Micromineralogists of the National Capital Area, Inc.

MNCA Website www.dcmicrominerals.org

The Mineral Mite

Vol. 55 – No. 1 Washington D.C. – A Journal for Micromineralogists Jan 2022

January 26 Time: 7:30 p.m. Zoom

Program: James Madison University Mineral Museum

presented by Michael Pabst and his iPhone

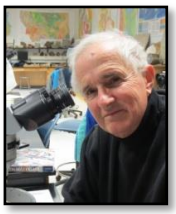
The small town of Harrisonburg, Virginia is home to the James Madison University Mineral Museum. MNCA members Karen and Michael Pabst live in Harrisonburg, where they can easily visit the Museum. Capitalizing on this happy circumstance, Michael has tested whether his little iPhone can successfully photograph the world-class minerals on display. At the upcoming January 26, 2022, MNCA meeting on Zoom, you can see if this photography experiment was successful.

continued next page

Mystery Photo of the Month

Clue: Mag_____nicite from Franklin, NJ
by Pete Chin Honolulu, Hawaii (answer next page)

President's Message:



by Dave MacLean

Happy New Year 2022!

Our fiendishly clever wily covid-19 virus outwitted us again by reportedly stealing a piece of cold virus to allow it to spread 4-7 times as fast as the incumbent delta variant. However, it gave away part of its nastiness to make us less sick if we are vaccinated and boosted. The virus's speedy spread tells us to meet by zoom at 7:30PM on Wednesday January 26 to see talk by Michael Pabst, "Minerals in the James Madison University Mineral Museum". I am looking forward to seeing the talk.

Atlantic Micromounter's Symposium April 1-2, 2022 update

by Kathy Hrechka, chair

Our intention is to have an in-person symposium at the usual location, Holiday Inn in Alexandria, Virginia. Perhaps two of our speakers would be broadcast on Zoom, for the folks who are unable to attend. The micromineral auction would only be for attendees on location. I am trying to work with the hotel's new coordinator.

2022 Dues are Due

MNCA Membership dues for 2022
$15 (single) or $20 (family)
MNCA - Michael Pabst, Treasurer
Details on page 17-18
Please update your email and preferred contact info.

Jan Program: JMU Mineral Museum

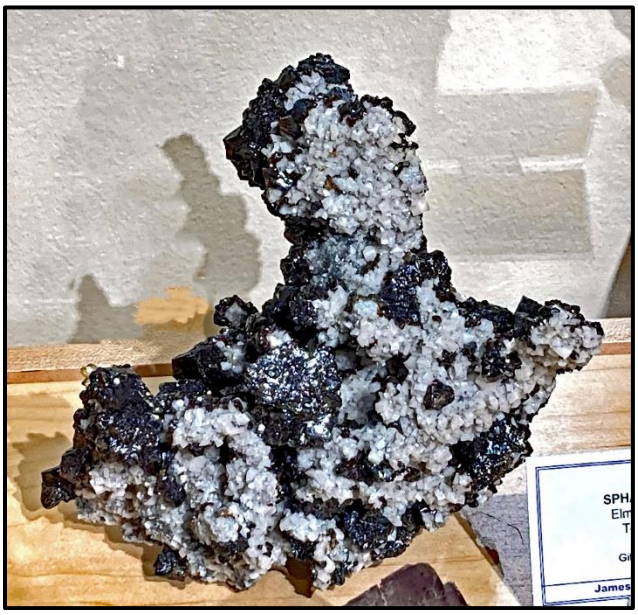
To compare Michael's amateur photography with that of a mineral photography professional, Jeff Scovil, please consult the September-October 2020 issue of *The Mineralogical Record*. There you will see some 50 incredibly beautiful photos from the Peter Via Collection: Wilson WE (2020) The Peter L. Via Collection at James Madison University, *Mineralogical Record* 51:703-726.

There is more to the JMU museum collection beyond the recent Peter Via bequest, so even if Michael's photos are not professional level, you will be able to see some specimens that are not in the article. Here are a few iPhone photos as an appetizer:

Malachite on Shattuckite, Kaokoveld, Kunene Region, Namibia. Peter Via Collection.

Rhodochrosite, Sweet Home Mine, Alma, Colorado. Peter Via Collection.

Turquoise, Lynch Station, Virginia. Original JMU collection.



Dolomite on Sphalerite, Elmwood Mine, Tennessee. A gift purchased at the Shenandoah Valley Gem & Mineral Society Show in 2019.

Mystery Photo of the Month – January

by Pete Chin, Honolulu, Hawaii

Magnesiochlorophoenicite from Franklin. Verified specimens are extremely rare. This one was analyzed by Brian Mason. The pink crystals are Hodgkinsonite. FOV = 7 mm.

Previous Program Review: 12/20/21

MNCA members had an evening of geology fellowship with the Northern VA Mineral Club. Tom Kim, NVMC president invited club members to his residence in Alexandria. There was the usual gift-exchange. All had fun.

Silver Sulfosalts – Rare Species

by Michael Pabst PhD, Treasurer

We will end our examination of silver minerals, at least for now, with a look at some rare silver sulfosalts. I thought myself eccentric for caring about these tiny black minerals. But there was a program on **Mineral Talks Live**, Episode 26, that featured Dr. Frank Keutsch, a professor of chemistry at Harvard University: https://www.youtube.com/watch?v=D-yDjqIKx34&t=3014s. (There is a silver and copper sulfosalt named for him called Keutschite Cu_2AgAsS_4.) He is even crazier about these minerals than I am, referring to them as his "black uglies", so I feel emboldened to show you some from my collection. There are many silver sulfosalts besides the better-known minerals like Pyrargyrite $AgSbS_3$ and Proustite $AgAsS_3$, that we already looked at in previous articles. Here are a few of these rarities that I want to show you now.

Argyrodite Argyrodite is a silver and germanium mineral, Ag_8GeS_6. Dr. Keutsch discovered an arsenic analog called Spryite Ag_8AsS_6. Antimony (Sb), Tin (Sn), and Selenium (Se) are common impurities in Argyrodite. Argyrodite forms a series with Canfieldite Ag_8SnS_6. Argyrodite is commonly associated with Pyrargyrite Ag_3SbS_3, as we see in the photo below. This is the first germanium mineral I have photographed. Argyrodite crystallizes in the orthorhombic system *mm*2-pyramidal, but it often appears pseudo-octahedral or pseudo-dodecahedral, or pseudo-cubic. Here is a diagram prepared by Ulrich Baumgärtl from Mineral Atlas:

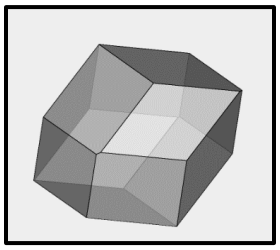
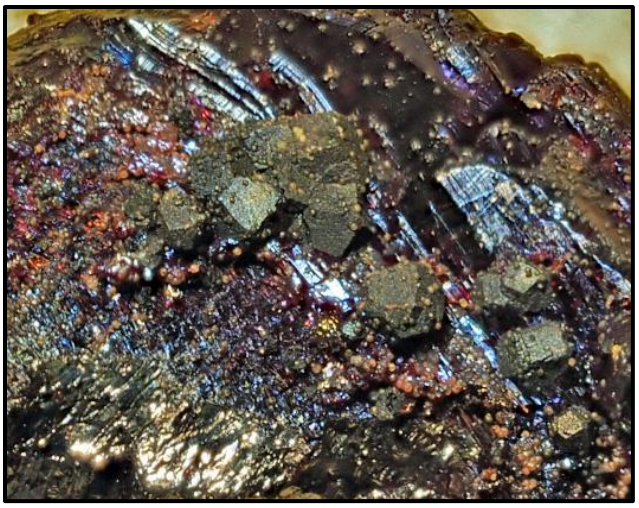


Diagram of Argyrodite, looking almost like it is in the isometric system. Link: www.mineralatlas.eu/lexikon/index.php/MineralData?mineral=Argyrodit.



