THE NORTHERN VIRGINIA MINERAL CLUB INC

The Mineral Newsletter

Meeting: May 22 Time: 7:45 p.m.

Long Branch Nature Center, 625 S. Carlin Springs Rd., Arlington, VA

Siderite
from Kamariza, Laurion, Greece

Photo: Bob Cooke.

Deadline for Submissions

May 20

Please make your submission by the 20th of the month! Submissions received later might go into a later newsletter.

Volume 58, No. 5
May 2017
Explore our Website!

May Meeting Program:

Mineral Collecting in Myanmar

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Mineral of the Month
Siderite

by Sue Marcus

Siderite (SIDD-er-ite) is a relatively common mineral, although lustrous crystals are harder to come by. Its name comes from the Greek word for iron (*sidero*). I was unable to confirm the source of the originally described material (the type locality), although it may be Pribram, Czech Republic.

Since it is relatively common, siderite is widely found around the world. The Harz Mountains of Germany are a classic older location for lovely crystals. France, notably Isère, has produced rare, unusually gemmy green siderite. The Mamarues iron mines in Romania have also produced specimens desired by collectors. Panasqueira, Portugal, is another often mentioned locality for well-crystalized specimens. Some of the mines in Cornwall, England, also produced collect able samples. Large crystals have been found in Huancavelica, Peru. The famous Minas Gerais district of Brazil has been the source of lovely gemmy siderite—along with a plethora of other dazzling minerals. Gemmy specimens have also been recovered in Potosí, Bolivia. Tsumeb, Namibia, the source of many mineral lovelies, has provided siderite crystals, too. The Aggeneys Mine in Cape Province, South Africa, has produced unusual hand-sized hollow siderite pseudomorphs after calcite crystals. China, being large and rich in minerals, is also a source siderite, notably opaque beige crystals that contrast nicely with purple fluorite.

Closer to home, Mont St. Hilaire, the world-class locality in Quebec, has produced some large siderite crystals. Rapid Creek, Yukon, has produced siderite, with some of the rare phosphates found there. In the United States, the Eagle Mine in Gilman County, CO, is probably the source of the best specimens. There are many other places where siderite crystals have been found—too numerous to mention. And with a mineral that forms easily and is common, we can hope for new discoveries in the future.

Maybe prices will come down? I can hope!

Elemental substitution may occur in the chemistry of siderite. Siderite forms a series with rhodochrosite, meaning that iron (Fe) and manganese (Mn) can substitute for each other in varying amounts (siderite is $FeCO_3$ and rhodochrosite is $MnCO_3$). Similarly, zinc and magnesium may substitute for iron, with siderite also forming series with smithsonite ($ZnCO_3$) and magnesite ($MgCO_3$).

I have never seen mineral species intermediate between these chemical end members. Have you? If so, I'd be interested in learning more, so please share your experience and knowledge.

Siderite crystals, like the minerals with which it forms series, are often curved rhombs; and for siderite, the crystal faces are commonly striated. As a car-

Happy May Day!

Northern Virginia Mineral Club members,

Please join our May speaker, Casper Voogt, for dinner at the Olive Garden on May 22 at 6 p.m.

Olive Garden, Baileys Cross Roads (across from Skyline Towers), 3548 South Jefferson St. (intersecting Leesburg Pike), Falls Church, VA
Phone: 703-671-7507

Reservations are under Ti Meredith, Vice-President, NVMC. Please RSVP to me at ti.meredith@aol.com.

Siderite from Mont St. Hilaire, Quebec, Canada. Photo: Bob Cooke.

bonate mineral, siderite breaks down easily, altering into iron oxides like goethite and limonite. Other, similar minerals include calcite and dolomite. But with its iron content, siderite is notably heavier than these carbonates.

A couple of references mentioned that the color of siderite ranges to black, with that coloration due to manganese. Yet it is not considered rhodochrosite—and certainly isn't red. I confess that I don't understand the chemistry of black siderite.

Siderite forms at low temperatures. It is most commonly found in sedimentary rocks and has formed concretions around what became fossilized remains of living organisms—a definite indicator of low-temperature formation. The famous fossils of Mazon Creek, IL, are often preserved in siderite nodules or concretions. Siderite concretions may begin to form around pieces of another iron mineral, like pyrite.

Siderite occurs in hydrothermal deposits with fluorite, barite, and galena. These deposits formed at relatively low temperatures, though not at the Earth's surface, like the siderite concretions.

Metamorphic and igneous processes may create siderite, too. For example, massive siderite deposits formed from the alteration of dolomite by hydrothermal fluids. Siderite also forms botryoidal crusts and massive deposits. Biological processes are reported to form siderite; this may occur by microbes or bacteria breaking down iron and carbonate in the host rocks of sediments and combining them to form siderite.

Siderite can be mined for iron. From at least the early 20th century, siderite was permanently surpassed for iron production by hematite and magnetite, which are richer in iron and occur in more massive deposits, making them easier to mine and process. The Russian province of Kaluzhskaia is the only reported economic source of siderite that is used for pigment.

Due to its inherent tendency to fracture and its relative softness (lack of durability), siderite is cut as a gemstone more often as an oddity than to be used in jewelry. Cabochons may be cut from massive material, although they too will scratch easily.

So: lovely to look at but impractical to wear!

Technical details:

Chemical formula….. $FeCO_3$

Crystal form……Trigonal

Hardness….3.75–4.25 (Wikipedia); 3.5–4.5 (Mindat)

Density……3.95 g/cm^3 (measured); 3.83–3.89 (Gemdat)

Color……Usually brown; ranges from yellow to very dark brown, less often black

Streak……...White

Cleavage…...Perfect on {0111}

Fracture…….Brittle, with small conchoidal fractures

Luster……Vitreous to pearly

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Casper Voogt

Mineral Collecting in Myanmar

May 22 Program

Many NVMC members are familiar with the Mindat Internet site, an invaluable source of information about our hobby. Mindat also has marvelous images of many different minerals.

Beginning in 2011, Mindat sponsored an annual international conference held in a country of mineralogical interest. In 2016, Myanmar was the country of choice.

