Southern Maryland Rock and Mineral Club

Rock Talk

September, 2018

Next Meeting:
September 25, 2018@7:00 PM

Program:
TBD
Joe Davis

Refreshments
Paula Davis

Clearwater Nature Center, 11000 Thrift Road, Clinton, MD.

In this issue:

Upcoming Program Speakers

September 25- Joe Davis

October 23- Geode Cracking with Jim White

November 27- Other Hobbies

December (TBD)

Refreshments

September 25- Paula Davis

October 23- Cheryl Reese

November 27- TBD

December- Pot Luck

Upcoming Shows and Events: 2018

September 29-30, 2018 - Franklin, NJ - 62nd ANNUAL FRANKLIN-STERLING GEM & MINERAL SHOW, Sponsored by the Franklin Mineral Museum and the Franklin-Ogdensburg Mineralogical Society. **NEW LOCATION**: Littell Community Center (formerly the 'Armory'), 10 Munsonhurst Road #12, Franklin, New Jersey.

October 6, 2018 - Macungie, PA - Autumn Mineralfest, sponsored by the Pennsylvania Earth Sciences Association, Inc., 8:30 AM to 3:00 PM, Macungie Memorial Park, Macungie, Pennsylvania.

October 13 & 14, 2018 – **Cherry Hill, NJ - 1st Annual South Jersey Gem & Mineral Show.** 1721 Springdale Road, Cherry Hill, NJ.

October 19-21-- Baltimore, MD -- 62nd Annual Desautels Micromount Symposium, The Friends School of Baltimore, 5114 North Charles St; Baltimore, MD.

ITEMS WANTED/FOR SALE

For Sale – Virginia unakite slabs (approx ¼ inch thick) – $0.50 per square inch (this is half off regular price). Call Dave (240) 427-7062.

For Sale – SMRMC t-shirts for sale: size small (1) at $9.00; medium (2) at $5.40 each, large (5) at $9.00 each, and xtra-large (2) at $9.00 each. Contact Tina @ htleague@comcast.net

Rocks, Minerals, and Fossils in the News

Why Museums Need to Digitize Fossils to Understand Past Mysteries

By Charles Marshall, The Conversation

https://www.inverse.com/article/49060-digitizing-dark-data-in-museum-fossil-collections

The great museums of the world harbor a secret: They're home to millions upon millions of natural history specimens that almost never see the light of day. They lie hidden from public view, typically housed behind or above the public exhibit halls, or in off-site buildings.

What's on public display represents only the tiniest fraction of the wealth of knowledge under the stewardship of each museum.

Beyond fossils, museums are the repositories for what we know of the world's living species, as well as much of our own cultural history.

For paleontologists, biologists, and anthropologists, museums are like the historians' archives. And like most archives — think of those housed in the Vatican or in the Library of Congress — each museum typically holds many unique specimens, the only data we have on the species they represent.

The uniqueness of each museum collection means that scientists routinely make pilgrimages worldwide to visit them. It also means that the loss of a collection, as in the recent heart-wrenching fire in Rio de Janeiro, represents an irreplaceable loss of knowledge. It's akin to the loss of family history when a family elder passes away. In Rio, these losses included one-of-a-kind dinosaurs, perhaps the oldest human remains ever found in South America, and the only audio recordings and documents of indigenous languages, including many that no longer have native speakers. Things we once knew, we know no longer; things we might have known can no longer be known.

But now digital technologies — including the internet, interoperable databases, and rapid imaging techniques — make it possible to electronically aggregate museum data. Researchers, including a multi-institutional team I am leading, are laying the foundation for the coherent use of these millions of specimens. Across the globe, teams are working to bring these "dark data" — currently inaccessible via the web — into the digital light.

Researchers must travel to visit non-digitized specimens in person, not knowing what they will find – if they're even aware of their existence.

What's Hidden Away in Drawers and Boxes

Paleontologists often describe the fossil record as incomplete. But for some groups, the fossil record can be remarkably good. In many cases, there are plenty of previously collected specimens in museums to help scientists answer their research questions. The issue is how accessible — or not — they are.

