

MNCA Website [www.dcmicrominerals.org](http://www.dcmicrominerals.org)

# The Mineral Mite



Vol. 53 – No. 5

Washington D.C. – A Journal for Micromineralogists

May 2020

**Meeting Canceled May 27 Time: 7:30 p.m. – 10 p.m.**  
Long Branch Nature Center, 625 S. Carlin Springs Rd. Arlington, VA 22204

## No Program – No Meeting

by David Fryauff, Vice president

The May meeting for MNCA has been **canceled** because of the rapid spread of the coronavirus. Experts report that the only effective defense against the virus is “social distance”. We will resume MNCA meetings as soon as we can.



The next MNCA meeting is scheduled for June 24th. Whether that meeting will need to be canceled will depend on the nature center reopening. Watch for email from MNCA officers with further information about future meetings.

## Photo of the Month



## President's Message:

by Dave MacLean

We are still at home with trips to only the nearest grocery store and bakery.



I took a little of my own advice and examined with a loupe two egg cartons of obese thumbnail basalt specimens etched to remove calcite from Greenland, Michigan. Most were not spectacular. I did find a piece of crystalline copper and some attractive quartz crystals but no silver. I can look at these obese thumbnails again and find something which I may have overlooked the first time.

If you get tired of looking over your collections, you can continue to work on your Federal and Virginia tax return preparations.

Anyway, please do what you enjoy while locked down share your stories for The Mineral Mite and stay safe.



## Photo of the Month

**Pyrrargyrite** from the Nabob Mine, Lawson, Clear Creek County, CO. FOV 1 mm. Photo by Michael Pabst, using Luminar lens and bellows.

Check out Michael Pabst's article on pages 3-4.

## Previous Meeting Minutes: 4/22/20

by Bob Cooke, Secretary

There were no minutes to record as the April meeting was canceled, while the nature center was closed due to the coronavirus pandemic.



## Previous Program Reviewed 4/22/20

by Bob Cooke, Secretary  
No meeting to review.

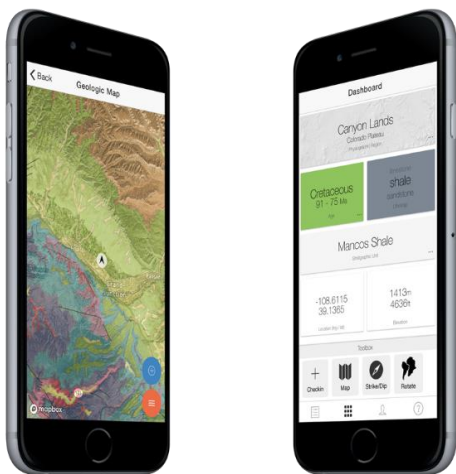
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## "A Different View on the Internet"

by Eric Brosius, President of the Lower Bucks County Mineral Club, Pennsylvania

Every now and then something comes along that is extremely useful to our hobby and especially collecting specimens in the field. If you own a Smartphone, tablet or even a laptop computer that has internet access while out in the field, UW Macrostrat Lab funded by the National Science Foundation and UW Geoscience has produced an absolutely fantastic App called "ROCKD" that is available for free from the Apple App Store or Google Play.

This application gives you instant access to more than 155 geologic maps, specific information on individual rock formations that you may be standing on, a digital BRUNTON® Compass, a place to record your observations and more. Check it out at [www.rockd.org](http://www.rockd.org). Curious what you're standing on? The Dashboard distills key facts about your location into a single, easy-to-read interface.



## GeoWord of the Day and its definition:

**isotope geology** is the application of the study of radioactive and stable isotopes, especially their abundances, to geology. It includes the calculation of geologic time, and the determination of the origin, mechanisms, and conditions of geologic processes by isotopic means. Syn: *isotope geochemistry; nuclear geology; nuclear geochemistry; radiogeology*.

**lepidomelane** (lep'-i-do-mel'-ane, lep-i-do'-mel-ane) A black variety of biotite with a high content of ferric iron. Syn: *iron mica*.

**microlite [cryst]** (mi'-cro-lite) A microscopic crystal that polarizes light and has some determinable optical properties. Cf: *crystallite; crystalloid*. Syn: *microlith*.

