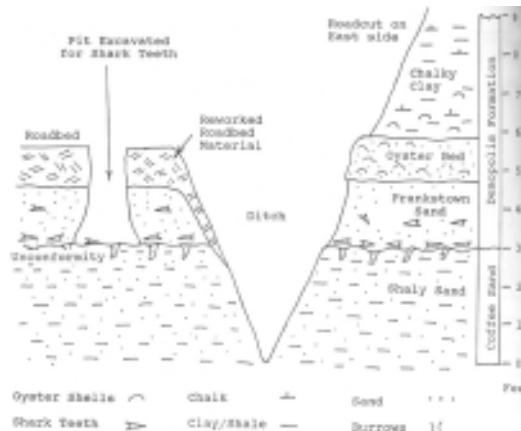
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**Highway 45 section.** This illustration by David B. White shows a measured section of Highway 45, Prentiss County, Mississippi, north northwest of the Frankstown community. The section was measured where the road grade cut the top of the "Frankstown sand" at the base of the Demopolis Formation. For educational purposes under the provisions of the "Fair Use Act of 1976".

MIKE BALDWIN: What was it like 75 million years ago in the area now known as Frankstown? Sea level was high and the area was under the Gulf of Mexico, covered by shallow waters of less than 90 feet deep. It lay about 115 miles northwest of the land at the southern end of the Appalachian Mountains, near Birmingham, Alabama. The climate was tropical. Far to the west, the Rocky Mountains were just beginning to form.

#### PALEOECOLOGISTS

Paleoecologists, paleontologists whose job it is to reconstruct habitats of the past, often divide faunas into two types: proximal communities and distal communities. Proximal communities lived most of their lives at the place where they were recovered. Distal communities primarily lived in other places, but were either transported to the place where they were recovered, or were only visiting there when they died.

The proximal community of Frankstown lived in the shallow waters near the shore. That community included crabs, lobsters, chimaeroids, sharks, rays, bony fish, and other marine life. (see Frankstown Paleocology on page eight)

### AUGUST EVENTS

July 31	6:30p	Board Meeting: Blue Plate Café, 5469 Poplar Avenue
Aug 08	7:30p	General Meeting: Shady Grove Presbyterian Church, 5535 Shady Grove Rd., Memphis [no displays this month] Program: Indoor Rock Swap and Picnic
Aug 14	7:00p	M <sup>3</sup> Micromounters Meeting @ Roger Van Cleef's home
Aug 16	8:00a	DMC Field Trip: Franklin, NC [page 6]
Aug 23	8:00a	MAGS Field Trip: Frankstown, MS [page 3]

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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

Hope all of MAGS' members, your family and friends are doing OK and survived "Hurricane Elvis". I was sitting on the bed in a motel room in Custer, SD when the Cable News channel reported a large storm with 95 miles per hour winds had struck downtown Memphis. Calling home, I discovered it was not just downtown Memphis, but all over. We were lucky. A few limbs down, one blocking part of Central and our power was back on the next day. Back in the Ice Storm of '94 I joked "I'm glad this ice storm didn't happen in August, three days without air conditioning would be miserable." I guess we all need to be careful about what we say or wish for.

I certainly enjoyed the July program presented by Dr. Gibson on Coon Creek. Thanks to Don Blalock who initially contacted Dr. Gibson about doing an exhibit at our show in 2001. Our July display winners were Carol Lybanon for the adults and Hunter Hill for the juniors. Start planning for your displays in September.

Nowhere else but in the south would an indoor picnic be more appropriate and appreciated and leave it to MAGS to tack on a rock swap for a fun filled evening at our August 8 membership meeting. Be sure to come, bring food and drinks to share. If you bring drinks, bring a six pack of cold drinks. If you plan on selling, please bring your own table.

W.C. McDaniel

## UPCOMING FIELD TRIPS

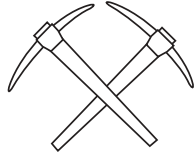
DAVID McILWAIN: MAGS Field Trips for the remainder of 2003 include:

[1] Frankstown, Mississippi in August for fossils; [2] Richardson's Landing, Tennessee in September for Ice Age fossils and Lake Superior Agates; [3] Middle Tennessee in October for geodes and fossils; and [4] Vulcan Quarry, Parsons, Tennessee in November for fossils. Check your monthly *MAGS Rockhound News* for field trip details.