The sheer size of fossil collections, and the fact that most of their contents were collected before the invention of computers and the internet, make it very difficult to aggregate the data associated with museum specimens. From a digital point of view, most of the world's fossil collections represent "dark data." The fact that large portions of existing museum collections are not computerized also means that lost treasures are waiting to be rediscovered within museums themselves.

High-resolution photos are an important part of the digitization process.

With the vision and investment of funding agencies such as the National Science Foundation (NSF) in the United States, numerous museums are collaborating to digitally bring together their data from key parts of the fossil record. The University of California Museum of Paleontology at Berkeley, where I work, is one of 10 museums now aggregating some of their fossil data. Together through our digitized collections, we are working to understand how major environmental changes have affected marine ecosystems on the eastern coast of the Pacific Ocean, from Chile to Alaska, over the last 66 million years.

The digitization process itself includes adding the specimen's collection data into the museum computer system if it hasn't already been entered: its species identification, where it was found, and the age of the rocks it was found in. Then, we digitize the geographic location of where the specimen was collected, and take digital images that can be accessed via the web. The Integrated Digitized Biocollections (iDigBio) site hosts all the major museum digitization efforts in the United States funded by the current NSF initiative that began in 2011.

Team members entering information about each fossil into a centralized database.

Significantly, the cost of digitally aggregating the fossil data online, including the tens of thousands of images, is remarkably small compared with the cost it took to collect the fossils in the first place. It's also less than the expense of maintaining the physical security and accessibility of these priceless resources — a cost that those supposed to be responsible for the museum in Rio apparently were not willing to cover, with disastrous consequences.

Our group, called EPICC for Eastern Pacific Invertebrate Communities of the Cenozoic, quantified just how much "dark data" are present in our joint collections. We found that our 10 museums contain fossils from 23 times the number of collection sites in California, Oregon and Washington than are currently documented in a leading online electronic database of the paleontological scientific literature, the Paleobiology Database.

EPICC is using our newly digitized data to piece together a richer understanding of past

ecological response to environmental change. We want to test ideas relevant to long- and short-term climate change. How did life recover from the mass extinction that wiped out the dinosaurs? How did changes in ocean temperature drive marine ecosystem change, including those associated with the isolation of the cooler Pacific Ocean from the warmer Caribbean Sea when the land bridge at Panama first formed?

To answer these questions, all the relevant fossil data, drawn from many museums, needs to be easily accessible online to enable large-scale synthesis of those data. Digitization enables paleontologists to see the forest as a whole, rather than just as a myriad number of individual trees.

In some cases – such as records of past languages or the collection data associated with individual specimens – digital records help protect these invaluable resources. But, typically, the actual specimens remain crucial to understanding past change. Researchers often still need to make key measurements directly on the specimens themselves.

For example, Berkeley Ph.D. student Emily Orzechowski is using specimens being aggregated by the EPICC project to test the idea that the ocean off the Californian coast will become cooler with global climate change. Climate models predict increased global warming will lead to stronger winds down the coast, which will increase the coastal upwelling that brings frigid waters from the deep ocean to the surface — the cause of San Francisco's famous summer fogs.

The test she's using relies on mapping the distributions of huge numbers of fossils. She's measuring subtle differences in the oxygen and carbon isotopes found in fossil clam and snail shells that date to the last interglacial period of Earth's history about 120,000 years ago, when the west coast was warmer than it is today. Access to the real-life fossils is crucial in this kind of research.

Once digitized, information about a fossil is available worldwide, while the specimen itself remains available to visiting researchers to make crucial observations or measurements.

Understanding response to past change is not just restricted to fossils. For example, nearly a century ago the director of the Museum of Vertebrate Zoology, Joseph Grinnell at the University of California, Berkeley, undertook systematic collections of mammals and birds across California. Subsequently, the museum re-surveyed those precise localities, discovering major changes in the distribution of many species, including loss of many bird species in the Mojave Desert.

A key aspect of this work has been a comparison of the DNA from the almost hundred-year-old museum specimens with

DNA of animals alive today. The comparison revealed serious fragmentation of populations, and led to the identification of genetic changes in response to environmental change. Having the specimens is crucial to this kind of project.

This digital revolution is not just restricted to fossils and paleontology. It pertains to all museums collections. Curators and researchers are enormously excited by the power to be gained as the museum collections of the world – from fossils to specimens from live-caught organisms – become accessible through the nascent digitization of our invaluable collections.