Our presenter for May, Casper Voogt, had the good fortune to be one of 45 participants at the Fourth International Mindat Conference from November 2 to November 12. Casper will present an overview of the conference, which might better be described as a geo-

logical/mineralogical tour, with visits to pagodas, mineral mines, mineral markets, and other attractions.

Casper's trip included stops in Yangon, Mandalay, and Mogok, with its legendary gemstone mines. Conference participants heard presentations and lectures, including by Dr. Federico Pezzotta, Curator of Mineralogy at the Museum of Natural History in Milan. The mineral pezzottaite is named after Dr. Pezzotta.

Spinel from Myanmar.

The participants collected minerals at sites along the way or purchased them at local markets. Casper will bring samples of spinel, topaz, and other minerals he acquired to show club members.

The Prez Sez

by Bob Cooke

It's getting to be that time of year again. Last Friday, Tom Taaffe, Julia Nord, and I met to discuss the club's November 17–18, 2017, mineral show. Although the show will still be at George Mason University, this year we will be in a larger venue: Dewberry Hall (in the Johnson Center)—see the online map by clicking here.

This location has lots of promise, but also a few challenges. The walking distance from Parking Lot A is shorter than for the Hub. The exhibit floor space is so much larger that all our activities, including the Kids' Mini-Mines, display cases, and micromounters' demonstration, can be in one room. Electrical outlets are in the floor, so we will need no long electrical cords running from the wall to dealer tables. On the down side, the facilities for loading and unloading trucks are different, and we will have to improvise to assist the dealers.

All in all, I expect we'll have another great show this year.

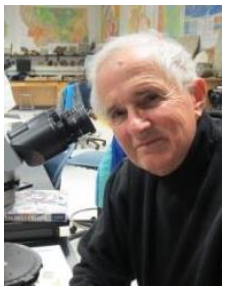
On a different note, we have come closer to deciding on a motif for a new name tag. At the April meeting, members narrowed the options to two rather similar designs. I agreed to try to combine their features into a single design and present it at the May meeting for approval.

Then, having made grandiose statements about wanting new name tags, we just need to make an acquisition decision and identify a funding stream.

Bob

Meeting Minutes
April 24, 2017

by David MacLean, Secretary



The meeting began at about 7:45 p.m. at the Long Branch Nature Center in Arlington, VA.

Door Prizes

Vice-President Ti Meredith oversaw the door prize drawings. The winners were Julianna Cox, Hunter Hughes, Joyce Jason, Leslie Nanney, Steve Parker, Walter Walker, and Celia Zeibel.

Program

Ti introduced the speaker for the evening, Hunter Hughes, a student at the Annandale campus of Northern Virginia Community College. Accompanying Hunter were others from NOVA, including Professors Shelley Jaye and Ken Rasmussen. Ken is mentoring Hunter, who received a grant from the NVMC's Fred Schaefermeyer Scholarship Fund.

Hunter gave a PowerPoint presentation featuring his own personal journey into a field related to our hobby. He also discussed his study of coral reefs and carbonate rocks on one of the Cayman Islands in the Caribbean Sea. Hunter's presentation had the title, "An Insight and Inspiration into Geologic Origins and Utilities of Carbonate Systems."

Displays

Following the program, the club took a break for conversation and viewing the displays. Steve and Amanda Parker had brought whitish calcite on contact-metamorphosed limestone from the Medford Quarry in Westminster, MD. Pat Flavin and Craig Moore displayed sharks' teeth from the beach at Flag Ponds, near Calvert Cliffs in Maryland.

Business Meeting

After the break, President Bob Cooke called the business meeting to order. The minutes from the March 27 meeting were approved as published in *The Mineral Newsletter*.

The president recognized past presidents Rick Reiber and Barry Remer. He also recognized guests Pam Jason and Joyce Jason as well as new members Steve and Amanda Parker and Terri Cox and her daughter Julianna.

Daniel and Anne Andrianos were visiting from the Gem and Mineral Society of Syracuse in New York. The president also introduced David and Leslie Nanney. Dave Nanney took the opportunity to describe future programs of the Mineralogical Society of Washington, DC.

Name Tag Contest

The club needs new name tags, and the shop that previously made them has gone out of business. The original template from 1974, used in newsletter mastheads, has long since disappeared.

Accordingly, the club needs a new name tag design, so a contest was held. Members had a chance to see several entries and make a choice. The president will combine the most popular features and propose a final version.

Announcements

The Gem, Lapidary, and Mineral Society of Montgomery County has invited NVMC members to field trips on May 13 and May 27 (see details on the next-to-last page below). If interested in attending, please let Bob Cooke know at rdotcooke@gmail.com.

Pat Flavin talked about the fossil-collecting field trip to Flag Ponds near Calvert Cliffs in Maryland on April 17 (see the articles beginning on page 9). She showed photos and passed around a megalodon shark's tooth from a beach in North Carolina, purchased online.

Adjournment

By motion duly made and seconded, the members adjourned the meeting.

Fossils Stolen from Death Valley National Park

Thanks to Sue Marcus for the reference!

Ancient fossil footprints have been stolen from Death Valley National Park. The fossils formed 3 million to 5 million years ago after animals walked across what was once a muddy lakeshore.

The park announced that scientists who intended to document the fossilized animal tracks discovered the theft recently and reported it to rangers.

Park Superintendent Mike Reynolds said that it is illegal to collect fossils, rocks, or anything else in national parks.

A flier from the National Park Service has small photos of three backpackers who were in the area and might have witnessed the theft or have information about it. To protect remaining artifacts, investigators did not specify the area of the 3.4-million-acre park on the California/Nevada state line.

Source

Associated Press. 2017. Fossils stolen from Death Valley National Park. 28 March.

Earth Magazine

Travels in Geology: Easter Island's Enduring Enigmas

by Terri Cook and Lon Abbott

Few destinations are as steeped in mystique as Easter Island. Located in the southeastern Pacific nearly 3,700 kilometers west of Chile, and more than 2,000 kilometers from the nearest inhabited land, Easter Island is one of the most isolated places on the planet. The lonely isle is renowned for its remarkable moai—massive stone carvings of human-like figures with oversized heads—that for centuries have stood watch over this small speck of land. *Read more*.