**quartz** (a) Crystalline silica, an important rock-forming mineral: SiO<sub>2</sub>. It is, next to feldspar, the commonest mineral, occurring either in transparent hexagonal crystals (colorless, or colored by impurities) or in crystalline or cryptocrystalline masses. Quartz is the commonest gangue mineral of ore deposits, forms the major proportion of most sands, and has a widespread distribution in igneous (esp. granitic), metamorphic, and sedimentary rocks. It has a vitreous to greasy luster, a conchoidal fracture, an absence of cleavage, and a hardness of 7 on the Mohs scale (scratches glass easily, but cannot be scratched by a knife); it is composed exclusively of silicon-oxygen tetrahedra with all oxygens joined together in a three-dimensional network. It is polymorphous with cristobalite, tridymite, stishovite, coesite and keatite. Symbol: Q. Abbrev: qtz; qz. Etymol: German provincial "Quarz". Cf: *tridymite; cristobalite; coesite; stishovite*. (b) A general term for a variety of noncrystalline or cryptocrystalline minerals having the same chemical composition as that of quartz, such as chalcedony, agate, and opal.

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](http://envirotechonline.com)

## Manganoquadratite

by Michael Pabst PhD, Treasurer

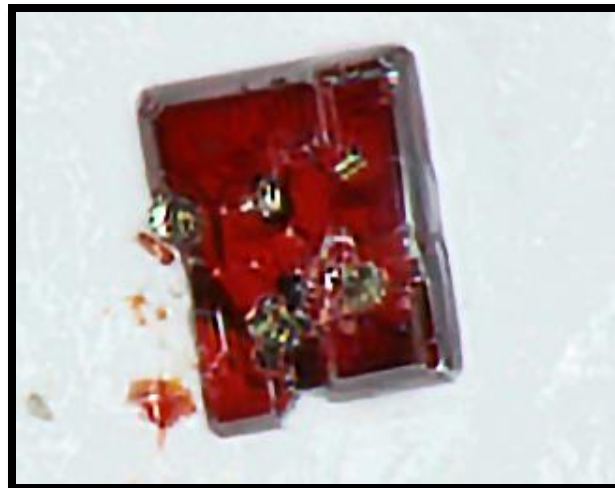
This month's article features a rare manganese and silver mineral, Manganoquadratite,  $\text{AgMnAsS}_3$ . This mineral is found, so far, only at the Uchucchacua Mine, Oyon Province, Lima Department, Peru. The mineral is tetragonal  $4\ 2\ 2$  – trapezohedral. Manganoquadratite was named for its structural similarity to Quadratite  $\text{AgCdAsS}_3$ , with manganese replacing the cadmium.



Manganoquadratite was first described in 2012: Bonazzi P, Keutsch FN, Bindi L (2012) Manganoquadratite,  $\text{AgMnAsS}_3$ , a new manganese-bearing sulfosalt from the Uchucchacua polymetallic deposit, Lima Department, Peru: Description and crystal structure. *American Mineralogist*, **97**, 1199-1205.

My specimen is from the collection of one of these authors, Dr. Frank Keutsch, a professor of chemistry at Harvard University, and a specialist in sulfosalts. The specimen was analyzed by EDS (Energy-dispersive X-ray Spectroscopy, in which the sample was placed in an electron microscope, bombarded with electrons, and the X-rays emitted were analyzed by wavelength and intensity to determine the identity and estimate the amount of the elements present).

My specimen of Manganoquadratite is unlike others pictured in Mindat, most strikingly because it is much smaller and therefore can show an intense deep red color, unlike larger specimens which are nearly black (but do have a reddish streak). Let's start by looking at a typical larger specimen from Mindat: [www.mindat.org/photo-473415.html](http://www.mindat.org/photo-473415.html). Now we can see what I mean when I say *larger*. This excellent photo by Vincent Bourgoïn has a field-of-view of 1.2 mm, so the crystal is about 0.5 mm across. Well, my crystal is ten-times smaller, just 0.04 mm across. Think of the width of a hair from a blond child. This might be my smallest specimen. (I don't have proper equipment to measure this small a crystal precisely, but I think my estimate of width is accurate  $\pm 25\%$ .)



**Manganoquadratite**, Uchucchacua Mine, Oyon Province, Lima Department, Peru. FOV  $\sim 0.1$  mm, with the width of the crystal being  $\sim 0.04$  mm. Photo by Carsten Slotta of Mintreasure ([mintreasure.com](http://mintreasure.com)), based in Hausach, Germany, from whom I bought the specimen. For photography, Carsten uses a Zeiss Discovery V20 stereo microscope (\$20,000). Photo modified (improved?) by Michael Pabst, using Photoshop. The white to colorless base is probably quartz.

