Southern Maryland Rock and Mineral Club

Rock Talk

October, 2018

Next Meeting:
October 23, 2018@7:00 PM

Program
Mt Ida Quartz Championship Dig
SMRMC Participants

Refreshments
Cheryl Reese
Clearwater Nature Center, 11000 Thrift Road, Clinton, MD.

Upcoming Program Speakers

October 23- Mt Ida Quartz Dig

November 27- Other Hobbies

December (TBD)

Refreshments

October 23- Cheryl Reese

November 27- TBD

December- Pot Luck

In this issue:

Upcoming Shows and Events: 2018	2
Items Wanted/For Sale	2
Rocks, Minerals, and Fossils in the News	2
Crystals!, Crystals!! Everywhere! Everywhere!! Mt Ida 2108	5
Willis Mountain Field Trip	6
Blue Barite from the Wide Open Spaces of Colorado	6
Member's Finds	9
Richmond Gem and Mineral Society Annual Notice	10

Upcoming Shows and Events: 2018

November 17-18: Fairfax, VA. 27TH Annual Gem, Mineral & Fossil Show sponsored by the Northern Virginia Mineral Club. The HUB Ballroom, George Mason University, 4400 University Dr.

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

Discovery of reidite, one of the rarest minerals on Earth, may reveal Australia's biggest crater

By Ben Gubana and James Carmody

https://www.abc.net.au/news/2018-10-16/rare-mineral-reidite-found-in-woodleigh-meteorite-crater-in-wa/10382888

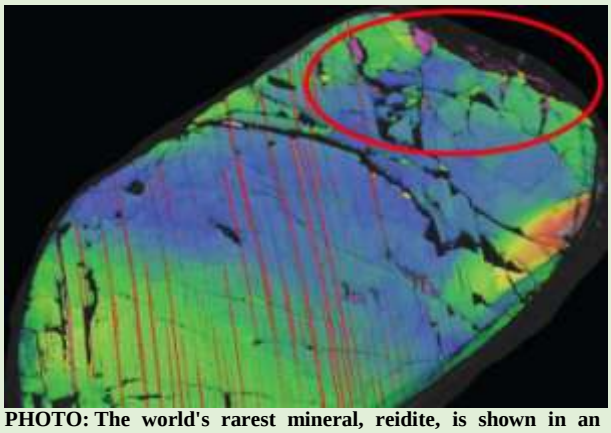


PHOTO: The world's rarest mineral, reidite, is shown in an "electron diffraction" image highlighted by the colour purple. (Supplied: Morgan A Cox)

Researchers have discovered one of the rarest minerals on earth buried deep within an ancient meteorite crater in Western Australia.
Key points: (1) Reidite is only created when rocks carrying zircon slam into Earth from space; (2) The mineral has only been found six times in history; (3)The discovery could confirm the biggest meteorite impact crater ever found in Australia.
The ultra-rare mineral known as reidite was found deep within the long buried Woodleigh Crater near Shark Bay, approximately 750 kilometres north of Perth. The reidite is only formed under the extreme pressure created when rocks from outer space slam into the Earth's crust.

It is only the sixth time the mineral has been discovered on Earth. The findings were published last month in the journal Geology.
Curtin University research supervisor Aaron Cavosie said reidite started life as a far more common mineral — zircon — and only transformed into reidite during the pressure of impact. "Finding reidite at Woodleigh was quite a surprise as it is much rarer than diamonds or gold, though unfortunately not as valuable," he said.

The discovery has indicated Woodleigh Crater may be much larger than previously estimated and could reveal it to be the largest impact crater in the country. Woodleigh has long been buried beneath younger sedimentary rocks, so its size is not yet known and remains hotly debated.

Previous research estimated the crater to be between 60–120km in diameter. If Woodleigh is found to have a diameter of more than 100km it would be classified as the largest impact crater in Australia. "There are not many impact craters on earth that are larger than 100km in diameter," Dr Cavosie said.

"The significance is that once they get to be much larger than 100km in diameter they enter a class of impact event that are large enough to cause mass extinctions and influence biological evolution. For instance, the large impact crater in Mexico that is contributed to causing the demise of the dinosaurs 65 million years ago is 180km in diameter." "And that one is not even twice as large as what Woodleigh may be."

