

Rock Talk



March 2013

Message from the Editor

Michael Patterson

Thanks to two outgoing officers

As I assume the editorial responsibilities for *Rock Talk* with the March issue, I would like to express thanks to Jessica Dixon for six years of dedicated service to The Southern Maryland Rock and Mineral Club as its newsletter editor. *Rock Talk* has been a reliable, award-winning means of communication for members of the SMRMC. As editor, one of my responsibilities will be to continue to make improvements to the newsletter as an instrument for clear communication between members in all areas of the Earth Sciences, in particular the subjects of Geology, Mineralogy, Paleontology, and Lapidary arts.

I look forward to receiving contributions of articles, announcements of

field trips and events, field trip reports, essays, and even funny stories or poetry. I hope the new Lapidary Club will contribute to this publication on a regular basis as it continues to grow and establish its identity. Any suggestions for improvements to *Rock Talk* are welcome.

One reminder to members of the Club: The February and March Newsletters have included messages from the outgoing and incoming editors of *Rock Talk*. We should expect the April *Rock Talk* to open with a message from the new Club President. Tina League took over as President in 2010 and continued to serve reliably until the end of last year. Many thanks Tina—the Club is very fortunate to have had such a dedicated leader and example of how the

job should be done. The duties of Club President, as outlined in the by-laws, are as follows:

Article 5. Duties of Officers

Section 1. President

The President shall preside at all meetings of the Club and Executive Committee, shall appoint all committee chairmen, shall be the official spokesman for the club, and shall exert every effort to carry out the provisions of these By-Laws and perform other duties customary to the office.

Richard Simcsak, the new president, will have the support of past and present officers and any help necessary from the editor/liaison in writing messages for *Rock Talk* and in leading monthly meetings. Good luck, Richard. The gavel is yours.

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Meetings

..are held the 4th Tuesday of each month at 7:00pm.

Clearwater Nature Center 11000 Thrift Road Clinton, MD.

For more information, call Michael at (301) 297-4575.

EFMLS/AFMS News

Submitted by Michael Patterson



The EFMLS Newsletter this month has a list of classes as well as registration forms for Wildacres. There are also some tips on how to perform monotonous tasks while still focusing on safety. And you will find information and an application for *Each One Teach One* nominations. For more information on any of these articles, visit www.amfed.org/efmls



This month in AFMS news, there are some great ideas for encouraging junior rockhounds to create a Mineral Show display. There are also messages from Don Monroe (AFMS President) and Richard Jaeger (AFMS President-Elect), notes about some worthy recipients of 2012 Rockhound of the Year, and a section with numerous workshop opportunities. For more information, visit www.amfed.org

Upcoming Shows and Events

April 5-7

The 37th Annual Show of the Tar Heel Gem & Mineral Club, Inc. Show Dates & Times – April 5-7, 2013, Friday 3-8 PM, Saturday 10:00 AM -6:00 PM, Sunday 10:00 AM -5:00 PM. Free admission, free parking. Kerr Scott building, Fairgrounds, Raleigh, NC. Special raffle prize this year – Faceted Ethiopian opal & diamond ring, cut and donated by Patrick Kelly of PAK designs. Limited number of tickets printed.

April 6-7

MINERAL TREASURES AND FOSSIL FAIR, Sat., April 6; 10:00 AM – 5 PM, Sunday, April 7; 10:00 AM – 4:00 PM. Location: LuLu Temple, 5140 Butler Pike in Plymouth Meeting, PA., Fossils, Minerals, Gems, Speakers, and Exhibits. Learning Activities include a Fossil Dig and a Kid's Mineral Corner. Food, Door Prizes, and Scouting Merit Badge Information. Admission: \$5.00 adults, \$1.00 kids under 12. All uniformed Scouts are free. www.philamineralsociety.org.

May 31-June 3

The EFMLS Convention will be held on Long Island, New York. The annual convention and show will begin on Friday, May 31. Field trips are scheduled for Friday afternoon and Monday. There will be seminars, hands-on activities for children and adults, and approximately 28 vendors.



