**Micromineralogists of the National Capital Area, Inc.**

**MNCA Website** www.dcmicrominerals.org

# The Mineral Mite

**Vol. 56 – No. 10 Washington D.C. – A Journal for Micromineralogists Dec 2023**

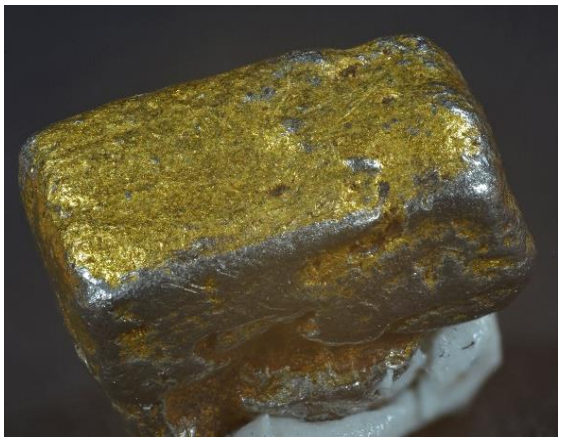
## December 4 6:30-8:30pm Place: Dunn Loring VFS

### Holiday Party Dec 4:

by Jeff Guerber, Vice President

December meeting: HOLIDAY PARTY! For December, we'll be joining our friends from the NVMC for a festive Holiday Party! Monday Dec. 4, 6:30-8:30 pm at the Dunn Loring VFD, 2148 Gallows Road, Dunn Loring, VA (about a mile south of Tyson's Corner, and right in front of Kilmer Middle School). This will be in lieu of our regular meeting. Hope to see you there, if not, have wonderful whichever holidays you celebrate!

### Mystery Micro Mineral of the Month



*What is the gold coated 5.7mm crystal from Kondyor alkaline ultrabasic massif, Ayan-Maya District, Khabarovsk Krai, Russia? by Aloha Peter Chin, Honolulu, Hawaii*

### President's Message:

by David Fryauff

It was 21 degrees Fahrenheit at 5:55 am in Laytonsville this morning and I think this marks the true beginning of winter cold and ice.....and some time to catch up on micromineralogy, photomicrography, and setting up some handsome new mounts. But I think I would rather be out west in those great BLM lands with thousands of mine dumps and workings to explore. Maybe that will have to wait until spring. Luckily, I have lots of boxes and flats of giveaway material to wander through until I get the OK to travel west.

Thanks to David McLean and my daughter, Leilani for helping me run the MNCA demonstration table at the recent annual show of the Northern Virginia Mineral Club. It was nice weather and lots of people came out for a look through the fine old Bausch & Lomb stereo microscope that past president Paul Smith donated to our club. We are also still getting good "performance" out of the wheel of colorful selected mineral beauties that Joe Murther (sp) assembled, back before I joined the MNCA back in 2011. The beautiful little (replacement) specimen of native gold that was donated by Jim Kostka back in 2014 is still intact and glittering brightly, but little fingers have dislodged several of the other specimens so this wheel will need a bit of repair before the next big "rock show" comes around in March 2024. Kids naturally flocked to our table because I had the good sense to bring a lot of giveaways AND printed some signs that said: FREE!!!! -- ROCKS, MINERALS, & FOSSILS -- FREE!!!!

Continued next page

## President's Message continued

I took a break from our demo/giveaway table and to look at some of the vendor's offerings. As luck would have it the first vendor, I had specimens from our old friend, George Reimherr. I could tell they were from George because he had a very distinctive style of printing. George was a very active and intrepid collector and collected at some famous localities: Millington, NJ, Foote Mine, NC, Perry Quarry in Winchester, VA, and my favorite, The Hunting Hill quarry in Rockville, MD.

One of his Hunting Hill labels stated that XRD had been performed in 1998 at the James Madison University School of Geology. This surprised me because the specimen seemed quite obvious as dolomite and was validated as such by JMU. But we need to be careful with dolomite because this common mineral can take on a variety of forms, some of which are quite surprising.....This is a season of surprises. PLEASE LET EACH OF US be generous with our gifts to others and with our charitable donations, acts, contributions, and with every thought and deed.

**Note by Jeff Guerber: January: 2024 already! For January, we'll return to the Kings Park Library on Monday Jan. 29, 3-5:30 pm. Stay tuned for details!**

## Mystery Micro Mineral of the Month

by Aloha Peter Chin, Honolulu, Hawaii

Answer: Gold coated 5.7mm Isoferroplatinum crystal from Kondyor alkaline ultrabasic massif, Ayan-Maya District, Khabarovsk Krai, Russia. Location info is bigger than the crystal!

**Congratulations! New mineral "Peterchinite"**
**Where in the world is Aloha Peter Chin?**

*Gas Pocket Peter taking a breather in a gas pocket in Koko Crater (volcano)???? Photo credit Peter Chin*

## Previous Meeting Minutes 11.29.2023

by Bob Cooke, secretary

The Micromineralogists of the National Capital Area (MNCA) met on November 29, 2023, at the Fairfax County Kings Park Library in Burke, Virginia. Members present were Bob Cooke, Scott Duresky, David Fryauff, Jeff Guerber, Kathy Hrechka, Dave MacLean, and Michael Pabst. President Dave Fryauff called the meeting to order at 3:45 PM. Dave MacLean was recognized for his service as a past president.