February 27 Program, Carlin Green

Characterization of Amphiboles in the Ironwood Iron-Formation

by David MacLean, Secretary

The Ironwood Iron-Formation in the Gogebic Iron Range near Lake Superior extends from northern Wisconsin eastward into Upper Michigan (fig. 1). After the discovery of iron ore in the range in 1883, mining that was mostly underground continued from 1884 to 1967. The commercial iron mining for direct shipping ore was concentrated between Wakefield, MI, and Upson, WI, a distance of about 50 miles.

Underground mining of iron ore in the region ceased in the 1960s. The mine at Montreal, WI, which closed in 1965, was 5,000 feet deep, the deepest iron mine in the world. Open-pit mining of low-grade iron ores (made up of 30 percent iron) continued, requiring concentration and conversion to round taconite pellets.

The Ironwood Iron-Formation began in a shallow inland sea about 2.3–2.0 billion years ago. The gradual buildup of oxygen in the atmosphere oxidized dissolved iron, forming limonite or goethite, which precipitated with carbonates of iron, calcium, and magnesium to create banded iron formations in what is now the Lake Superior region. Marine deposits over the iron-containing sediments eventually formed a thick layer of shale (fig. 2). Tectonic forces thrust the layers into nearly vertical positions that were later

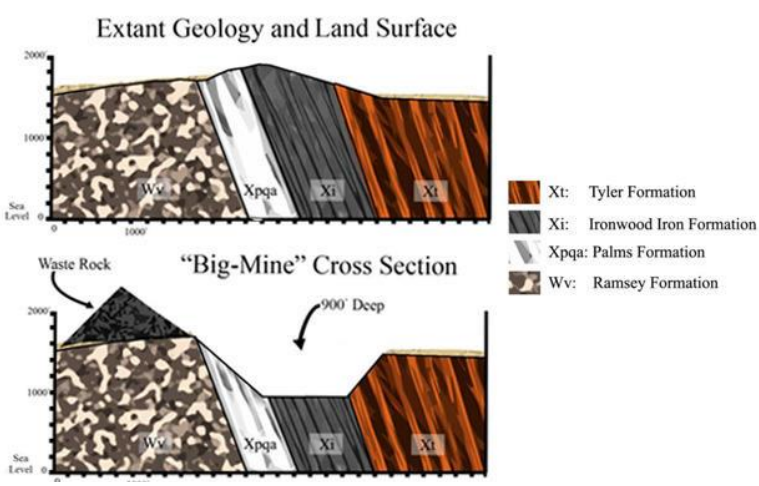


Figure 2—*The tilted geology of the Gogebic area (top) and the proposed mine (bottom). Right to left, Tyler Formation (youngest, orange/black) = shale; Ironwood Iron-Formation = interbedded cherty/slaty iron-formation; Palms Formation = dolomite/quartzite; Ramsey Formation (oldest) = metabasalt. Source: Bence (2013).*

Figure 1—*The Gogebic Iron Range (circled) near Lake Superior. Source: Wikipedia.*

exposed by erosion. Accordingly, the iron-formation in the Gogebic Range is bordered to the north by a large area of black shale, the Tyler Formation (fig. 2).

About 1.1 billion years ago, midcontinental rifting began in an area centered on what is now Lake Superior. Arms of the residual failed rift extend from Kansas in a vast arc through northern Minnesota and Ontario into Lower Michigan. During rifting, a gabbro intrusion near what is now Mellen, WI, contacted the west end of the iron-formation in the Gogebic Iron Range. Contact metamorphism developed amphibole minerals such as grunerite, tremolite, and cummingtonite.

Amphibole minerals in the asbestos group have been used for insulation and construction because they have high tensile strength as well as inert, weavable fibers. Under certain conditions, some fibrous amphibole minerals in the asbestos group can cause mesothelioma, a fatal cancer. Asbestos miners, shipyard workers, and those who work with brake liners are at greatest risk. During World War II, many asbestos workers building merchant ships suffered from asbestosis and, years later, from mesothelioma.

Carlin Green, a student at George Mason University and recipient of a grant from the NVMC Fred Schaefermeyer Scholarship Fund, spoke at the February 27 NVMC meeting about the topic of his Master's thesis: the characterization of amphibole minerals in the Ironwood Iron-Formation. Carlin's work, in conjunction with the U.S. Geological Survey, is to characterize the distribution, morphology, and quantitative chemistry of amphiboles in the Ironwood Iron-Form-

Outcrop of the Ironwood Iron-Formation in the Gogebic Iron Range of northern Wisconsin. Source: U.S. Geological Survey.

ation. He is also interested in the presence of fibrous amphibole, which can be a health hazard.

The reason for the project was the proposal by a major steelmaker to mine and process huge tonnages of low-grade iron ore near Mellen, WI, and convert it onsite into taconite pellets (fig. 2). The process requires grinding the ore to a mesh finer than flour, then separating the iron minerals magnetically or by froth flotation and converting them into taconite pellets. Two-thirds of the processed rock becomes finely ground waste, including the amphibole minerals. The proposal raised public fears of dust containing carcinogenic fibrous amphiboles being blown everywhere.

Carlin's research focuses on the distribution and amounts of massive, prismatic, equant, and fibrous amphiboles in the iron-formation. He examined the minerals in drill cores from the iron-formation obtained in the 1950s. Going east from the Mellen area, he found that the grade of metamorphism and amphibole occurrences decreased as the distance from the igneous intrusion increased. There were also a few occurrences of amphiboles near suspected intrusive Keweenawan diabase dikes.

The study required powder X-ray diffraction to identify the minerals, along with microscopic examination of thin sections to find out whether the amphiboles were massive, prismatic, equant, or fibrous. The examination revealed mostly grunerite and mostly massive amphiboles, with prismatic, equant, and fibrous amphiboles in descending order of frequency. Only fibrous amphiboles can be carcinogenic, and they probably made up 1 to 2 percent of the total amphibole sample based on a systematic sampling intended to be representative for the Ironwood Iron-Formation as a whole.

