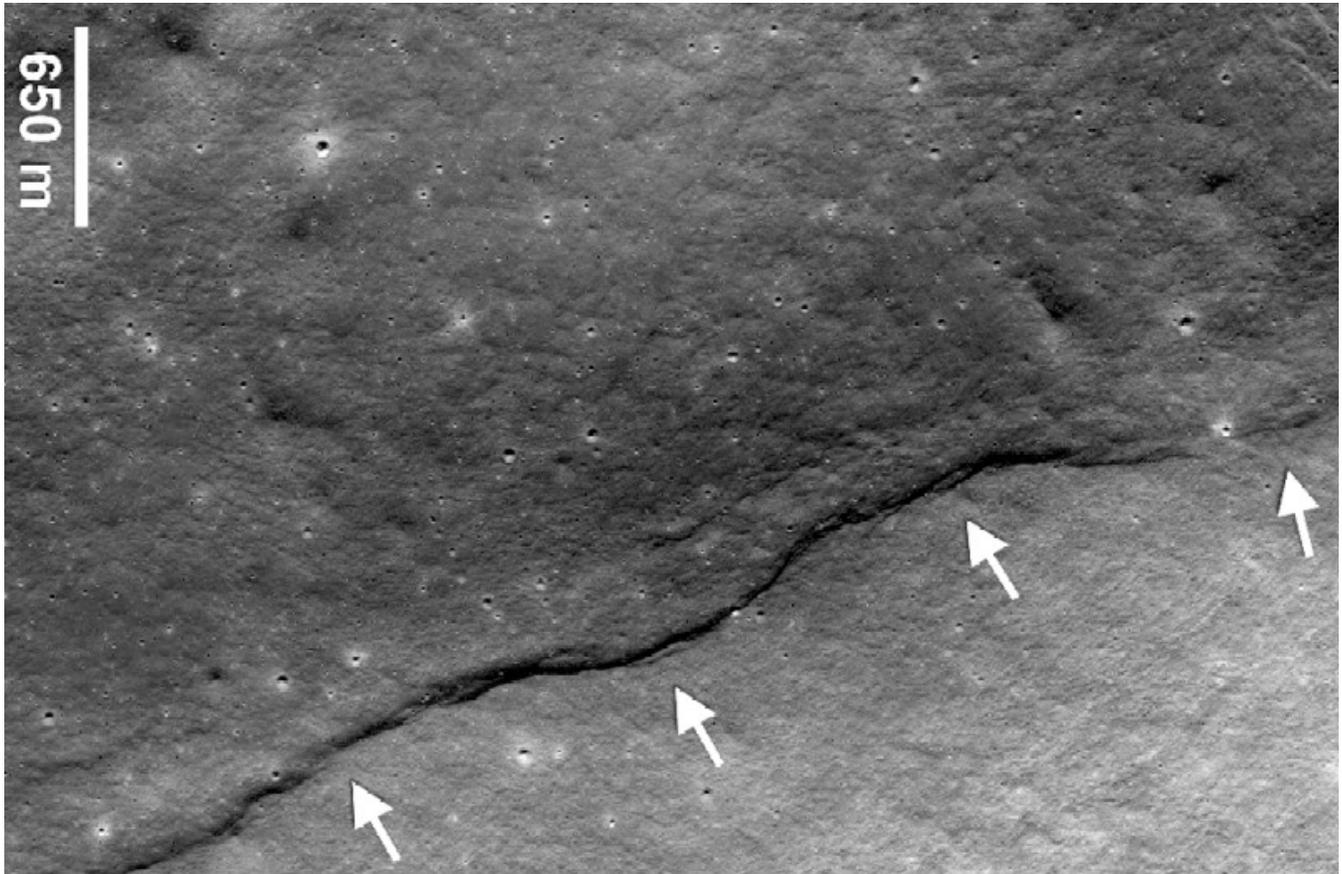




Astronomers discover the moon is shrinking



More and more cracks have begun to appear on the Moon

MATTHEW LYBANON: The Moon is shrinking! We don't have to worry that it's going to disappear any time soon. But the Moon's fairly recent (in geological terms) shrinkage has produced some interesting geological features.

Freshly discovered scars on the face of the Moon reveal that this rocky satellite is shrinking at a relatively rapid pace, say researchers based in Germany and the US. Images collected by NASA's Lunar Reconnaissance Orbiter show surface faulting that, they say, reflects significant contraction in the Moon's recent geological past.