If anyone has information on any other local shows or rock events, contact Ralph Gamba at rgamba@verizon.net, so it can be included in this list.

SMRMC OFFICERS

PRESIDENT:
Richard Simcsak

VICE PRESIDENT (membership):
Polly Zimmerman

VICE PRESIDENT (Programs):
Penny Masuoka

VICE PRESIDENT (Field Trips):
Jim White

SECRETARY:
Christine Proctor

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Cheryl Reese

EDITOR
Michael Patterson

WEBMASTER
Bob Davidson

EFMLS Representative
Carl Miller

***If corrections or additions are needed, please contact Rock Talk Editor

Cover Photo Courtesy of Microsoft Office

February Minutes

By Christine Proctor

DATE: February 26, 2013

Meeting was called to order at 7:11 pm

Guests: Joyce and Jeff—joined the Lapidary Club recently.

John Pesch—studies geology and interested in gem cutting.

Jim, Robin, and Andrew are back from last year and interested in field trips.

TREASURER: N/A

MEMBERSHIP: Polly should be getting a new roster from Michael after tonight.

PROGRAMS: Tonight's program is Gem Stone Phenomenon by Mike Bolster. Refreshments are by Jennifer Kries.

March—Gary and Cindy will have a program about fluorescence and will also be providing refreshments.

We still need programs for May, June, July, October, and November. Maybe we will use some films.

FIELD TRIPS: Jim would like some suggestions for trips.

March 16th & 17th- If you join the Richmond club you can attend a trip for rhodonite at a site that has been closed for years.

March 16th & 17th- The Gem and Mineral Society Lynchburg, Inc. will be having a trip to Faber mine in the Charlottesville area. An old civil war era mine with galena, fluorite, and more. Join the club to go on their trip.

TBD- Lynchburg club/East and South East Federation Dixie Mineral Council may be going to Glendon, N.C. Mineral Co. with a limited number of people. Cubes of pyrite.

March 30th- (maybe) Chestnut Ridge from

4:00am - 8:00-10:00pm. Physical activity, hiking.

May 4th-5th- (maybe) Oregon Ridge, flint knappers, archeologists.

May 12th- Herkimer New York for 4-5 days, more details to come in March.

Utah- upcoming for late summer or fall.

EDITOR: Jessica will no longer be doing the newsletter. Michael will now be putting together the newsletter and sending it out.



Welcome, New Members

John Pesch, Upper Marlboro

Joyce Quandt, College Park, MD

Jeffrey Quandt, College Park, MD

Alicia Tarr, Brentwood, MD

Daniel O'Connell, Jr., Brentwood, MD

Joshua Berer, Hyattsville, MD

The Lapidary Lab at Clearwater Nature Center



A Brief Family History of the Dinosaur

Dr.rer.nat. Gary E. Lohman

Like most people, my fascination with dinosaurs began in childhood. From the tyrannosaurus and brontosaurus (thank you Flintstones!) to triceratops, some dinosaurs have become cultural icons, while the scads of other species that evolved in the nearly 200 million years that dinosaurs roamed the earth live in virtual obscurity.

Trying to understand the dinosaur family tree, one quickly becomes embroiled in paleontological debates requiring both a dictionary and dozens of clade diagrams that never seem to line up in the larger picture sense. That is