The mining project did not begin, probably because the world price of iron ore went down. Imported iron ore was cheaper, and the widespread use of recycled scrap steel reduced demand for steel made from domestic iron ore.

Sources

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Studying a Pegmatite in Maryland

President's note: *In January 2017, the NVMC awarded Fred Schaefermeyer scholarships to* ***Grant Colip and Noah Fleischer****, students at James Madison University. By way of thanks, the two students sent the following letter describing their research on a recently discovered pegmatite in Maryland's Patapsco Valley State Park.*

We want to start by thanking the Northern Virginia Mineral Club for the very generous gift of the Fred Schaefermeyer scholarships. This is both a useful and a meaningful gift because it will help lower the cost of our education while reminding us how important our work and studies are. We are both avid mineral enthusiasts and collectors, and we recognize the symbolism of this gift and appreciate this honor bestowed upon us.

Grant Colip and Noah Fleischer at the pegmatite site in Patapsco Valley State Park, MD. All photos by the authors.

We are both sophomores at James Madison University, studying to earn a B.S. in Geology in 2019. Our courses have included Physical Geology, Historical Geology, Geowriting, Mineralogy, and Petrology, and we are both laboratory teaching assistants, which we both enjoy immensely. In future semesters, we'll be advancing our studies with coursework in areas such as hydrogeology, environmental soil science, geomorphology, and sedimentary petrology. We'll also be taking a field geology course in Ireland over the summer of 2018.

We are working on a research project with Cindy Kearns, a faculty member in the department, on the mineralogy of a large pegmatite in Maryland's Patapsco Valley State Park. Years ago, one of us (Noah) was exploring a cliff face near a waterfall in the park when he came across what looked like large orthoclase crystals in a pocketlike area within the wall.

Noah was about 14 years old at the time and lacked the knowledge for further investigation. About 5 years later, we heard that Cindy Kearns was doing pegmatite research in Maryland at a location very close to the site that Noah had discovered. After consulting with her about the project and potential pegmatite sites in Maryland, we decided to investigate the site that Noah had found—which, sure enough, was a pegmatite.

In this pocket, we've found a large crystal face of graphic granite (the triangles in the photo at right, from an angle within the pocket looking up), as well as large crystals of orthoclase, green muscovite, and other minerals (shown in the other photo on the next page). We've taken samples of the graphic granite as well as of the green muscovite and of the pegmatite itself. The next step will be to clean and prepare our samples and send them to a lab for chemical analysis. We hope to describe the complete mineralogy of this pegmatite because there is very little information on Maryland pegmatites, something we hope to change.

Our project will add to geological knowledge of the pegmatites in the area and to the park's understanding of its own geology. Although much work remains to be done, we hope to present our findings to the club when we're done!

As we continue our education and keep expanding our mineral collections, we will definitely stay in touch with the club, and we hope to visit in the future. Although our schedules are tight, what with classes, work, and research, we recognize the importance of making connections within the geoscience community and with mineral enthusiasts like you, and we hope to get to know you all.

Again, we thank you all so much, and we can't wait to see you soon!

With much gratitude,

Grant Colip and Noah Fleischer

Western Shore of Chesapeake Bay

Flag Ponds Fossil Trip, Calvert, MD

by Patricia Flavin, fossil hunter guide for the NVMC

At 9 a.m. on Monday, April 17, our club members assembled in the parking lot at Flag Ponds Nature Center near Solomon's Island, MD. The weather was cool and partly cloudy, with a moderate windspeed of about 7 miles per hour. The clarity of the bay was quite good up to about 3 feet offshore. The serene conditions were almost perfect for finding an amazing variety of shells, rock, and fossils, both on the beach and in the water. The waves gently rolled, revealing more inventory every second.

This unique coastal stretch of the Chesapeake Bay is part of the Calvert Formation. High cliffs and long level beaches stretch for miles along the Western Shore, once covered by an ancient ocean. As the cliff faces erode in the pounding surf, they reveal rare fossils from the Miocene Epoch (6–22 million years ago): sharks' teeth, crocodile teeth, bones, shells, vertebrae, and entire skeletons of whales and other marine creatures. You can also find relics of a human population that lived here from 600 to 1300 AD, such as Levanna projectile points and arrowheads. The Calvert Marine Museum, located 7 miles to the south, has many exhibits of all these finds.

Sharks' teeth and a chipped Levanna point found on the beach at Flag Ponds. Photo: Pat Flavin.

Perfect conditions at Flag Ponds. Photo: Pat Flavin.

Emma Moore was resting on a tree when she saw a black line in the sand (top). It turned out to be a stunning mako shark's tooth with a uniquely marbled enamel (bottom). Photos: Pat Flavin.

Each member of our fossil-hunting group got a brief introduction to collecting techniques and started finding sharks' teeth almost immediately. Emma Moore and her dad Craig used very different techniques. Emma searched along the shoreline and water's edge for rolling fossils, while Craig looked farther up on the beach in the shell piles. He hoped to "find a shark tooth large enough to stub his toe!" Emma found dozens of teeth and even uncovered a good-sized mako shark's tooth while sitting on a fallen tree during a break.

As the day progressed, the weather turned on us. The skies went gray, the surf started to a roar, the wind picked up, and there was a bit of rain. We stayed and waited it out. Within an hour, it had all calmed down. Such is the bay!

We had new club members join us: Amanda Parker as well as Terri Cox and her two children, Juliana and John Thomas, and their friend Sarah. An avid fossil hunter and Fairfax County teacher, Nancy Borick, also joined us and shared her knowledge.

Young fossil hunters Juliana Cox (right) and her friend Sarah. Photo: Amanda Parker.

My First Fossil Hunt!

by Amanda Parker

I'm more of a mineral girl, but I still like the idea of finding fossils, and on April 17 I had the honor of joining Pat Flavin and company on a fossil search at Flag Ponds Nature Center Beach. I just started collecting minerals and fossils in January 2017, so this was an exciting trip.

It wouldn't be right to start this article without discussing traffic, which was moving swimmingly that day. It was warm, with a mild wind; and, although we were warned of rain, the wet weather stayed at bay for several hours, leaving us ample time to seek our treasures. This early in the year, the water was very clear, and the mild wind didn't churn the water so visibility was perfect. We took to the shoreline and started the hunt as a small group of under 10 people.