See Astronomers discover the moon is shrinking on page 4

INSIDE THIS ISSUE

- 02 • October President's Note
 - Comments or Questions Regarding MAGS
- 03 • Memphis Rocks
 - MAGS Field Trips for 2010
- 04 • Astronomers discover the the moon is shrinking (con't from page 1)
- 05 • Display Themes September-December
- 06 • DMC October Field Trip
- 07 • MAGS programs
 - October Rock Swap
- 08 • August 2009 MAGS Board Meeting Minutes
- 09 • August 2009 MAGS Membership Meeting Minutes
 - 38th Annual Central Arkansas Gem & Mineral Show
 - 2009-2010 MAGS Officers and Board of Directors
- 10 • Pterotrigonia thoracica: Tennessee State Fossil

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Or visit MAGS at
www.memphisgeology.org

October President's Note

Since no one is claiming credit for our recent mild weather I think I will.

A very special happy birthday to MAGS life member and Show Treasurer, Dick McKittrick. Dick's 90th birthday is on October 6

Mark your calendar for the following dates:

- November 6- Field trip to Middle Tennessee to collect slag glass
- November 12- Membership meeting with the election of officers
- November 13- Rock Swap at the Parks. Catfish and trimmings with donations to the Rockzone
- November 20/21- Field trip to Missouri to collect druse quartz

Planning for the 2011 show is underway:

Some show facts:

- Show dates are April 23-24 with dealer move in Friday April 22
- Contracts have been extended to dealers with contract deadline 1/1/11
- The show, will once again, donate a portion of proceeds to the Ronald McDonald House of Memphis

MAGS Lapidary Equipment Update:

- MAGS will sell the 18 inch and 4 inch saws to the highest bidder. Auction details are published in the newsletter
- MAGS has entered into a lease/purchase agreement with Robert Duncan on the Highland Park 10 inch combination unit. A component of the lease stipulates that MAGS members have access and may use the unit. If wish to schedule a time contact Robert at 876-3715.

W.C. McDaniel

For Sale by MAGS-Silent Auction

1. Rock Saw- 18 inch diamond saw
2. Rock saw- 4 inch diamond trim saw

Auction process

1. Submit bids, in writing or email, to WC McDaniel
2. Bid deadline Friday, November 12
3. Minimum bids:
 - 18 inch saw -\$250.00
 - 4 inch -\$30.00
4. If you like to inspect the saws contact Robert Duncan at 876-3715

Memphis Rocks

Friday, October 1

Memphis Botanical Gardens

MAGS and MBG will join forces to present Memphis ROCKS, a special event scheduled for October 1 at the Gardens. Students in grades 2-6 will be the targeted audience. This program is a continuation of several years of collaboration between MAGS and MBG. MAGS assisted with the development of the Hyde and Seek Prehistoric Plant Trail and MBG has been a show partner with the paint your rock activities in the Rockzone. The stars of the event are rocks and fossils that will be on display in several stations, some are educational while others will be activity and fun related. MAGS members are requested and encouraged to help.

MAGS field trips for 2010

Oct 2	Mississippi	Memphis Stone and Gravel, specific site to be determined <ul style="list-style-type: none">• Agate, chert, fossil gravel, petrified wood• Possible rock swap with Mississippi clubs
Oct 22-24	Tennessee	Davis and Pharis Farms (fee) Ledbetter Farm (no fee) <ul style="list-style-type: none">• Geodes Dale Hollow Lake <ul style="list-style-type: none">• Crinoids and other fossils (will need to confirm exact dates with landowners for geode collecting)
Nov 6	Tennessee	Cumberland Furnace Dickson fossil coral site <ul style="list-style-type: none">• Slag glass* Fossil coral
Nov 19-20	Missouri	Park Hills area <ul style="list-style-type: none">• Barite, quartz, limonite
Dec 11	Tennessee	Richardson Landing, Millington, Tn Agates, lake superior agates, fossils, petrified wood, ice age fossils river artifacts

Trip notes

- * Specific trip information will be provided via email or at membership meetings
- * Field trips are only opened to MAGS members

Astronomers discover the moon is shrinking [continued from page 1]

The research team used the Lunar Reconnaissance Orbiter Camera (LROC), launched in 2009 aboard the Lunar Reconnaissance Orbiter, the first spacecraft to be launched as part of NASA's return to the moon initiative. This high level of detail revealed 14 lunar landforms known as lobate scarps, similar to thrust faults on Earth that result from compressional forces such as plate tectonics.

Half of the located scarps are at high latitudes ($\pm 60^\circ$), proving that they are globally distributed and not clustered near the equator as previously thought. These factors indicate "recent contraction of the whole Moon, likely due to cooling of the lunar interior," says Thomas Watters of the Smithsonian Institution's National Air and Space Museum, lead author of the paper.