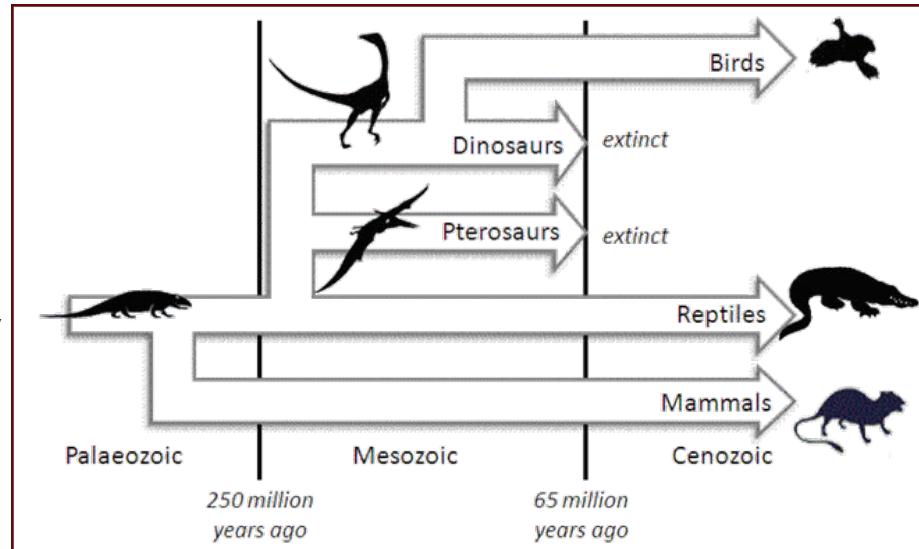
what prompted me to this current attempt to get a broad overview of the dinosaur family tree culminating with the major popular dinosaurs that most of us associate from childhood. Simplification is the basis of all models, which as E.P. Box once pointed out: all models are wrong, but some models are useful. This dinosaur family history is admittedly an oversimplification, but hopefully it is also helpful – or at least interesting.

Dinosaurs are related to reptiles, and in fact their name means “terrible lizard.” This name has proven misleading as dinosaurs are not lizards, but

rather a separate group of reptiles with a distinct upright posture not found in lizards. Furthermore, many dinosaurs did not exhibit traditional reptilian characteristics at all. Through the first half of the 20th century, before birds were recognized to be dinosaurs, most of the scientific community believed dino-

modern reptiles, the thought that dinosaurs would be like modern reptiles is naïve, as modern research has also shown. Although the dinosaurs have been extinct for about 65 million years, one part of their lineage survives in the form of modern birds. An important difference between dinosaurs and reptiles

like lizards and newts involves the arrangement of their legs. Dinosaurs' limbs were erect and held under their bodies, rather than sprawling out to the sides like those of lizards and newts. Articulating their legs directly under the body, instead of on the



saur to have been sluggish and cold-blooded. Most research conducted since the 1970s, however, has indicated that ancient dinosaurs, particularly the carnivorous groups, were active animals with elevated metabolisms and numerous adaptations for social interaction.

Some 300 million years ago, mammals and dinosaurs shared a common reptilian ancestor. The dinosaur line separates from the reptile line some 250 million years ago. The reptile line that continues today involves cold-blooded animals like crocodiles and snakes. Much in the way we are nothing like

sides, meant that dinosaurs didn't have to crawl on their bellies, but could walk and run like mammals can. By contrast, an interesting similarity is that dinosaurs had reptile-like jaws. The lower jaw articulation made it impossible to chew by moving the jaw from side to side, as we do. Carnivorous (meat-eating) dinosaurs compensated by having the lower jaw partially articulated in the middle. This allowed the jaw to wrap around objects. This made large theropods like Tyrannosaurus Rex very efficient predators. Herbivore (plant-eating) dinosaurs solved chew-