Manganoquadratite resembles the complex silver-containing sulfosalts found at the Lengenbach Quarry in Switzerland, such as Quadratite,  $\text{AgCdAsS}_3$ , or Hatchite,  $\text{AgTlPbAs}_2\text{S}_5$ , or Smithite,  $\text{AgAsS}_2$ . Another well-crystallized sulfosalt containing both silver and manganese is Samsonite,  $\text{Ag}_4\text{MnSb}_2\text{S}_6$ , found at the Samson Mine near Goslar, Lower Saxony, Germany. Samsonite is black and monoclinic  $2/m$  – prismatic. See a photo of a nice Samsonite crystal here: [www.mindat.org/photo-558792.html](http://www.mindat.org/photo-558792.html).

Recently (April 2019), Professor Keutsch described a tin-containing and silver-containing manganese sulfosalt: Agmantinite  $\text{Ag}_2\text{MnSnS}_4$ . This mineral is also from Uchucchacua. The name comes from its chemical composition. Agmantinite is orthorhombic, with a structure related to Wurtzite. On the e-Rocks website, there are photos of Agmantinite by Carsten Slotta of Mintreasure:

[e-rocks.com/item/mtr727662/agmantinite](http://e-rocks.com/item/mtr727662/agmantinite). Professor Keutsch also described Oyonite from Uchucchacua. Oyonite is  $\text{Ag}_3\text{Mn}_2\text{Pb}_4\text{Sb}_7\text{As}_4\text{S}_{24}$ . I have been unable to find any useful pictures of Oyonite.

## Manganoquadratite continued

Returning to Manganoquadratite, the red color is so intense that it appears only in the smallest crystals. I speculate that the intense red color comes not only from manganese but also from silver, because the intense deep red color reminds me of Pyrargyrite  $\text{Ag}_3\text{SbS}_3$ . Here is a photo of my favorite specimen of Pyrargyrite, which I found at a silver mine in Colorado.



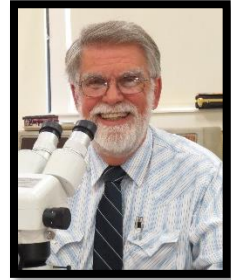
**Pyrargyrite** from the Nabob Mine, Lawson, Clear Creek County, CO. FOV 1 mm. Photo by Michael Pabst, using Luminar lens and bellows.

Since we have stumbled into the realm of silver minerals, I will temporarily let go of manganese, and the next article will be about silver.

## Shoobox Adventures 87: Good Collecting

by Mike Seeds, Editor of Conglomerate for BMS

One Saturday morning years ago, I drove over to Biglerville in Adams County, Pennsylvania. I think it was Biglerville; it might have been Heidlersburg, but it does not really matter. Baltimore Mineral Society member Ed Goldberg was parked at the main intersection, and I swung my bucket and hard hat into the back of his car. We were going collecting.



Ed had found an old reference to a collecting site in Adams County behind Martin's Grocery Store. I think it was Martin's, but it really does not matter. Ed had an idea where the store was or at least where it had been, and we were going to try to find it and collect some mineral or other. I do not remember what mineral it was, but there was a good spot behind the store.

We had a road map and we got lost a few times, but we finally found the country intersection where Martino's grocery store was supposed to be, but there was nothing there, so we headed for the next most likely spot. We talked about families and kids and paying for college, and we talked about our jobs. Ed's job sounded a lot harder than mine, but I thought my job was more fun. We found the intersection Ed had in mind, but there was nothing there but an old service station. No sight of a store named Maruchy's, or whatever the name was supposed to be. It does not really matter.

Ed had a clue that the mineral might be found in a rocky outcrop on a hilltop that happened to be in an apple orchard, so he had arranged for us to collect there. We found the owner, and he said every apple orchard for miles and miles was owned by his family and they made apple sauce and apple juice that was sold all over the USA. He got in a big, black SUV and led us over some country roads and then into an orchard and up a hill to a big pile of rocks.

Continued next page

## Shoebox Adventures 87 continued

“You can look through these rocks,” he said. “We have to pick up all the rocks in the orchard so we can mow to keep the weeds down, and we have to do that to keep the mice down, because mice will chew the bark on apple trees and kill them.” I do remember that part about the mice and I always look for rock piles when I pass apple orchards.

