Micromineralogists of the National Capital Area, Inc.

MNCA Website www.dcmicrominerals.org

The Mineral Mite

Vol. 57 – No. 5 Washington D.C. – A Journal for Micromineralogists May 2024

Meeting: May 28 3-5:30pm Kings Park Library, Burke

Program: Micros from Lavrion, Greece

Jeff Guerber, Vice president

Dave Fryauff will give us a presentation on his collection of minerals from the ancient mines and dumps of Lavrion, Greece. Our May meeting will be held on TUESDAY, MAY 28 (that's the day AFTER Memorial Day!), 3:00-5:30 pm in the Kings Park Library large meeting room. Our June meeting will be on Monday, June 24.

Mystery Micro Mineral of the Month

Clue: Locality, Saligne Mine, Salsigne,Aude, Occitane, France. FOV = 2.5mm. (answer on p. 3)
By Aloha Peter Chin, Honolulu, Hawaii

President's Message:

by David Fryauff

I feel compelled to share a new "finding" from the 2024 Leidy Micromineral Symposium Giveaway tables. I also want to give a brief introduction to Ronald A. Sloto, a geologist-hydrologist with 41 years of experience with the USGS who an Honorary Professor in the West Chester University (PA) Department of Earth and Space Science. Professor Sloto is also the author of numerous books and publications and an avid collector of Pennsylvania's mining history and minerals. He is also the collector and donor of those rare mineral specimens of phoenicochroite and hemihedrite that I speak of.

I have not yet had the pleasure of meeting Professor Sloto personally, but I have communicated with him in his position as the Webmaster and Treasurer of the Friends of Mineralogy-PA, and more recently as the author of an excellent 6-part series on the Minerals of the Penn-MD serpentinite quarry, Fulton Township, Lancaster County, PA which is one of my favorite collecting sites. Importantly, he is part of the West Chester University Center for Microanalysis, Imaging Research, & Training (CMIRT). In this capacity, he has identified and/or verified Penn-MD quarry mineral species by XRD, and SEM/EDS. I will truly value his assistance in distinguishing the dolomite from magnesite in this serpentinite rock.

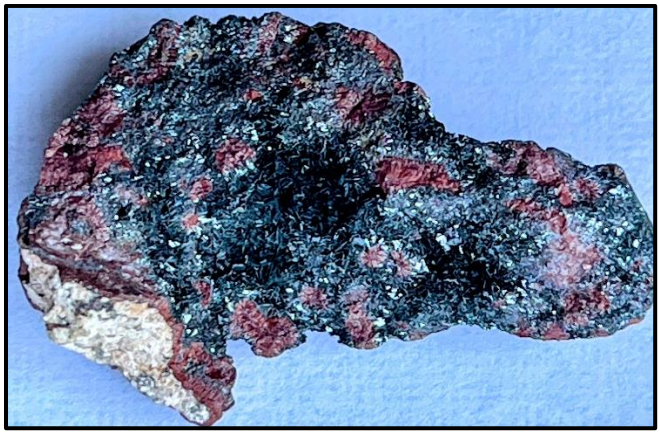
Continued next page.

President's Message continued

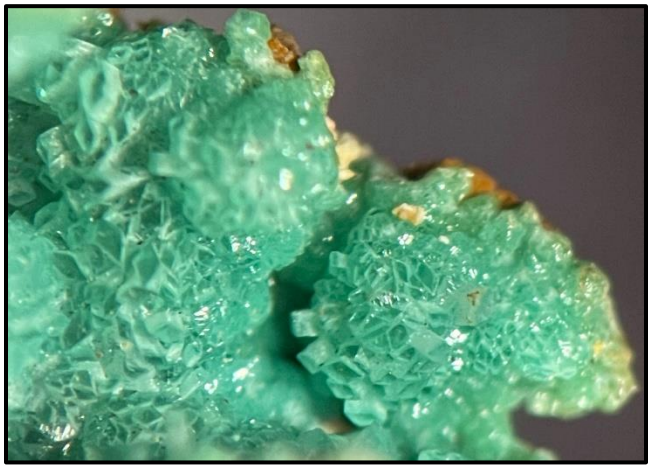
On another track, I attended the April 20th Chesapeake Gem & Mineral Show where Eric Meier of Broken Back Minerals (DE) informed me that Professor Sloto is in the process of analyzing a relatively new find of suspected lepidocrocite from the Southwest Chester County Mine in Schuylkill Townshp, Chester County, PA. But I consider myself most fortunate to have several specimens of phoenicochroite that Sloto collected at the Rat Pack Claim in the deep desert of Maricopa County, Arizona. My examination revealed that these rare specimens may present decent microcrystals. I look forward to sharing some of these micros and hope that our Dr. Michael Pabst, an expert micromineral photomicrograph, will be able to produce high-resolution color photos of the crystals of this brightly colored red mineral that will be suitable for posting to Mindat. The Mindat page for the Pack Rat Claim (aka Rat Tail Claim) currently has sisteen photos of phoenicochroite, virtually all collected by Phil Partington, but none of which clearly show the crystal forms of this mineral.

In closing, warm wishes to all of you for a joyous month of May. Plant a garden and may it produce abundantly for you to support the pollinators that we all depend upon. Let our hearts be calm with truth, understanding, and generosity amid these strange times of political unrest, confusion, and injustice.