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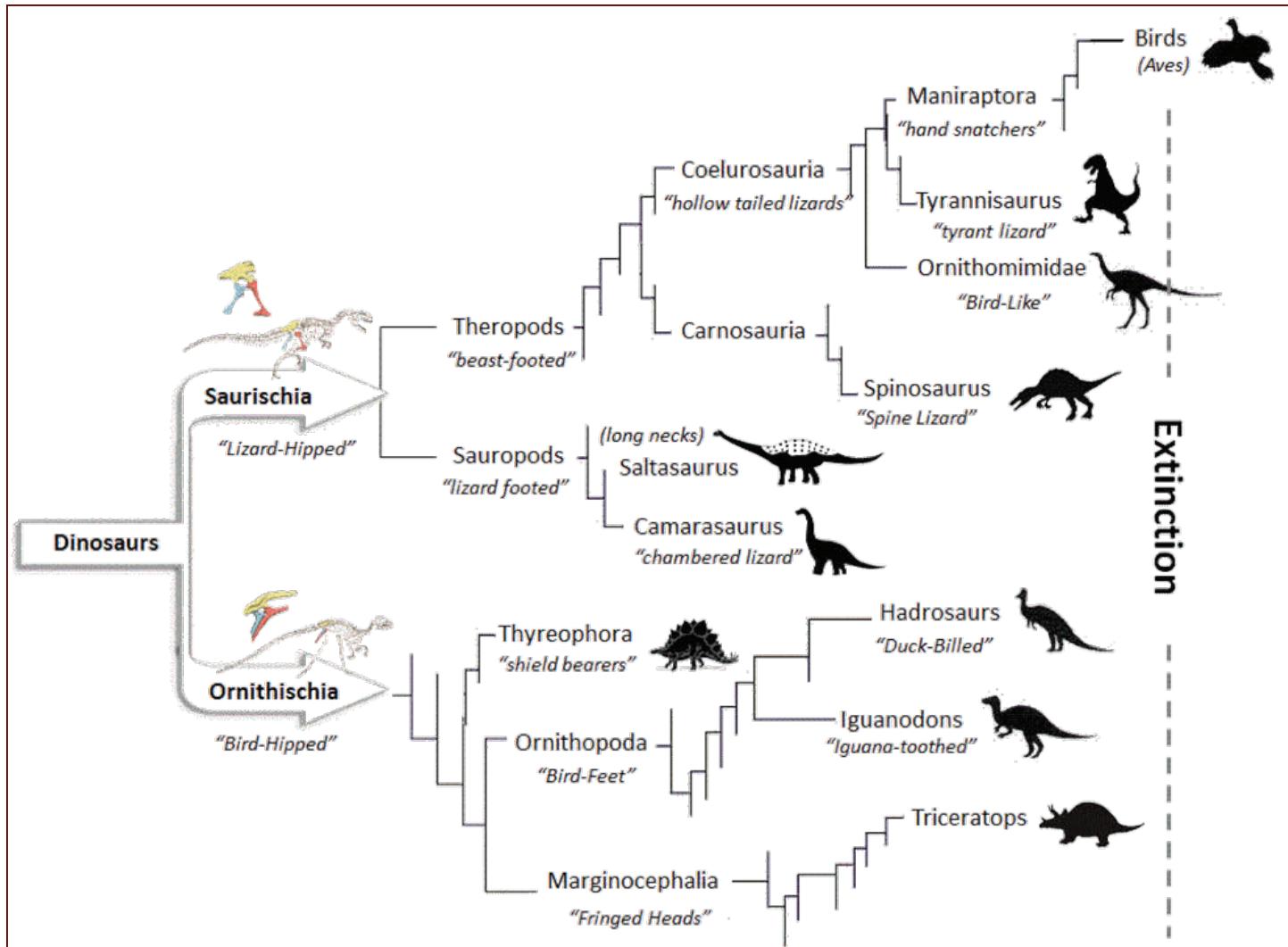
ing by having the upper jaw articulated. The upper molars could swing from side to side. Birds have inherited a mobile upper jaw. For example, parrots can bend their upper beak, increasing the dexterity of the bill.

In the nearly 200 million years

still erect, while the other line called *ornithischia* evolved with a more bird-like pelvis. Modern birds ultimately evolved from the *saurischia* line, so this is not to say one line was more bird-like than the other, but merely indicates the introduction of erect limbs and early bird-like traits.