As the owner got into his SUV, he wished us luck and said, “Watch out for snakes. Copperheads like those rock piles.” Ed and I walked around the rock pile and studied it carefully from a distance. We knocked some chips off some rocks that were not too deep in the weeds but didn’t find much. In the end, we decided that the rock pile was probably not so good for whatever it was we were looking for, and there were too many weeds anyway. It does not really matter why, but we did move on.

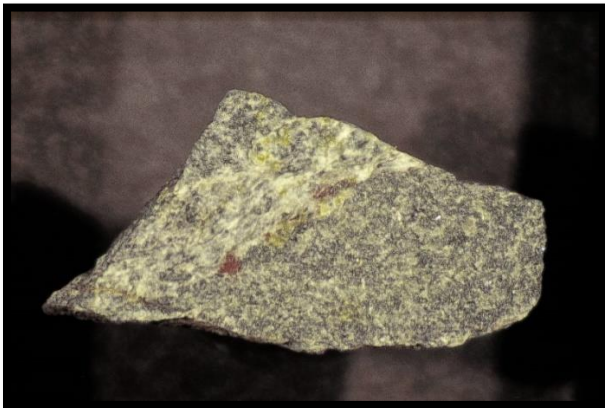


Fig. 1. A speck of red **piemontite** from the orchard rock pile. Field of view 14 mm.

We drove some more looking for small grocery stores with a sign that said Montoni’s Grocery or something, but we did not see any. We talked about rocks and rock collecting and we compared notes about collecting when we were kids. Ed said he knew an ilmenite site behind a firehouse, and we found the firehouse. There was no one there and that was good, but they had enlarged their parking lot and the site was paved over. But then we realized that they had dug into the bank behind the parking lot, so we jumped a ditch and pushed through some weeds and climbed part way up the bank. We dug out some rocks that had some specks of ilmenite in them. It was not particularly good ilmenite.



Fig. 2. **Broken ilmenite**. Field of view 15 mm.

We drove around some more, and finally decided that Mr. and Mrs. Monroe, or whatever their name was, had probably sold their little grocery store years ago and retired to Orlando or someplace. Ed said he would like to buy woodland in Pennsylvania and retire there, and I said the Arizona desert would do for me.



Fig. 3. Sometimes a micromount is more a keepsake than a mineral specimen.

We drove around some more talking about this and that and telling some stories. Finally, we gave up. We did not find much of that mineral. I think it was Piemontite, but I am not sure. It really does not matter. I did mount some pieces, but they were not actually very nice. We did not find much that day, but that does not really matter. We had a lot of fun, so it was good collecting. Photos & text by Mike Seeds.

## Micromineralogists of the National Capital Area, Inc.

### Just a Little Gift from Nature

by Michael Pabst PhD, Treasurer

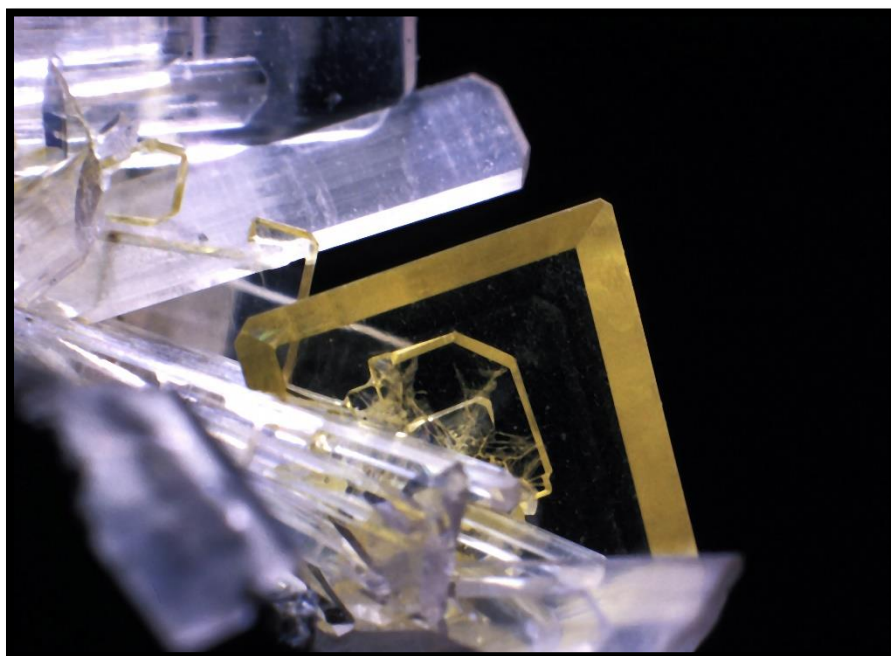
Hello Mineral Lovers, I just uploaded these two photos to Mindat ([www.mindat.org](http://www.mindat.org)). Both photos are from different areas on the same specimen.