Phoenicochroite *and hemihedrite from the Rat Pack Claim, Arizona. Collected by Ronald A. Sloto, photo by David Fryauff*



Black = hematite Redish-brown = lepidocrocite. Micromineral & photo by David Fryauff



Cupro-adamite *from the Mohawk Mine, San Bernardino Co., CA. FOV =3.0 mm. Micromineral & photo by David Fryauff.*

Mystery Micro Mineral of the Month

Answer **Yvonnite (blue) and Puscharovskite (pale blue-green)**. Saligne Mine, Salsigne,Aude, Occitane, France. FOV = 2.5mm
by Aloha Peter Chin, Honolulu, Hawaii

Previous Meeting Minutes 4.29.2024

Recorded by Michael Pabst, Treasurer

A business meeting was held at 3:55 and lasted until 4:20. As President Dave Fryauff was indisposed, VP Jeff Guerber presided. Eight members were present. Tom Tucker and Dave MacLean were recognized as Past Presidents. The minutes of the March meeting were approved with corrections.

As previously approved, the remaining money in the Atlantic Conference account is being transferred into the MNCA account. Two Certificates of Deposit have been established at United Bank.

Michael Pabst talked with Professor Elizabeth Johnson about having another Atlantic Micromounters Conference at James Madison University. Professor Johnson is eager to involve students in the Conference, and she is exploring dates when geology students might be available. Potential themes might be Raman Spectroscopy of micro minerals and photographing micro minerals using stacking techniques. Preparation of micromounts and distribution of giveaway samples would also occur. In addition to the Mineral Museum, additional exhibits in the Geology Department, including some on micro minerals, would be available.

Jeff Guerber is exploring the possibility of using the Rockville Science Center's facility in Rockville, MD as the venue for the Atlantic Conference. This location is closer for most members, but the cost and availability, and whether dealers might be allowed, will be investigated. Rockville Science Center is the organization that conducts the annual Rockville Science Day STEM fair at Montgomery College.

Previous Program Review 4.29.2024

Club members shared their experiences of viewing the solar eclipse on April 8. Some members brought their lunar meteorites from their collection for show and tell.

Photo: Craig Moore & Tom Tucker at our MNCA meeting

Viewing the April 8, 2024, Total Solar Eclipse from Shelburne, Vermont

by Jeff Guerber, Vice President

The total solar eclipse on Monday, April 8 took a path across the US passing from Mexico into southern and middle Texas, then crossing SW Oklahoma, middle Arkansas, far SE Missouri, southern Illinois and Indiana, western and northern Ohio, Erie PA, upstate New York, northern Vermont and New Hampshire, and finally northern Maine, before exiting into New Brunswick. Lakes Erie and Ontario were almost entirely within the path. The path ranged from about 100 to 120 miles wide, depending on the location along the path. Crucially, the chance of clouds increased steadily going from Texas to New England, which had a high likelihood of clouds.

I should perhaps mention that if you are anywhere outside the path, even by possibly just hundreds of yards, you'll miss the best part of the show! In particular, you won't get to see the delicate white corona, because the remaining full-strength sunlight will completely swamp it. (And with ANY full-strength sunlight, it would be dangerous to even try!) And of course, it is CRUCIAL to use proper filters such as eclipse glasses during the partial phases before and after totality.

I called up an old family friend, Sharon, who is now retired and living in SW Vermont near the New York state line, outside the path but well within driving distance of it. Continued next page.

Eclipse continued

This would be my fourth total solar eclipse (following 1991 in Mexico, 1998 in Curacao, and 2017 in Kentucky), and Sharon's first. We decided to just drive north towards Burlington and look for a place to stop once we got inside the path of totality. Burlington was expecting about 50,000 people for the total eclipse.

Eclipse Day afforded us a lovely drive north through the New England countryside, along the Green Mountains (which were still mainly brown, actually, spring having just begun to arrive). I noted that there was a steady stream of cars heading north, and very few heading south, but there were no backups. After about an hour we passed through the small college town of Middlebury, which was just inside the path of totality, and people were already setting up in most of the open areas. While there are some advantages to being just inside the path edge, the length of totality does drop rapidly.

Continuing north, we saw small groups setting up in fields and alongside the roads. Eventually we came to the town of Shelburne. Besides my binoculars, which I find to be excellent instruments for viewing the corona, I had brought my 80 mm f/6 Explore Scientific ED refractor (with solar filter for the partial phases). I bought a tripod bracket and manual camera-control software for my Pixel 6a phone and had made a solar filter for it using some extra Thousand Oaks filter material.

As more and more of the Sun disappeared, the temperature plummeted, and it began to get noticeably darker. People often ask me if being in totality is as dark as nighttime: No, it doesn't get that dark, it's more like late twilight; or better, like wearing dark sunglasses, because the color doesn't change. We could hear a flock of birds in the tree across the road chirping madly, and annoyingly, the parking lot light we were next to turned on. Just before totality, in the telescope I saw Bailey's Beads, where the last sliver of sun breaks up as it shines through valleys on the Moon's edge. I didn't see the shadow bands but didn't really think to look for them.

Then suddenly, there was the corona, with the last bit of sun briefly forming the Diamond Ring! As forecast, the thin clouds had little effect.