## DIRECTORY ADDITIONS

BILL SCHEFFER: Welcome new members. Please add to your 2003 MAGS directory:

- [1] Sherida, David, Kristopher Helms & Rhena South • 555 South Park Avenue • Memphis, TN 38119 • 901-682-7426 • Sherihelms@aol.com
- [2] Dr. Mary Margaret, Greg, Gregory, Alexander & Nichalas Hurley • 7460 Stout Rd • Germantown, TN 38138 • 901-309-9816 • ghurley@midsouth.rr.com
- [3] Stacey, Andy, Sam & Alex Stevenson • 585 Wilkes Cove • Collierville, TN 38017 • 901-854-0778 • stevenson585@msn.com
- [4] Aimee Hackett-Whitley, Chris & Max Whitley • 7034 Woodsong Cove • Germantown, TN 38138 • 901-737-7744 • memphis\_whitleys@yahoo.com



## MAGS FIELD TRIP FRANKSTOWN, MS

SATURDAY AUGUST 23, 2003 • 8:00AM

FIELD TRIP LEADER, DAVID McILWAIN, 901-456-7388

**Collecting site:** Frankstown Cretaceous Fossil Park on Twenty Mile Creek, located in Prentiss County, MS.

**Material:** We will be collecting vertebrate fossils. Specimens include dagger like teeth of the *Scapanorhynchus* shark, brad-serrated teeth of the *Squalicorax* shark, teeth of extinct *Enchodus* and *Xiphactinus* fish, turtle bones, mosasaur teeth and vertebrae, and crocodile teeth. Rare dinosaur teeth (grinding teeth of the plant-eating duck billed hadrosaur and at least one tooth of a meat-eating theropod) have been found. Water-worn pieces of petrified wood are also common. *See pages 1 & 5 for related articles.*

**Meeting Time/Place:** 8:00am. We will meet at the Waffle House Restaurant, 2103 Hwy 72 West, Corinth, MS 38834, (662) 287-7713. We will leaving for the site promptly at 8:30am. Please be on time and follow AFMS convoy guidelines.

**Driving Directions:** From Memphis take I-240 East towards Nashville, then take Nonconah Pkwy. East exit number 16, towards Corinth. Take US-72 East, towards Corinth. Cross US-45 and look for the Waffle House Restaurant on the right. Allow approximately 2 to 2-1/2 hours driving time.

**Tools:** Rubber boots or sandals, small rake or small garden tools, 1/4 to 3/16 inch grid sieve box, small shovel and small pry bar. Small plastic zip-lock storage bags for specimens, collecting containers such as bucket or cloth bags.

**Safety Note:** While at the collecting site, 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. Also be aware the possible of poisonous plants and snakes, ticks and chiggers at this site. Difficulty level is about 3 to 5 on a scale of 1 (easy) to 10 (hard). Please follow AFMS safety rules, code of ethics and collecting courtesy guidelines.

**Field Trip Agenda for Saturday August 23rd, 2003:** 9:00am-4:00pm at the collecting site. Around noon, we will break for lunch. Please bring a sack or picnic lunch and plenty of drinking water, Gatoraid or soft drinks.

**Field Trip Agenda for Sunday August 24th, 2003:** *(Optional for those members who are interested):* North Fork of Turkey Creek – Near Starkville in Oktibbeha County, MS. I and my family will be staying overnight in the Starkville area. We will be collecting pyrite - marcasite specimens. These specimens are mostly in the hard gray clay of the creek bottom and collecting is free at this site. At 9:00am, I will meet with interested members at the Waffle House Restaurant, located on US-82, on the east side of Starkville. Come earlier if you plan to eat breakfast or lunch. We will be leaving promptly at 9:30am, for the collecting site.

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

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



## AUGUST BIRTHDAYS

August Birthstone is PERIDOT

- 3 Lydia Haff
- 4 Richard Butterick
- 4 Edwin Rice
- 4 Roger Van Cleef
- 4 Donald Spencer
- 5 John Patton
- 6 Irma Idell
- 7 Steven Ethridge
- 11 Paul Sides
- 12 Ron Brister
- 12 Jeri Givens
- 13 Dr. Mary Margaret Hurley
- 13 Steven Walker
- 16 Lelitia Brister
- 16 Gregory Hurley
- 16 George Loud
- 17 Anna Sisk
- 17 Andy Stevenson
- 19 Ramon Gafford
- 19 Rachel Huber
- 21 Leslie Garth
- 22 Idajean Jordan
- 22 Jerome Wood
- 24 Douglas Swink
- 25 Sherri Baldwin
- 25 Robert Foster
- 25 Frances Walker
- 26 Windsong Levitch
- 27 Tim Long
- 30 Norm Hall
- 30 Kimberly Novarese



## SUNSHINE REPORT

CORNELIA McDANIEL—Our thoughts are with Allen Jacobs, who recently lost his mother; Allen Thom, who lost his father, and Nancy Boucher, who has had a recent hospital stay.