Minutes of the October meeting were approved as published in the Mineral Mite. Dave Fryauff reported on the success of the micromount demonstration table at the George Mason/NVMC Mineral Show on November 18-19. Several micromounts on the demonstration wheel were damaged however, and the wheel requires repair before its use at the GLMC-MC mineral show on March 16-17, 2024. Dave stated that while the club had an adequate supply of loupes for sale, the batteries had failed. Members agreed to reduce the price of illuminated loupes and sell them as non-illuminated models.

Plans for the 2024 Atlantic Micromounters Conference were discussed. Some members wanted to repeat last year's conference at James Madison University; others preferred a venue in the Northern Virginia area. All members were encouraged to seek out possible venues/sponsors and be prepared to discuss them at the January meeting. Michael Pabst accepted 2024 dues from several members.

The joint MNCA – NVMC holiday party will be held on Monday, December 4th from 6:30 to 8:30 PM at the Dunn Loring Fire Station. There will not be a regular MNCA meeting in December. The meeting adjourned at 4:15 PM.

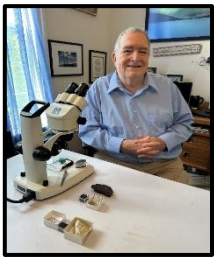
## Previous Program Reviewed 11.29.2023

by Bob Cooke, secretary

**Rutherford #2 Pegmatite by Scott Duresky**

Scott Duresky shared the results of his 11 years of research into the minerals of the historic Rutherford #2 pegmatite in Amelia, Virginia.

## Rutherford #2 Pegmatite, Scott Duresky

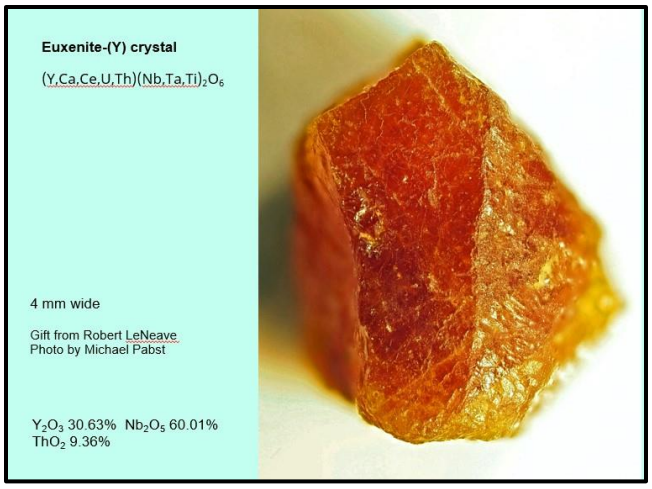


With the generous assistance of long-time collectors Pete McCrery of Richmond, Robert LeNeave of Amelia, David Wilson of North Chesterfield and Steve Arthur of Chesterfield, Scott Duresky, a member of the Richmond Gem and Mineral Society for many years, has completed his 11 years of research into the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

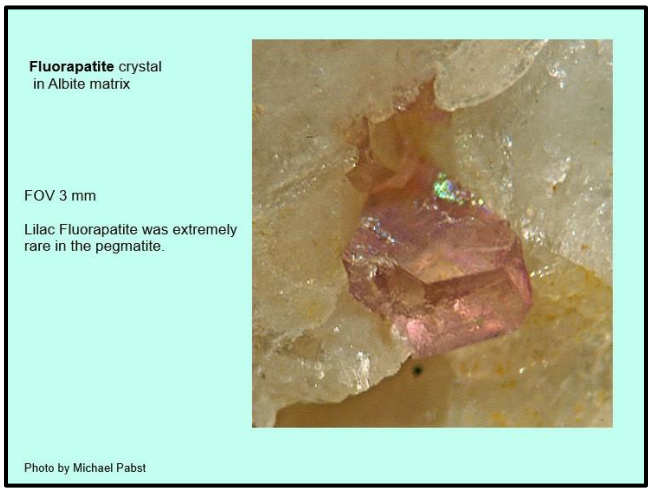
Scott's presentation represents some of the most comprehensive study of the minerals of the Rutherford Mine since the late 1990's, and using modern analytical techniques, has confirmed the presence of three new members of the Microlite Group and species not previously reported from the pegmatite, along 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.