The *ornithischia* line evolved

"head" dinosaurs are another notable member of this family that include triceratops. The *thyreophorans* or "shield bearers" are the family member known for armor in the form of bony osteoderms. This includes dinosaurs like stegosaurus, ankylosaurus, and the nodosaurids. In 2012, a fossil foot print of a nodosaurid was found at the



that dinosaurs roamed the earth, an interesting family tree evolved. The legs and thus hips became a key point of departure for dinosaurs from the reptile line. On line called *saurischia* evolved with a more lizard-like pelvis, although the limbs were

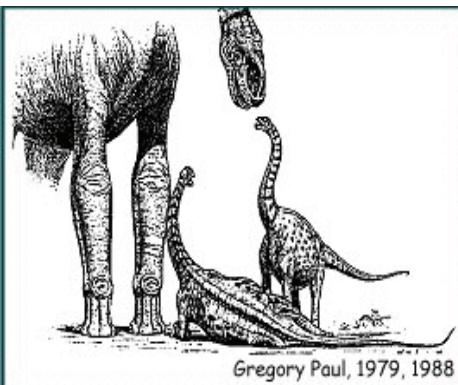
into a family of largely herbivores known for beak-like bone in the lower jaw. The *ornithopoda* or "bird-feet" dinosaurs are a notable member of this family that include the duck-billed hadrosaurs and iguanodonts. The *marginocephalia* or "fringed

Goddard Space Flight Center, in Greenbelt, Maryland.

The *saurischia* line breaks into two major lines of evolution, namely the *sauropods* and the *theropods*, which involves the

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shape of the feet. The *sauropods* or "lizard footed" dinosaurs were herbivores that had long necks, long tails, small heads (in comparison to the rest of their body), and thick, pillar-like legs. These include the *camarasaurus* or "chambered lizard" commonly found with gastroliths or gizzard stones in the Western United States, as well as the *Saltasaurus*, whose eggs and egg shells have become popular fossils. The *brachiosaurus* is also part of this group, which has become a fixture in popular culture due to the large sizes characteristic of this group of dinosaurs. Related to the *brachiosaur* is *astrodon*, whose teeth have been found in the Arundel Formation near Bladensburg, Maryland, and bones found near Muirkirk, Maryland in Prince Georges County. Named *Astrodon* in 1859 by Christopher Johnston, *Astrodon johnstoni* is



Astrodon johnstoni, the MD State Dinosaur. Adult height more than 30 ft.; length at least 50-60 ft.

today the Maryland state dinosaur. Today, visitors can visit the Muirkirk Dinosaur Park near Laurel, Maryland.

The *theropod* or "beast footed" line can become quite

involved with major sections disputed today, as dinosaurs are routinely reclassified and reordered. Therapods like modern birds had hollow bones, or bones with thinner walls than their giant saurian cousins. Therapods were primarily carnivorous, although a number of theropod groups evolved herbivory, omnivory, and insectivory tendencies. Amidst a great variety in lineage, two interesting theropod branches emerge. The *carnosauria* branch was the long-time dumping place for theropods defying other classification, but today it includes dinosaurs like *spinosaurus*, whose teeth are often found as fossils. This group includes large predatory, carnivorous dinosaurs, like *spinosaurus*, who were larger and likely even more terrifying than the more famous *Tyrannosaurus* family. Arguably the most important branch of the *theropods* involves the specialized group of dinosaurs known as *coelurosauria* or "hollow-tailed" lizards. This is a diverse family that includes the *tyrannosaurs*, the more bird-like *ornithomimidae* dinosaurs, and the *maniraptora* or "hand snatchers" that evolved into modern birds. Among the features linking theropod dinosaurs to birds are the three-toed feet, a furcula (wishbone), air-filled bones, brooding of the eggs, and in some cases even feathers.

The physiology of dinosaurs has historically been a controversial subject, especially the issue of thermoregulation, which was associated with warm-blooded mammals. New lines of evidence reveal dinosaurs to be very different from their reptilian

ancestors. From bipedalism to thermoregulation and social interaction, new research is changing our views on their respiratory and cardiovascular systems as well. As even newer research into the genetic makeup of dinosaurs from studying the rare preservation of tissue discovered progresses, I'm sure we will continue to be surprised by how advanced some of these extant members of the animal kingdom had evolved prior to their mass extinction.

Meteor injures 1,100

A meteor raced across the sky and exploded over Russia's Ural Mountains with the force of an atomic bomb on Feb. 15. Its sonic blasts shattered countless windows and injured about 1,100 people.