*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 *USDA-NRCS National Soil Survey Handbook-Glossary of Geologic Terms*, 1996.

**ALLUVIAL:** Pertaining to material or processes associated with transportation and or subaerial deposition by concentrated running water.

**ALLUVIUM:** Unconsolidated clastic material subaerially deposited by running water, including gravel, sand, silt, clay, and various mixtures of these.

**GEOMORPHOLOGY:** The science that treats the general configuration of the earth's surface; specifically the study of the classification, description, nature, origin, and development of landforms and their relationship to underlying structures, and of the history of geologic changes as recorded by these surface features.

**PROXIMAL:** A deposit of material that is closest to the source area.

**STRATIFIED:** Formed, arranged, or laid down in layers. The term refers to geologic deposits.

**SUPRAGLACIAL:** Carried upon, deposited from, or pertaining to the top surface of a glacier or ice sheet.

*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.*

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

## THE NIGHT SKY IN AUGUST

**PERSEID METEOR SHOWER: AUGUST 12-13:** The Perseids are probably the best-watched of any annual meteor shower. They come in mid-August when it's warm and comfortable to be outside at 4 o'clock in the morning. They are bright, numerous, and dependable. This year the shower peaks on Wednesday, August 13th.<sup>1</sup>

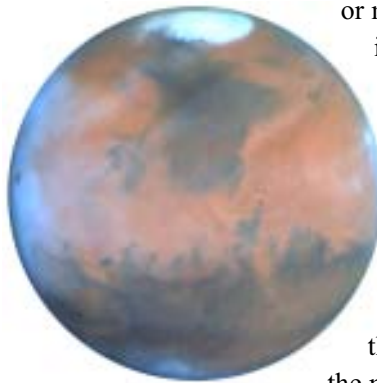
When skies are dark and clear, observers often see as many as one hundred Perseids per hour. This year, however, skies won't be dark. A glaring full moon will wipe out many faint meteors and reduce by a factor of two or three the number you can see. Even so, it's worth planning a trip to the country or rearranging your camping schedule to be outdoors when the Perseids arrive.<sup>1</sup>

No matter where you live, the best time to look will be just before dawn on Wednesday morning, August 13th. At that time, the sky overhead will be tilted into the debris stream of Comet Swift-Tuttle—the source of the Perseid meteors. Furthermore, the moon will be low in the sky before dawn. You can stand in the shadow of a building or a hill or some other Moon-baffle to reduce its glare. Once you find your observing site and settle in [a comfortable chair and blankets are recommended] there's no special direction you have to face. Perseids can appear anywhere in the sky.<sup>1</sup>

**MARS: AUGUST 27:** After months of anticipation, it's finally here. The best appearance of the Red Planet any of us will ever see. On August 27, 2003 Mars comes closer to Earth than at any time in the past 50,000 years

or more. It will appear as the brightest object in the southern sky [other than the moon].

Clear viewing of Martian planetary features requires stable air. Get away from the built-up daytime heat of houses, paved driveways, and stone patios. We have a perfect surface for setting up a telescope, barely radiates heat at all—grass.<sup>2</sup> Try to get away from the city and enjoy Mars, the Perseids and the moon this month.



Mars Photograph by Hubble Space Telescope, February 1995; provided by NASA. For educational purposes under the provisions of the "Fair Use Act of 1976".

REFERENCES:

[1] Dr. Tony Phillips; [The 2003 Perseid Meteor Shower](http://science.nasa.gov/headlines/y2003/17jul_perseids2003.htm?list94327); Science@NASA; http://science.nasa.gov/headlines/y2003/17jul\_perseids2003.htm?list94327; July 28, 2003.