Argyrodite (gray-brass) on Pyrargyrite (red). Colquechaca, Chayanta Province, Potosi, Bolivia. FOV 4 mm. Photo by Michael Pabst, using macro + Raynox lenses, stacking 25 images. There are also little orange balls scattered about that might be a silver halide like Chlorargyrite AgCl (guessing).

There is a good photo on Mindat of an authenticated Argyrodite from Colquechaca, Bolivia, photographed by Van King: www.mindat.org/photo-198988.html. Here is a specimen from Colquechaca, Bolivia that looks like mine, photographed by Robert O. Meyer: www.mindat.org/photo-14304.html.

Samsonite $Ag_4MnSb_2S_6$. Many rare silver sulfosalts are found at Uchucchacua in Peru, which is a focus of Dr. Keutsch's research. But Samsonite has not been found at Uchucchacua, surprisingly. Samsonite is deep red, looking almost black. Monoclinic 2/*m*--prismatic.
Some examples from Mindat:
https://www.mindat.org/photo-614283.html.

Red trace:
https://www.mindat.org/photo-558792.html.

Much red:
https://www.mindat.org/photo-581191.html.

My specimen of Samsonite is featured on the next page. The locality is from the Samson Mine near Goslar in Germany, which is the best locality for the species:

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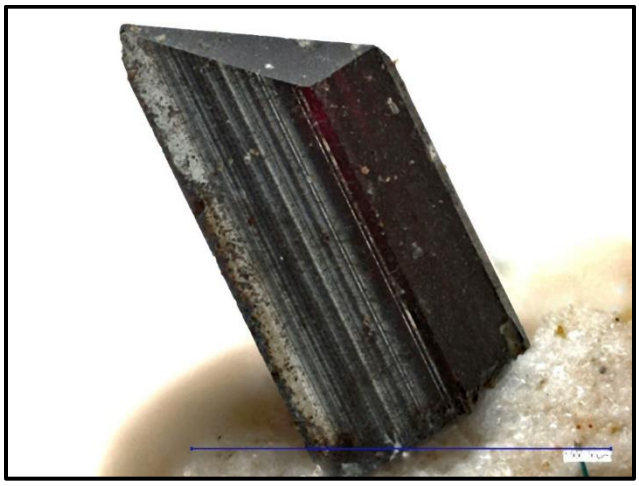
Silver Sulfosalts continued



Samsonite from the Samson Mine, St. Andreasberg, Braunlage, Goslar District, Lower Saxony, Germany. FOV 1 mm.
Photo by Rockhunter Handels UG, Obere Amalienhöhe 235, 55425 Waldalgesheim, Germany. Adjusted with Photoshop Elements by Michael Pabst.

Gustavite A silver and bismuth mineral $AgPbBi_3S_6$. Type locality is Ivigtut, Greenland. My specimen comes from Rotgülden, Muhr, Tansweg District, Salzburg, Austria, and is labeled in German: Gustavit, Kupferkies (Chalcopyrite), Dolomit, Magnetkies (Pyrrhotite). Arsenopyrite is also present. Gustavite occurs typically as tabular crystals, often bent. Gustavite from Rotgülden is monoclinic, although synthetic material was found to be orthorhombic. Antimony (Sb) sometimes substitutes for bismuth (Bi) in related species, like Terrywallacite $AgPb(Sb,Bi)_3S_6$. Antimony is above bismuth in the same column of the Periodic Table. Sometime selenium partially replaces sulfur, again same column of Periodic Table. There are nice photos of Gustavite on Mindat:

https://www.mindat.org/photo-139547.html.
from Rotgülden.

https://www.mindat.org/photo-253577.html.
with Arsenopyrite (FeAsS).

https://www.mindat.org/photo-854347.html.
with Dolomite

This specimen of Gustavite, contains Dolomite, Arsenopyrite, Chalcopyrite, and Pyrrhotite.

Gustavite (black) with yellow Dolomite, and gray arsenopyrite (?). Rotgülden, Muhr, Salzburg, Austria. Photo by Mintreasure (Carsten Slotta), who sold me the specimen. FOV 2 mm.

Parasterryite. $Ag_4Pb_{20}Sb_{14}As_{10}S_{58}$. Monoclinic 2/*m* – prismatic, $\beta = 90.061°$ (nearly 90°). There are only two photos of Parasterryite on Mindat:
https://www.mindat.org/photo-428789.html
and https://www.mindat.org/photo-855528.html.

Sterryite $Cu\ (Ag,Cu)_3Pb_{19}(Sb,As)_{22}(As)_2S_{56}$.
Monoclinic 2/*m* – prismatic, $\beta = 94.896°$.
https://www.mindat.org/photo-229503.html.
These two minerals come from the Pollone Mine, Valdicastello Carducci, Pietrasanta, Lucca Province, Tuscany, Italy.

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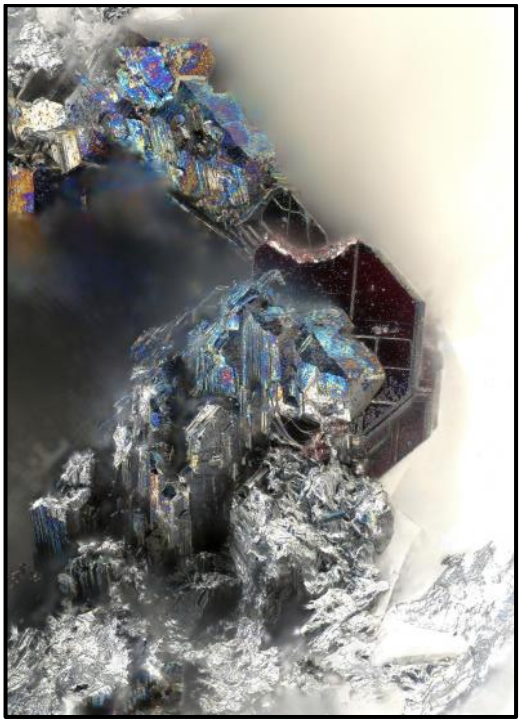
Silver Sulfosalts continued

My Parasterryite below was difficult to photograph because the crystals tended to flare in the light. Although the crystals look black in the photo, they are extremely shiny silver metallic:

Parasterryite. Pollone Mine, Valdicastello Carducci, Pietrasanta, Lucca Province, Tuscany, Italy. FOV 2 mm.
Photo by Michael Pabst using Mitutoyo 10X lens on Wemacro rail, stacking 21 images. (With a lot of imagination, I can see a dragon of the left battling the black knight on the right.)

Quadratite We viewed Manganoquadratite earlier in the May 2020 *Mineral Mite*. Quadratite substitutes cadmium (Cd) for manganese (Mn). $Ag(Cd,Pb)AsS_3$ vs $AgMnAsS_3$. Both are tetragonal. Type locality of Quadratite is the Lengenbach Quarry in Wallis, Switzerland. Photo on Mindat with Smithite $AgAsS_2$: www.mindat.org/photo-629528.html.

My specimen of Quadratite shows distinctive dark red color, which is not always noticeable in other specimens.



Quadratite (dark red) on Jordanite (black) and Dolomite. Lengenbach Quarry, Binn Valley, Wallis, Switzerland. Photo by Joy Desor Mineralanalytic, who sold me the specimen, adjusted with Photoshop Elements. FOV ~1 mm.