To see the glowing white ring of the corona, with its sharp inner edge, in the sky where the Sun should be, is something that truly must be experienced to be fully appreciated. This corona was not as wispy as previous ones I've seen, probably because the Sun had been fairly quiet (and perhaps partially due to the clouds?), yet somehow it also seemed more brilliant than I remember the others. The 80 mm refractor with my widest-field eyepiece gave a superb view, and I made sure Sharon had a look. Meanwhile I also tried running through the camera settings on my phone. Venus was easily visible, below the Sun and Moon about halfway to the horizon, but I was busy enough with the camera that I forgot to also look for Jupiter.

Probably the most extraordinary thing about this eclipse, compared to the others I've seen, was the enormous, bright red, triangular prominence jutting out from behind the Moon. Prominence is essentially a giant fountain of gas erupting off the surface of the Sun. I've seen prominences during eclipses before, but never one this big!

Then the Diamond Ring came back, followed quickly by the first sliver of Sun, and totality was over! Overall, we were in totality for about 3 minutes and 15 seconds. Following totality, I was surprised at how long the Sun appeared as nearly a point light source, perhaps because the other eclipses I've seen were higher in the sky.

Overall, the trip was almost completely successful! Sharon told me later how delighted she was that I had come, because besides getting to visit, she probably wouldn't have seen totality if I hadn't. Unfortunately, none of the cell-phone photos I took have turned out decently so far, despite trying to use the manual camera controls.

The next total solar eclipses will be in August 2026 across Greenland and Spain, August 2027 across northern Africa, and July 2028 across Australia. North America will have its next eclipse in March 2033 but only in parts of Alaska (anyone up for a trip to Barrow?); then, in August 2044 in Canada, Montana, and North Dakota, and August 2045 across the western and southern US. For information about eclipses both solar and lunar, I recommend Fred Espenak's web sites eclipsewise.com and mreclipse.com.

80% Eclipse April 8 in Alexandria, VA

by Kathy Hrechka

Due to weather reports of possible cloud cover, I created a master plan to witness the eclipse at 35,000 feet altitude by flying from Dallas Fort Worth, Texas to Portland, Maine on April 8, 2024. However, I settled to view it from home in Alexandria, Virginia, where we were scheduled to receive an eighty percent eclipse. I learned how powerful the sun is during 80% eclipse, like a heavy cloud covering our area. Since Jeff Grueber gave MNCA members eclipse viewing glasses at our previous meeting, I was all set.

I decided to tape the top edge of my viewing glasses to the side of my Samsung 23 cell phone (creating a flip phone fashion). I enjoyed viewing the actual eclipse through the glasses, but reserved time to photograph the moon's movement in front of the sun. Some of my timelapse photos are shown below. I hope you enjoy them in succession of the moon's movement traversing in front of the sun.

1. *Moon directing a path North - Westerly in front of the sun. Photography by Kathy Hrechka.*

2. *Moon covering sun, due West.*

3. *Moon covering sun due North.*

4. *Moon exiting eclipse of sun due North.*

Continued next page.

Kathy's experiment of a wine bottle revealing its shadow during full sun before eclipse.

100% total solar eclipse. *Photo by Kathy's sister, Therese Carlson on location at a campground in Northeastern Arkansas. Their campground reservation was booked one year ago.*

Oreo cookie example of a total eclipse.

Wine bottle revealing a dimmed shadow during height of eclipse. (moon eclipsed sun 80% in Alexandria, Virginia). Photo by Kathy Hrechka

Eclipse photo taken by Coltin, son in law of Craig Moore. Location: Fairfax, Virginia

Meteorite Exhibit at the Portland International Jetport, Maine PWM - internet photo

Sponsor: Maine Mineral & Gem Museum
Curator: Dr. Carl Francis

ENGAGING HOBBYISTS AND STUDENT VISITORS THROUGH MICROMINERAL ACTIVITIES AT THE JMU MINERAL MUSEUM

ELIZABETH A. JOHNSON and DANIELLE MOSKO, DEPARTMENT OF GEOLOGY AND ENVIRONMENTAL SCIENCE, JAMES MADISON UNIVERSITY, HARRISONBURG, VA

JMU

MINERAL MUSEUM

WHAT IS MICROMOUNTING?

Micromineral collecting is a popular hobby among mineral enthusiasts. Small samples are mounted in 1-inch boxes and are labeled and curated into collections by the owner.

- Mounts may be constructed from clusters of crystals in matrix or single crystals.
- The micromounting community has fostered a culture of sharing through trading or giveaway of extras accumulated by collectors.
- The small sample size makes micromineral collecting an affordable and space-saving way to engage in learning about minerals.
- Microminerals are often aesthetically pleasing and many mineral species are only found as microscopic crystals.

Figure 1. Drawer of micromounts from the JMU Keidel collection.

HOW TO MAKE A MICROMOUNT

Figure 2. Appropriately sized box. **Figure 3.** Add tack to box for sample. **Figure 4.** Place sample on tack. **Figure 5.** Label box. **Figure 6.** Enjoy!

Figure 7. Activity pamphlet for MadiSTEM middle school girls' conference.

MICROMINERALOGIST CONFERENCE

The Micromineralogists of the National Capital Area requested the museum as a venue for a one-day micromineralogy conference including a mineral swap and discussions on the history of micromounting and the micromount collections at JMU.

The museum invited undergraduate students from the UROCKS (Undergraduate Research Opportunities in Cave and Karst Science) Research Experience for Undergraduates (REU) program and a mineral museum student assistant to join the conference.

The micromineralogists prepared materials for students to create their own micromounts, and led informal discussions of the history of micromounting and well-known mineral sampling locations in the area.