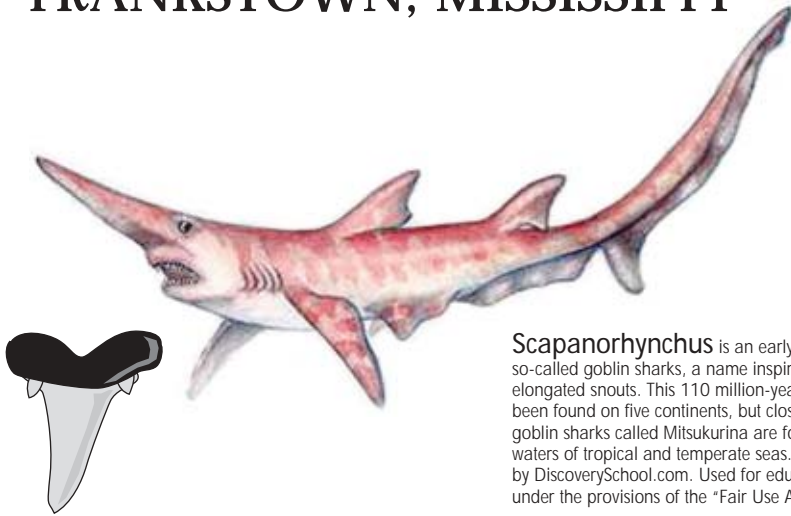
[2] Martin Ratcliffe and Alister Ling; [Mars Lights up the Night](#); Explore and Discover Astronomy; Kalmbach Publishing Company; August 2003.

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

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

JENNIFER BALDWIN: MAGS Micro-mounters did not meet in July, due to summer vacation schedules. We will meet August 14. Hope to see you there.

## W.M. BROWNING CRETACEOUS FOSSIL PARK: FRANKSTOWN, MISSISSIPPI



*Scapanorhynchus* is an early member of the so-called goblin sharks, a name inspired by their greatly elongated snouts. This 110 million-year-old fossil form has been found on five continents, but closely related modern goblin sharks called Mitsukurina are found only in the deep waters of tropical and temperate seas. Illustration provided by DiscoverySchool.com. Used for educational purposes under the provisions of the "Fair Use Act of 1976".

DAVID McILWAIN: If you have never been to the Frankstown Fossil Park, you have missed a treat. Don't miss it this time! Below is a bit of information about the park and the fossils found there.

An abundance of vertebrate fossils (the lower jaw tooth of the extinct shark *Scapanorhynchus* among others) were uncovered at Frankstown in the hills south of Twenty Mile Creek during the construction of Highway 45 Bypass. These fossils are concentrated below an oyster bed and above an unconformity separating the Demopolis Formation from the underlying Coffee Sand. The 1.5 foot thick sand containing the fossils is informally called the Frankstown Sand and is placed as a transgressive marine unit at the base of the Demopolis Formation, a formation in the Campanian Stage of the Cretaceous Period. It contains the remains of animals that lived on land and in fresh and salt water. These remains were mixed together as the Cretaceous sea pushed northward into Tennessee some 75 million years ago.

Vertebrate fossils found at Frankstown are dominated by dagger

like teeth from the shark *Scapanorhynchus*. The next most common fossils are the brad-serrated teeth of the shark *Squalicorax*. Other fossils include teeth of the extinct fish *Enchodus* and *Xiphactinus*, turtle bones, mosasaur teeth and vertebrae, crocodile teeth and rare dinosaur teeth. Mosasaurs are extinct, large, seagoing reptiles. Check the July 2003 issue of *MAGS Rockhound News* for more information about mosasaurs. Dinosaur fossils found at Frankstown include the grinding teeth of the plant-eating duck billed dinosaur (hadrosaur) and at least one tooth of a meat-eating theropod. Water-worn pieces of petrified wood were also common.

Fossils excavated from the hills were spread along almost a mile of roadbed during the Highway 45 construction. The abundance of shark teeth uncovered at this site attracted national attention as people from distant states came to collect fossils. The faculty of Booneville High School made a large collection of fossils and obtained a National Science Foundation SGER (Small Grants for Exploration Research) grant to utilize

this site as a laboratory for teaching natural history. This was the first such grant ever awarded to a high school. ABC News filmed Booneville High students on April 26, 1991, as they excavated fossils at Frankstown. The story received national coverage on the ABC Sunday evening news June 16, 1991.