Lobate scarps occur when the surface of the body experiences a compressional force, causing one part of the upper surface to fold and fracture above the other part. In the absence of significant tectonics on the moon, the researchers believe this is due to cooling of the lunar core. As the core of the Moon cooled it also shrank, applying surface stress to the brittle lunar crust and causing it to rupture and split.

It has long been thought that, on relatively small planetary bodies, the original cooling of the body very early in its history could cause a global contraction. However, in the case of the Moon, this faulting appears to have been delayed. Through analysis of the scarps' interaction with other nearby surface features of known age, including craters, the researchers infer that the Moon has contracted radially by 100 m in the past 1 billion years. This is in keeping with the "crisp, un-degraded appearance" of the scarps, which Watters says is the strongest evidence of their young age.

Lobate scarps have been observed on the surface of the Moon before, from images taken by the panoramic cameras aboard the Apollo 15, 16, and 17 missions. However, these earlier missions were confined to the equatorial zone of the Moon's surface. Using the LROC the team has managed to acquire comprehensive images of the lunar surface at higher latitudes. "I think there is a general impression that the Moon is geologically dead—that everything of geologic significance that happened to the Moon happened billions of years ago," says Watters. "Our results suggest this is not the case. The Moon may still be geologically and tectonically active and still contracting today."

SOURCE: Watters et al, Evidence of Recent Thrust Faulting on the Moon Revealed by the Lunar Reconnaissance Orbiter Camera, Science 20 August 2010: Vol. 329. no. 5994, pp. 936 - 940.

DISPLAY THEMES

SEPTEMBER-NOVEMBER 2010

We've had some very nice displays at Member Meetings so far this year. We only have a few meetings left in 2010 and we would like for you to bring your displays to share with us. Bring your display to the September, October or November meeting. Because of the holiday party, there will be no displays in December.

Here are the themes for those months. There's no penalty for not following the suggestions (you're still eligible to win a prize), but these themes are keyed to MAGS field trips that are scheduled to take place not long before these meetings.

September:

Arrowheads and other specimens found in Mississippi



October:

Quartz from Hot Springs and Mt. Ida, Arkansas

November:

Fossil Coral from Dickson, Tennessee, Honeymoon Island, Florida, and Tampa Bay



DMC October Field Trip

An Official Field Trip of
Augusta Gem & Mineral Society, Augusta, GA

Saturday, October 23, 2010 • 8:00am-5:00pm EDT

Kyanite Mining Corp., Dillwyn, VA
Willis Mountain Kyanite Mine • East Ridge Kyanite Mine

WHERE: On US 15 between Farmville and Sprouses Corner, Buckingham County, Virginia. For GPS, enter Dillwyn, VA., and Willis Mt. Plant Rd. Choose James Madison Hwy or Rt. 15 as the location. This is for the office, not the assembly area.

DIRECTIONS: From the north, at the US 60 and US 15 intersection in Sprouses Corner. Drive south on US 15 for 3 miles. Turn left on Rt. 788, Gieseke Road. This is just before you get to Willis Mt. Plant Rd. Keep straight on 788 to the scale house assembly area. Do not block any mine traffic to the scales.

From the south at the US 460 and US 15 intersection just east of Farmville. Drive north on US 15 for about 18 miles. Go past Willis Mt. Plant Rd. and turn right on Rt. 788, Gieseke Road. Keep straight on 788 to the scale house area assembly area. Do not block any mine traffic to the scales.

ASSEMBLY TIME: 8:00 TO 8:45 AM EDT at the Rt. 788 Gieseke Road scale house area for sign-in. We will have a safety briefing starting at 8:45. We will then load up and convoy a short distance to the East Ridge mine about 9:00 AM.

COLLECTING: Mostly white with some blue kyanite. (Some of the white crystals fluoresce light blue under a short wave UV lamp.) Quartz, pyrite, white muscovite, green fuchsite and red iron stained muscovite, hematite or goethite coated kyanite with some having a beautiful iridescent coating. The green apatite and trolleite are there but hard to locate. There are several other minerals such as augelite, energite, topaz, lazulite, variscite and goyazite that rarely occur. Recently we have been finding some small but beautiful rutile crystals in the East Ridge mining area.

AGE LIMIT: Everyone is welcome but children must be 6 years or older. They will not be allowed to roam around unattended and must obey all safety requirements and have all safety equipment. All pets must be under control at all times.