I have other related silver sulfosalts also found in the Lengenbach quarry. Some examples are:
Rathite $Ag_2Pb_{12-x}Tl_{x/2}As_{18+x/2}S_{40}$. Monoclinic 2/*m* – prismatic, β = 100.704°.
Hatchite $AgTlPbAs_2S_5$. Triclinic $\bar{1}$ – pinacoidal,
Marrite AgPbAsS3. Monoclinic 2/*m* – prismatic, β = 91.22°.
Smithite $AgAsS_2$. Monoclinic 2/*m* – prismatic, β = 101.2°.
Someday, we must return to Lengenbach, and look at these rare minerals more closely.

Next month, we will switch from silver minerals to nickel minerals. I have decent Annabergite and Millerite, but not much else. Nickel does not seem to make pretty silicates, for example. This behavior is like silver which has no silicates at all. Does anyone have a nice photo or specimen of a nickel mineral? Please let me know.

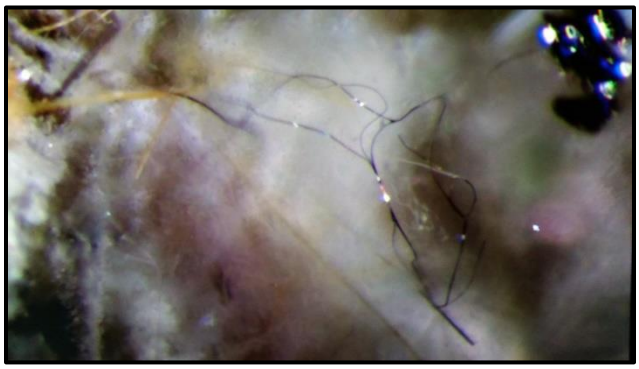
Friedrichite Inclusions in Fluorite from New Mexico

by Patrick Haynes, Socorro, NM

While hiking in the Sandia Mountains of Bernalillo County, NM in 2020, a four-foot-wide boulder was observed. This boulder had a sharp contact with its granite host rock and was lying about 100 feet from some outcropping quartz/fluorite veins, situated at the same elevation. Fortunately, this heavy rock had the side with the fluorite/quartz facing up. I had been grinding and polishing fluorite from other New Mexico localities to locate and identify the inclusions. I eventually got around to breaking off some chunks of "the boulder", and then grinding and polishing them to see if they contained anything interesting.

Long black or gray metallic laths/tendrils were observed in polished Sandia fluorite. The length to width ratio can be quite high, requiring magnification to spot the crystals. A tendril can be a centimeter long but requires magnification to spot since it is so very narrow. I immediately suspected the tendrils to be a sulfosalt, as the only minerals that I had previously seen resembled jamesonite and boulangerite.

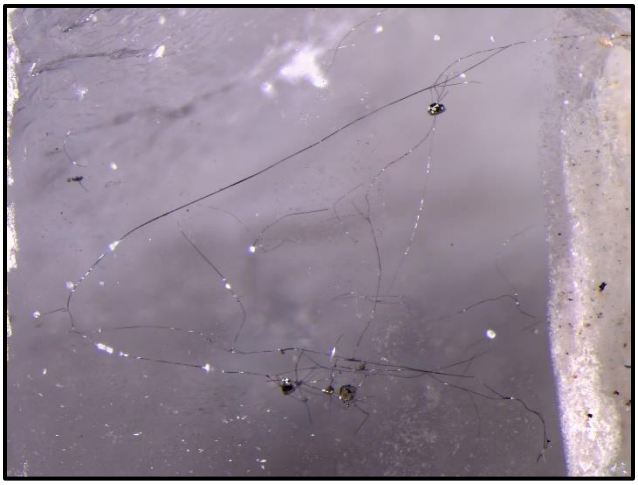
I sent four polished samples to Dr. Inna Lykova for analysis. These samples had tendrils that went to the surface of the polished fluorite, so I was hoping that they could be micro-probed to obtain the chemistry. Dr. Inna Lykova was able to identify the tendrils via EDS and PXRD using a tiny amount of material. Due to the tedious sample preparation, more testing of the sulfosalt tendrils may not be forthcoming.



Friedrichite tendrils, with cerussite, as inclusions in fluorite from the Sandia Mountains, NM. 2mm wide

These interesting tendrils turned out to be friedrichite! This mineral was originally found in Austria, situated below a well-known emerald locality, and published in 1977. It was named for a noted Austrian mineralogist, Dr. Othmar Friedrich (1902-1991). Friedrichite is an orthorhombic member of the aikinite group. Its formula is $Pb_5Cu_5Bi_7S_{18}$. The mineral associations at the type locality somewhat match the material found in "the boulder".

The friedrichite crystals can abruptly change chemistry, turning into white or colorless cerussite. This is caused by a change in the amount of oxygen in the solution. With a low amount of oxygen, sulfides and sulfosalts can form. A high amount of oxygen allows cerussite and other minerals, commonly considered as secondary minerals, to form. Cerussite can coat friedrichite. Perhaps, cerussite can pseudomorph friedrichite as well? Friedrichite tendrils have been observed that go from black or silvery, to white, to black or silvery, and to white again.



Friedrichite tendrils in fluorite. Notice one wire towards the right side that has several reflections. This might indicate that the crystal is twisting, catching a reflection every 180 degrees of twist. 5 mm FOV.

Minerals found in "the boulder" include aurichalcite, baryte, bismutite, calcite, cerussite, chalcopyrite, chrysocolla, friedrichite, galena, hemimorphite, malachite, quartz, rosasite, sphalerite, and five specimens of wulfenite. All were visually identified except cerussite, chalcopyrite, galena, and friedrichite. These four were identified by Dr. Inna Lykova with PXRD and EDS.

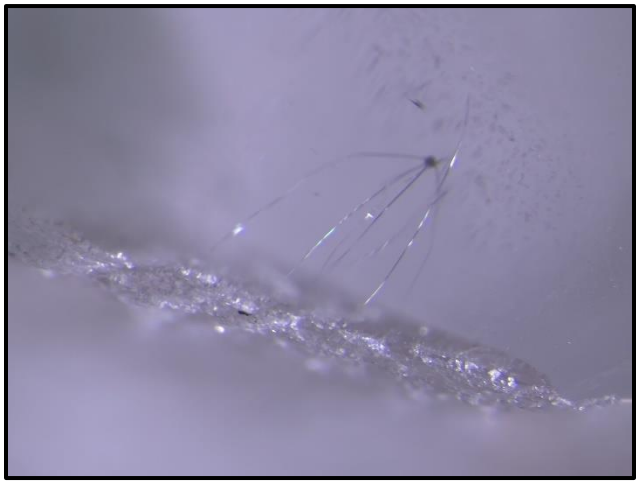
Friedrichite continued

However, the identification of cerussite is not 100%. Most of these minerals are microscopic, and most of the minerals occur in vugs. However, some have only occurred as inclusions, including bismutite and friedrichite. The bismutite was visually identified based upon its creamy pale yellow-greenish color, which is a little bit different than cerussite.

Compared to other mineral species, friedrichites commonly misbehave. The crystals have had the luxury of being formed in a liquid and then having their delicate characteristics preserved within the host fluorite. Such delicate features would have been obliterated had the crystals been formed in open cavities. The friedrichite crystals bend, twist, rotate, bisect, change chemistry, and seemingly do whatever they please.

Several crystal arrangements resemble spiders! The author assumes that these "spiders" or "lunar landers", which have tendrils that usually grew off chalcopyrite crystals, had their long and delicate tendrils grow in the only direction available to them, being in competitive growth with the fluorite.

