Tumbling Fossils

WC McDaniEL : The transformation of rough rock into smooth and polished specimens by tumbling is one of the most popular lapidary activities. Contributing factors include being comparatively low cost and the availability of a variety of material. One material, fossils, is frequently overlooked due to the fact that most fossils are fragile and must be handled with great care. However, some fossils are composed of the same minerals and have similar hardness as agates and can undergo the rigors of tumbling. The polished specimens in the above photo were collected at MAGS’ field trip locations and were tumbled following some basic steps. Basic tumbling techniques for fossils—The fossils were tumbled using a fairly consistent three step process. Step one consisted of an 18-21 day tumbling cycle using a 60/90 ungraded grit in a rotary tumbler. Step two consisted of a 3-4 day tumbling cycle using a 400 or 600 grit in a vibratory tumbler. Step three consisted of a 3-4 day
President’s Corner

W.C. McDaniel: The nominating process for the 2007/08 officers is underway with the appointment of Alan Parks, Raynee Randolph and Susan Thom to head the task of recruiting and nominating officers for the next term. This process and selection is an important part of the club and I hope each of you are a willing and active participant.

Special thanks to Steve Hadju. Steve recently returned to Indiana in order to pursue his master’s degree in geology. We wish him well in his endeavor and thank him for his participation in the club. In addition, Steve has donated several 5-gallon buckets of geodes, fossils and wood he has collected, with the most coming from Monroe County, Indiana. The material will be used in the gem dig, grab bags, door prizes and the larger geodes will be auctioned off at a future MAGS’ membership meeting. In addition, the Enzernik family has moved to Sacramento, Ca. We wish them well and thank them for their participation and contributions to the club. Serena was active in the juniors program and was a great field trip participant.

In July the Show 500 in 2007 project was announced. It is a year long program to collect rocks and fossils for the gem dig, grab bags, cloth material for the grab bags and to sew 500 bags. Each month a targeted donation has been identified. Our September target is druse quartz, barite and lace agate. Bring your donations and contributions to the membership meeting.

--W.C. McDaniel

2006 Dates To Remember

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Announcements

AUCTION
The September membership meeting will have the second auction of materials donated to the club by Dick McKitrick. Auction items will include fossils, wood and minerals.

MENSA PRESENTATION
On September 12, MAGS will make a presentation to the Memphis chapter of Mensa. The presentation will provide an overview of the club’s history, activities and collecting trips.

CAN YOU SEW?
Can you sew? We need member commitments to help sew a goal of 500 grab bags for the 2007 show. We have a good supply of cloth material. Check with James Butchko.

September Roadcut
The MAGS’ web site gets a lot of visits and emails requesting information and help. Roadcut takes a look at some of those requests:

- Request seeking information on Blueberries Spherical hematite (complete request and response presented below)
- Request from Ohio seeking help on how to clean a “white film” from crystals in a geode
- A request from Mississippi seeking help on where to hunt for rocks in the Gatlinburg, Tennessee area
- Request from a professor at Yale University in Connecticut seeking help in locating agate or geode bookends in the Atlanta, Ga. area
- Request seeking help in identifying a cone shaped rock
- Request from a doctoral student at the University of Chicago seeking information on Copperas Creek in Arkansas
- Multiple requests seeking information on the scout’s geology badge, rock hunting in the Midsouth, and show and club information.

Email in July 2006

I’m just looking to see if there is any demand / value to blueberries Spherical hematite. A local university identified it and stated its similarity to samples on Mars. It's about 1” in diameter, found in a park along the Hanging Hills of Central Connecticut.

Thanks John

The rock sample you described appear to be hematite concretions and are called blueberries for no specific reason other than shape and color. The most well known come from the Utah area and have been nicknamed “Moqui Marbles” or “Mochi Balls.” Much of this area is closed to collecting. I am not familiar with the Connecticut area other to say hematite is found in the area. Value is always difficult to provide. However, at a show last week in Franklin, NC wholesale was $2 for one inch specimens of “Moqui Marbles.” They also were selling boxes of 30 sliced and polished specimens for $100.  A web search will give you many sites about the Martian find and the comparisons to the hematite concretions found on earth. Good luck and thanks for asking.

Wc McDaniel
President
MAGS
tumbling cycle using cerium oxide polish in a vibratory tumbler. Some deviations occurred such as reducing the first step for gravel deposit fossils to about 10 days. They usually have a fairly uniformed and smooth surface when found.

**Dale Hollow Lake** - The fossils are agatized (flint) crinoids found along the shores of this Middle Tennessee lake. Most are single stems and some clusters. Size ranges from ¼ to 2 inches long about ¼ to ½ inches in diameter. They are usually a dull/dirty gray with some iron stains and blackish organic material that has accumulated over the past few years. During tumbling, they will maintain a fairly good shape with little loss in size. Finished and polished colors will be a consistent light to rich blue with an occasional whitish/creamy crinoid. The clusters will produce the same results although they can be a little harder to reach the polishing step. One caution is these crinoids have a little more tendency to fracture than the other crinoids.