Photos via Smithsonian Institution, CC BY-NC-SA, Deniz Durmis, contract photographer for the Natural History Museum of Los Angeles County, CC BY-NC-SA, Unsplash / Justyn Warner

Michigan Man Discovers Strange Glowing Rocks In The Upper Peninsula

Trevor NaceContributori

https://www.forbes.com/sites/trevornace/2018/09/17/michigan-man-discovers-strange-glowing-rocks-in-the-upper-peninsula/#8f1feab23ffa

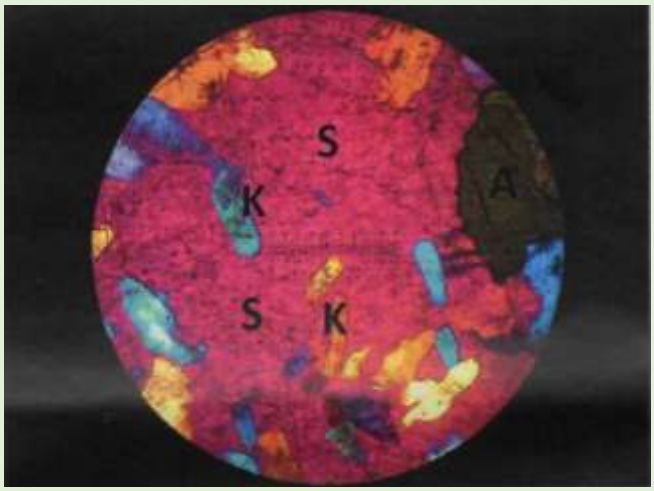
A Yooperlite found in Michigan's Upper Peninsula.ERIK RINTAMAKI

A Michigan man made the discovery of a lifetime when he stumbled on glowing rocks on the beaches of Lake Superior. The rocks, which he named "Yooperlites" emit an eerie glow, appearing to be partially molten rock.

Rintamaki, a gem and mineral dealer, made this discovery after hunting for rocks in Michigan's Upper Peninsula, bringing with him a black light. The black light helps illuminate the glowing rocks, which he says litter the Lake Superior beach.

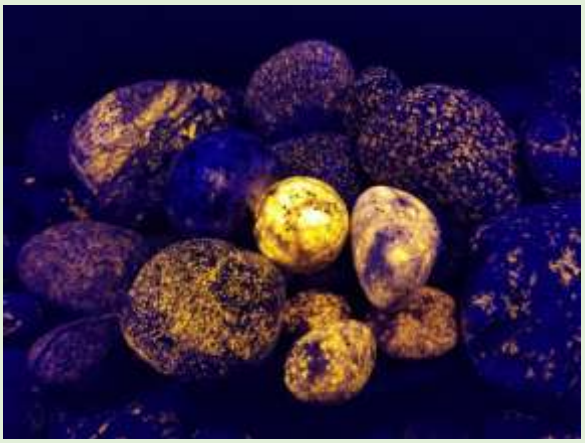
Rintamaki self-named the rocks "Yooperlites" in honor of the endearing nickname "Yooper" for people who live in Michigan's Upper Peninsula.

The Yooperlites were investigated by both Michigan Tech Universityand the University of Saskatchewan. They determined the rocks are "syenite clasts containing fluorescent sodalite." To break this down, the rock is made up of fragments of coarse-grained igneous rocks, with a similar composition to granite. What makes these rocks special is the inclusion of fluorescent sodalite.



A polished thin section of a Yooperlite showing its unique mineralogy.
HTTPS://WWW.YOOPERLITES.COM/IMG/YOOPERLITE_SODALITE_DISCOVERY_PAPER.PDF

The mineral sodalite will fluoresce under longwave ultraviolet illumination, creating the glowing yellowish orange veins of Yooperlites. Scanning Electron Microscope (SEM) analysis at Michigan Technological University confirmed the fluorescent mineral is sodalite. While syenites are common in Michigan, these are the first documented sodalites found in the state of Michigan.



YooperliteERIK RINTAMAKI

The research team believes the Yooperlites are not native to Michigan but were originally sourced from the Coldwell Alkaline Complex in Ontario, Canada. The Yooperlites were then likely transported south via continental glaciation and made their way into Lake Superior. Sodalite was first discovered in Greenland in 1811 but became popular after the gemstone was found in Ontario, Canada in 1891. The mineral is a deep blue color and visually looks similar to lazurite and lapis lazuli.