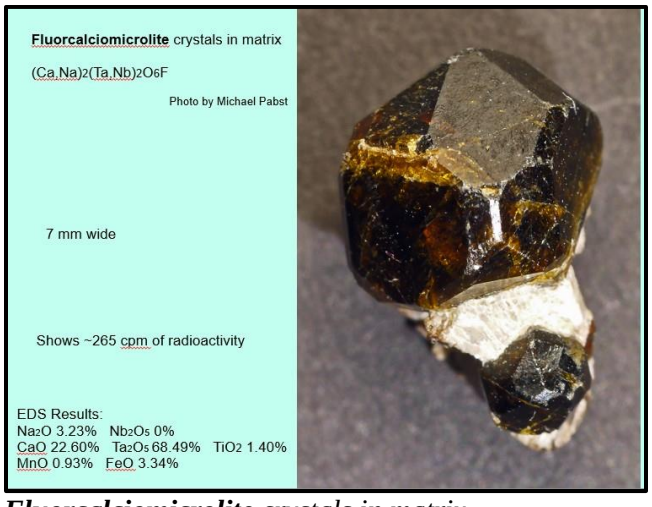
The following selection of screen shots from Scott's lecture reveal new mineral species as well as complicated chemical formulas from the Rutherford #2 Pegmatite in Amelia, Virginia. Photomicrography credit is given to Michael Pabst.