Today, fossils can still be found in the hills around Frankstown and in the bottom of Twenty Mile Creek where those washed from the bluffs come to rest. Boulder sized rocks in the creek bottom are large sandstone concretions that were cemented in place as minerals in the ground water moved through the Coffee Sand.

Cretaceous Fossil Park is a natural area designed to teach students and the traveling public about Mississippi's geology and ancient history. It overlooks a stretch of Twenty Mile Creek below the Frankstown fossil locality, a site of interest to the professional scientist and hobbyist alike. The Frankstown site serves as a window into Mississippi's distant past when dinosaurs roamed the land and giant reptiles and sharks swam tropical seas. Their remains were mixed together in the pounding surf along with driftwood and shells and laid to rest in a blanket of sand at the bottom of the Demopolis Sea some 75 million years ago.

Reference:  
Information for this article was collected from an information pamphlet about Frankstown called "W.M. Browning Cretaceous Fossil Park at Frankstown, Mississippi". Information gathered for educational purposes under the provisions of the "Fair Use Act of 1976".

## SFMS CLUBS SHOWS/EVENTS

AUG 29-SEP 1 • 10am-6pm  
Hendersonville, NC—Henderson  
County Gem & Mineral Society.  
22nd Annual Gem and  
Mineral Spectacular. Whitmore  
Activity Center, Lily Pond Road.  
Margaret Johnson, 828-692-1249.

AUGUST 30 • 9am-4pm  
Hendersonville, NC—Henderson  
County Gem & Mineral Society.  
14th Annual Micromount  
Symposium. Salvation Army  
Bldg., Grove Street. Emily Adams,  
864-271-3877.

SEPTEMBER 5-6 • 10am-7pm  
SEPTEMBER 7 • noon-6pm  
Winston-Salem, NC—Forsyth Gem  
& Mineral Club. 32nd Annual  
Gem and Mineral Show.  
Education Bldg. at Dixie Classic  
Fairgrounds, Deacon Blvd. Paul  
Burton, 336-924-8510.

SEPTEMBER 20 • 10am-6pm  
SEPTEMBER 21 • 10am-5pm  
Jacksonville, FL—Jacksonville  
Gem & Mineral Society. 15th  
Annual Gem, Mineral and  
Fossil Show. Morocco Temple,  
3800 St. Johns Bluff Road. Mary  
Chambliss, 904-269-4046,  
ivorytowers@msn.com.

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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 Franklin Gem & Mineral Society**  
**8:00am [EST], Saturday, August 16, 2003**  
**Mason Ruby & Sapphire Mine, Franklin, NC**

**Collecting:** The Franklin Gem & Mineral Society will be hosting the DMC field trip to the Mason Ruby & Sapphire mine in Franklin, NC on August 16th. You will find an abundance of beautiful sapphires (all colors), pink and red rubies, and fine specimens of corundum.

**Cost:** Members will receive a one dollar discount off the regular ten dollar fee for digging all day.

**Tools:** You should bring your favorite digging equipment even though they supply buckets, shovels, screens, and a trough to wash your finds. As it gets warm in Aug. you should bring water, sun screen, hats and a lunch.

**Meet:** We will meet at the Franklin Gem & Mineral Museum located at 25 Phillips street across from the Court house in down town Franklin, at 8 am. The Museum will be open for those who would like a tour. I will lead everyone to the mine, it is open from 9am to 5pm. Children are welcome.

**Motels:** Arrangements have made with two of the many Motels in Franklin. Both are close to the Museum: [1] The Franklin Motel, 17 W. Palmer street, 1-800-433-5507, \$45.00 & up; and [2] Sapphire Inn, 741 E. Main St. (across from Long John Silvers), 1-800-401-0072, www.sapphireinn.com, \$44.99.

**Contact:** Wally Smith at wallyanddoris5-1@juno.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!*

## OLE MISS SPECIMENS STOLEN

R.P. MAJOR, PROFESSOR, UNIVERSITY OF MISSISSIPPI: On Monday, July 14, 2003 it was noticed that approximately 15 mineral specimens had been removed from a glass display case near Room 32 in the basement of the old Chemistry Department of Geology and Geological Engineering, University of Mississippi. All of these specimens were small (“thumbnails”), less than 1-inch in size. Most of these specimens were removed from their individual plastic mounting cases (1" by 1") which were left behind (along with labels), in the glass case. Apparently the whole mount was taken for a couple of the specimens. Below is a partial list of the missing specimens: (1) Azurite; (2) Conicalcrite; (3) Amethyst; (4) Jamesonite on pyrite; (5) Barite; (6) Huebnerite; (7) Vanadinite; (8) Buergerite; (9) Buergerite; and (10) Prehnite-hematite-quartz on anhydrite casts.