Figure 8 (top left). Students learning micromounting techniques from John Ferrante.

Figure 9 (bottom left). Students and other participants looking through giveaway materials at the micromount conference.

Figure 10 (top right). Conference presentation on micromineral collections at JMU.

Figure 11 (bottom right). Students learning about minerals from Virginia collecting localities.

Photos provided by Steve Stuart, Jeff Guerber, and Kathy Hrechka.

MICROMOUNT ACTIVITY FOR HIGH SCHOOL AND MIDDLE SCHOOL STUDENTS

Museum staff, including an undergraduate student assistant, created a micromount activity based upon the conference experience for high school and middle school student groups visiting the JMU Mineral Museum. Groups included summer camps and the MadiSTEM conference for middle school girls.

Figures 12 and 13 (left and top right). High school summer camp students choosing mineral samples and making micromounts. Photo by Jennifer Mangan, camp instructor.

Figures 14, 15, 16. MadiSTEM attendees enjoying the museum visit and creating micromounts. Photo by Rachel Holderman, JMU Enrollment Marketing.

CONCLUSION

The success of the conference and high school activity demonstrates the strength of collaborating with local micromineralogy or mineral collecting groups as a pathway to make connections with hobbyists and to engage students in the mineral sciences.

REFERENCES AND ACKNOWLEDGMENTS

We would like to thank: The Micromineralogists of the National Capital Area including Michael Pabst and Kathy Hrechka for help organizing the conference and John Ferrante for his demonstration of making micromounts; UROCKS REU participants for attending the conference; and Jennifer Mangan and JMU summer camps for student participation in the pilot activity. MadiSTEM and JMU camp photos were provided with permission by JMU summer camps and JMU Marketing.

Iron Oxides: Hematite and Magnetite

by Michael Pabst PhD, Treasurer

Normally, my photos are focused on micro minerals, because micro minerals are usually better than larger specimens. However, for this article about iron oxides, I will include some photos of larger specimens of iron oxides taken during my recent visit to the Alfie Norville Gem & Mineral Museum at the University of Arizona in Tucson. They have some striking specimens that are as beautiful as micro minerals.

Hematite. Hematite is ferric oxide $Fe^{3+}{}_2O_3$. Hematite is deep red in color. Well-formed visible crystals are so deep red that they appear black. Good crystals have a metallic luster. The streak is red, as is powdered Hematite. Hardness 5-6. Hematite means “blood stone” "αιματίτις λίθος" ("aematitis lithos") in Greek. Hematite is trigonal $\bar{3}m$ - hexagonal scalenohedral. The next three photos are of museum-sized specimens from the Arizona museum. Hexagonal plates of Hematite are displayed well in the first photo.

***Hematite**, Minas Gerais, Brazil. University of Arizona Museum. Photo by Michael Pabst, using iPhone. (The specimen is about three inches wide, based on my unreliable memory.)*

The next specimen of Hematite looks like an Art Nouveau sculpture.

***Hematite**, Gogebic Range, Michigan. University of Arizona Museum. Photo by Michael Pabst, using iPhone. (The specimen is about 5 inches wide. This is one of the most beautiful pieces of abstract “sculpture” I have ever seen. If I had made it, I might title it “Nautilus”.)*

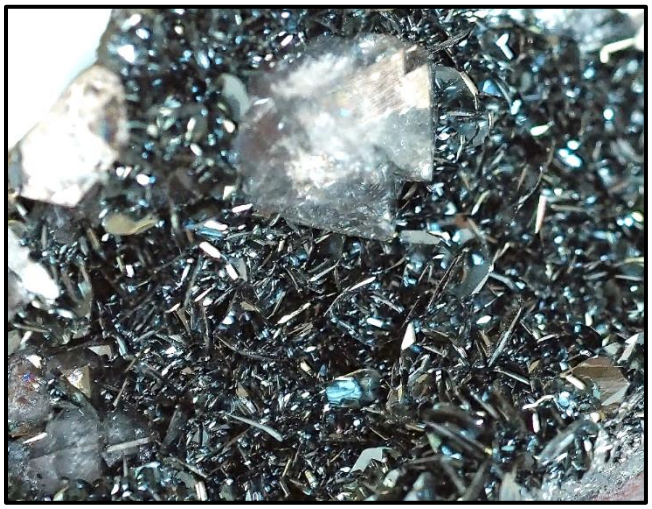
***Hematite,** Wessels Mine, Northern Cape Province, South Africa. University of Arizona Museum. Photo by Michael Pabst, using iPhone. (A bundle of hexagonal prisms. The specimen is about 3 inches wide.)*

Continued next page.