Chalcopyrite crystals may be catalysts for friedrichite growth. Certainly, they are close associates.



A "spider" or "lunar lander" of **friedrichite** with crystals coming off a tiny chalcopyrite crystal, all in fluorite. The tendrils probably grew towards the lower left, having been in competitive growth with the fluorite, growing in the only direction available to them, and terminating at a fluorite phantom growth line. 2 mm FOV.

Unfortunately, taking images of inclusions in fluorite can be like trying to take images of something in a blizzard. You may think that something is "down there" but getting a decent image of it might be a challenge. There simply may be too much "trash" in the way. Grinding and polishing works reasonably well for fluorite, espec ially if one develops a feel for where the inclusions might be hiding.

Delicate **friedrichite** tendrils in fluorite. 2 mm FOV

Note that fluorite will not yield a good polish on a cleavage plane. Phantom growth lines are often seen. These lines represent stages of growth where there was a change in chemistry that results in different minerals precipitating. The lines also could possibly represent a time when a vug went temporarily dry.

Investigating inclusions can answer many questions about mineral formation. It also generates a lot of questions.

I wish to thank Inna Lykova for testing specimens. Also, Virgil Lueth, Peter Richards and John Rakovan for their comments and explanations. Plus, Paulina Iñigo and Nancy Attaway for their field help, and Nancy Attaway and Alan Perryman for the use of their lapidary shops. I want to thank Nancy Attaway for editing this paper. This paper is adapted from a presentation given at the 2021 New Mexico Mineral Symposium.

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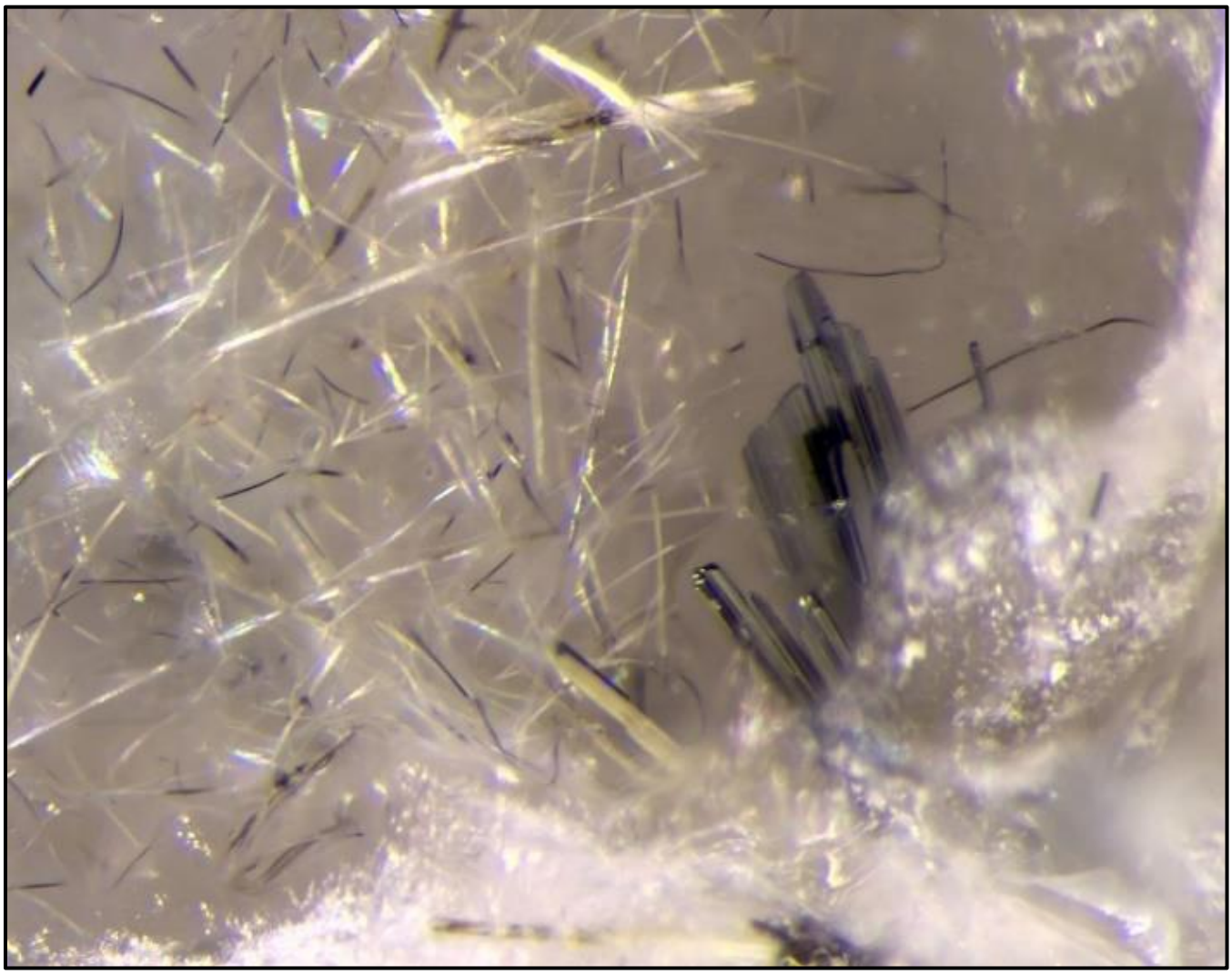
Friedrichite continued



Striated, terminated crystals of **friedrichite,** with tendrils of friedrichite and cerussite, in fluorite. Note that the composition and color of the tendrils can change. 2mm FOV. This image has been posted onto Mindat.org.

Images are stacked and taken with a cell phone of a monitor attached to a digital camera on the microscope.

Photo on right: Patrick Haynes studying friedrichites using his new birthday gift from his girlfriend Nancy Attaway by his side. Geo friend Paulina is on the left.

Photo by Kathy Hrechka visiting Pat in his home.

New: The Mineralogy of Franklin and Ogdensburg New Jersey - 3 Volume set

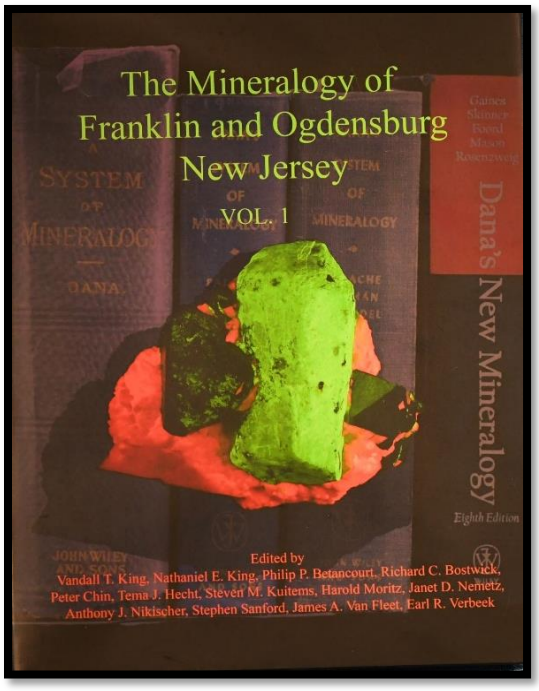
by Pete Chin, Honolulu, Hawaii

The book is, for a lack of an appropriate word, a STUPENDIUM, 1400-page, 3 volume photographic compilation of the almost every known mineral species and more from Franklin and Sterling Hill. The mineralogy and geology of Franklin and Sterling Hill have been intensely studied and written about in hundreds of publications for about two centuries. While commercial mining activities have ceased decades ago, thousands, if not tens of thousands of mineral specimens, have been collected and scattered to the four corners of the Earth. A portion of Franklin and Sterling Hill mineralogical legacy has been fortunately preserved in the museums and private collections of the world. But many mineral specimens including type specimens are locked away in drawers collecting dust.