If you happen to see a “new” collection similar to this one appear, or if you have information which might be helpful in locating this collection, please contact Dr. Major at rpm@cedar.olemiss.edu .

## MAGS REVIEW

### BOARD MEETING June 5, 2003; 6:40pm

RAYNEE RANDOLPH: The June board meeting of MAGS was held at Blue Plate Café, 5469 Poplar Avenue. The following were present: Idajeon Jordan, W.C. and Cornelia McDaniel, David McIlwain, Park and Terri Noyes, Kim Prudhomme, Raynee Randolph, Dennis Sanders, Bill Scheffer and Lou White.

Highlights of the meeting are: [1] **FIRST VP:** Field trip to Mark Twain National Forest produced all the druse quartz you could carry. The Hannibal trip was cancelled. On Monday we collected at the BonnTerre glass dump and then on to collect lace agate. June trip to Mt. Ida–Saturday at the Sweet Surrender Mine and Sunday at Jimmy Coleman Mine. July trip to Magnet cove for minerals. August trip to Frankstown and Birmingham Ridge for fossils. September to Richardson’s Landing. October to Ledbetter Farm and Dale Hollow for geodes and fossils. Wrap up the year with Vulcan Quarry in November. [2] **SECOND VP:** We will have a PowerPoint presentation and digital slides of the Gem and Mineral Show; Roger will have a live auction and the show will provide the refreshments. If you have outstanding tickets from the show please get those paid ASAP [3] **LIBRARY:** We have ordered a new cabinet because one of the present ones is warped. We have several new additions to the library in honor of our members that have passed away; [4] **JUNIORS:** Their program will be all about fossils; [5] **SUNSHINE:** Condolences sent to the Randolph’s; [6] **MEMBERSHIP:** Three new membership applications were approved for the following families: Bethune, Beckum, and Riding; [7] **ROCK SWAP:** June 14 at the home of Dennis Sanders, rain date to follow; [8] **SPECIAL NOTE:** Due to holiday, the next board meeting will be Tuesday, July 1. Meeting adjourned at 7:15pm.

### GENERAL MEETING June 13, 2003; 7:30pm

RAYNEE RANDOLPH: MAGS May General Membership meeting held at Shady Grove Presbyterian Church, presided by President W.C. McDaniel. There were 53 members and 13 visitors present. Visitors were Ann Warren, Holly Crosthwaite, Stacey and Sam Stevenson, Madison Horowitz, Greg Hurley, Max, Amy, and Whitley Hackett, Sherida Helms, Rhena South, and Sidney and Mary Elliott.

Highlights of the meeting are: [1] **FIRST VP:** June 28-29 we will be going to Sweet Surrender Mine on Saturday and Jimmy Coleman Mine on Sunday. Please make your reservations ASAP for that trip. Check your newsletter for complete details where to stay and where we will meet. Please fill in the sign up sheet if you are going to attend. Hope to see you there. [2] **LIBRARY:** Please check the library if you haven’t lately because we have added several new publications. These books are in memory of our fellow members and families: Sidney Horowitz, Bill Sipes, Joe Devine, and Walter Mewborn. [3] **PROGRAM:** The program tonight will be a review and financial report of the show in April as well as a slide show of many of the vendors and some of the activities that took place. Watch out, you may see yourself. Certificates of appreciation will be handed out after the presentation. In July, Dr. Mike Gibson will be here to lecture about Coon Creek Fossils. In August we will have our inside rock swap, so there will be no program for that month. September leads us to Delta State and a lecture on fossils. October we will have Ed Underhill who is a facetter and Paul Sides will help with that demonstration. November will be our last program of the year presented by Mary Austin Talley who is a scrimshander and master knife maker; [4] **ANNOUNCEMENTS:** There will be a live auction tonight of several items from the collection of Walter Mewborn. Highest bidder gets the prize. Please look over these items, bid high and bid often. Half of the proceeds will go to MAGS; [5] **ADULT DISPLAYS:** David McIlwain–Sweet Surrender Quartz, Docia Lenz–Missouri 2003, Doris Parsons–Druse planters, George Fulghum–Favorite stuff, and Mary Gibson–New Mexico, Rosewell, RockHound State Park collection; [6] **YOUTH DISPLAY:** Emily Barton–gravel pit collection; [7] **DISPLAY WINNERS:** Adult–Doris Parsons; Youth–Emily Barton. Three door prizes were awarded and the meeting adjourned at 9:10pm followed by refreshments.