Right at the start, tips came from Pat and Craig Moore, a fellow hunter from the NVMC, to seek shiny objects on the shore or black ones in the water. It sounds easy enough, but we had plenty of false positives throughout the day. Craig mentioned that one item I found that looked like a tooth was used as a source of iron historically. It was very cool to hear some history about the area and later see the bald eagle nests near the shoreline.

Near me, Emma Moore, a fellow fossil hunter, found a shark's tooth and my excitement began. Since I'm a new hunter, Pat was quick to find and deliver multiple teeth to me within moments of Emma's find. However, I neglected the offer to keep them because I really wanted to find one of my own! I was excited to see others finding them so often, and it encouraged me to find one myself.

Along the shore I went, searching and searching until one caught my eye! I was thrilled to find my first baby shark's tooth. To my surprise, it was the first of three I found within 5 minutes! It was incredible to me, the newbie, that I had found a "sweet spot" so soon.

Of course, these were babies, so I wanted bigger and better, not to mention the elusive megalodon tooth. It was agreed upon early that the first megalodon tooth finder would be buying dinner, a chance I wanted to have!

Not to spoil the ending, but I never found the megalodon tooth. However, I did find a larger tooth farther north up the beach and tons of beautiful fossilized

Bald eagle nesting near the beach at Flag Ponds. Photo: Pat Flavin.

Driftwood maze at the north end of the beach at Flag Ponds. Photo: Pat Flavin.

coral in a range of colors. Craig informed me that I could use a little Iron Out (rust stain remover) to clean the coral if needed. Then Pat let me know blue corals could be found, and later I located a few myself. They truly are beautiful, much like the intact oyster and clam shells along the shore. Pat also noted that you can make the iridescent shells even prettier with a coat of polish.

After a few hours, the wind picked up and light rain threatened my camera, so I had to pack up quickly and abandon the team. While partaking in the joys of beachcombing on my way out, I met Terri Cox and her family from the NVMC, who were first-timers just like me! They said they'd joined the club in December of last year and were on the hunt for teeth, bones, and shells.

We had all braved the driftwood maze on the north end of the beach to access the honeypot of the beach, closer to Calvert Cliffs. It turned out to be worth it, because that's where all the larger teeth were hiding.

It also turned out that Terri's daughter Juliana Cox and her friend Sarah have good eyes and found some attractive seashells, both fossilized and new, that would be appealing to any beauty seeker. I was delighted when I had the chance to see their finds, including sharks' teeth and fossilized shells.

I'll leave you with some tips for first-timers. Don't forget the waders because they will allow you to move out onto the sandbar. Pat attempted it, but the wind and waves kicked up so she avoided the risk this time.

Layers are superimportant! I started out in a tanktop with sunscreen and ended with a windbreaker over a T-shirt. I also recommend a long-handled sifter or clam rake, which is quite helpful for sifting.

Upcoming Opportunities!

National/Regional Conventions

2017 AFMS Convention

… held together with the California Federal of Mineralogical Societies in Ventura, CA. The Ventura Gem and Mineral Society is hosting the event from Friday, June 9, to Sunday, June 11. For information and registration, click here.

2017 EFMLS Convention

… in conjunction with the 45th Annual Gem and Mineral Show in Bristol, CT, hosted by the Bristol Gem and Mineral Club from Friday, October 20, to Sunday, October 22. For information and registration, click here.

A Safety Note
Spring Cleaning!!!

by Owen Martin, former AFMS Safety Chair

Editor's note: *The article is adapted from* A.F.M.S. Newsletter *(May 2013), p. 2.*

Down here in the Houston area, the weather has started to warm up, and many of us have started to do some spring cleaning. But keep in mind that there can be hazards. Spring cleaning hazards I've encountered include:

1. *A spilled box of roofing nails.* Luckily, I saw the box before stepping on one of the nails. On a side note, I was barefooted in the garage, so "finding" a nail the wrong way would have been quite painful.
2. *Spilled pesticides in the garage.* This wasn't much of a problem, but concentrated pesticide liquids can release toxic fumes into confined spaces like garages, closets, and cabinets.
3. *Expired chemicals and deteriorated containers.* I was prying the lid off a rusted paint can and the screw driver (wrong tool) went through the lid. Luckily, it didn't go through my hand. My next-door neighbor was opening a can of paint thinner when the liquid sloshed out and splashed her face. Missed her eyes though!
4. *A defective weedeater hose.* I filled up my old weedeater with gasoline and oil and fired it up. It wouldn't start, so I went out to mow the yard. When I came back, the garage was filled with gas fumes. Apparently, the hose from the fueltank had gotten brittle over the winter and broken. All the gas leaked out and filled the garage with stinky and potentially flammable fumes.
5. *Closet hazards.* While I was moving winter clothes in the closet, one of the hangers broke and snapped back, almost hitting me in the face.

I encourage you to be careful in your spring clean-ups. Have good lighting; use the right tool; use proper lifting techniques; and use gloves, safety glasses, boots, and so on. And don't forget to read the labels on your chemicals so that you know how to use them and store them.

Be safe—and Happy Spring!

Improving Your Club's Bulletin

by Dan Fontaine, S.C.R.I.B.E. Regional Vice-President

Editor's note: *The article is abridged from* EFMLS News *(March 2016), pp. 8–9. It was originally adapted from an article submitted by Kreigh Tomaszewski for the Midwest Federation of Mineralogical and Geological Societies newsletter.*

Have you ever thought about the process that produces your club's bulletin?

Before you receive your issue, your editor has spent a week or more bugging the president and others for an article; looking for some interesting articles from other bulletins; and compiling, formatting, and copy-checking before finalizing and distributing the bulletin to you.

One thing you can do to help your editor is to write an article. Your club members have a lot of rock-hounding knowledge and experiences that can benefit newer, less experienced members. If you went on a field trip, write an article about your experience and what you learned. If you figured out a way to get cabochons to stay on a dopstick or to get a great polish, write an article. If you found a great geology Website, write a review. While your article may not be included in this month's issue, the editor will have it for next month.