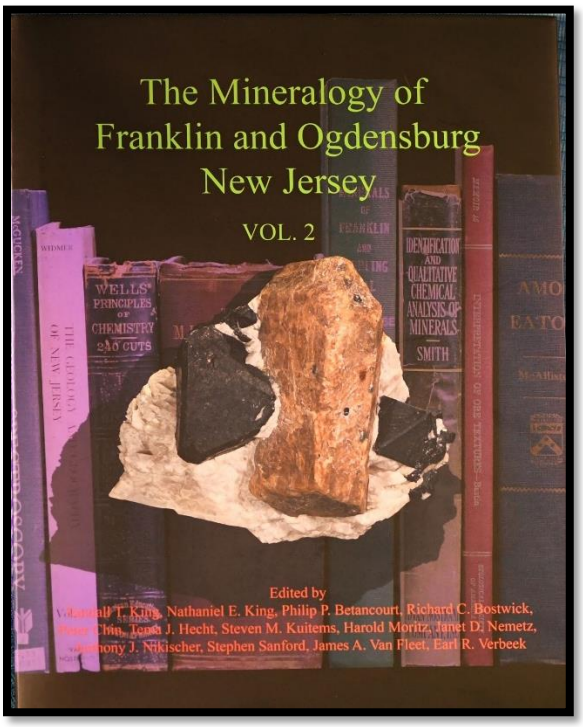
This book blows away some of that dust and reveals the significance and magnificence of the minerals from the two deposits. Since at least the 1970's, efforts to produce a picture book of Franklin and Sterling Hill minerals have failed, that all changed when the Franklin Mineral Museum in 2012 initiated a photographic treatise of Franklin and Sterling Hill minerals book project. It was envisioned to be the photographic complement to Pete Dunn's 1995 monograph, "Franklin and Sterling Hill, New Jersey: The World's Most Magnificent Mineral Deposits".

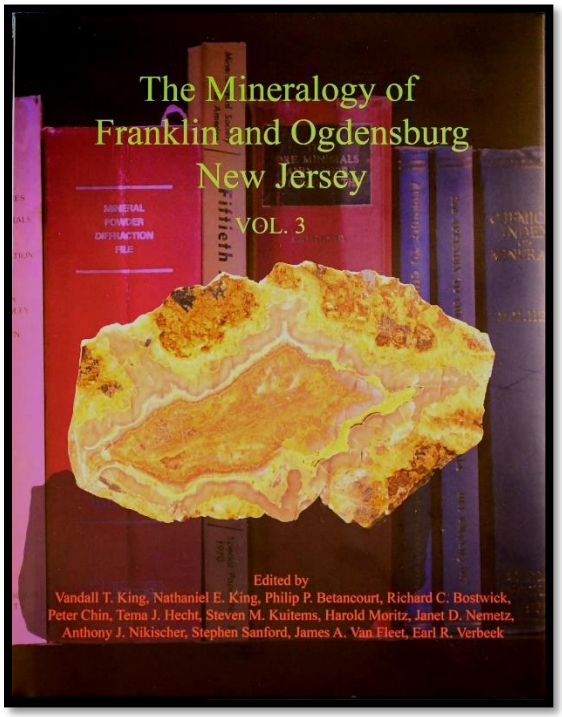
The project has since expanded to include new minerals discovered since the publication of the monograph, and thus updating it. The project was backed financially by numerous donors, especially the Hauck family. A band of volunteers lead by Van King worked tirelessly to bring the project to fruition, the successful culmination of a 9-year cooperative endeavor involving international institutions, universities, analytical services, and individual collectors spanning two continents, North America, and Europe. The book is not merely a compendium of stunning photogenic mineral specimens, although there are quite number of those in the book, it also serves as a vital visual resource to aid in mineral species identification especially of rare species. To achieve this end, thousands of specimens and photographs including photomicrographs were carefully reviewed and then selected to best represent the species and as well to show important assemblages that contained them. In order to realize this objective, specimens, especially of rare species, had to be as accurately identified.

Van King and the editorial staff tried their best to avoid the rare species syndrome, "so rare as to be not on the rock" by selecting specimens of species with proven pedigree/ provenance or confirmed by EDS, XRD, Raman and EMP analyses and even in one case, synchrotron single crystal XRD. During the course of analytical work, species new to the deposit and at least one mineral new to science were discovered. In fact, scientific work is still ongoing on a number of unknowns identified and depicted in the book. Distribution date for the three-volume work is set for some time in January with tentative target price of $150 for the 3-volume set. To reserve and order your copy of this monumental work, please contact Van King at newryqs@gmail.com.



Mineralogy of Franklin continued





From Van King: by Pete Chin
Good news, everybody. The Mineralogy of Franklin and Ogdensburg, New Jersey is on one of the ships of this company and they will begin passage through the Panama Canal soon. Scheduled to begin passing through December 2. The books are in the red and green containers. I have a list of your intentions of wanting a set, but message me as the rubber will soon meet the road. The additional good news is that the Port Of New York is not as overwhelmed as other US ports. I don't see that there will be books sent out before early January. After 9 years in the making!!!!

45th Annual Micromount Symposium

by the Leidy Micromount Society 3/22

Friday March 11, 2022, noon to 6pm
Saturday March 12th, 2022, 9am to 6pm
Advent Lutheran Church, 45 Worthington Mill Road, Richboro, Pennsylvania 18954
Table space (for two days): $25.00 (half table) $40.00 (full table) 6ft
Visitor's Fee (no table): $5.00 Friday & $10.00 Saturday (includes lunch)
Reservations/ Admission:
Make checks payable to; Don McAlarnen,
916 Senator Rd, East Norriton, PA 19403
(610) 584-1364 Questions: Email:
donmcalarnen@outlook.com
Leidy Microscopic Society of Pennsylvania

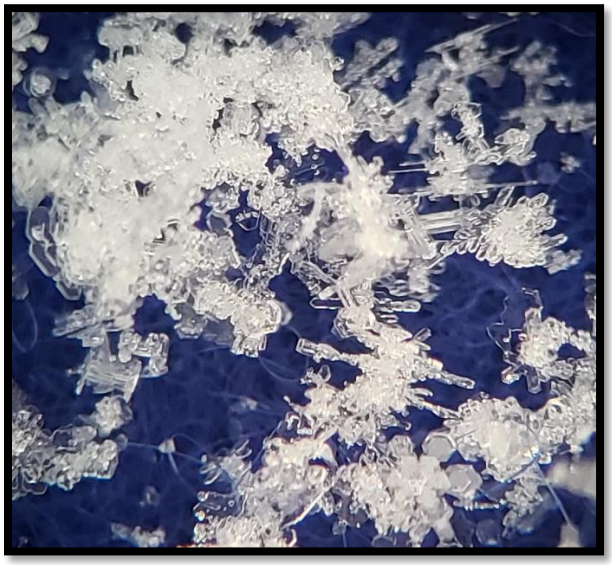
The Dec 16, 2021, meeting of the Leidy Microscopical Society had a surprising visit from Santa. The Santa who joined the meeting was Santa "Micromounter" McAlarnen. In the spirit of good cheer and happiness, Santa McAlarnen distributed gifts of LED work lamps for viewing micromounts and other things along with jars filled with candy like tumbled stones to all the good little micromounters who attended the meeting. Club members thank Santa McAlarnen for the fantastic gifts.
ROCK AND MINERAL CLUB OF LOWER BUCKS COUNTY, PA, INC. Rock Chatter Vol. 56, No. 1