Iron Oxides

Some smaller specimens of Hematite from my collection follow:

Hematite on dark iron-stained Quartz. *Pikes Peak Pegmatite, El Paso County, Colorado. FOV 19 mm. Specimen and photo by Michael Pabst, using macro lens, stacking 50 images.*



Hematite with Quartz. *Beckermet Mine, West Cumberland, England. FOV 18 mm. Specimen and photo by Michael Pabst, single exposure with macro lens. The Hematite crystals look truly black in hand.*

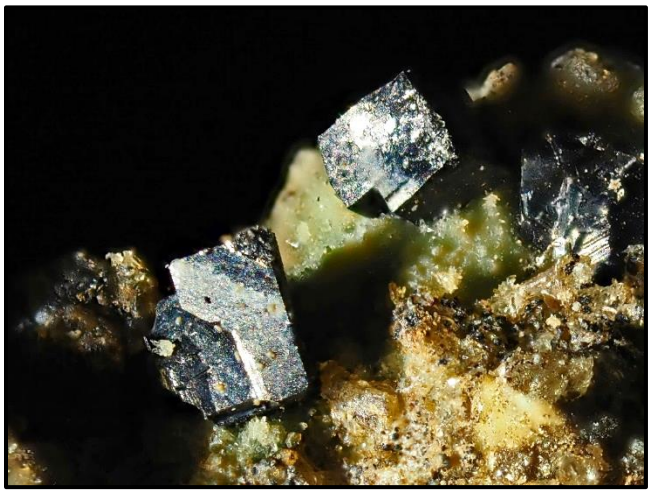
Hematite. *Unknown locality, #262. Width 20 mm. Photo by Michael Pabst, single exposure with macro lens. (This is my prettiest Hematite specimen. If anyone can guess a locality, I would be grateful.)*

Magnetite. Magnetite is ferrous ferric oxide $Fe^{2+}Fe^{3+}{}_2O_4$, black in color, hardness 5½ - 6½, often with a metallic luster. Magnetite was called lodestone in medieval times because it can be naturally magnetic. Later named for the locality at Magnesia, Greece (site for lodestone).

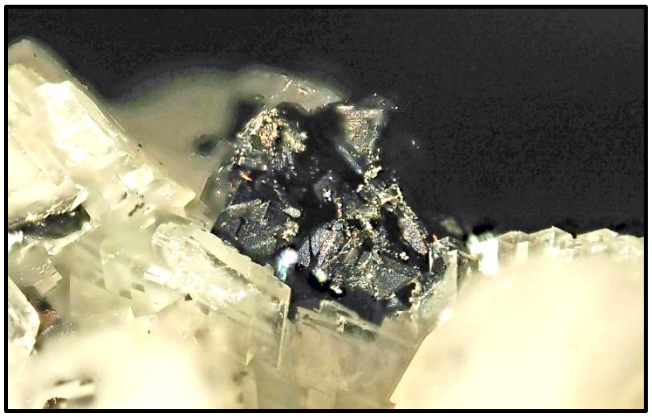
Magnetite with minor green Diopside. *Kovdor Massif, Murmansk Oblast, Russia. University of Arizona Museum. Photo by Michael Pabst, using iPhone. (I remember it to be about 4 inches wide.)*

Iron Oxides

Here are some smaller Magnetite specimens:



Magnetite *in cubes. California State Gem Mine, Santa Rita Peak, San Benito County, California. Betsy Martin/MNCA collection. FOV 4 mm. Photo by Michael Pabst, using macro + Raynox lens, stacking 75 images.*



Magnetite octahedra on Dolomite*. Christie Mine, Wright Mountain, Fresno County, California. FOV 4 mm. Betsy Martin/MNCA collection. Photo by Michael Pabst, using macro + Raynox lens, stacking 75 images.*

Magnetite, *San Benito County, California. Specimen width 15 mm, #730. Specimen and photo by Michael Pabst, using macro lens single exposure. Crystals are shiny black in hand; photo is lit to show detail.*

The next article will be about iron oxide – hydroxides, like Goethite and Lepidocrocite. The article will have photos from the Arizona museum as well as photomicrographs from my collection.

Michael and Karen Pabst attending a previous MNCA meeting. Photo by Kathy Hrechka

2024 Virginia Geological Research Symposium, Charlottesville, Virginia April 26, 2024

by Kathy Hrechka, editor

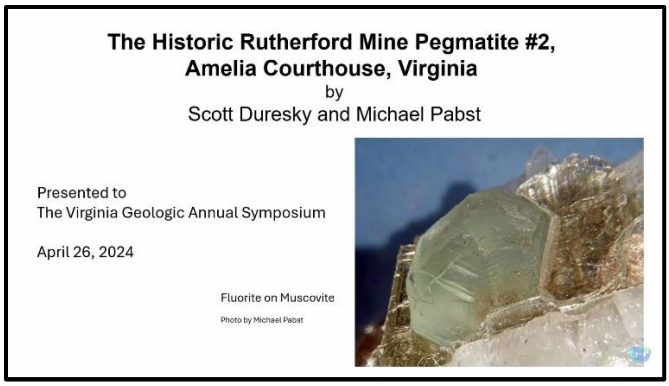
Honored MNCA club members, Scott Duresky and Michael Pabst recently presented "New members of the Pyrochlore Supergroup from the Historic Rutherford #2 Pegmatite, Amelia Courthouse, Virginia". Scott researched and obtained microminerals, while Michael photographed all minerals.

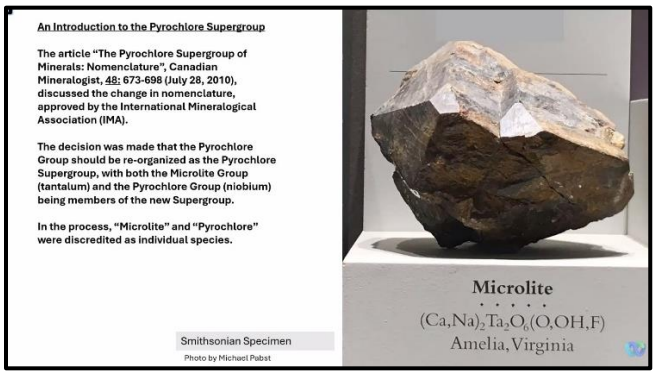
"Mining operations began in this complex pegmatite in 1870 and continued until 1912. During that time, some of the largest known crystals of the Tantalum-bearing mineral Microlite were collected on the mine dumps, primarily for European museums. In addition, the mine was well known to collectors for its wide variety of rare-earth minerals.