**Vulcan Quarry** - Agatized crinoids are found in this working limestone quarry near Parsons, Tennessee. A wide variety of other fossils are found but are not amenable to tumbling. The crinoids are abundant, loose or can easily be removed from the limestone matrix. They are dull gray and range in size from about a ½ inch to 2-3 inches long and are about ½ inch in diameter. Some will have a sweeping curved shape. Before starting step one, these crinoids require a little prep work. They are covered with a thin dusty layer that must be removed in order to effectively polish. The crinoids are placed in a rotary tumbler with water and tumbled for about two hours, open the barrel and you will see a slurry mix. Thoroughly wash the crinoids and barrel and repeat this step. Sometimes you may have to do this several times. During tumbling they will maintain a fairly good shape and with very little reduction in size. Even the curved crinoids will remain curvy and little breakage occurs during tumbling. The finished product is a uniform and consistent light to medium gray.

**Gravel Deposits** - The streams, rivers and gravel pits of the south provide some of the best collecting opportunities and specimens for fossil tumbling. Crinoids, brachiopods, gastropods, bryozoans and a variety of corals are fairly common. Most of these fossils are located in chert gravel deposits and are composed of silica. Brown varieties are usually referred to as chert, red as jasper and gray to black as flint. They can range in size from small pebbles to baseball size. During tumbling they will lose little shape and will not decrease in size. Some fossils, especially the hexagon shaped tabulate corals look really good after completion of the second step in 600 grit. You will need to decide if you wish this fossil to move to the polishing phase. Final colors range from light to rich browns, reds, gray/black or a random mixture of these colors.

**Other fossils for tumbling** - Other fossils that are good for tumbling are agate fossils from Wyoming commonly called “turretella” which is actually elimia and petrified wood. However, as the misuse of the name continues it does not take away the fact the agate is an excellent candidate for tumbling. The first step can at times be a little difficult to reach a smooth finish. They will maintain size and shape and final colors are black with a creamy profile for the snails within the silified material. Some of the agates are brown and sometimes they can be more difficult to polish. Petrified wood that has silified and has a smooth surface make excellent tumbling candidates. Very little shape and size are lost during the tumbling and the final colors are a mix of browns, creams, reds and blacks.
“The Show 500” in 2007

W.C. McDaniel This is a year long program to collect rocks and fossils for the gem dig and grab bags for the 28th annual Mid-America Mineral, Fossil Jewelry Show which will take place April 28 and 29, 2007. In addition to rocks and minerals, cloth material will be collected to make the grab bags and volunteers will be needed to sew the 500 bags. Each month a targeted donation has been identified. Bring your donations and contributions to the membership meeting according to the schedule shown below:

**August**
- Cloth material will be collected, as well as commitments to sew bags

**September**
- Druse quartz, lace agate and Barite from Missouri

**October**
- Tumbled stones and petrified Wood

**November**
- Fossils and geodes

**December**
- Your choice

**January**
- Quartz from any locality

**February**
- Miscellaneous minerals

**March**
- Fossils and tumbled stones

**April**
- To be determined based on necessity

Web Site Statistics for August 2006

Mike Baldwin Here's a brief look at our web site, www.memphisgeology.org, from 01/21/2002 through 8/21/2006:

- Visits: 151,045
- Hits: 570,139
- Average visits/day (past 30 days): 216
- Average hits/day (past 30 days): 583
- Top pages in the past 30 days:
  - Explorer0403.pdf: 373 visits
  - Rocknews0706.pdf: 273 visits
  - Rocknews1002.pdf: 256 visits
  - Rocknews0806.pdf: 233 visits

(A visit is every time someone comes to our web site. A hit is every page viewed once a user enters our web site.)
September DMC Field Trip

The Southeast Federation of Mineralogical Societies, Inc.
The Friendly Federation - Founded in 1976 to serve.

DMC Program of the SFMS Field Trip Committee

An Official Field Trip of the Mississippi Gem and Mineral Society (Jackson, MS.) (HOST) and Memphis Archaeological and Geological Society

Date/Time: Saturday, Sept. 9, 2006 / 8:30 AM EST
Location: Bayou Pierre River near Utica, Mississippi

The trip will be to the Bayou Pierre River near Utica, MS. You will find beautiful agates, some petrified wood, jasper and chert fossils. At one time, palm wood was plentiful at this site, and some is still found by a few people on almost every trip. We will provide a picnic lunch at the site! One of our members has a summer place on this river, and this will be where we park and have the picnic. We will also have an assortment of beautiful slabs and other lapidary material we are selling to raise money for our new building.