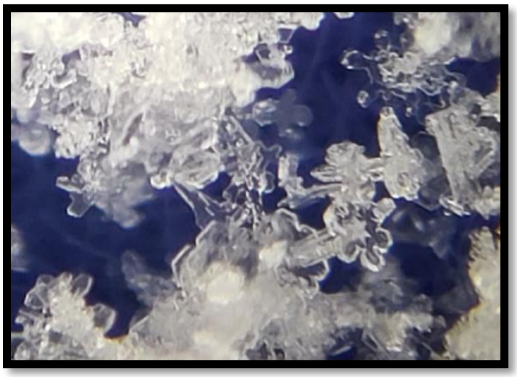
Snow Crystal Photomicrography 2.0

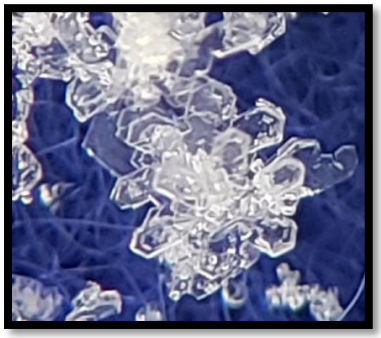
by Kathy Hrechka, Editor

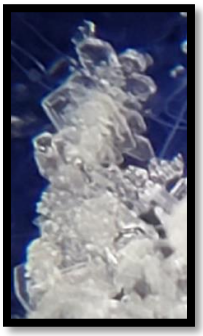
What can I say? Happiness is discovering snow crystals! We experienced a snowfall which lasted for six hours in Alexandria, Virginia on January 3. I set up my microscope by 8am and lost power shortly thereafter. My only light source became the natural snowy sky, which turned out to give me better results, considering glare reduction from a light bulb. As I have learned through the years, each snowfall has a signature of crystal growth. This entire event included capped columns with attached perpendicular crystals on the ends, and hexagonal plates, trying to form snowflakes. The temperature ranged from 32F dropping to 30F. Humidity was high, and the wind was gusting, so I had to work fast. I had more fun viewing the delicate snow crystals, rather than photographing them. Their size ranged from micro up to 3mms. My microscope was set at 10X to reduce blur, as the crystals were all three dimensional.

Kathy's Winter Wonderland set up: Olympus micro-scope with square felt & velvet fabric collecting stages and Samsung 9 cell phone for picture taking.



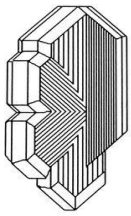






Rochester Mineralogical Symposium April 8-10, 2022, on Zoom

by Ray McDougall, Chairman



Hello RMS Family, we've passed our deadline for RMS decisions and want to share our situation with you. Over a number of weeks, I spoke with many of you (all of whom care deeply about the RMS) and now we are moving forward. My conversations included a broad cross-section of our RMS community – all ages, a variety of backgrounds/interests, US, Canada, even Belgium. At the very outset of chats about RMS there has been a range of reactions, from an assumption it's going ahead in-person to surprise we're even considering in-person.

However, as I asked a few different questions, very common ground has emerged as well. When I ask, "would you personally attend" (assuming all is the same as today, with some improvements like re-opened borders etc., and assuming strict safety protocols - vaccination, masks and distancing), the answers are split, almost evenly (the leader was "no", but very close). People who said yes said they would expect full vaccination and mask requirements, etc. Dealer rooms, eating meals in public settings together, the hospitality suite, staying up drinking with mineral friends, singing with mineral friends… there is not much enthusiasm, and a lot of hesitation. But that's only partly indicative.

So, we are going to focus our energy on making RMS 2022 a more robust event online. We'll spread the event over more than one day, April 8-10, we will include longer feature talks, and we will be looking at more ways to improve social connection and have fun over the course of the event. (For the latter, there are some good ideas and cool technologies out there – we'll have to explore feasibility/cost.)

Stay tuned for details! If you are not already following our page on Facebook, please do, as it is our primary internet presence and is updated when new information is available. Thank you all for your time and thoughtful input on this.

WILDACRES – 2022 Spring Session May 16-22 in Little Switzerland, NC

forwarded by Mary Bateman, EFMLS Editor

It Is official—the dates for the spring 2022 session of Wildacres will be May 16-22, 2022

SPEAKER-IN-RESIDENCE: We are very fortunate to have another fabulous Speaker-in-Residence for the Spring Session -- Dr. Nathalie Brandes. Dr. Brandes is a geologist, author and distinguished college professor and researcher. She is Professor of Geosciences at Lonestar College - Montgomery in Conroe, Texas, where she has been teaching for the past 17 years. In 2019, she was presented the Faculty Excellence Award in recognition of outstanding teaching methods and dedication to student success in the classroom and beyond.

Her current research focuses on ancient mining techniques as well as the history and geology of classic mineral localities. Her Wildacres presentations will focus on the last major gold rush in the United States (Goldfield, Nevada), silver mines in Norway, Mining in the Ancient World, the History of Mineralogy, and the Geology of Birthstones.

Attached is a more detailed biography of her expertise.

CLASS SCHEDULE: We do not yet have the class schedule. It will be distributed as soon as it is available. Watch your inbox for the announcement.

OTHER INFORMATION: While the cost of the session is increasing by $10.00 for a double occupancy room, it is a modest increase and one that is still more than a bargain compared to other entities' classes and instructions. The fee includes a week of excellent instructors, room and board, a great speaker-in-residence, the ambiance, and serenity of being in the great Blue Ridge Mountains, and the comradery of fellow members of the many aspects of the hobby. This year you will have the opportunity to decide if you would like to have a single room or share it. Single rooms will have an additional charge. More information will be forthcoming as soon as it is available. In the meantime, if you have any questions, please feel free to contact one of us.

Wildacres Workshop Staff:

Steve Weinberger, Chair (cscrystals2@gmail.com)
Mark Kucera, Director(mark_j_kucera@yahoo.com)
Suzie Milligan, Registration

Friends of Mineralogy Virginia Chapter FMVA

by Thomas Hale, President

Speaker on Zoom:
January 28 7pm: Shawnna Morrison, Carnegie Institute "Minerology of Mars"

February 25 7pm: Thomas Hale "The Mineral-Security Nexus"

Dear friends, members, and affiliates of FM-Virginia,

Another year has come to an end and FMVA has been excited to review all its accomplishments over 2021 despite the global pandemic. Below is our final brief for this year, the final newsletter to FM National, a flier of all of our speaker series presentations for the year, and our agenda notes from our last board meeting of the year. Let us know if you have any questions!

FMVA met for its **final board meeting** on December 7th. FMVA and its affiliates are requesting ideas for goals, collaborations, and events to be submitted before the year ends to help guide our board meeting in January. If you have any ideas for goals between our organization and yours, please let us know!

The 2022 Virginia Mineral Directory is set to release on **February 10th**. FMVA would like to increase the amount of state organizations in the directory. Please submit your organization's social media, website, leadership, and major events for 2022 to our team if you would like it to be added!! Please submit by early January.

FMVA will host its second **State Leadership Conference** in January. Our team is calling all affiliates to participate in this event. The Zoom event will focus on ways our various organizations can work together over 2022 and avenues for logistical support. FMVA would also like to get two or three statewide goals created for the year.

The **Los Choyas Geodes from Mexico** by Beth Heesacker is now on YouTube. Be sure to watch our entire speaker series for 2021! We have big plans for 2022 and would like all affiliates to participate in our programming.