EQUIPMENT: Hard Hat, safety glasses, steel toe or good strong leather boots. No sneakers or sandals will be allowed. You should wear long pants and have gloves. A rock pick or mason's hammer, a 3 to 4 pound crack hammer, chisels and a really large sledge if you are serious about busting rocks. Buckets or bags, newspaper with which to wrap your finds and, of course, plenty of water, snacks and sun screen. Dress according to the weather this day and prepare for a rain shower.

CONTACTS: David Callahan, Field Trip Chairman, The Gem & Mineral Society of Lynchburg, VA. Inc. Phone: 540-297-1853, Cell: 540-874-5201 (use cell the day of the event only please) dbcall1@aol.com. Visit our web site www.lynchburgrockclub.org

This field trip is for MAGS/DMC members only. No visitors. Children are welcome.

MAGS adult programs

October 8: Dr. Gerrit Verschuur, Journey To The Top Of The World (about the polar caps). Verschuur is a radio astronomer who has written about astronomy, natural disasters, and earth sciences, among other things. He lives in Lakeland (Wikipedia says he is a Lakeland Commissioner) and is currently associated with Rhodes College. He has been an adjunct professor with U. Memphis (his wife is a U. Memphis physics professor) and has other associations.

November 12: Dr. Julie Morrow, The Sloan Dalton Cemetery (the oldest known cemetery in the Western Hemisphere). Julie Morrow is the Station Archaeologist at the Arkansas State University-Jonesboro station of the Arkansas Archaeological Survey. In addition to conducting research in Paleoindian and Mississippian archaeology, she teaches two classes each spring semester, investigate archeological sites in Arkansas in co-ordination with land-owners and the Quapaw Tribe of Oklahoma, gives public lectures, and provides information to agencies and individuals seeking knowledge about the pre-contact era of the Central Mississippi Valley. (A Google search found a book titled Sloan: A Paleoindian Dalton Cemetery in Arkansas. The description says that Sloan is a Native American burial site in northeast Arkansas that dates back 10,500 years.)

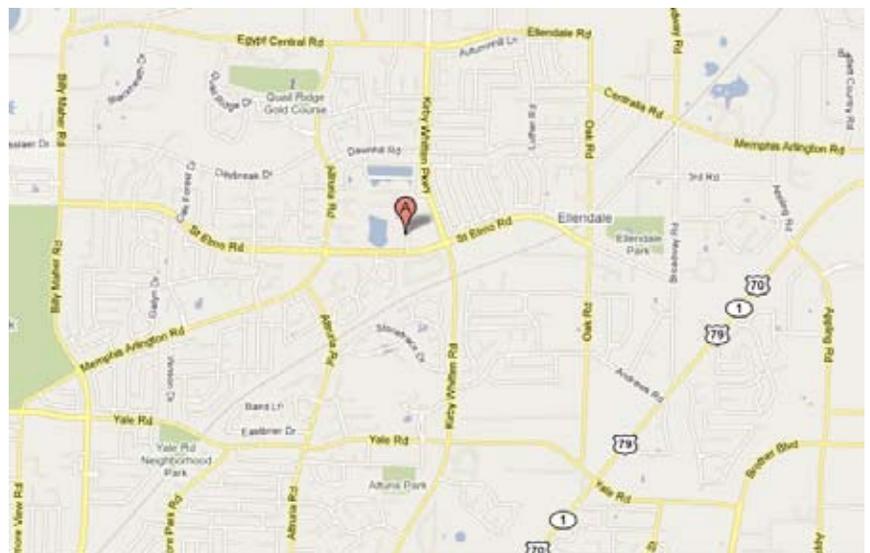
December 10: Holiday party

January 14, 2011: Guy Weaver, Prehistory On The Buffalo River In Perry County, Tennessee. Guy Weaver is Senior Archaeologist of Weaver & Associates, LLC.

October Rock Swap

Sunday, Oct 3, 1:00 to 5:00 PM at Lou White's house
3805 Melanie June Drive, Bartlett, TN 38135

Follow the map below to find your way to the home of Lou White on Sunday, October 3, from 1:00 until 5:00 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 main dish, salad, to a side dish, to chips and dip to dessert. MAGS will provide the paper plates, napkins and cutlery. Lou's number is 937.8522.



August 2010 Board Meeting Minutes

The MAGS Board of Directors met August 5 at the Agricenter International, 7777 Walnut Grove Road. The meeting was called to order at 6:20 P. M. Present were: Mike Baldwin, Ron Brister, Robert Duncan, Doris Jones, Matthew Lybanon, Neville Mayfield, W. C. McDaniel, and Alan Schaeffer. Excused: Carol Lybanon, Mark Mueller, Nannett McDougal-Dykes, and Paul Sides.