The specimen comes from the Ojuela Mine, Mapimi, Durango, Mexico. (The field of view (FOV) of the one with just Hemimorphite colorless blades and the yellow Wulfenite plate is 8 mm, and the FOV of the photo with Hemimorphite, Wulfenite, Mimetite bouquet, and Calcite rhombs is 15 mm.) I have had this specimen a long time since I was a grad student at Purdue. The photographer has not improved much, but the new digital cameras are much improved.

### Hemimorphite Wulfenite Mimetite Calcite



Wulfenite Hemimorphite



## Top Ten Reasons for Micromounting

by Tim Jokela

**#10 - STORAGE** - While you probably can't fit a thousand micromounts on the head of a pin, you can sure fit them in a small box under your bed, making micromounting ideal for apartment dwellers or anyone who has heard the immortal phrase "Get those rocks out of here!"

**#9 - EASY COLLECTING** - Field collecting superb 10cm crystals of a rare mineral isn't particularly easy, but the micromounter can find something of interest almost anywhere.

**#8 - PERFECTION** - Micro crystals are perfectly formed and undamaged far more often than cabinet specimens. They are the peak of aesthetics.

**#7 - VARIETY** - There's only a few hundred minerals out there that come in nice big crystals, and almost no new species are found in sizeable crystals. Go to any mineral show and what do you see - table after table of aquamarine, quartz, and fluorite. Micromounters work with far more species than hand-specimen collectors and are familiar with far more rarities.

**#6 - LOW PRICES** - The average price of a micromount is \$3. Really expensive ones are \$20. The initial expense of a good scope and proper light is steep, but after that you're set.

**#5 - NO FAKES** - When a lot of money is changing hands for a fine cabinet piece, one must be wary that the specimen has not been altered or faked in some way. Faking micromounts is not only extremely rare, it's nearly impossible, as a microscope easily reveals glue where it shouldn't be.

**#4 - CHEAP SHIPPING** - Sending 100 micromounts by airmail to Europe is far more affordable than 100 cabinet pieces.

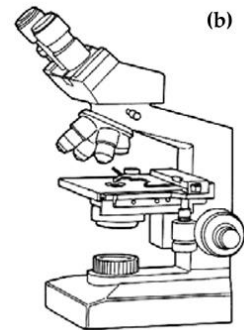
**#3 - YEAR-ROUND FUN** - A large part of what drives field collectors is the thrill of discovery. The micromounter with a good hoard of material doesn't have the constraints of a field season - no matter what the weather is like he can pull some rocks out of storage, trim them down, and find fantastic crystal-

filled vugs never before seen by man. The micromounter can delve through his stock of material and find new stuff any day of the week, and he can go collecting in his basement even if it is 200 am and 20 degrees below outside. It's a year-round hobby.

**#2 - WEIRD & WONDERFUL** - The micromounter sees things that are not even imagined by 'macro' collectors. Things like spiral millerite crystals, Sweet Home Mine rhodochrosite rhombs with moving bubble inclusions, or minerals like rutile, pyrite, and boulangerite in ring crystals, to name a very few of the bizarre things seen by the micromounter.

**#1 - FREE STUFF!** - Last time you went to your average, garden-variety mineral show, did they have tables filled with fine cabinet specimens free for the taking? At micromount symposia, give-away tables loaded with interesting stuff are standard practice. Micromounters are a very generous bunch!

Reprinted from the Rock Chatter May 2020 Vol. 54, ROCK AND MINERAL CLUB OF LOWER BUCKS COUNTY, PA, INC.



Rosasite, Mapimi, Mexico Mike Seeds



## Micromineralogists of the National Capital Area, Inc.



American Federation of  
Mineralogical Societies

(AFMS)  
[www.amfed.org](http://www.amfed.org)

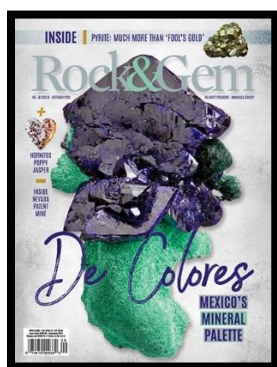
**Please read the AFMS bulletin attached in original monthly email to MNCA members.**

2020 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.