FMVA Dues for 2022 open on **January 1st.** A formal email will be sent out that week. If you would like to pay early, you can: https://friendsofmineralogyvirginia.org/join/

Thanks again to everyone who has stood by FMVA throughout this year. Our organization continues to grow and redefine how mineral societies contribute to education, industry support, and community programming. Reach out if you require further information or have any follow-up questions.

NEW WEBSITE NOW ONLINE! Please let us know what you think about FMVA's new website! We would love to hear your thoughts and feedback. If you notice issues, just reach out to us. This will expand and grow with new partnerships and activities. https://friendsofmineralogyvirginia.org

IMPORTANT: The VMP has been working behind the scenes for the last few months strengthening the Virginia mineral community and establishing relationships with new affiliates and industry partners. Over the last year, our social media group has attracted **10.5K Virginian's** who share a passion of rockhounding and wanted to stay in touch throughout the pandemic.

FM-Virginia has been the primary organization hosting virtual speaker series and providing outreach and social media engagement. If you want to stay up to date with the VMP outside these newsletters, then please join the FMVA mailing list via Mailchimp: REGISTER HERE.

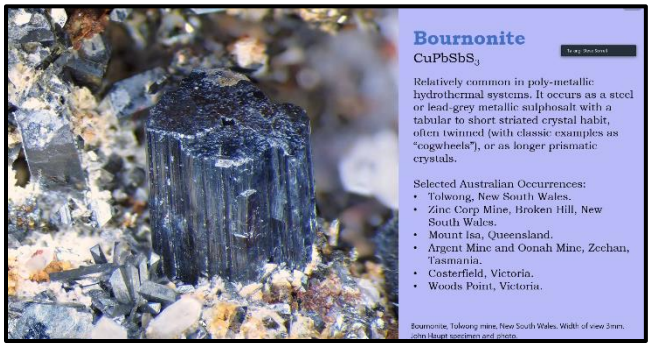
In addition, FMVA and its committees (including VMP) provides a weekly briefing for our affiliates and industry contacts interested in information and progress on the multiple ongoing initiatives. FMVA has recently updated its website, so make sure to check it out!

https://www.friendsofmineralogyvirginia.org/
Email: friendsofmineralogy.virginia@gmail.com
Thomas Hale is the founder and President of FMVA.

Micromineral News from Australia Presenter Steve Sorrell - Dec 14 recap

by Kathy Hrechka, Editor

The Illustrated Minerals of Australia by author, Steve Sorrell: Steve reveals that around 1,500 species are recorded in Australia. 182 are type locality species. Steve shared over one hundred minerals beginning with the letter "B" from his new book. He has almost 700 of those minerals in his own collection. Through the many zoom programs, we have observed Steve's master photomicrographic skills which lends itself for a well-illustrated publication.

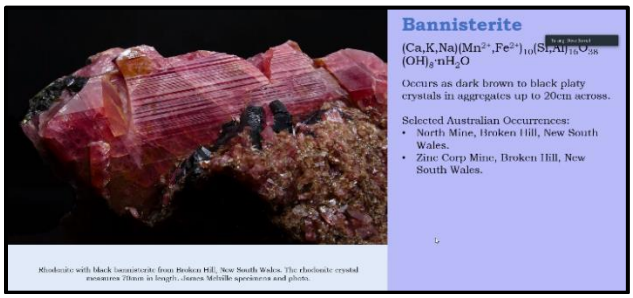


Steve Sorrell from Melbourne, Australia hosts a program every other Tuesday at 2pm (EDT) with various geology persons of interest at their micromount meeting. You can sign up for Steve's programs, and meet new presenters, while enjoying friendly faces within our geology community around the globe.

Steve's next meeting is on Jan 25 at 2pm EDT

Topic: Interactive session on post-processing photos.
register https://crocoite.com/index.php/2021/07/the-micromount-club-zoom-sessions/

The Micromount Club Facebook group has been meeting on Zoom every other week, hosted by Steve Sorrell in Australia. All presentations are available through the following link:
https://www.youtube.com/playlist?list=PLwdOHcjmducFKcDw8d2qgAoEEEB0M7vht



Mineral Talks Live: Jan 12 - 1pm EDT

Speaker: Eric Fritz, Director University of Arizona Alfie Norville Gem & Mineral Museum Tucson, AZ

Eric Fritz**,** FGA, DGA is the director of The University of Arizona Alfie Norville Gem and Mineral Museum. The current role has been to develop and transition the existing collection to the historic Pima County Courthouse facility. Eric has interfaced with the University, Pima County, and the architects to build a world class facility for the collections as well as a research arm for mineralogy and gemology research.

Prior to this role, he was Manager-North America for Gem-A, the Gemological Association of Great Britain, holding both colored stone and diamond designations. Lab instruction, seminars and workshops continue to be provided to students and the gem and jewelry industry. Eric has a degree in Zoology from the University of North Carolina, Chapel Hill. The Zoology degree leads to a passion for pearls and other organic gem materials, which are Eric's specialty.

Each month, Bryan Swoboda, presents various mineral persons of interest on Zoom. All MLT lectures are complementary to our geology community through Dr. Rachel Alanzo Perez from the Mineralogical & Geological Museum at Harvard University, and Dr. Eloise-Gaillou, curator of the Mineralogy Museum Paris School of Mines in France representing the Society of Mineral Museum Professionals SMMP.

Each program is recorded, so you can view archived speaker topics. http://go.mineraltalkslive.com

To join, register in advance for future webinars:

http://go.mineraltalkslive.com/register


WCGMC Sand Times

In this Issue:

January - March, 2022

Favorites ● A Wayne County Sand
Desert Sand ● A Special Sand
Sand Grain Photography
Loam ● Netherlands Sand

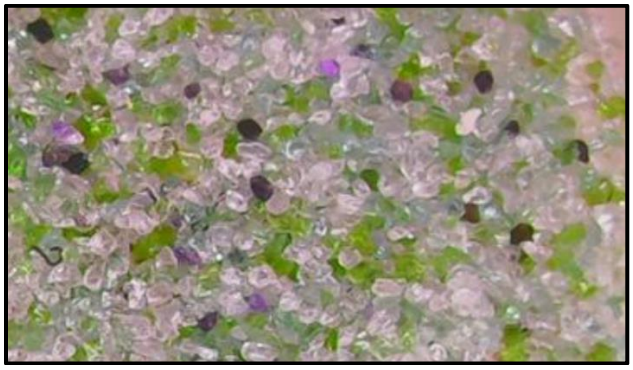
Editors: Fred Haynes (fredmhaynes55@gmail.com)
Jim Rienhardt (siderious@gmail.com)

Wayne County Gem and Mineral Club , P.O. Box 4, Newark, 14513, www.wcgmc.org vol. 3, no. 1 Copyright, 2022

New Zealand Favorites

by Jim Rienhardt

Manufactured New Zealand beach sand supplies are depleting, believe it or not, but that is a topic for another discussion. There is at least one place trying to do something about this by manufacturing "sand" from waste glass. In New Zealand a beer company built a machine to crush the used glass into sand-sized particles to be used in road and other construction while also preserving New Zealand beaches.



Crushed beer bottles - sand from New Zealand

In the US recycled glass is crushed and used as material for new glass, although less than 35% of glass makes it to recycling in the US. (ref. https://www.gpi.org/glass-recycling-facts)

My goal here is not just to inform you of my favorite sand, but to encourage you to look at your collection and pick out a favorite or two and tell us about them. Send pictures and your story to Fred Haynes to be considered for inclusion in future issues of the WCGMC Sand Times

Condensed by Kathy Hrechka from the Wayne County Gem and Mineral Club Sand Times newsletter Newark, New Jersey Vol 3, no 1.
Editors, Fred Haynes, and Jim Rienhardt

American Federation of Mineralogical Societies

(AFMS)
www.amfed.org

Please read the AFMS bulletin attached in original monthly email to MNCA members.