The discovery was made after researchers drilled core samples from the centre of the crater, in a region known to geologists as the central uplift. "Central uplifts are desirable targets for learning about impact conditions," Dr Cavosie said. "They bring profoundly damaged rocks closer to the surface and in some instances are associated with exploration targets." Dr Cavosie said the discovery was made by chance by one of his honours students, Morgan Cox. "Morgan's worked on a couple of different projects for her thesis," he said. "In this one we decided to examine the mineral zircon and how it responds to the high pressures created during meteorite impacts. "The wild thing is that the drill core had been sitting in the core shed for the Geological Survey of Western Australia for almost 20 years before we examined it and identified that reidite was present."

PHOTO: A drill core sample lay untouched for 20 years before the reidite discovery. (Supplied: Aaron J Cavosie)

Dr Cavosie said the amount of reidite that has been discovered worldwide was microscopic.
"I'm going to guess that the whole of the reported reidite in the history of geology would sit under your finger nail," he said.
"It's like this — things have values other than in dollars there's no commercial value of reidite.

"But from a scientific point of view it's a priceless mineral, in terms of what it allows you to understand about the bigger picture."
Monash University Associate Professor Andy Tomkins said reidite was only to be found on the Earth's surface. "You wouldn't really get it anywhere else," he said. "Even meteorites wouldn't have it despite the fact that they are full of impact signs because you don't get big enough impacts between different asteroids.

"You need to have quite high pressures to form reidite, so it can only form in impact craters about a certain size."

OLDEST EVIDENCE OF ANIMAL LIFE DISCOVERED IN 635-MILLION-YEAR-OLD FOSSILS

BY HANNAH OSBORNE

https://www.newsweek.com/oldest-animal-life-discovered-635-million-year-old-fossil-1171769

The earliest evidence of animal life on Earth has been discovered as scientists have found biomarkers they believe belongs to an ancient species of sponge dating back 635 million years. There is evidence to suggest life first emerged around 3.7 billion years ago. Fossilized structures, discovered in Canada in 2017, were believed to be microorganisms predating the next most ancient life form by around 300 million years. However, these ancient organisms were extremely simple. It would be billions of years before the Cambrian explosion—an evolutionary burst around 540 million years ago, when animal life began appearing in the fossil record.
But when exactly did the first animal life appear on Earth?

Research published in *Nature Ecology and Evolution* now suggests it was thriving at least 635 million years ago. Scientists led by Gordon Love, from the University of California Riverside, have discovered a steroid compound in ancient rocks and oils that could only have been produced by sponges—known to be some of Earth's earliest forms of animal life.

Earth's Pacific Ocean seen from the International Space Station. It is not clear exactly when animal life first emerged on Earth.NASA

Alex Zumberge, first author on the study, said the very first sponges to appear on Earth were probably extremely small and did not have a skeleton. This means they did not leave behind an easily recognizable fossil. "We have been looking for distinctive and stable biomarkers that indicate the existence of sponges and other early animals, rather than single-celled organisms that dominated the earth for billions of years before the dawn of complex, multicellular life," he said in a statement.

The compound 26-methylstigmastane—or 26-mes—is the "first animal-specific sterane marker detected in the geological record that can be unambiguously linked to precursor sterols only reported from extant demosponges," the team wrote. In other words, the compound they discovered must have come from an extinct species of sponge, meaning it is the earliest evidence of animal life ever found.

"These new findings strongly suggest that demosponges, and hence multicellular animals, were prominent in some late Neoproterozoic marine environments at least

extending back to the Cryogenian period," they conclude.

In an accompanying editorial about the discovery, evolutionary scientists Joseph Botting and Benjamin Nettersheim (who were not involved in the research) said the discovery raises conundrum between the evidence of steroid biomarkers and the sponge fossil record.

"The abundance of Cambrian sponge fossils contrasts with the absence of any diagnostic fossils from the preceding Ediacaran period, pointing towards a low ecological abundance (or genuine absence) of sponges before the Cambrian explosion," they said. "So, there is a conflict between fossil support for a more recent origin of sponges and biomarker support for an older origin."