The meteor—estimated to be about 10 tons and 49 feet wide—entered the Earth's atmosphere at a hypersonic speed of at least 33,000 mph and shattered into pieces about 18-32 miles above the ground.

Meteor vs. meteorite: What's the difference?

Meteors are pieces of space rock, usually from larger comets or asteroids, which enter the Earth's atmosphere. Many burn up by the heat of the atmosphere; those that strike are called meteorites.

How fast do meteorites go?

They often hit the ground at tremendous speed—up to 18,642 mph.

How common are they?

Smaller strikes happen five to 10 times a year. Large impacts are rarer but still occur about every five years. Most of these strikes happen in uninhabited areas where they don't cause injuries to humans.

Field Trip Opportunities

April 13, 2013

We have been invited to join the Roanoke Valley Club at the National Limestone quarries in Mt. Pleasant Mills and Middleburg PA on April 13 at 9:00 AM (rain or shine). End time to be determined by the trip leader of the hosting club (they usually quit about 3 PM). WHEN you leave, don't forget to check in with your trip leader and let them know you're leaving. We will meet at the office/trailer at the Mt. Pleasant Mills quarry at 217 Quarry Rd., Mt. Pleasant Mills, PA 17853. Please be there by 8:45 AM. We will have to sign in, get a bucket of water, have a safety briefing and get the story on where the best stuff is being found. This is a working quarry. All safety practices MUST be followed. NO digging in walls. Often there are no berms in place here to restrain us. Remain a safe distance from the walls. ALL safety equipment is required (HARD HATS, STEEL-TOED BOOTS, GOGGLES and GLOVES). New policy: the Roanoke club asked that we bring SAFETY VESTS. There *may* be some collecting on the rip-rap/tailings piles. Remember not to roll rocks down the pile. Also, DO NOT work below or above other people. Watch the stuff you're walking on, you may dislodge it and start it rolling down on someone. As always, instructions from any quarry representative or trip leaders from ANY club (Montgomery county and Northern Virginia and at least one other club have also been in-

vited) MUST be followed.

The Mt. Pleasant Mills quarry contains Strontianite, Calcite, Dolomite and sometimes Fluorite. The Strontianite is best found by breaking open likely-looking rocks. A LARGE sledge hammer is indicated here. Also, Strontianite is DELICATE, bring appropriate materials to wrap your specimens. On the top of the hill, above the quarry we can dig for Wavellite. The Wavellite is found on chunks of limestone which have very little dirt between them. Shovels are not very effective—a garden trowel is probably a better choice (or a pry bar/digging bar). Wavellite is best found by wetting promising looking specimens. Bring a bucket and fill it with water at the office/trailer.

This is not quite as delicate as Strontianite but should be wrapped carefully, too. This is one of only three known places on earth where this mineral can be found. There are also fossils in the same pit with the Wavellite—Brachiopods and snails seem to be most common. On occasion some rarer minerals have been found here (eg. Variscite and Turquoise). The Middleburg quarry produces (fluorescent) flow stone and several minerals—Calcite and Fluorite seem to be the most abundant. Sphalerite and some other sulfides have also been found there. According to the quarry owner, an unaltered piece of coral was found on the last trip!

The quarry owner collects minerals himself and always appreciates donations of LABELED

specimens. Please look through your extras and see if you have something you can give him. Don't forget chisels and a crack hammer. Other things that might be nice to have: snacks, water, raincoat, sun block, a loupe or magnifying glass.

There are lots of field trip opportunities if you're willing to travel.

You can join the *Richmond Gem and Mineral Society* at \$12/yr (family at \$18 per year). Go to www.rgms-va.info for membership application

You can also join *The Gem and Mineral Society of Lynchburg, Inc.* at \$15/yr (2 adults at \$18.25/yr). For membership application, go to: www.lynnchburgrockclub.org. Since Lynchburg belongs to the Southeast Federation, there will be an annual trip for the Southeast Federation (a Dixie Mineral Council) trip for a limit of 120 people sometime in mid-to-late April for large pyrite crystals and small purple fluorite crystals at Glendon, NC at the Standard Minerals Company mine.