And finally you need to think about who will take over if your club's editor leaves the club or simply gets tired of being the editor. Your editor, like any club officer or committee chair, needs an apprentice who is able to take over.

GeoWord of the Day

(from the American Geoscience Institute)

interbed

A bed, typically thin, of one kind of rock material occurring between or alternating with beds of another kind.

(from the *Glossary of Geology*, 5th edition, revised)

Wildacres in the Fall

by Steve Weinberger, Wildacres Committee Chair

Editor's note: *The piece is compiled from articles in* EFMLS News *(February 2017), pp. 1, 11.*

Get ready to be part of a fabulous fall EFMLS Wildacres Workshop! The dates are September 4–10, 2017, and our speaker-in-residence is Timothy Morgan. The lineup of classes, as always, is stellar, so you can exercise your creative juices and learn (or reinforce) a new skill.

A weeklong session at the spectacular Wildacres Retreat is $410 per person, which includes your tuition, room, and board, plus gratuities for the Retreat permanent staff. Meals are served family style in the lovely Wildacres dining room, and bedrooms are comfortable, each with its own private bathroom. Classes are held in the numerous well-equipped Wildacres classroom facilities.

EFMLS has been holding workshops at the Wildacres Retreat since 1973; over the years, our sessions have grown in both content and variety. Past speakers-in-residence have included a variety of museum curators, gem and jewelry experts, authors, and mineralogists. Over the years, many of our speakers have asked to come back, and we've been delighted to have them because of their popularity.

Your fee gives you access to one or two of the classes being offered during the week. Instructors volunteer their time and talents to teach our classes. Most have been with us before and are outstanding!

For fall, our lineup of classes is:

4-day classes:

- Faceting—Steve Weinberger
- Photography storytelling—Bruce Gaber

2-day classes:

- Chainmaille (basic and continued)—Roger Campbell
- Intarsia (beginning)—John Milligan
- Silversmithing (basic and intermediate)—Richard Meszler
- Wirewrapping (basic and continued)—Jacqueline Campbell

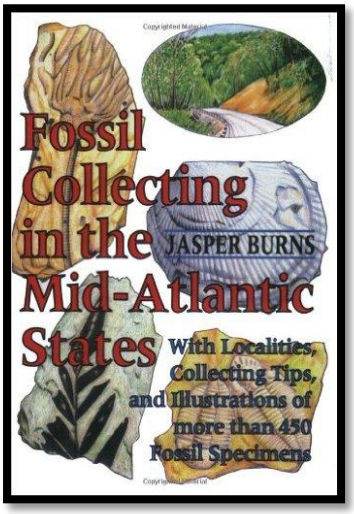
For a description of each of the classes, visit the EFMLS Wildacres Workshop Website. You can find

registration forms there as well. Or you can find the description in the February 2017 issue of EFMLS News, page 11, and the registration form on page 12.

Wildacres sessions include other activities besides classes. Our activity day usually includes the opportunity to participate in an organized field trip; a fun tailgate session, where you and your friends can sell or swap items you've brought; a few short educational programs given by some of your fellow participants; or a chance to go off and explore the area on your own.

We also have a terrific auction, where we sell hobby-related items. On another evening, we have a "show and tell," where we can all learn about the "other" classes that were offered during the session and see things that were made in them. We also sometimes have a fun night with humorous stories and skits, musical interludes, and horrific puns.

If you've never attended an EFMLS Wildacres Workshop or if you've been there before, now's your chance. Look over the classes being offered, fill out that registration form, write your tuition check, and pop it in the mail. The earlier you register, the better your chance of getting into the class or classes of your choice!



Book Review

Fossil Collecting in the Mid-Atlantic States

by Hutch Brown

Through sheer luck, I once found a sandstone trace fossil in the gravel outside the nature center where our club meets (for the story of how it got there, see the February 2015 issue). I had no idea what it was, so I leafed through my copy of *Fossil Collecting in the Mid-Atlantic States*.

Sure enough, I found it: It was a crinoid.

The book has drawings of 450 fossil specimens you can find in our area (Maryland, Virginia, West Virginia, Delaware, and southern Pennsylvania). As you might know, drawings are better than photos for identifying lifeforms because they reproduce classic prototypes. And these drawings are wonderful!

Published in 1991 by the Johns Hopkins University Press, the book was written by Jasper Burns, and you can find it on Amazon. Though dated, it describes 46 fossil-collecting localities in our area, from roadcuts in the Appalachians to estuaries on the Coastal Plain. For each locality, the book tells how to get there; the age of the rocks; and the kinds of fossils, along with drawings for easy identification.

For novices, the book has sections explaining what fossils are and how to collect them, including the equipment you will need. The book ends with a catalogue of major fossil groups; an annotated bibliography (out of date); and a good index.

But most of the book is devoted to describing the dozens of fossil-collecting localities in our area. Although access to some localities might have changed in the last 26 years, almost all are easily accessible roadcuts. Some are publicly owned streambanks and protected sites such as Calvert Cliffs, also easily accessible. Exceptions could be the few roadside quarries, which might now be blocked off to visitors.

If nothing else, the book reveals the multitude of fossil-collecting opportunities in our area. Particularly for beginners, it seems like a good place to start!

Bench Tips

Sharp Knives for Cutting Molds

Brad Smith

Cutting molds is easier and more precise with a sharp blade. A new Exacto blade is sufficient for cutting RTV molds but is usually not sharp enough for vulcanized rubber. For that, it's best to use scalpel blades available from most jewelry supply companies.

The #11 blade is triangle shaped and the #12 is hawksbill shaped. I find the hawksbill particularly nice for cutting the registration keys of the mold.

See Brad's jewelry books at amazon.com/author/bradfordsmith

Humor

English or German?

by Bill Patillo

Editor's note: *The piece is adapted from* Snoopy Gems *(newsletter of the Mississippi Gulf Coast Gem & Mineral Society, Ocean Springs, MS), December 2015, p. 4.*

European Union commissioners have announced an agreement to adopt English as the preferred language for European communications rather than German, which was the other possibility. As part of the negotiations, the commissioners agreed that English spelling had room for improvement. They have ac-

cepted a 5-year phased plan for what will be known as EuroEnglish.