W. C. McDaniel announced that he will not be at either the Board Meeting or the Membership Meeting in October.

Secretary: The July minutes were approved as submitted.

Treasurer: Doris Jones successfully filed IRS Form 990. The July Treasurer's Report was approved as submitted, subject to audit. Alan Schaeffer requested that future reports list CD balances.

Membership: Neville Mayfield said he has not received any membership applications or dues payments for several months. He now has a computer, but is having trouble opening the updated roster that W. C. McDaniel prepared.

Field Trips: Robert Duncan reported that Ron Brister will lead the next field trip, to museums in Mississippi and Arkansas. W. C. McDaniel said he met with Robert and Mark Mueller, and mapped out the field trips for the rest of 2010. He sent out the list via email.

Adult Programs: Paul Sides is not present.

Matthew Lybanon reported that Paul is working on September-November programs, but plans are still incomplete.

Junior Programs: Alan Schaeffer reported that Lou White will present the September program (unspecified topic). This month the Juniors will join the adults for the Indoor Picnic and Rock Swap.

Show: No report.

Library: No report.

Newsletter: Mike Baldwin says he is "one click away" from posting the newsletter. That should be done tonight.

Webmaster: Mike Baldwin also expects to have website updates ready tonight.

Historian/Rock Swap: W. C. McDaniel reminded the Board that the August Membership Meeting will be the Indoor Picnic and Rock Swap. All Board Members should bring bottled water or canned soft drinks. We are asking other Members to bring various food items, of types based on their last names. Carol Lybanon and Debbie Schaeffer volunteered to make sandwiches; MAGS will pay for the ingredients. Carol also sent in a suggestion for an auction of brown bags containing unknown specimens, with proceeds going to MAGS. Lou White will host the September rock swap. The October rock swap will be the Park catfish fry.

Old Business: None.

New Business:

- It is the President's duty to appoint a three-member nominating committee. W. C. McDaniel said if he does not get three volunteers he will pick them himself (mandatory). The process starts in August, and the committee's recommendations are due in October. Alan Schaeffer and Ron Brister volunteered to serve on the committee. We need one more committee member. W. C. will make a formal announcement at the August Membership Meeting if the committee composition is complete.
- Mike Baldwin suggests scheduling a MAGS field trip next year to Aurora, NC, for shark's teeth. He says North Carolina beaches are also good for finding shark's teeth.

The meeting was adjourned at 7:00 P. M.

August 2010 Membership Meeting Minutes

Carol and Matthew Lybanon

The MAGS Membership Meeting was held at Shady Grove Presbyterian Church on August 13. 53 Members and 9 visitors were present. The visitors are Julie Lybanon, Debi Cole, Marilyn Hicks, Angie Conrad, Sutlon Herron, Tallis Herron, Judy Buckholdt, Lahta Kuyper, and Jeremy Bowen. W. C. McDaniel announced the nominating committee for Board Members to serve in 2011-2012: Ron Brister, Nannett McDougal-Dykes, and Alan Schaeffer. The committee will present a slate of candidates at the October Membership Meeting. That was the only business. The rest of the meeting was the Indoor Picnic and Rock Swap.

38th Annual Central Arkansas GEM & MINERAL SHOW October 2-3, 2010

9am-5pm
Jacksonville Community Center
5 Municipal Drive
Jacksonville, Arkansas
(Hwy 67/167 Exit 9 Main Street)

**Minerals - Fossils - Beads
Lapidary Material - Jewelry**

Sponsored By
**CENTRAL ARKANSAS GEM, MINERAL
& GEOLOGY SOCIETY**

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2009-2010

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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, 05, 06 • Adult Article 10th—04; Honorable Mention—05 (x2), 06 (x2) • 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, 2nd—06, 4th—03, 3rd—07 • Special Publication 2nd—03 • Art 77, 80, 81, 82, 86 • Junior Article 1st—03, 07 • Adult Article 1st—06, 2nd—89, 90, 04, 06; 3rd—92; 4th—85, 04, 07; 5th—91, 03, 07; 6th—87; 8th—04, 07; Honorable Mention—03, 04, 07 • Adult Poetry—07

DUES: \$25 (Family); \$20 (Single); \$10 (Junior)

Pterotrigonia thoracica Tennessee State Fossil



This small bivalve lived in the soft, clay sands of the shallow sea that encroached onto North America during the Cretaceous Period (~ 100-65 million years ago). Frequently these fossils are found in large concentrations, indicating mass die-offs, the causes of which remain unknown.

Check out more about Tennessee at <http://www.paleoportal.org/index.php?globalnav=time_space§ionnav=state&name=Tennessee>



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