Until this problem is reconciled, they said, conclusive evidence about the world's oldest sponges will remain elusive.

Dickinsonia, seen here as a fossil, is Earth's oldest confirmed animal. It was first discovered 75 years ago, with researchers arguing over whether it was an animal, a type of fungi or a giant single-celled protist—an organism that doesn't fit into any other category.ANU

The latest paper follows the discovery of another 500 million-year-old fossil that scientists claimed to be the earliest evidence of animal life. Traces of fat found in a Dickinsonia fossil appeared to show that the species, which had been subject to debate for 75 years, was indeed an animal.

Not all researchers were in agreement, however. Jonathan Antcliffe, a senior research associate at the University of Lausanne, in Switzerland, said of the research published in *Science*: "Modern life is less than 1 percent of everything that has ever lived. We have lost the biochemical data from over 99 percent of everything that has ever existed so we cannot pretend to know exclusively which organisms can or cannot make certain biochemicals. Particularly biochemicals that are as widely distributed across the tree of life as the ones used in this study."

Crystals! Crystals!! Everywhere! Everywhere!! Mt Ida 2018

Article and photo by Dave Lines

Big News! The ***31st Annual World Championshionship Quartz Crystal Dig*** was a blast! Thirteen (13) members (Sondra, Cheryl, Harry, Tina, Joe, Paula, Al, Carole, Ralph B., Teri, Greta, Steve, Dave) of the Southern Maryland Rock and Mineral Club trekked the 1,100+ miles to Mount Ida,

Arkansas and swept the contest in both categories for club competition --- we had the most club members and scored the most points. We WON the beautiful Club Trophy --- a gorgeous quartz crystal cluster mounted on a handsome wooden plaque with a brass plate commemorating the event. PLUS the club was awarded two (2) free registration entries (worth $100 each) for next year's contest. AND we received a BONUS gift (valued up to $950) of two (2) days in a 2 bedroom, 2 bath cottage at the very nice Mountain Harbor Resort at nearby Lake Ouachita (pronounced "watch- a-ta").

Willis Mountain Field Trip

Article and photo by Joe Davis

On September 29, 2018, the Gem and Mineral Society of Lynchburg Virginia hosted a field trip to the Willis Mountain Kyanite Mine in Dillwyn Virginia. Six members of the Southern Maryland Rock and Mineral Club joined members from clubs from Virginia, Maryland, Delaware and Pennsylvania collecting kyanite, quartz, and iridescent hematite. After a short safety meeting we headed to the mine. We were limited to collecting in a small area because the mine was in full operation, but there was plenty to choose from. The white kyanite blades were plentiful.

The iridescent hematite had beautiful greens, blues and purples. We even found some blades of blue kyanite. The weather was wonderful and the panoramic view from the mountaintop was incredible. At home I checked my finds with a short wave UV lamp. The kyanite and the quartz that contained kyanite, fluoresce a light blue (see Member's Finds).

Blue Barite from the Wide Open Spaces of Colorado

Article and photo by Dave Lines

Sometimes we are fortunate enough to be able to travel to different areas. And sometimes we are even more fortunate to be able to fit a rock hounding adventure into those travels. This story is about one of the latter.

During the middle of September 2018, my wife and I flew to Colorado for my niece's wedding. Yes, it was about the time that Hurricane Florence was threatening to hit the East coast and we did a lot of last minute preparations to protect things on the farm before the storm. But we managed to get away. We landed in Denver early on a Wednesday morning, picked up our rental car and drove south to Colorado Springs, then west about 50 miles to stay with a longtime friend and mentor --- Saralee --- at her cabin. About 23 years ago, she was responsible for introducing our son Jeff and me to the world of rocks and minerals. Saralee's cabin is in a great location. The scenery is beautiful --- the front of the cabin has a full view (framed by large pines) of the western side of Pike's Peak. And it is near lots of great places to find rocks --- amazonite, smoky quartz, topaz, agate, jasper, petrified wood, gold, turquoise,

galena, garnets and more.