2022 Purpose of the AFMS: To promote popular interest and education in the various Earth Sciences, and in particular the subjects of Geology, Mineralogy, Paleontology, Lapidary, and related subjects, and to sponsor and provide ways to coordinate the work and efforts of all interested persons and groups; to sponsor and encourage the formation and international development of Societies and Regional Federations and thereby to strive toward greater international good will and fellowship.

Congratulations! **Matt Charsky** Arlington, Virginia was recently voted as 1st Vice President of the American Federation, representing the EFMLS.

University of Arizona Alfie Norville Gem and Mineral Museum at the Historic Pima County Courthouse, Is Now Open!
By S. Kaminski, Mineralogical Society of Arizona

A new gem, and mineral museum has opened in Tucson, Arizona. The University of Arizona Alfie Norville Gem & Mineral Museum (UAANGMM) is located within the historic Pima County Courthouse, an iconic and historic building of magnificent Spanish Revival architecture in the heart of Tucson
*Full article published in the AFMS News Sept 2021

Celebrating 50 years!
The Rock & Gem magazine is recognized as the official magazine of the AFMS.
Free archived downloads
Rock & Gem Magazine Archive : Free Download, Borrow, and Streaming : Internet Archive

Eastern Federation of Mineralogical and Lapidary Societies

(EFMLS)
https://efmls.org

Communication and Involvement Are the Keys to Our Success!

Please read the EFMLS bulletin attached in original monthly email to MNCA members.

Local Geology Club Meetings:

January 2022
5: Mineralogical Society of the District of Columbia MSDC 7:30 Zoom
www.mineralogicalsocietyofdc.org

10: The Gem, Lapidary and Mineral Society of Montgomery County, Maryland - GLMSMC
7:30 pm www.glmsmc.com

?: The Gem, Lapidary and Mineral Society of Washington, DC - GLMS-DC meeting
www.glmsdc.org

19: The Baltimore Mineral Society BMS
7pm Zoom
www.baltimoremineralsociety.org

24: Northern VA Mineral Club – NVMC meeting
7:00 pm
www.novamineralclub.org

26: Micromineralogists of the National Capital Area, Inc. - MNCA 7:30pm Zoom
www.dcmicrominerals.org

Atlantic Micromounter's Symposium April 1-2, 2022 update

by Kathy Hrechka, chair
Our intention is to have an in-person symposium at the usual location, Holiday Inn in Alexandria, Virginia. Perhaps two of our speakers would be broadcast on Zoom, for the folks who are unable to attend. The micromineral auction would only be for attendees on location. I am trying to work with the hotel's new coordinator.

Please Indicate:

New Member: _____

or Renewal: _____

Dues Payment enclosed is for calendar year 20 ____

Fees are due January 1st or upon submission of a new application.

Collecting trips / field trips can only be attended by MNCA club members who are current with dues payment and are in 'good standing'.

Application for Membership

Date: _____

Name: _____

Street: _____ Apt / Unit #: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Cell: _____

E-Mail: _____

Email is needed to receive newsletter electronically

Applying for:

Individual Adult: (over 18) ($15.00/yr*) Name: _____ adult _____

or Family Membership: ($20.00/yr*) Name: _____ adult _____

Family is defined as one address. Maximum 2 adults living in same home and children under 18 years of age residing at same address.

Name: _____ adult _____

Name: _____ youth _____ age _____

Name: _____ youth _____ age _____

Hobby Related Interests (check all that apply)

Micromounts ___ Minerals ___ Fossils ___ Artifacts ___ Field Trips ___

Lapidary ___ Tumbling ___ Carving ___ Jewelry ___

Other (please describe) _____

The Club Newsletter is distributed by using email. Electronic versions are full color and approximately 1MB in size (other arrangements to receive the Newsletter by regular USPS mail can be arranged, but there may be an extra yearly charge).

The membership lists, emails and your contact information is kept private and is only used for club business or hobby related distributions. If you are concerned about privacy issues, please specify the items that you wish to remain private. _____

I do hereby waive all right to hold the *The Micromineralogists of the National Capital Area, Inc.* and its Officers liable for any personal injury or loss sustained by me or any member of my family while participating in club activities. I also agree to adhere to the rules and regulations of *The Micromineralogists of the National Capital Area, Inc.* as set forth by its bylaws.

Signature of Applicant: _____

Please pay at meetings or mail to: **MNCA, Michael Pabst, 270 Rachel Drive, Penn Laird, VA 22846**

GeoWord of the Day and its definition:

beta-moissanite (be'-ta-mois-san'-ite) A metallic green cubic mineral: SiC.

coconinoite (co-co-nin'-o-ite) A light creamy-yellow to olivine-green orthorhombic secondary mineral: $Fe^{3+}{}_2Al_2(UO_2)_2(PO_4)_4(SO_4)(OH)_2 \bullet 20H_2O$.

hydroxyl-bastnäsite-(Nd) A dull whitish hexagonal mineral of the *bastnäsite* group, with Nd as the dominant REE: $NdCO_3(OH,F)$. Also spelled: hydroxyl-bastnaesite-(Nd).

right-handed [cryst] Said of an optically active crystal that rotates the plane of polarization of light to the right. Cf: *left-handed [cryst].* Syn: *dextrorotatory.*

szmikite (szmik'-ite) A dirty white to rose-red monoclinic mineral of the *kieserite* group: $Mn^{2+}SO_4 \bullet H_2O$.

Szmikite Womobi Mine, Thologolong, Towong Shire, Victoria, Australia mindat.org

All terms and definitions come from the Glossary of Geology, 5th Edition Revised.
GeoWord of the Day is brought to you by:
EnviroTech!.
envirotechonline.comwordoftheday@agiweb.org

AGI was founded in 1948, under a directive of the National Academy of Sciences It is a not-for-profit 501(c)(3) organization dedicated to serving the geo-science community and addressing the needs of society. AGI headquarters are in Alexandria, Virginia.

Micromineralogists of the National Capital Area
Meetings are held via Zoom, due to Long Branch closings.
Meeting: The 4th Wed. of each month 7:30 -10 p.m.
Long Branch Nature Center (No meetings July & Aug)625 S. Carlin Springs Road, Arlington VA 22204
Phone (703) 228-6535 (Long Branch is still closed)

MNCA Purpose: To promote, educate and encourage interest in geology, mineralogy, and related sciences.
President: Dave MacLean
Vice President: David Fryauff
Secretary: Bob Cooke
Treasurer: Michael Pabst
Editor/Historian: Kathy Hrechka
Website: Kathy Hrechka
AMC Conference: Kathy Hrechka

The society is a member of:
* Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) www.efmls.org
*American Federation of Mineralogical Societies (AFMS) www.amfed.org affiliation

Dues: MNCA Membership **Dues 2022**
$15 (single) or $20 (family) donations
MNCA - Michael Pabst, Treasurer
270 Rachel Drive
Penn Laird, VA 22846

Editor's Note: By Kathy Hrechka
Send your articles and photos to your editor.
Club Article Deadline is 1st of each month.
***The Mineral Mite* will be emailed by 5th.**
No newsletter July/August

Inducted into Editor's Hall of Fame – 2018
EFMLS Trophy 2021 Small bulletins

Newsletter inputs:
*Dave MacLean
*Michael Pabst
*Kathy Hrechka
*Thomas Hale
*Pete Chin
*Pat Haynes
*Mary Bateman
*Don McAlarnen