***Euxenite**-(Y) crystal*

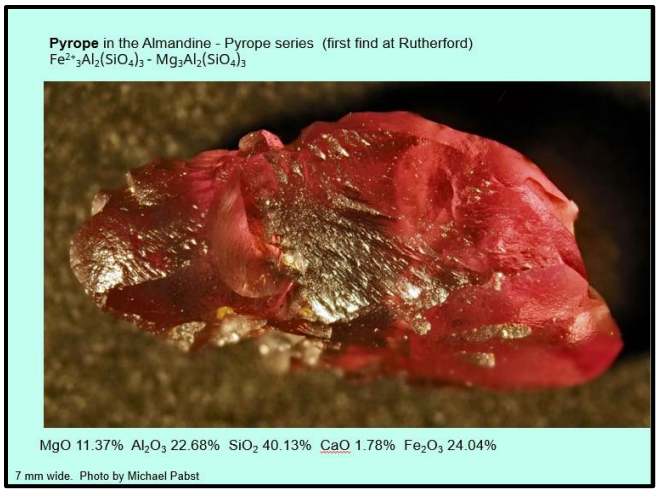



***Fluorapatite** crystal in Albite matrix*



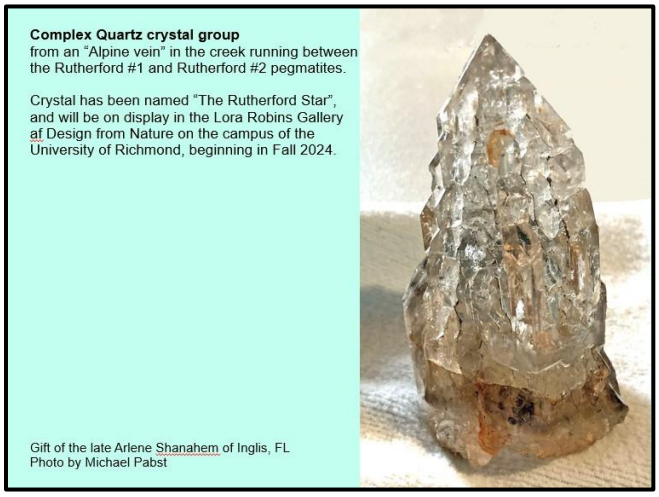

***Fluorcalciomicrolite** crystals in matrix*


***Fluorcalciomicrolite***



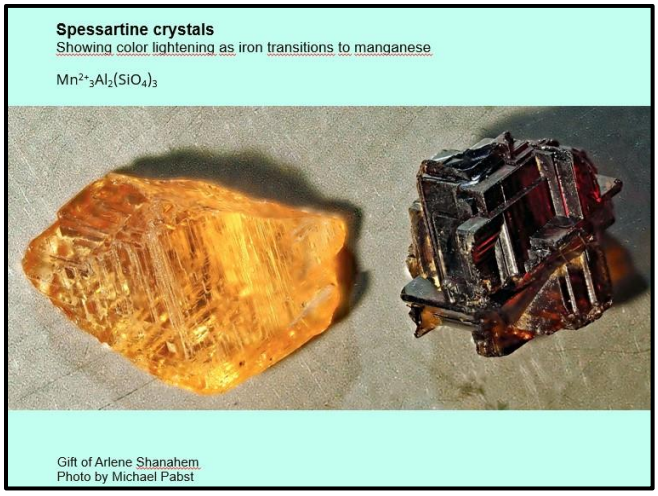

***Pyrope** in the almandine – Pyrope series*


***Kenoplumbomicrolite** in Albite v Cleavelandite*

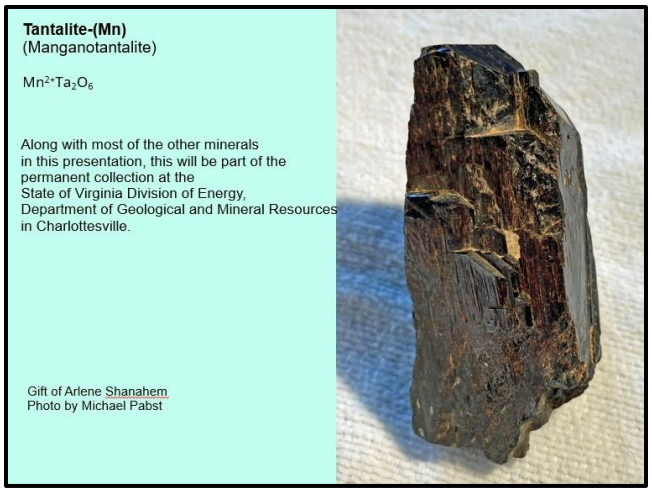



***Complex Quartz crystal group***


***Oxycalciomicrolite***




***Spessartine crystals***




***Tantalite-(Mn)*** *(Manganotantalite)*


***Zircon crystals Hafnium-rich***

*****

***Gold*** *Tradionele Hollandse huwelijkslikeur Naturlijk....Van Kleef Bruidstranen. David Fryauff specimen and photomicrography credit*

## Micromineralogists of the National Capital Area - Demonstration Table George Mason University, Virginia

Club president, David Fryauff, his daughter Leilani, and past president, Dave MacLean volunteered to share our avocation of micromounting at the Northern Virginia Mineral Club show on November 18-19, 2023, at George Mason University. Many curious families viewed minerals through our club member microscopes.

*The MNCA demonstration table at the 2023 annual NVMC show at GMU...with lots of great, free fossils, rocks, & minerals. MNCA volunteer Dave Fryauff with his grandson.*

*Father & son enjoying the colorful microminerals at our demonstration table at the November 2023 NVMC annual show at George Mason University, Fairfax, Virginia. Photo credits, David Fryauff*

## Iron and Aluminum Phosphates: Vauxite, Cacoxenite, and Childrenite

by Michael Pabst PhD, Treasurer

In the last several articles, we looked at iron phosphates in which either ferrous iron or ferric iron, or a combination, are the principal cations. We now move on to iron phosphate minerals that incorporate other metal ions. Here we start with iron aluminum phosphates.

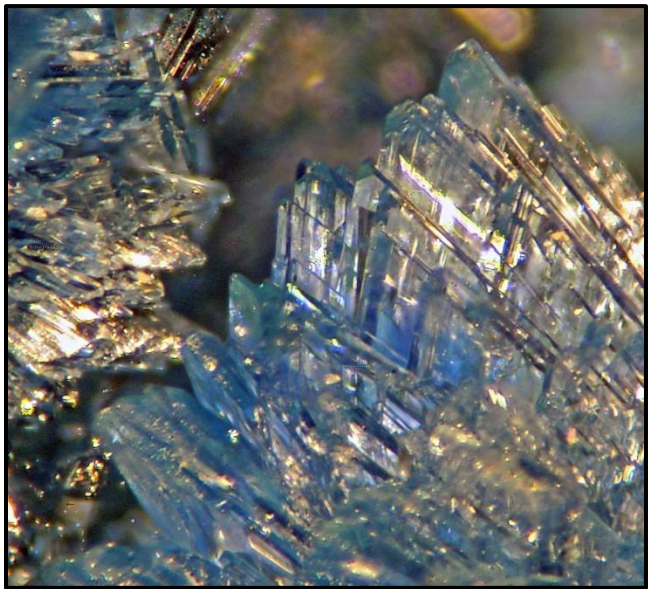
**Vauxite, Metavauxite, Paravauxite.** These three iron aluminum phosphates are similar in their chemical formulas. They all contain ferrous iron $Fe^{2+}$ and aluminum $Al^{3+}$. The best examples come from the same type locality in Bolivia, namely the Siglo Veinte Mine, Llallagua, Rafael Bustillo Province, Potosí, Bolivia. "Siglo Veinte" might be translated as "Twentieth Century". Until 1987, it was one of the most important tin mines in the world.

Vauxite $Fe^{2+}Al_2(PO_4)_2(OH)_2 \cdot 6H_2O$ Triclinic
Metavauxite $Fe^{2+}Al_2(PO_4)_2(OH)_2 \cdot 8H_2O$ Monoclinic
Paravauxite $Fe^{2+}Al_2(PO_4)_2(OH)_2 \cdot 8H_2O$ Triclinic

**Vauxite.** Vauxite was named after George Vaux, Jr. (1863-1927), who donated more than 10,000 mineral specimens to Bryn Mawr College near Philadelphia. Today, the Bryn Mawr collections contain 44,000 minerals including thousands of micromounts, many in old paper boxes, according to photos on their website. (I would like to look at those boxes.) Vauxite has a beautiful blue color and occurs in attractive large specimens, although the crystals are always tiny. It is triclinic $\bar{1}$ – pinacoidal. Hardness 3½. Here is a close-up of a Vauxite specimen taken by Elmar Lackner: https://www.mindat.org/photo-107362.html. You can see the individual crystals in this photo. Vauxite reminds me of another blue triclinic $\bar{1}$ – pinacoidal aluminum phosphate mineral, namely Turquoise $CuAl_6(PO_4)_4(OH)_8 \cdot 4H_2O$ which contains copper instead of iron.

Here is a photo of my complete specimen. A close-up follows below.