## MAGS ROCK SWAP AND PICNIC FRIDAY, AUGUST 8, 2003, 7:30PM

*Bring your favorite potluck dish, dessert or snack food. Bring a table if you plan to swap. No displays.*

The Third Annual MAGS Rock Swap and Indoor Picnic will be held at Shady Grove Presbyterian Church on August 8. There will not be a regular adult or youth program that night. This will be a great opportunity for you to meet new people, share your collecting adventures, and do a little bit of trading or selling.

## FRANKSTOWN PALEOECOLOGY

(continued from page one)

fish, sea turtles and mosasaurs (*see the July 2003 issue of MAGS Rockhound News for more information on mosasaurs*). Because of the abundance of nutrients in the Frankstown environment, there was plenty of food, resulting in a diversity of fauna and a number of predators. The fauna included a good cross-section of carnivores [meat eaters], herbivores [plant eaters], and omnivores [those animals that ate both plants and animals]. An abundance and diversity of shell-crushing [mollusk-eating] fauna, such as chimaeroid, horn sharks, rays [*Brachyrhizodus* species], pycnodont fish, bonefish-like *Paralbula*, and mosasaurs [*Globidens*] suggest that they lived over a rich mollusk bank. The number of sharks and rays in the vicinity suggests that the water was of normal ocean salinity.

There appear to have been at least three distal communities at some distance from the mollusk bank. The presence of a deep-water community to the southwest of the site is suggested by the appearance of rare ammonites, mosasaurs, and sea turtles at the site. The presence of a land community is suggested by the presence of wood and dinosaur remains. These could have been washed out into the Gulf by rivers, or they could have been dug up by the advancing sea from

buried river channel deposits. A riverine community is also suggested by the presence of gars, freshwater shark [*Lissodus*], soft-shelled turtles and a small crocodylian. The land and river elements could have entered the Gulf from the river deltas or they could have been excavated from the delta sediments.

The late Campanian, the age of the Frankstown site, was the golden age of duck-billed dinosaurs [*hadrosaurs*]. Only 10 million years after the Frankstown fossils were deposited, the dinosaurs began extinct.

While most of the Frankstown fauna became extinct at the end of the Cretaceous, some of them did not. Forms very similar to the jingle-shell *Anomia*, the angel shark *Squatina*, the horn shark *Heterodontus*, the gars *Lepisosteus* and *Atractosteus*, and soft-shelled turtles are still alive today. Others may be relatives of the ancient goblin shark *Scapanorhynchus*, the nurse shark *Cantioscyllium*, the eagle ray *Brachyrhizodus*, the sea turtle and the small crocodile.

Reference:

Earl M. Manning and David T. Dockery, III; *A Guide to the Frankstown Vertebrate Fossil Locality (Upper Cretaceous)*, Prentiss County, Mississippi; Circular 4; Mississippi Department of Environmental Quality, Office of Geology; Jackson, Mississippi; 1992. Information gathered for educational purposes under the provisions of the "Fair Use Act of 1976".

## UPCOMING PROGRAMS

PAUL SIDES: Programs for the remainder of 2003 are: [1] "Pleistocene Animals and Pollen Spores" with Nina Riding in September; [2] "Facetting" with Ed Underhill and Paul Sides in October; [3] "Scrimshaw" with Mary Austin Talley in November; and [4] the MAGS Christmas Party in December.



# MINI MAGS

## AUGUST ROCK SWAP, PICNIC AND FRANKSTOWN FIELD TRIP

Kids, join us on August 8 for the Third Annual Indoor Rock Swap and Picnic, and sign up for the Frankstown Field Trip [August 23]. Play in the water and find some cool fossils!