In the first year, "s" will be used instead of the soft "c." Sertainly, sivil servants will resieve this news with joy. Also, the hard "c" will be replaced with "k." Not only will this klear up konfusion, but typewriters kan have one less letter.

There will be growing publik enthusiasm in the sekond year, when the troublesome "ph" will be replaced by "f." This will make words like "fotograf" 20 persent shorter.

In the third year, publik akseptanse of the new spelling kan be expekted to reach the stage where more komplikated changes are possible. Governments will enkorage the removal of double letters, which have always ben a deterent to akurate speling. Also, al wil agre that the horible mes of silent e's in the languaj is disgraysful, and they would go.

By the forth year, pipl wil be reseptiv to steps such as replasing "th" by "z" and "w" by " v."

During ze fifz year, ze unesesary "o" kan be dropd from vords containing "ou," and similar changes vud of kors be aplyd to ozer kombinayshuns of leters.

Und efter ze fifz yer, ve vil al be speking Jerman lyk zay vunted in ze forst plays.

Save the dates!

June/July Field Trip Opportunities

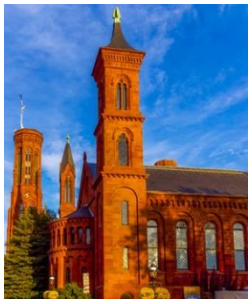
Northern Virginia Community College

NOVA's Annandale campus offers 1-day weekend courses—essentially, field trips—related to our hobby. You can get more information at the Field Studies in Geology—GOL 135 Website.

Geology of Great Falls Park, VA. One-day field trip, Saturday, June 3 (rain date: Sunday, June 4), with a posttrip meeting on Saturday, June 10. Study the modern and ancient forces that created Great Falls National Park, including some easy to moderate hiking. Meet in front of NOVA's main Bisdorf entrance at 9:00 a.m., returning by 6:00 p.m.

Miocene Geology of Calvert Cliffs, MD. One-day field trip, Saturday, June 10 (rain date: Sunday, June 11), 9 a.m. to 6 p.m. Learn how the Miocene seas spread across Chesapeake Bay region about 10 to 20 million years ago. We will visit the Calvert Marine Museum collections and study ancient sediments, stratigraphy, and paleoenvironments preserved in world-famous Calvert Cliffs, MD, collecting fossils along the way.

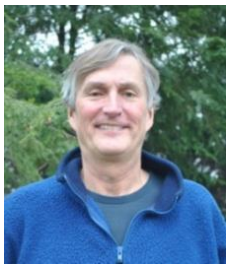
Triassic-Jurassic Rift Valley of Northern VA. One-day field trip, Saturday, June 24 (rain date: Sunday, June 25), 9 a.m. to 7 p.m. Explore the geologic history of the famous Mesozoic rift basin, specifically across the Manassas, Leesburg, and Haymarket areas. Field stops will include quarry and roadside outcroppings of all rock types, dinosaur tracks, rift basin stratigraphy, and tectonic structures.



Building Stones of the National Mall, Washington, DC. One-day walking tour, two different dates: Saturday, July 1 (rain date: Sunday, July 2); and Saturday, July 22 (rain date: Sunday, July 23), 9 a.m. to 6 p.m. We will visit over 20 sites on the Washington Mall, examining the geologic history and architecture, including the rocks used to construct the federal buildings and monuments.

Editor's Corner

Club Member Volunteers



by Hutch Brown

The April 2017 issue of our newsletter carried an article on signs of vitality for clubs like ours (Dave Korzendorfer, "What Is the Health of Your Club?"). One of the signs is the extent of club volunteerism.

Every club like ours has elected officers (typically a president, vice-president, secretary, and treasurer). In addition, club members volunteer for positions ranging from greeter to field trip chair (see the list of current volunteers on the last page of this newsletter).

Interested club members can invent (or reinvent) their own positions. Sheryl Sims and Kathy Hrechka have

recently done so, respectively, as club photographer and club historian. One sign of club vitality is how many volunteer positions a club has.

Webmaster Casper Voogt has created a Webpage listing club officers and others from 1961 to the present. Based on the list, I have compiled the average annual number of volunteer positions for our club by decade. Shown below are the numbers, along with sample club positions to show the variety of possibilities.

1960s ..... 2 (newsletter editor, field trip chair)

1970s ..... 4 (education, librarian, hospitality, show coordinator)

1980s ..... 10 (historian, greeter, members, youth chair, Ways & Means, EFMLS liaison, fossil group leader, All American Club)

1990s ..... 12 (show chair, exhibit coordinator, *plus most of the above*)

2000s ..... 8 (AFMS liaison, Webmaster, *plus some of the above*)

2010s ..... 6 (photographer, *plus some of the above*)

Some older positions (such as librarian or fossil group leader) disappeared for lack of interest, whereas some of the newer ones (such as Webmaster or photographer) resulted from new digital technology.

However, the numbers overall reflect vigorous club growth in the 1980s–1990s. They also suggest, at least to me, room for more volunteerism now. The best way to learn about our hobby is by getting involved. How about writing an article for this newsletter on a hobby-related topic? Or volunteer to run for office next year? Others helped make the club we all enjoy—you can help make it, too!

Household Products That Clean Rocks

by Betsy Martin

Editor's note: *The piece is adapted from* Chippers' Chatter *(newsletter of the Chesapeake Gem & Mineral Society, Baltimore, MD), April 2016, p. 9.*

Safety: Always use plastic containers, rubber or nitrite gloves, eye protection, good ventilation, and great care when handling these products.

Zud or Bar Keeper's Friend cleansers (contain oxalic acid): Warm or hot solutions will remove iron stains and are helpful with clay deposits. Use with a toothbrush on sturdy surfaces.

Toilet cleaner (the hydrochloric-acid type): Dissolves calcite rapidly. After treating anything with acid, rinse very carefully and soak in ample fresh or distilled water to leach out any acid remaining in crystal seams and fractures. Follow up with a final soak in diluted Windex to neutralize remaining traces of acid.