***Vauxite,*** *Llallagua, Bolivia. FOV 17 mm. Photo by Michael Pabst, using macro lens, stacking 43 images.*



***Vauxite,*** *Llallagua, Bolivia. FOV 2 mm. Close-up photo by Michael Pabst, using stereo microscope, stacking 12 images.*

**Metavauxite.** Metavauxite $Fe^{2+}Al_2(PO_4)_2(OH)_2 \cdot 8H_2O$ is monoclinic 2/*m* – prismatic, β = 97.87°. Colorless to light green, silky. Hardness 3. I like this photo by Gianfranco Ciccolini, showing a fan of pale Metavauxite topped with blue Vauxite crystals: https://www.mindat.org/photo-1218284.html. My specimen of Metavauxite:

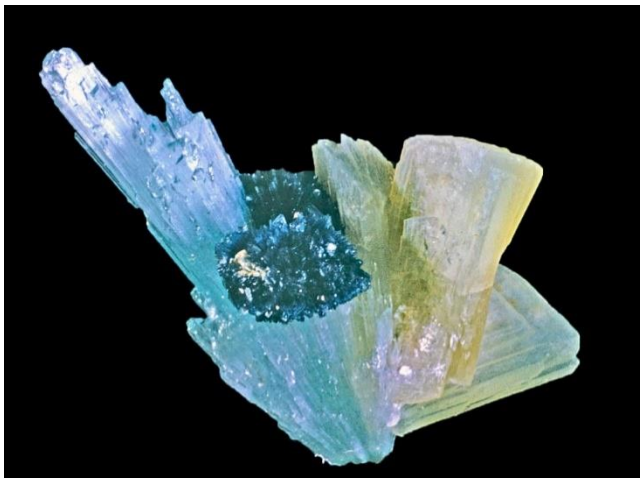
***Metavauxite**, Llallagua, Bolivia. FOV 10 mm. Photo by Michael Pabst, using stereomicroscope, stacking 25 images.*

**Paravauxite**. Paravauxite $Fe^{2+}Al_2(PO_4)_2(OH)_2 \cdot 8H_2O$ is lighter blue than Vauxite. Paravauxite is triclinic $\bar{1}$ – pinacoidal, like Vauxite, although the cell parameters (sides and angles) are different. Hardness 3. Gianfranco Ciccolini provides a beautiful photomicrograph of Paravauxite on Vauxite: https://www.mindat.org/photo-882071.html.
My Paravauxite with a photo of the overall specimen, and then a close-up:

***Paravauxite,*** Llallagua, Bolivia. FOV 23 mm. Photo by Michael Pabst, using macro lens, stacking 43 images.

***Paravauxite** close-up, Llallagua, Bolivia. FOV 8 mm. Photo by Michael Pabst, using stereomicroscope, stacking 21 images.*

Here is a photo by Rock Currier, showing all three "vauxites" together on a single specimen, which is rare: https://www.mindat.org/photo-303367.html. I have tidied up this photo with Photoshop and show the "improved" version below.



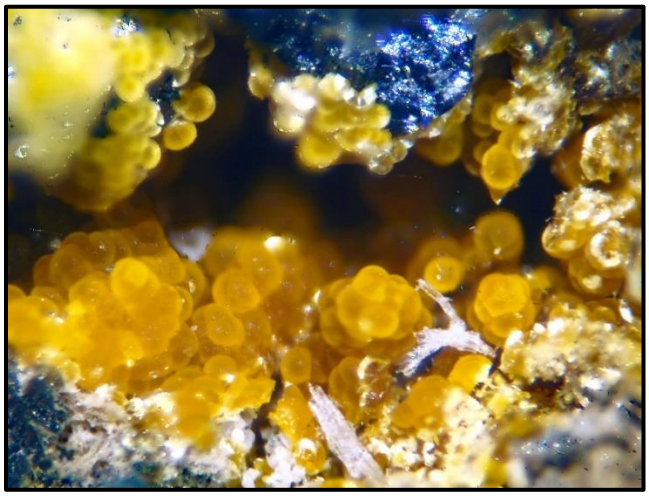
*Although not specified in the photo legend, I believe that the dark blue is **Vauxite,** light blue is **Metavauxite,** and light green to colorless is **Paravauxite**. FOV ~20 mm. From the Siglo Veinte Mine. Photo by Rock Currier, adjusted by Michael Pabst.*

Continued next page

**Cacoxenite**. Cacoxenite is collectable because it often forms attractive balls of yellow crystals. Cacoxenite is $Fe^{3+}_{24}AlO_6(PO_4)_{17}(OH)_{12}\cdot 75H_2O$, a formula with some surprisingly large numbers. I like the origin of the name as given in Mindat: "From the Greek κακός for "bad" and ξένος for "guest" due to the fact that the phosphorous content of cacoxenite lessens the quality of iron smelted from ore containing it." Ξένος is better translated as an unwanted "stranger" than a wanted "guest" in this context.