**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.

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

**JULY VACATION:** The Baldwin girls, Jennifer and Kelly spent much of their summer vacation searching the sands of Venice Beach, Manasota Beach, Blind Pass Beach, Casperson Beach, and Sharky's for fossil sharks' teeth. Some Florida beaches were more productive than others, but they were successful in finding a number of very nice shark's teeth, ray teeth and ray mouth plates . . . not to mention the time spent playing in the surf of the Gulf of Mexico with skimboards and boogyboards. Then it was time to move on to Honeymoon Island, Florida, where their bounty included fossilized black coral, sponges and shells. Final stop—Warrior, Alabama, where they found fossil ferns and other fossil plants.

Pick up your copy of the *August MAGS Explorer* at the August meeting or online at <http://www.memphisgeology.org/images/explorer0803.pdf>.

## WEB STATISTICS

Here's a brief look at our website ([www.memphisgeology.org](http://www.memphisgeology.org)) from 01.21.02 through 07.27.03:


Visits\* ..... 74,997  
Hits\*\* ..... 350,801


Top pages in the past 30 days:

RockNews0703.pdf ..... 332 hits  
Explorer0203.pdf ..... 277 hits  
RockNews1002.pdf ..... 232 hits  
Herkimer ..... 198 hits  
RockNews0403.pdf ..... 166 hits

Average visits/day this month..... 188

\* visit= every time someone comes to the site  
\*\* hit= every page viewed on the site

Did You Know . . .	Minmi
<p>Minmi is unique in two ways. It is the most complete dinosaur yet discovered in Australia, and it has the shortest name of any dinosaur.</p> <p>Minmi was a small member of the family of plant-eating armored dinosaurs that also included Ankylosaurus. It had several features not seen before on armored dinosaurs, such as bony armor on its underside, and it may have lacked any kind of spines or spikes on its neck and shoulders.</p> <p>Minmi was the first ankylosaur discovered in Australia. Ankylosaurs normally had shoulder spines, but none were found with this fossil. This may be due to the way in which it became fossilized and doesn't necessarily mean that it never had any.</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>Minmi paravertebra</i> Pronounced: Min-mee Diet: Herbivore (Plant-Eater) Name Means: "Minmi Crossing" Length: 10 feet (3m) Height: 3 feet (1m) Weight: 500 pounds (225 kilos) Time: Early Cretaceous - 125 MYA</p> </div>

Did You Know . . .	Marble
<p>Marble is a metamorphic rock composed primarily of carbonates, primarily Calcite (Calcium Carbonate). Typically Marble is the product of metamorphism on Limestone.</p> <p>Marble is limestone or dolomite that has been recrystallized due to metamorphism. It is a light-coloured rock and consists of medium to coarse-grained interlocking calcite or dolomite crystals. A marble formed of calcite crystals will fizz with dilute acid, while a dolomite marble will fizz only if powdered, or if hot acid is used. Darker streaks are often present in marble as are calcite veins. Marble scratches easily with a knife.</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: CaMg(CO<sub>3</sub>)<sub>2</sub> Hardness: 3.5-4 Crystal: Trigonal-Rhombohedral Luster: Vitreous (Glassy) Streak: White Color: white, gray, reddish white, brownish white, or gray Location: Queen Valley, AZ</p> </div>

## CARING FOR APACHE TEARS

W.C. McDANIEL—Several club members recently purchased Apache Tears at our club auctions. Here are a couple of tips:

1. Liquid Gold can be sprayed directly on to the rock. Let it remain for about 2 minutes. Wipe clean. Repeat and complete with a buff. This will improve the black color (tears are obsidian) and moderate the gray color/material. It will not remove all the crusted gray.

*Note: at the May rock swap I mistakenly said use Endust.*

2. Tumbling of Apache Tears can be difficult. The key is to make sure the rocks do not tumble very aggressively. You can do this a couple of ways. First, add a little more rocks in your tumbler than you normally do. Second, use a lot of fill material such as plastic pellets. Also use similar size tears. Do not mix any other rock material with the Apache Tears.

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### 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-(2th) 89, 90; (3rd) 92; (4th) 85; (5th) 91; (6th) 87

### DUES:

Family-\$20.00

Single-\$16.00

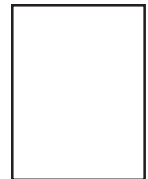
Junior-\$8.00

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.

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Collierville, TN 38017-2301



## MARK YOUR CALENDAR

Board Meeting  
July 31

General Meeting  
August 8

M<sup>3</sup> Meeting  
August 14

DMC Field Trip  
August 16

MAGS Field Trip  
August 23