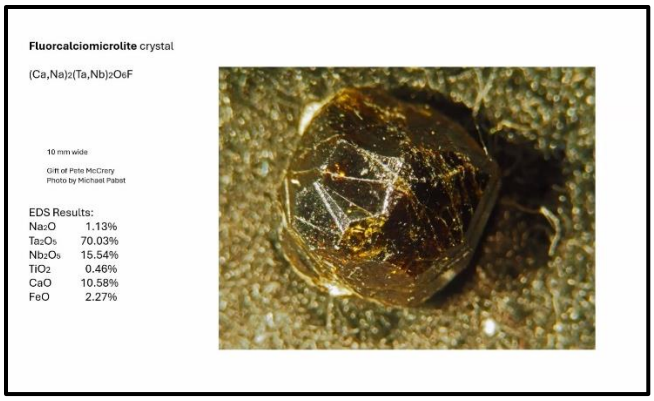
Also prized were the beautiful masses of Cleavelandite, a variety of Albite featuring an abundance of parallel plates, which in the angular cavities between intersecting crystals many of the rare minerals in the pegmatite were found. In addition, the mine was notable for its beautiful crystals of Spessartine Garnet, whose parallel striations and lozenge-shape pits made them especially aesthetic.

After the International Mineralogical Association's major reorganization in 2010, I decided to focus on the newly organized Microlite Group in the Pyrochlore Supergroup, for the purpose of identifying additional members of the group that occurred in the pegmatite, in addition to Microlite, now Fluorcalciomicrolite.

I was successful in doing so, obtaining EDS test for samples of Oxycalciomicrolite, Kenoplumbomicrolite (a lead Microlite) and Oxystannomicrolite (a tin Microlite)." Quote by Scott Duresky







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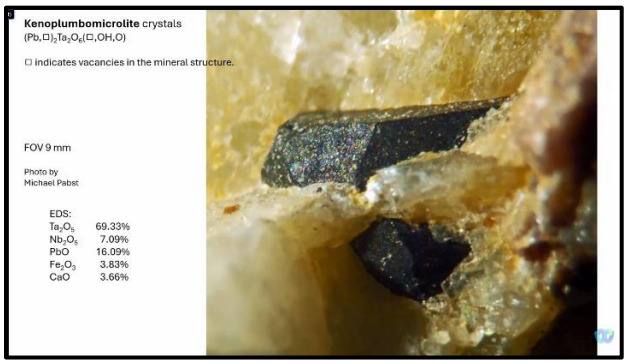
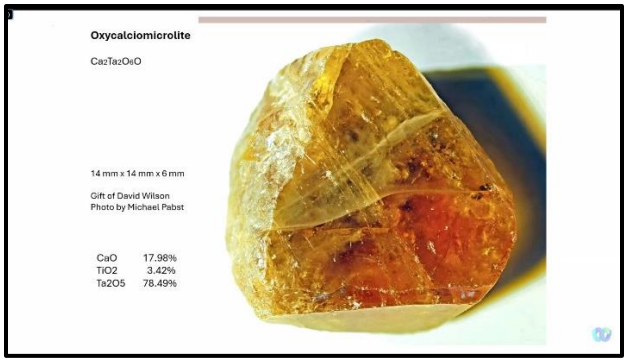




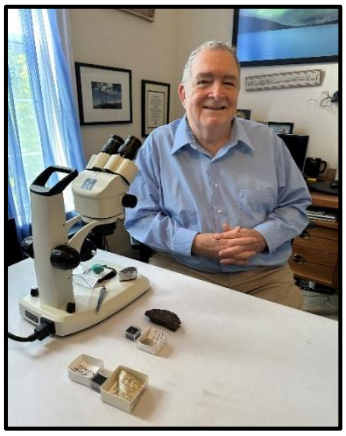
Screen shots by Kathy Hrechka

Scott thanked the generous donors of Rutherford Mine specimens used in his persentation; David Wilson, Robert LeNeave, Ron Tucker, Pete McCrery, Dave Packard. He also thanks twelve other generous donors to the permanent reference collecton of Rutherford Mine Minerals at the State of Virginia, Division of Energy, Department of Geological and Mineral Resources.

"With the generous assistance of long-time collectors Pete McCrery of Richmond, Robert LeNeave of Amelia, David Wilson of North Chesterfield and Steve Arthur of Chesterfield, Scott Duresky, a member of the Richmond Gem and Mineral Society for many years, has completed his 11 years of research into the minerals of the historic Rutherford #2 Pegmatite in Amelia Courthouse, Virginia.

Scott's presentation represents the most comprehensive study of the minerals of the Rutherford Mine since the late 1990's, and using modern analytical techniques, has confirmed the presence of three new members of the Microlite Group and species not previously reported from the pegmatite, along with some unexpected conclusions that can be drawn from the research. Although some of the presentation is rather technical in nature, it includes many new and aesthetic photos of the rarer species and should be enjoyable for anyone who has collected there or who is familiar with its history.