DIRECTIONS: We will meet at 8:00 a.m. at Hubbards Truck Stop on Highway slightly south of Utica. You can take Highway 18 from I-20 in Jackson, going toward Raymond. You will pass the turnoff for Raymond, and the turnoff for Utica. Shortly thereafter, you will see Hubbard Truckstop on your left, at the intersection of Hwy 18 and MS 27. There is a nice restaurant at the truckstop for those who would like to eat breakfast.

OTHER ESSENTIALS: We will provide a picnic lunch at the site, but bring plenty to drink and snacks for the gravel bars. You can use a beaver stick, and you will need sturdy shoes you can wade in, and bags or buckets you can put your rocks in. Bring sunscreen and dress according to weather reports, just remember it will probably heat up as the morning progresses.

ACCOMODATIONS: I would suggest a motel in Clinton, MS, which is very near the exit for Hwy 18. West Jackson is a high crime area, so be leery of motels in that area.

CONTACT: If you have any questions, please contact Janie Hand, 601-825-3989, or fossilfinder2@aol.com

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!

DMC Program/SFMS Field Trip committee's purpose: To collect field trip information from its member societies, schedule and coordinate field trip dates, disseminate field trip information to all member clubs so that each member society may publish this information as one of the "official" scheduled field trips.

2006 SFMS Shows

September 2-5 - Hendersonville, NC
24th Annual Gem and Mineral Spectacular & Sale
Location: Whitmire Activity Building, Lily Pond Road
Sponsored by the Hendersonville, NC - Henderson County Gem and Mineral Society – Contact Margaret Johnson (828) 692-1249 or email at mgt.j.ed@brinet.com
Hours: 2nd-4th: 10:00 A.M. - 6:00 P.M., 5th, 10:00 A.M. - 5:00 P.M. The summer SFMS board meeting is associated with this show.

September 3 - Hendersonville, NC
16th Annual Micromount Symposium
Location: Salvation Army Building, Grove Street between 3rd and 4th Avenues
Sponsored by the Hendersonville, NC - Henderson County Gem and Mineral Society. Contact: Emily Adams, 355 Pelham Road, Greenville, SC 29615, (864) 271-3877.
Hours: 8:30 A.M. - 4:00 P.M.

September 9-11 Winston-Salem, NC
34th Annual Gem, Mineral, Jewelry Show and Sale
Location: Educational Building, Dixie Classic Fairgrounds
Hours: 9th & 10th, 10:00 A.M. - 7:00 P.M.; 11th, 12:00 Noon - 6:00 P.M.

October 7-8 Jacksonville, AR
34th Annual Show
Location: Jacksonville Community Center, just off Hwy 65/167 at Main Street (Exit 9)
Sponsored by the Central Arkansas Gem, Mineral and Geology Society – Contact Pat Kissire (501) 821-2346 or email at pkissire@sbcglobal.net.
Hours: 9-5 both days. Adults $2, children under 12 free; scouts, service and military personnel are free with ID.
Mastodon State Historic Site in Missouri

MIKE BALDWIN: My family and I recently had an opportunity to visit the Mastodon State Historic Site in Imperial, Missouri. The site is located about twenty miles south of St. Louis, just off I-55 (Exit 186). It contains an important archaeological and paleontological site -- the Kimmswick Bone Bed, where scientists discovered the first solid evidence of the coexistence of humans and the American mastodon in eastern North America.

At the end of the ice age that occurred from 35,000 to 10,000 years ago, the glaciers to the north were slowly melting as the earth warmed. Animals such as giant ground sloths, peccaries, and hairy, elephantlike mastodons roamed the Midwest. Paleontologists theorize that the area was once swampy and contained mineral springs. Animals that came to the springs may have become trapped in the mud, which helped preserve their bones. Early American Indians (known as paleo-indians) had also reached present-day Missouri by at least 12,000 years ago. For a brief period at the end of the Pleistocene epoch, the lives of humans and mastodons intertwined.

The first recorded report of bones of mastodons and other now-extinct animals in the vicinity of the town of Kimmswick was in the early 1800s. St. Louis Museum owner, Albert C. Koch, Ph.D., investigated a report of bones weathering out of the banks along Rock Creek and conducted excavations in 1839. Thinking he had discovered a new animal, he named his find the Missouri Leviathan and exhibited it in the United States and Europe. Richard Owen, a comparative anatomist at the British Museum in London, convinced Koch the skeleton was actually an American mastodon.