The A.F.M.S. Newsletter is normally published monthly except January, July, and August by the American Federation of Mineralogical Societies. Each Regional Federation Club is entitled to receive three (3) copies of the AFMS Newsletter. These are usually sent to the President, Federation Director and Editor. Subscription Information, Distribution Questions and address changes should be sent to the AFMS Central Office.



The Rock & Gem magazine is recognized as the official magazine of the AFMS.



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:

**May 2020 All Canceled**

**6: Mineralogical Society of DC–MSDC meeting**  
Smithsonian NMNH, Constitution Avenue lobby  
7:30 pm to head up to the Cathy Kerby room **Xld**  
[www.mineralogicalsocietyofdc.org](http://www.mineralogicalsocietyofdc.org)

**11: The Gem, Lapidary and Mineral Society of Montgomery County, Maryland - GLMS-MC**  
7:30 pm - Rockville Senior Center, 1150 Carnation Drive, Rockville, MD **Xld**  
[www.glmsmc.com](http://www.glmsmc.com)

**15: The Gem, Lapidary and Mineral Society of Washington, DC - GLMS-DC meeting**  
7:00-10pm – Chevy Chase Community Center, 5601 Connecticut Ave., NW, Chevy Chase, MD **Xld**  
[www.glmsdc.org](http://www.glmsdc.org)

**25: Northern VA Mineral Club – NVMC meeting**  
7:30-10pm - Long Branch Nature Center  
625 South Carlin Springs Road in Arlington, VA **Xld**  
[www.novamineralclub.org](http://www.novamineralclub.org)

**27: Micromineralogists of the National Capital Area, Inc. - MNCA meeting**  
7:30–10pm - Long Branch Nature Center  
625 South Carlin Springs Road in Arlington, VA **Xld**  
[www.dcmicrominerals.org](http://www.dcmicrominerals.org)

**Editor's Note: Even though our geology meetings are canceled, please visit their websites for continuing education.**



**Smithsonian Documentaries on PBS**

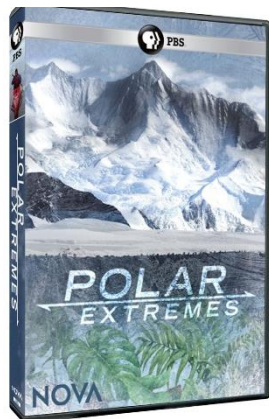


**NOVA “Making North America”**

During PBS’ NOVA “Making North America” session at the Television Critics Association Summer Press Tour in Los Angeles, CA on Sunday, August 2, 2015, Dr. Kirk Johnson, Sant Director, Smithsonian National Museum of History, Emily Wolin, Ph. D Candidate, Earth and Planetary Sciences, Northwestern University, Lisa White, Ph.D., Director of Education and Outreach, UC Museum of Paleontology, Julia Cort, series deputy executive producer and Paula Apsell, series senior executive producer discuss the unprecedented three-part series presents a bold and sweeping biography of our homeland.

**NOVA “Polar Extremes”**

Following a trail of fossils found in all the wrong places such as beech trees in Antarctica and hippo-like mammals in the Arctic. Uncovering the bizarre history of the poles, from miles-thick ice sheets to warm polar forests. This program features and is narrated by Kirk Johnson.



**These documentaries are streamed free through NOVA – PBS. The Smithsonian has a new virtual tour of the Natural History Museum.**

Submitted by Kathy Hrechka, Editor

**Micromineralogists of the National Capital Area Meeting:** The 4th Wed. of each month 7:30 -10 p.m.  
Long Branch Nature Center (No meetings June & July)  
625 S. Carlin Springs Road, Arlington VA 22204  
Phone (703) 228-6535

**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: Julia Hrechka
- AMC Conference: Kathy Hrechka

**The society is a member of:**

- \* Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) [www.efmls.org](http://www.efmls.org)
- \* American Federation of Mineralogical Societies (AFMS) [www.amfed.org](http://www.amfed.org) affiliation

**Dues:** MNCA Membership Dues for 2020  
\$15 (single) or \$20 (family)  
**Payable to 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 on 5th.**  
**No newsletter July/August**

**EFMLS Editor's Award**  
**First Place 2016 - Small Bulletins**  
**Inducted into Editor's Hall of Fame – 2018**  
**AFMS Trophy 2019**



- Member inputs:**
- \* Dave MacLean
  - \* Michael Pabst
  - \* Kathy Hrechka
  - \* Mike Seeds
  - \* Eric Brosius