Finally, although the research has been completed, with the assistance of club member Rudy Bland, the collection has been donated in its entirety to the State of Virginia's Division of Energy, Department of Geological and Mineral Resources, so that it may be preserved and made accessible to future generations of collectors and researchers."



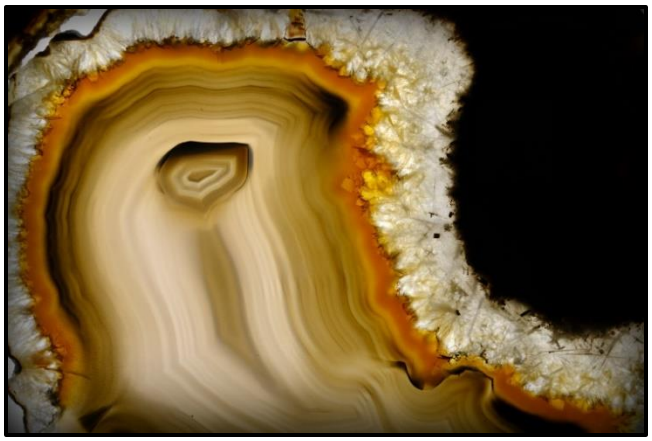
Quoted by Mr. Scott Duresky. Reprinted from The Mineral Mite November 2023.

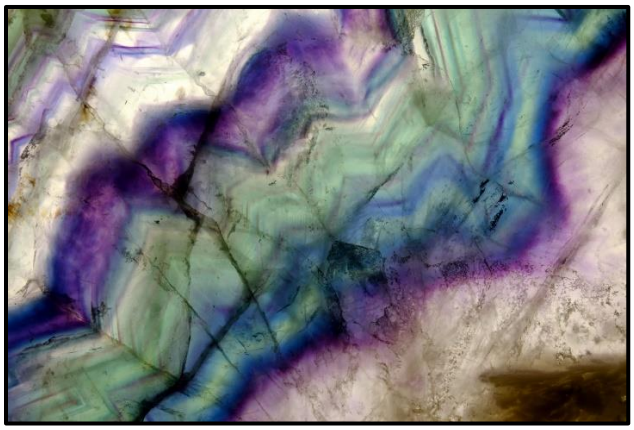
Photo on right: Scott Duresky researching Rutherford #2

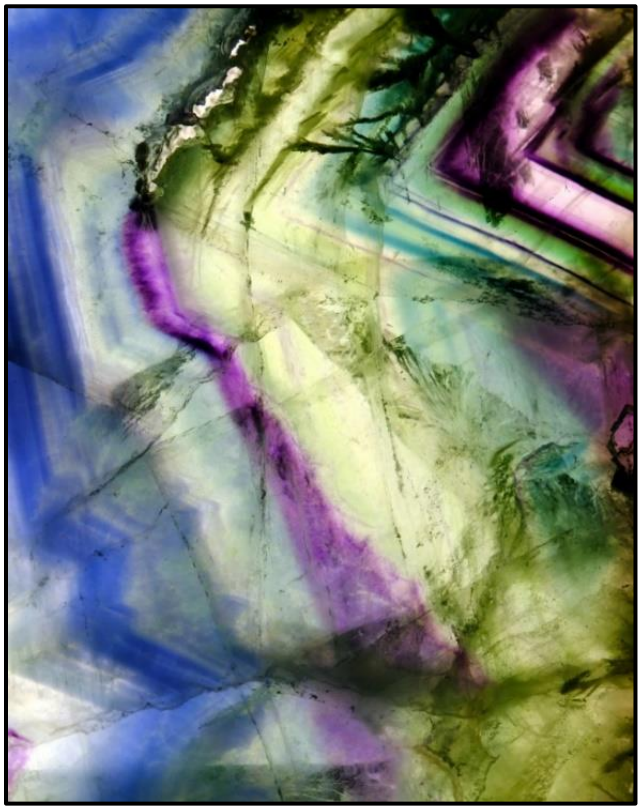
Minerals Through the Macro Lens

by Hillar Ilves, AMC attendee

Last year when I attended the minerals, gems, fossils show I met Frank Stanski who had a booth. This year he had a wonderful backlit shelf which offered good photo opportunities, along with shadow box frames of agates. Behind the sliced mineral specimen is a ring light of LEDs of different colors. A little remote-control box allows one to program color changes, frequency etc.







Micro Club Zoom Session - Australia

*Micromount Club Zoom Meeting 2024-003.Tuesday **14th May** at 4pm EDT. From Aosta to Sicily, a mineralogical journey through Italy, presented by HenkSmeets.

*Micromount Club Zoom Meeting 2024-005.Tuesday **18th June** at 4pm EDT. Schwaz-Brixlegg mining district in Tyrol, Austria, presented by Gerhard Brandstetter.

Micromount Club Zoom Host: Steve Sorrell resides in Melbourne, Australia and hosts various geology persons of interest at his micromount meeting each month on Zoom. "The vast majority of presentations, apart from the first few sessions, have been recorded and are available on my YouTube Channel. You can now register for upcoming sessions. Once registered, you will receive an email and the opportunity to save the Zoom session in your (Google, Yahoo, or Outlook) calendar, and this will be in your local time zone." Steve's website. The next three Micromount Club Zoom sessions are now open for registration.

Fluoruvite (green) and svanbergite (orange) on a magnesite matrix (pink), Pomba Pit, Brumado, Bahia, Brazil. 95mm wide.