Cacoxenite is yellow to orange to reddish orange. Hardness 3-4. Cacoxenite is hexagonal 6/*m* – dipyramidal. It usually forms balls of acicular crystals. The individual crystals are so small that it is difficult to see the hexagonal cross-section. There are some beautiful photos on Mindat, like this one taken by Christian Rewitzer: https://www.mindat.org/photo-94189.html. To look for hexagonal cross-section in higher magnification, try this photo by Alex Earl: https://www.mindat.org/photo-995306.html or this photo by François Garric: https://www.mindat.org/photo-1331177.html.

Here are some of my photos of Cacoxenite from three different localities.



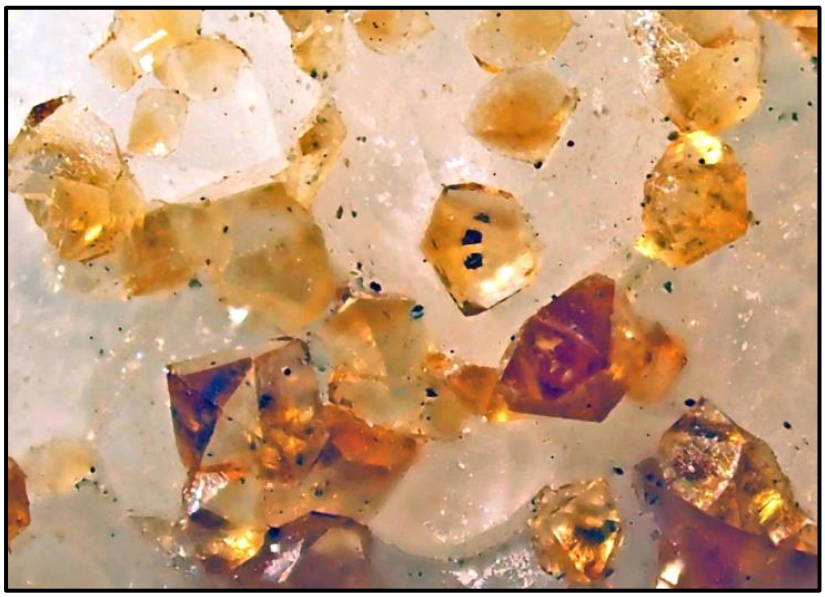
***Cacoxenite**, Christy Vanadium Mine, Magnet Cove, Hot Springs County, Arkansas. FOV 2 mm. Photo by Michael Pabst, using stereomicroscope, stacking 21 images.*

***Cacoxenite,** Girard, Burke County, Georgia. FOV 1 mm. Photo by Michael Pabst, using stereo-microscope, stacking 6 images.*

***Cacoxenite**, Wilson Springs, Garland County, Arkansas. FOV 4 mm. Photo by Michael Pabst, using macro + Raynox lens, stacking 39 images.*

**Childrenite.** Childrenite $Fe^{2+}Al(PO_4)(OH)_2\cdot H_2O$ is orthorhombic *mm*2 - pyramidal, often with a nice Sherry or Rosé color. It was named for John George Children, who was "Keeper of Minerals" at the British Museum of Natural History. (My ideal job.) Childrenite forms a series with Eosphorite which has manganese $Mn^{2+}$ instead of iron $Fe^{2+}$. Many fine specimens of Childrenite come from England, like these from my collection:

Continued next page



***Childrenite*** *from Lady Ashburton Mine, Callington, Cornwall, England. FOV 4 mm. Photo by Michael Pabst, using macro lens and Raynox lens, stacking 63 images. Specimen collected in 1981 by George W. Fletcher of Darbyshire, England who traded with our late colleague George Reimherr.*

***Childrenite*** *from George & Charlotte Mine, Tavistock, Devon, England. FOV 9 mm. Photo by Michael Pabst, using macro lens and Raynox lens, stacking 49 images.*

In the next article, we will continue to explore some colorful iron phosphates containing other metals.

## Shoebox Adventures 130

by Mike Seeds PhD, Editor Conglomerate Baltimore Mineral Society

In about 1590, Zacharias Janssen and his son Hans invented the compound microscope, but they were not micromounters. In 1667, English scientist Robert Hooke wrote an entire book called Micrographia describing what he saw through his microscope. He was not a micromounter either. A binocular microscope was invented in 1853, but both eyes saw the same image. No micromounters. In fact, micromounters didn't begin to proliferate until right after the invention of the true stereoscopic microscope, the Zintmayer, in 1876. Coincidence?

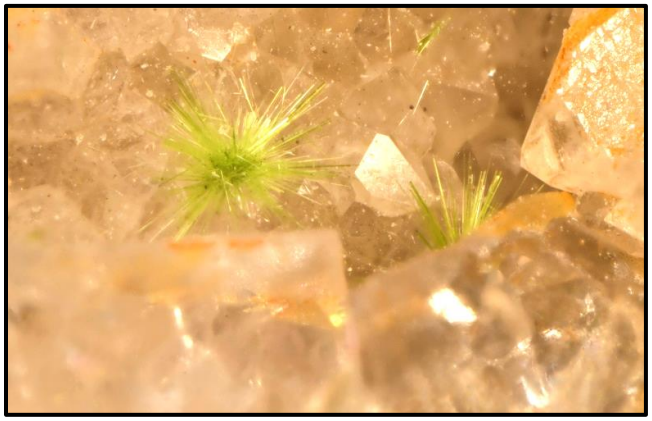


*Figure 1 Agardite-(Ce) from the Clara Mine in Germany. The sprays of fine green crystals are delicate and very small. This image is not 3-deminsional. FOV 3.5 mm.*