The first afternoon, we relaxed and caught up with the news about our families and did little things to help our host. Because I had read an article about Hartsel blue barite in the December 2017 issue of *Rock and Gem* magazine, I had already planned to go rock hounding the next day. I had packed some tools --- a rock hammer, a rubber pad to kneel on, a garden scratcher, a canvas collecting bag and a couple of empty soda flats. Also, I called the owners of the mine and set up a visit their shop to sign a waiver and pay the fee ($10).

The next morning, I had a good breakfast and was on the road early. The trip to Hartsel was about 45 minutes of driving time, but I stopped several times along the way to take pictures. It truly is the land "where the deer and the antelope play" --- and I have pictures to prove it. I even spotted an old buffalo grazing out in one of the fields. The aspen were just beginning to turn yellow and a few places were gorgeous. The roads went through rolling hills dotted with patches of pine forest, which eventually gave way to wide open prairie and grasslands which stretched as far as the eye could see. It is big country. Much different from Southern Maryland. Low humidity, cold in the mornings (it was 40 degrees at the cabin), sunny and warm during the day.

Hartsel is located near the center of the state on Colorado Route 24. It is a tiny town nestled behind a small mountain which gives it some protection from the winter winds. I had told the owners – Dave and Lark --- that I would be at their shop "The Trading Post" when they opened at 9:00 a.m.. So when I arrived a few minutes early, Dave came out to meet me. We went inside the shop and chatted while I signed the liability waiver and reviewed their rules. The shop had a lot of interesting stuff --- both new and old --- objects of turned wood, hand crafts, rocks, knick knacks, souvenirs, etc. I explained that my son and I had visited the mine in 1997 and had found clusters of blue barite. Dave suggested the best areas of the mine for me to dig. I asked when they closed the shop – 5:00 p.m. --- and said I would try to get back by then to let them know I was okay.

The road to the mine was only a few miles away and I turned off the highway, stopped and opened (then closed behind me) the first of two gates. The second gate was about a half mile further along the dirt road. I was glad it was dry weather as the road had some deep ruts that might have been a problem driving my little Nissan rental car. Past the second gate the road headed up through a

wide shallow valley and in about another mile or so, I came to the diggings of the barite mine. The mine was just below the crest of a gently sloping hill and covered about one acre. There were 2 main trenches about 20 feet wide, 8 to 10 feet deep and 100 feet long. The trenches or cuts had sloping sides due to erosion. They was another shorter trench nearby that held less promise. There was a small pond of water at the lower end of the two trenches. There were also several small areas on the south side that had been scooped out in years past with a dozer. There were large amounts of old tailings covering the ground. I say "old" because the tailing piles had small bushes and grass growing on them. The dirt was mostly red clay containing some gravel which consisted of mostly plain white to clear translucent agates.

It was sunny and bright when I arrived and the sparkle and glint of crystals when looking on the ground toward the sun immediately caught my eye. Small blue barite crystals were everywhere! I stopped the car, got out an empty soda flat and started picking up barite from the surface as I scouted the entire area of the mine. Barite is heavy and within 30 minutes, I had picked up several pounds plus a few agate (or chalcedony) nodules. I kept searching hoping to locate an area of "bluer" crystals --- but it was a relative thing --- some were definitely a deeper blue but most of them on the surface were at least a gray blue. I finally selected an area and started scratching and digging away the dirt --- many more were under the surface – and some small clusters up to the size of an egg.

This mine is certainly productive because in every place I chose to dig, I found barite. I dug for several hours, then took about 30 minutes to eat lunch and rehydrate. There were no trees and no shade at the mine, so I turned the car toward the sun and opened the trunk and sat on a 5 gallon bucket behind the car in the shadow of the trunk lid. It worked. After that much need break, I resumed digging --- trying a new location every 30 minutes or so. I kept trying to find virgin dirt or a seam of the clusters, but no luck. Still, I found lots of barite. My largest crystal blades were about 2 by 2 inches across and about ½ inch thick. My largest cluster was between a golf ball and a tennis ball. Overall, I easily collected my daily weight allowance of 20 pounds of barite.