The Kimmswick Bone Bed is important in the history of archaeological discovery, as well as a rare example of a stratified ice age Paleo-Indian Clovis culture hunting activity, and one of the oldest known archaeological sites in Missouri (over 10,000 years old). Presently the Clovis culture is the earliest well-documented Native American occupation for North America. Clovis hunters may have contributed to the extinction of many Pleistocene animals. Due to the archaeological and paleontological significance, the Kimmswick Bone Bed was placed on the National Register of Historic Places on April 14, 1987.

Resource: Mastodon State Historic Site: The Kimmswick Bone Bed; Missouri State Parks; Missouri Department of Natural Resources; December 2001. Information used for educational purposes under the provisions of the “Fair Use Act of 1976”.

Mastodon skeleton on display at the Mastodon State Historic Site. [Photo by Mike Baldwin]
July 2006
Board Meeting Notes

Susan Thom: The MAGS board of directors met July 6, 2006 at The Blue Plate Café, 5469 Poplar Avenue. The following were present: Mike Baldwin, Sherri Baldwin, Nancy Folden, Idajean Jordan, Cornelia and W.C. McDaniel, Park Noyes, Raynee Randolph, Melba Cole, James Butchko, and Lou White. The following reports were given:
(1) Treasurer: The financial report was given, motion made, seconded, and the vote carried the motion to approve report subject to audit. (2) 1st VP: The field trip to 20 mile Creek was well attended with 12-15 members present, and many shark’s teeth unearthed. July field trip will be July 22 at the U of M Egyptian Exhibit. This trip will be free and members will meet at 10:00am at the University. The August field trip will be August 19th, at Peabody Place for the Jade exhibit. There will be a $3.00 fee. More details and maps will be given at the membership meeting. (3) Adult Program: The program for the adults will be a commemorative program Honoring Roger Van Cleef. Board members are encouraged to tell their favorite tale or field trip about Roger. A motion was made for the club to provide $ for necessities for the refreshments after the program, the motion was seconded, and the vote carried the motion. (4) Juniors: The Juniors will have a program on different types of mines. (5) Library: Lapidary journals have been removed from the library to make room for more book additions. They are currently residing at Nancy’s house. (6) Editor/Web: Kudos to Shelby for her first issue of the monthly newsletter. Job well-done Shelby!!! The web site is down for construction to reappear as an even better addition to the World Wide Web. Be prepared for a 200+ page web site.

July 2006
Membership Meeting Notes

Susan Thom: The MAGS membership meeting was held at Shady Grove Presbyterian Church on July 14, 2006 presided by W. C. McDaniel. There were 54 members and 11 visitors - Ron Brister; Nelson Eddlemon; Ben Mandino; Erin, Benz and Kelly McGahey; Edwin Taughn; and Kathryn, Eilene & Robert Van Cleef. 1) Welcome to visitors. 2) Field trip to 20 mile creek was hot and fun--found sharks teeth and friendly abandoned kitten. 3) July 22nd field trip is touring through the Egyptian artifacts displays at The Art Museum with Dr. Pat Podzorski.
September Rock Swap Set for Sunday Afternoon

SHERRI BALDWIN, MAGS DIRECTOR-HISTORIAN:
Follow the map below to find your way to the home of Lou White on Sunday, September 10, from 2:00 until 6:00 pm for a special Sunday rock swap. A great big thank to Lou for opening his backyard and allowing us to invade with our rocks and goodies. If you plan to bring rocks to swap or sell, don't forget to bring a folding table [card table works great] for your wares. Whether you plan to set up shop or not, you will still need to bring folding chairs and drinks enough for your crew and a pot luck dish large enough to share with everyone. Your dish can be anything from a salad, to a side dish, to chips and dip to dessert. MAGS will provide the main dish, paper plates, napkins and cutlery. Lou's house is located at 3805 Melanie June Drive in Bartlett, TN [937.8522].

….Stay tuned to MAGS Rockhound News for information on the October rock Swap at the home of Alishia and Alan Parks!

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The main purpose of Memphis Archaeological and Geological Society 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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AFMS NEWSLETTER AWARDS: New Editor 7th—95 • Small Bulletin Honorable Mention—04 • Adult Article 10th—04 • Junior Article 3rd—98; 8th—03 • Special Pub 4th—03

SFMS NEWSLETTER AWARDS: New Editor 1st—86; 2nd—88, 97 • New Editor (Explorer) 4th—03 • Certificate of Excellence—89, 90, 91, 92, 93 • Large Bulletin 1st—87 • Small Bulletin 1st—04, 4th—03 • Special Publication 2nd—03 • Art 77, 80, 81, 82, 86 • Junior Article 1st—03 • Adult Article 2nd—89, 90, 04; 3rd—92; 4th—85, 04; 5th—91, 03; 6th—87; 8th—04; Honorable Mention—03, 04

DUES: $20 (Family); $16 (Single); $8 (Junior)

MAGS Rockhound News
367 North Main Street
Collierville, TN 38017