SodaliteWIKIPEDIA

Since discovering Yooperlites Rinktamaki has upgraded his UV light equipment and now books tours to help people find their own Yooperlite on Michigan's shores in addition to selling them on eBay. Rinktamaki hopes that he can bring people from around the world and of all ages to discover Yooperlites and other incredible rocks and minerals that are found along Michigan's shores.

I am a geologist passionate about sharing Earth's intricacies with you. I received my PhD from Duke University where I studied the geology and climate of the Amazon. I am the founder of Science Trends, a leading source of science news and analysis on everything from climate.

Trip Report for National Limestone Middleburg, PA Quarry

by Dave Lines (Photos by Rick Simcsak and Ross Elliot)

“Imagine a large 3 foot tall mound of very sparkly clear to white crystals topped with deep purple…. And when the sun shone, they reflected thousands of little flashes of light. It was gorgeous!”

That is exactly what “we” --- as a group of 8 (Alyson, Rich, Tim S., John and his son Ian V., Sondra, Tom Z. and Dave)) from our Southern Maryland Club and 13 from our sister Delaware Mineral Society --- collectively gathered at the Middleburg Quarry owned and operated by National Limestone in Middleburg, Pennsylvania. I estimate that we took several tons of beautiful calcite crystals. And since nearly all were found in clusters in cavities inside a matrix of gray and/or tan limestone, there was little to

no damage to these specimens. They were abundant and the rockhounding was super. Yes, most required some sledge hammer and chisel work, but the calcite crystals could be found just about everywhere --- either in piles of large boulders or in the rock around the berms or simply laying around the edges.

At the safety briefing by owner Eric Stahl, he said that the calcite crystals at Middleburg quarry were plentiful and he was right. He led our caravan of about 10 vehicles into the lower level of the quarry about 9:15 a.m. and we immediately started finding crystals. In some places, the host rock limestone was riddled with cavities filled with calcite crystals ranging from druzy to one inch in size with the average single crystal being about ¼ inch. We broke open the boulders and collected huge amounts of calcite. I saw several pickup trucks beds completely covered with specimens in hunks of matrix up to 2 feet across.

There was also massive calcite in the form of seams 2 to 4 inches thick. And that is where the "purple" came from. It was fluorite. Dark purple and bigger than I have ever seen it there. Ross --- one the DMS guys --- found a motherlode protruding from the edge of a big boulder in one of the piles. He worked on it diligently for over an hour and extracted several great specimens with large 1 to 2 inch cubes of fluorite. The cubes were laced with white lines of calcite, so they were not easily extractible because they would fall apart in acid. Nevertheless, they were very pretty specimens as is.

After Ross finished collecting what he could, he gave the boulder to Tom (DMS trip leader) and Tom chiseled on it for quite a while. When I found Tom to ask him about moving to the other quarry, he invited me to help --- and the two of us started pounding and chiseling on the boulder which was wedged between 2 larger boulders. We could clearly see the seam of massive calcite which contained the fluorite. Our goal was remove the surrounding limestone matrix and extract the calcite seam in one piece. With some carefully aimed whacks from my 20 pound sledge, we created a crack through the entire boulder. Then we inserted chisels into the crack and gently, but firmly started widening the crack until the boulder split in half --- leaving part of it still between the other boulders, while the other half fell to the ground. About 10 minutes later, we had the entire calcite-fluorite seam out and we broke

it into pieces and gave some to everyone who wanted some.

Interestingly, while we were breaking apart that boulder, Tim S. of our club found similar excellent specimens just laying loose about

100 yards away. He did it the (much) easier way. Nice going Tim! At about 1:00 p.m., we all caravanned to the Mount Pleasant Mills quarry, but we were very disappointed as there was not much to collect. Several folks drove around to the backside of the ridge to collect wavellite, but it, too, was very scarce. At 2:00 p.m., the part of our Southern Maryland group who remained in the main quarry decided to start our 4 hour drive back to Southern Maryland. I had an email later from Tom who said everyone else decided to call it quits at 3:00 p.m..
Overall, it was another great trip. Hope you can join us on the next one.