I decided to call it quits about 4:30 p.m. and headed back to the "Trading Post" to check out with the owners. I showed them some of my better specimens, thanked them and left about 5 p.m.. The trip back to the cabin was uneventful, but the pretty scenery along the way made for an enjoyable drive.

The next morning at the cabin, I "rough cleaned" the loose dirt from the crystals in plain water with a scrub brush, and, after air drying them, packed them in zip lock plastic bags for the return trip to Maryland. Several

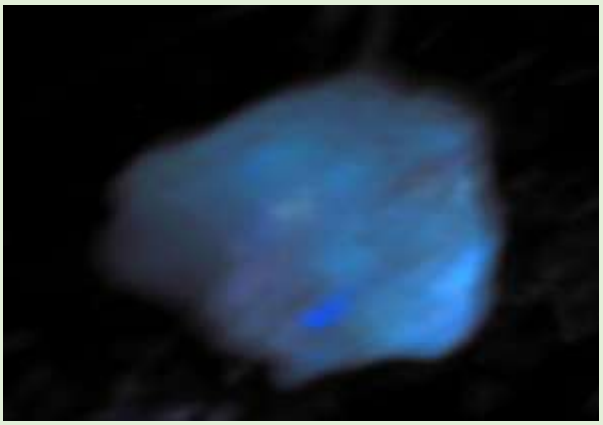
days later, when we were coming back from a visit to Rocky Mountain National park, we stopped at "Dick's Rock Shop" on the roadside in Estes Park. Most of his material was from elsewhere in the world. Yet he had a steady flow of customers while I was there with many buying $20 to $40 worth of rocks. Amazing.

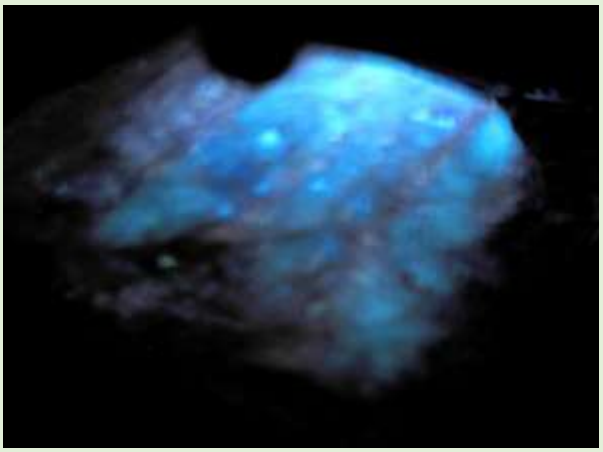
His Colorado material was mediocre at best. I did spot a few pieces of Stoneham (CO) blue barite the size of matchsticks --- literally --- that were priced at $1 each. Wow! I talked with him (Dick) for a few minutes and asked if he collected any local material --- basically, no, although he knew of the several places I mentioned. He did have a patented rose quartz mine in South Dakota and had some rough there for viewing. He said about 20% would star if cut and polished. I thanked him for his time and left. Then I went out to our car and dug into my bags and got out a large handful of the barite blades and went back into the store and handed them to Dick while 100 yards away. He did it the (much) easier way explaining where they came from. He asked how much I wanted for them. "Nothing, they are free. Enjoy." He was elated as he put them into a plastic bag --- with a label.

Hope you can go out there someday and take advantage of some of Colorado's great rockhounding.

Member's Finds

Some of the kyanite from Willis Mountain, Virginia fluoresces a bluish white under shortwave ultraviolet light. These specimens were collected by Joe Davis.





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.

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:

SMRMC OFFICERS

PRESIDENT

Sondra Fielder
Sondra611@verizon.net

Program Vice President

Carole Raucheison
caroleal@verizon.net

Membership Vice President

Joe Davis
J1964d@netzero.net

Secretary

Polly Zimmerman
Polly.zimmerman@verizon.net

Field Trip Chairman

David Lines
Dave.lines@earthlink.net

Treasurer

David Lines
Dave.lines@earthlink.net

Editor

Timothy Foard
bmorebugman@yahoo.com

Webmaster

Bob Davison
Bob.Davison2@yahoo.com