Lime Away (diluted hydrochloric acid): Dissolves calcite slowly. Rinse as you would for toilet cleaner (see above).

Calgon: Dissolve this powdered water softener in water. Use for clay removal.

Vinegar (acetic acid), soda water, and colas (carbonic and phosphoric acids): Use to slowly etch out very delicate fossils in limestone. Rinse as you would for other acids (see above).

Iron Out (iron stain and clay remover): Mix with warm water and use with good ventilation. The solution will lose strength if stored. Rinse with plain water.

Bleach: Dilute solutions of bleach can remove organic deposits and disinfect minerals collected in areas used by livestock. Rinse with plain water.

Hydrogen peroxide: Use to remove manganese stains. Rinse as for acids (see above).

Citric acid: Use like hydrogen peroxide.

Windex (with ammonia): A good clay deposit remover and final surface cleanup. Works well in ultrasonic cleaners. Rinse with plain water.

Distilled water: Use to clean sensitive species and as a final soak after acid treatment.

Removing thin coatings: On moderately hard minerals, use toothpaste and a toothbrush. On hard minerals, use toothbrush with pumice powder and water. On calcite (including bruised places), quickly dip in vinegar or Lime Away and rinse thoroughly. Repeat. Soak in plain water afterwards to leach any acid from cracks.

Cleaning tools: Toothpicks, seam rippers, bamboo sticks, sewing needles in a pin vise, old dental tools, old toothbrushes, periodontal brushes, canned air, Exacto knives, single-edge razor blades, cheap small stiff-bristle brushes.

May 2017—Upcoming Events in Our Area/Region (see details below)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3 MSDC mtg, Washington, DC	4	5 Shows: Marietta, GA; Franklin, NC	6 Shows: GA, NC; auction, Rockville, MD
7 Shows: GA, NC	8 GLMSMC mtg, Rockville, MD	9	10	11	12	13 **Field trip**; shows: Fairless Hills, PA; Towson, MD
14 **Mother's Day**	15	16	17	18	19	20 Show: Leesport, PA
21 Show: Leesport, PA	22 **NVMC mtg, Arlington, VA**	23	24 MNCA mtg, Arlington, VA	25	26	27 **Field trip**
28	29 **Memorial Day**	30	31			

Event Details

3: Washington, DC—Monthly meeting; Mineralogical Society of the District of Columbia; 1st Wednesday of the month, 7:45–10; Smithsonian Natural History Museum, Constitution Avenue lobby.

6: Rockville, MD—Auction (lapidary equipment and rock); Gem, Lapidary, and Mineral Society of Montgomery County; 11109 Rosemont Dr; 10 a.m.

7–8: Franklin, NJ—Annual Sterling Hill Super Dig and Franklin Gem and Mineral show.

6–8: Marietta, GA—Gem and Mineral Show, Auction; The Georgia Mineral Society; Cobb County Civic Center, 548 South Marietta Parkway; Fri/Sat 10–6, Sun 12–5; info: mayshow@gamineral.org.

8: Rockville, MD—Monthly meeting; Gem, Lapidary, and Mineral Society of Montgomery County; 2nd Monday of the month, 7:30–10; Rockville Senior Center, 1150 Carnation Drive.

13: National Limestone Quarry—3499 Quarry Road, Middleburg, PA; Sat 8:30–9 to 12 noon at #1, then after lunch at #2, 217 Quarry Rd, Mount Pleasant Mills, PA; contact Bob Cooke at rdotcooke@gmail.com.

13: Fairless Hills, PA—Earth Science Show & Sale; Rock & Mineral Club of Lower Bucks County, PA; Christ United Methodist Church, 501 Wistar Road; 9–3; adults $2, kids 12 & under free; info: Brian Schwab, 215-788-3993.

13: Towson, MD—28th Annual Chesapeake Gem & Mineral Show; Chesapeake Gem & Mineral Society; Ruhl Armory, I–695 at exit 26 south; info: Bernie at bernieje@comcast.net.

20–21: Leesport, PA—49th Annual "World of Gems and Minerals" Rock, Mineral, Fossil and Jewelry Show; Berks Mineralogical Society; Leesport Farmers Market; info: Jim Woodeshick, brwoodpile@yahoo.com.

22: Arlington, VA—Monthly meeting; Northern Virginia Mineral Club; 4th Monday of the month, 7:45–10; Long Branch Nature Center, 625 S Carlin Springs Rd.

24: Arlington, VA—Monthly meeting; Microminerologists of the National Capital Area; 4th Wednesday of the month, 7:45–10; Long Branch Nature Center, 625 S Carlin Springs Rd.

27: Vulcan Quarry—8537 Vulcan Lane, Manassas, VA; 6:30 a.m.; contact Bob Cooke at rdotcooke@gmail.com.

THE NORTHERN VIRGINIA MINERAL CLUB INC

Crystals are the flowers of the Mineral Kingdom

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Mineral of the Month: Siderite

PLEASE VISIT OUR WEBSITE AT:
http://www.novamineralclub

The Northern Virginia Mineral Club

Return address: Hutch Brown, Editor
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Arlington, VA 22203

You can send your newsletter articles to:

hutchbrown41@gmail.com

Visitors are always welcome at our club meetings!

RENEW YOUR MEMBERSHIP!

SEND YOUR DUES TO:
Rick Reiber, Treasurer, NVMC
PO Box 9851, Alexandria, VA 22304

OR

Bring your dues to the next meeting.

Purpose: To encourage interest in and learning about geology, mineralogy, lapidary arts, and related sciences. The club is a member of the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS—at http://www.amfed.org/efmls) and the American Federation of Mineralogical Societies (AFMS—at http://www. amfed.org).

Dues: Due by January 1 of each year; $15 individual, $20 family, $6 junior (under 16, sponsored by an adult member).

Meetings: At 7:45 p.m. on the fourth Monday of each month (except May and December)* at **Long Branch Nature Center**, 625 Carlin Springs Road, Arlington, VA 22204. (No meeting in July or August.)

**Changes are announced in the newsletter; we follow the snow schedule of Arlington County schools.*