Member's Finds

Typical calcite specimens from the National Limestone Quarry in Middleburg, PA. Photos and specimens collected by Tom Zunino.

Collected any interesting specimens? Send a photo or two to the editor at bmorebugman@yahoo.com for inclusion in the next issue of Rock Talk.

OFFICIAL COMBINED MINERAL COLLECTING FIELDTRIP

THE GEM AND MINERAL SOCIETY OF LYNCHBURG, VA INC. (HOST)

An official Fieldtrip of the Southern Maryland Rock and Mineral Club

KYANITE MINING CORP., DILLWYN, VA. – ANNUAL FIELDTRIP

WILLIS MOUNTAIN KYANITE MINE

Saturday, September 29, 2018

9:00 AM to 1:00 PM

Sign-up is required, Please email me or sign-up at the meeting. If you cancel, notify me to be taken off the list as space may be limited due to the expanded list of clubs now participating in this annual event.

Note: Please sign up early because I must forward a list of attendees to the Lynchburg VA club by 9-20-18. There is a limit of 150 collectors from all clubs.

SAFETY: Everyone must arrive at the office parking lot *no later than 8:30AM* to sign the release form and hear the required safety briefing. *Each Club field trip leader, and/or their appointed representatives, will act as safety observers while in the mine and will be expected to be on the lookout for and correct all safety infractions from any collector from any club.* Keep in mind that this site is one of the very few that are still open for collecting**. Not obeying all the safety rules will cause this site to be closed to all future collecting.** *If you have any medical condition that would put you in any danger, do not attempt this trip. For your own safety, let your field trip leader or collecting buddy know if you have any medical condition that could be a problem for you.* **Be prepared for windy, hot or wet weather.** Also bring drinking water and stay hydrated.

DRIVING FROM Southern Maryland: Mine office physical address: 10830 James Madison Hwy., Dillwyn, VA. …. Or Follow I-95 south to I-295 west toward Charlottesville to I-64 to VA Rt 288 south to US Rt 60 west. Continue on US 60 (West) to Sprouses Corner. Turn left on US 15 South and drive 4 miles to Willis Mt. Plant Road. Turn left and stop at the stone mine office building on the right. Park out of the way as not to block traffic. Please do not park along Rt. 15. Allow 4 hours driving time from Southern Maryland to the mine office.

ASSEMBLY TIME: Meet at the mine office for sign-in and safety instruction --- *no later than 8:30am*. Please wait in the parking lot and do not block traffic. Commercial trucks may be using the road. While you're waiting, be sure to enjoy the beautiful blue kyanite boulder in the front yard from the old closed Baker Mountain. Barricades will block us from driving in restricted areas. Access to all plant operation areas is prohibited.

COLLECTING: Willis Mountain is a "monadnock". The kyanite exposure resisted weathering and, as the surrounding area was eroded and weathered away, the mountain outcrop was left standing. This is very much like the famous Graves Mountain kyanite mine in Georgia. The center of the mountain has been mostly mined away. We should be able to find plenty of white kyanite blades in the massive kyanite quartzite; pyrite; quartz; hematite; iridescent hematite; red mica, green mica, apatite and possibly some blue kyanite and pale green trolleite. Some of the white kyanite and quartz here have a beautiful light blue fluorescence and the apatite is yellow so bring your short wave lamp and blackout cloth.

SAFETY Clothing Required: Each person must WEAR a Hard Hat with a mfg. date of 5 years or less [no bicycle helmets], safety glasses, steel toed boots [ONLY STEEL OR MSHA (Federal Mine Safety and Health Act) APPROVED REINFORCED FIBERGLASS TOED BOOTS WILL BE ALLOWED; No low quarters or

sneakers even if they have steel or composite toes], gloves, long pants. If you do not have all the required safety equipment, you will not be allowed to enter the quarry.

Additional Safety Requirement: Wheel Chocks --- each time you park your vehicle in the mine, please set your parking brake and chock your wheels using wheel chocks (purchased, homemade or use a rock).

Recommended Collecting tools: Geologist pick, small chisels, 3 or 4 pound crack hammer, old newspaper to wrap specimens, buckets. Optional: sledge hammer, 6 foot pry bar, larger chisels. We can drive into the designated collecting area, so hand trucks are not needed. Please bring a camera and take some pictures of the mine and our collecting for our newsletter and website. The view from the mine (on a mountain top) is awesome.