Forwarded this email? Subscribe here for more

Trigonal Equant Minerals

Mineral Matters #324
STEVE SORRELL
MAY 8

READ IN APP

This week's Facebook Mineral of the Week Group's selected theme is equant crystals.

An equant crystal is essentially one that's roughly equal in all directions, such as a cube or octahedron.

Now while it should be relatively easy to select a mineral that forms in the isometric (also known as the cubic) system, it might surprise you that often the actual crystals are not, in fact, equant. They may have grown along one axis preferentially (such as the chalcotrichite variety of cuprite) or may be distorted or intergrown.

Many of the other crystal systems can produce equant crystals, but given that many of my specimens are small, validating this might be a challenge! As Bruce Kelley says, this theme is a little bit subjective, but he's game for anything that illuminates a concept in mineralogy.

On that basis, here are three minerals that are trigonal, and all exhibit an equant habit. I dare you to measure them! 😆

American Federation of Mineralogical Societies

(AFMS)
www.amfed.org

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

2024 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.

Celebrating 50 years!
The Rock & Gem magazine is recognized as the official magazine of the AFMS.
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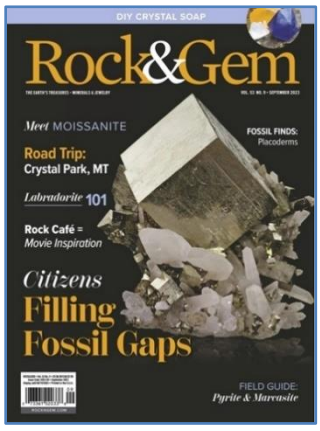


Eastern Federation of Mineralogical and Lapidary Societies

(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.

May 2024 Local Geology Club Meetings

1: Mineralogical Society of the District of Columbia MSDC Meeting 7:30pm on Zoom
www.mineralogicalsocietyofdc.org

6: Northern Virginia Mineral Club NVMC
Meeting 7:30pm
www.novamineralclub.org

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

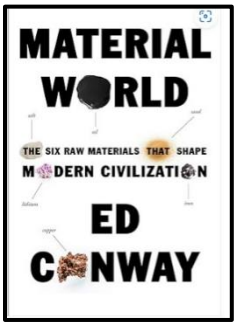
?: The Gem, Lapidary and Mineral Society of Washington, DC - GLMS-DC meeting 7 p.m.
Chevy Chase Community Center, 5601 Connecticut Ave; Washington, DC. www.glmsdc.org

15: Baltimore Mineral Society BMS meeting
www.baltimoremineralsociety.org

28: Micromineralogists of the NCA, Inc.
Meeting 3 – 5:30pm Kings Park Library, Burke, VA
www.dcmicrominerals.org

"Miner" Mike Kaas Recommends Book

Material World: The Six Raw Materials That Shape Modern Civilization - Sand, salt, iron, copper, oil, and lithium. Deckle Edge, Nov 7, 2023,
by Ed Conway



GeoWord of the Day and its definition

antipathetic (an"-ti-pa-thet'-ic) Said of two or more minerals that are far apart from each other in a crystallization sequence and thus will not be commonly found in association. See also: *antipathies of minerals.*

augite (au'-gite) (a) A common mineral of the *clinopyroxene* group: $(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$ It may contain titanium and ferric iron. Augite is usually black, greenish black, or dark green, and occurs as an essential constituent in many basic igneous rocks and in certain metamorphic rocks. Dana (1892) confined the name "augite" to clinopyroxenes containing appreciable $(Al,Fe)_2O_3$, but petrologists have applied it to members of the system $(Mg,Fe,Ca)SiO_3$. Cf: *pigeonite.* (b) A term often used as a syn. of *pyroxene.* Syn: *basaltine; violaite.*

galkhaite (gal'-kha-ite) A dark orange-red cubic mineral: $(Cs,Tl)(Hg,Cu,Zn)_6(As,Sb)_4S_{12}$.

rhombohedral packing The "tightest" manner of systematic arrangement of uniform solid spheres in a clastic sediment or crystal lattice, characterized by a unit cell of six planes passed through eight sphere centers situated at the corners of a regular rhombohedron (Graton and Fraser, 1935). An aggregate with rhombohedral packing has the minimum porosity (25.95%) that can be produced without distortion of the grains. Cf: *cubic packing.* See also: *close packing.*

All terms and definitions come from the Glossary of Geology, 5th Edition Revised.

GeoWord of the Day is brought to you by: EnviroTech! envirotechonline.com.

Micromineralogists of the National Capital Area
www.dcmicrominerals.org

We are temporarily meeting at Kings Park Library in Burke, 3-5:30pm (forth Monday or Wednesday) until we locate a permanent meeting place.

MNCA Purpose: To promote, educate and encourage interest in geology, mineralogy, and related sciences.

President: David Fryauff
Vice President: Jeff Guerber
Secretary: Bob Cooke
Treasurer: Michael Pabst
Editor/Historian: Kathy Hrechka
Website: Kathy Hrechka
AMC Conference: open

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 2024**
$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 the 1st of each month.
***The Mineral Mite* will be emailed by the 5th.**
No newsletter July/August

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

Newsletter inputs:
* David Fryauff
* Jeff Guerber
* Michael Pabst
* Pete Chin
* Mike Kaas
* Kathy Hrechka
* Hillar Ilves