If you were (as I was) lucky enough to grow up in a family where you were allowed to read comic books, you probably had a few 3D comics, and you discovered that closing one eye made the depth go away. If you had a View-Master (as I did; I had one disk, "Great Dams of the West") you surely discovered that looking with only one eye destroyed the stereo effect. Each eye must see the object from a slightly different angle. Our brains assemble the information to produce a 3-dimensional model that seems to have real body and depth.

*Fig 2 Olivenite crystals in malachite from the Clara Mine in Germany. The crystals are hidden in a tiny vug with the longest crystal pointing just above your head. FOV 4 mm.*

Imagine a world without stereo microscopes. Do you think there would be many micromounters? It is the depth of the stereo image that gives our minerals a solidity and depth that convinces us that we are looking at a real object and not a flat image. Want to try it? Look at the photos here. The minerals are nice, but without depth you miss the "reality".

The agardite-(Ce) in Figure 1 is lovely through a stereo microscope. The crystals on the left are so delicate, and they spring up toward you to fill a hemisphere as if they were the most fragile sea urchin that ever crawled. The green crystals on the right are not attached to the matrix you see. If you were looking through a stereo microscope you would see that they emerge from well behind the foreground matrix and hint at hidden beauty down inside the vug. Sadly, the photo here is flat. Too bad. You miss out.

Figure 2 shows olivenite crystals emerging from a clump of malachite. This vug was hidden inside a specimen and did not see the light of day until I broke the rock open. It is a lovely specimen because the longest olivenite crystal protrudes from the vug at a steep angle like the bowsprit of a sailing ship and is aimed just above your left ear. It gives the vug extra depth and extra interest. You can't see that in this flat photo, but it's there.

*Fig 3 Titanite crystal on magnesiohornblend from the Montenero Quarry in Italy. FOV left to right 2mm.*

The titanite crystal in Figure 3 is really sharp, but the background is out of focus. Our brains have learned to interpret this as depth, so you might get a slight 3D feeling from this photo. The same is true of the foreground in the bottom of the photo. Our brains see that it's fuzzy and decide it is closer than the titanite crystal. It's a nice crystal, but it is the depth that makes this a cool specimen. I wish you could see it through a stereo microscope.

Lots of things make micromounting a wonderful hobby but the visual impact of these perfect crystals and the depth of the images we see go a long way to call us back to our stereo microscopes over and over. If you have a stereo 'scope, look at a few specimens and notice the depth of the image. If you don't have a stereo microscope, why not?

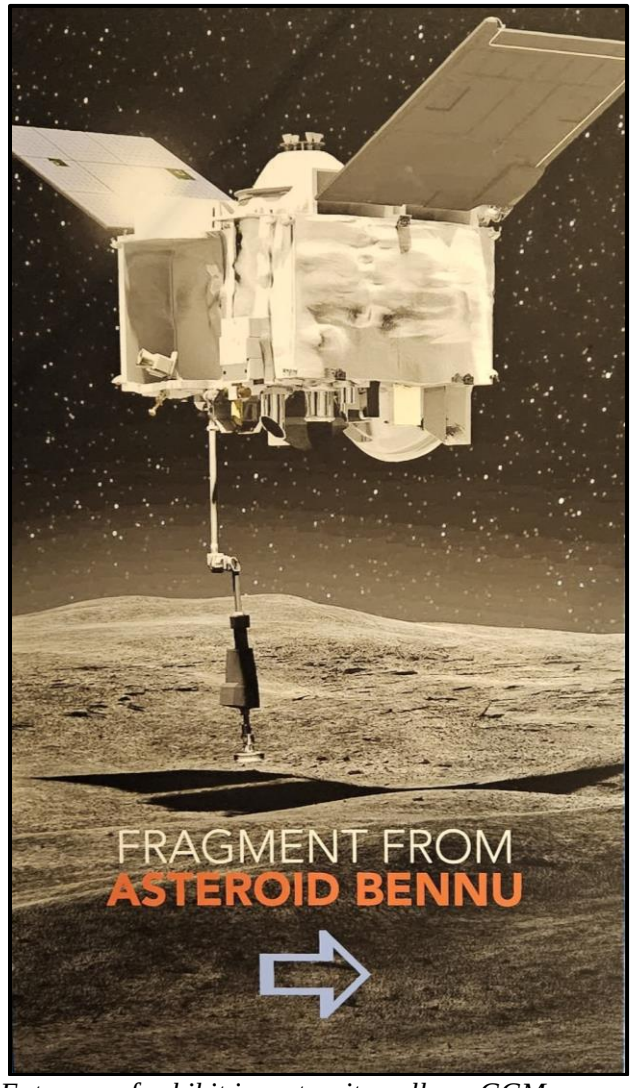
Reprinted with permission from The Conglomerate September 2023 newsletter of the The Baltimore Mineral Society. Depth photos and text by Mike Seeds

## Smithsonian's Asteroid Bennu Sample

by Kathy Hrechka, editor

I recently had the opportunity to study the newest exhibit: Asteroid Bennu in the Geology, Gems, and Mineral gallery at the National Museum of Natural History. What an honor to witness and view such an historical piece of a carbon-rich asteroid dating 4.5 billion years.