AFTER THE DIG SOCIAL: The pavilion beside the mine office will be available immediately after the dig ends at 1PM to relax, cool off eat your lunch. This will also be a social get together so that we can have a chance to become better acquainted with the members of our rock club neighbors and to provide some time to relax before their long ride home. You might want to bring your own lawn chair. There may also be other groups there as invited guests of Kyanite Mining. There might be a brief program on the mine and a lab tour.

AGE LIMIT: Minimum age limit is 8 years old. All children must be signed for, closely supervised by an adult and never left un-attended. They must also wear all the required safety equipment. No Exceptions.

WEATHER: The trip may be canceled for safety concerns in case of hard rain or a thunderstorm. Call to confirm if there is any question.

CONTACT: Dave Lines , cell 240-427-7062, Field Trip Chairman for the Southern Maryland Club, email: dave.lines@earthlink.net

The 27th Annual Richmond Gem & Mineral Society Rock Sale and Swap

Saturday, November 10, 2018

9:00 a.m. - 3:00 p.m.

The Rock Sale/Swap is indoors (overflow will be in the parking lot), so come rain or shine!
Open to children and adults (from novice to expert) to purchase or trade (swap) mineral, gem, fossil, shell, and lapidary specimens.

Ridge Baptist Church Meeting Hall
1515 East Ridge Road, Richmond, VA 23229

- Doors open at **7:00** a.m. for inside setup. Inside table fees are $20.00 per table (regardless of 6'or 8' table size) and are limited (44 total tables). RGMS will provide all interior tables which are a mix of 6' and 8'.
- Parking lot spaces are $20 for approximately 6 spaces and you must provide your own tables.
- Everyone please bring your own table coverings.

To register for a table(s) or exterior space, please download the registration form and mail (with fee) to the address listed on the form. We suggest a **2** table limit. Table reservations are based on "first received, first assigned".

ALL PARTICIPANTS - PLEASE LABEL YOUR MATERIAL Please have at least one flat of good material specifically labeled for children and novice collectors for swap (trade) or give away. Promote the hobby!

To defray sale/swap costs, RGMA asks that each seller/swapper provide a least one nice specimen or similar item for our annual auction. Please no junk !

Food and beverages are available at near-by restaurants. Restroom facilities are available in the building.

FOR MORE INFORMATION CONTACT: Andy Dietz (**dietziv@yahoo.com**)

DIRECTIONS: Since 1998 the swap has been at this location in Henrico County near Regency Square Mall and Douglas S. Freeman High School.

North or South of Richmond, Virginia:

Use I-95 to Exit 79 to I-64 West (North of Richmond City).
Leave I-64 at Exit 181A (South) on Parham Road.
Proceed south on Parham Road for about 1.5 miles and TURN LEFT ONTO EAST RIDGE ROAD. (A right turn at this intersection takes you onto Quioccasin Road to Regency Square Mall).
The Ridge Baptist Church and Meeting Hall are 400 feet on the right, across from Kroger's Grocery.
MEETING HALL IS THE WHITE BUILDING at the rear of the parking lot.
There is ample parking in front of the Meeting Hall. Swap signs will mark both entrances.

East or West of Richmond, Virginia

Use I-64 to Exit 181A
(South) and follow the directions above.

Richmond Gem and Mineral Society (RGMS)
27th Annual Sale and Swap

REGISTRATION FORM

NAME

_____

ADDRESS

_____

EMAIL ADDRESS _____

TELEPHONE NUMBER _____

NUMBER OF TABLES ($20 EACH) _____

PLEASE MAKE CHECKS OUT TO --

RICHMOND GEM AND MINERAL SOCIETY (RGMS)

MAIL REGISTRATION FORM WITH FEE TO --

ANDY DIETZ
12417 GLEN CARRIE ROAD
ASHLAND, VA 23005

The Southern Maryland Rock and Mineral Club

Meetings take place on the 4th Tuesday of each month at 7:00pm

Clearwater Nature Center, 11000 Thrift Road, Clinton, MD.

For More information, call:

(301) 297-4575

We're on the web:

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