There will also be an open house at Graves Mtn., GA on April 26-28, 2013 at Lincolnton, GA for rutile, kyanite, lazulite from 8 am to 6 pm daily for a daily "donation" of \$15/person. (www.gaminerals.org)

MAGMA (Mountain Area Gem and Mineral Association) will also be there for the Graves Mountain dig. Visit www.wncrocks.com for lists of

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Field Trips

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upcoming and past trips, a great photo gallery, and trip reports of past trips. Membership is free, but there is also a "platinum" membership for \$15 (\$20 for families) that will get you more benefits and better notification and discounts on fee trips.

Another great field trip oriented rockhound organization is McRocks (www.mcrocks.com) led by Mike Streeter. It's free and Mike often leads trips for the Dixie Mineral Council (DMC). His website has hundreds of trips with trip reports and photos over the USA—with emphasis on Western North Carolina.

SUPER DIG, Ogdensburg, NJ

Saturday, April 27, 9 AM-11PM

- Take a private tour of the newly opened historic Trotter Tunnel. Tours given by Iron Miners members.
- For this event ONLY, take a Tour of the Upper Mine and Mill where you will receive a "Last day of operation" ore specimen right off the conveyor belt (*certificate included*).
- The ever-popular Blackout Tour of the Mine "Tunnel of Love" (safety glasses required).
- See the nighttime illumination of the famous "Fluorescent Wall" in the Fill Quarry.
- Collect minerals in all 3 collection areas on the property.

For more information:

www.sterlinghill.org/superdig/index

23rd Annual Mineral, Jewelry, & Fossil Show at The Show Place Arena

Michael Patterson

The 23rd Annual Mineral Jewelry and Fossil Show was held at The Show Place Arena on February 16, from 10am-5pm. This was the fourth year at our new location and it appears we have a loyal following.

For the first time, we didn't share the arena with the Silverado Gun Show and over 500 rockhounds came to our event to explore a wide variety of natural wonders. Many came just to observe the beautiful rock, mineral, fossil, and jewelry specimens. Others purchased items from vendors selling an array of minerals, fossils, and jewelry at more than 100 tables.

There were over 30 vendors from 6 different states: Maryland, Virginia, Pennsylvania, New York, New Jersey, and North Carolina.

Lorna Larson gave demonstrations of bead weaving and wire wrapping and Dave Lines again dipped into a mini-stream to demonstrate gold panning in the after-

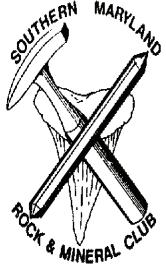
noon. Dave also hosted a Kid's Corner with a prize wheel and mineral giveaways for young geology enthusiasts. Gary and Cindy Lohman's set up a fluorescent rock display and they were eager to discuss the many impressive glowing specimens.

Staff from the nature center grabbed the interest of scouts and other youngsters with geology activities and a Mini-Mine dig for a keepsake rock or fossil specimen. Kids collected shark's teeth and rocks donated by various club members.

Jim White and Polly Zimmerman generously offered their time and worked the PA system to distribute all the door prizes by the end of the day. Other club members (too many to mention) volunteered their time to help with advertising the show, table set-up, and tasks needed on the day of the event. Thanks for helping to make the show a success. We look forward to working with you again in 2014.



Club member Dave Lines (photo by Al Rauchisen)



ROCKTALK

Clearwater Nature Center
Maryland-National Capital Park &
Planning Commission
11000 Thrift Road
Clinton, MD 20735
301-297-4575

[We're on the web:
SMRMC.org]

**Next Meeting
March 26, 2013
7:00 PM**

**March
Refreshments/
Programs**

Refreshments:

Gary and Cindy Lohman

Program:

The Fascination and Science of
Fluorescent Minerals, Gary Lohman