The capsule was collected from the asteroid by NASA's OSIRIS-REx mission in 2020, before returning to earth on September 24, 2023, landing in the Utah desert. Bennu was unveiled at Smithsonian on November 3, 2023 by Sant Director, Dr. Kirk Johnson.




*Entrance of exhibit in meteorite gallery, GGM*


*"A VIEW OF THE BEGINNING: Discovered in 1999, the asteroid Bennu formed soon after the birth of the Solar System 4.6 billion years ago. It orbits the Sun at about the same distance as Earth does. With these new samples, scientists can now study the water-rich minerals and carbon-rich molecules formed before life contained within to better understand the origins of the Solar System, Earth's oceans, and life itself NASA's OSIRIS-REx mission launched in 2016 and reached Bennu in 2018 to collect samples in 2020 from the asteroid's surface with its extendable arm. These samples returned to Earth in September 2023. Illustration provided by NASA. Model of Atlas V 411 Rocket – Cutaway view with OSIRIS-Rex in the payload fairing. 1/84 scale. On loan courtesy of United Launce Alliance (ULA.) Model of OSIRIS-Rex Spacecraft 1/24 scale- Loaned by Lockhead Martin" Museum Exhibit*


*"Sample of asteroid Bennu. The container protects the sample from our atmosphere. Loaned by NASA"*

*Enlarged view of Bennu. Photo credits, Kathy Hrechka*

"*The mission is led by the University of Arizona with an international team of scientists, including at the Smithsonian, and managed by NASA's Goddard Space Flight Center. The spacecraft, built by Lockheed Martin Space, was launched on a United Launch Alliance Atlas V rocket. Samples are curated by NASA's Johnson Space Center". Museum exhibit*

The spacecraft is projected to enter orbit around the asteroid Apophis in 2029, as its next mission.

**American Federation of Mineralogical Societies**

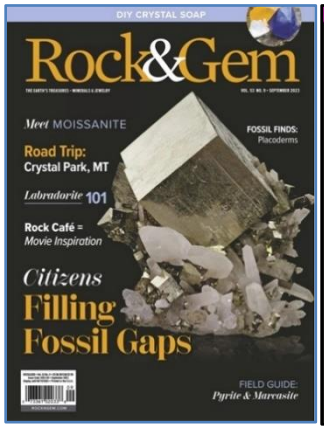
**(AFMS)**
www.amfed.org

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

2023 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.**
**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.**

**December 2023 Local Geology Club Meetings**

**4: Micromineralogists of the NCA, Inc. MNCA Holiday party** 6:30-8:30pm Dunn Loring Fire Dept, Dunn Loring, Virginia
www.dcmicrominerals.org

**4: Northern VA Mineral Club NVMC Holiday party** 6:30-8:30pm Dunn Loring Fire Dept.
www.novamineralclub.org

**9: Mineralogical Society of the District of Columbia MSDC - Holiday party**
www.mineralogicalsocietyofdc.org

**?: 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

**?: Baltimore Mineral Society BMS meeting**
www.baltimoremineralsociety.org

**GeoWord of the Day and its definition**

**beta-fergusonite** (be-ta-fer'-gu-son-ite") A group name for monoclinic *R* $NbO_4$ minerals where *R* is a rare-earth element or Y.

**humberstonite** (hum'-ber-ston-ite") A colorless rhombohedral mineral: $K_3Na_7Mg_2(SO_4)_6(NO_3)_2•6H_2O$ Syn: *Chile-loeweite.*

**steatite talc** A relatively pure or high-grade variety of talc suitable for use in electronic insulators. It is the purest commercial form of talc. Syn: *steatite.*

**Van Allen belt** (Van Al'-len) A zone of charged particles (protons and electrons) surrounding the Earth, beginning at about 1,000 km altitude; produced largely by geomagnetic trapping of solar and cosmic particulate radiation. Radiation belts are also known around Jupiter. Named for geophysicist James A. Van Allen.

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.

## Barry Remer update. Please visit him.

by Kathy Hrechka

We learned that Barry is now bedridden, and happy to converse with us. We so love Barry and remain his family within our geology community. Please visit him or send a card to brighten his day. Sincerely, Kathy

**Barry Remer**
**Potomac Place**
**3236 Locker Street**
**Falls Church, VA 22042**
Potomac Place phone
**571-378-0295**

**Micromineralogists of the National Capital Area**
www.dcmicrominerals.org

We are temporarily meeting at Kings Park Library in Burke, 3-5:30pm (forth Monday) 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
* Bob Cooke
* Pete Chin
* Mike Seeds